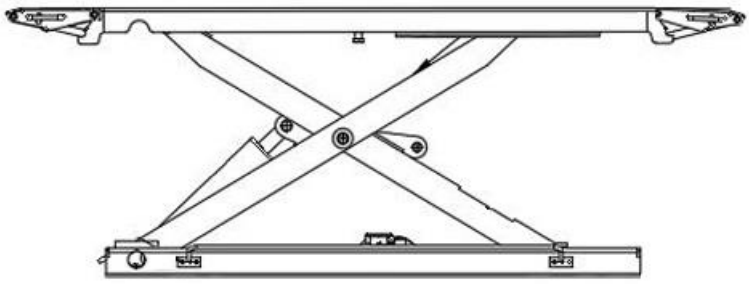
Middle Rise Scissor Lift



ORIGINAL INSTRUCTION

Model: STD-5230E

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Chapter 1. General Information

1.1 Application

This lift is designed for the purpose of lifting light vehicles under it rated load for vehicle test, service and cleaning.
And this lift is not intended to lift persons, only designed to raise vehicles totally, for the purpose of examining and working on or under the vehicles whilst in a raised position.

1.2 Features

- The lift features advanced design, durability, compact layout.
- The hidden type ultra-thin structure, Floor installation, without construction pit, small occupied space
- Independent control box, low voltage control, good safety performance
- Hydraulic volume synchronous cylinder, platform operation synchronization, smooth.
- Hydraulic system keeps both platforms level, operate safety catch
- Automatic lubricating system and oil-less bearings

1.3 Specifications

Max. lifting height(mm)	Min. height (mm)	Max. lifting weight(kg)	Power (kw)	Weight (kg)
1000	115	3500	2.2	650

Electric specifications:
Motor (Optional): 2.2kw
Voltage: 230/400V, 50Hz
Noise: ＜85dB (A)

Hydraulic System
Max. Working Pressure: 20 MPa

1.4 Environment requirements

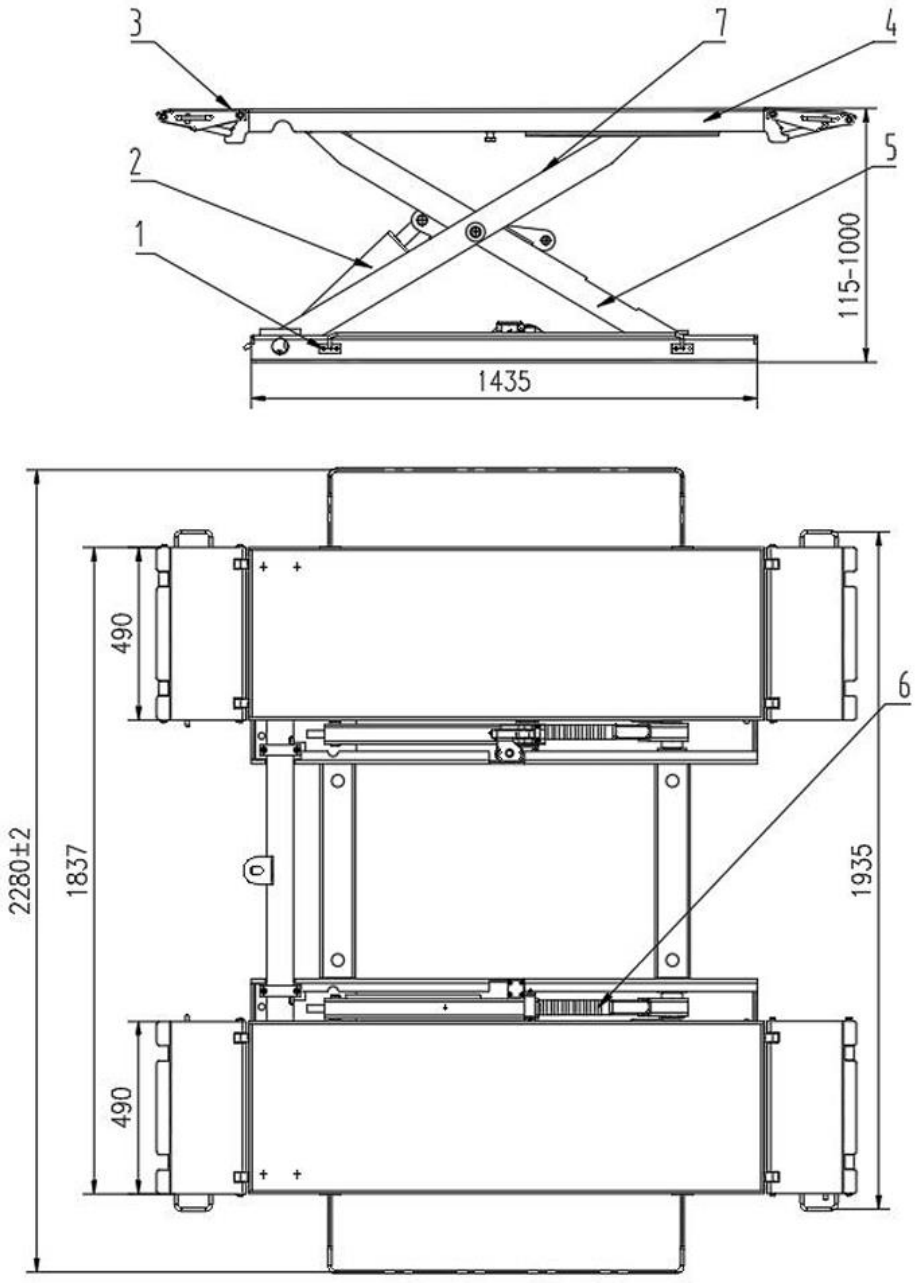
Temperature: 0℃ ~ +40℃

Relative Humidity: ≤80% at 30℃

Transportation/Storage Temperature: -25℃～+55℃

Chapter 2. Structure

2.1 Dimension



Chapter 3. Installation

3.1 Overall layout

Installation position:

- Machine supply status for the whole package, that is, electric control box, oil pipe and platform are connected and adjusted well
- Open the package, remove the packing material to check the lift for any damage during the transportation
- Place the packing material away from children to prevent any danger. Properly dispose of the packing materials that may cause pollution
- Inspect for possible hindrance such as low ceiling, overhead pipelines in the work area, passageways and escapes. The working area of the lift should be 4.2m high to give enough space
- Allow enough space (1.5m/) at the front electrician.
- Power should be prepared before install. Electrical wiring should be conducted by certified electrician.
- It is default installation; the control unit could be installed at the right side of lift as well. The installation should be performed by qualified people

3.2 Installation on the ground

- the lift must be fixed on the ground.
- To fix the machine on the ground, you must do the following:

  1 Drill a 12mm hole on the concrete floor with an impact drill.

  2 Expansion nail (or equivalent products from other manufacturers)

  3 Torque wrench with maximum torque of at least 22.5N/M;
- It is also necessary to ensure that the strength of concrete is at least 250Kg/ cm2up to the depth of 130mm.
- The steps are as follows:

  1 12mm diameter, 130mm depth of drilling hole

  2 Clean holes

  3 Insert the expansion nail and tap it lightly with a hammer;

  4 Tighten the bolts with a torque wrench whose torque value is set to 22.5NM (if this value is not reached, the hole may be too big or the concrete strength is not enough).

3.2 Control Desk Installation

- Place the control desk in place according to the ground layout.
- Use cover plate to protect the wires if there is no wire channel on the concrete floor
- Fill hydraulic oil into the oil tank (using oil dipstick to check the level). Pay special attention to avoid dust and contaminants into the oil.

3.3 Connecting power

- Open the control desk, connect the wires according to the electrical diagram。After check the connection, switch on the power. Turn on the power supply switch which is on the panel of control desk. The indict light will turn on.
- Power switch is needed, and installed near control desk. Cut the power when maintenance or emergency. The damage which is caused by wrong wire connection is not covered by warranty.
- Make sure the oil level is above the standard level. DO NOT operate the lift if oil tank is empty Fix all the oil hoses and press UP button, test the electrical parts: if motor does not operate, abnormal sound, platform does not rise, motor is hot, STOP operating immediately and check the wire connection

Chapter 4. Commissioning

4.1 Preparation before test

- Lubricate the moving surface of the roller with #2 lithium lubricant. Lubricant should be applied evenly from left to right.
- Lubricate the joints of the lifts with #2 lithium lubricant.
- Fill tank full with Oil N32 or N46

4.2 Test step

- Check if all the connection bolts are tightly fastened.
- Press UP button, the platforms are raising; release the UP button, the platforms stop raising. Press DOWN button, the platforms are lowering.
- If there is air in hydraulic system due to new installation, air bleeding performance is needed. The air in the main & sub oil cylinder can be discharged through the rise and fall repeatedly. When see the transparent hose continuously return oil, hydraulic leveling, so that the platform to reach the same height.

4.3 Checks no load

- Carry out two or three complete cycles of lowering and lifting and check:
- the safety devices for proper operation
- proper oil level in the tank
- no leakage and blow-by in hydraulic cylinder for proper operation
- the lift for reaching its maximum height

4.4 Load trial

- Check the oil pipe if it's leaking and the foundation is fastness, and then the trial begins. Load rated load to run 2~3 times, if there is no abnormal noise and leakage, and the lifting parameters meet the technical requirement, and then the machine is ready to work.

⚠**Attention**:

- ***Attention should be paid to the position of oil pipes and hydraulic hose when the platforms move to the minimal height for the first time. Make sure they do not get stuck with platforms moving downward***

Chapter 5. Safety

Read this chapter carefully and completely because it contains important information for the safety of the operator and the person in charge of maintenance.

5.1 GENERAL WARNINGS

The operator and the person in charge of maintenance must follow accident-prevention laws and rules in force in the country where the lift is installed

They also must carry out the following:

- neither remove nor disconnect hydraulic, electric or other safety devices;
- carefully follow the safety indications applied on the machine and included in the manual;
- observe the safety area during lifting;
- be sure the motor of the vehicle is off, the gear engaged and the parking brake put on;
- be sure only authorized vehicles are lifted without exceeding the maximum lifting capacity;
- Verify that no one is on the platforms during lifting or standing.

5.2 RISKS DURING VEHICLE LIFTING

To avoid overloading and possible breaking, the following safety devices have been used:

- A maximum pressure valve placed inside the hydraulic unit to prevent excessive weight.
- A special design of the hydraulic system, in case of pipeline failure, to prevent sudden lift lowering.

	**The maximum pressure valve has been preset by the manufacturer to a proper pressure. DO NOT try to adjust it to overrun the rated lifting capacity.**

5.3 RISKS FOR PEOPLE

All risks the personnel could run, due to an improper use of the lift, are described in this section.

5.4 PERSONNEL CRUSHING RISKS

During lowering of runways and vehicles, personnel must not be within the area covered by the lowering trajectory. The operator must be sure no one is in danger before operating the lift.

5.5 BUMPING RISK

When the lift is stopped at relatively low height for working, the risk of bumping against projecting parts occurs.

5.6 RISK OF THE VEHICLE FALLING FROM THE LIFT

Vehicle falling from the lift can be caused when the vehicle is improperly placed on platforms, and when its dimensions are incompatible with the lift or by excessive movement of the vehicle.
In this case, keep immediately away from the working area.

5.7 SLIPPING RISKS

The risk of slipping can be caused by oil or dirt on the floor near the lift.

5.8 ELECTROCUTION RISKS

Avoid use of water, steam, and solvent, varnish jets in the lift area where electric cables are placed and, in particular, next to the electric panel.

5.9 Risks resulting from improper lighting

Make sure all areas next to the lift are well and uniformly lit, according to local regulations.

5.10 Risks of breaking component during operation

Materials and procedures, suitable for the designed parameters of the lift, have been used by the manufacturer to build a safe and reliable product. Operate the lift only for the use it has been designed for and follow the maintenance schedule shown in the chapter “Maintenance”.

5.11 Risks for unauthorized uses

The presence of unauthorized persons next to the lift and on the platforms is strictly forbidden during lifting as well as when the vehicle has been already lifted

	**Any use of the lift other than that herein specified can cause serious accidents to people in close proximity of the machine.**

Chapter 6. Operation

6.1 Operation panel

Operation Instruction

Controls for operating the lift are:

POWER SWITCH

The power switch can be set in two positions:

O position: the lift electric circuit is not powered; the switch can be padlocked to prevent the use of the lift.

I position: the main electric circuit is powered.

Light: It works when power is on.

Lifting process: Press UP button, left and right platform raising, Release the button, the platform will stop raise. If continue press the button, the lift will be raising to the limited height then stop

Lowering process: Press DOWN button, the platform begins to lower.

Lock process: Press LOCK button, the platform will lower to engage safety catch.

Key switch: Turn on/off the photocell

Emergency stop: Press it when any emergency situation

Chapter 7. Troubleshooting

Symptoms	Reasons	Solutions
The motor does not work.	Check the molten core is burned Voltage is not correct. Fuse burning. Motor is broken.	Reset molten core Supply power of correct voltage. Change Fuse. Change motor.
The motor works, but the platforms do not move.	The motor rotates in the wrong direction. Oil level is too low. Oil leak.	Change wiring of motor to change direction. Add oil. Check the oil hose.
The motor works, but the platforms cannot lift the vehicle.	The voltage to the motor is too low. Pressure of relief valve is not right. The lift is overloaded The hydraulic pump is damaged.	Supply motor with correct voltage. Adjust the pressure of relief valve. Check the weight of the vehicle. Replace the hydraulic pump.
Lowering speed is slow.	There is foreign substance in the lowering solenoid valve. Lowering speed valve is turned too low.	Clean the lowering solenoid valve. Turn the lowering speed valve up.
Lifting speed is slow or oil spill.	Oil and air are mixed.	Change oil or eject air.
The platforms are not synchronized.	One cylinder has much more oil than another.	Adjust the oil in both cylinders according to manual.

Chapter 8. Maintenance

8.1 Daily Maintenance

- Keep the lift clean. Make sure power is cut off before cleaning the lift.
- Keep the working area clean. Excessive dust in the work area will shorten the lifespan of the lift.
- Before operation, inspect and keep all the safety devices of lift in order. If any problems are found, adjust, maintain or replace the parts timely.
- Make sure that the pits are kept dry and clean.

8.2 Monthly Maintenance

- Refasten the anchor bolts.
- Check all the hoses and fittings for possible wearing and leakage. If any leakage is found to be caused by worn sealing parts, replace with parts meeting the specifications.
- Check if the moving parts are well-lubricated with high-quality #2 lithium lubricant.
- Apply #2 lithium lubricant on a monthly basis.

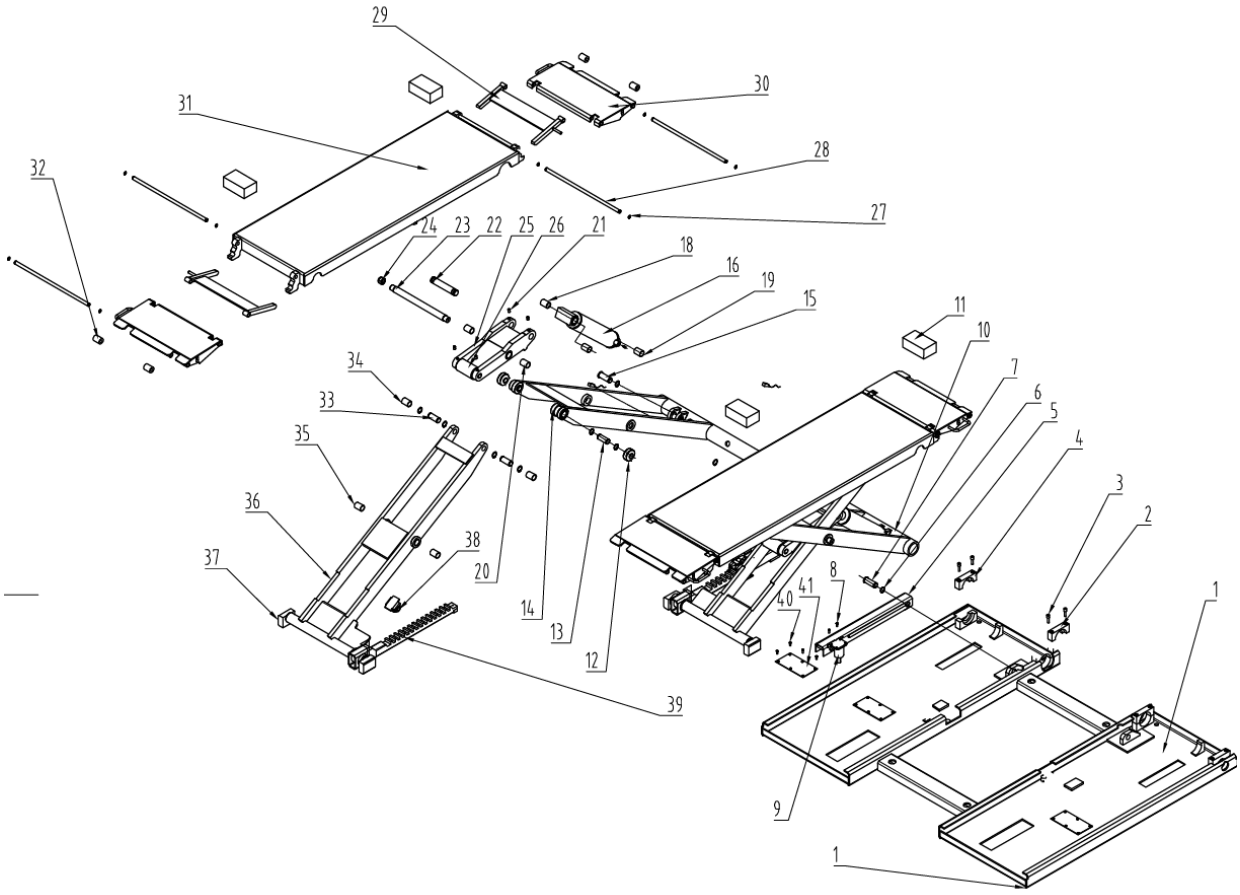
8.3 Biannual Maintenance

- Check all the moving parts for possible wearing, interference and damage.
- At the end of the first six months, clean the hydraulic system and replace the hydraulic oil. Replace the hydraulic oil with N32 hydraulic oil in winter and N46 in summer.

8.4 Lubrication Points and Frequency

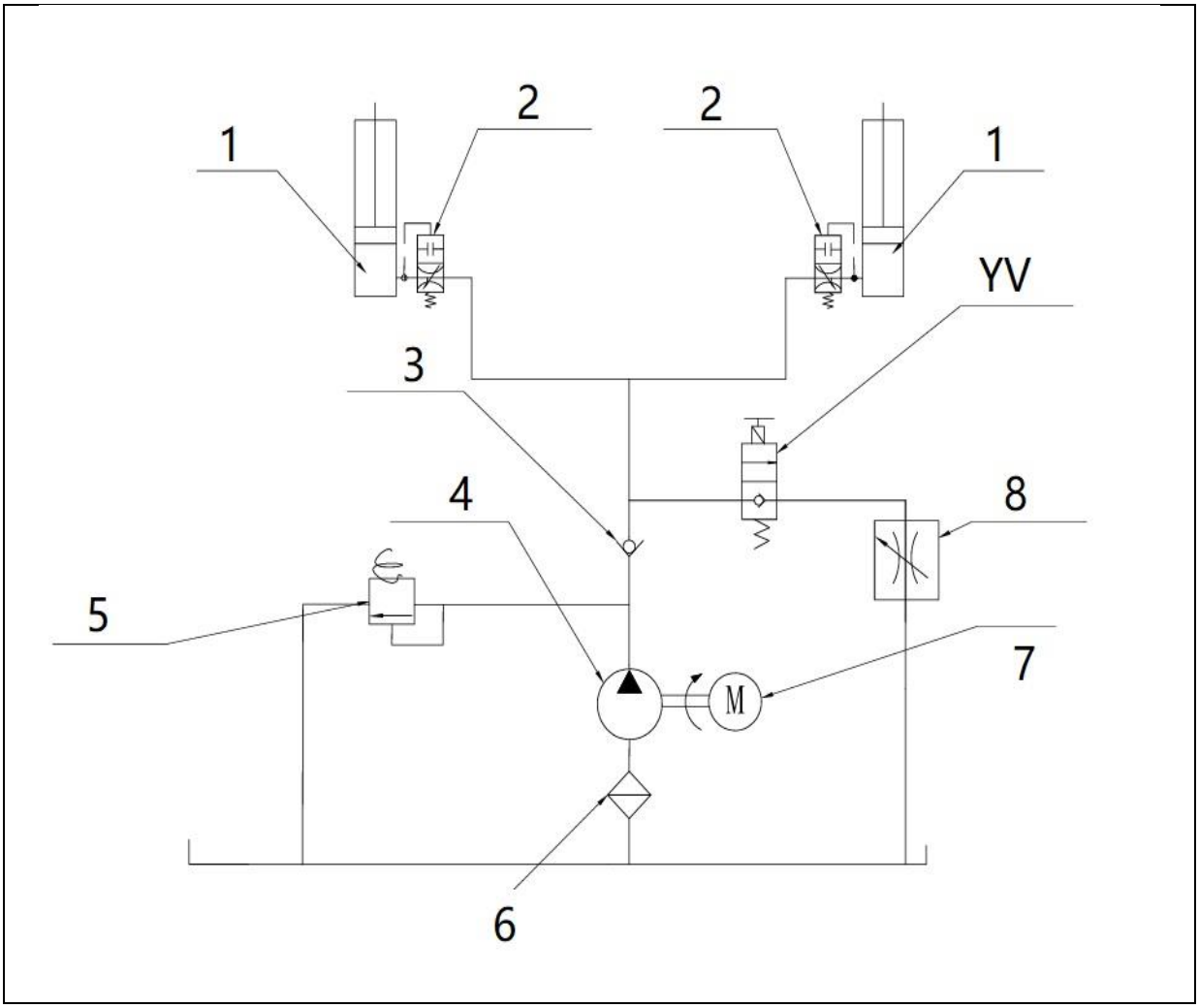
- To ensure the optimal performance and longevity of the lift, regular lubrication of key components is essential. Below is a list of lubrication points along with the recommended frequency for maintenance:
- Hydraulic Cylinder Rods
  Frequency: Every 50 hours of operation or monthly, whichever comes first.
  Lubricant: Use a high-quality hydraulic oil or grease suitable for hydraulic systems.
- Sliding Surfaces and Rails
  Frequency: Every 100 hours of operation or every 3 months.
  Lubricant: Apply a dry lubricant or silicone-based spray to reduce friction.
- Hydraulic Pump and Valves
  Frequency: Every 500 hours of operation or annually.
  Lubricant: Use the recommended hydraulic fluid as specified in the hydraulic system manual.

Chapter 9. List of mechanical parts



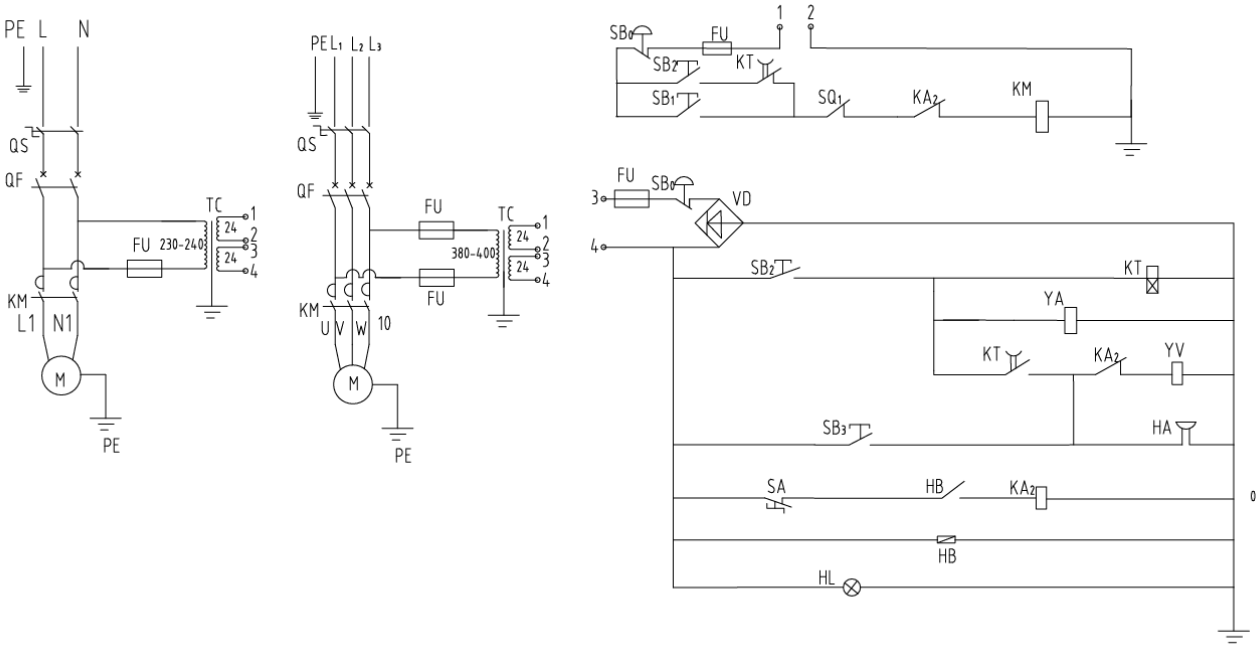
1	Base plate	22	Assistant arm – cylinder shaft
2	Socket clamp	23	Middle shaft for arm
3	Hexagonal cylindrical screws	24	Lock nut
4	Socket clamp	25	Assistant arm
5	Locking clamp	26	Assistant arm roller
6	Elastic retaining ring	27	Elastic retainer for shaft
7	Rack fixed shaft	28	Platform – ramp axle
8	Cross groove pans head screw	29	Ramp support
9	Electromagnetic	30	Ramp
10	Outer support arm	31	Platform
11	Rubber pad	32	Roller
12	Upper roller	33	Inner arm – shaft
13	Upper roller shaft	34	Oil-free bearing
14	Upper roller	35	Oil-free bearing
15	Cylinder Lower support shaft	36	Inner scissor arm
16	Cylinder	37	Lower slider
17	Explosion proof valve	38	Wheel
18	Oil-free bearing	39	Safety catch
19	Oil-free bearing	40	Cross head screw
20	Oil-free bearing	41	Wear-resistant plate
21	Inner hexagon		

Chapter 10. Hydraulic diagram



1	Cylinder
2	Anti-leakage valve
3	Single way valve
4	Gear pump
5	Overflow valve
6	Filter
7	Motor
8	Throttle valve
YV	Lowering solenoid valve

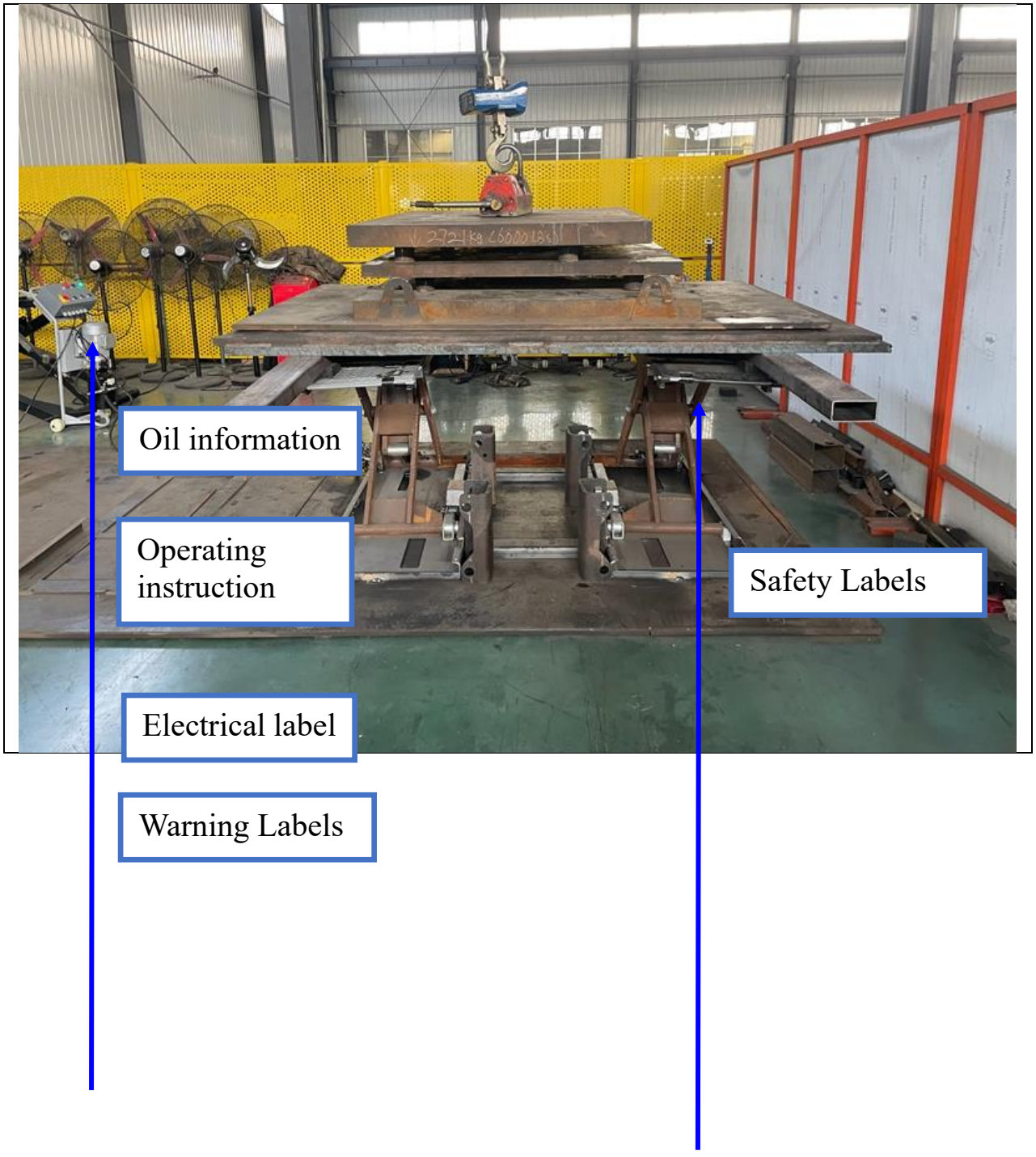
Chapter 11. Circuit diagram



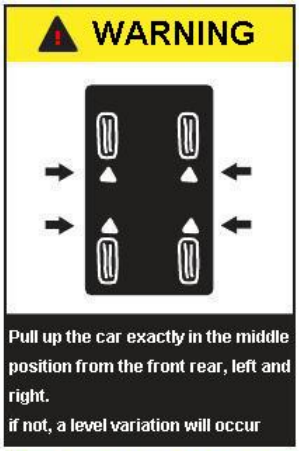
Electrical parts list

1	QS	Power Switch	11	HA	Buzzer
2	QF	Breaker	12	SB0	Emergency stop button
3	KM	AC contactor	13	SB1	UP button
4	FU	Fuse	14	SB2	DOWN button
5	TC	Transformer	15	SB3	LOCK button
6	YA	Unlock valve	16	SQ1	Top limit Switch
7	KA2	Middle relay	17	YV	Solenoid lowering valve
8	HL	Light	18	HB	Photocell
9	VD	Rectifier	19	SA	Photocell Key switch
10	M	Motor	20	KT	Time relay

Chapter 12. Label layout



Chapter 13. Warning labels



Detail labels

Safety Labels

For longer period using for hydraulic system and safety operation, please :

In first 10 days, clean tank and change the oil

In first 3 months, change the oil again

Clean the oil system and change the oil every year.

Note:

a, Using 46# oil

b, Using new oil

c, If not operating following instruction, manufacture and distributor don't responsible for it

Oil Information

OPERATING INSTRUCTION

1,The operation of the lift is permitted by authorized person only.

2,It is necessary to refer to the complete operation instruction especially for trouble shooting.

3,The field of the load and carrying devices shall be free of obstructions.

4,It shall draw attention to the safe method of carrying the load and to the rule. After raising a short distance, the vehicle shall be checked to ensure that it correctly and safely.

5,It shall draw attention to the rule that the carrying device shall be observed by the operator throughout the motion of the lift.

6,It is forbidden for people to stand in the field of the motion of the load and the load carrying device during the movement.

7,It is forbidden to climb onto the load carrying device when they are raised unless via a specially designed access.

Operating instruction

Electrical label

Chapter 14. DoC

EC Declaration of Conformity

In accordance with EN ISO 17050-1:2010

We	Shandong Qiyang Hydraulic Technology Co., Ltd.
of	No. 267 Phoenix Road, Hedong, Linyi City, Shandong, 276034, P.R.China

hereby declare that the equipment submitted for Type Approval is in conformity with the requirements of following EU Directives:

2006/42/EC	Machinery Directive

We hereby declare that:

Equipment	Middle Rise Scissor Lift
Model number:	STD-5230E
Serial Number	

is in conformity with the applicable requirements of the following documents

Applied Standards:	Annex I of the Machinery Directive
	EN ISO 12100:2010 Safety of machinery - General principles for design - Risk assessment and risk reduction
	EN 60204-1:2018 Safety of machinery - Electrical equipment of machines - Part 1: General requirements
	EN 1493:2022 Vehicle lifts

The machine has been the subject of a type examination by CTI-CEM International Ltd (Notified Body Number 2845) & granted Type Examination Certificate number: <C-353-20-0312-24-01-P1>

Signed by: .....Jimmy.....

Full Name:	*Jimmy*
Title:	*Sales Manager*
Location:	Confirm Stamp Shandong Qiyang Hydraulic Technology Co., Ltd.
Date:	

CE

Document ref. No. <F-353-20-0312-24-01-P>

The technical documentation only for the machinery certified to the Test Standards as required by the Machinery Directive, is available from:

Name:	CTI-CEM International Ltd
Address:	Unit 200 Greenogue Business Park, Grants Lane, Rathcoole, Co. Dublin, Ireland

Relief valve adjustment

Don't adjust the relief adjustment if no information about it and not trained.
Please open the cover of the screw head and loose the screw to adjust the pressure.
After adjustment, tighten the screw and add the cover on it.
Before starting to use the lift, please inspect the safety device. Check if the safety gear act well. Check the pipe and control box.

Lighting

Keep enough lighting strength in order to use the lift safe. Please provide the 200Lux on site and no additional risk.
Don't use this lift outdoor. And if user use it outdoor, please think about the wind, lightning, rain hazards and so on.

Level ground

This lift must stand on a level ground except any slope. Please check the level of the lift before using it to lift.

Electrical supply protection

Before using the machine, a break or same function device will fit to protect the circuit. When the main power circuit overcurrent, the device can cut the circuit even if the fault current higher than rated current. Please contact your local vendor to get the information about the related information.

Lockout/Tag out

Before repair the machine or open the electrical box or hydraulic system, **Lockout/Tag out** process shall be performed.

Dismantling and disposal

ENVIRONMENTAL DAMAGE.
Only appropriately trained personnel may dismantle and dispose of the unit.
Dismantling
To dismantle this product, proceed as follows:
ELECTRICAL HAZARD!
When carrying out any decommissioning and dismantling work on the unit, switch off all power supply connections, ensure they cannot be switched on unintentionally and verify that they have been disconnected. Earth and short-circuit them, and cover or otherwise isolate any neighboring live parts. Failure to do so may lead to serious injuries or death.
HIGH PRESSURE HAZARD.
When carrying out any unit decommissioning and dismantling work, close off and empty all the connection pipes until the pressure is the same as the ambient air pressure. Failure to do so may lead to injury.
Make sure that the hydraulic circuit has been switched off.
Close all hydraulic shut-off valves.
Disconnect all connections, making sure at the same time, that no operating materials escape, such as oil.
Loosen the connection to the base.
PERSONAL INJURY!
Secure the unit against slipping. The unit is ready for transporting.
It is important that all transport information is observed.

Disposal

A specialist company with the appropriate competence must dispose of the unit and individual components. This technical services department must ensure that:

– the components are separated according to material types
– that the operating materials are sorted and separated according to their properties.

ENVIRONMENTAL DAMAGE.
Dispose of all components and operating materials (such as oil) separately according to material and in line with local laws and environmental regulations.

Noise declaration

Sound power level: LWA<85dB
Accompanied uncertainly K=4 dB
This measurement made in according with EN ISO 3746:1995