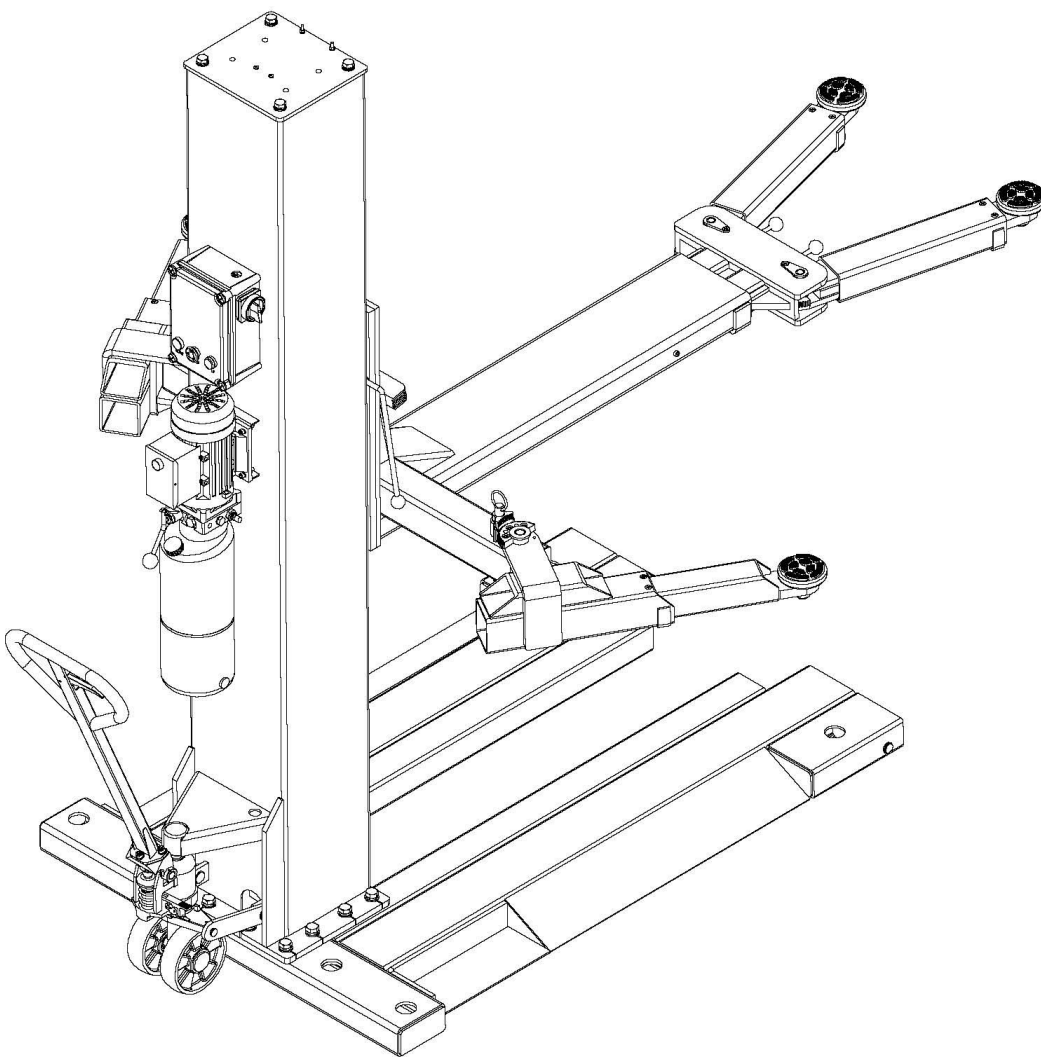


# MOBILE SINGLE-POST LIFT

Installation/Operation & Maintenance Manual



**MODEL: HSL1130**

*Please read through this manual before operation. You must read and understand the precautions for safety to protect your safety and any damage to your property.*

Version: HR202209.1.0







## NOTE TO THE USER

Thank you for purchasing our products.  
Please read this instruction carefully for safe and proper use of the car lift, and keep it handy for future reference.

- This Manual is for model : HSL1130
- As for the assurance of safety in design and construction of car lift, read this Manual first.
- Please make sure that this manual is delivered to end users for their implementation of safety.
- Don't use the car lift in a potentially explosive atmosphere.

ANY PART OF THIS PRINT MUST NOT BE REPRODUCED  
IN ANY FORM WITHOUT PERMISSION.  
THIS PRINT IS SUBJECT TO CHANGE WITHOUT NOTICE.



# **SAFETY INSTRUCTIONS**

(READ THE INSTRUCTIONS ENTIRELY BEFORE OPERATING)

1. Do not install the lift on grounds with insufficient stability(hardness), specially not on covers of pits.
2. Read and understand all safety warning procedures before operating the lift.
3. The lift, in its standard version, is designed for both indoor and outdoor use.
4. Keep hands and feet away from any moving parts. Keep feet clear of lift when lowering
5. The lift may only be installed and operated by qualified staff, properly trained for the specific mechanical and electrical assembly of the machine.
6. Do not wear unfit clothes such as large clothe with flounces, tires, etc, which could get caught by moving parts of the machine.
7. The lifts surrounding area must be free from people or objects which could be a danger for lifting operations
8. The lift only designed to lift the entire body of vehicle, having maximum weight not more than the lift capacity
9. Always insure the safety devices are engaged before any attempt to work on or near vehicle.
10. The vehicle must be centered and positioned in a stable correct way with respect to the posts and following the instruction given by manufacturer
11. Make sure that the machine and its devices are working correctly, according to the specific instructions for maintenance.
12. Watch the height while lifting, to prevent collisions between the vehicle and the building. The Maximum height can be limited by height of building. (ceiling, lightning devices, tubes, channels for air conditions, etc) and the vehicle.
13. Don't drive with the vehicle on the lifting unit to bring it in position. The only way to bring the lifting device in position is to move it underneath the standing car by using the traveling position.
14. Lower the lift to its lowest position when service finish. Its not allowed to keep a car in the lifted position during longer working brakes.
15. It is not allowed to lift a car, when traveling mechanism is in the traveling position and the base plate is not on the ground.
16. Do not modify the machine without manufacturer's advice.
17. If the machine is not to be used any more, owners are suggested to make it unusable by removing the power supply connections, emptying the oil tank and disposing the liquids by ring way.
18. If the lift is to be left unused for a long period, proceed as follows
  - a. Disconnect the energy source;
  - b. Empty the control unit tank;
  - c. Grease the moving parts which might be damaged by dust or drying out.

# Packing, transport and storage

## Transport:



Packing can be lifted or moved by lift trucks, cranes or bridge cranes. In case of slinging, a second person must always take care of the load, in order to avoid dangerous oscillations.

During loading and unloading operation, goods must be handled by vehicles or ships. At the arrival of the goods, verify that all items specified in the delivery notes are included. In case of missing parts possible defects or damage may due to transport operations.

If finding missing parts, possible defects or damage due to transport, one should examine damaged cartons according to <<Packing List.>> to verify the condition of damaged goods and missing parts, also the person in charge or the carrier must be immediately informed.



The machine is heavy goods! Don't take manpower load and unload and transporting way into consideration, the safety of working is important.

## Storage

- 1.The machine equipment should be stocked in the warehouse, if stocked outside should do the disposal well of waterproof.
- 2.-Use box truck in the process of transport, use container storage when shipping.
- 3.-The control box should be placed perpendicularly during the transport; and prevent other goods from extrusion.
- 4.-The temperature for machine storage : -25°C-- 55°C

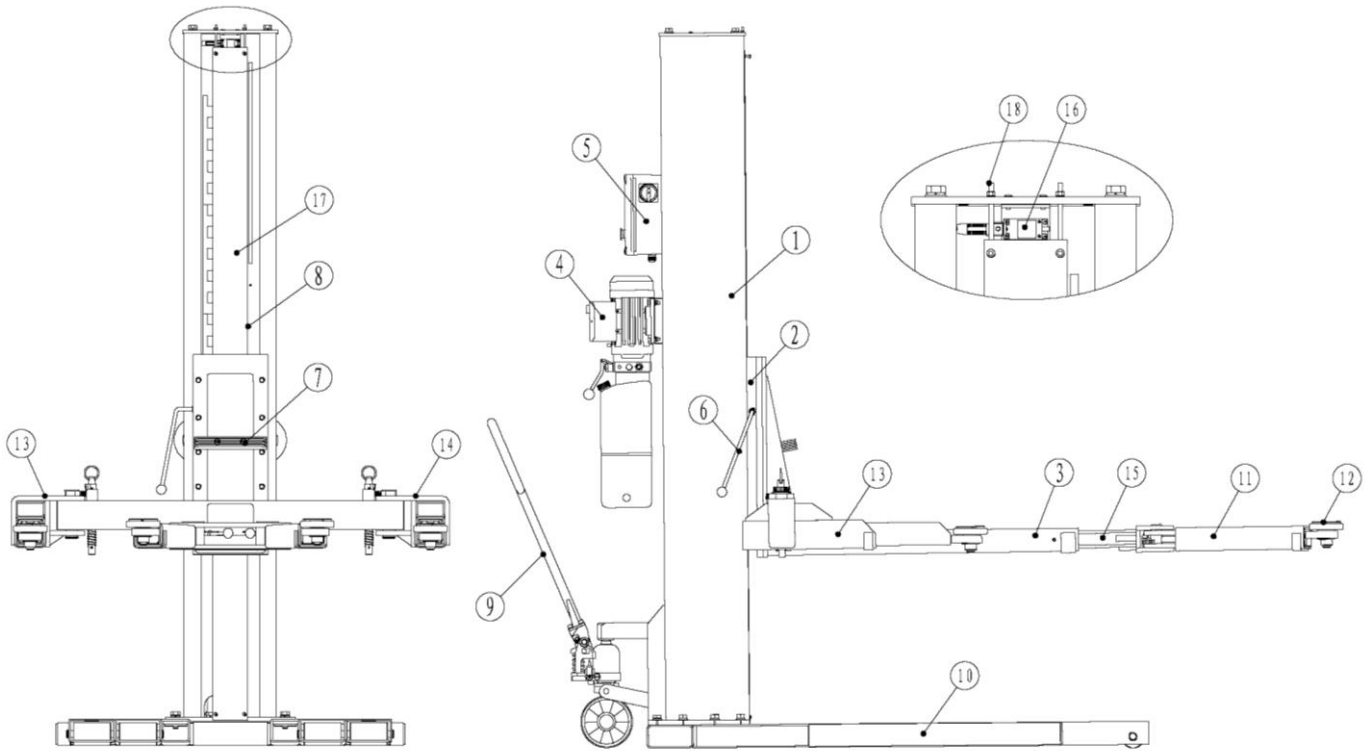


# INTRODUCTION

This single column vehicle lifter is classified as movable model and stable model. Movable single column vehicle lifter is special useful for indoor and outdoor grounds, and stable single column vehicle lifter is appropriate for relatively narrow and little site indoor. Both of them are the special equipments for lifting vehicles, such as cars, which park on ground, to a certain height for maintenance.

## 1. Structure Drawing:

### 1. 1 Structure Drawing

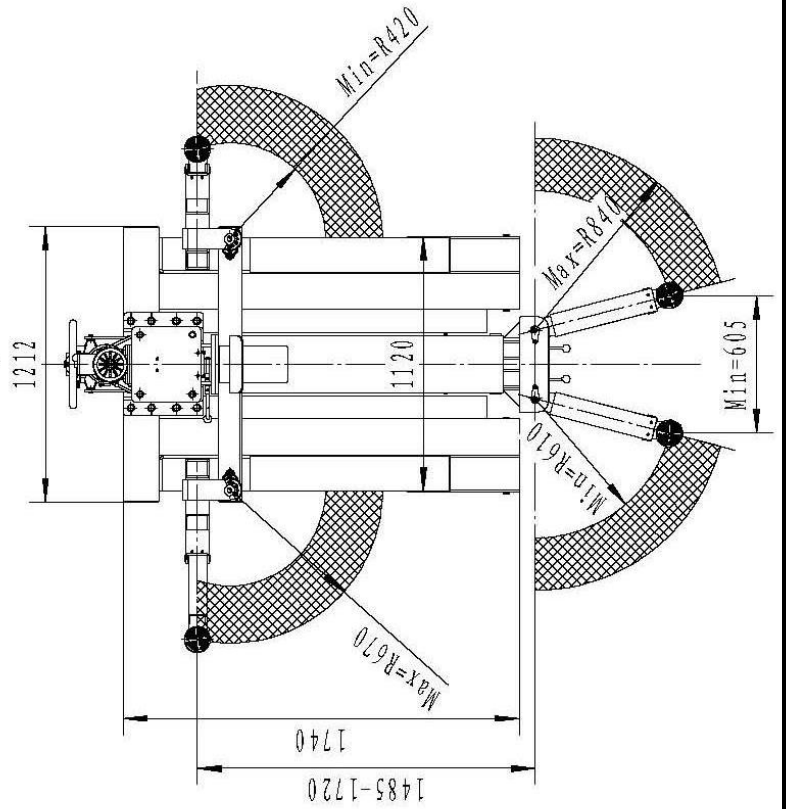
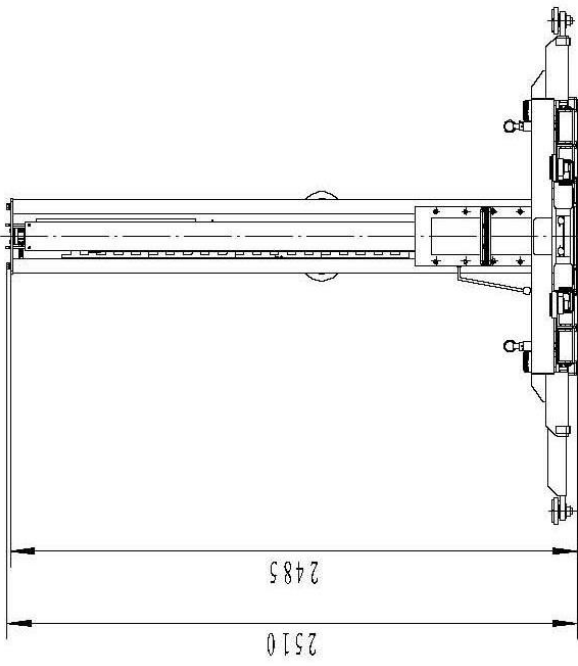
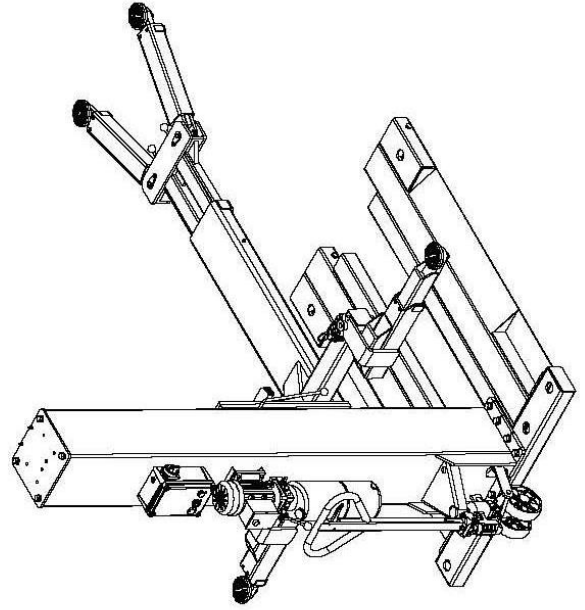
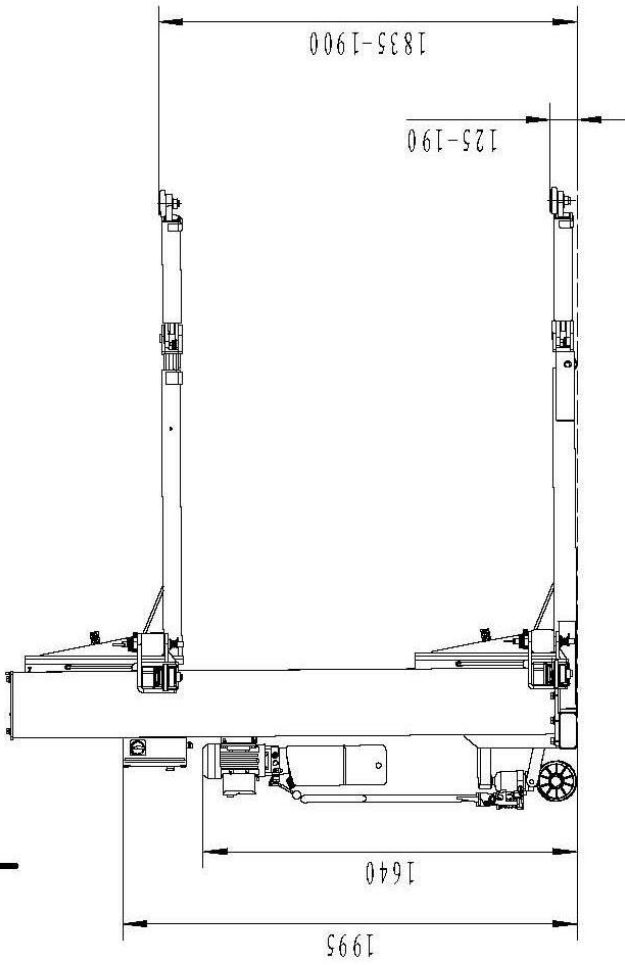


- |                        |                     |                           |                         |
|------------------------|---------------------|---------------------------|-------------------------|
| 1. column              | 2. carriage         | 3. lifting frame          | 4. power unit           |
| 5. control box         | 6. unlock handle    | 7. door protection rubber | 11. front extension arm |
| 8. cylinder            | 9. mobile wheel kit | 10. base frame            | 15. extension arm       |
| 12. lifting pad        | 13. rear left arm   | 14. rear right arm        |                         |
| 16. top limited switch | 17. column curtain  | 18. curtain hook          |                         |

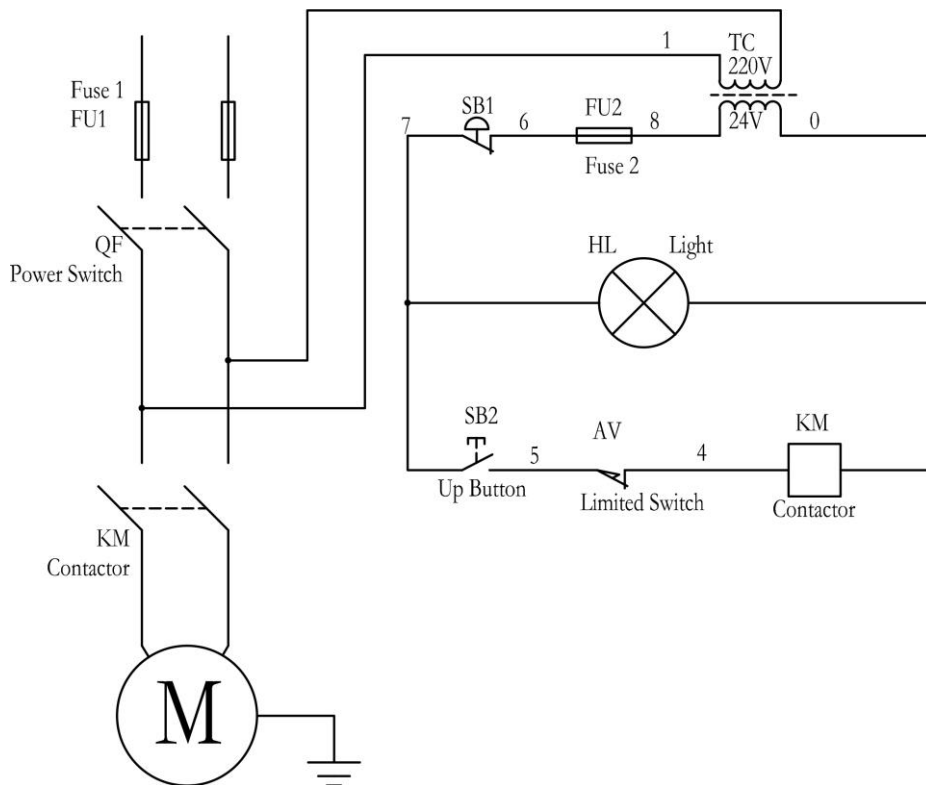
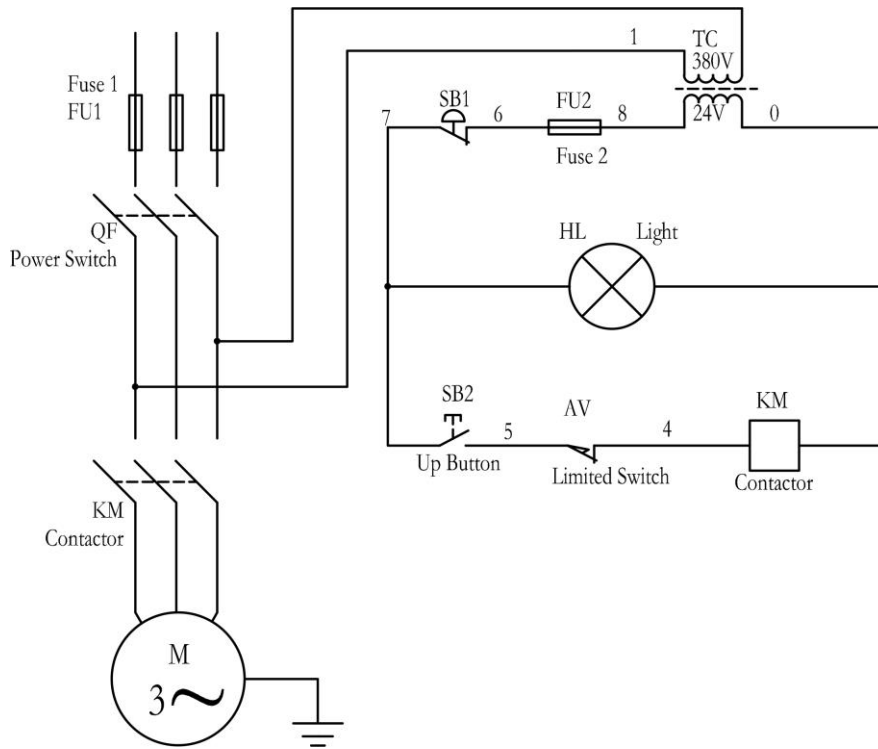
## 2. Main Technical Parameters Table

Model	HSL1130
Lifting capacity:	3000kg
Max. lifting height	1900mm
Lifted vehicle width	≤1800mm
Lifting speed	40mm/s
Motor power	2.2KW
Voltage	400V/230V
Frequency	50Hz/60Hz
Oil pressure	11.5MPa
Approx. single post mass	750kg
Noise	<60dB
Overall dimension	1850mmX1400mmX2500mm
Insulation grade	IP64
Working environment temperature	-5°C - +40°C
Working environment	Both outdoor and indoors

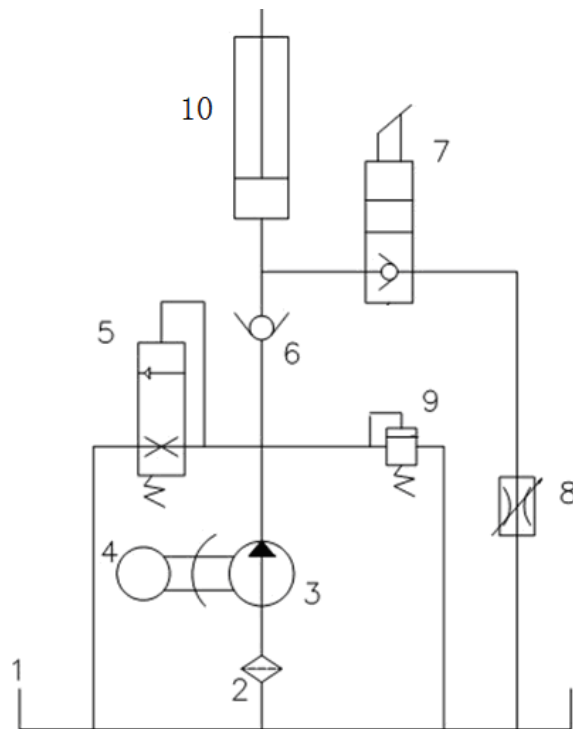
### 3. Hydraulic Movable



## 5. Electrical Schematic Diagram



## 6. Hydraulic Schematic Diagram:



- |                       |                  |                                 |          |
|-----------------------|------------------|---------------------------------|----------|
| 1. Tank               | 2. Inlet filter  | 3. Oil pump                     | 4. Motor |
| 5. Start buffer valve | 6. One way valve | 7. manual pressure relief valve |          |
| 8. Flow control valve | 9. Relief valve  | 10. Cylinder                    |          |

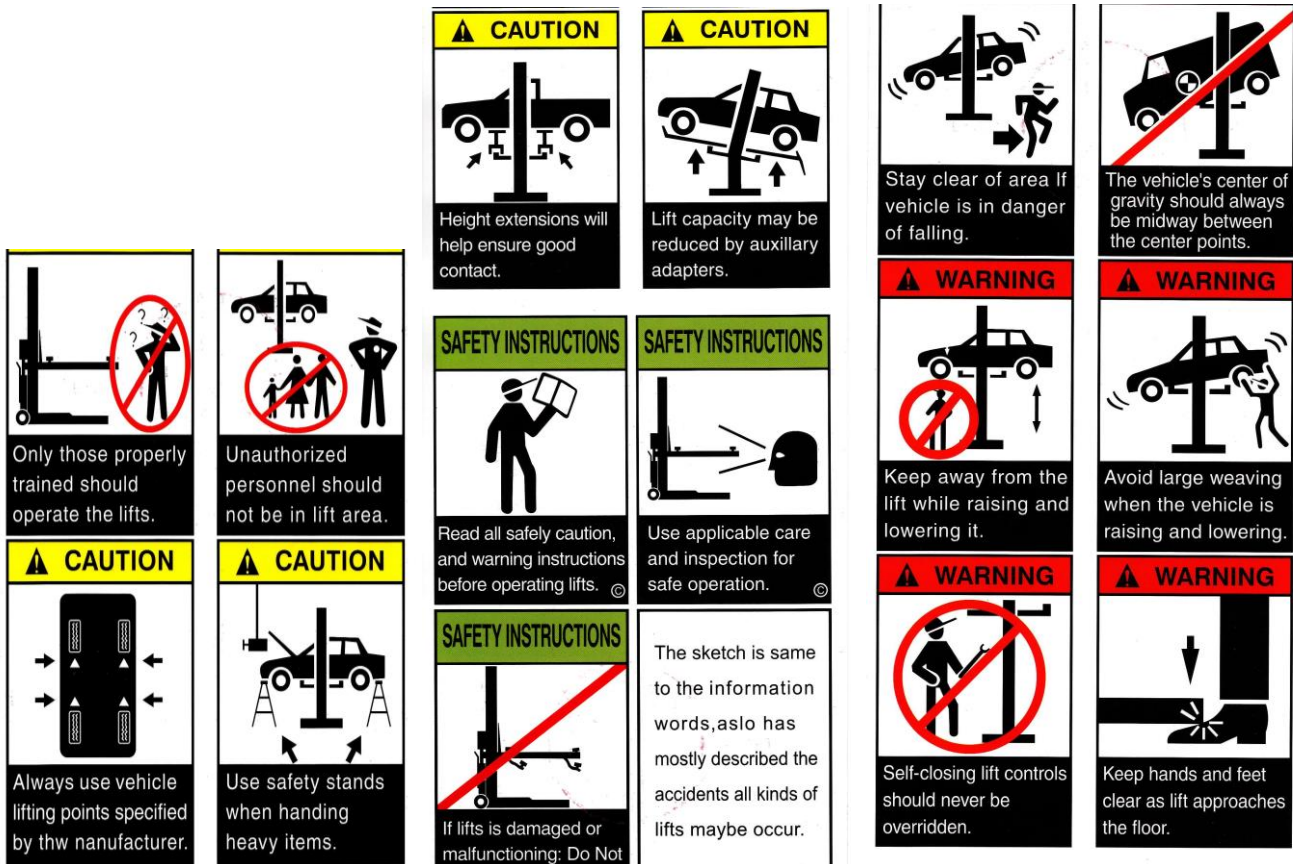
# INSTALLATION & OPERATION

**Read this chapter carefully for safe operation, maintenance and repair to avoid accidents.**

### 7.1. Warning:

- 1) Do not lift the vehicle with column moving!
- 2) Do not move column at random when the vehicle is lifted;
- 3) The lifter must only be operated after the vehicle turns off;
- 4) The lifter can only be started if the lifting pad on the supporting arm is placed stably onto the catch point under the vehicle chassis, there is no foreign substance under the bases of column, and wheels in bases of the hydraulic movable set have been in position (and been released with pressure);
- 5) Do not allow anyone to enter into working area during lifting;
- 6) Neither standing nor putting any other articles (including gasoline and acid base chemicals) on the supporting arm is allowed;
- 7) The lifter should not be used as a forklift;
- 8) All cables should be free of pressure from heavy objects, column or vehicles;
- 9) Electric cabinets and cables should be free from water to avoid serious accidents;
- 10) It is forbidden to lift vehicles with weight exceeding the specified.

## 7.2. Warning Signs



! Attached on the fork. Standing on the forklift is forbidden. No goods on it.



Attached is the electric cabinet. High voltage! Take care!

The manufacturer shall assume no responsibility for serious accidents and damages to persons or other equipment caused by using lifter for other purposes besides lifting specified vehicles. It is necessary to follow rules about use, maintenance and caution described in this manual.

## 7.3 Safety Protection Devices

For the safety of operator and safe use, mechanical and electrical system is designed with consideration of safety protections:

### Electrical system

- 1) If the lifter is lifted over the limit, it shall stop automatically because of no upper limit switch; if lowered to the lowest position, cylinder shall reach the lowest position.
- 2) AC 220v power is applied to the electrical control circuit.

## 8.0 Installation and Commissioning

### 8.1. Working Site

The user should prepare the working site for the lifter before its arrival (movable lifters may be operated outdoors in a sunny day, but it is strongly recommended by the manufacturer to operate the machine indoors for the favorable performance of electrically driving units and electric control system).

#### 8.1.1 Power Source

The working site must be equipped with three-phase power (230v,400v). Install safe distribution box with a 4-hole socket around the operation position, which also is used for single-phase power.

#### 8.1.2 Ground

The lifter must be placed on flat and hard ground which is made of cement or bricks with the load of column position of 3t/m<sup>2</sup>.

#### 8.1.3 Working Area

***There should be >about 2,500mm space around the vehicle lifted, and the net height indoor is about 3600mm.***

#### 8.1.4 Hydraulic Oil

***Fill in 10L #46 or other good quality garage hydraulic oil to the tank.***

***Loose the connection screw of pump and hose to bring out the air in the hydraulic system. On the tank cap, it has the the ruler to check the oil position inside oil tank.***

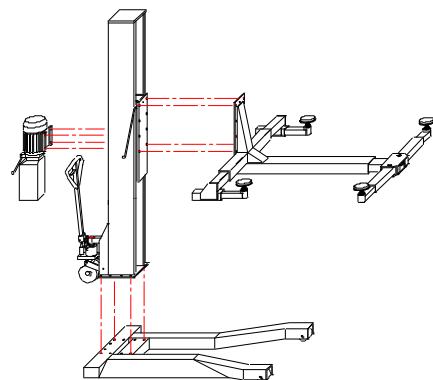
### 8.2 Installation

Because of the limitation of transportation, lifter shall be disassembled to pack. The users should assemble the lifter according to the following figures:

- ***For further transport to other location of use, the unit can be separated and transported in components as delivered and has to e assembled afterwards. The oil has to be removed before.***
- ***Transport of complete mounted unit is only allowed in the upright position. Otherwise the oil will flow out and therefore it is necessary to remove the oil before.***
- ***After each transport, the correct position of hydraulic cylinder has to be checked.***
- ***The selection of the transport equipment and the equipment to fix the load during transport is in the responsibility of the forwarder.***

#### 8.2.1 Assemble movable single column lifter

**Overall assembly as follows**

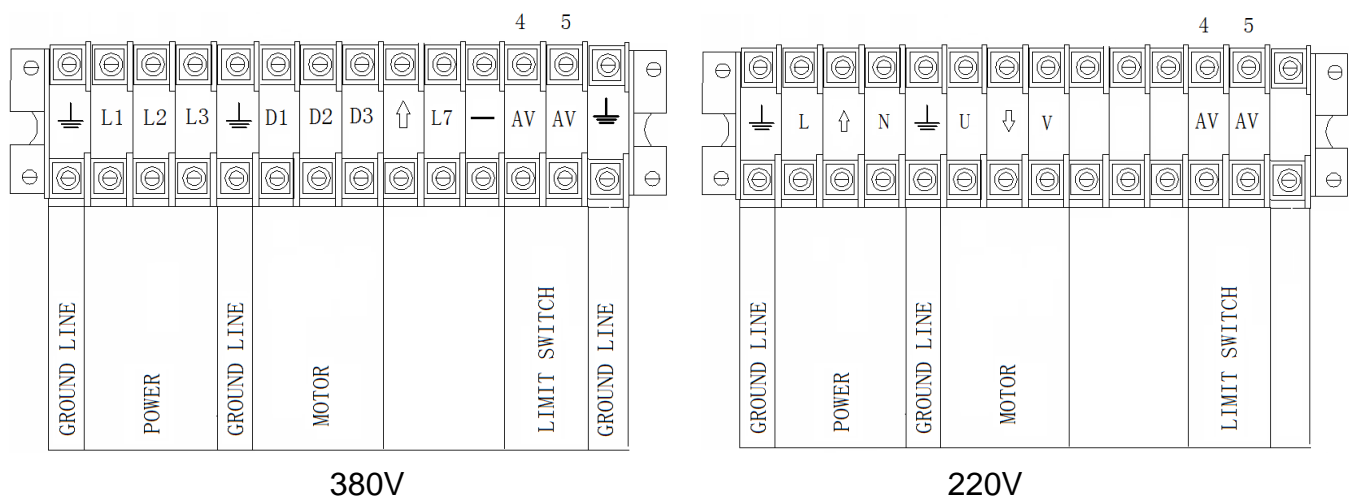
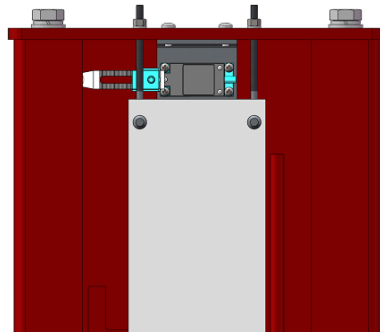


### 8. 2. 2 Installation and Connect lines of limit switch

Install the limited switch as show on picture, connect the two-wire outgoing line from control box on motor into the control box on the column, as the following figure:

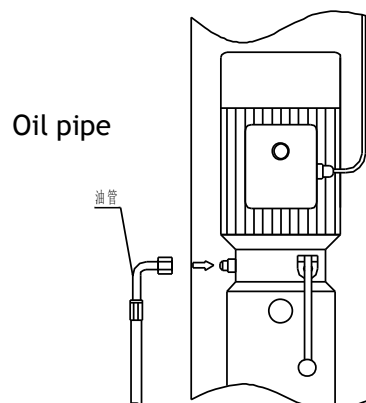
### 8. 2. 3 Connect power line:

User replaces original 3 short lines (black) with new long power line (with section area of 1.5mm<sup>2</sup> for each strand, prepared by user) as following figure:



### 8. 2. 4 Connect oil pipe

After the column is installed on the electrical oil pump, align the oil pipe to the oil outlet hold of electrical oil pump and tighten the screw cap, as the following figure:





### **8.2.5 Spare parts box list**

**Outer hexagonal screw M18x45:18pcs, classes 8.8**

**Flat gasket M18: 18pcs , M10X20: 6pcs**

**Spring washer: 18pcs**

**Outer hexagonal screw M8X16: 4pcs**

**Flat gasket M8: 4pcs**

**Round head screw M8X12:2pcs**

**Round head screw M6X10:2pcs**

**Chain cover: 1set**

**Shaft  $\Phi$ 38x125: 2pcs**

**- Torque for fastening the screws: 8kg and the hydraulic hose: 6kg.**

## **9. Operation Rules**

### 9.1 Operation Rules for Mechanical System

9.1.1 The movable single post lifter is provided with separate traveling mechanism. Shake the tiller of the hydraulic movable set, rear wheel forwards and backwards to make the column off the ground, then you can push or pull the lifter. On arriving the working site, press the release handle to retract the wheel, then the column lands on the ground steadily.

9.1.2 The lifter must only be pushed into the vehicle if in line with it. Insert the lifting pad under the vehicle beam and the lifting pad must be in line with the beam.

9.1.3 Retract the rear wheel of column to land the column steadily before the lifter lifts load, and make sure there is no foreign articles such as hand tools, bolts, screw caps, small stones. No lifting during moving!

### 9.2 Operating Steps for Electrical Control System

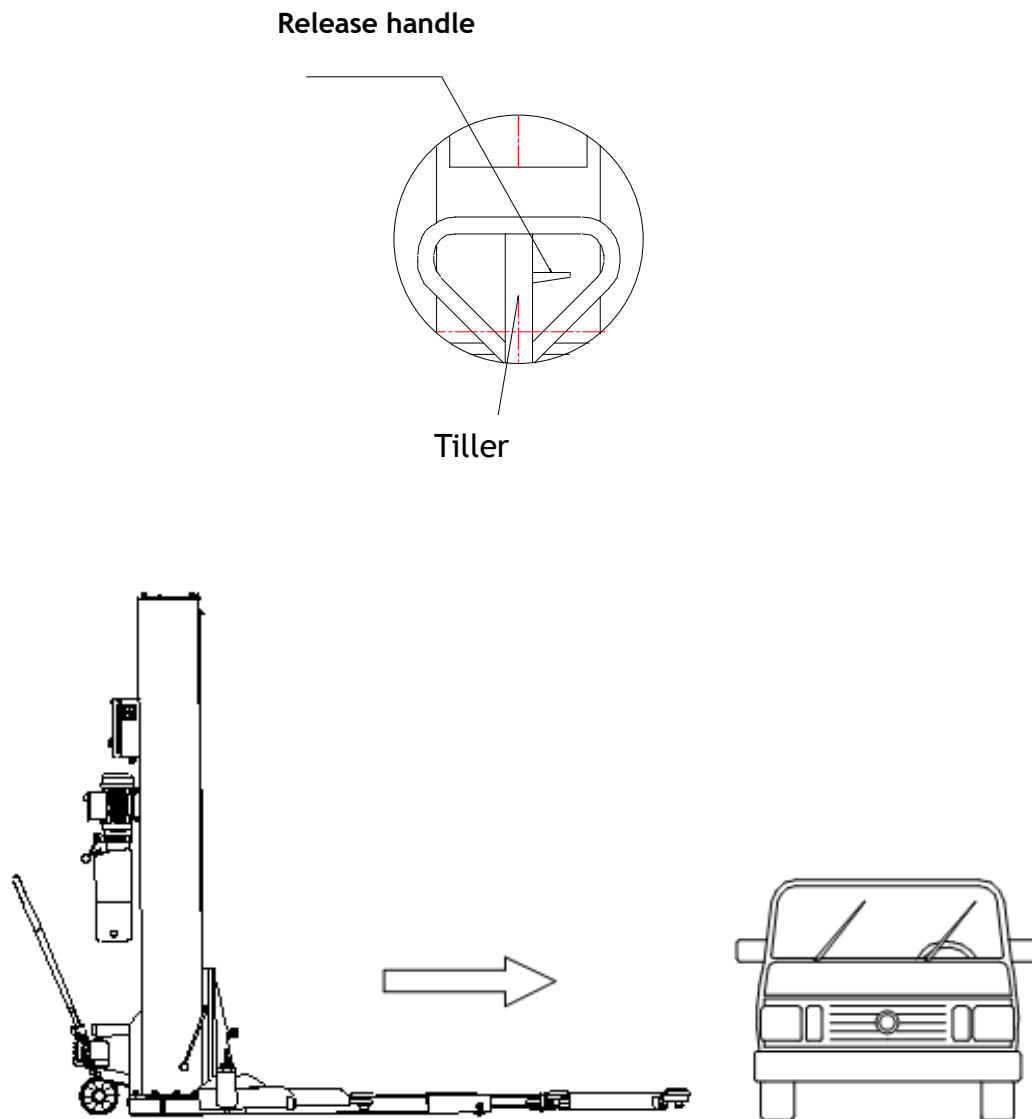
9.2.1 New machine is operated for commissioning without load before its first use.

9.2.2 Switch on the power; press the button for 2 to 3 seconds and pay attention to the lifting arm. If it rises, the power phase sequence is correct. Otherwise, the phase sequence of power is not in accordance with that of power network. Adjust the phase sequence of the plug and press the button again, then the lifting arm should rise.

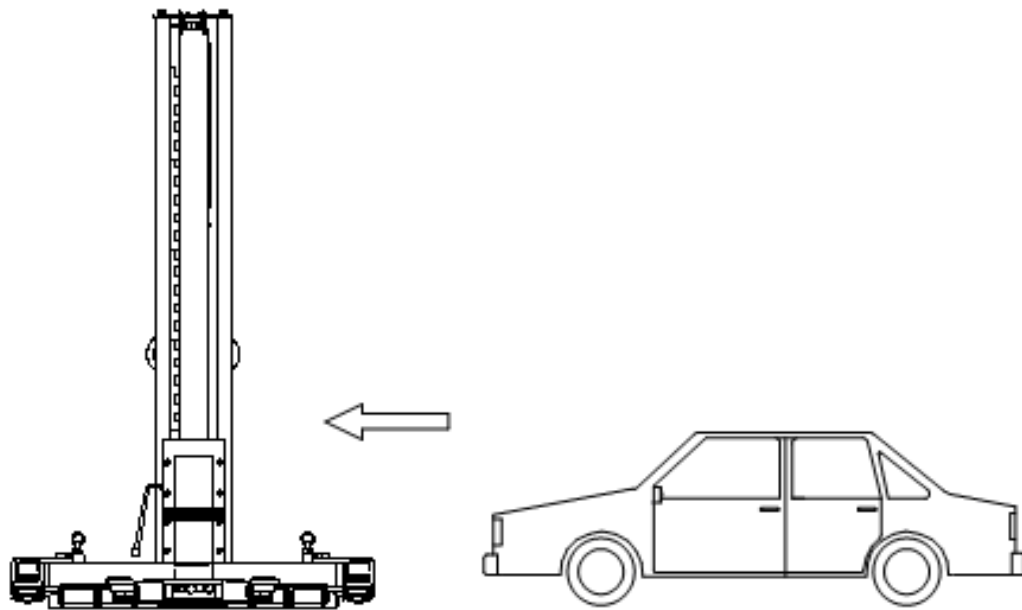
### 9.3 Operation Flow Chart

- 1) Vehicle in service position, engine off
- 2) Turn the handle of wheel moved by oil pressure to lift the base of column a bit
- 3) Push the lifter into the underside of vehicle
- 4) Make certain that there is no foreign articles and the ground is level
- 5) Grasp the release handle to make the base of column lowered to the ground
- 6) Align 4 lifting pads on the lifting arm to the supported position on the underside of vehicle
- 7) Press the button “↑” to make the vehicle be lifted for 10~15 centimeters
- 8) Stop lifting and check for secure four top positions of lifting pad
- 9) Check if the main lifting platform touches the vehicle chassis. In normal lifting, it should not touch the chassis.
- 10) Pull the safety unlock handle to make the lifting platform unlocked

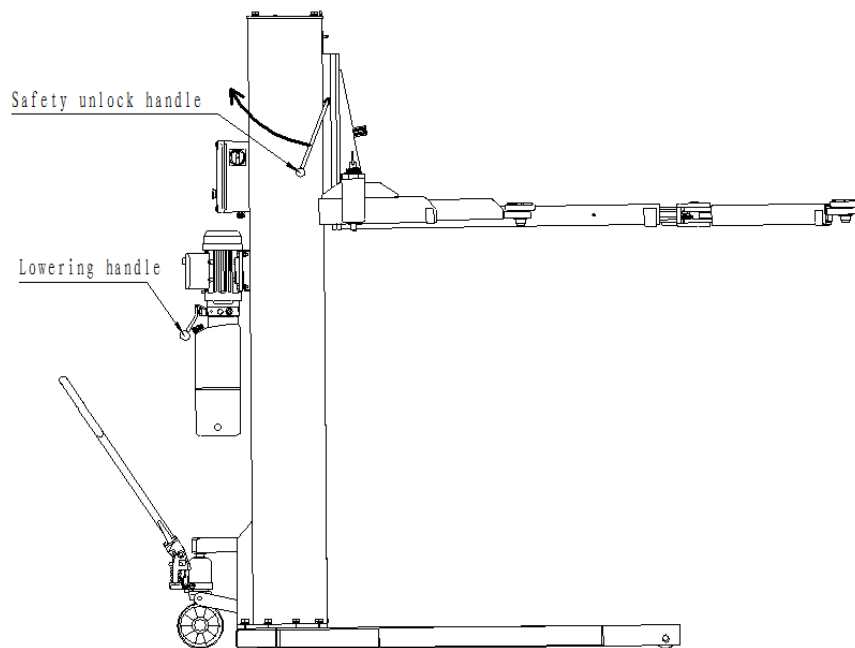
- 11) To adjust lifting pad, turn it anticlockwise to make it rise (adjustment distance of 100mm)
- 12) Press the button “↑” again and pay attention to the lifting arm and the vehicle lifted until the lifting is safe and reliable.
- 13) Raise the lifter to the required height
- 14) After the repair of vehicle is finished, press the safety unlock handle on column and lowering handle on power unit together to lower the lift. When the lifter is lowered to the ground, lock device of lifting arm is unlocked automatically (available for stable lifter)
- 15) Turn the handle of hydraulic pump and the lifter is off the ground, pull out the lifter
- 16) Drive the vehicle away



Movable lifter pushed into the underside of vehicle



Vehicle driving onto the lifter

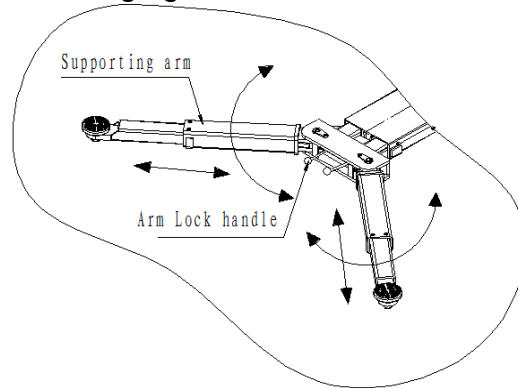


Schematic diagram of lifter lowering

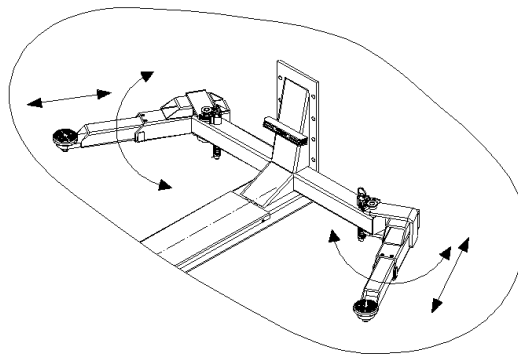
## 9.4 Use of Lifting Arm

### 9.4.1 Movable Lifter

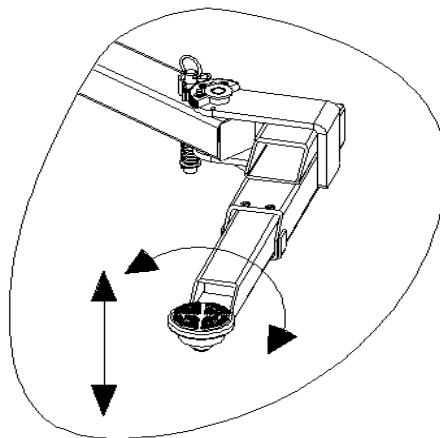
a). According the position under the vehicle chassis where the lifting arm is located, the supporting arm on the lifting arm (close to the column) may be pushed and pulled up and down or to left and right, as the following figure:



b). The supporting arm in the front of lifting arm may be turned or pushed or pulled inward or outward. To turn it, first hold the lock handle, and release it after it goes into the position.



c). By clockwise and anticlockwise turning, the height of lifting pad can be adjusted.



d). The supporting arm in the front of lifting arm moves in the same way as described in 9.4.1.

e). The height of lifting pad is as described in 9.4.1.

## 10. Maintenance and Troubleshooting

### 10.1 Maintenance

10.1.1 For daily maintenance and service of lifter, see operation steps and cautions described in previous page.

10.1.2 The working environment and the surface of this machine should be cleaned usually.

10.1.3 When this machine has been put into use for 6 months, clean hydraulic filter oil tank and replace the oil.

10.1.4 During the use of this machine, if any oil leakage is found, check the leakage source. If any oil coming out from the neck of cylinder is found, the o-ring installed on the piston has been worn and it must be replaced (its specification is UHS65).

### 10.2 Troubleshooting

10.2.1 If lifting is impossible:

1) check the power, 2) interchange any two wires of three-phase wire and try lifting again because the phase sequence of power does not conform to the adjusted phase sequence when motor and pump is operating.

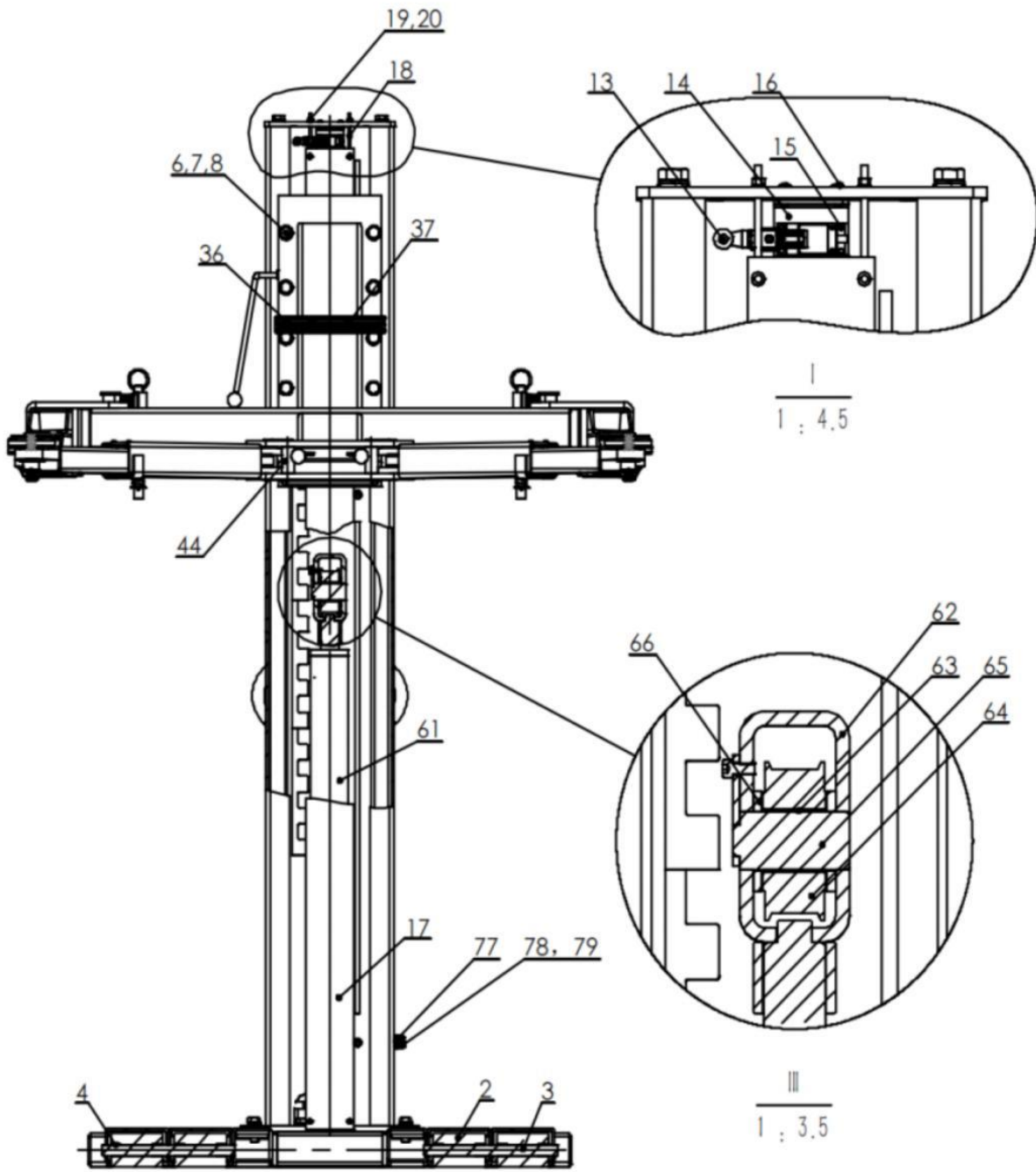
10.2.2 If lifting is possible with no load but impossible with full load of 3.0T,

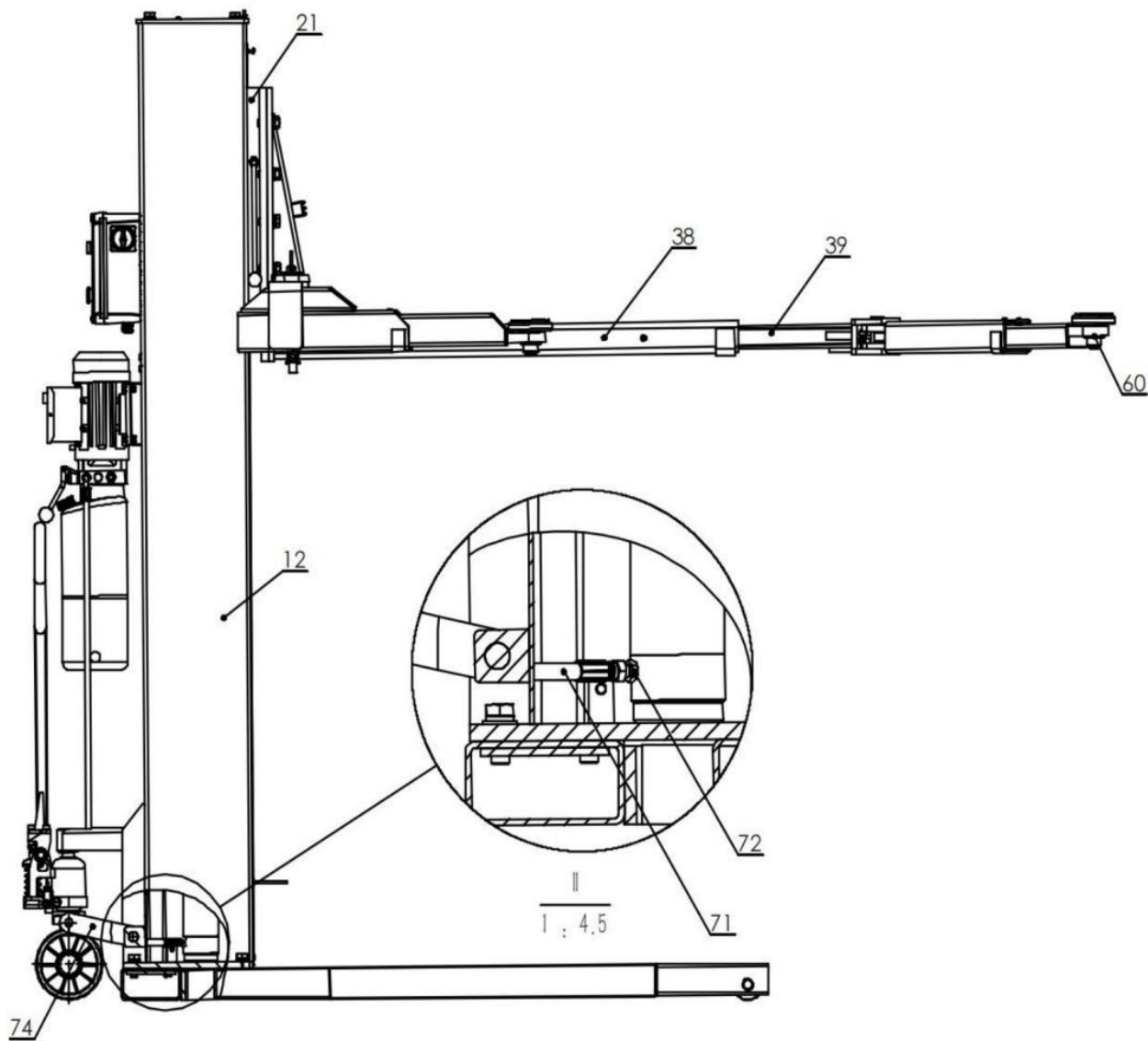
Adjust the pressure adjustment screw on the fluid valve as the figure. It is possible to press the “↑” button while turn the screw (clockwise) slowly (for 10~20°), until the lifting arm rises.

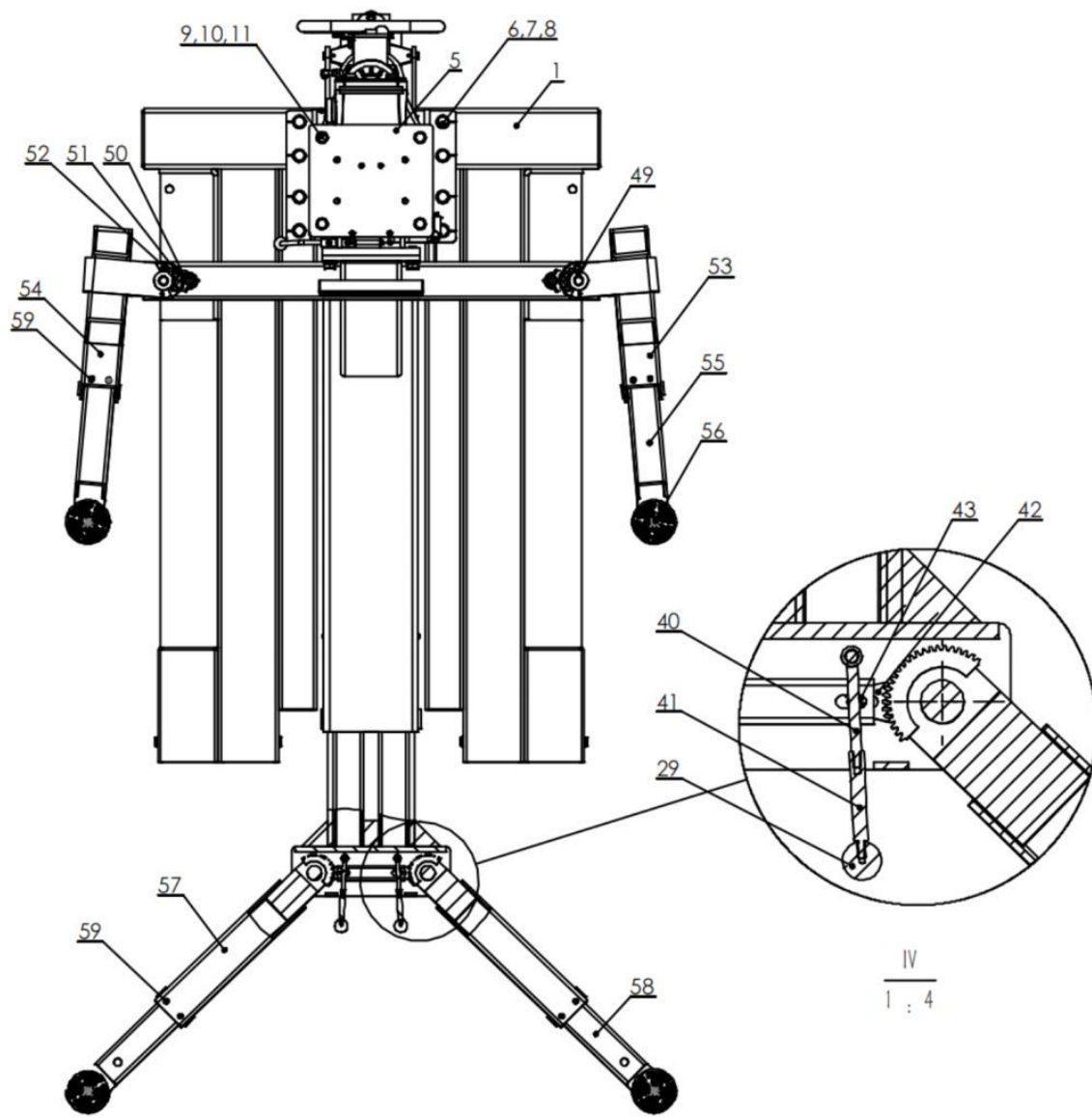
10.2.3 If lifting is still impossible after above actions have been taken, remove pressure relief valve and put it into diesel oil to wash. After that, install it again (N.B. remove it according to the corresponding sequence).

10.2.4 If there is any abnormal noise from hydraulic system during lifting, the hydraulic system may inhale air or the oil screen is clogged. Check the oil level and add oil if necessary. Make the cylinder move up and down for several times. In addition, clean or replace oil screen.

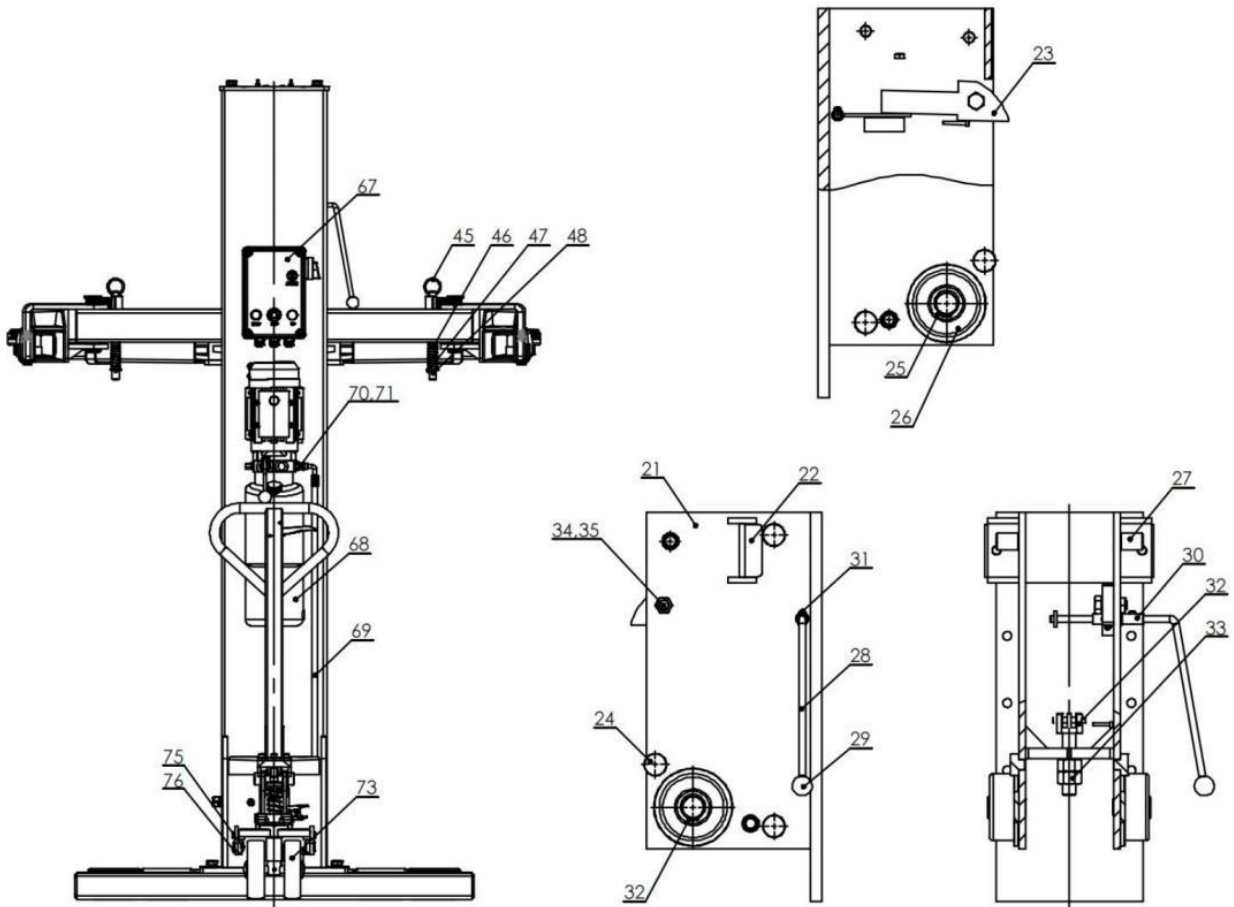
# 11. Exploded View:











## SPARE PARTS LIST

NO.	PARTS NAME	QTY	NO.	PARTS NAME	QTY
1	Base Plate	1	41	Front bracket unlocking connecting rod	2
2	Front Wheel	4	42	Front bracket safety lock	2
3	Front Wheel Shaft	2	43	spring washer (65Mn)	2
4	Oilless Bearing	4	44	Locking shaft welding	2
5	Top Plate	4	45	Locking shaft	2
6	M18*45 Outer hexagon screw	18	46	Locking gear compression spring(65Mn)	2
7	M18 Flat washer	18	47	M20 Flat washer	2
8	M18 Spring washer	18	48	Φ4*35 Spring Pin	2
9	M16*30 Outer hexagon screw	4	49	Pin shaft welding of single column rear arm	2
10	M16 Flat pad	4	50	Arm lock	2
11	M16 Spring washer	4	51	Semi arm lock	2
12	Column	1	52	M10*20 Socket head cap screw	6
13	Limited Switch	1	53	Outer arm / right	1
14	Fix Plate for Limited Switch	1	54	Outer arm / left	1
15	M5x12 Screw	4	55	Inner arm	1
16	M6x16 Screw	2	56	3 stage adapter	4
17	Curtain	1	57	Front arm outer tube	2
18	Hook for curtain	1	58	Front arm inner tube	2
19	M6 Flat Washer	2	59	M8*12 Socket head cap screw	8
20	M6 Spring Washer	2	60	Φ50 outer spring	4
21	Carriage	1	61	Cylinder	1
22	Nylon block	2	62	Chain Bracket	1
23	Safety Lock Plate	1	63	SF-4045	1
24	Nylon block for carriage	6	64	Chain wheel	1
25	Bearing(NUP2308E)	2	65	Chain wheel shaft	1
26	slide roller (45#)	1	66	Chain wheel ring	1
27	Slide nylon retaining sleeve	4	67	Control box	1
28	Unlock handle	1	68	Power unit	1
29	Red ball	3	69	Oil hose for cylinder	1
30	Fix Plate for Limited Switch	1	70	M14 Combined washer	1
31	M6*20 Cross pan head screw	2	71	Three way ball valve joint	1
32	Chain movable frame	1	72	Joint for cylinder	1
33	M24 Nut	2	73	Mobile wheel kit	1
34	M18*45 Outer hexagon screw	1	74	Connect plate for kit	2
35	M18 thin nut	1	75	Connect shaft for kit	2
36	Protector pad	1	76	Φ25 outer spring	2
37	M8x16 Soked head cap screw	2	77	lowering beeper	1
38	Lifting platform	1	78	M4*12 Cross pan head screw	1
39	Extension platform	1	79	M4*25 Cross pan head screw	1
40	Front bracket unlocking wrench welding	2			



