

Model No. SAE-F10X

**Installation & Operation &
Maintenance Instructions**

Chain drive 2 post Lift

Single Point Manual Release

Lifting Capacity 10,000 lbs



Important Note

1. This equipment can not be installed, operated or repaired without reading instructions.
2. Electricity must be hooked up by certified electrician.
3. Do not use this equipment beyond its rated capacity.

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1. Packing, transport and storage

All packing, lifting, handling, transport and unpacking operations are to be performed exclusively by expert personnel with knowledge of the lift and the contents of this manual.

1.1 Packing

The packing of the lift is delivered in following components:

- a.1 base unit packed in a steel frame, wrapped up in non-scratch material, including all the accessories.
- b.1 power unit packed in a carton box

1.2 Transport

- See Fig 1, 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 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.

Furthermore, during loading and unloading operation goods must be handled as shown in the picture. (Fig 1)



Fig 1

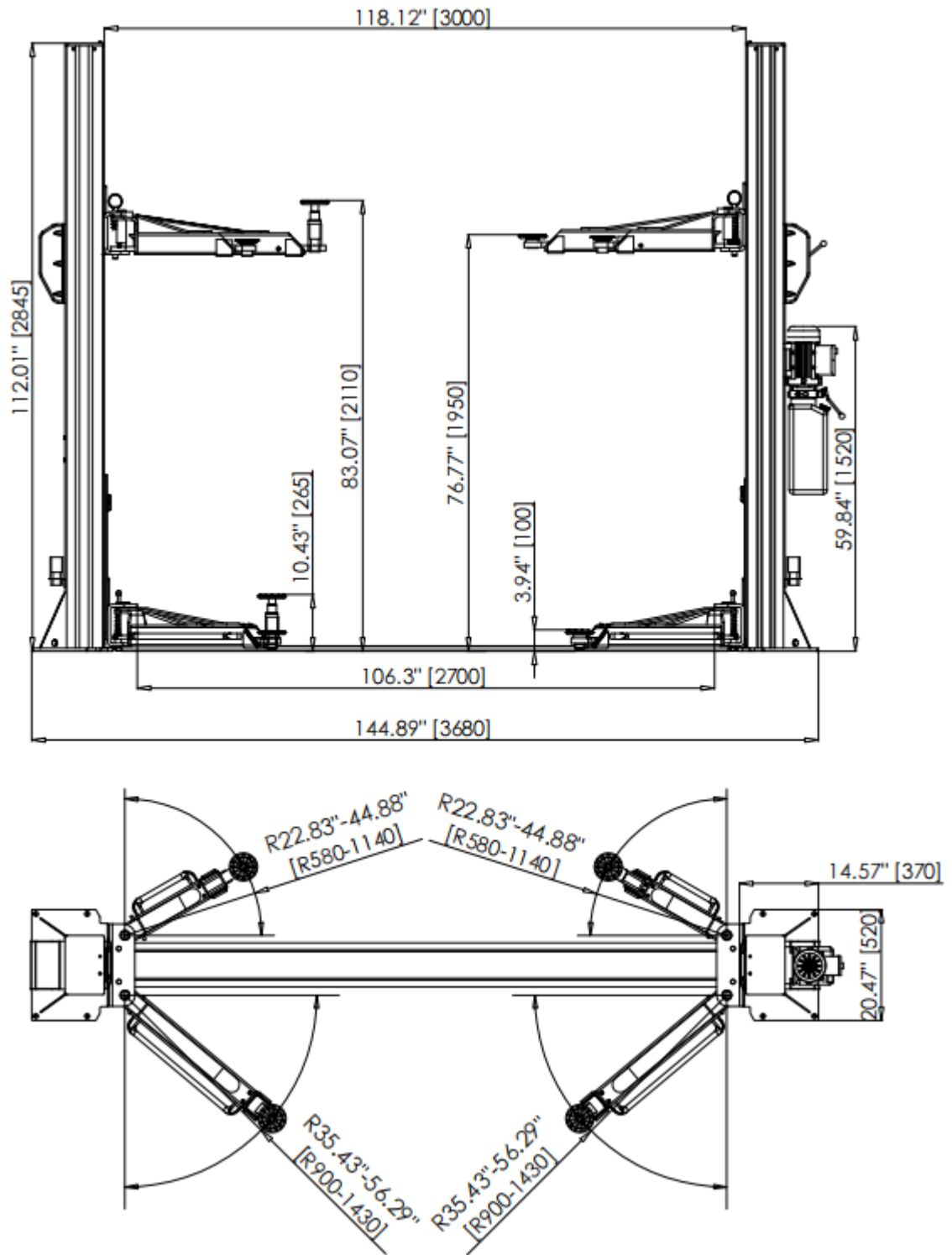
1.3 Storage

- The machine equipment should be stocked in the warehouse, if stocked outside should do the disposal well of waterproof.
 - Use box truck in the process of transport, use container storage when shipping.
 - The control box should be placed perpendicularly during the transport; and prevent other goods from extrusion.
- The temperature for machine storage: -10°C-- 40°C

2. Technical specifications

Machine model	SAE-F10X
Driving mode	Single Point Manual Release
Lifting capacity	10,000lbs (4,500kg)
Lifting Height	76.77" (1950MM)
Minimum height	3.94" (100M)
Lifting time	About 50 sec
Voltage	220V
Frequency	60Hz
power	2.2KW
Hydraulic oil	46 # /68 #
working temperature	5-40℃
ambient humidity	30-95%
Machine noise	< 76dB(A)
Equipment weight	1422lbs (645kg)

2.1 Equipment layout



3. Safety

3.1 Important notices

- This ultra thin low lift is specially designed for lifting motor vehicles that weighs within its outmost lifting capacity. Users are not allowed to use it for any other purposes. Otherwise, we, as well as our sales agency, will not bear any responsibility for accidents or damages of the lift. Make sure to pay careful attention to the label of the lifting capacity attached on the lift and never try to lift cars with its weight beyond.
- Read this manual carefully before operating the machine so as to avoid economic loss or personnel casualty incurred by wrong operation. Without professional advice, users are not permitted to make any modification to the control unit or whatever mechanical unit.

3.2 Qualified personnel

- Only these qualified staff, who have been properly trained, can operate the lift.
- Electrical connection must be done by a competent electrician.
- People who are not concerned are not allowed in the lifting area.

3.3 Danger notices

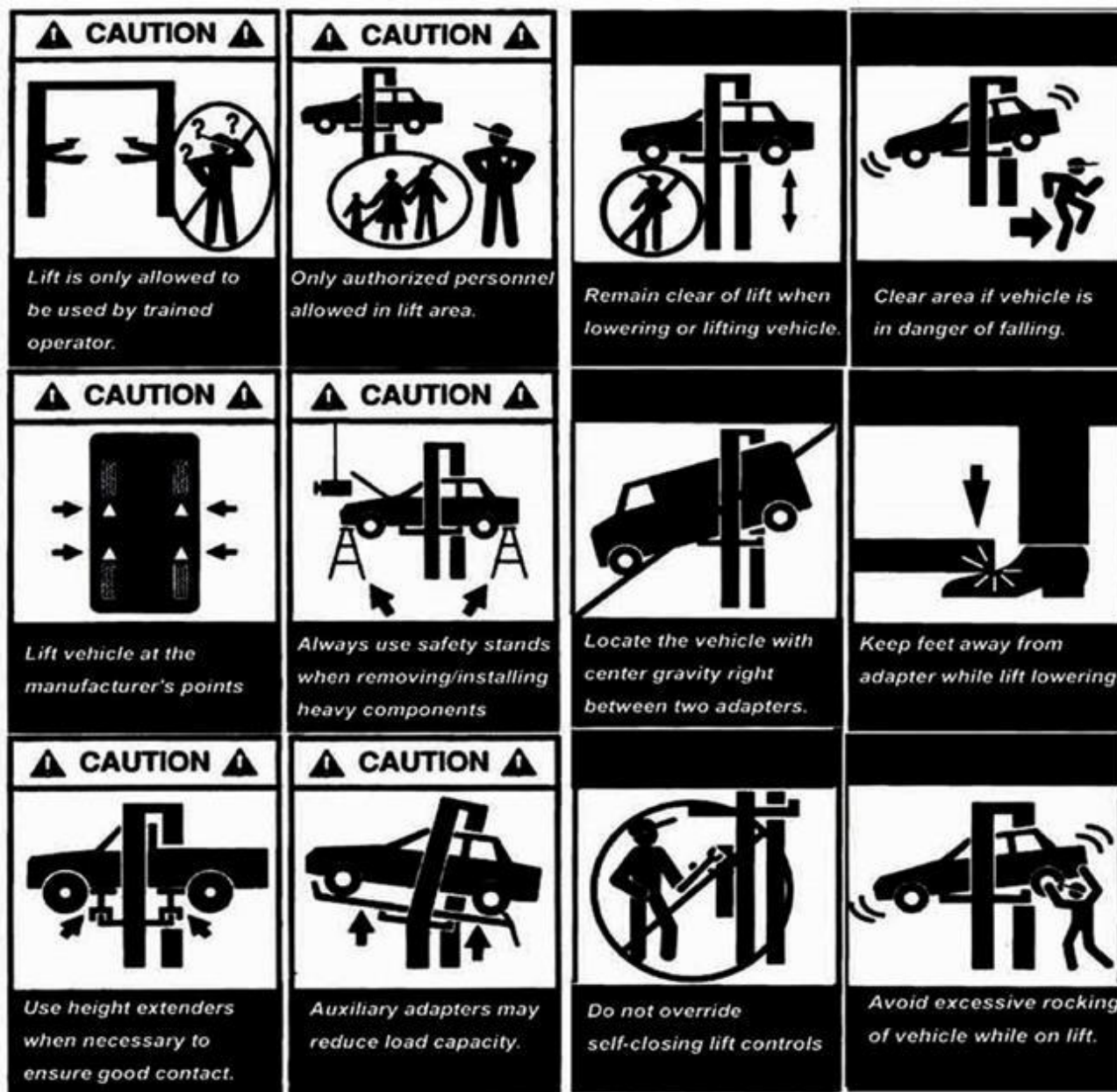
- Do not install the lift on any asphalt surface.
- Read and understand all safety warnings before operating the lift.
- The lift, if is not specially designed upon customer's request, is not fit for outdoor use.
- Keep hands and feet away from any moving parts. Keep feet clear of the lift when lowering.
- Only these qualified people, who have been properly trained, can operate the lift.
- Do not wear unfit clothes such as large clothes with flounces, tires, etc, which could be caught by moving parts of the lift.
- To prevent evitable incidents, surrounding areas of the lift must be tidy and with nothing unconcerned.
- The lift is simply designed to lift the entire body of vehicles, with its maximum weight within the lifting capacity.
- Always ensure the safety latches are engaged before any attempt to work near or under the vehicle.
- Make sure to place the lifting pads to the positions as suggested by vehicle makers and when gradually lift the vehicle to the desired height, operators should be certain that the vehicle will not slant, roll-over or slide in lifting process.
- Check at any time the parts the lift to ensure the agility of moving parts and the performance of synchronization. Ensure regular maintenance and if anything abnormal occurs, stop using the lift immediately and contact our dealers for help.
- Lower the lift to its lowest position and do remember to cut off the power source when service finishes.
- Do not modify any parts of the lift without manufacturer's advice.
 - a. If the lift is going to left used for a long time, users are required to:
 - b. Empty the oil tank;
 - c. Lubricate the moving parts with hydraulic oil.

3.4 Training

- Only these qualified people, who have been properly trained, can operate the lift. We are quite willing to provide professional training for the users when necessary.
- Attention: For environment protection, please dispose the disused oil in a proper way.

3.5 Warning signs

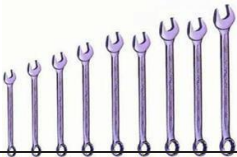
- All safety warning signs attached on the machine are for the purpose of drawing the user's attention to safety operation. The labels must be kept clean and need to be replaced when they are worn-out or have dropped. Read the explanations of the labels carefully and try to memorize them.



4. Installation

- Only skilled technicians, appointed by the manufacturer, or by authorized dealers, must be allowed to carry out installation. Serious damage to people and to the lift can be caused if installations are made by unskilled personnel
- Always refer to the exploded views attached during installation.

4.1 Tool required

Rotary Hammer Drill D.20 	Carpenter's Chalk 
Hammer 	Screw Sets 
Level Bar 	Tape Measure (7.5m) 
English Spanner (12") 	Pliers 
Ratchet Spanner With Socket (28#) 	Socket Head Wrench (3#, 5#, 8#) 
Wrench set (10#, 13#, 14#, 15#, 17#, 19#, 24#, 27#, 30#) 	Lock Wrench 

4.2 Checking for room suitability

- The lift has been designed to be used in covered and sheltered places free of overhead obstructions.
- The place of installation must not be next to washing areas, painting workbenches, solvent or varnish deposits. The installation near to rooms, where a dangerous situation of explosion can occur, is strictly forbidden. The relevant standards of the local Health and Safety at Work regulations, for instance, with respect to minimum distance to wall or other equipment, escapes and the like, must be observed.

4.3 Lighting

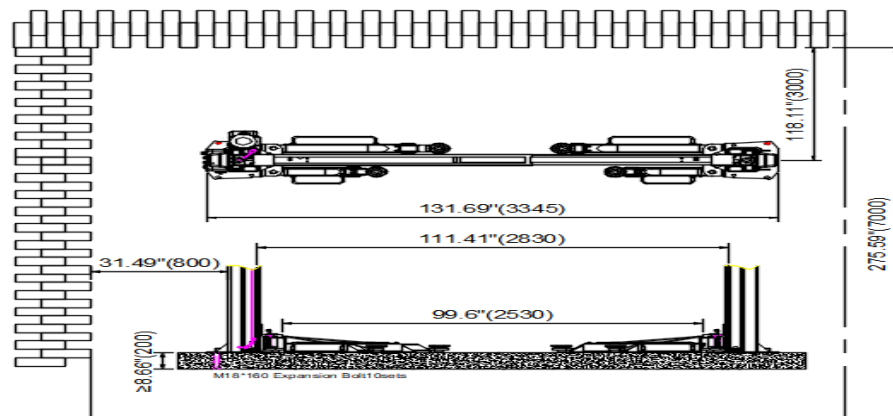
- Lighting must be carried out according to the effective regulations of the place of installation. All areas next to the lift must be well and uniformly lit.

4.4 Floor requirement

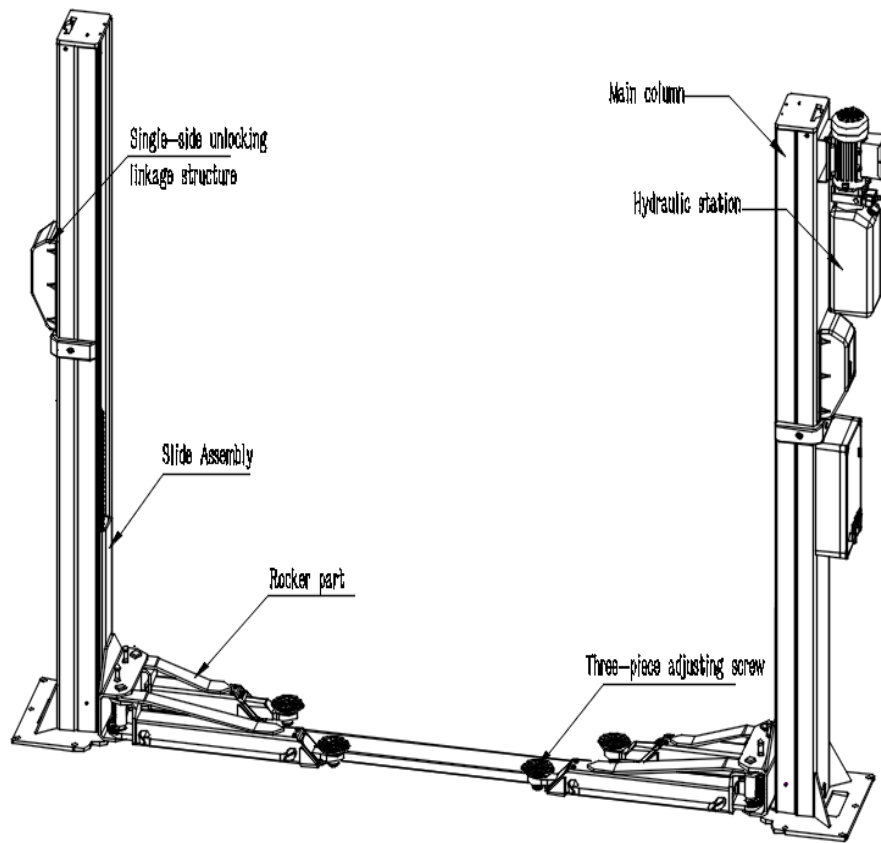
- The lift should be fixed on a smooth and solid concrete ground with its strength more than 3000psi, tolerance of flatness less than 5mm and minimum thickness of 200mm. New concrete must be adequately cured by at least 28 days minimum.
- **Specifications of concrete must be adhered to. Failure to do so could cause lift failure resulting in personal injury or death.**
- **A level floor is suggested for proper installation. Small differences in floor slope may be compensated for by proper shimming. Any major slope change will affect the level lifting performance. If a floor is of questionable slope considering to pour the new concrete slab.**

4.5 Site layout

- Now locate the lift according to the floor plan the figure 3, use a carpenters chalk line to layout a grid for the column locations.
- After the column locations are properly marked, use a chalk or crayon to make an outline of the columns on the floor at each location using the column base plates as a template.
- Double check all dimensions and make sure that the bases of each column are square and aligned with the chalk line.

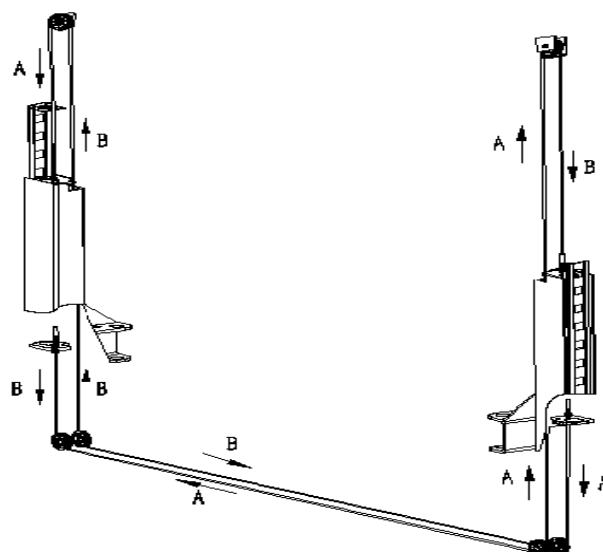


4.6 Assembly diagram



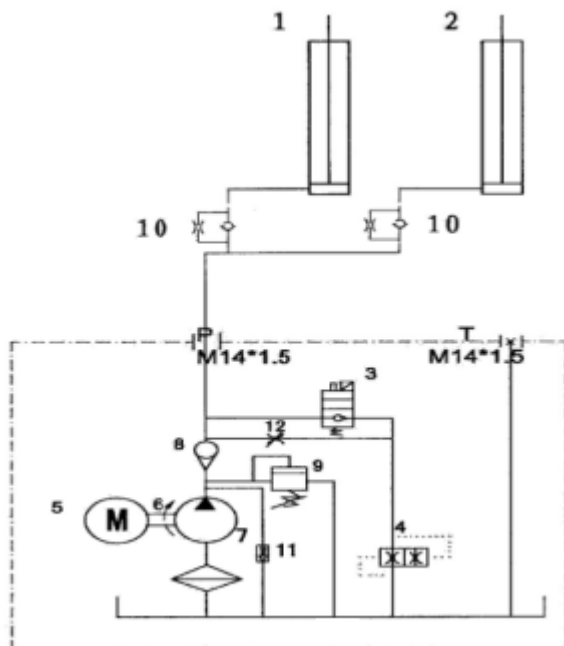
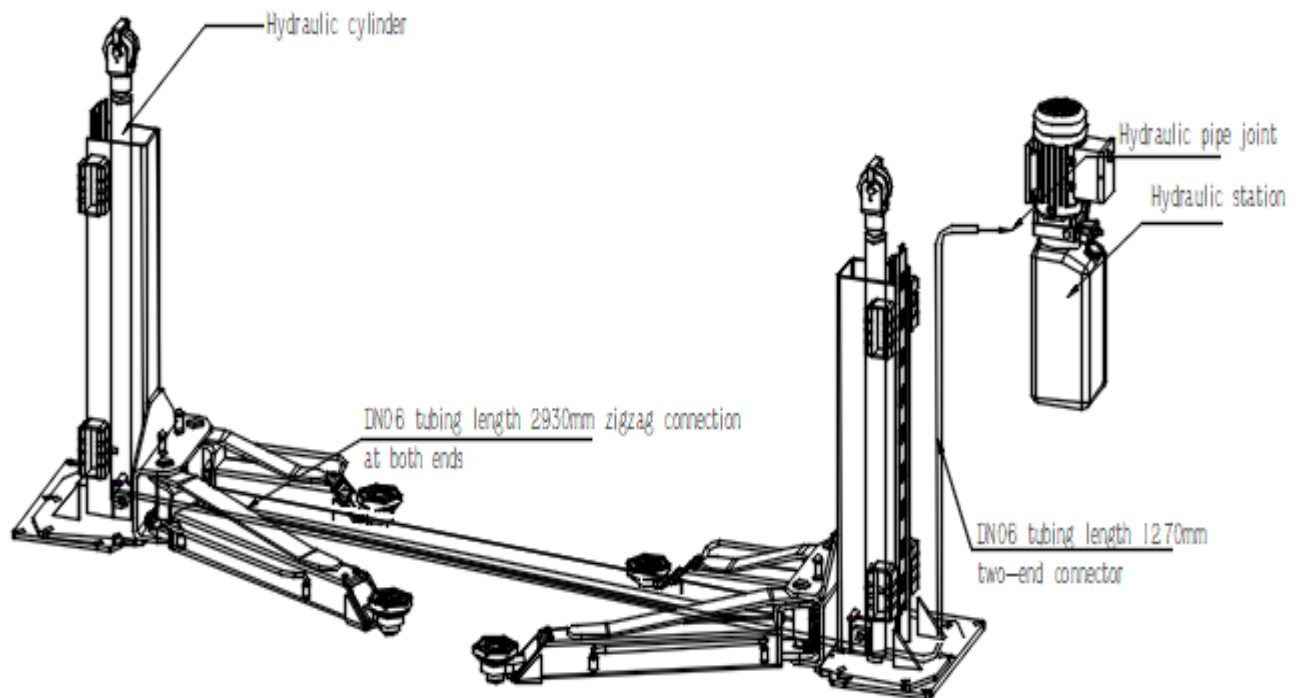
4.7 Install cables (2 Cables in total)

Note:four point five It is required that the two steel ropes be adjusted to a certain tension and consistent to ensure the synchronous movement of the two sliding tables.



4.8 Hydraulic connector

Connect the pipe as shown in the figure and pay attention to the installation of oil pipe joint..



No.°	Name°
1°	Master cylinder°
2°	Auxiliary oil cylinder°
3°	Electromagnetic unloading valve°
4°	throttle valve°
5°	electric machinery°
6°	coupling°
7°	Gear pump°
8°	Check valve°
9°	Relief valve°
10°	Explosion proof throttle valve°
11°	Buffer valve°
12°	Unloading valve°

4.9 Installation of power unit

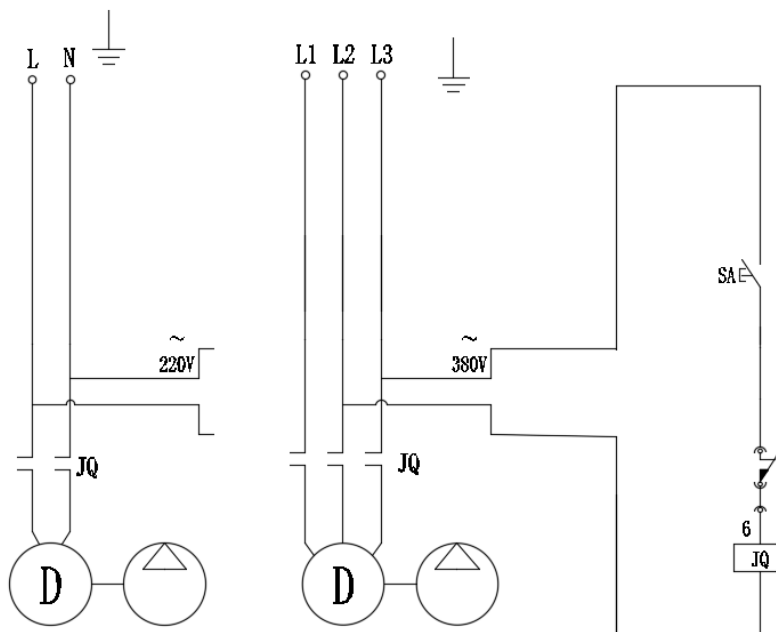
1. Attach the power unit onto the bracket on the power side column;
2. Secure it using nuts M10X20, the locking washers D.10 and washers D.



4.10 Make the electrical connection

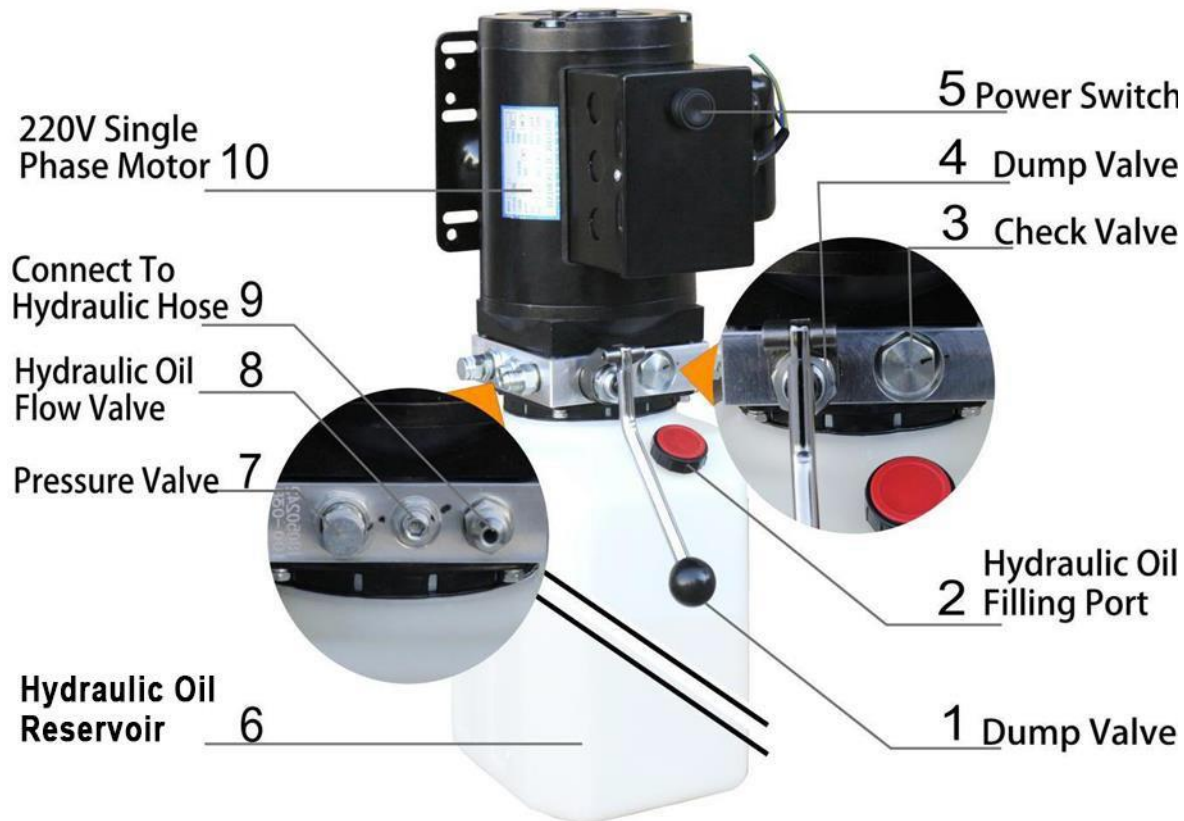
- Make sure all wiring are same as below circuit diagram .

Attention:electrical system connection must be done by licensed electrician.



4.11 Oil filling and bleeding

- DO NOT run power unit without oil. Damage to pump can occur. If motor gets hot or sounds peculiar, stop immediately and recheck the electric connection.
- If the vented cap is lost or broken, order the replacement. The oil tank must be vented well.
- Add about 2.5 gallons of hydraulic oil to the hydraulic fluid reservoir, AW32 during winter time (cold weather), and AW46 during summer time (hot weather).
- Make sure there is no oil leak.
- Repeatedly raise and lower the lift to bleed trapped air from the cylinders. Power unit testing.

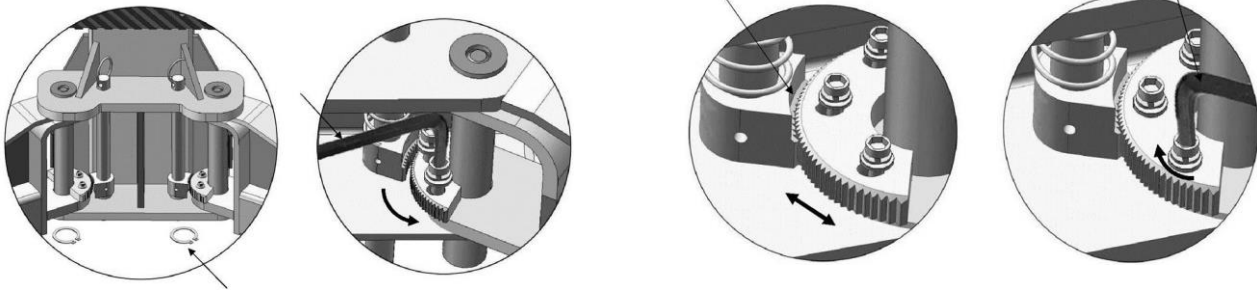


****Important Information****

- Pressure Valve: Clockwise adjustment increases pressure to make the power unit to have more power, counterclockwise adjustment decreases pressure to make the power unit to have less power.
- Hydraulic oil Flow Valve: Clockwise adjustment to speed up, counterclockwise adjustment to slow down.

4.12 Installation of lifting arms and adjustment of arm locks

1. Install lifting arms .
2. Lower the carriages down to the lowest position, use the 8# socket head wrench to loose the socket bolt .
3. Adjust moon gear as direction of arrow .
4. Adjust the moon gear and arm lock to make it to be meshed, then tighten the socket bolts of arm lock.



5. Check before start-up

5.1 General checks

- Make sure that the columns are plumb;
- Make sure the lift anchored to the ground and all anchor bolts tightened.
- Make sure the electrical system feeding voltage is equal to that specified in the nameplate on the motor;
- Make sure the electric system connection in conformity of the electric plan shown as the electric diagram and for proper grounding.

5.2 Mechanical safeties for proper installation

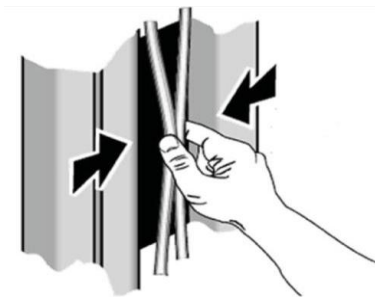
- Check to make sure that safety latches will properly engage and disengage by manual release;
- If latches click out of synchronization, tighten the cable on the one that clicks later.

5.3 Equalizer cable for proper installation

The equalizer cables should be checked weekly for equal tension. Failure to do this will cause uneven lifting.

The cables should always be adjusted so that they are equal tension when resting on the safety locks.

- Raise the carriages to check the equalizer cable tension by grasping the adjacent cables between the thumb and the forefinger so that you can just pull the cables together;
- Adjust the cable tensions if necessary.



5.4 Hydraulic system for proper operation

- Make sure that the cylinder is located in the center hole in the base of column;
- Proper oil level in the tank, refill if needed;
- Raise the lift to the full height and keep the motor running for 5 seconds and check all hoses connections to make sure no leakage. Tighten the connections or reseal if necessary;
- Check the lift for reaching its maximum height;
- Repeat the air bleeding of cylinders if necessary.

5.5 Check with load

WARNING: please follow carefully the instructions in the coming paragraph for avoiding damages on the lift.

Carried out two or three complete cycles of lowering with the vehicle loaded:

- Repeat the checks provided for by 4.14.
- Check no strange noise during lifting and lowering.

6. Operation and use

NEVER operate the lift with any person or equipment below. **NEVER** exceed the rated lifting capacity. **NEVER** lift a vehicle in any manner with less than four arms. Always ensure that the mechanical locks are engaged before any attempt is made to work on or near the vehicle.

Always lift a vehicle on the lifting pads.

NEVER leave the lift in an elevated position unless the safeties are engaged.

If an anchor bolt becomes loose or any component of the lift is found to be defective, **DO NOT USE THE LIFT** until repairs are made.

6.1 Controls

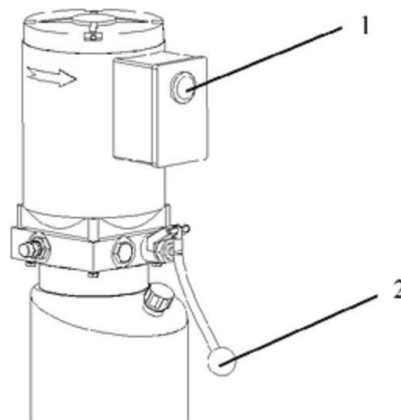
Controls for operating the lift are:

Lifting button (1):

When pressed, the power unit is running and the lift can be raised to a desired height until the button is released.

Lowering lever (2):

- If the mechanical locks are not released, the lift will lower to the nearest lock position.
- If both mechanical locks are released, press the lower lever, the lift will lower to the desired height under its weight and the load lifted until the lever is released.
- Locks will automatically reset once the lift ascends approximately 15" from base.



6.2 Vehicle positioning

- Positioning the vehicle between columns;
- Adjust lift arms so that the vehicle is positioned with the center gravity between the pads. Make sure the arm safeties are engaged;
- Raise the lift by pressing the lifting button until the lifting adaptors contact underside of the vehicle;
- Make sure the vehicle is secured

6.3 Lifting

- Raise the lift by pushing the lifting button until reaching the desired height.

6.4 Standing

- Press the lowering lever to engage the nearest lock position;
- Always ensure that the lock in each column is engaged before any attempt is made to work on or near the vehicle.

6.5 Lowering

- Raise the lift a little bit by pushing the lifting button to clear off the mechanical locks;
- Release the locks manually;
- Lower the lift by pressing the lowering lever;
- Before removing vehicle from the lift area, position the lift arms to and pads to provide an obstructed exit;
- Never drive over the lift arms.

7. Maintenance

Only trained people who know how the lift works, can be allowed to service the lift.

To service properly the lift, the following has to be carried out:

- use only genuine spare parts as well as equipment suitable for the work required;
- follow the scheduled maintenance and check periods shown in the manual;
- discover the reason for possible failures such as too much noise, overheating, oil blow-by, etc.
- refer to documents supplied by the manufacture or dealer to carry out maintenance.

Before carrying out any maintenance or repair on the lift, disconnect the power supply.

7.1 Ordinary maintenance

The lift has to be properly cleaned at least once a month using self-cleaning clothes.

The use of water or inflammable liquid is strictly forbidden.

Be sure the rod of the hydraulic cylinders is always clean and not damaged since this may result in leakage from seals and, as a consequence, in possible malfunctions.

7.2 Periodic maintenance

Daily pre-operation	• Check hydraulic connections and hoses for leaks • Check mechanical locks audibly and visually while in operation • Check arm locks • Check bolts, nuts and screws are tight
Every 1 month	• Check all cable connections, pins and bolts to insure proper mounting • Inspect all anchor bolts and retighten if necessary • Check columns for square-ness and plumb • Check equalizer cable tension, adjust if necessary • Check safety cable, adjust it if necessary • Check all arm pivot pins. Make sure they are properly secured • Check all lifting pads, replace if necessary • Lubricant columns with grease • Check the hydraulic oil, fill or replace if necessary • Check hydraulic systems for proper operation
Every 12 months	• Verify that all components and mechanisms are not damaged • Verify the equalizer cables are not worn, change if necessary • Check the electrical system to verify that the motors operate properly (this work must be carried out by skilled electricians) • Empty the oil tank and change the hydraulic oil

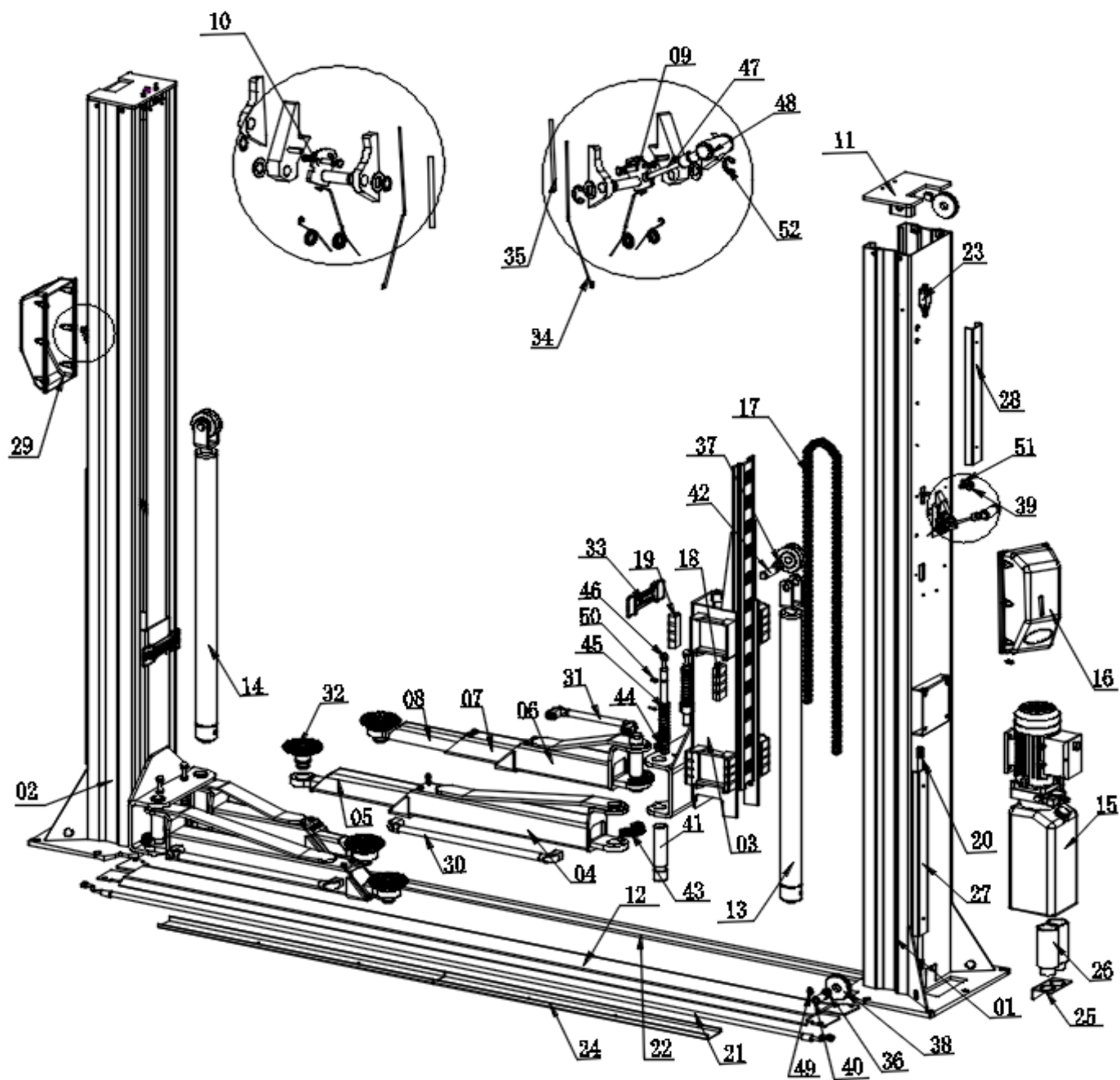
8. Troubleshooting

Troubleshooting and possible maintenance require all safety precautions specified in the absolute instructions.

Problem	Possible cause	Solution
The lift does non rise when the pushbutton is pressed (motor does not run)	Burnt fuse Line current does not arrive Malfunction in the electric plant: -Broken limit switch -burnt motor	Replace fuse Connect again Call Service Center
The lift does non rise when the pushbutton is pressed (motor runs)	Not enough oil Drain solenoid valve opened Max pressure valve working Leaks in the hydraulic circuit	Top un oil level Check electric connections or change it Take load down Repair the hydraulic circuit
Lift continues to rise after having released the up pushbutton	Faulty pushbutton	Unplug the lift and call Service Center
Lift does not descend	Forging object Solenoid valve blocked Malfunction in the electric plant Carriages still lean on security devices Block valves have tripped	Remove object Change it (call Service Center) Call Service Center Make the correct descent sequence Repair the hydraulic circuit damage
The lift does not rise to the maximum height	Oil is not enough Vehicle has tripped the end of-stroke bar	Add oil into the power unit oil tank This working is correct
After having released the up push button, the lift stops and lowers slowly	Drain valve dose not close because it is dirty Defective drain valve	At the same time set the rise and descent movements, to clean the valve Change (call Service Center)
The power unit motor overheats	Motor malfunction Wrong voltage	Call Service Center Check voltage
Power unit pump is noisy	Dirty oil Wrong assembling	Change oil Call Service Center
Oil leakage from cylinder	Damaged gaskets Dirt in the plant	Change the damaged gaskets Clean all parts Check the valves are not damaged

9. Parts list

9.1 Main column and parts list



28	◇	On the tubing cover	1	Q235B+powder	◇	◇	◇
27	◇	Under the tubing cover plate	1	Q235B+powder	◇	◇	◇
26	◇	Heightening column	4	Q235B+ Galvanizing	◇	◇	◇
25	◇	Raised Plinth	2	Q235B+powder	◇	◇	◇
24	◇	Tubing floor	2	Q235B+powder	◇	◇	◇
23	◇	Limit Switch	1	◇	◇	◇	◇
22	◇	Wire Rope Assembly	2	Φ8.0-6X19+IWRC	◇	◇	◇
21	◇	Long Tubing	1	Rubber	◇	◇	◇
20	◇	Short tubing	1	Rubber	◇	◇	◇
19	◇	Slide B	8	UHMW-PE	◇	◇	◇
18	◇	Slide A	8	UHMW-PE	◇	◇	◇
17	◇	Chain	2	◇	◇	◇	◇
16	◇	Safety gear housing	1	ABS	◇	◇	◇
15	◇	Motor	1	◇	◇	◇	◇
14	◇	Auxiliary cylinder	1	◇	◇	◇	◇
13	◇	Main cylinder	1	◇	◇	◇	◇
12	◇	Bottom cover	1	Q235B+powder	◇	◇	◇
11	◇	Top cover	2	Q235B+powder	◇	◇	◇
10	◇	Tie Rod Lifter B	1	Q235B+powder	◇	◇	◇
9	◇	Tie Rod Lifter A	1	Q235B+powder	◇	◇	◇
8	◇	Short Rocker C	2	Q235B+powder	◇	◇	◇
7	◇	Short Rocker B	2	Q235B+powder	◇	◇	◇
6	◇	Short Rocker A	2	Q235B+powder	◇	◇	◇
5	◇	Long Arm B	2	Q235B+powder	◇	◇	◇
4	◇	Long Arm A	2	Q235B+powder	◇	◇	◇
3	◇	Sliding Platform	2	Q235B+powder	◇	◇	◇
2	◇	Substanchion	1	Q235B+powder	◇	◇	◇
1	◇	Main column	1	Q235B+powder	◇	◇	◇

52	◇	M17 Clip Spring	4	C45S+Blackening	◇	◇	◇
51	◇	M10 Clip Spring	4	C45S+Blackening	◇	◇	◇
50	◇	M22 Clip Spring	2	C45S+Blackening	◇	◇	◇
49	◇	M25 Clip Spring	10	C45S+Blackening	◇	◇	◇
48	◇	Handle	4	◇	◇	◇	◇
47	◇	Manual Lever	4		◇	◇	◇
46	◇	Safety Gear Tie rod shaft	4	40Cr	◇	◇	◇
45	◇	Tension Spring	4	65Mn	◇	◇	◇
44	◇	Pinions	4	◇	◇	◇	◇
43	◇	Big Gear	4	◇	◇	◇	◇
42	◇	Fixed shaft on top of cylinder	2	40Cr	◇	◇	◇
41	◇	Lower safety gear fixed shaft	4	40Cr	◇	◇	◇
40	◇	Fixed shaft of bottom pulley	4	40Cr	◇	◇	◇
39	◇	Wire Rope pulley	2	PA6	◇	◇	◇
38	◇	Wire Rope Roller	6	40Cr	◇	◇	◇
37	◇	M25X44 wear ring	2		◇	◇	◇
36	◇	M25X20 wear ring	6		◇	◇	◇
35	◇	Thin wire rope leather	1	◇	◇	◇	◇
34	◇	Fine wire rope	2	◇	◇	◇	◇
33	◇	Protective Rubber Pad	2	Rubber	◇	◇	◇
32	◇	Rocker arm adjusting screw	4	◇	◇	◇	◇
31	◇	Short rocker arm hold	2	Q235B+ABS	◇	◇	◇
30	◇	Long arm pull	2	Q235B+ABS	◇	◇	◇
29	◇	Safety Gear Housing A	1	ABS	◇	◇	◇

10. Special notes

10.1 Environmental damage

Only appropriately trained personnel may dismantle and dispose of the unit.

10.2 Dismantling

To dismantle the 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, refrigerant and water-glycol mixture.

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.

10.3 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, refrigerant and water-glycol mixture) separately according to material and in line with local laws and environmental regulations.

10.4 Noise declaration

Sound power level: LWA<85dB

Accompanied uncertainly

K=4dB

conditions are:

With the rated load, the pump motor rotate.

According the test report, the operating position have the max noise value, but the noise risk is not the obvious hazard of the lift and the noise value is not big more to hurt operator.

If the noise is higher than the value, the lift must be stopped and check the trouble and repair.