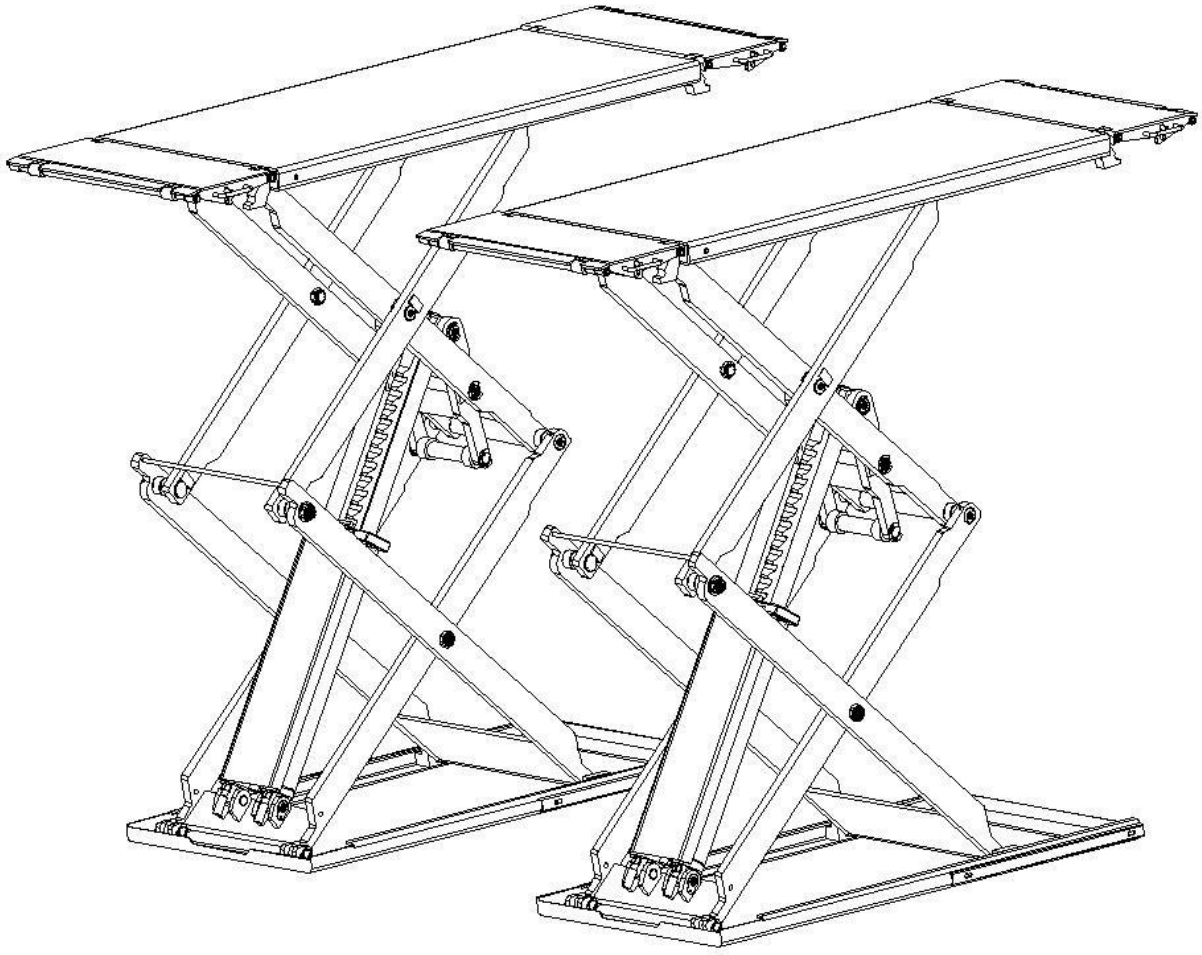
HIGH-LIFT
EQUIPMENT

3.5Ton Scissor Car Hoist Installation & Operation Manual

Model. YL-635FW



Full Size Scissor Lift On Ground Type

1.Please check the supplied voltage whether it's accordance with the voltage stated on the name plate before connect the machine with the power.
2.Power supply must come from the matching of automatic air switch.
3.The machine grounding must be well grounded to ensure the safety of the equipment operation personnel.
4、Cable wire color meaning: The yellow-green line is the grounding wire PE,The blue line is zero line N,The remaining color wires are Fire Wire L.

	The manufacturer shall not be held responsible for any possible damage to persons, vehicles or goods caused by improper use or operation of the lift by non-professionalpersons.
	Any person who is not familiar with operating procedures and instructions is prohibited from operating the machine

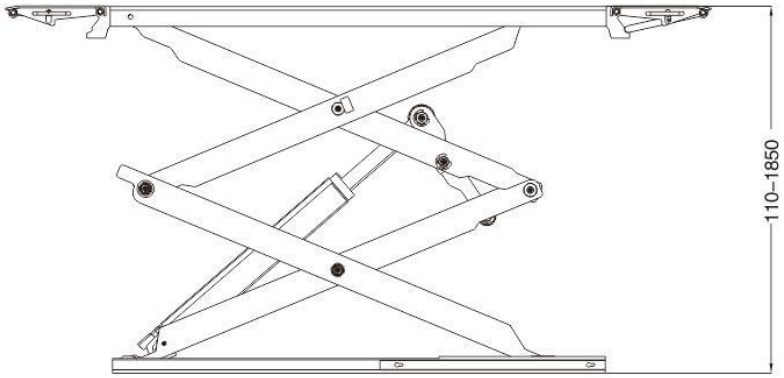
Table of Contents

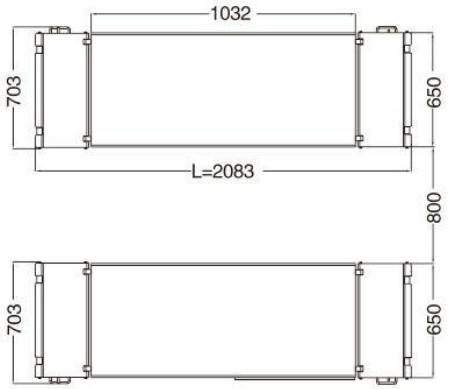
1、 Purpose and characteristics

1). Ultra thin design, floor mounted, rated load 3500 kg, minimum height 120 mm;
2). Full set of oil cylinder seal, ball valve, hydraulic cylinder import, quality assurance;
3). Platform unilateral, bilateral stretch optional, easy to serve more models;
4). Mirror treatment of the inner wall of the oil cylinder to ensure that the oil cylinder does not leak and that both sides are synchronized;
5). 24V control system and limit switch device;
6). The outside is equipped with a towline switch, which can be controlled remotely;
7). After strict CE certification test, 120% dynamic load test, 150% static load test. **2**

、Main technical parameters

2.1 structure size





2.2 Technical parameters

Model.	YL-635FW
Drive type	Electric / hydraulic
Main lift capacity	3500kg
Lift lifting height	110-1850mm
Lift lifting up time	≤55s
The weight	890kg
Motor	240V 50Hz 1PH or 415V 50Hz 3PH
Power	2.2KW(240V)
Hydraulic oil	68 # or 46 # wear-resistant hydraulic oil (purchased by the user)
Air pressure	6-8kg/cm2
Working temperature	5-40℃
Working humidity	30-95%
Noise	< 76dB(A)
Machine installation height	≤1000m
Machine storage temperature	-25℃-55℃

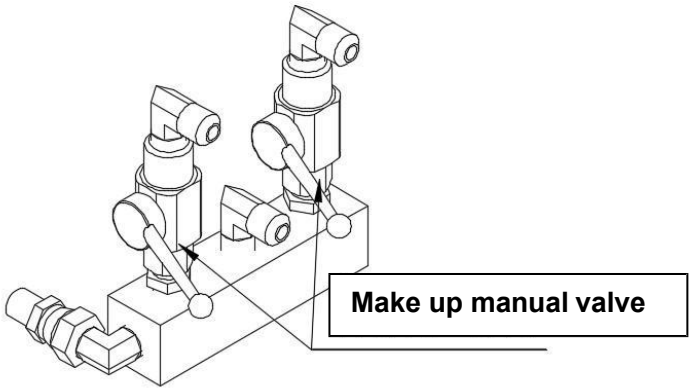
3、Installation and commissioning

3.2 Installation:

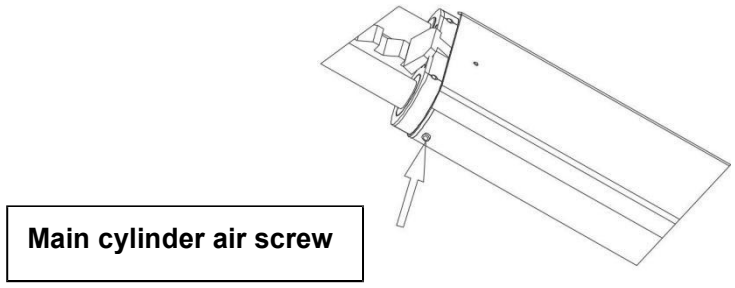
1. First, confirm whether the power, gas and oil of the control cabinet are injected into the standby position, and whether the motor rotates counterclockwise, air pressure, pressure and oil injection are enough.
2. The oil pipes of the control cabinet and the rack are correctly connected (refer to the oil pipe connection drawing). The machine is placed in front, back, left, right and size (travel switch No. 3 \ No. 6)

3.3 Air exhaust and leveling method

1)、First, open the two oil replenishing valves in the control cabinet at the same time, then press the up oil replenishing valve to make the platforms on both sides rise synchronously, then close the oil replenishing valve, and then press the up oil valve to the highest level (it will stop automatically when touching the limit switch),



2)、Then there is a main cylinder at the oil cylinder of both sides of the platform. There is a 5mm hex socket screw at the upper end of the main cylinder. After the screw is taken out without oil flow, replace the screw (it must be taken out), and then take the screw on the other side. After the operation on both sides is completed, lower the hoist.



3) 、 Open the two oil filling valves at the same time and fill oil according to the rising direction. Close the valve again and lift it to the highest level to discharge air again. Repeat the operation twice and adjust the synchronization three times.

4、 Maintenance and Service

1). Sundries are not allowed in the moving parts of the upper and sliding blocks. Please pay attention to keep them clean and add grease.
2). At all hinged shafts of the machine, oil shall be added to the oil can once a week.
3). Grease is added to the safety rack every month.
4). The side slide is decomposed once a year and filled with grease.
5). Replace the hydraulic oil once a year. Clean the oil tank and oil filter when changing the oil.
6). The compressed air used in pneumatic safety insurance must be filtered by oil and water (the oil and water separator shall be provided by the user) to ensure that the opening cylinder of the safety jaw and the electromagnetic valve can work reliably for a long time.
7). Check the action and reliability of limit switch and lift jaw air valve every shift

5、 Operation matters needing attention

1). Remove obstacles before work.
2). When lifting, no one can stand on the left and right sides and below, and no one can stand on the platform.
3). Unable to lift overweight vehicles.
4). lift the car, should be the vehicle's manual pawl pull, pad good anti-slip triangle wood.
5). Pay attention to whether the rise and fall are synchronized, find abnormal, stop the machine in time, check and troubleshoot.
6). When the host is locked, the two platforms should be at the same level.
7). When the main engine is descending, as long as the descending button SB2 is pressed, the machine will automatically rise for 1 ~ 2 seconds (so that the safety jaw and safety tooth can be completely detached) and then descend, it should pay attention to observe whether the safety jaw and safety tooth on both sides are completely detached, or stop descending.
8). when the host rises to the limit position, (host limit switch SQ1 action) at this time press the "down" button SB2, the host will not rise first and then fall, but first stop for about 1~2 seconds after the start of the fall.
9). do car maintenance, should pay attention to the lifting machine "lock" in the same level of safety teeth (note: at this time the platform level is critical).
10). When the lifting machine drops to 30 cm above the ground, stop the lifting machine and check again whether there are foreign bodies and people around the lifting machine to prevent pressure on foreign bodies or people's feet.
11). When the equipment does not work for a long time or stays overnight, it should be lowered to the lowest position on the ground, and drive away the car, and then cut off the power.

5.1 Electrical inspection

- connect according to the diagram
- connect the lift to the ground
- check the following devices:

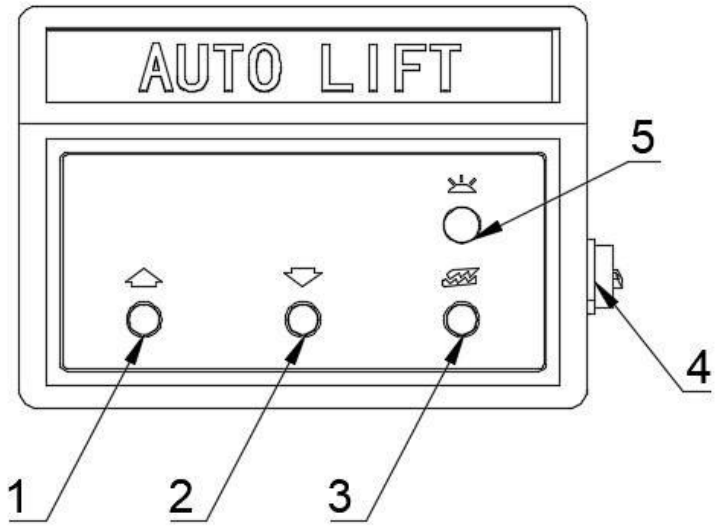
- bottom limit switch - top limit switch

5.2 Hydraulic system detection

- check that the oil in the tank is just right
- check for no leakage and leakage
- check the cylinder action

6、Electrical operation instructions

6.1 Electrical panel



1)、 Rise:

When the "up" button is pressed, the motor will run immediately. At this time, the main machine (or sub machine) will rise synchronously. When the up button is released, the motor will stop running and the main machine will also stop rising, so as to stop when the hand is off.

2)、Down:

When the "down" button is pressed, the main engine (or sub engine) will rise immediately, and automatically turn to the down after a delay of about 1-2 seconds (so as to ensure that the safety claw is lifted from the safety rack without being stuck). At the same time of lowering, the safety pawl will be lifted automatically because the electromagnetic air valve is energized to open the air circuit. At this time, the motor will also stop running.

3)、 Lock:

When the lift is raised to a safety gear, press the "lock" button, at this time, the main machine (or sub machine) will descend without raising the safety pawl. With the hoist descending, when the upper and lower safety teeth are against each other, the hoist will be locked. At this time, the vehicle can be maintained or inspected for alignment

4)、 Power switch: cut off and close 380V / 220V power supply.

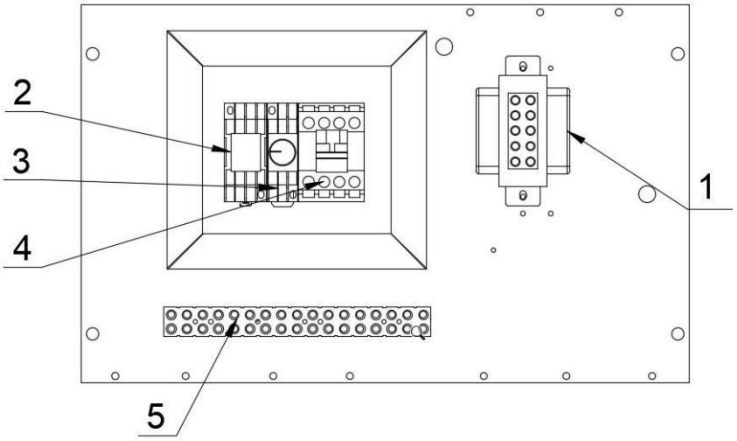
5)、 Power indicator light : the indicator light is on when the power switch is "on"

and off. 6)、

Precautions:

When the lift rises to the set limit height, it stops rising due to the operation of limit switch. At this time, if the hoist is lowered, press and hold the "down" button, and wait for 1-2 seconds, then it will automatically turn to lower.

6.2 Electrical and electronic board



No.	NAME	MODEL	Number
1	Transformer	BK-50VA	1
2	Intermediate relay	VE-R02	1
3	Time relay	H3Y-2	1
4	Contactor	CJX2-1810	1
5	Wiring bank		1

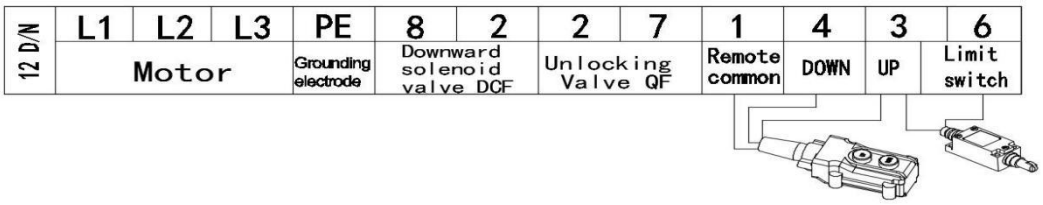
1). Transformer: change 415V / 240V to low voltage AC24V.

2). Intermediate relay: AC24V.

3). Time relay: av24v control descent.

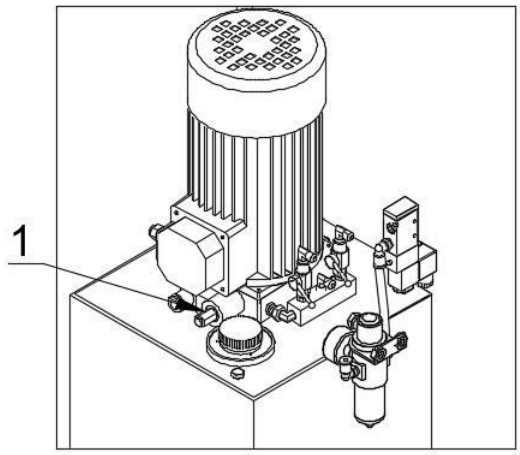
4). AC contactor: when the rising button is pressed, the blue part in the middle of the contactor is closed, and the 415V / 240V power supply is transmitted to the motor.

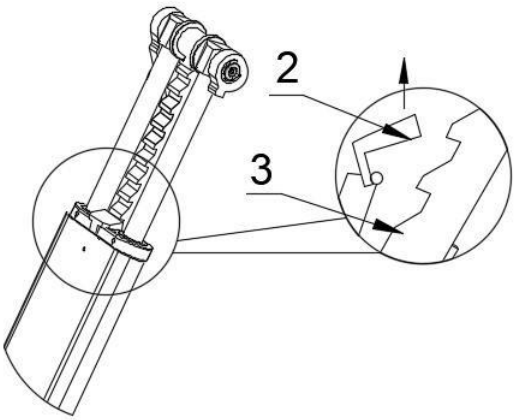
5). Wiring Bank: limit switch: 3, 6, pneumatic solenoid valve: 2, 7, solenoid valve: 2, 8, motor: L1, L2, L3,External switch: 1, 4, 3.



7、Composition and working principle of control cabinet:

7.1 、 Manual Decrease of Emergency Outage

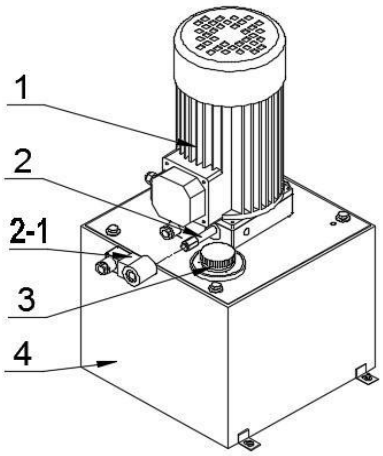


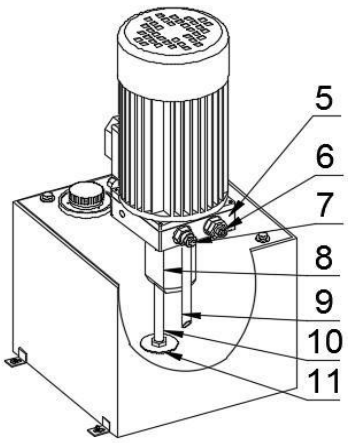


When lowering manually, it is necessary to first open the safety teeth devices 2 and 3. 1) 、If the fuse teeth are stuck, first raise the platform manually and separate the fuse teeth 2 and 3, then it can be lowered manually after unlocking.

2)、No. 1 pushes inward and then loosens automatic pop-up, the platform drops down, and then pushes No. 1 inward and turns right to return to normal operation.

7.2 、Power failure emergency manual descent





NO.	NAME
1	Motor
2	Down Solenoid Spool valve
2-1	Down Solenoid Coil
3	Fuel tank cap
4	Tank
5	Hydraulic manifold block (pump body)
6	Pressure regulating valve
7	Throttle valve
8	Gear pump
9	Return pipe
10	Intake pipe
11	Oil filter screen

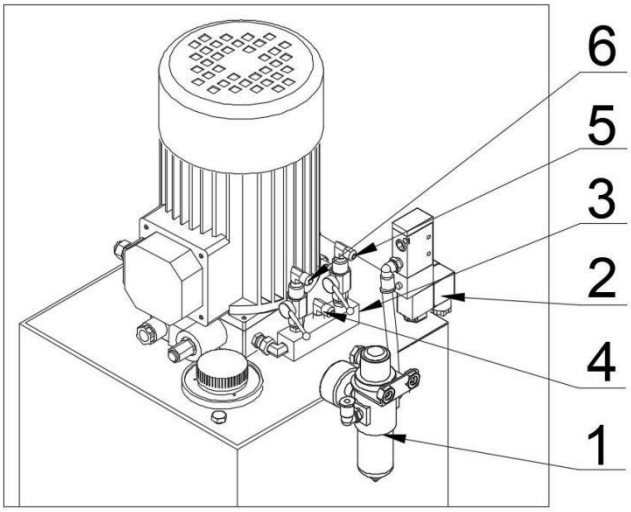
1、5、8、9、10、11： Motor and pump station: play the role of pump oil

2、2-1： Lowering valve element: control lowering

3、4： oil tank with filtered oil

6 ： Pressure regulating valve: pressure regulating valve: overweight vehicle can not move, open nut cover and see the word "—" (or 6mm hexagon screw) turn half a turn to the right.

7. Throttle valve: adjust the mechanical descent speed, open the nut cover, see the word "—" (or 5 mm hexagon screw) turn quickly to the left and slowly to the right.



1. oil water separator: plays the role of filtering water
2. pneumatic solenoid valve: control safety teeth
3. Oil separation connecting block
4. connection main tubing
5. Oil supply valve: adjust synchronization.Connect the 3rd oil supply tubing
6. Oil supply valve: adjust synchronization.Connect the 2rd oil supply tubing

7.2 Maintenance

	Only a professional who knows how the lift works can maintain it.

For better maintenance of the hoist, follow the following procedures:

- To use original parts and equipment
- Carry out regular maintenance and inspection as required
- Find out the causes of excessive noise, overheating, oil leakage, etc.

Refer to the information provided by the dealer for maintenance

- Electrical and hydraulic schematic
- Necessary instructions for all parts ordered
- Possible situations and relevant solutions

	Before maintenance, disconnect the power supply, lock the main power switch, and keep the key in a safe place so as to prevent unauthorized persons from opening or operating the lift.

7.3 General maintenance

The hoist shall be cleaned once a month with self-cleaning cleaning cloth.

	Do not wipe with water or other flammable liquid

Make sure that the piston rod of the hydraulic cylinder is clean and not damaged. Because this rod can cause seal damage and leakage, making it fail.

7.4 Regular maintenance

Every 3 months	Hydraulic circuit	■ Check the oil level of the oil tank to see if it needs to be refueled ■ check the circuit for leakage ■ check the condition of the sealing device and update it if necessary
	Anchor bolt	■ Check whether the bolts are tightened
	Hydraulic pump	■ When the machine is running, please check whether the pump in the control cabinet has sound change and check whether the screw is tightened
	Safety system	■ Check safety devices
Every 6 months	Hydraulic oil	■ Check whether there is dirt in the oil and whether the oil is out of date and aging. Contaminated oil is the main reason for the failure of gear pump operation and the reduction of gear pump life
Every 12 months	Overall inspection	■ Check parts and mechanism for damage
	electrical system	■Only a professional electrician can check whether the electrical system, the motor in the control cabinet, the limit switch and the control panel are normal

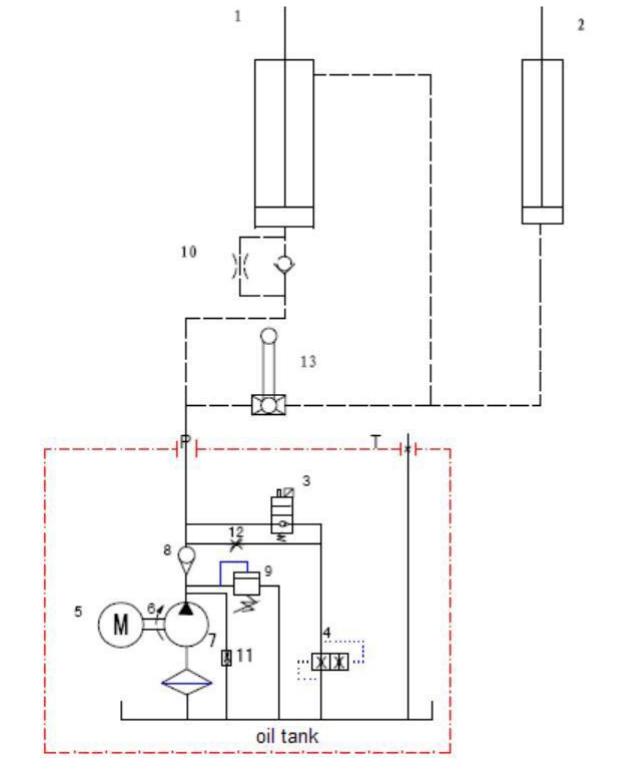
8、Troubleshooting

Failure Phenomena	Cause and Phenomena	Resolutions
The motor does not run in lifting operation.	① Connection of power supply wires is not correct.	Check and correct wire connection
	② The AC contactor in the circuit of the motor does not pick up.	If the motor operates when forcing the contactor down with an isolation rod, check the control circuit. If the voltage at two ends of the contactor coil is normal, replace the contactor.
	① The limit switch is not closed.	Check the limit switch：3#、6#, wires and adjust or replace the limit switch.

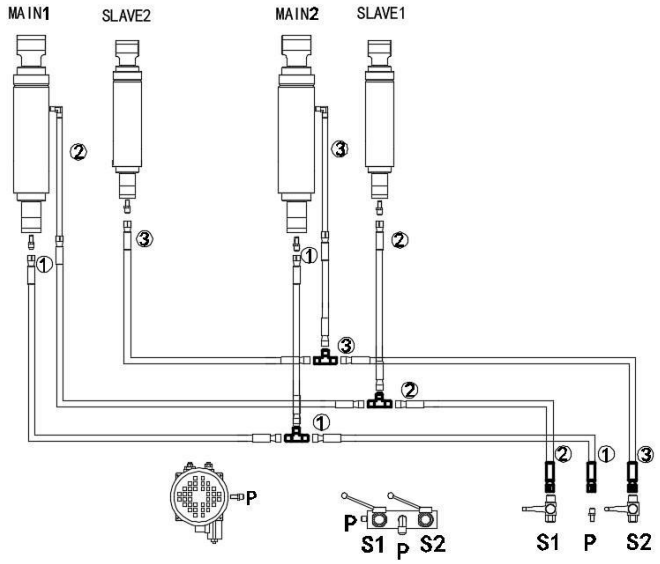
In lifting operation, the motor runs, but there is no lifting movement	① The motor turns reverse.	Change the phases of the power supply wires.
	② Lifting with light load is normal but no lifting with heavy load.	The set safe pressure of the over-flow valve may be increased by turning the set knob right ward slightly. The spool of the lowering solenoid valve is stuck by dirt. Clean the spool.
	③ The amount of hydraulic oil is not enough.	Add hydraulic oil.
	④ The “operation stop valve” is not closed.	Screw down the “Operation stop valve”.
When press “Lower” button, the machine is not lowered	① The safety pawl are not released form the safety teeth.	First lift a little and then lowering
	② The safety pawl is not lifted.	The air pressure is not enough, the safety pawl is stuck or the gas pipe is broken off, adjust pressure, check the gas pipe and replace it.
	③ The solenoid air valve does not work.	If the solenoid air valve is energized, but does not open the air loop, check or replace the solenoid air valve.
	④ The lowering solenoid valve is energized but does not work.	Check the plug and coil of the lowering solenoid valve and check the right turn tightness of its end copper nut and so on.
	⑤The “antiknock valve” is blocked.	Remove the “antiknock valve” from the oil supply hole at the bottom of the oil cylinder, and clean the “antiknock valve”.
The machine lowers extremely slowly under normal loads.	①The hydraulic oil has too high viscosity or frozen, deteriorated (in Winter).	Replace with hydraulic oil in accordance with the instruction book.
	② The “antiknock valve” for preventing oil pipe burst is blocked.	Remove or close air supply pipe and thus lock the safety pawl of the machine without lifting of the safety pawl. Remove the “antiknock valve” from the oil supply hole at the bottom of the oil cylinder, and clean the “antiknock valve”.
The right and left platforms are not synchronous and not in the same height.	① The air in the oil cylinder is not vent completely.	Refer to “Ⅶ. Oil Make-up ‘Adjust’ Operation”.
	② Oil leakage on oil pipe or at its connections.	Tighten oil pipe connections or replace oil seals and then make-up oil and adjust levelness.

	③ The “oil make-up stop valve” can not be closed tightly and almost make-up oil and adjust every day.	Replace oil make-up stop valve, and then make-up oil and adjust.
Noisy lifting and lowering.	①Lubrication is not enough.	Lubricate all hinges and motion parts (including piston rod) with machine oil
	② The base or the machine is twisted.	Adjust again the levelness of the machine, and fill or pad the base.

9、Oil circuit connection diagram



1. Drive oil cylinder
2. Oil cylinder
3. Solenoid valve
(use manually or electrically)
4. Lowering throttle valve
5. Motor
6. Coupling
7. Gear pump
8. Single-way valve
9. Over-flow valve
10. Anti-surge valve
11. Cushion valve
12. Emergent unloading valve
13. Oil supplementing valve



10、Electrical schematic diagram