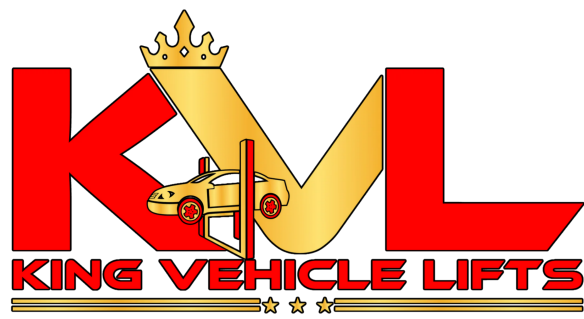




KVL-DOUBLE

Four-Post Parking Lift

Installation, Operation & Maintenance Manual

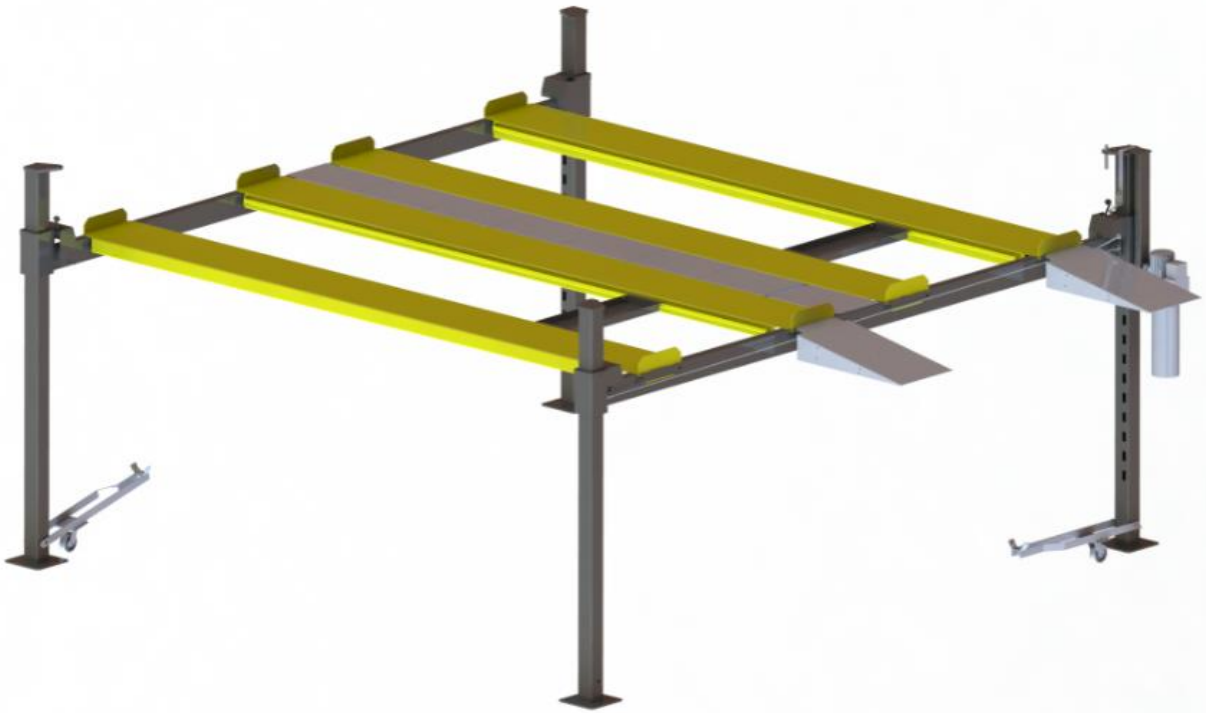


TABLE OF CONTENTS

CHAPTER 1: USER'S RECORD.....	3
CHAPTER 2: INTRODUCTION.....	4
CHAPTER 3: SAFETY INSTRUCTIONS.....	5
CHAPTER 4: DESCRIPTION AND TECHNICAL DATA.....	6
CHAPTER 5: INSTALLATION INSTRUCTIONS.....	8
CHAPTER 6: INSTALLATION STEPS.....	17
CHAPTER 7: TROUBLE SHOOTING.....	38
CHAPTER 8: LIMITED WARRANTY.....	39

CHAPTER 1: USER'S RECORD

RECORD BELOW INFORMATION WHICH LOCATED ON THE NAME PLATE

MODEL NO _____

SERIAL NO _____

CUSTOMER _____

DATE OF INSTALLATION _____

WE HEREBY DECLARE THAT THE ABOVE-MENTIONED MACHINE HAS BEEN INSTALLED CORRECTLY. ALL FUNCTIONS HAVE BEEN CHECKED, AS WELL AS CORRECT OPERATING OF ALL SAFETY DEVICES. WE CONSIDER THEREFORE THE MACHINE TO BE WORKING IN GOOD CONDITION.

Date of Installation

The authorized technician

The customer



(READ THIS MANUAL COMPLETELY AND PAY ATTENTION TO THE INSTRUCTIONS BEFORE INSTALLING)

CAUTION!!

Your new lift was designed and built with safety in mind. However, your overall safety can be increased by proper training and thoughtful operation on the part of the operator. DO NOT operate or repair this equipment without reading this manual and the important safety instructions shown inside.

Motors and all electrical components are not sealed against the weather and moisture. Install this lift in a protected indoor location. Failure by the owner to provide the recommended shelter could result in unsatisfactory lift performance, property damage, or personal injury.

CHAPTER 2: INTRODUCTION

This Manual has been made to supply the owner as well the user with the basic instructions for correct use of the parking unit. Read this Manual carefully before using the parking unit and follow the instructions given in this Manual to grant a correct installation & long life for your parking unit.

All dimensions in this Manual are in (mm).

4 Post Car Parking Lift is abbreviated as “PARKING LIFT” for easy use inside this manual.

“PARKING LIFT” is operated dependently where the user **MUST** remove the car under platform before descending the runways which are lifting the upper car.

The unit is operated by **hydraulic cylinder** located under the right side of the run way of the unit together with sheaves & cables mechanism to transfer the horizontal piston movement to vertical movement of both right & left run ways of the unit. Cylinder is activated by own **Hydraulic Power Unit**. Hydraulic power unit is fixed on the right-side column.

Galvanized wave plates between runways, cold bending and strong pressure & humidity resistance.

“PARKING LIFT” is equipped with sheaves & cables mechanism to move the runways up & down.

This is electro-hydraulic lift used **ONLY** for motor vehicle parking.

“PARKING LIFT” is suitable for residential & commercial use.

Working Principle:

1. PARKING LIFT” has 2 ea runways to park one car over them.
2. At start, runways are laid on the ground floor.
3. 1st Car will be parked on runways through the ramps then lifted up by its hydraulic unit.
4. 2nd Car will be parked on the ground floor.
5. To retrieve cars, will drive away the car from ground floor then descend the runways.
6. There is electric panel to operate the unit using push buttons (Up, Lock, Down & Emergency).
7. When operating the unit and pushing its UP Button, the hydraulic motor will be activated to pump oil from the hydraulic cylinder (normally opened or extended) to oil tank so that the piston rod will be closed, pulling sheaves cables mechanism to lift up the runways.
8. Once reaching pre-determined lifting height, the runways will touch the limit switch and stop the hydraulic motor.
9. The unit is equipped with 4 ea lock latches inserted in 4 columns 9 1 latch /column) to guarantee full safety.
10. Push the Lock button so that the runways will down a little bit so that the lock latches will be inserted & blocked inside the holes of the columns.
11. When retrieving the upper car, push Down Button , the hydraulic unit will be activated to lift up runways for few cm to enable the lock latches to be released / getting out from the columns holes then– due to car load on runways and through the sheaves cables mechanism - hydraulic oil will be discharged from oil tank to cylinder to open / expand the piston due to descend movement of the runways by gravity.

CHAPTER 3: SAFETY INSTRUCTIONS

(READ THE INSTRUCTIONS ENTIRELY BEFORE OPERATION)

1. Read and understand all safety warning procedures before operating the parking system

2. Do not install the parking lift on any asphalt surface.
3. This Parking Lift is designed for parking motor vehicles that weigh within its max lifting capacity.
4. Exceeding the maximum lifting weight will cause grave damage to the lift and DANGEROUS INJURIES for the persons.
5. This parking lift is not designed to be used as car service lift to do any maintenance for the cars on platforms.
6. The manufacturer doesn't bear any responsibility for any accidents or damage that might happen to the cars or/and persons due to misuse of the lift.
7. Keep hands and feet away from any moving parts. Keep feet clear of parking lift when lowering.
8. "PARKING LIFT" units MUST only be used by qualified staff, properly trained for such work.

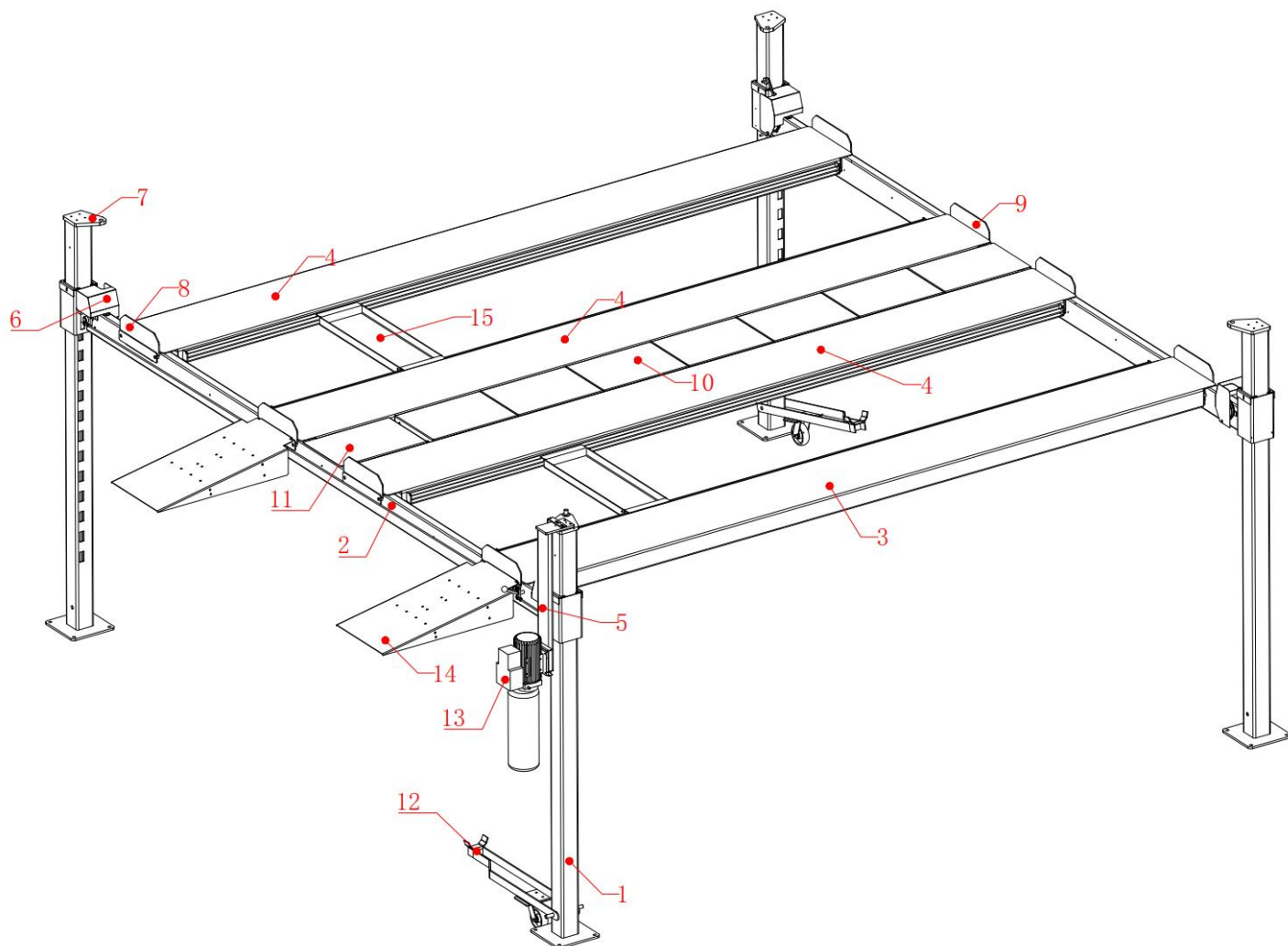


9. Work on the electrical equipment should be done by certified licensed electricians only.
10. "PARKING LIFT" units are not designed for washing the car over the platforms.
11. During installation, do not wear unfit clothes, large clothes; neck tie, which could get caught by moving parts of the machine.
12. Use proper installation tools and handling equipment.
13. Installation technicians should be healthy, well trained and qualified to carry on the installation with experience for both mechanical & electrical work.
14. "PARKING LIFT" units surrounding area must be free of water, oil, grease and objects which could be a danger for lifting operations.
15. "PARKING LIFT" units are only designed to lift the entire body of the vehicle, having a maximum weight not more than the rated capacity.
16. The vehicle must be centered and positioned in a correct way with respect to the platform and the driver should follow the instructions given by manufacturer.
17. Make sure that the "PARKING LIFT" units and their devices are working correctly, according to the specific instructions for maintenance.



18. Do not modify the "PARKING LIFT" without manufacturer's written approval.
19. Only Authorized personnel are allowed to operate the control box. Only a person with qualification for repairing electrical appliances can open control box.
20. If the "PARKING LIFT" units will not be used for a long period, proceed as follows:
 - a. Disconnect the power supply.
 - b. Empty the oil from the Hydraulic oil tank.
 - c. Grease the moving parts which might be damaged by dust or drying out.
21. Control box is allowed to be opened ONLY after power is cut off through the main switch.

Chapter 4 Description and Technical Data



1.columns	2.cross beam	3.main runway	4.auxiliary runway
5.base plate of the motor	6.cover of cross beam	7.top cover of the post	8.front stoppers
9. rear stoppers	10.Middle aluminum plate	11.Aluminum plates at both sides	12.Casters
13.power unit	14.Aluminum ramps		

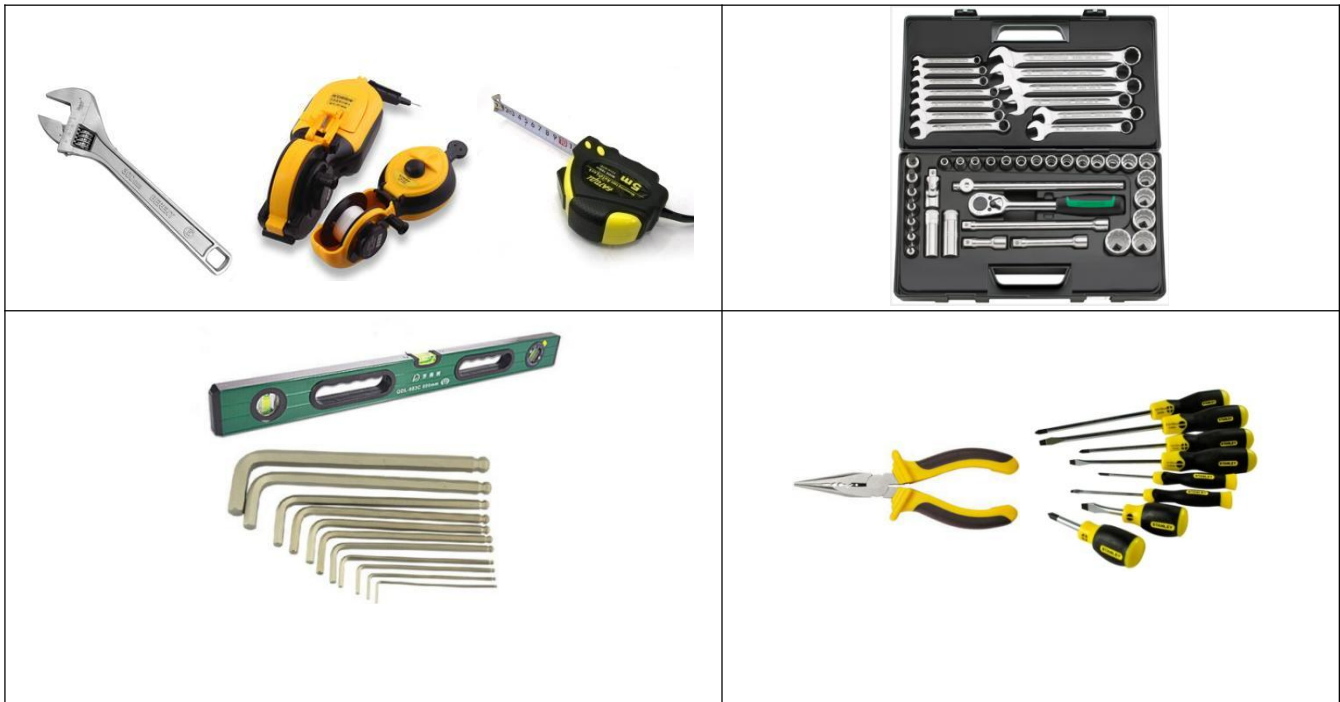
4.3 Drawing

outer hexagon bolt (white zinc)	M8*30	4	Spherical bearing fixed M12 unlocking lever
antiskid nut	M8	8	lock plate/unlock handlebar
Outer hexagon thickened nut (white zinc)	M12 (L=60)	2	lock release connecting rod
nut (white zinc)	M12	4	lock release connecting rod
spring washer	M12	1	lock release connecting rod
Outer hexagon nut, (high strength)	M16*110	8	plate to hold the beam
Outer hexagon nut, (high strength)	M16*100	8	stopper on runway.
Outer hexagon nut, (white zinc)	M10*35	4	cover plate over column, to fix the Control arm
Outer hexagon nut, (white zinc)	M8*16	8	Fixed slider baffle
Outer hexagon nut, (white zinc)	M8*30	4	Power unit
connector screw for runway	M16*1.5-M16*1.5	1	runway/ oil pipe
caster latch	Long steel rod 260mm	4	fix the caster
Power unit direct wire	M14*1.5-M16*1.5	1	Comes with 1 combination set
Top wire	M8*10	20	
oil pipe card	$\phi 22$	1	cross beam

Outer hexagon nut, (white zinc)	M8*16	4	Cover the posts
outer hexagon bolt (white zinc)	M10*140	4	(3 screw discs) beam wire
Unlocking sleeve	Φ18*30	2	Distance between unlocking rod and beam

The installation of this lift is relatively simple and can be accomplished by four qualified technicians in a few hours. The following tools and equipment are needed:

- Appropriate lifting equipment such as crane /Hoist / fork lift
- Chalk line / marking string and measuring tape.
- Concrete Rotary Hammer Drill with M18 drill bit.
- Open – End Metric Wrench set
- Metric Socket and Ratchet Set
- Torque Wrench, Screwdrivers, Needle Nose Pliers.
- Vise Grips, Teflon Tape and rubber Hammer.
- Step Ladder, 1.2 m Foot Bubble Leveler, Tape Measure 10 m.
- Rando HD 46 ,ISO-32 , AW-32 or AW-46 hydraulic oil , 12 Liters

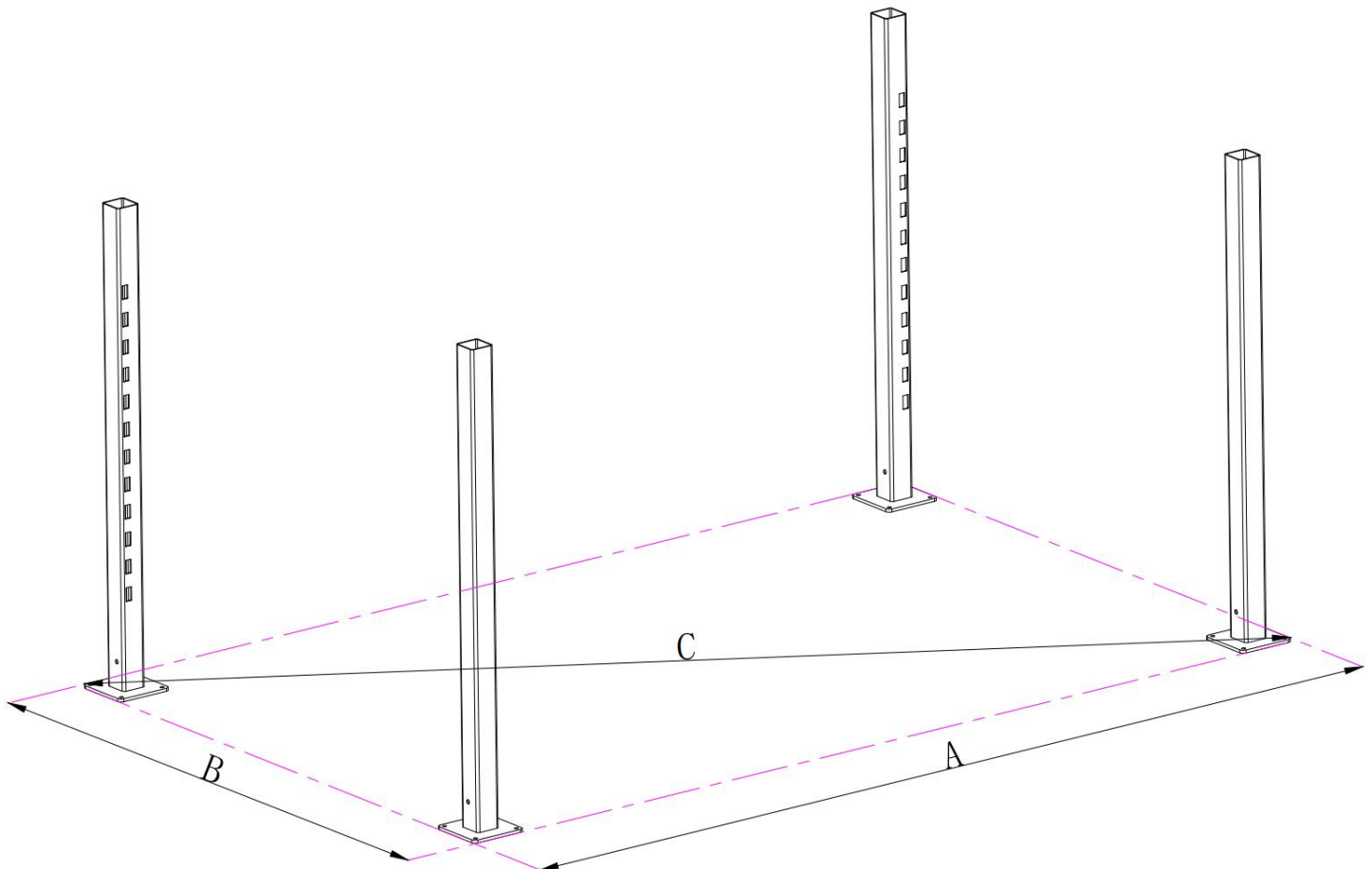




CHAPTER 6: INSTALLATION STEPS

STEP 1(Selecting Site): before installing your new lift, check the following.

1. **LIFT LOCATION:** Always use architects plans when available. Check layout dimension against floor plan requirements making sure that adequate space is available.



Model	A	B	C
KVL-DOUBLE		5400mm	7456mm

2. **OVERHEAD OBSTRUCTIONS:** The area where the lift will be located should be free of overhead obstructions such as heaters, building supports, electrical lines etc.
3. **DEFECTIVE FLOOR:** Visually inspect the site where the lift is to be installed and check for cracked or defective concrete.

CAUTION!!

DO NOT install or use this lift on any asphalt surface or any surface other than concrete.

DO NOT install or use this lift on expansion seams or on cracked or defective concrete.

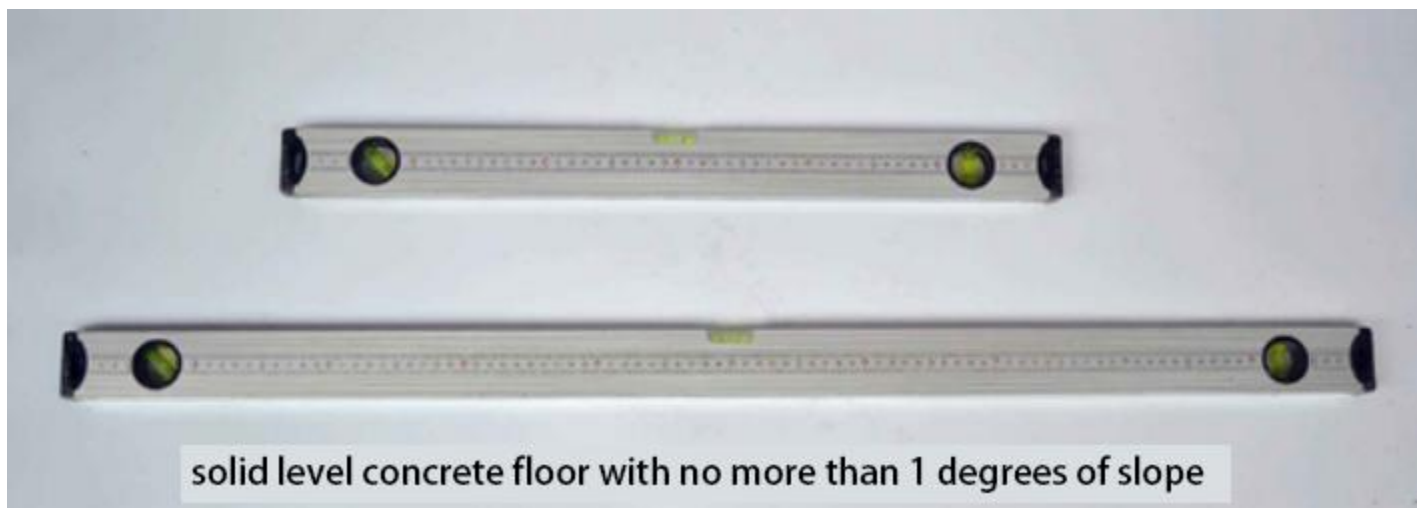
DO NOT install or use this lift on a second /elevated floor without first consulting building architect.

DO NOT install or use this lift outdoors unless special consideration has been made to protect the power unit from weather conditions.

STEP 2 (Floor Requirements):

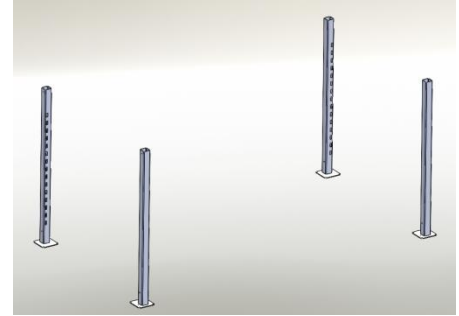
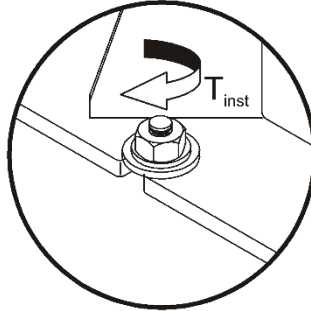
Visually inspect the site where the lift is to be installed and check for cracked or defective concrete.

This lift must be installed on a solid level concrete floor with no more than 1 degrees of slope. A level floor is suggested for proper installation and level lifting. If a floor is of questionable slope, consider a survey of the site and/or the possibility of pouring a new level concrete slab. This lift is designed to be installed on a minimum of 40cm (31/2") thick, 3500 psi, and reinforced concrete. Do not install this lift on asphalt, wood, or any other surface other than described. This lift is only as strong as the foundation on which it is installed.



STEP 3 (Install inside 4 post car parking unit) :

1. Locate the 4 columns at their respective locations according to the chalk line layout. Pay attention to the power unit location. **DO NOT BOLT** columns down at this time. Use caution to prevent columns from falling over.



2. To estimate the shim requirements, place a target on floor at each Column position and record the readings. Find the highest of the four locations then find the difference between each of the remaining columns. This difference is the estimated amount of shim thickness that will be required at each column.

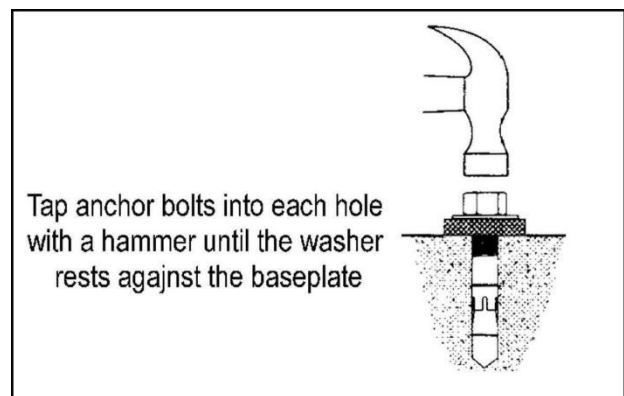
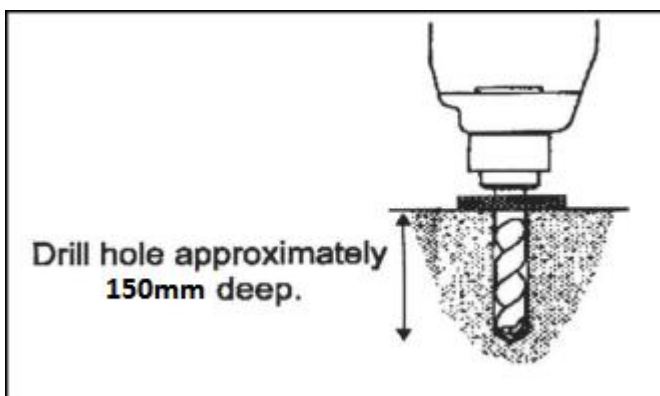
3. Lay the columns down, and slide the cross tube / beam into the columns (making sure the polyethylene sliding blocks are still in position) and drop down into the top of the columns.

4. Tilt up the Column and Cross Tube assemblies, lining the base plates up with the chalk lines made earlier.

5. The columns and cross beams will now be in vertical position and spaced properly for the runways.

STEP 4 (Anchoring the Columns) :

1. Before proceeding, double check the measurements and make certain that the bases of each column are square and aligned with the chalk line.
2. Using the base plate on each column as a guide, drill each anchor hole approximately 150 mm deep using a rotary hammer drill and 18 mm concrete bit.



certain that the columns remain aligned with the chalk line. Always wear safety gloves.

4. Assemble the washers and nuts on the anchors then tap into each hole with a hammer until the washer rests against the base plate. Be sure that if shimming is required, enough threads are left exposed.
5. If shimming is required, insert the shims as necessary under the base plate so that when the anchor bolts are tightened, the columns will be plumb.

STEP 5 (Raising the Cross Tubes) :

1. Before proceeding it will be necessary to first raise the Cross Tubes/ beams off the ground to facilitate Cable routing and final assembly.



Be careful not to disturb the Columns and Cross Tubes as they may tip over causing personal injury or harm

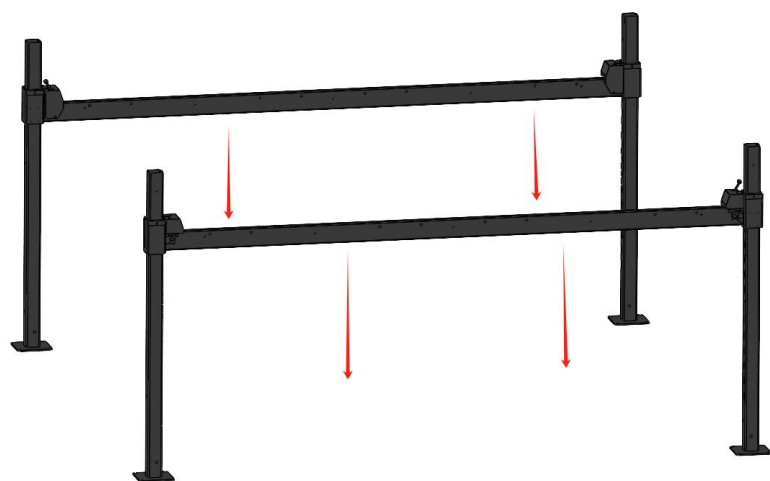
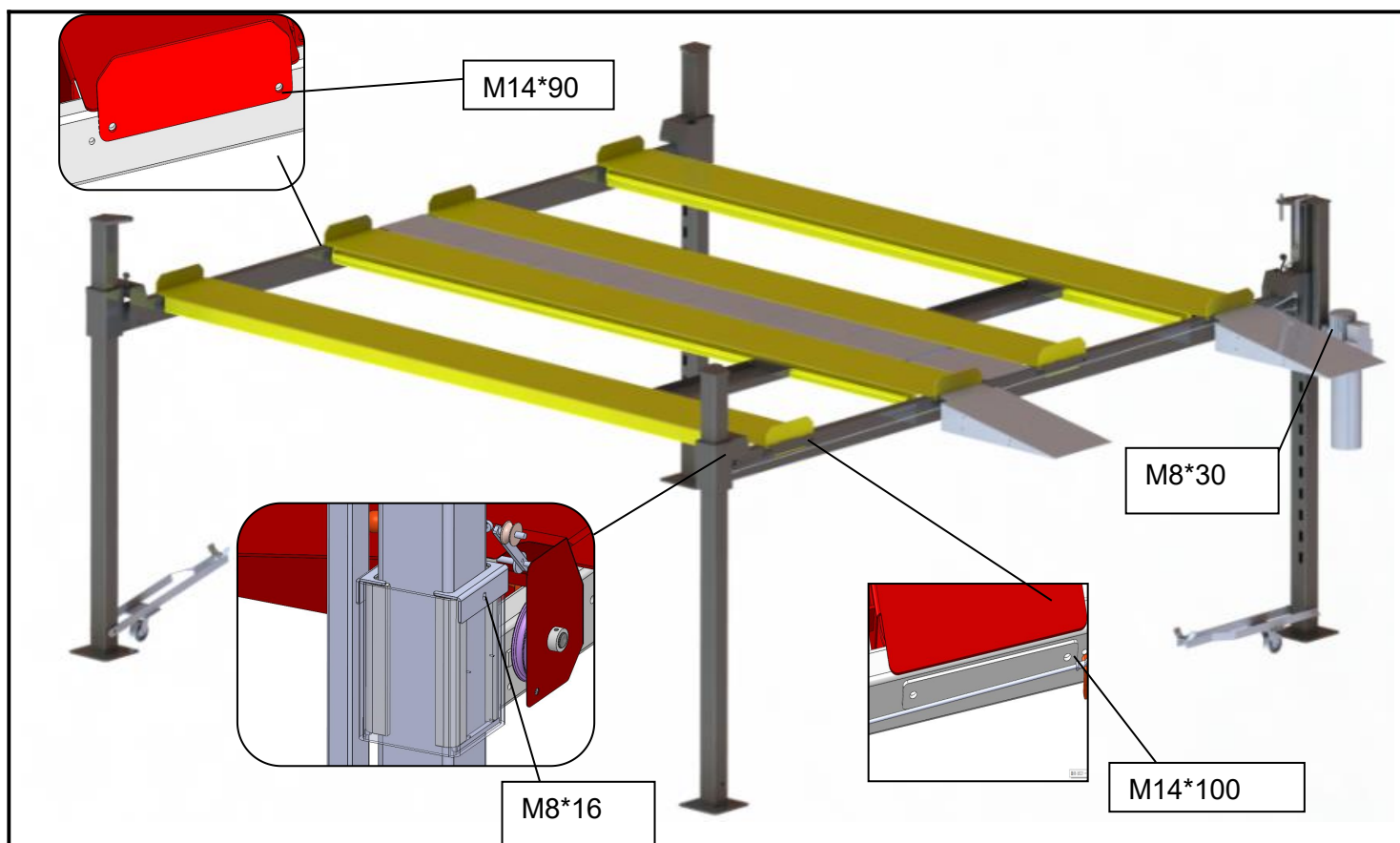
IMPORTANT NOTE

It is important that the SLACK SAFETY LOCK IS CLEARED. The Slack Safety Lock must never rest on the Safety Ladder.

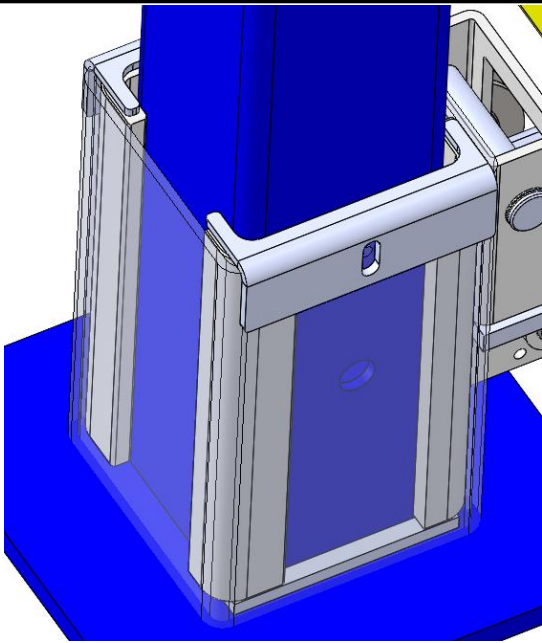
2. Manually raising the Cross Tube / beam until the Safety Latches engage and rest on the lock hole position

STEP 6 (Runway Installation):

1. Locate the runway with the cylinder attached underneath. This runway will be located right side, adjacent the column with power unit bracket attached. This runway is called Cylinder Runway.
2. We preinstalled the hydraulic cylinder head at front side of runway structure through rod & split pin.
3. We preinstalled "cables block" on the piston of the cylinder using M 24 nut.
4. Position the auxiliary runway (left side) on top of the front & rear cross beams. Line up the bolts holes then bolt in position using the M14x100 hex bolts, nuts and lock washers.



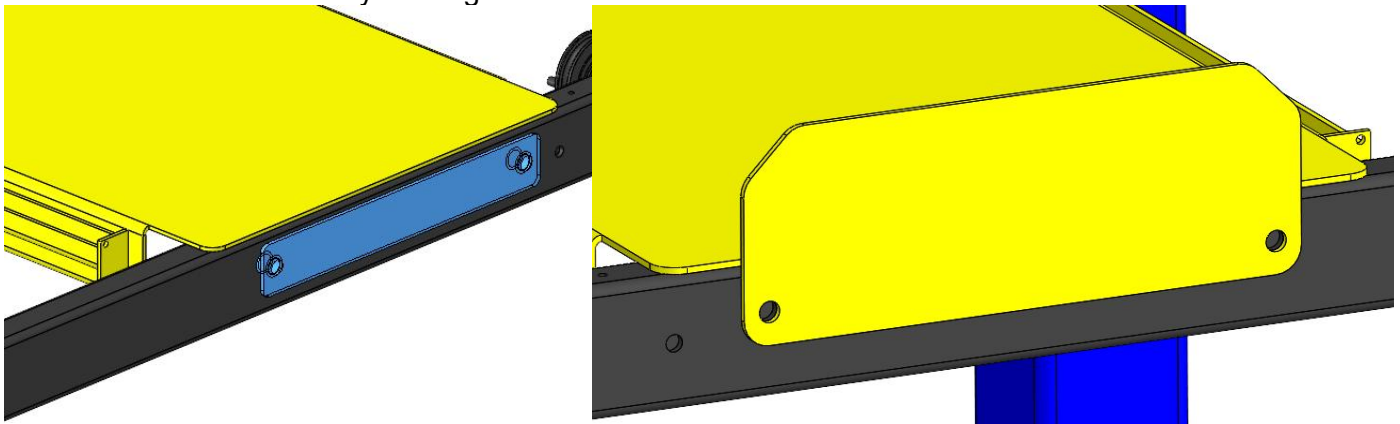
Put the beam on the column and lock the beam at a height of about 1.5m



Install the nylon slider inside the four sleeves and fix it with a slider cover on the top. The cover uses M8*16 hexagonal bolts.



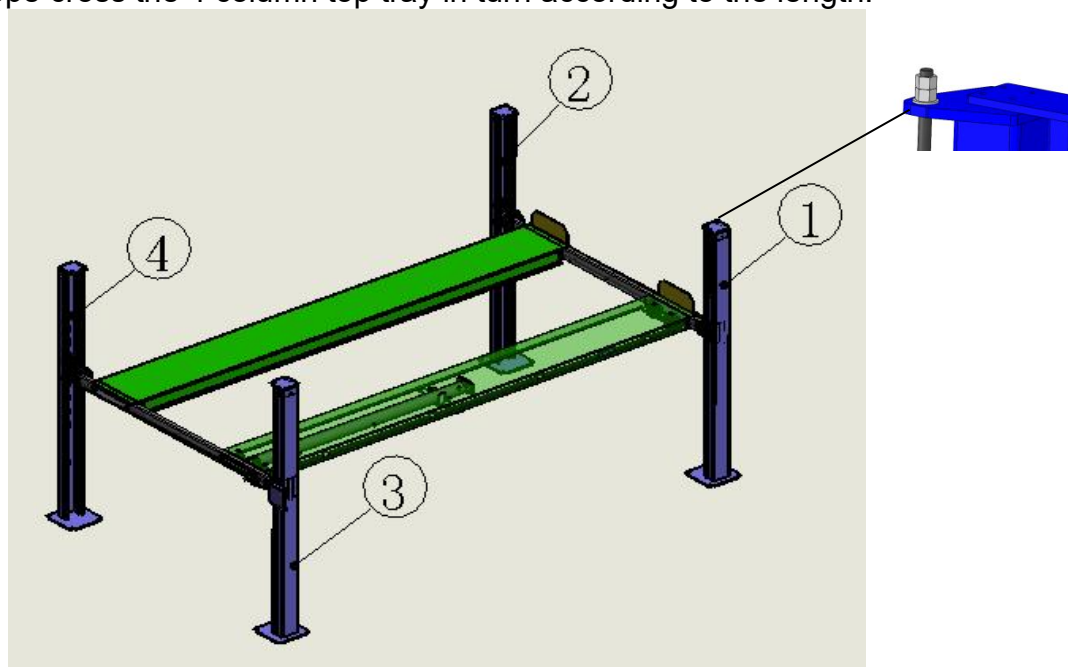
Install the main and auxiliary running boards



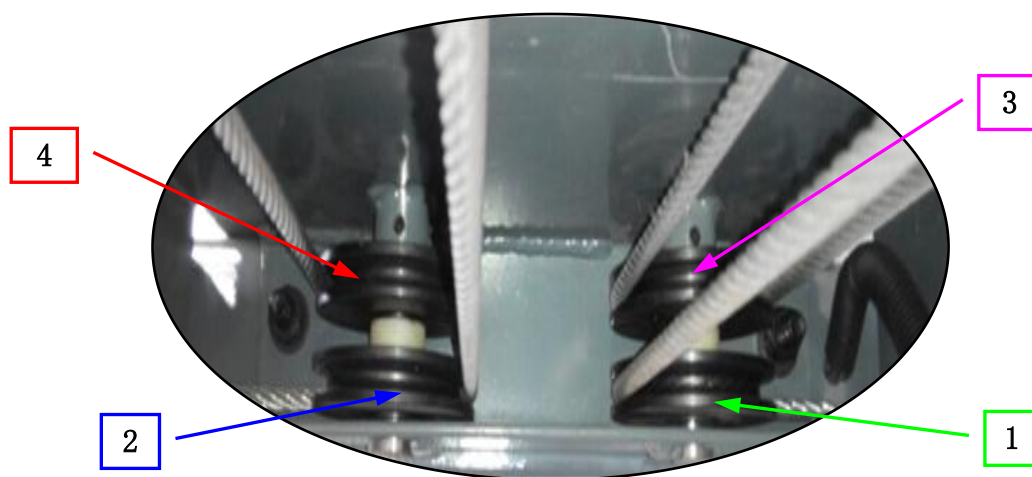
Use M14*100 bolts to fasten the boarding direction, and use M14*90 bolts to fasten the rear.

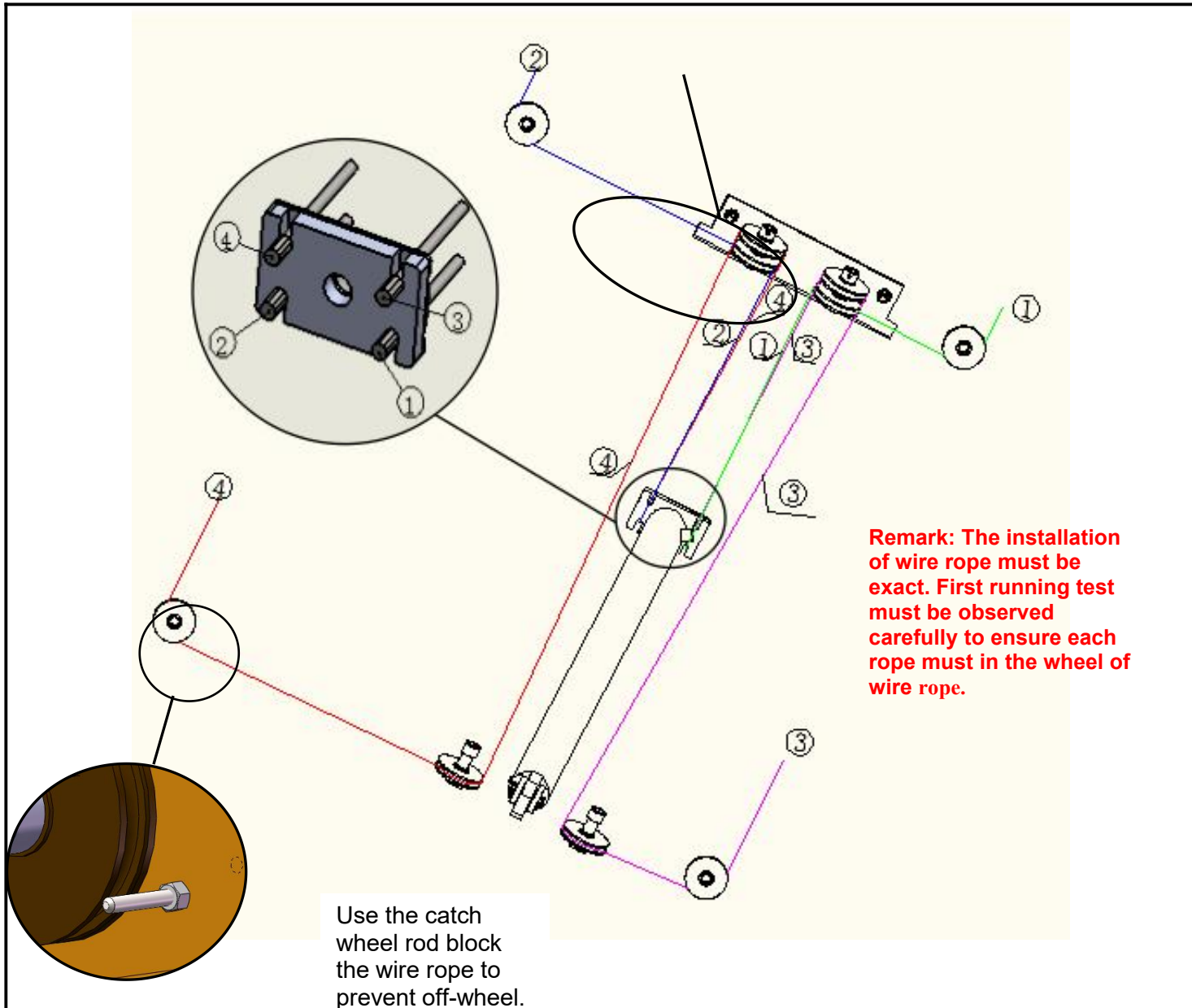
Installation of wire rope

We have already installed the wire rope on running board, customer just need to make the four pieces of wire rope cross the 4 column top tray in turn according to the length.

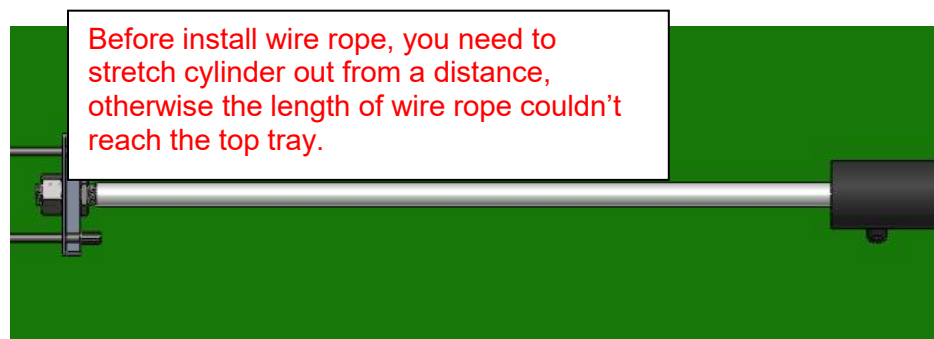


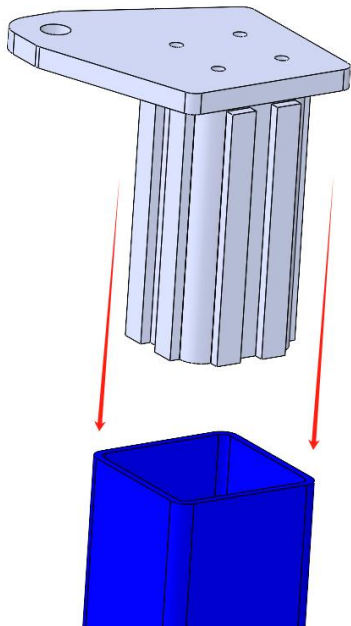
Picture.14





Picture.15 location of wire rope and alignment graphics





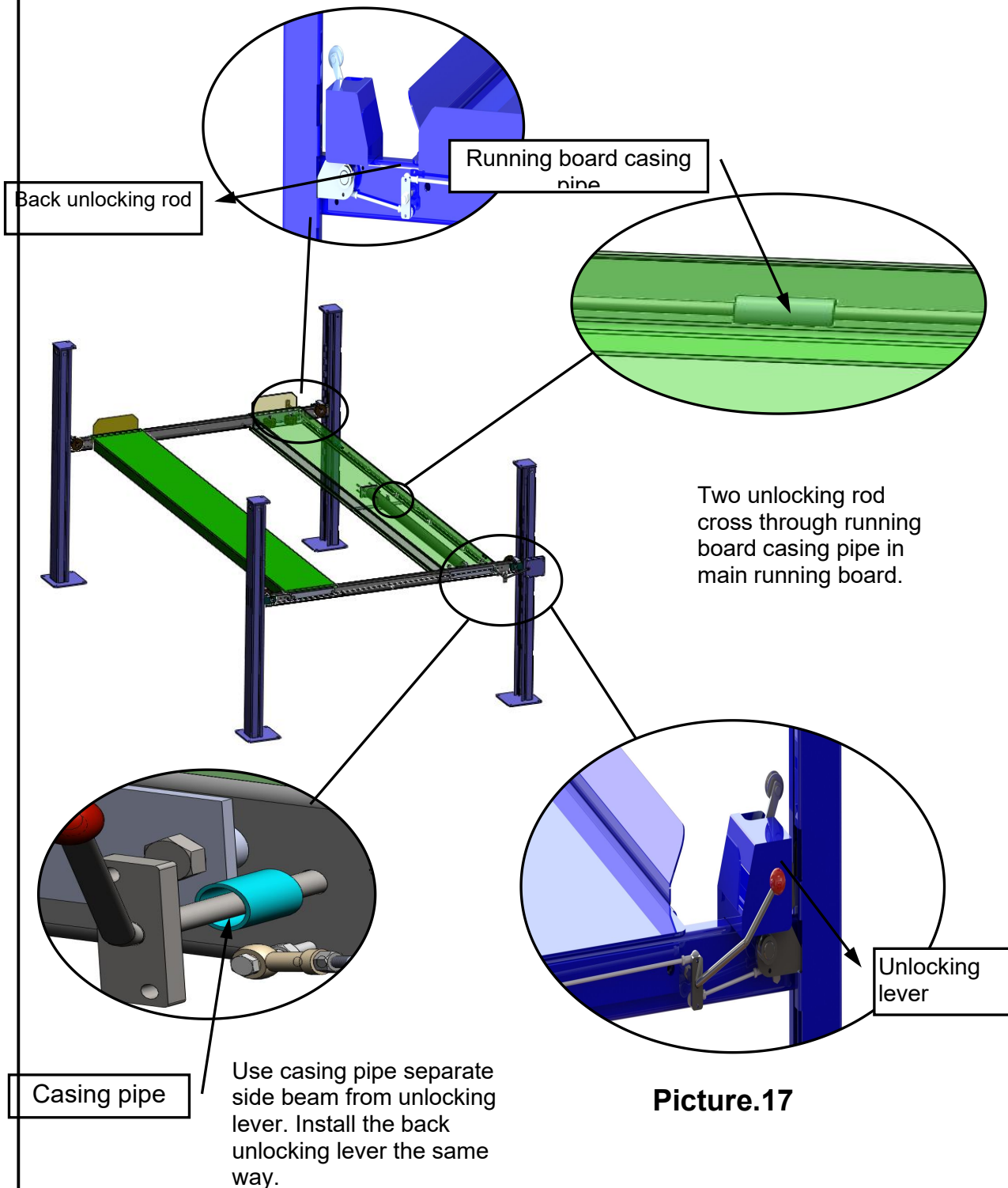
Installing the column cap



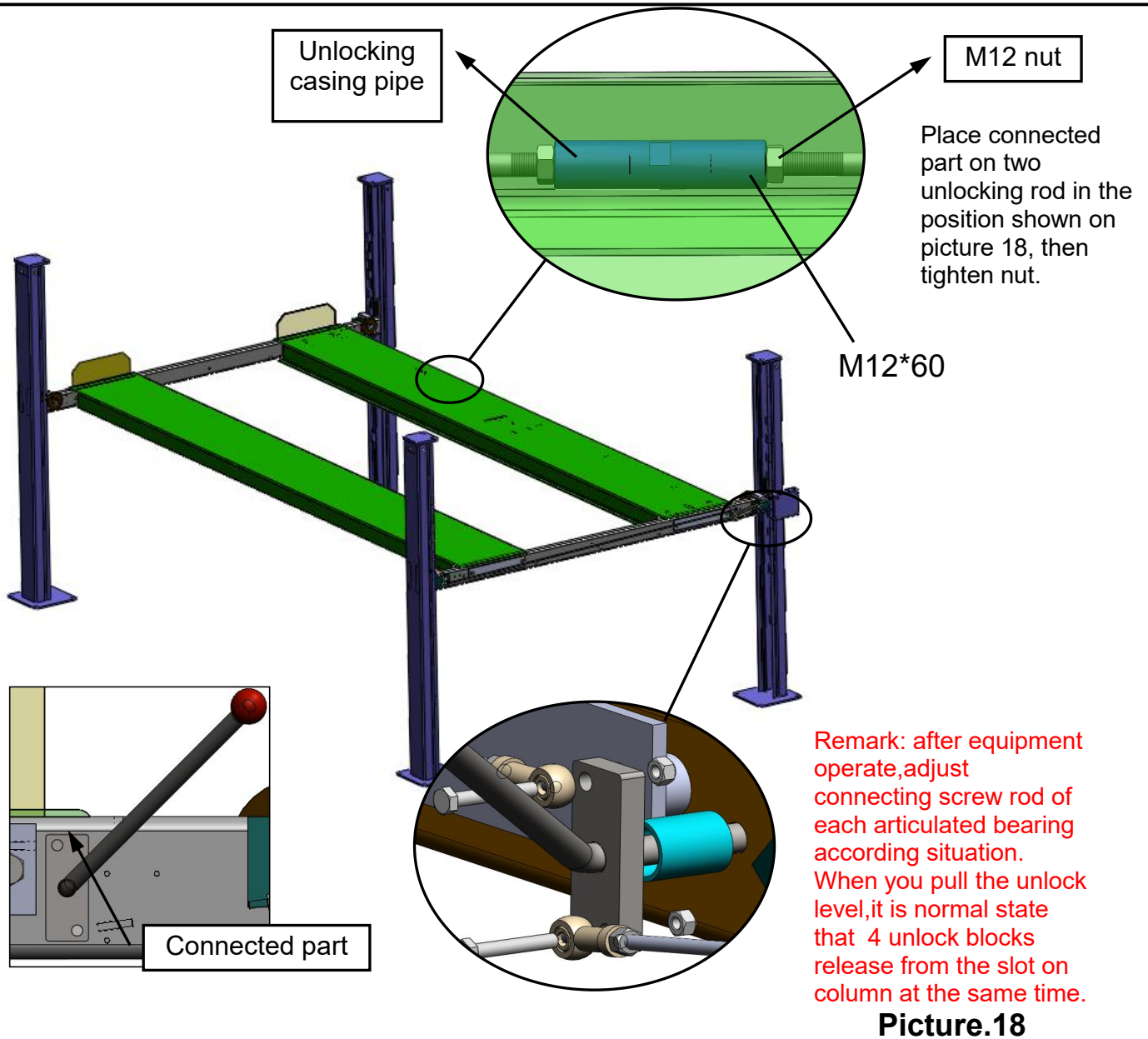
Installation of unlocking device

(1). Manual unlocking (used for "M" series model of PTJ601)

Manual unlocking consist of unlocking lever, back unlocking connecting rod and unlocking part on side beam. Unlocking lever and back unlocking connecting rod need to cross the inside of main running board from the unlocking hole on the side beam, then use unlocking casing pipe do connection.



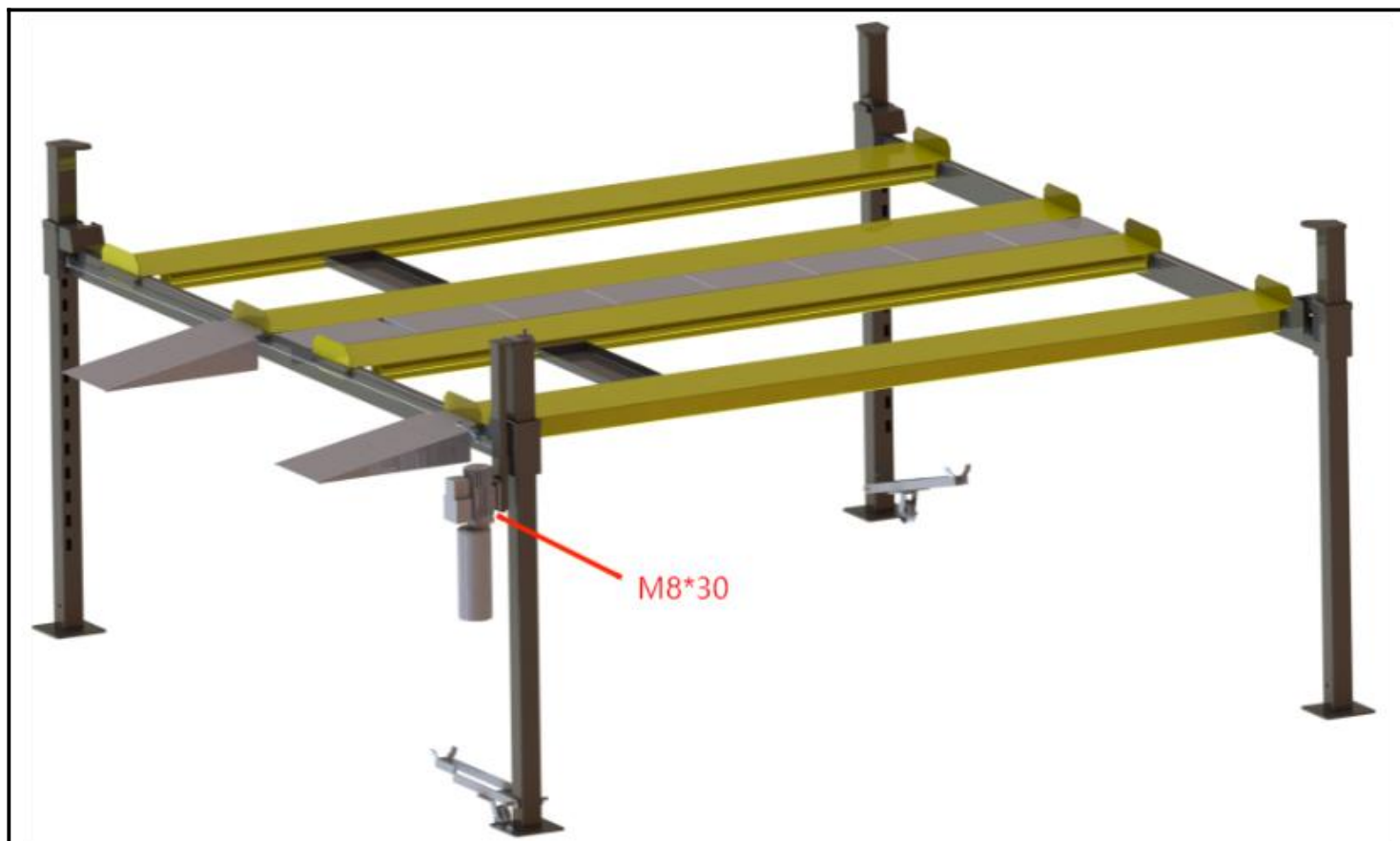
Picture.17



11. Installation of hydraulic system.

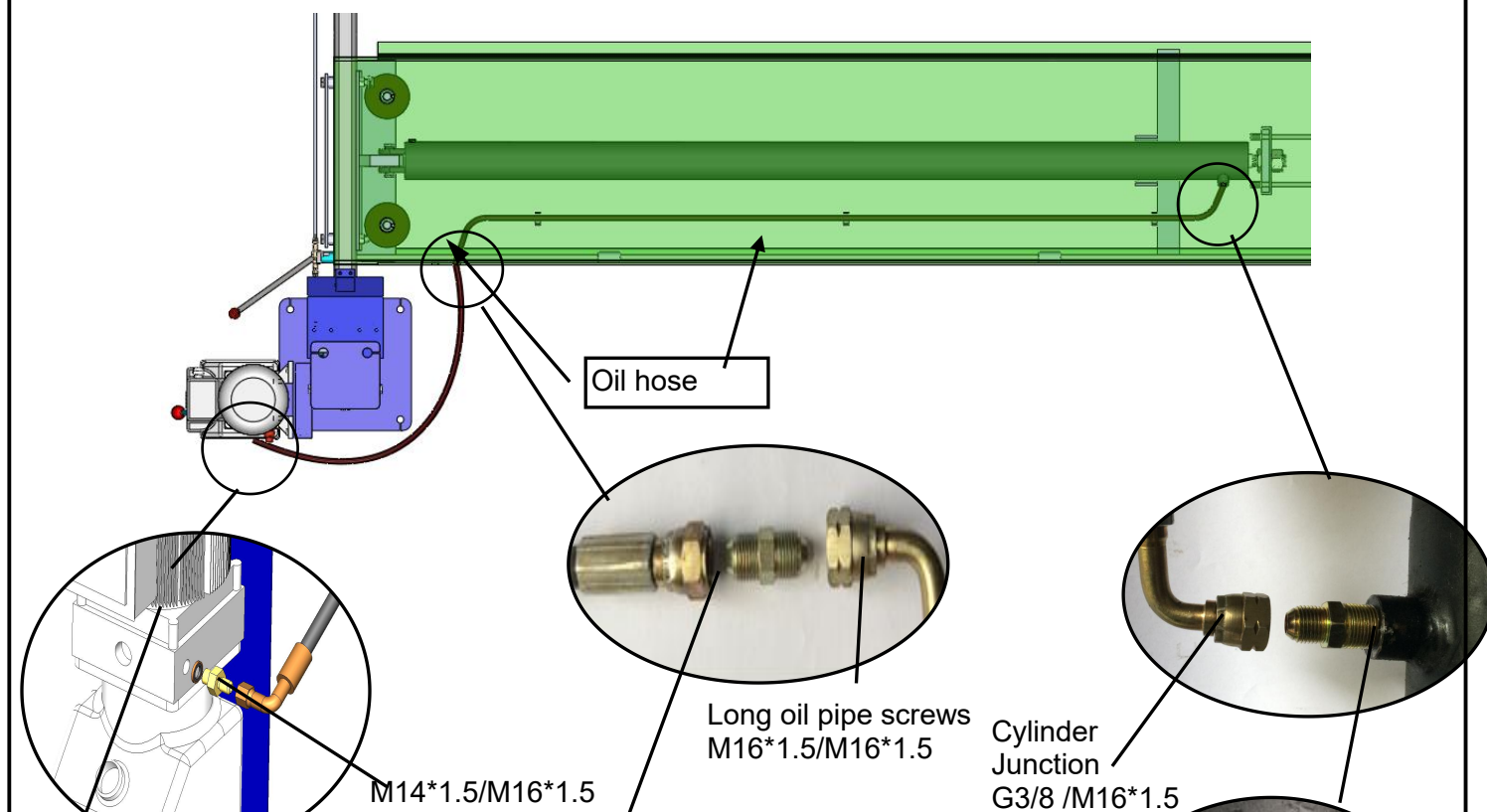
(1). Installation of power unit

Install power unit on the base of main column and it should in the same side with unlocking lever.



(2) Installation of oil hose

Equipment has 2 pieces oil hose. One connect cylinder on the bottom of main running board .The other connect power unit, then 2 pieces oil hose connected by wire connector.



Φ14

Rubber mat

2 pieces oil
hose connect
together by the
hole on the
running board



Oil hose
incline toward
up, and cross
oil hose
clamp, prevent
friction with
wire rope

5. The operation instruction

1. The storage of vehicles

- ① ensure that no barrier around the device , no obstacle at the bottom.
- ② car platform will be set down to the ground, the car driving to upload car platform, pull the hand brake.
- ③ Pressing the green button on the power unit, device lift. Release the button when reaching the required position, then locking device.

- ① Vehicles on the lower platform.

2. Pick up the vehicles

- ① Remove the lower vehicle, make sure that no other obstructions around the device.
- ② Rise device, complete the unlock (refer fifth -3).
- ③ Hold down the relief handle of power unit, device landing (landing speed can be adjusted by adjusting the screw on the power unit according to their oil-speed requirements).
- ④ the platform is put down to the ground, pull out of the upper vehicle, complete to pick up the car.
- ⑤ power off the device.

6. Maintenance

Monthly:

- ◆ Check the hydraulic tube connection and the availability of oil spills.
- ◆ Check the connection of wire rope and wire rope wheel.
- ◆ Check the fastening bolts.
- ◆ Check operation member flexibility.
- ◆ Check the condition of safety components.

- ◆ Fastening bolts.
- ◆ Tightness of the hydraulic system, if found leaking, tighten the joints.
- ◆ Check lubrication and wear of pins, rollers, platform architecture and related components, any damage must be promptly replaced.

7. Trouble Shooting

Symptom	Reason	Method
Abnormal sound	Whether there is traces of friction inside the column	Add a little lubricant inside the column
	Whether there are obstacles inside the column	Clean up internal obstacles
Motor does not work, platform does not rise	Connection of wire is bad	Check and connect the wire
	Motor break or burn out	Replace the motor
Motor works, platform does not rising	Motor reverse	Correct wire connection
	Hydraulic oil shortage	Add hydraulic oil
	Tubing fall off	Tighten the tubing
	Overload and over limit	Lighten the load
Platform rising but lack of motivation	Check whether the pipeline leak	Replace the tubing
	Adverse cylinder seals	Replace the seals
	Whether the rope loose or no leveling quasi	Check that the wire rope leveling
Slow rising	Oil filter clogged	Cleaning or replace
	Oil mixed with air	Add hydraulic oil
	Oil speed adjusting screw adjustment is not accurate	Adjust oil speed adjusting screw

	Cylinder seals wear	Replace the seals
	Poor cylinder lubrication	Replacement lubricating oil in the cylinder internal