MANAGEMENT

INSTALLATION, OPERATION AND MAINTENANCE

TWO POST LIFT

WK 3940S

In case of damage to the equipment and losses caused by the user or a third party due to improper use, maintenance or repair, the Manufacturer is not responsible and costs for the repair and replacement of parts and components of the equipment.

In case of equipment damage or technical problems caused by the use of consumables and parts not recommended by the Manufacturer, the Manufacturer is not responsible and costs associated with their elimination.

Disclaimer: Other brands may be mentioned in this manual only to explain how this equipment works. Trademarks of other companies mentioned in this manual belong to their respective companies.

This manual is intended for qualified technical personnel.

PRECAUTION

WARNING

- The manual is an integral part of the equipment package. Read all instructions carefully before starting work.
- Keep the manual in a convenient place during operation.
- Use the equipment only in accordance with the instructions. Use accessories recommended by the manufacturer.
- Use this equipment only for its intended purpose.
- The manufacturer is not responsible for damage caused to the equipment as a result of improper or inappropriate use.

SAFETY

When using garage equipment, the following safety precautions should be observed:

- Only qualified and experienced technicians may operate this equipment. Failure to follow the instructions in this manual, the manufacturer's requirements, or unauthorized replacement of components and parts of the equipment may result in damage to the equipment.
- The equipment must not be used in areas of excessive temperature and humidity. Avoid placing it near heaters, faucets, humidifiers, and stoves.
- The lift must not come into contact with large amounts of dust, ammonia, sticky aerosols, alcohol or be exposed to precipitation.
- Unauthorized persons must leave the danger zone while the lift is in operation.
- Do not use equipment with damaged cables, parts or assemblies. Equipment needs to be inspected.

- The lift must not be overloaded. The load ratings are indicated on the rating plate.
- The lift must not be raised while people are in the vehicle. During the operation of the lift, customers and personnel should not be in the working area.
- Keep the work area of the lift tidy and free of unnecessary items, debris, used engine oil, etc.
- Set the lifting point as recommended by the manufacturer. In some vehicles,
- removing or installing parts can cause the center of gravity to shift and the vehicle to become unstable. To maintain balance, you need to secure the car.

- Before driving the vehicle off the lift, release the locking movable devices.

- Use proper tools and equipment, personal protective equipment such as overalls, gloves, etc.
- Follow the special labels and symbols that are placed on the equipment .

- Keep hair, fingers, and loose clothing away from moving equipment.

- Keep protective equipment in good working order. This lift uses oil N32
- or N46. Check the recommended oils and lubricants in this manual.

- To prepare the equipment for storage, remove all fittings and loosen cables.

- To reduce the risk of electric shock, do not install the lift on a wet surface or in the rain.
- Before installing the lift, check all components according to the packing list. If you have any questions, please contact the manufacturer or dealers.

The manufacturer strives to improve the quality and relevance of the technical specification, which is subject to change without notice.

Examples of safety symbols

1. Read the Operation and Safety Manual before you start!

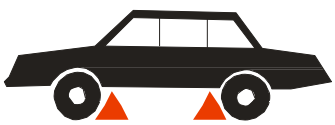
2. Proper inspection and maintenance is the key to safe operation!

3. You can not work with a faulty lift!

4. ONLY experienced technicians are allowed to operate the lift!

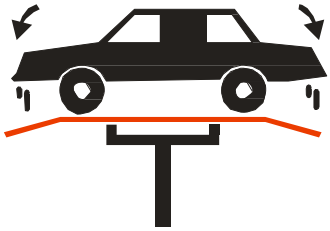
5. Strangers must not be in the working area of the lift!

6. Set the lifting point as recommended manufacturer.



7. When installing or removing heavy loads, follow the rules of technology security.

8. The car must be blocked during the descent and ascent.



9. If there is a risk of the vehicle falling, immediately leave the danger area.

10. Place the center of gravity of the car exactly in the middle.

11. When descending and raising the elevator, keep the working area of the elevator clear of foreign objects.

12. Do not swing the car on the lift!

13. Do not lift one side of the vehicle.

14. When lowering the lift, do not put your feet under the platform.

15. Do not stand on the platform or under the platform during the descent and ascent lift.

CHAPTER 1 General Provisions

1.1 Model description

Model description

WK3940 S 2 Post Lift with Top Timing Clean Floor

1.2 Purpose

This equipment is designed for lifting small and medium-sized vehicles up to 4 tons in garages and workshops.

1.3 Specification

Designed according to European standards

The top safety device prevents the vehicle from crashing into the cross member.

Rise, descent and stabilization of the lift is carried out at the expense of two hydraulic cylinders.

· Manual descent.

The use of two synchronizing steel cables results in a synchronous movement of both carriages and effective protection of vehicles against displacement.

・Low-set tiebacks110mm are convenient for working with cars with low ground clearance.

1.4 Technical parameters

Noise

Operating noise: ⩽ 75dB（A

） **Power**

Operating pressure：18 MPa **Electrical**

parameters of the equipment: Engine (optional)

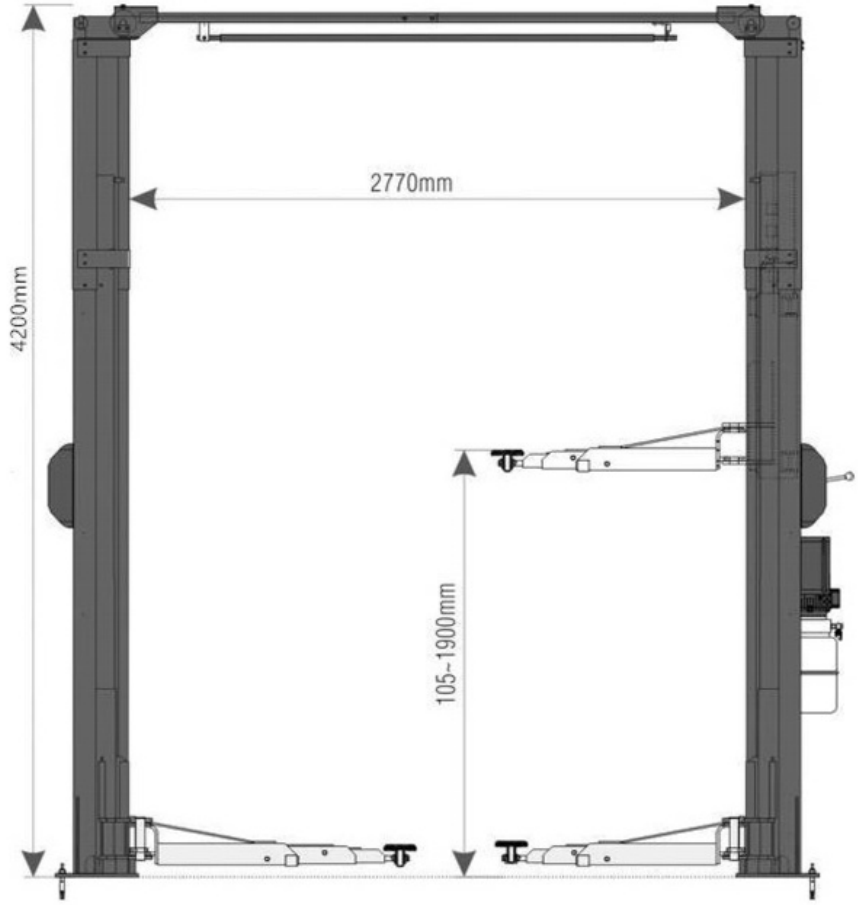
Voltage: The motor with different voltage is selected according to the customer's requirement.

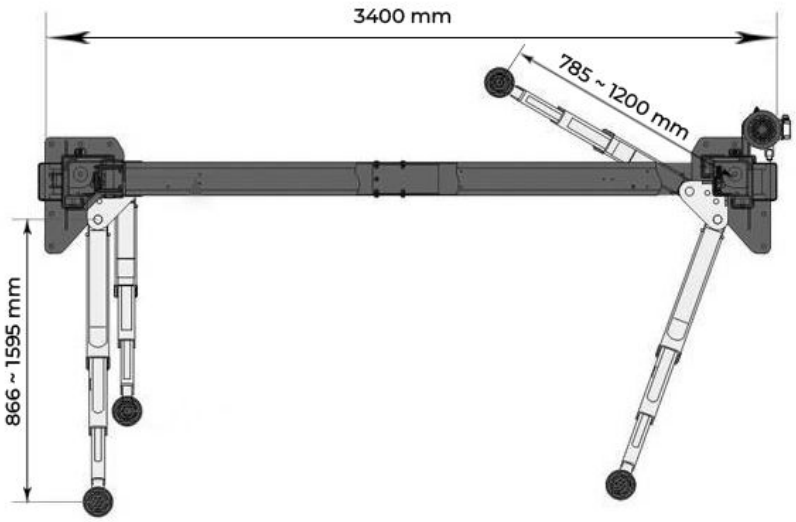
Single phase：220V/50Hz 2.2kW Three phase：380V/50Hz 2.2 kW **Data sheet**.

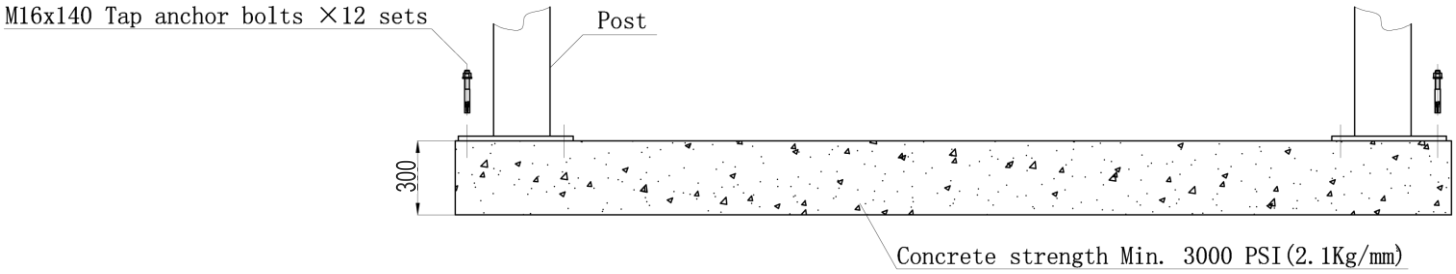
load capacity	4000kg
Rise (with pad)	1900mm
Overall Height	4200 mm
Overall Width	3400 mm
Passage width	2640mm
Width between uprights	2770mm
long paws	866～1595mm
short paws	785～1200mm
Engine power	3.0 kW

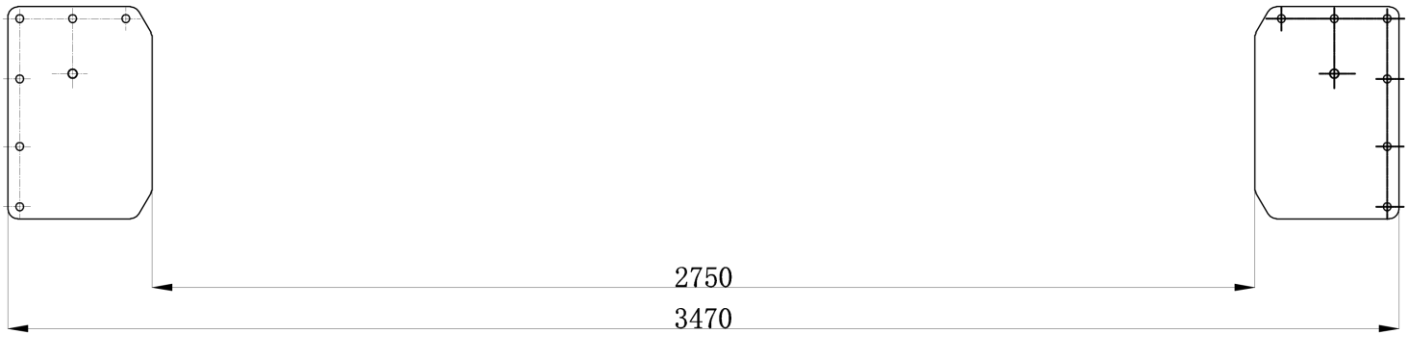
Chapter 2 Construction lift

2.1 Construction of the lift



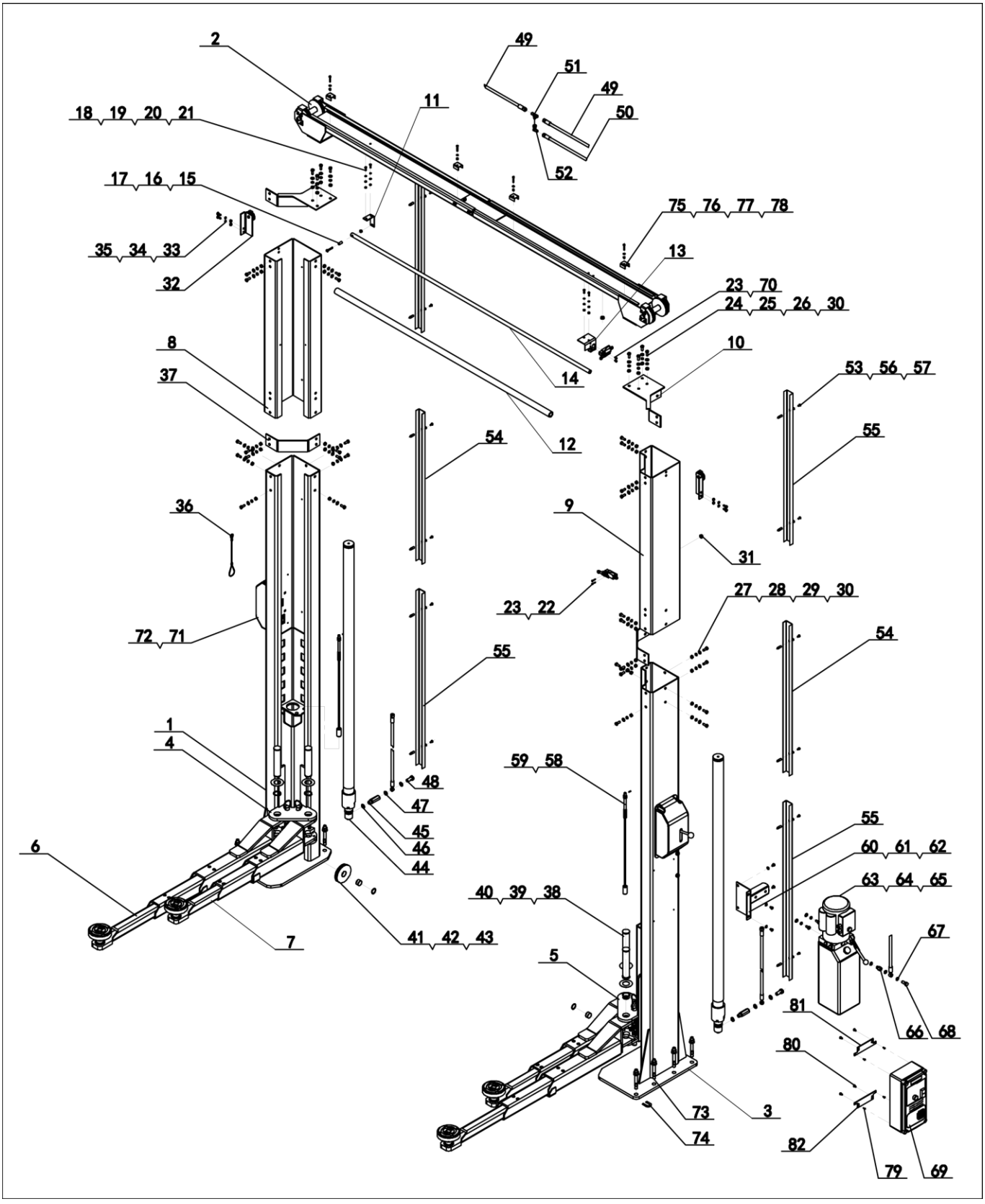






Coordinate installation requirements with the manufacturer's representative

Explosive removal WK 3940S



2.2 Basic design principles

- Load retention mechanism: as soon as the vehicle enters the working area, with by adjusting the length and angle of the legs, the car is placed on the lift, then the height of the screws is adjusted depending on the types running gear of cars.
- To ensure the vehicle is safely balanced when going up and down, both carriages are interconnected and move synchronously on two steel cables. If both carriages or both consoles are not at the same level, tighten the steel cables by adjusting the nuts at the ends of the steel cables so that both consoles are level. Otherwise, the carriages will not move synchronously.

- Manual safety mechanism: Locking mechanism is installed on both posts. At the same time, the toothed racks of the plates are welded to the outside of both carriages. When the carriage is raised, the locking stoppers under pressure move up the rack. As soon as the carriages stop, the stoppers open and fall into the grooves of both toothed racks, and block the descent of the carriages. When it is necessary to start the descent, it is enough to first lift the carriage up a little to release the locking mechanism from the grooves of the gear racks, manually pull the steel cable handle on the two columns to make the plates slide out of the locks, and press the carriage descent lever to start the descent.
- Safe Lock Range: The safety mechanism is active when the front ends of both carriages are 450mm - 1900mm above the floor.

Chapter 3 Operating Instructions

3.1 Safety measures during car repair work.

- First of all, find out the position of the center of gravity of the car, which is different for different types of cars. As soon as the car enters the lift zone, its center of gravity should be as close as possible to the plane formed by the two supports. Then adjust the consoles so that the stops keep the car in the reference plane.
- As soon as the car is raised on the lift, make sure that the roof of the car does not reach the transverse console, in order to avoid an
- accident. Read the safety symbols carefully.
- **Hydraulic valves are factory adjusted. Users do not have to adjust them themselves. Otherwise, they will be liable for the consequences of such an adjustment.**.
- Due to business needs, some specifications in this publication are subject to change without notice.

3.2 Preparation before starting work

- **Periodically lubricate the contact surfaces of the slider**

And

bearings from bottom to top with general purpose lithium grease (GB7324-87).

- Fill the oil tank of the hydraulic system with 14 liters of N32 or N46 oil.

3.3 Inspection before work.

- Check that the power supply is connected correctly.

Tighten all bolts.

Caution: Do not operate the car lift with damaged cables or missing parts until it has been inspected and repaired by professional service personnel.

3.4 Vehicle lifting

- Keep the work area clean. Do not use the lift in cluttered areas.
- Lower both carriages to the minimum height.
- Shorten consoles as much as possible.
- Rotate consoles.
- Place the vehicle in position between the consoles.
- Rotate the consoles until the lift chocks are below the recommended lift points and adjust the height of the lift chocks to ensure they are in contact with the vehicle's lift points.
- Press the “UP” button on the power box to start moving up, keep the balance of the load until it rises to the desired height. Release the
- “UP” button to stop the carriages.
- Press the release lever to lower the vehicle to a position where the mechanical lock will work and then proceed with the repair of the vehicle.

⚠ **Attention:**

- The safety interlock mechanism must be checked before starting work.
  1>The console blocking device must be working properly.
  2> There must be no damage to the steel ropes.
  3> There must be no damage to the lifting lugs.
- When lifting the vehicle, both swing arms must be involved.
- Before lifting the vehicle, check hydraulic hoses and fittings for leaks and if necessary replace damaged ones and check again.
- After raising the vehicle, when adding or removing heavy objects, use jack stands to support the vehicle and maintain balance.

3.5 Lowering the vehicle.

- Remove all obstructions from under and around the lift.
- ⚠ Press the “UP” button to raise the platforms and pull the steel cable lever on both carriages to release the locks. Press the release lever on
- the station to lower the carriages.
- Lower the lift until the consoles are fully lowered and the lift lugs are clear of the lift points. Then release the release lever. Retract the
- consoles to their original position.

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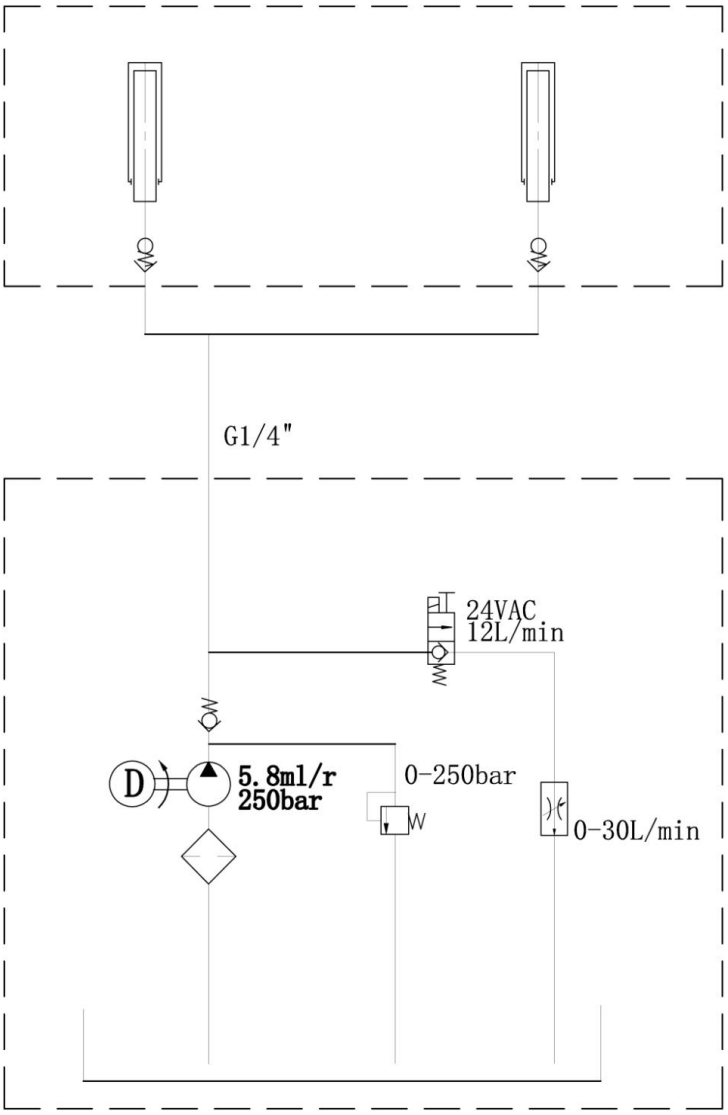
Attention: When the lift is not in use, the power supply should disable.

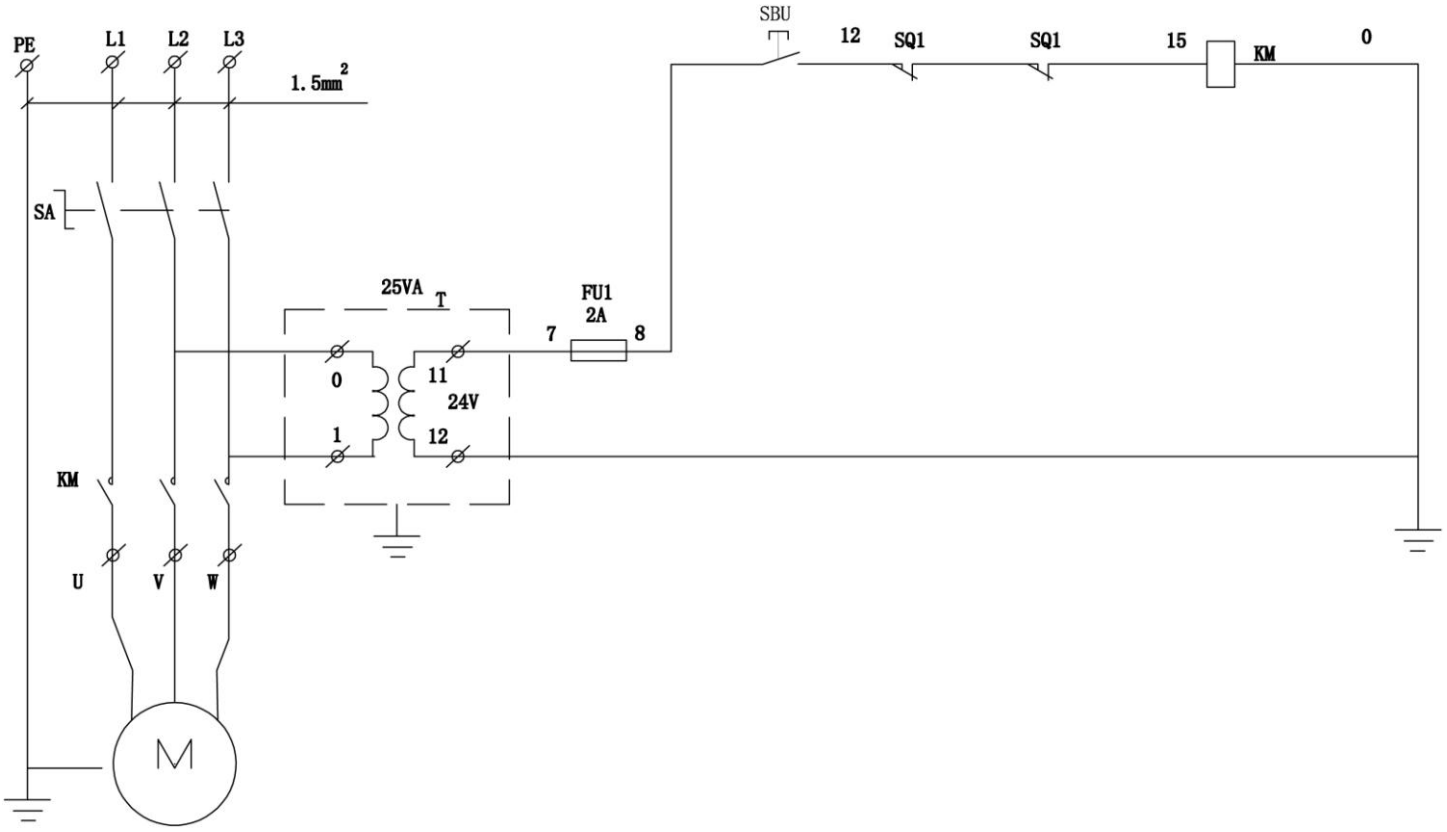
Chapter 4 Hydraulic and electrical systems of the lift.

4.1 Hydraulic system of the lift.



The principle of operation of the hydraulic system is as follows: When the “up” button on the control unit is pressed, the engine starts, the pump is activated and hydraulic oil is supplied from the tank to the cylinders, at this moment the carriages are raised. System pressures are controlled by a relief valve and have been adjusted at assembly to meet lifting requirements. When the pressure in the system exceeds the allowable limit, the safety valve drains the oil. By releasing the "up" button, you will stop the oil supply and stop lifting. You can start work with the car installed on the lift, making sure that the installation is safe. After completing the work, press the "Down" button, start the engine, turn on the pump. There will be a supply of oil from the tank to the oil cylinder, which will drive the piston rod.

4.2 Mounting diagram of the lift.



The working principle of the electrical circuit.

Press start button SB, contactor KM is closed, motor M will start to provide oil supply by a gear pump and lift the carriages. Release the start button, then the KM contactor will disconnect, the motor will run without power supply and the carriage will stop lifting. If the car rises so high that it can hit the crossbeam, the contactor KM will open, the motor M will stop and the carriage will stop lifting.

The safety bar acts to protect the car roof from hitting the cross member. The emergency stop button cannot cut off the power supply immediately.

Chapter 5 Answers to frequently asked questions.

Problemma	Possible reason	Solution
Engine not starts	- The circuit is open due to the contactor or safety thermal relay. - Incorrect feed voltage to the motor - Incorrect electrical connection - Limit switch wiring burnt out. - Burnt motor wiring.	- close contactor or press the blue button on the thermal relay. - Apply the correct voltage to the motor. - Connect the electrical circuit according to chart. - Replace Limit switch. - Replace engine.
The engine is running but the lift is not rises.	- Engine running in reverse - Release valve open - Hydraulic pump sucks in air - short air intake tube disconnected from hydraulic pump - Low oil level	- Change directions rotation of the motor, due to the change wired connections - Repair or replace release valve - Tighten all fittings on the air sampling tube - Replace short air sampling tube - Add oil to the oil tank
The engine is running but the elevator climb only without cargo and without a car	- Engine running under low voltage - Drain valve clogged - Wrong pressure adjustment in safety valve - The lift is overloaded	- Provide the correct voltage - Remove blockages from the bleed valve - Adjust the pressure in the relief valve Check the - weight of the vehicle.
Lift slowly slides down without pushing the lever descent	- Drain valve clogged - There are external fluid leaks	- Clean release valve - Replace any components or fittings where there is external leakage

Lift slowly rises or oil flows out of under filter-cap	- Air has entered the oil Air - supply is mixed with oil supply - Return oil line weakened	- Change hydraulic oil Tighten - all fittings on air sampling tube - Reinstall the oil return line.
lift not Maybe get up horizontally	- not regulated synchronization of steel Strauss - The lift is installed on the floor, without compliance floor and installation requirements.	- Adjust tension steel cables due way. - Install lift on horizontal floor, level error should not exceed 5mm. If error more, should level the floor and install as required.
Not tightened anchor bolts	- Drilled too wide holes. - Thickness and clamping force of the concrete pavement insufficient	- Pour quick-setting concrete mortar into unnecessarily wide holes And reinstall anchor bolts. Or drill other holes with a new drill on new positions And reset the lift. - Remove the entire floor and pour a new cement floor in compliance with all requirements for the floor and installation of the lift.

Chapter 6 Repair and Maintenance

To keep clean

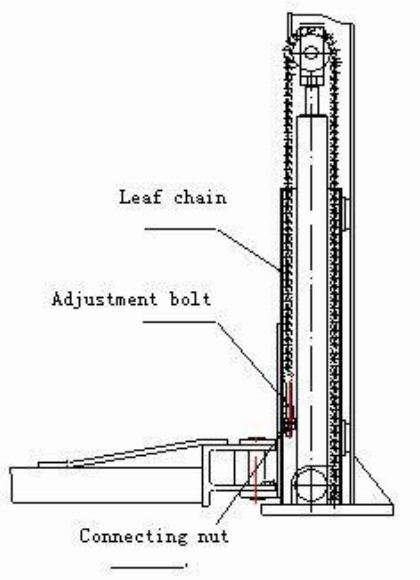
- Equipment should be cleaned regularly with a dry cloth. Before cleaning, the equipment must be de-energized to ensure the safety of personnel.

- The working area around the lift should be swept regularly. Dust and sand in the working area can penetrate into the working mechanisms of the equipment, causing premature wear and damage.

Daily

- Before starting work, the safety mechanisms should be checked to make sure that the locking latches work reliably. If any malfunctions are found, damaged parts and assemblies should be immediately adjusted, repaired or replaced.

- Check the connections of steel ropes, their tension.
- Check the connection of the hydraulic cylinders with the carriages; if the circuit connection
  and carriages are loose or broken, see fig. 6.



Monthly

- Tighten the anchor bolts.
--Lubricate chains with spray lubricant.
--Check all chain bars, bolts, nuts.
--Check all hydraulic hoses.
-- Check carriage sled lubrication. Use Cast Grease (GB7324-87).

⚠**Caution: All anchor bolts must be fully tightened. If any anchor connection is damaged, the lift must not be use until anchor bolts are replaced. Every six months**

- Check all moving mechanisms for wear and damage.
- Check the lubrication on the pulleys. If the pulleys pull during descent or ascent, then the shaft axles should be lubricated with recommended lubricants. Check
- and adjust the tension and timing of the cables to ensure that the ascents and descents are level.
- Check the verticality of the racks.

⚠**Caution: The inside corners of both uprights must be lubricated to minimize friction and ensure a smooth every lift.**.

Hydraulic System Maintenance.

- Cleaning and oil change. After using the equipment for 6 months, it is necessary to clean the oil container and change the oil. clear
  the hydraulic system and the oil in it should be changed once a year. Insulation
- replacement.
  After using the equipment for a certain time, carefully check for leaks. If deterioration of insulating materials is found, the worn areas should be replaced immediately according to the original specification.

Chapter 7 Conservation and disposal

7.1 Conservation

If the lift needs to be mothballed for long-term storage, then

- Disconnect from power supply.
- Lubricate all parts that need to be lubricated, such as the contact surfaces of the sliding carriages.
- Empty containers of oil and liquids. Cover the
- equipment with a film to protect it from dust.

7.2 Disposal

At the end of the service life of the lift, disconnect the power block and disassemble

equipment into parts for disposal in accordance with the current

legislation of the country of use.

Use the recommended standard tools for installation and removal.

Chapter 8 Installation and removal tools.

Tools	Specification
level gauge	carpentry
Chalk cord	min. 4.5m
hammer	1.5kg
Adjustable wrench	40mm
Adjustable pipe wrench	11mm-23mm
rope lock	
Flat head screwdriver	150mm
Boring hammer	20mm
Drill for cement	¢19mm

Chapter 9 Unpacking

- Open the package, remove the packaging materials and check the lift for any damage received during transportation, check that all parts and accessories are included according to the packing list.
- Packing materials should be kept away from children. Properly dispose of packaging materials to avoid environmental pollution.

Chapter 10 Installation

10.1 Important notes.

- Improper installation of the lift may result in damage to the lift and personal injury. The manufacturer is not directly or indirectly responsible for damage caused by improper installation or improper operation of the equipment.
- The lift must be installed on a strictly horizontal surface to ensure horizontal lifting. A slight slope of the floor can be corrected by lining. Even a slight slope will affect the levelness of the lift. If there is a slope, a new layer of concrete should be laid for leveling. The lift can rise to a height horizontally as long as there is a horizontal floor under the lift. Do not attempt to level a heavily sloped floor with shims.

- Do not install the lift on an asphalt surface. In accordance with the minimum requirements for the installation of lifts, this lift should only be installed on a concrete floor. Do not install the lift on a concrete floor with cracks and defects. Check the condition of the floor with the architect.
- The lift must not be installed on the 2nd floor of a building without the written permission of the architect.
- The installation area must be free from extremely hot obstacles such as heaters, electrical wiring, etc.
- The thickness of the concrete layer should be checked by drilling in several places.
- Ensure power supply before installing the lift. Electrical work must be carried out by certified electricians.

10.2 Installation

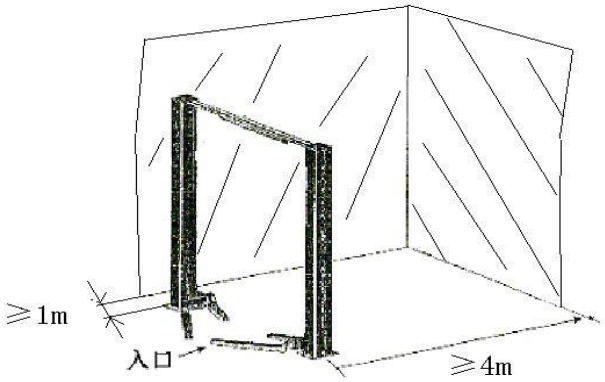
10.2. Selecting a suitable installation location

Choose a location for installation, taking into account the following requirements:

- The lift must be installed on a concrete floor with a thickness of at least300mm after aging for at least 21 days.
- The concrete layer should be reinforced with reinforcement no more than 6mm. and not higher than 250mm. from the level of the top of the screed.
- The concrete layer should be checked with a level gauge for levelness.

- If the concrete layer thickness exceeds 300mm, the lift can be installed correctly. Check
- work area, passageways and exits for obstructions such as low ceilings, heat pipes, etc.

- Enough space must be provided in front of and behind the lift to accommodate a number of vehicles, see fig. 8. (4m from the center of the lift to the walls)



Rice. 8

Attention:

Use a φ18mm cement drill so that the hole is not too wide. Drill a hole, remove dust from the hole with a pneumatic tool. The depth of the hole should be equal to the length of the anchor bolt. Place a nut under the base of the stand. Anchor bolts should be fixed with wrenches, not down hole tools. Place the necessary wedges under the uprights to keep the uprights upright.

Attention: The thickness of the wedges should not exceed 5mm.

Follow the rules below to ensure the safety of installation work and the normal operation of the lift.

- Wear closed goggles.
- Use a drill with a carbide cutting insert. Do not use drills
- that do not comply with the regulations.
- Hold the drill strictly vertical to the surface where the holes are to be drilled. The drill
- should work in natural mode without additional load or expansion of the hole diameter.

- The hole should be made to a depth equal to the length of the bolts. The distance from the bolt head to the floor must not be less than twice the bolt diameter.
- Blow dust out of the hole.
- Lightly tap the bolt in the hole so that the nut rests on the clamps and tighten the bolts.

10.2.4 Fitting the guide plate and cross beam

10.2.4.1 Install the cross beam

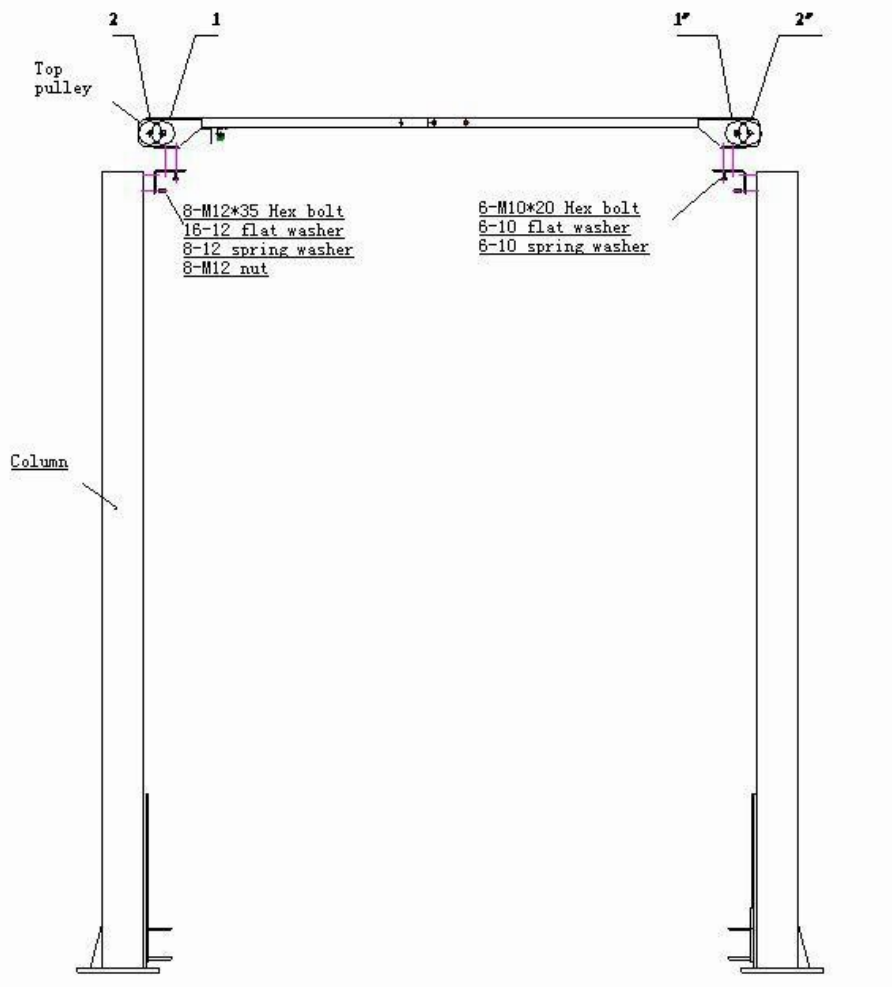
Place the auxiliary stand according to the diagram. Raise the cross member to the desired height and secure with four M12 bolts, nuts and washers to the uprights (as shown in Figure 12). When installing the cross beam, make sure that the microswitch bracket is adjacent to the main post. As shown in Fig. 7, symmetrical top pulleys should be installed in positions 1 and 1”, and asymmetrical top pulleys in positions 2 and 2”.

10.2.4.2 Install the guide plate

Place the auxiliary stand according to the diagram. Place the guide plate into the U-slot on the base plate.

Attention:

- Because the auxiliary stand is not bolted to the floor, use safety precautions to prevent the stand from falling.
- The cable protection tube on the guide plate should be placed on the side of the cable tube, close to the base of the support, and the guide plate should be placed in the front position.



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10.2.5 Attach the auxiliary support.

Attach the auxiliary support

Install and adjust the transfer cable

Raise both carriages to the same locking positions. Make sure they are at the same height from the floor. Connect steel ropes**WK3940S.**Adjust tensioning the steel ropes by tightening the nuts at the ends of each rope. Steel cables should be equally well tensioned, without sagging. The steel cables must lie in the pulleys when adjusting the tension, otherwise damage may occur.

Attention: Both steel cables must have the same tension and both carriages must move in sync.

10.2.6 Install the hydraulic unit and connect the hydraulic hoses.

Attach the hydraulic apparatus to the lift**WK3940S**with the help of two M10 bolts and nuts with hydraulic hoses. Then tighten all connections to avoid oil leakage. Fill the oil container with hydraulic oil (about 14L). Avoid dust and other contaminants.

Attention:
Remove dirt from hoses and remove plugs from hydraulic cylinders. If oil hoses must pass through the racks during installation, make sure they do not come into contact with moving parts of the equipment.

Attention: Before starting work, check that paw locks worked properly.

During installation, the attachment of the legs to the carriage should be lubricated so that the legs move freely.

Chapter 11 Commissioning the lift.

11.1 Preparing for commissioning.

Grease the sliding surfaces of the carriages evenly from top to bottom with lithium grease. Fill the hydraulic fluid container with N32 or N46 oil.

11.2 Commissioning procedure

- Check that the motor is installed correctly.
- Check if all bolts and screws are tight.
- Press the engine start button, the carriage will start to rise; release the button, the carriage will stop. To lower the carriage, pull the safety latch handles on each carriage. If that doesn't work, press the lift button and raise the carriages and then pull the handles again. Press the descent lever on the control box to start descent of the carriages. Release the lever, the carriages will stop.**As soon as the car is raised to the desired height, before repairing the vehicle, press the release lever to activate the safety latch mechanism and ensure safe operation.**The hydraulic system of a newly installed lift may contain air to be removed from the system. When connecting the pipes, the cylinders should be in the lowest position, then there will be less air in the system. Raise and lower the car several times in a row.

-Commissioning completed.