MUTRADE

MUTRADE INDUSTRIAL CORP.

USER MANUAL

FOR INSTALLATION, OPERATION
AND MAINTENANCE
OF TWO POST CAR PARKING LIFTS

Applicable Model

Hydro-Park 1127 & 1123

Read this entire manual carefully and completely before installation or operation of the lift.

CATALOG

MUTRADE

MUTRADE INDUSTRIAL CORP.

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1 Important Safety Instructions

1.1 Requirements of installation

Generally, the parking lifts are to be installed on the following conditions:

1) Supply voltage: 0.9 – 1.1 nominal supply voltage
2) Source frequency: 0.99 – 1.01 nominal frequency
3) Ambient temperature: +5℃ – 40℃
4) Relative humidity: not exceed 50% at 40℃
5) Atmosphere: Free from excessive dust, acid fume, corrosive gases and salt.
6) Avoid exposing to direct sunlight or heat rays which can change the environmental temperature.
7) Avoid exposing to abnormal vibration.
8) Electrical parts shall withstand the effects of transportation and storage temperature within a range of -25℃ to 55℃ and for short periods not exceed 24 hours at up to +70℃.

Hydro-Park 1127 & 1123 are designed for cars parking under stated maximum weight, any other use is to be considered improper and irrational and thus highly forbidden. The constructor cannot be held responsibilities for any damage or injuries caused by an improper use or by the non-observance of the following instructions.

The parking lift is designed for indoor use only. Appropriate roof and fencing are to be placed to prevent from rain or snow when the parking lifts have to be installed outdoor. A protection set for outdoor use is supplied as an option, please contact Mutrade or local Mutrade partner for more info.

Read this manual carefully before using the machine and follow the instructions in this manual to ensure the parking lift with excellent performance and long lifetime.

1.2 Qualified personnel

1.2.1 The parking lift shall only be installed, operated and maintained by authorized and trained staff, properly trained for the specific use of the parking lift.

1.2.2 The wiring work must comply with local code and be carried out by a certified electrician according to local laws/regulations.

1.2.3 All adjustments, whether mechanical or electrical, shall only be carried out by authorized persons in accordance with manufacturer's instructions.

1.3 Notes

1.3.1 Do not install the parking lift on any asphalt surface. Please contact Mutrade or local Mutrade partner if in the need of installation on asphalt surface.

1.3.2 Read and understand all safety warning procedures before operating the parking lift.

1.3.3 Keep hands and feet away from any moving parts. Keep feet clear of the parking lift when platform lowering.

1.3.4 Make sure there is no person staying in the car before every operation.

1.3.5 The parking lift is only designed to lift the entire body of vehicle with maximum weight not more than the rated capacity.

1.3.6 Always ensure the safety devices in good condition before operation of the parking lift or parking/retrieve vehicle.

1.3.7 To drive car backwards into parking lift and forwards out is strongly recommended.

1.3.8 Vehicle shall be parked on the left-right center of platform, with rear tires reaching backboard of platform.

1.3.9 Do not modify the parking lift without manufacturer's permission.

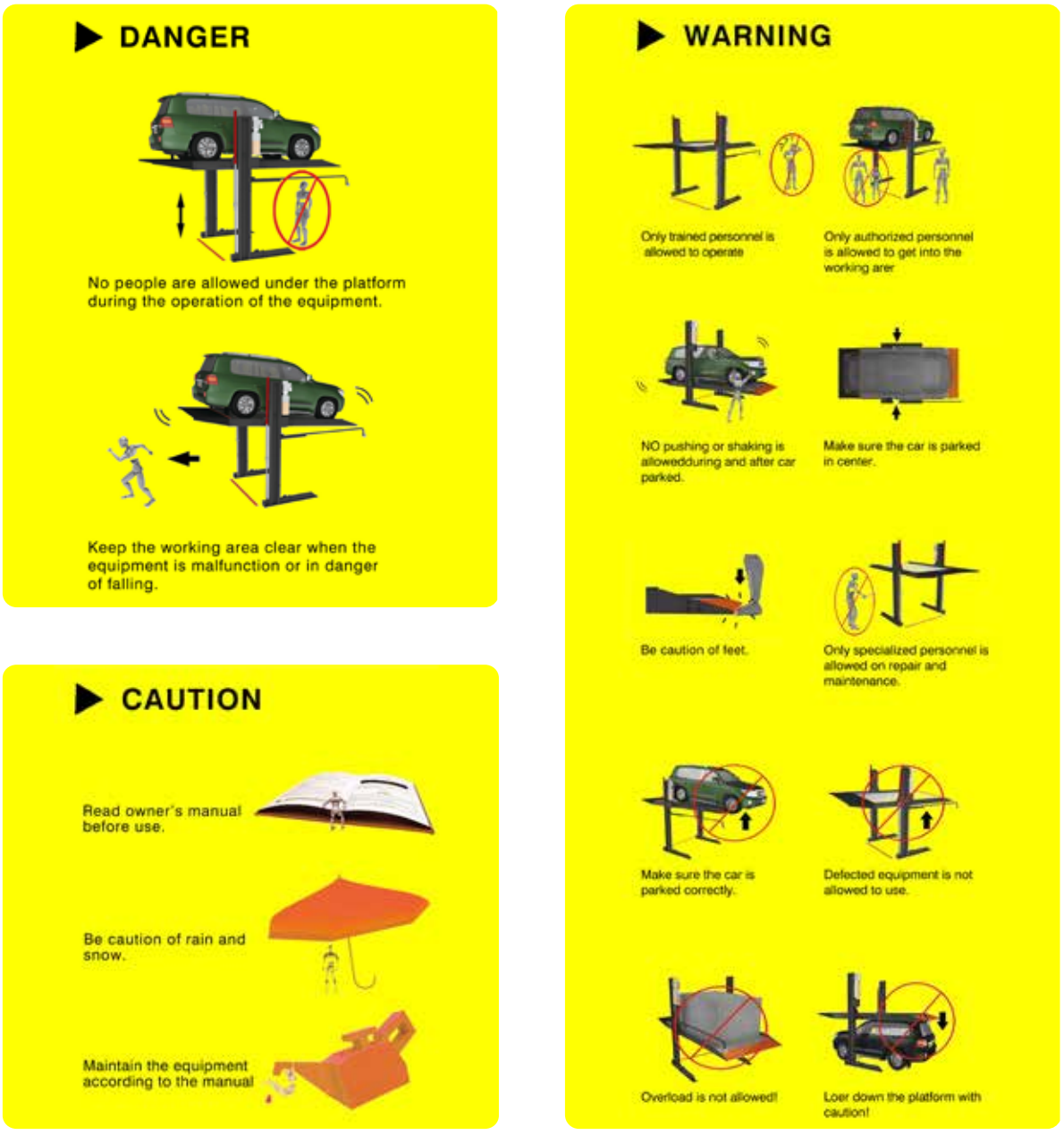
1.3.10 If not to be used anymore, it's recommended to turn off the power supply, empty the oil tank and dispose the fluid properly according to local regulations.

1.3.11 If the parking lift is to be left unused for a long period, it's recommended to:

- **1.3.11.1** Turn off power switch of control box and main switch of power supply
- **1.3.11.2** Empty the oil tank and dispose unused oil properly according to local environmental laws and regulations.
- **1.3.11.3** Apply rust preventive oil on chains regularly
- **1.3.11.4** Grease the moving parts which might be damaged by dust or damp

1.4 Warning signs

Presence of safety warning signs on the parking lift is essential to protect users from mis-operation. Read carefully and keep in mind of the warnings before operation. The labels must be kept clean and have to be replaced once unrecognizable or damaged.



(1)Warning sign

2 Overview of Parking Lift

2.1 Product Introduction

The Hydro-Park 1127 and 1123 are the latest version of two post parking lift developed by Mutrade. A two post parking lift mainly consists of two posts, two carriages, one cylinder, one control box, one operation panel, one power pack and one platform covered by waving plates.

The left and right post can be used in common, and the post can be shared if several units are installed in a line.

This parking lift is driven by hydraulic power pack, which delivers the hydraulic fluid to hydraulic cylinder behind the primary post, then transmitted to the lifting chain which carries the platform.

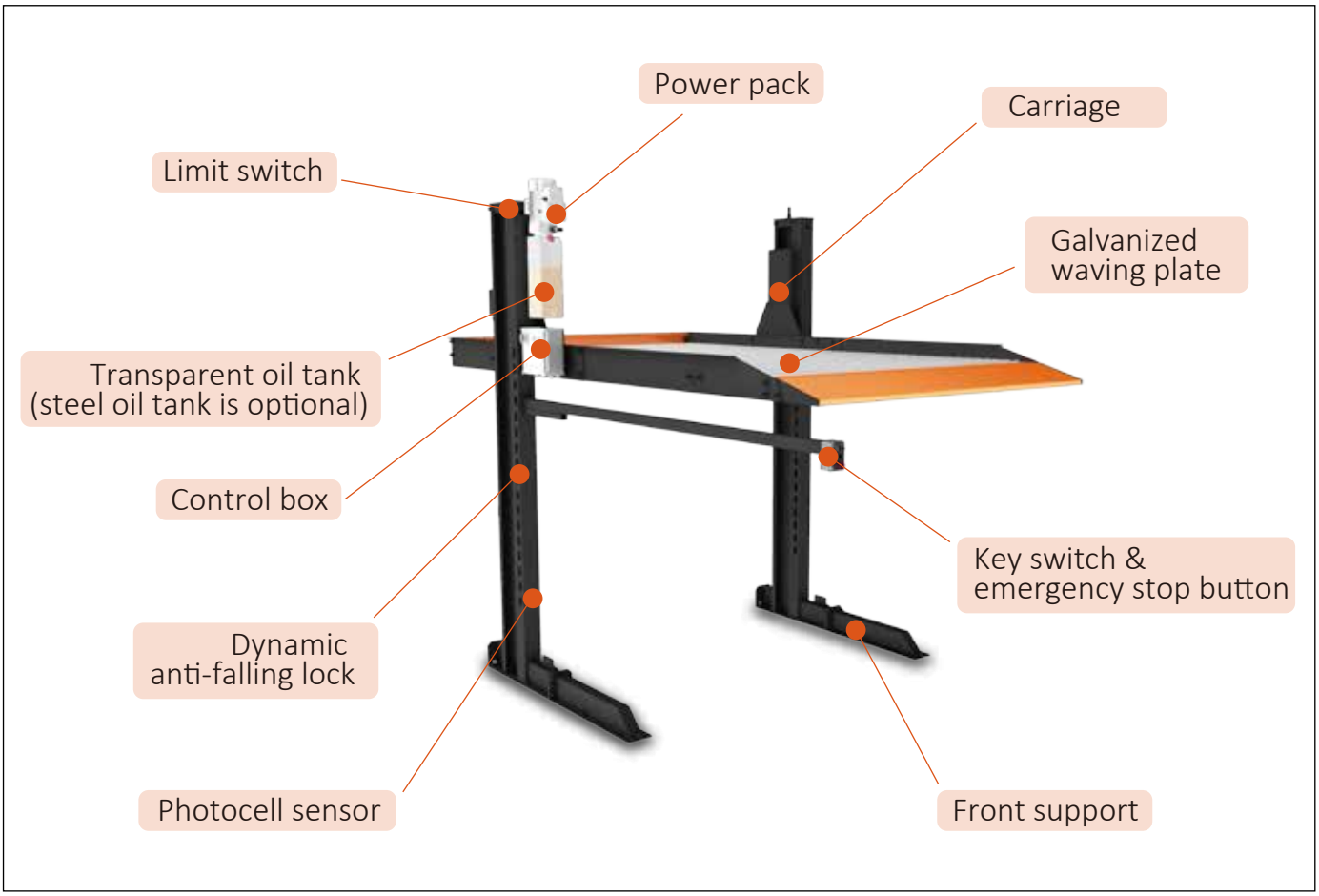
The mechanical anti-falling block can automatically lock the platform from 500mm up to 2100mm to prevent the platform from falling all the way.

2.2 Scope of application

Suitable for residential buildings, office buildings and business premises, hotels
Only for long-term users that have been instructed on how to use the system
For frequently changing users (e.g. for office, hotel and business premises or similar):

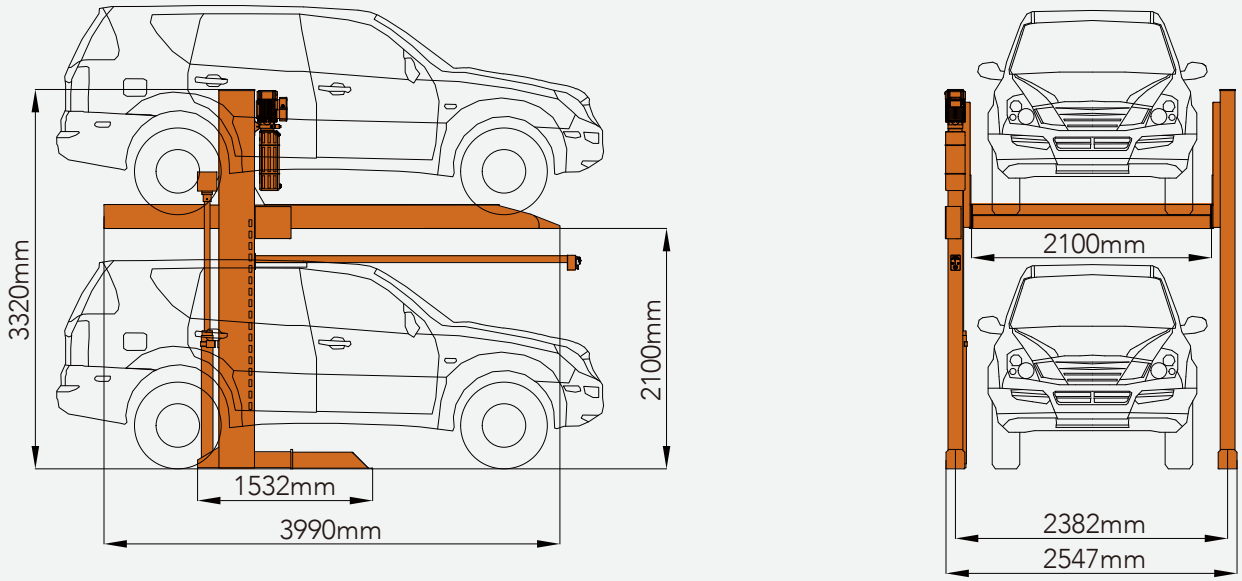
- only parking on ground level
- performance of technical system adjustments in necessary
- consultation with Mutrade or local Mutrade partner is mandatory

2.3 General parts

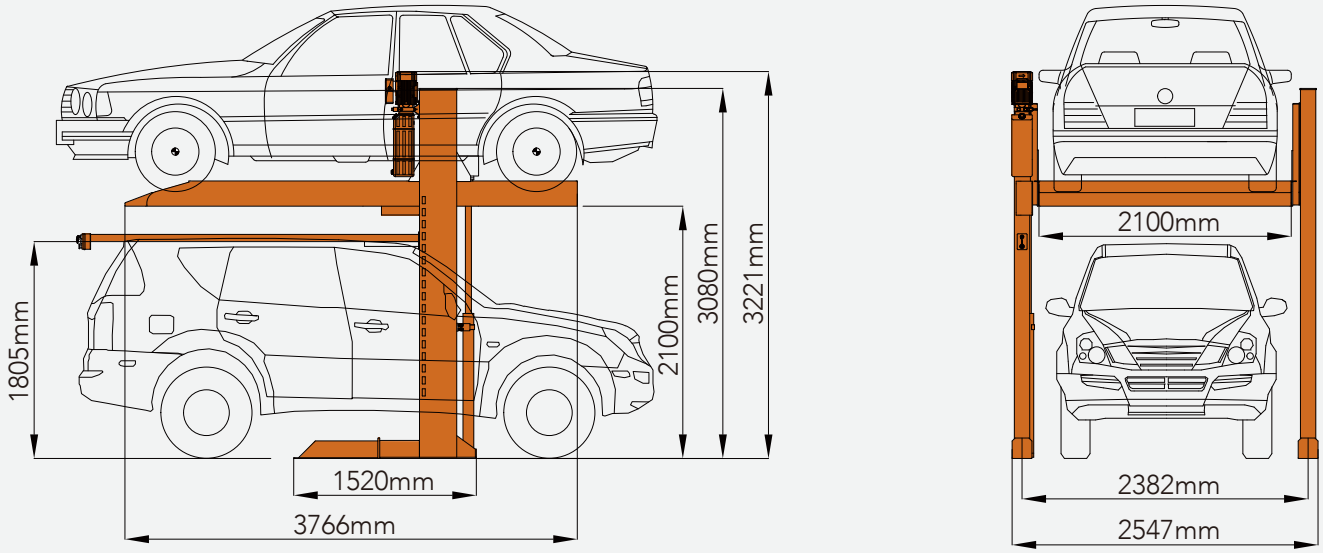


(2) Parts description

2.4 Dimensions of standard models

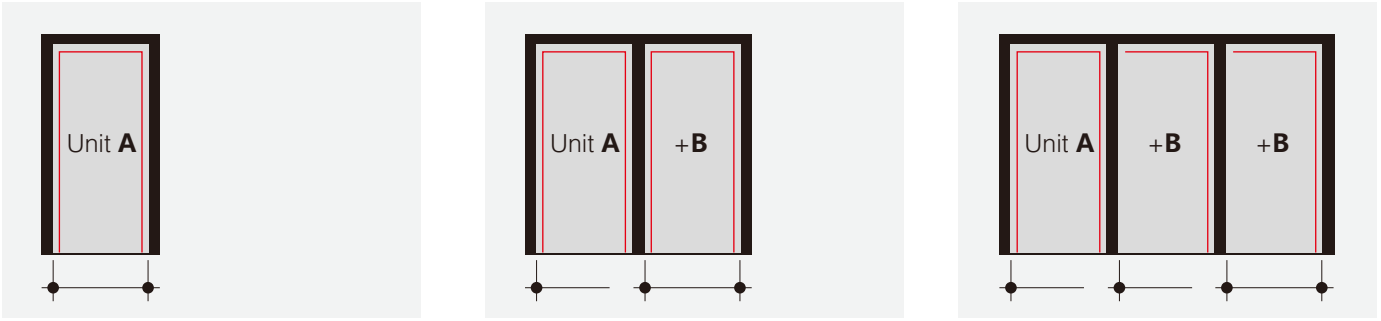


(3) Dimensions of Hydro-Park 1127



(4) Dimensions of Hydro-Park 1123

2.5 Sharing post feature



Total width required	Clear platform width
2547	2100
2647	2200
2747	2300
2847	2400
2947	2500

Total width required	Clear platform width
4929	2100
5129	2200
5329	2300
5529	2400
5729	2500

Total width required	Clear platform width
7311	2100
7611	2200
7911	2300
8211	2400
8511	2500

(5) Width dimensions

Notes:

Clear platform width of 2100 mm for car widths of 1850 mm. Layout dimensions should fit for specific order details if the platform width is customized.

According to ISO 3864 the floor has to be marked with 100 mm wide yellow-black at a distance of 500 mm from the platform edge by the purchaser (to be performed according to local regulations.)

The lowering speed of an empty platform is considerably lower than a loaded one.

It is not possible to have channels or undercuts and/or concrete haunches along the floor-to-wall joints. If channels or undercuts are necessary, the system width needs to be reduced or the installation width needs to be wider.

The manufacturer reserves the right to construction or model modifications and/or alterations. Furthermore, the right to any subsequent part modification and/or variations and amendments in procedures and standards due to technical and engineering progresses in the art or due to environmental regulation changes, are also hereby reserved.

2.6 Noise protection

Insulation figure of the construction of min. Rw = 57 dB

Walls which are bordering the parking lifts must be done as single wall and deflection resistant with min. m = 300 kg/ m²

Solid ceiling above the parking lifts with min. m = 400 kg/ m²

At differing constructional conditions additional sound absorbing measures are to be provided by the customer

The best results are reached by separated sole plates from the construction.

2.7 Protection against corrosion

Independent of a maintenance working has to be carried out regularly according to Surface Cleaning and Protection mentioned in chapter 8 of this manual.

Clean up galvanized parts and platforms of dirt and road salt as well as other pollution (corrosion danger)!

2.8 Fire safety

Each and every fire safety requirement and all possible mandatory item(s) and equipment(s) (fire extinguishing systems and fire alarm systems, etc.) are to be provided by the customer.

2.9 Railings

If walkways are arranged directly to the side or behind the lifts, railings have to be provided acc. EN ISO 13857 by client acc. to local requirements, height min. 2000mm.

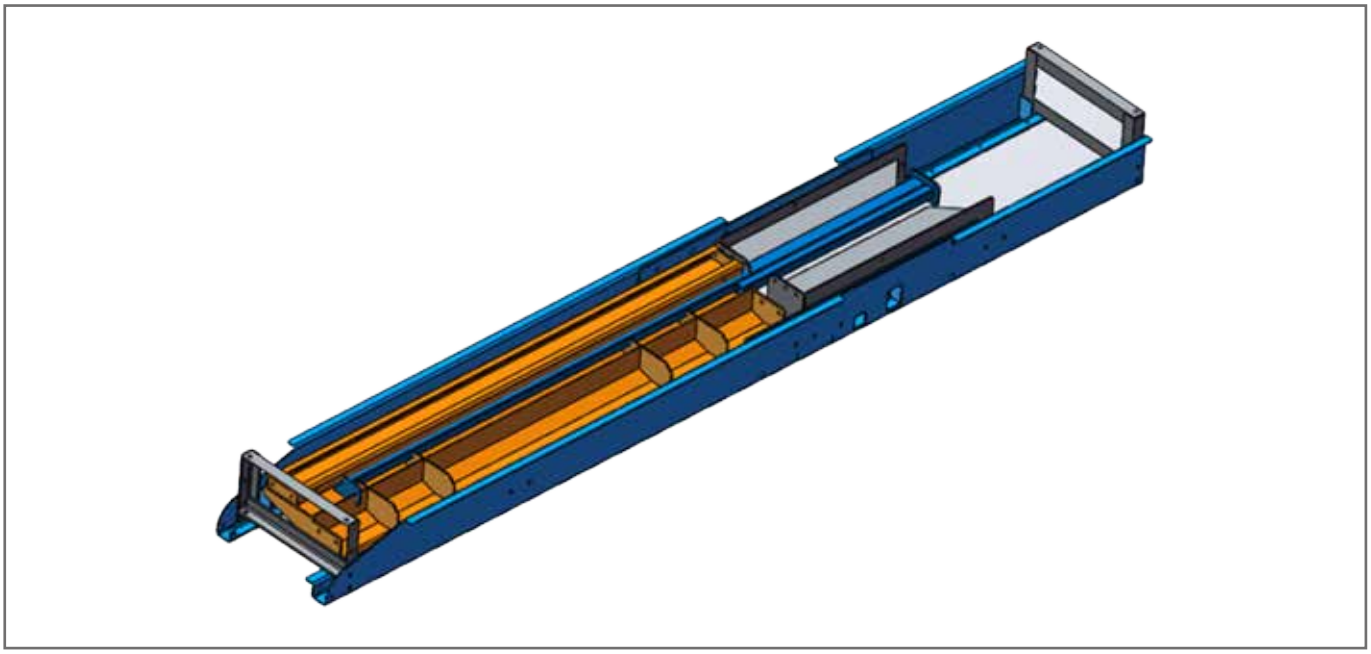
3 Package

Hydro-Park 1127 & 1123 are packed by packing frame, straps and paper board to avoid damage during the transportation.

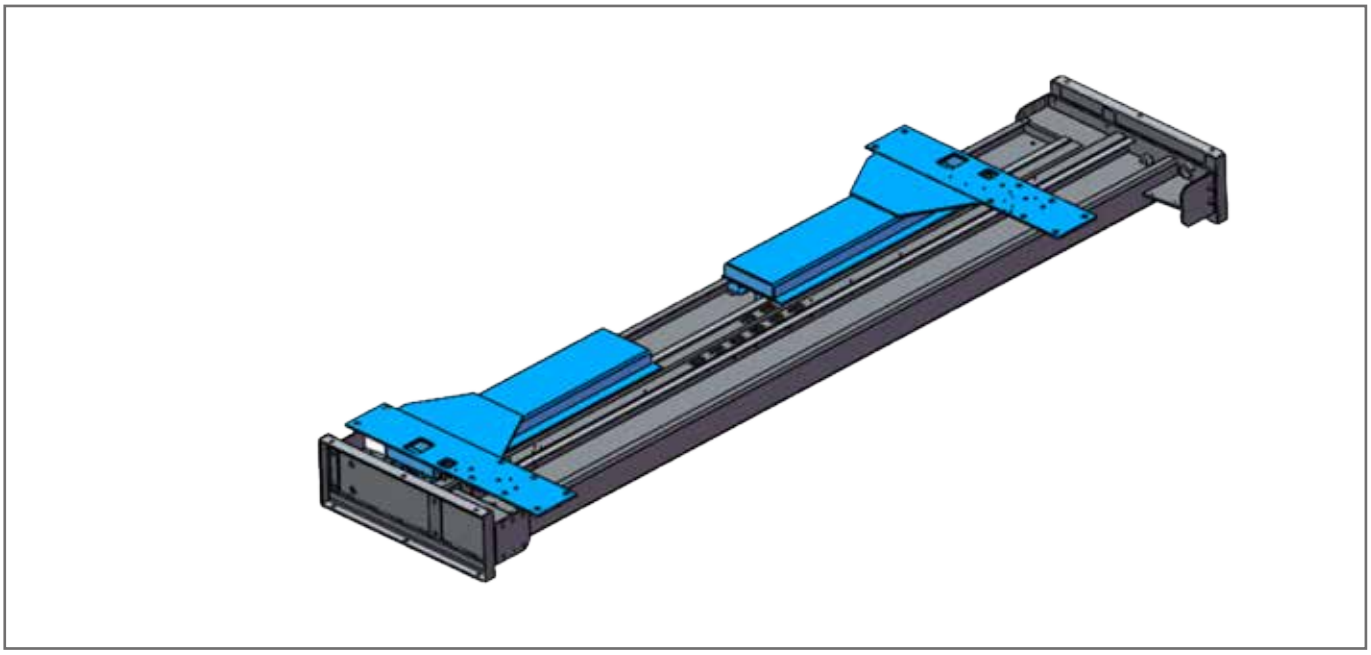
One unit of mechanical structure contains one flatpack from the posts package and one from platform package.

Check carefully if there is any damage or shortage when receives the parking lifts. Before installation, record the damage or shortage in document related to find out the reason and guarantee the user's benefit.

A dry and clean storage area with enough space is essential to keep all parts of the parking lift in good condition.



(6) Platform package



(7) Post Package

4 Installation

4.1 Important note

4.1.1 Before install the parking lift, please read and learn the safety warning in detail

4.1.2 Keep the working site dry, clean and tidy.

4.1.3 Check the working environment of the product. Do not leave the products in the rain. Do not use the product in the damp environment. Keep good ventilation and enough light of the working area.

4.1.4 The installation work has to be carried out only by trained staff. The staff untrained should be away from the working area.

4.1.5 Motor must be grounded to avoid electric shock.

4.1.6 Do not power on before installation finishes to avoid getting an electric shock.

4.1.7 Be careful in all activities during working to avoid any accident.

4.1.8 Strictly follow this manual to install, operate and maintain the parking lifts. Do not modify this parking lift or use any part which is not from the manufacturer.

4.1.9 Do not dismantle any part from the parking lift without manufacturer's instruction.

4.1.10 Safety devices should be well protected.

4.1.11 The unfinished equipment, unused parts/package, installation tools should be well arranged, protected and labelled with warning notice, to avoid unauthorized usage, mis-operation, item lost or stolen.

4.1.12 Warning: Keep any flammable item away from the parking lift as there may be electric spark when electrical system works.

4.1.13 This mark ⚠ means safety warning.

4.2 Preparation

Before installing this parking lift, check the following:

4.2.1 The working area should be well planned and has enough space.Sufficient space with 800mm to 1000mm distance (adjustable according to local vehicle sizes) from back board of platform to rear wall shall be considered and reserved for parked car.

4.2.2 Keep obstacle away from installing area.

4.2.3 Check carefully if there is crack on the concrete ground where the parking lifts will be installed and check if the foundation intensity achieves the following requirements. The compressive strength should be no less than 200kg/cm^2. And the thickness of concrete basement should be no less than 150mm, the strength should be no less than 250 class, the finished concrete slab must be solidified for appropriate days. Otherwise, the parking lift may crush the ground, that will cause the damage of parking lift and injury/death of people.

4.2.4 Make sure the concrete slab must be level; over 5mm tolerance is not allowed, the tolerance within this limit can be adjusted by shims. Ground slab should be constructed according to Foundation Treatment mentioned in chapter 4.4 of this manual if it is uneven seriously or untreated.

4.2.5 Do not install the parking lift on the pitch ground or other non-concrete ground.

4.2.6 Do not install the parking lift on the ground with crack or rubbish on concrete ground.

4.2.7 Do not install the parking lift on second floor or higher floor without approval by architect and/or municipal authorities.

4.2.8 If there is no proper protection, do not install the parking lift outdoor to avoid unnormal damage of parts due to too high and too low temperature or high humidity environment.

4.2.9 The proper wiring route from main power supply to the parking lift is good for easier installation and long-term usage. Make sure all wires are connected correctly and protected well.

4.2.10 Draw up positions of the post baseplates with chalk with less than 3mm tolerance.

4.2.11 Check carefully to make sure the layout is correct.

4.3 Necessary tools

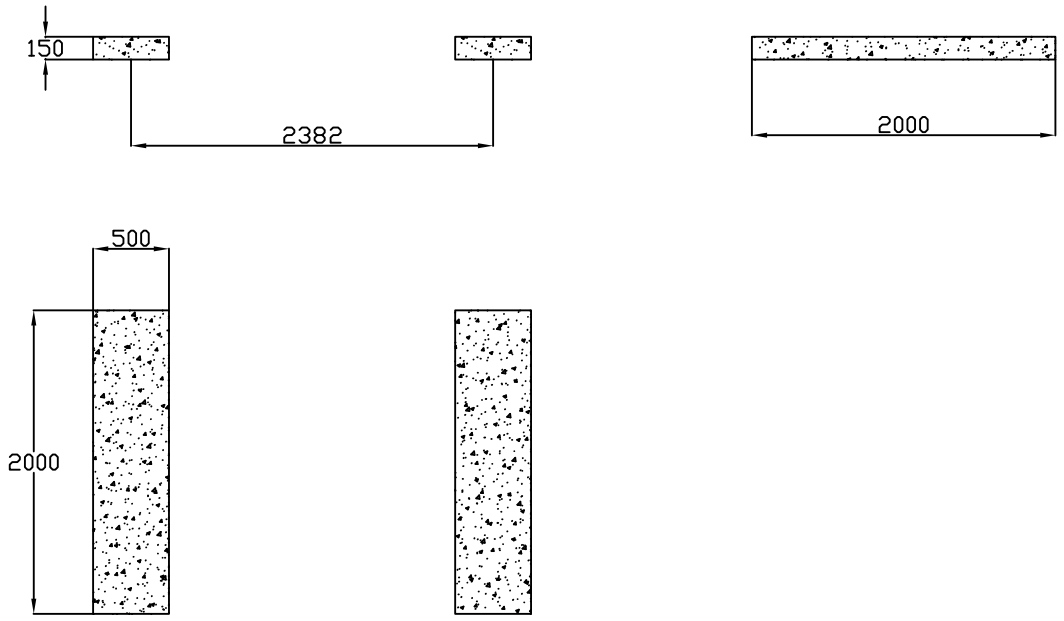
- 1 set of non-adjustable spanner, adjustable spanner and allen wrench.
- 1 set of screwdriver (including slotted screwdriver and phillips screwdriver)
- 1 piece of leveling instrument for 1M and 3M.
- 1 unit of forklift with 2T capacity.
- 1 piece of percussion drilling with 12x200 mm aiguille.
- Insulated rubber tape
- Sealing tape
- 1 piece of electric portable drill
- Some power line
- 1 piece of hammer
- Some duster cloth
- 1 piece of grease gun
- 1 piece of tapeline for 5M

4.4 Foundation treatment

4.4.1 Concrete ground with minimum 150mm depth is essential to install the parking lift. The concrete grade should be at least C30.
For reinforced concrete, the foundation thickness should be at least 100mm.

4.4.2 Pour concrete above rammed earth at the base of posts as shown in below diagram.

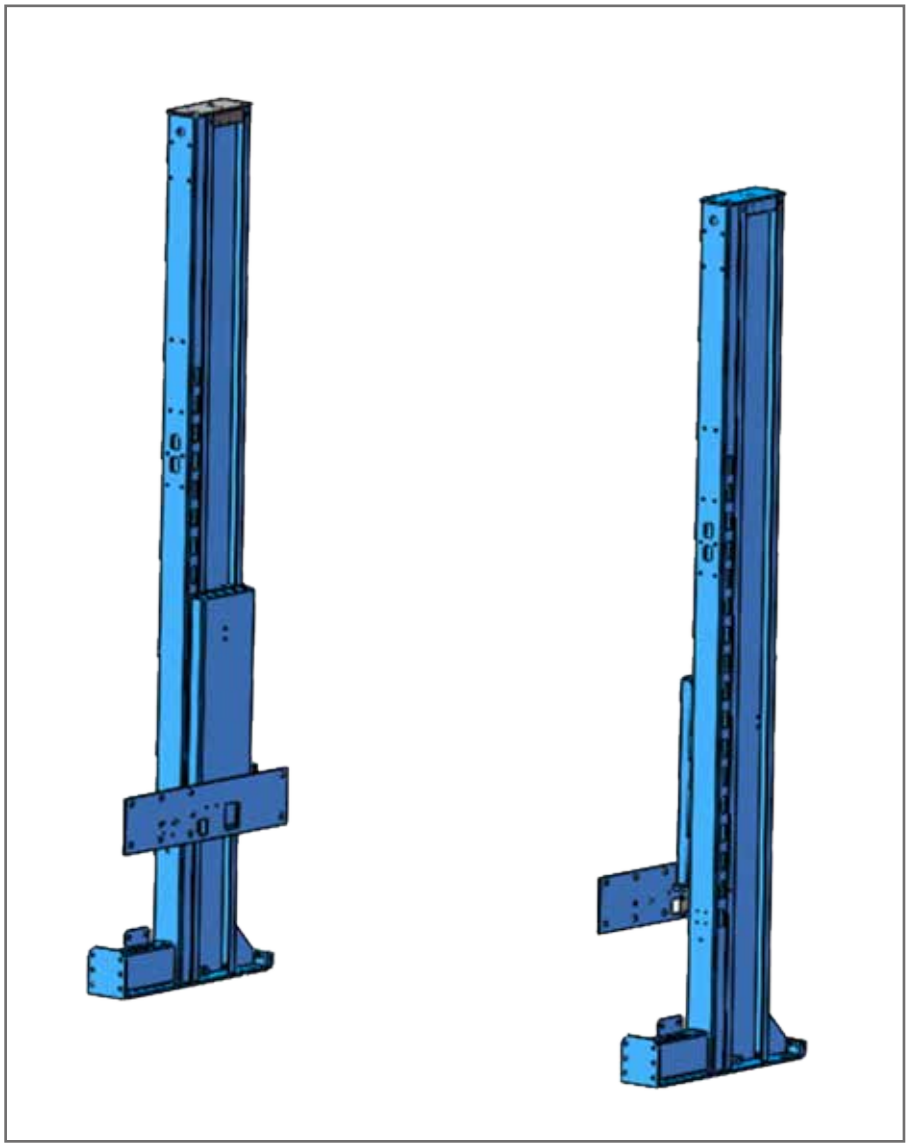
4.4.3 Pre-embedded of anchor bolts is not needed.



(8) Foundation diagram

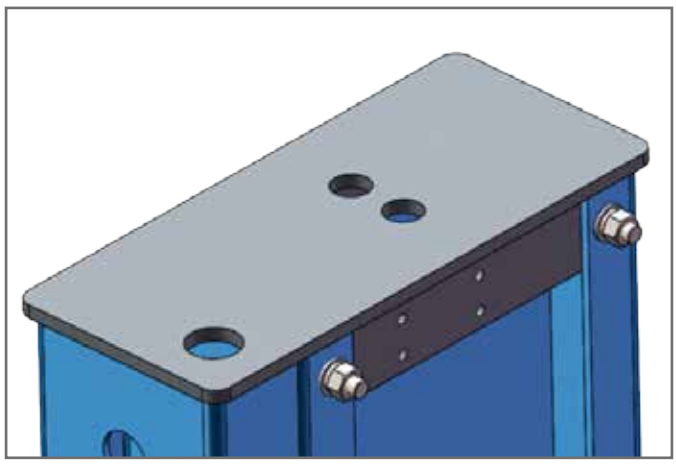
4.5 Assembly

4.5.1 Place the left and right carriage onto post, with the left and right carriage facing to the other.

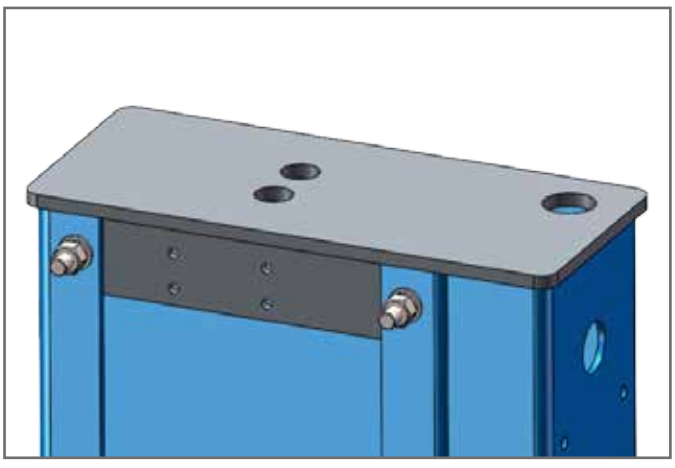


(9) Primary post with left carriage and subsidiary post with right carriage

4.5.2 Fix the top cover plate onto each post by bolts.



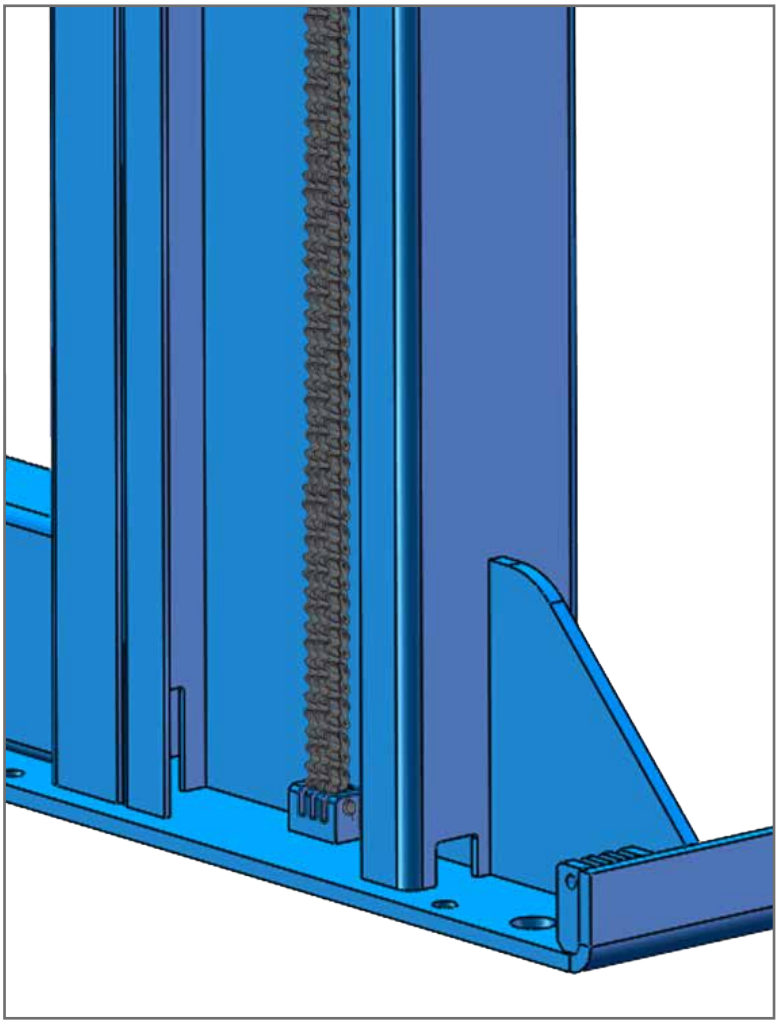
(10) One side of top cover plate with bolts



(11) The other side of top cover plate with bolts

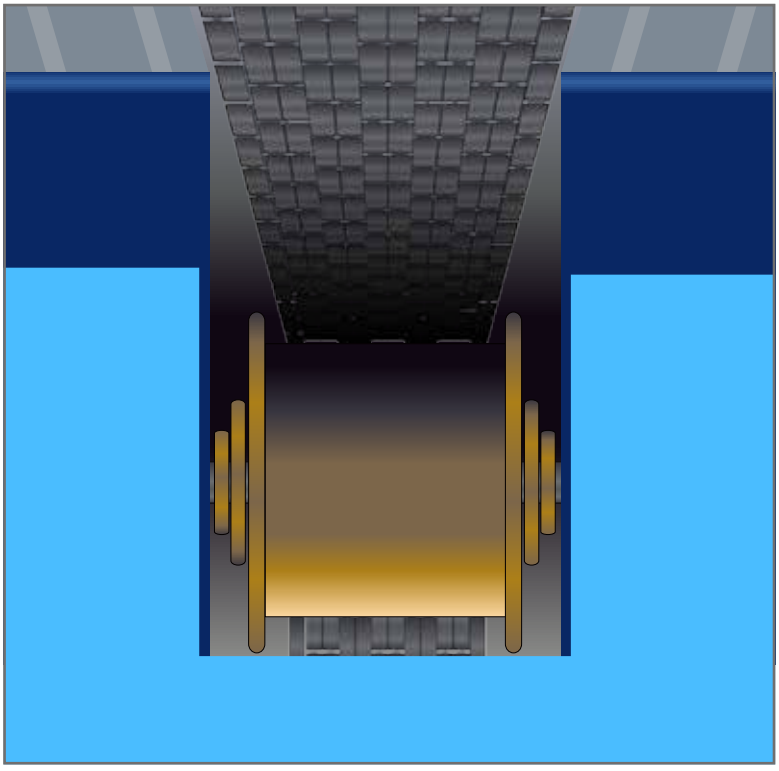
4.5.3 Fix one end of the balance chain to the chain fixture on the bottom of the primary post (on which the power pack, control box and control arm will be installed).

Keep chains clean and away from dirt during installation.



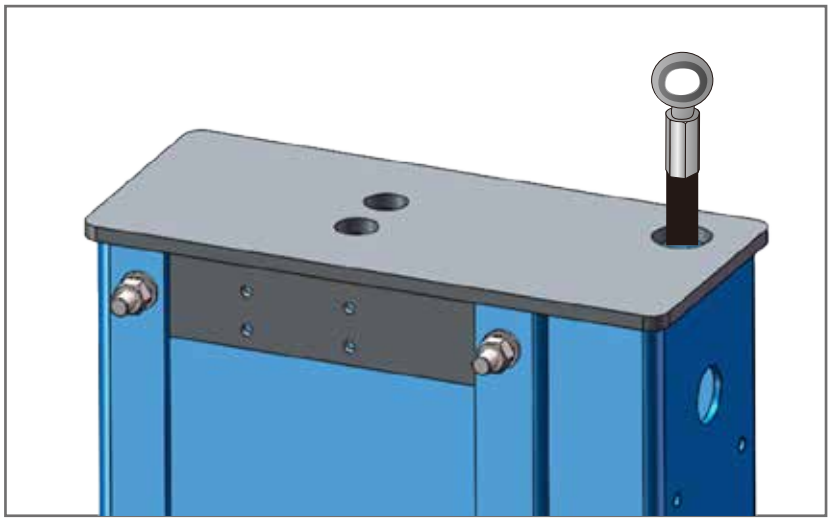
(12) Balance chain fixture on base of primary post

4.5.4 Make the other end of the balance chain pass through above the chain wheel in the carriage of the primary post.

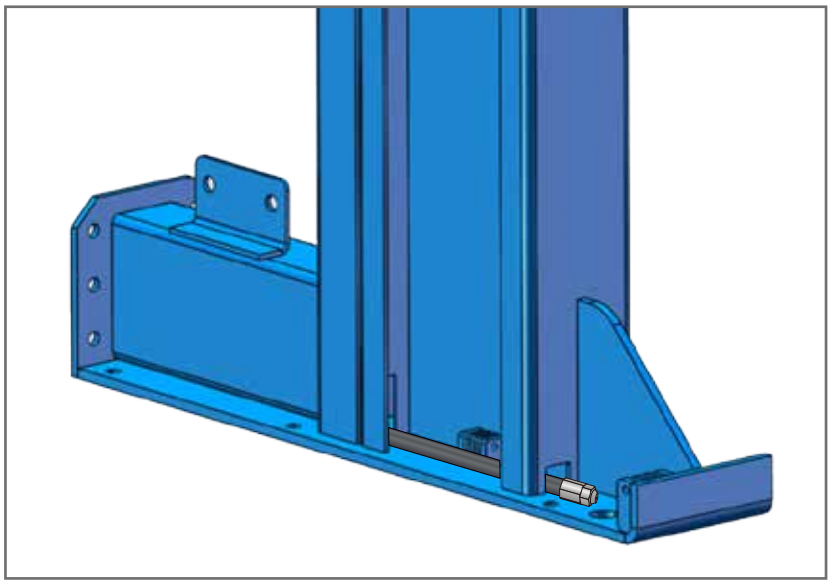


(13) Balance chain & chain wheel in the left carriage

4.5.5 Make the oil hose go through the inside from the top to the bottom of primary post. Temporarily fix the two ends of oil hose onto the primary post by adhesive tape or cable ties, to avoid oil hose falling out when erecting the post.

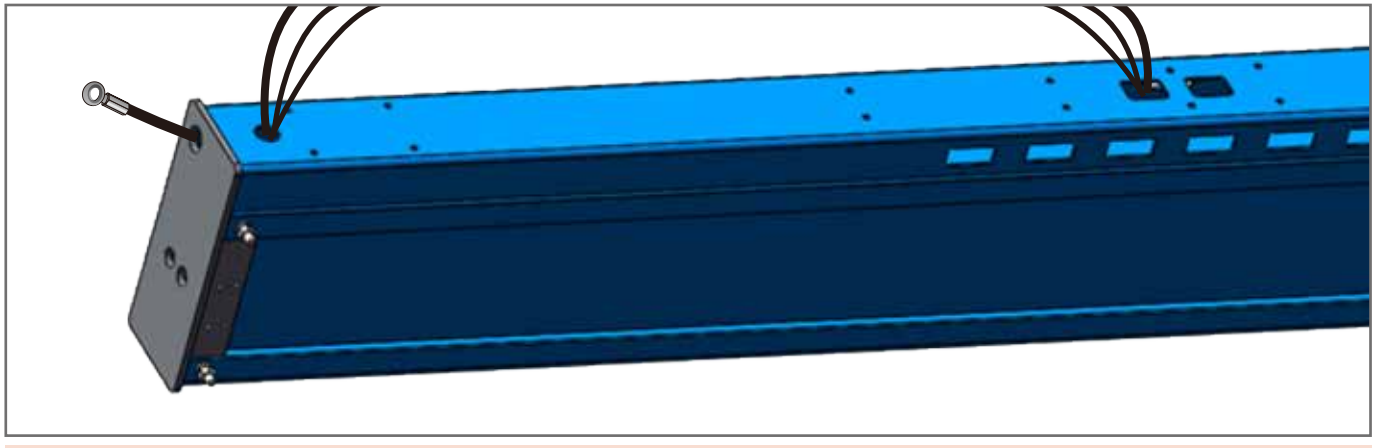


(14) Top of primary post



(15) Base of primary post

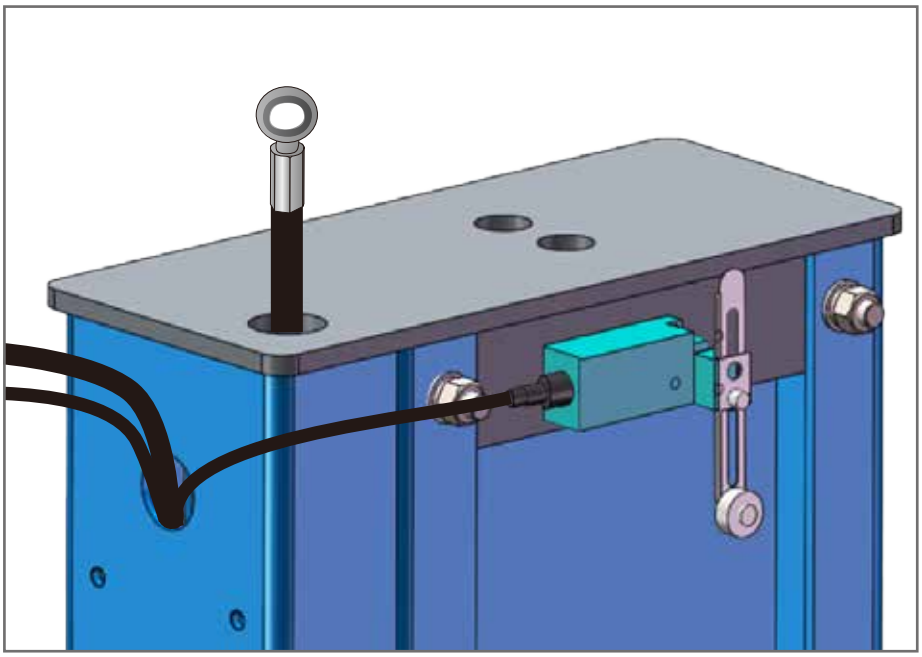
4.5.6 Make the wires of limit switch, motor and solenoid valve (the thicker wire is for motor, the long one in two thinner wires is for solenoid vale and the short one for limit switch.) go through from the hole on the top of primary post to the wire hole above control arm. Temporarily fix the two ends of wires onto the primary post by adhesive tape or cable ties, to avoid oil hose falling out when erecting the post.



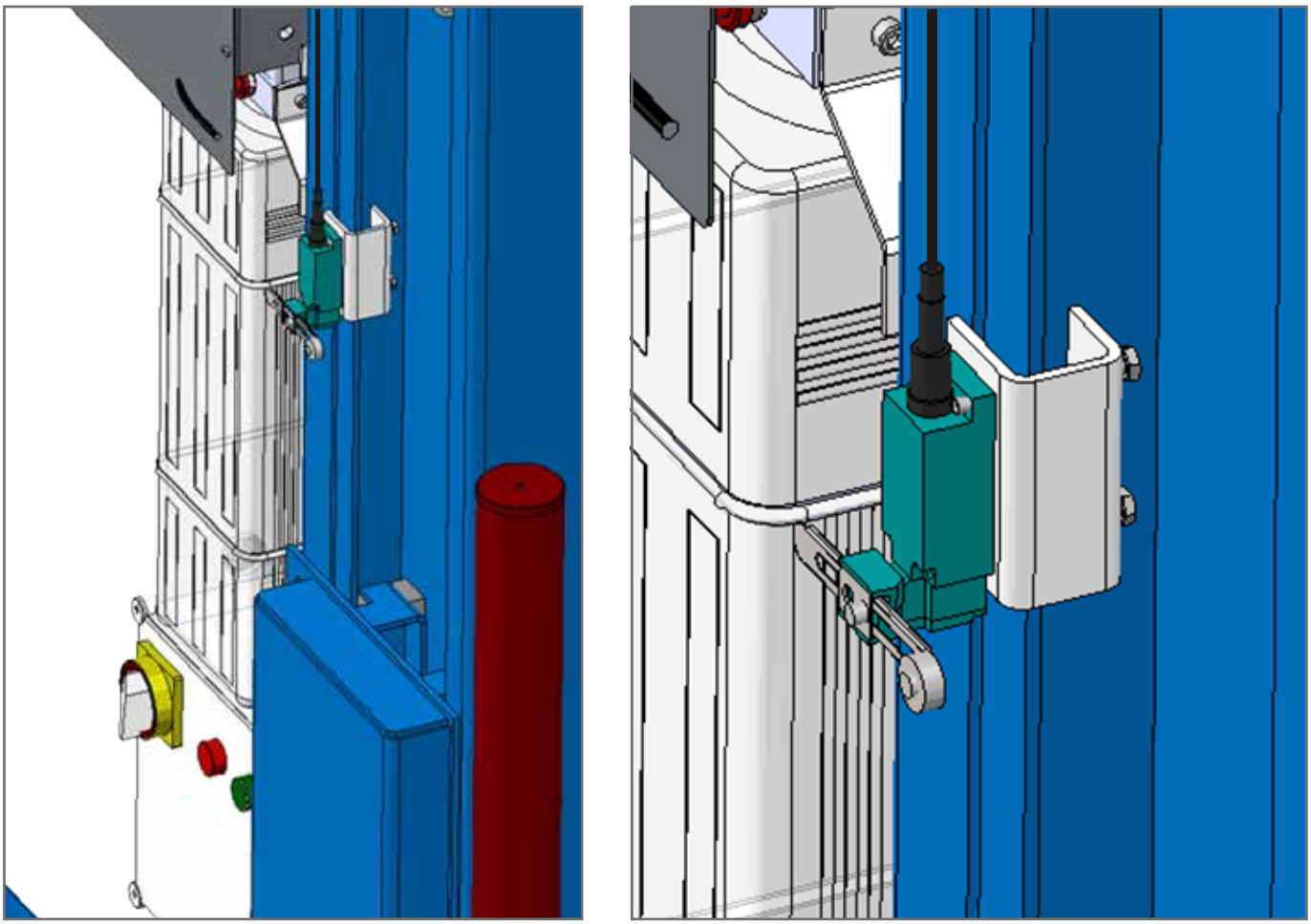
(16) Wire holes of primary post

4.5.7 Fix the limit switch onto the top cover plate of primary post.

If the lifting height is customized, the limit switch will be mounted onto slide rail of primary post with below bracket shown in picture (18). The mounting position is determined by maximum lifting height needed.

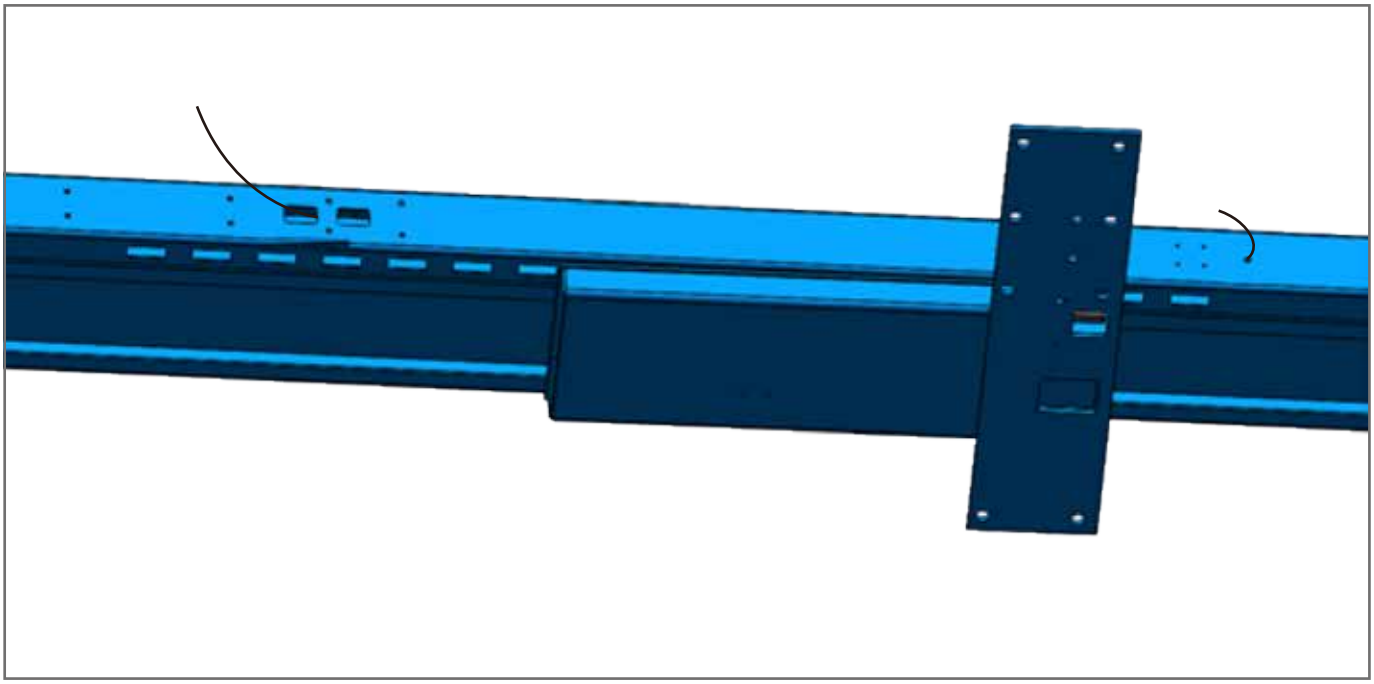


(17) Standard position of limit switch on top cover plate



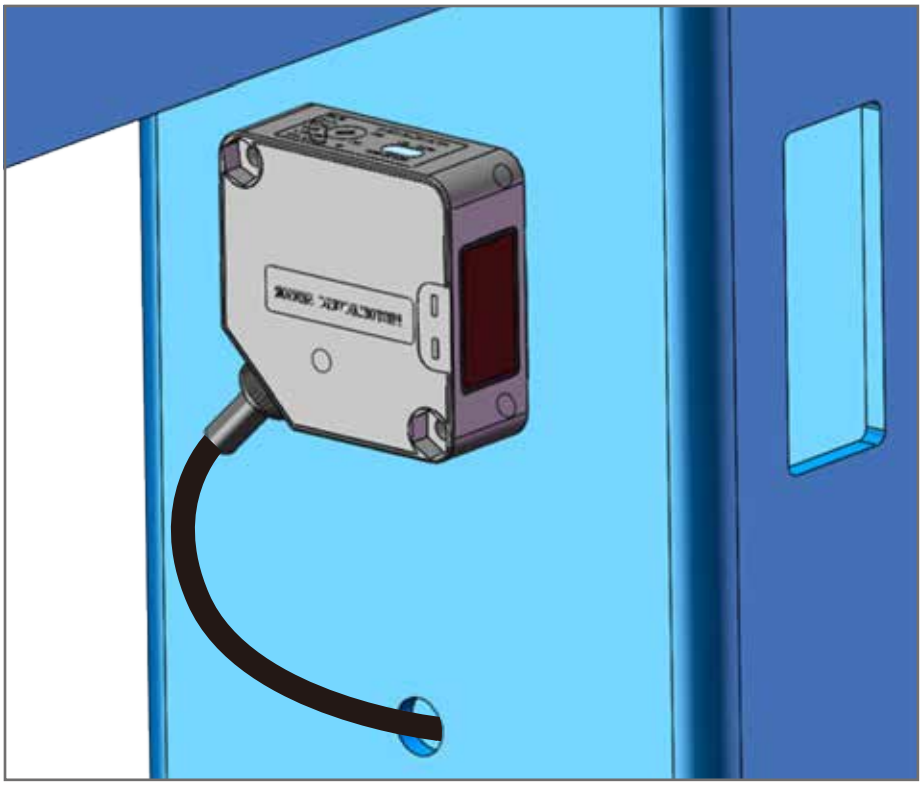
(18) Adjustable position and mounting method of limit switch

4.5.8 Make the wire of photocell sensor go through from the cable hole of photocell sensor to the cable hole above control arm.



(19) Wire holes of photocell sensor

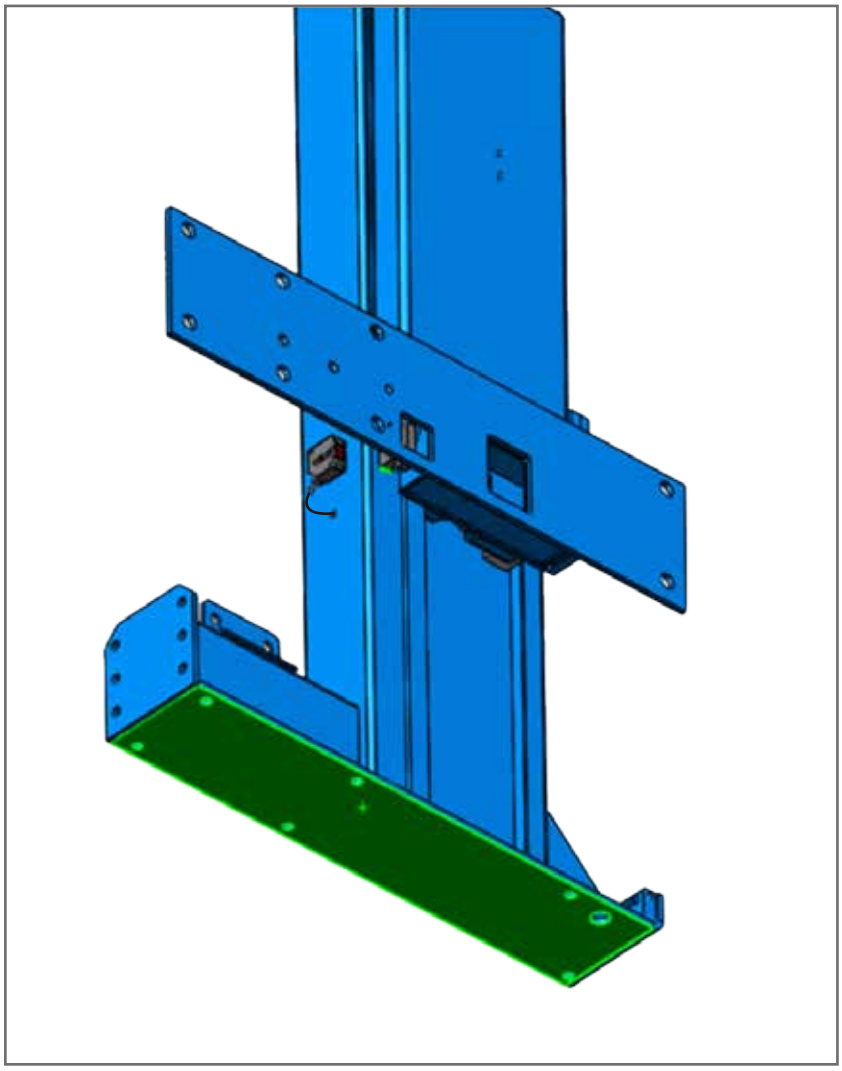
4.5.9 Fix the photocell sensor onto the primary post by bolts. Make the sensor towards the inside of this parking lift.



(20) Position of photocell sensor

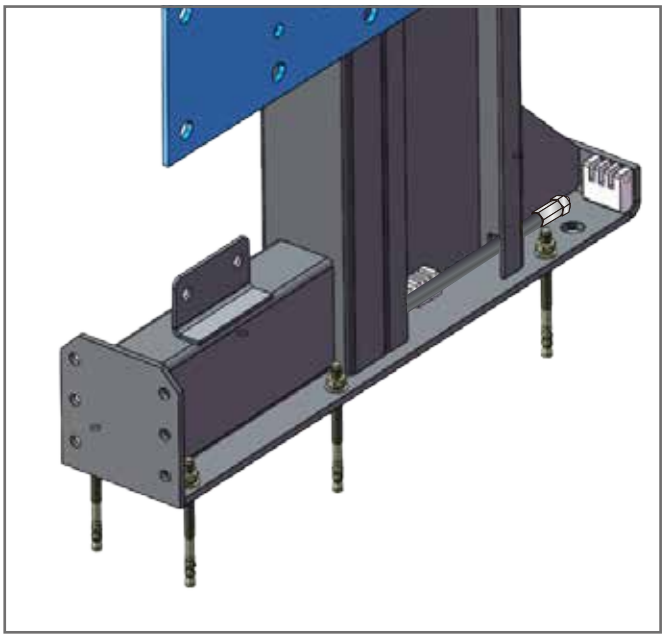
4.5.10 Draw lines on the slab to get the exact installation position according to equipment dimensions and project layout requirements.

4.5.11 Erect the primary post at specified position according to lines drawn on the slab. Slide the carriage to the height of lowest locking hole to make the carriage is locked automatically at the lowest locking position.

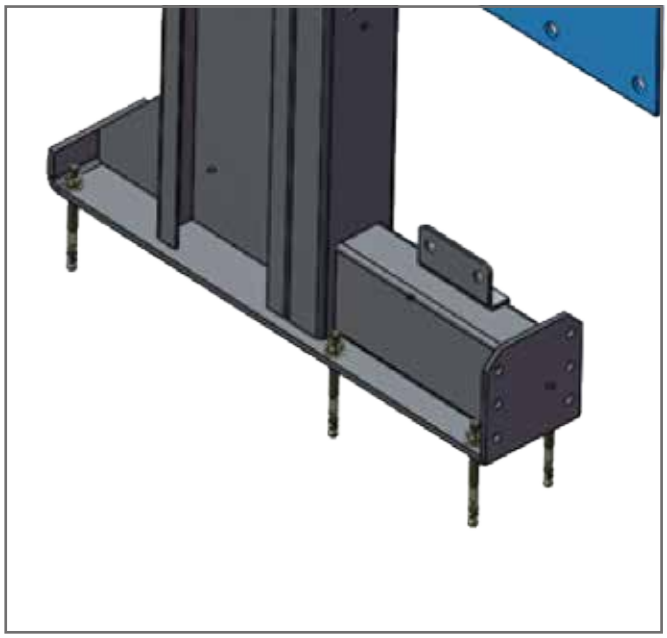


(21) Primary post and left carriage

4.5.12 Fix the primary post onto ground by anchor bolts.



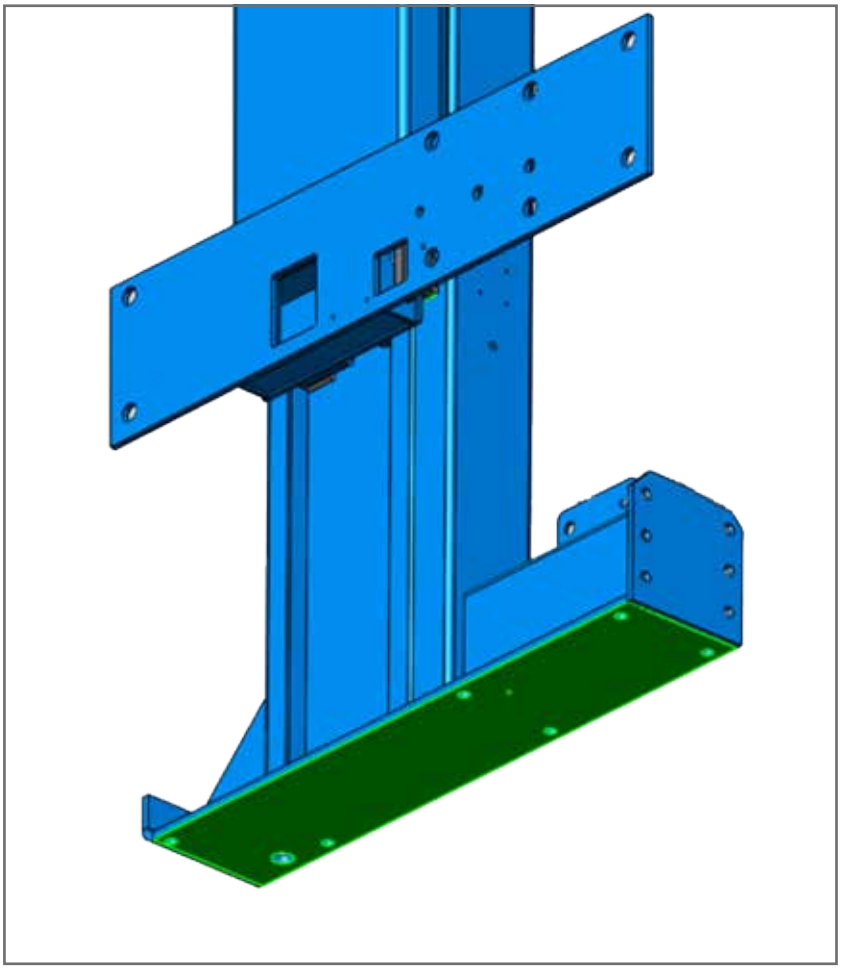
(22) Anchor bolts on base of primary post



(23) Anchor bolts on base of primary post

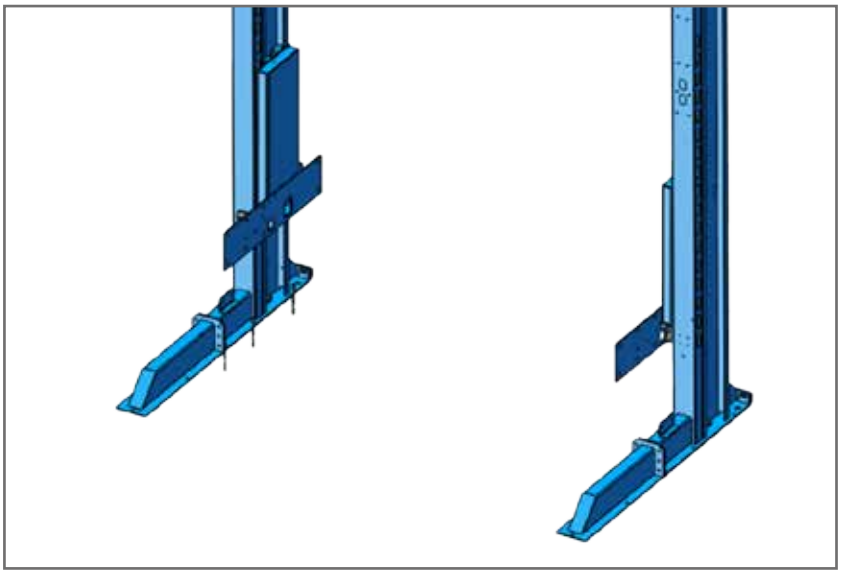
4.5.13 To fix the anchor bolts, drill holes on the ground by electric drill with drill diameter 12mm at the positions of anchor bolt holes on the base of post. Then hammer the anchor bolts vertically into ground with approx. 130mm deep. Do not fasten the nuts at the moment, it's possible to slightly adjust the post during testing.

4.5.14 Erect the subsidiary post at specified position according to lines drawn on the slab. Slide the carriage to the height of lowest locking hole to make the carriage is locked automatically at the lowest locking position.



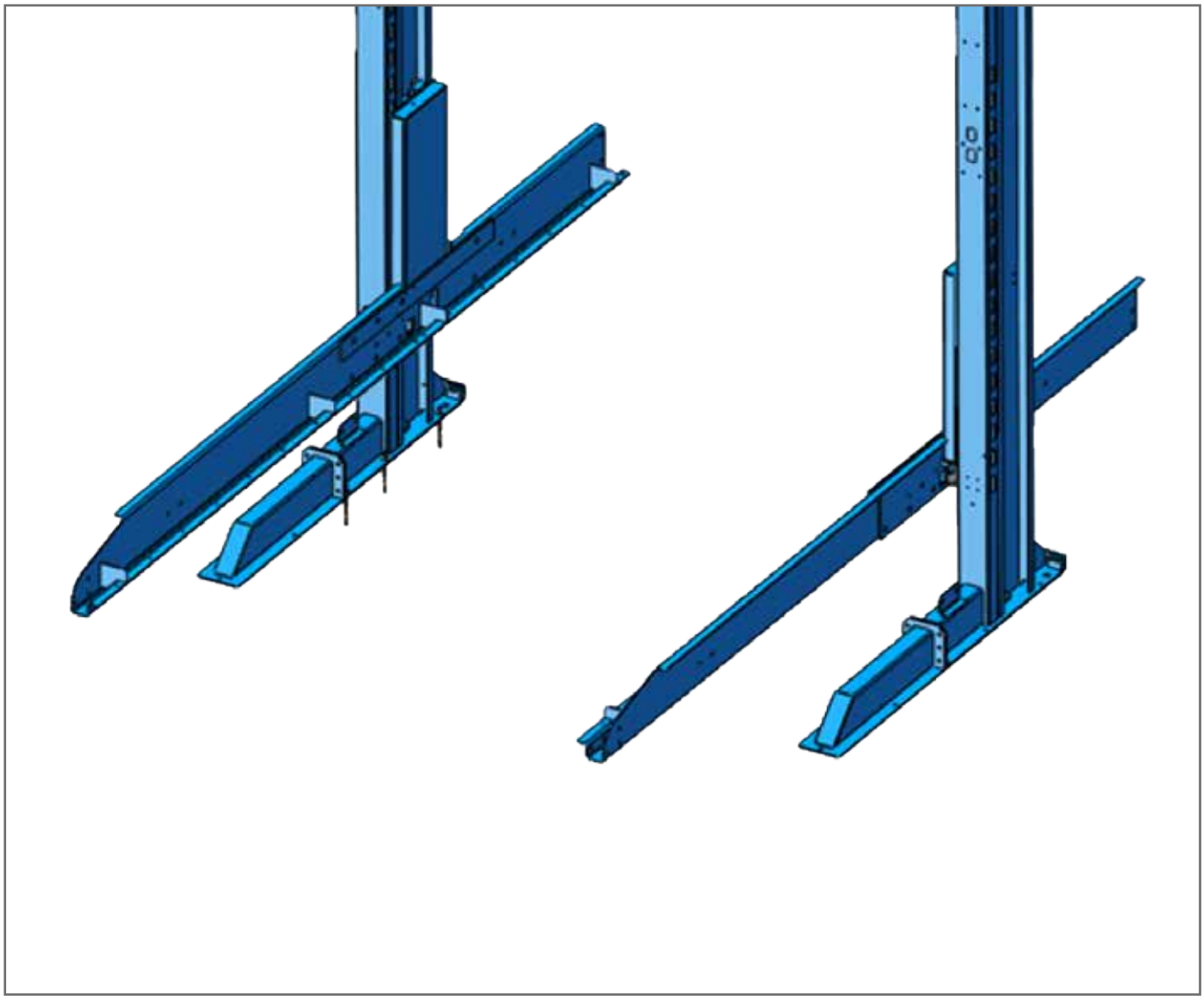
(24) Subsidiary post and right carriage

4.5.15 Fix front support onto primary post and subsidiary post by bolts.

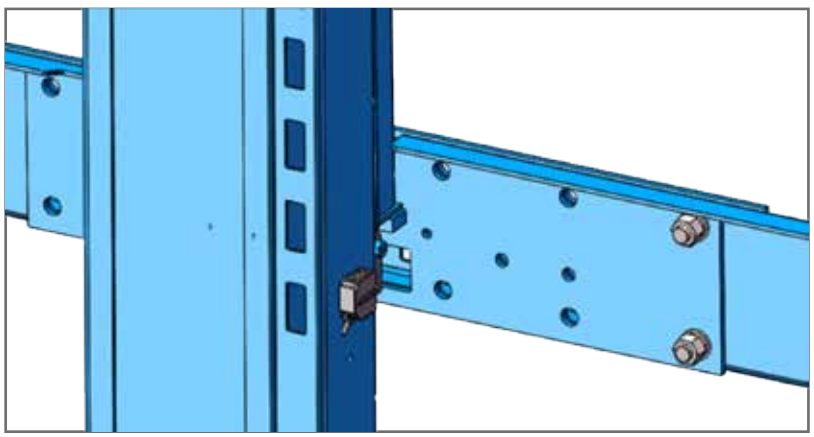


(25) Front support

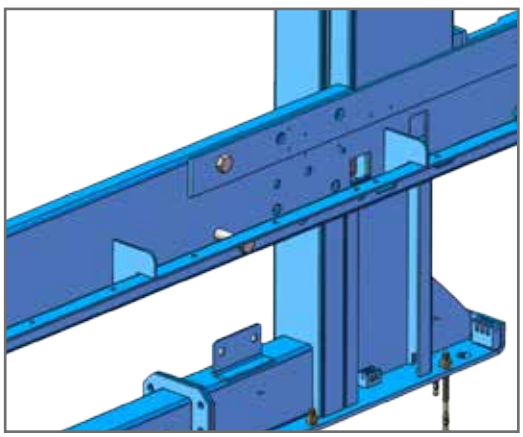
4.5.16 Fix left side beam onto left carriage, and right side beam onto right carriage by bolts. Make sure every bolt goes outwards from the platform.



(26) Left and right side beam

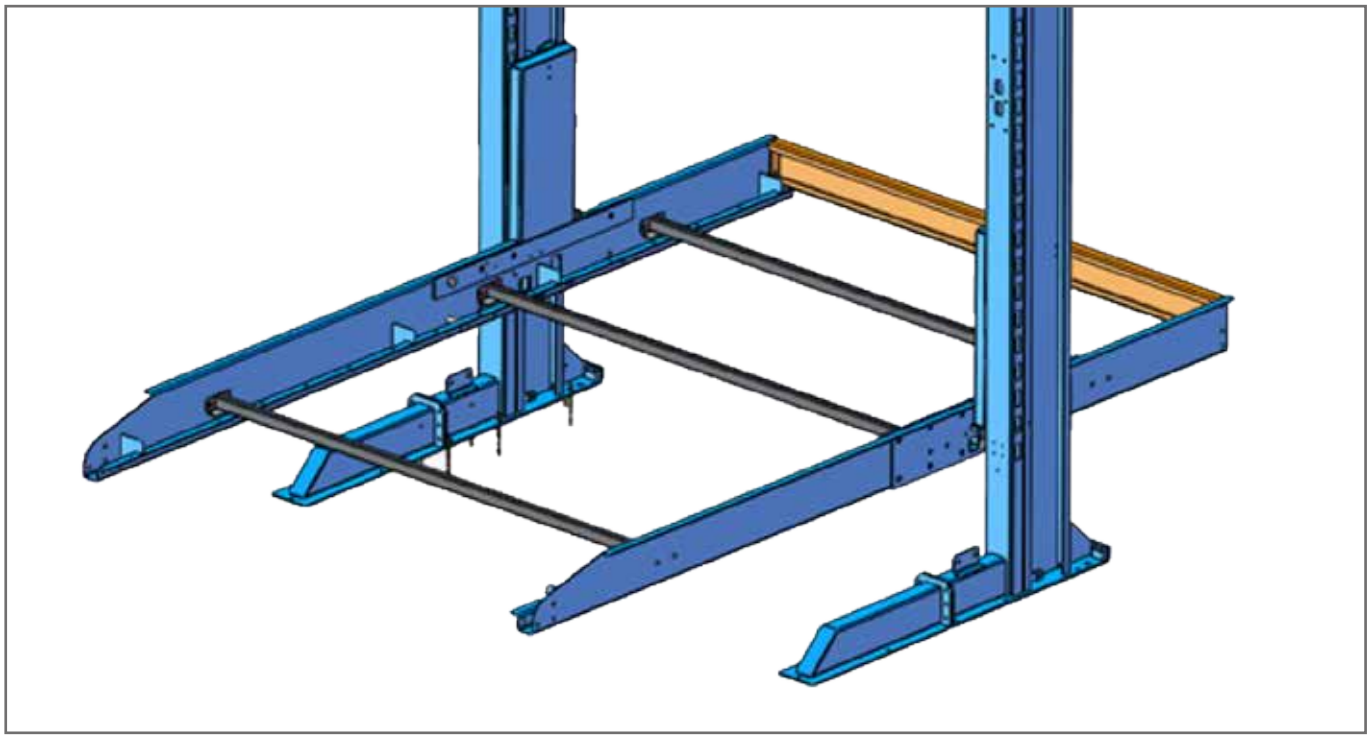


(27) Bolts direction



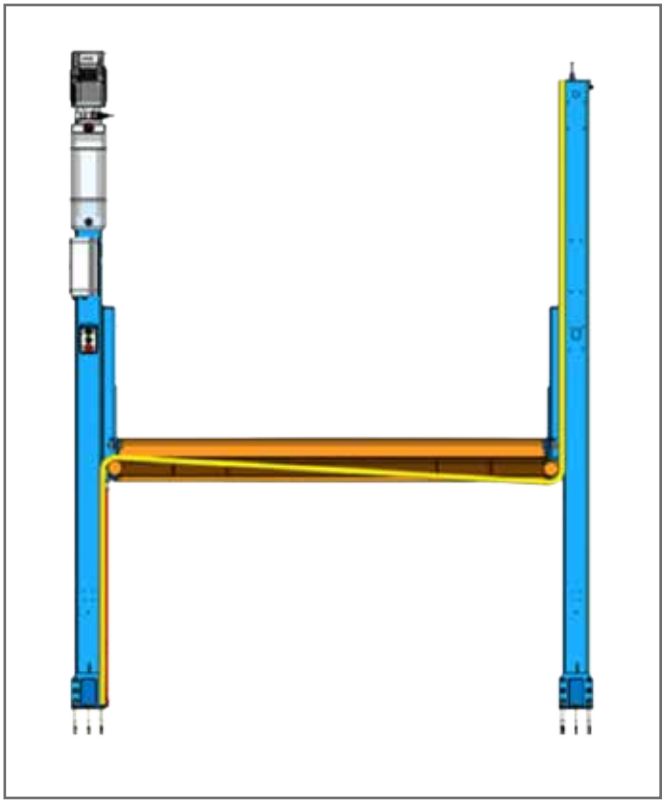
(28) Bolts direction

4.5.17 Fix the back board and three connection rods with left and right side beam at exact positions shown as below. Do not fasten the nuts at the moment, to provide enough space for waving plates assembly.



(29) Back board and connection rods

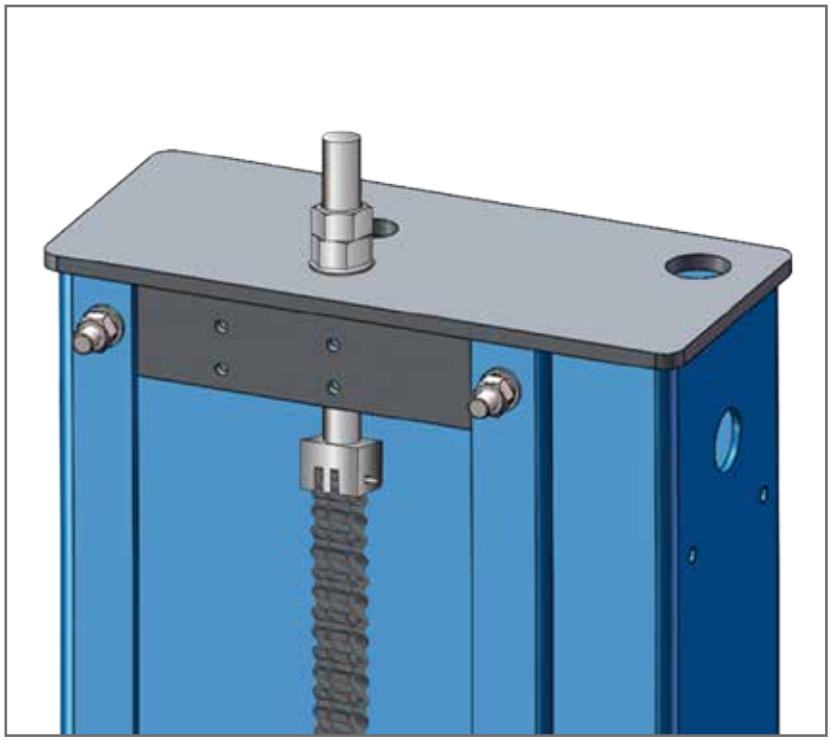
4.5.18 Make the balance chain pass through under the chain wheel in right carriage, then go up to the top of subsidiary post.



(30) Route of balance chain

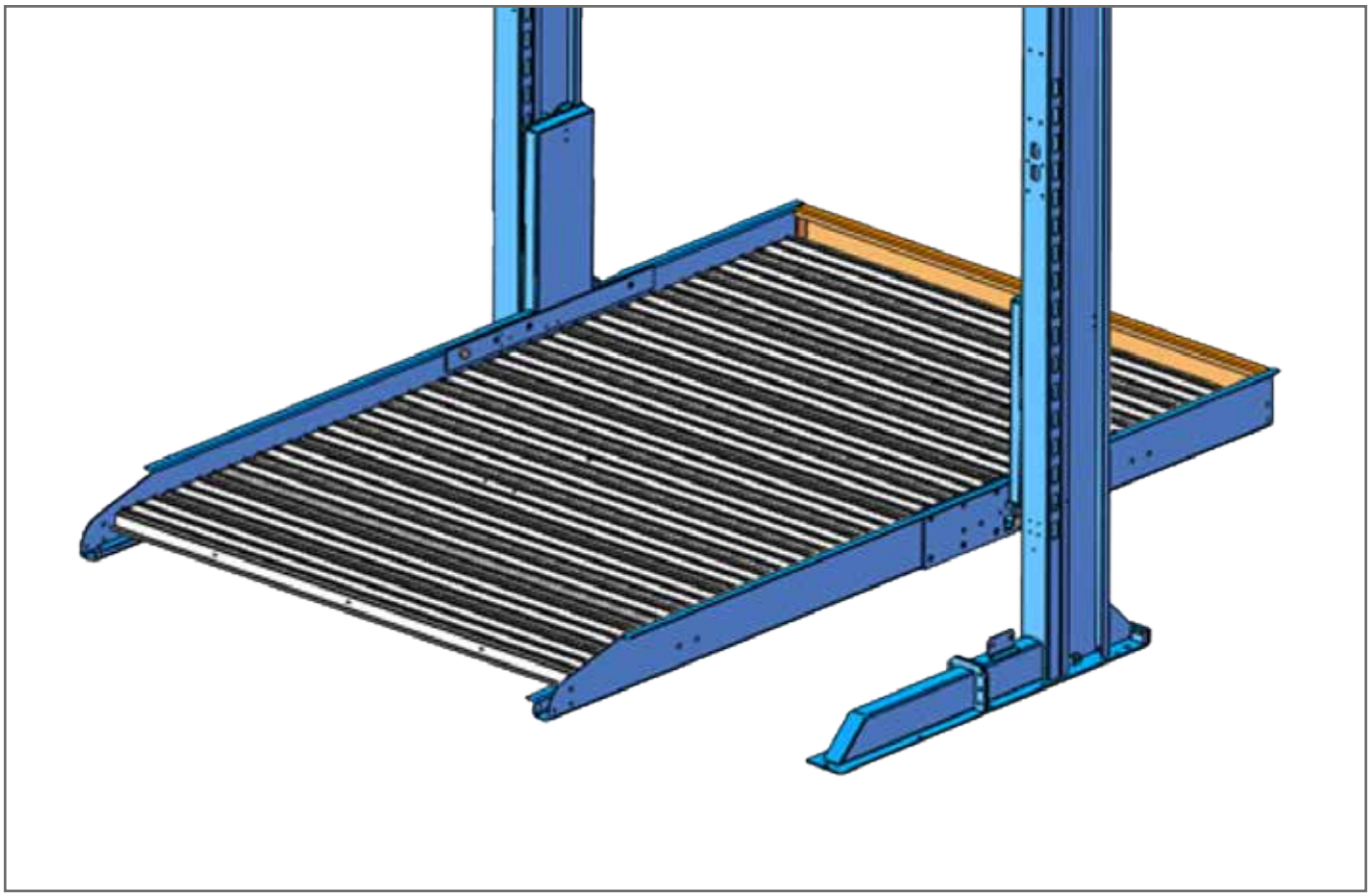
(31) Platform frame

4.5.19 Fix the adjustable screw rod onto this end of balance chain by split pin, then fix the adjustable screw rod to top cover plate of subsidiary post by two nuts, which are requisite to avoid chain loosing during long-term working.



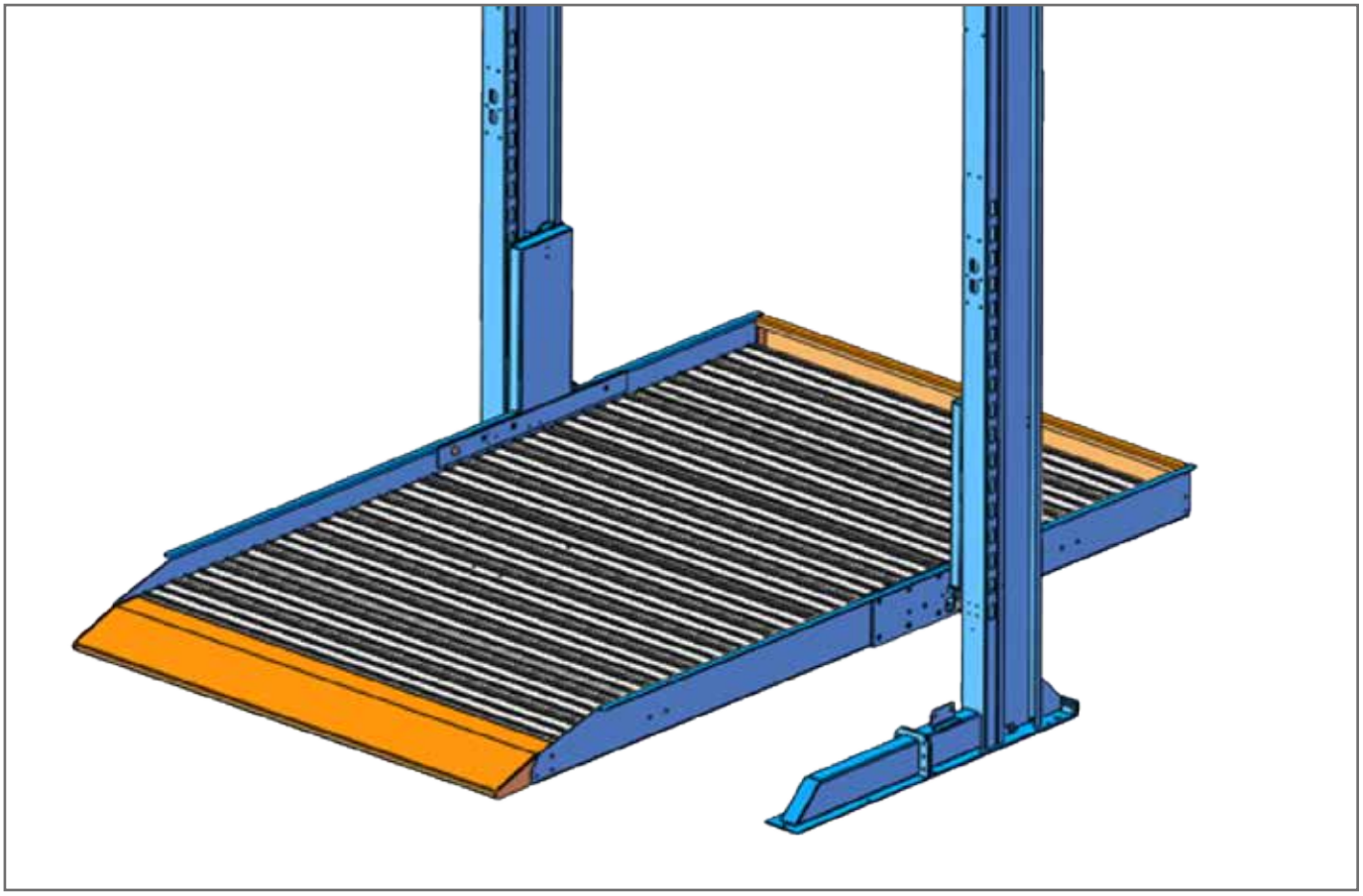
(32) Adjustable screw rod on top cover plate

4.5.20 Place all the waving plates one by one from the back to the front. There are 16 pieces of waving plates for Hydro-Park 1127, and 15 pieces for Hydro-Park 1123.



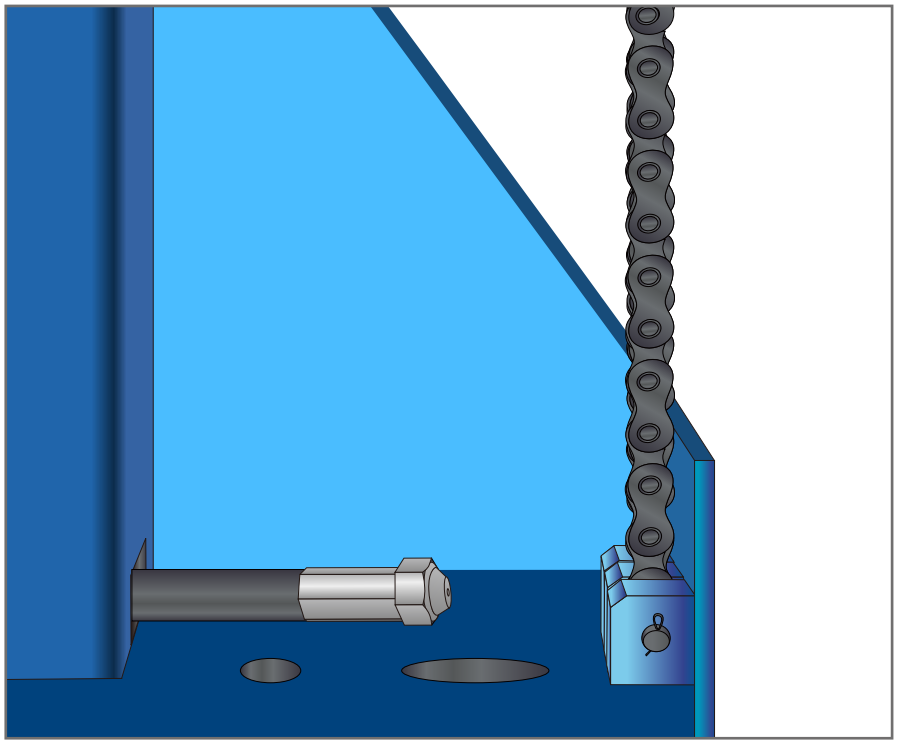
(33) Waving plates

4.5.21 In the front of platform, fix the ramp with left and right side beam.



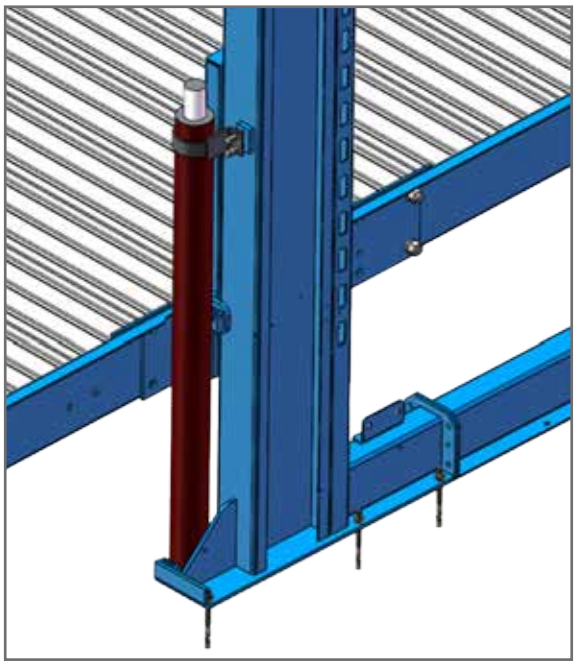
(34) Ramp

4.5.22 Fix one end of lifting chain to the chain fixture on the bottom of primary post.

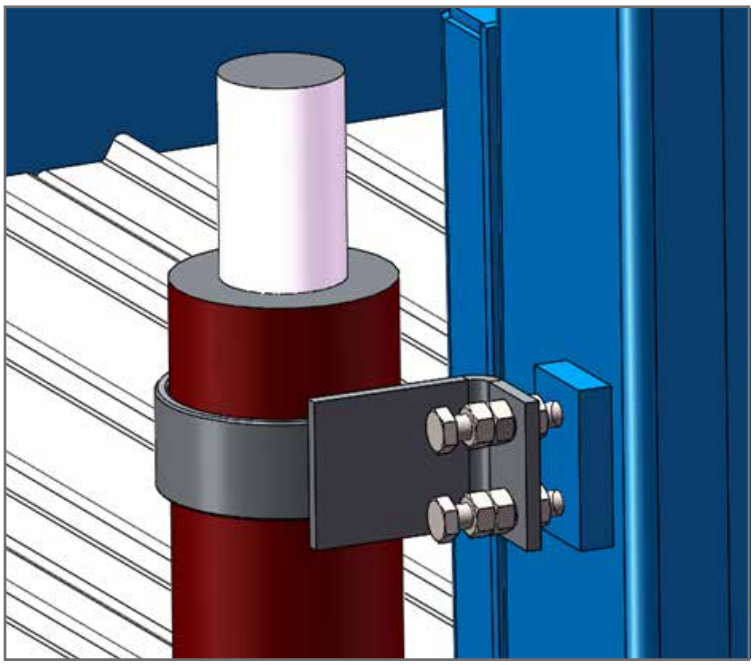


(35) Lifting chain fixture on base of primary post

4.5.23 Erect the cylinder at specified position on the bottom of primary post. Then fix the cylinder bracket with the primary post by bolt. Adjust the screw to make sure the cylinder is standing vertically.



(36) Erecting cylinder

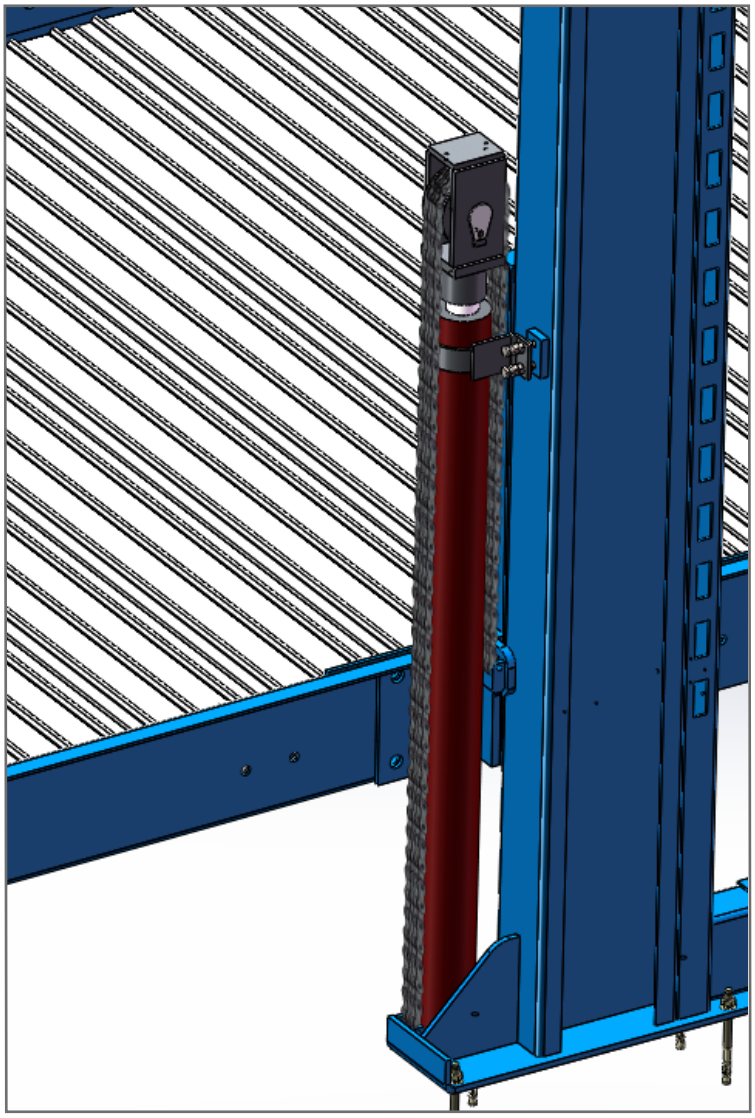


(37) Fixing cylinder bracket

4.5.24 Put the cylinder head onto the piston end of cylinder.

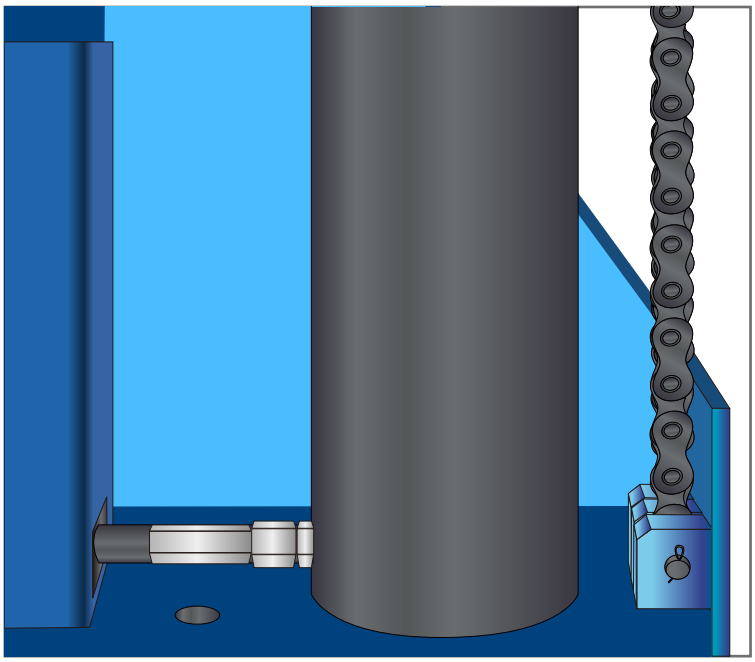
(38) Cylinder head on cylinder

4.5.25 Make the other end of the lifting chain go through the chain wheel of cylinder head, then fixed to the chain fixture on left carriage of primary post.



(39) Assembly of lifting chain

4.5.26 Connect the bottom end of oil hose with the cylinder oil port, and fasten the screw to avoid any leakage.



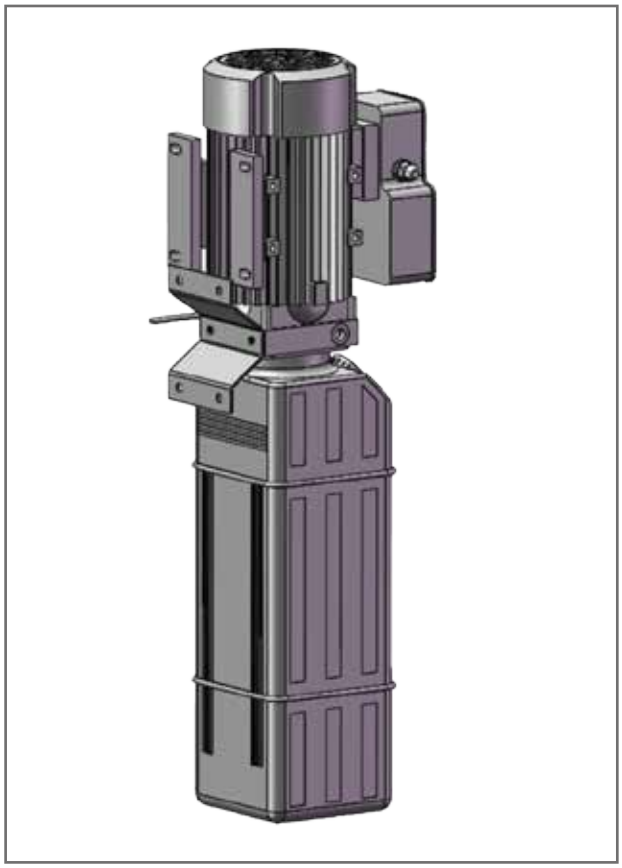
(40) Oil hose to cylinder

4.5.27 Fill the power pack with 10L hydraulic oil.

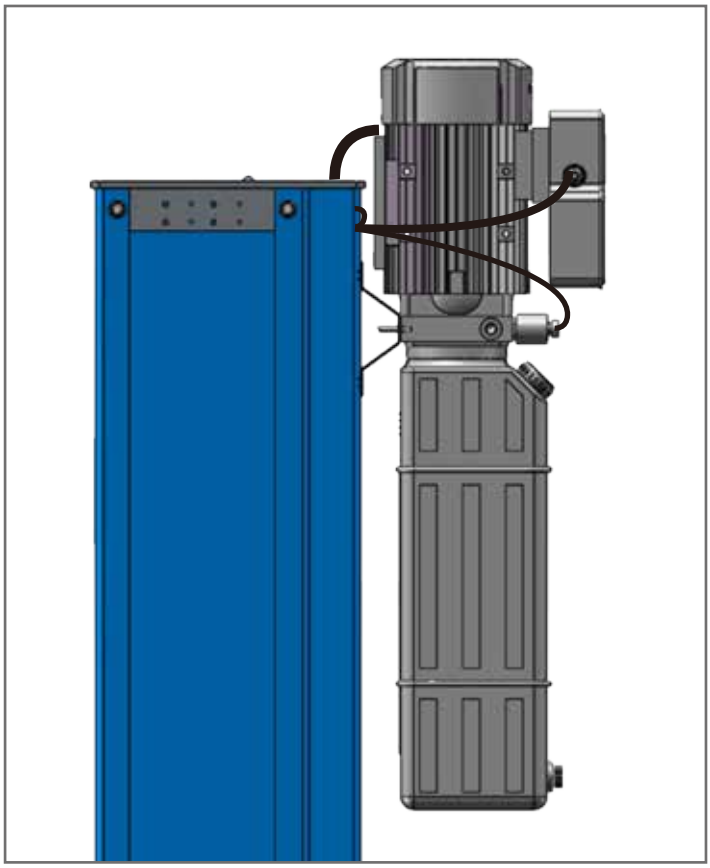
Note: In normal temperature, hydraulic oil L-HV 46# is recommend, and 32# for low temperature. Viscosity of hydraulic oil should be 15 – 46 cst. Hydraulic oil AFT Dexron III is acceptable as well. Biodegradable hydraulic oil can be used as long as it's abrasion-resistant and compatible with NBR O ring. Automotive engine oil is not acceptable.

Fix the bracket of power pack onto power pack, and the other side of bracket fixed to the top of primary post.

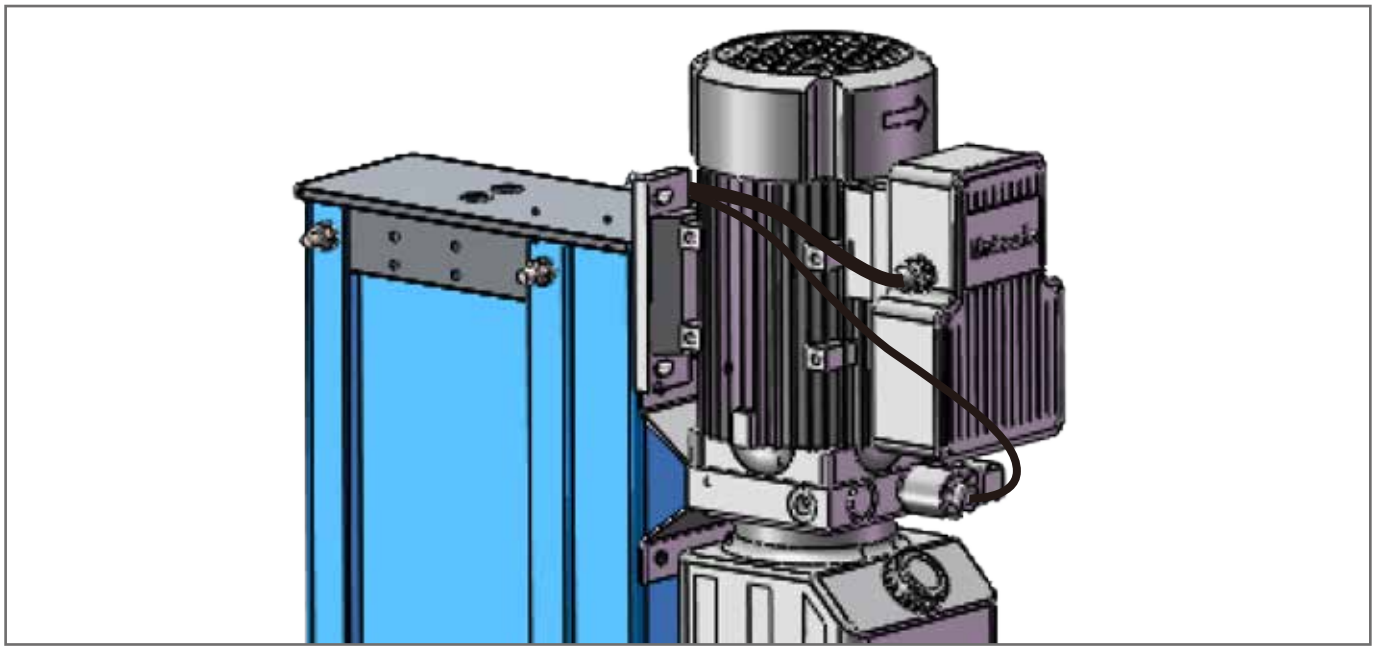
Then connect the top end of oil hose to oil outlet of power pack, motor wire into capacity box of motor, solenoid valve wire into solenoid valve, and limit switch wire to limit switch.



(41) Power pack and bracket

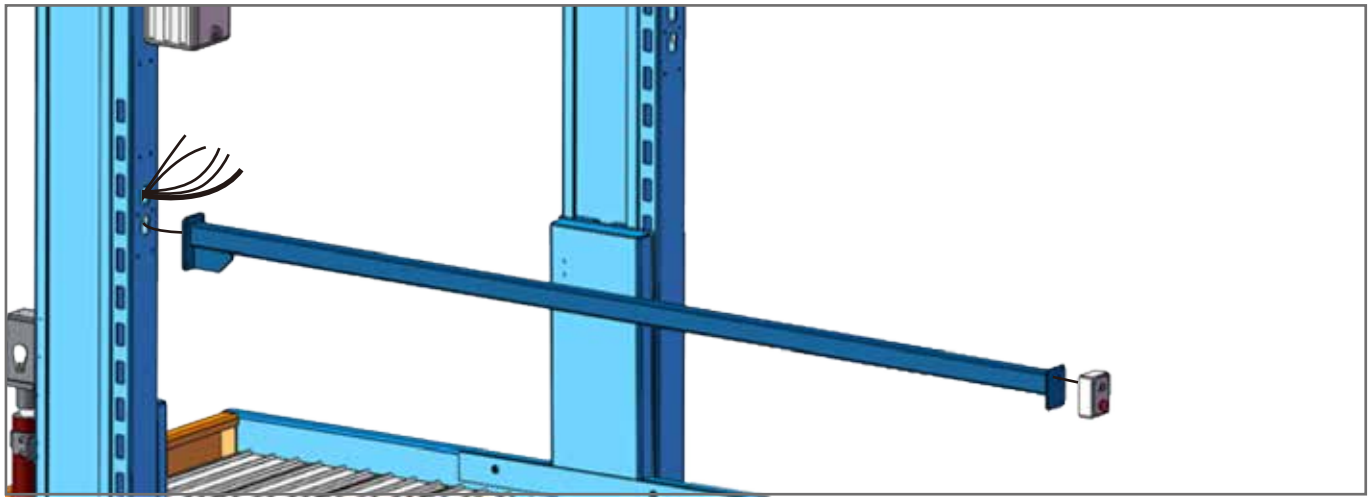


(42) Power pack on primary post



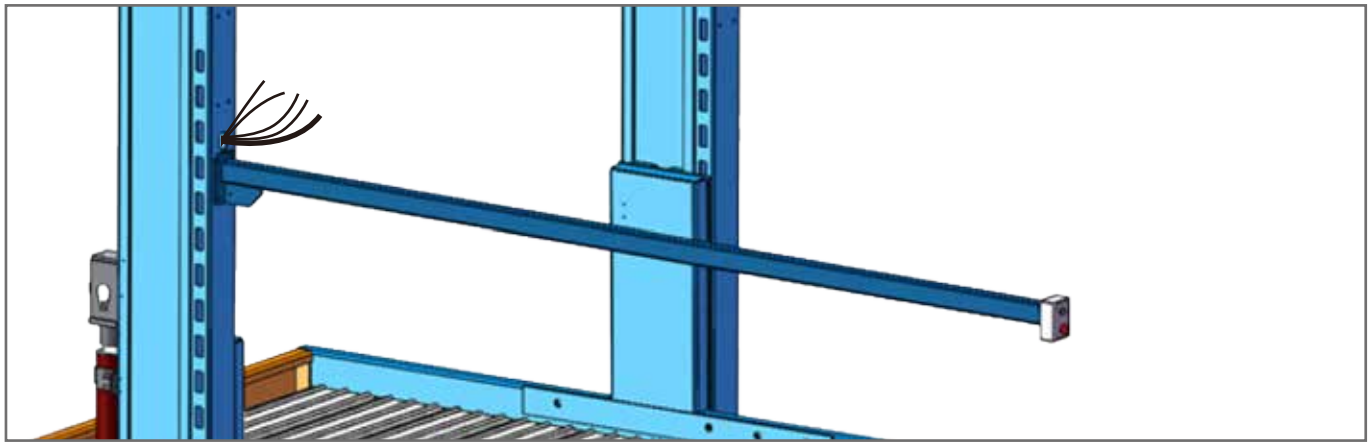
(43) Oil hose, wires of motor and solenoid valve to power pack

4.5.28 Make the wire of operation panel go through the inside of control arm from the front end to the rear end, then go into the cable hole of control arm and out from the above cable hole.



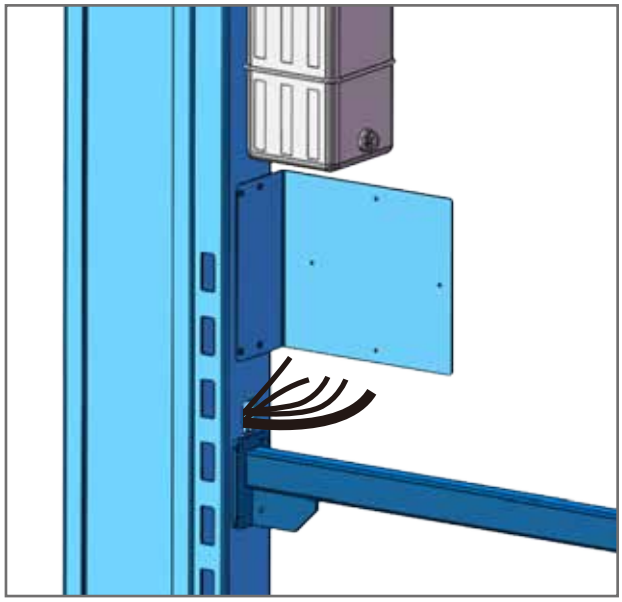
(44) Wire of operation panel passing through control arm

4.5.29 Fix the control arm onto the primary post and operation panel onto the front end of control arm by bolts.

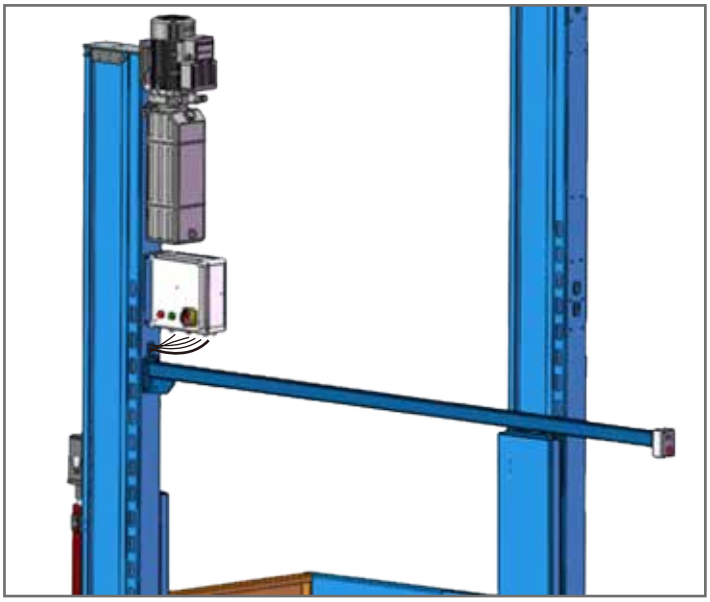


(45) Fixing operation panel and control arm

4.5.30 Fix the bracket of control box onto primary post, then control box onto its bracket.

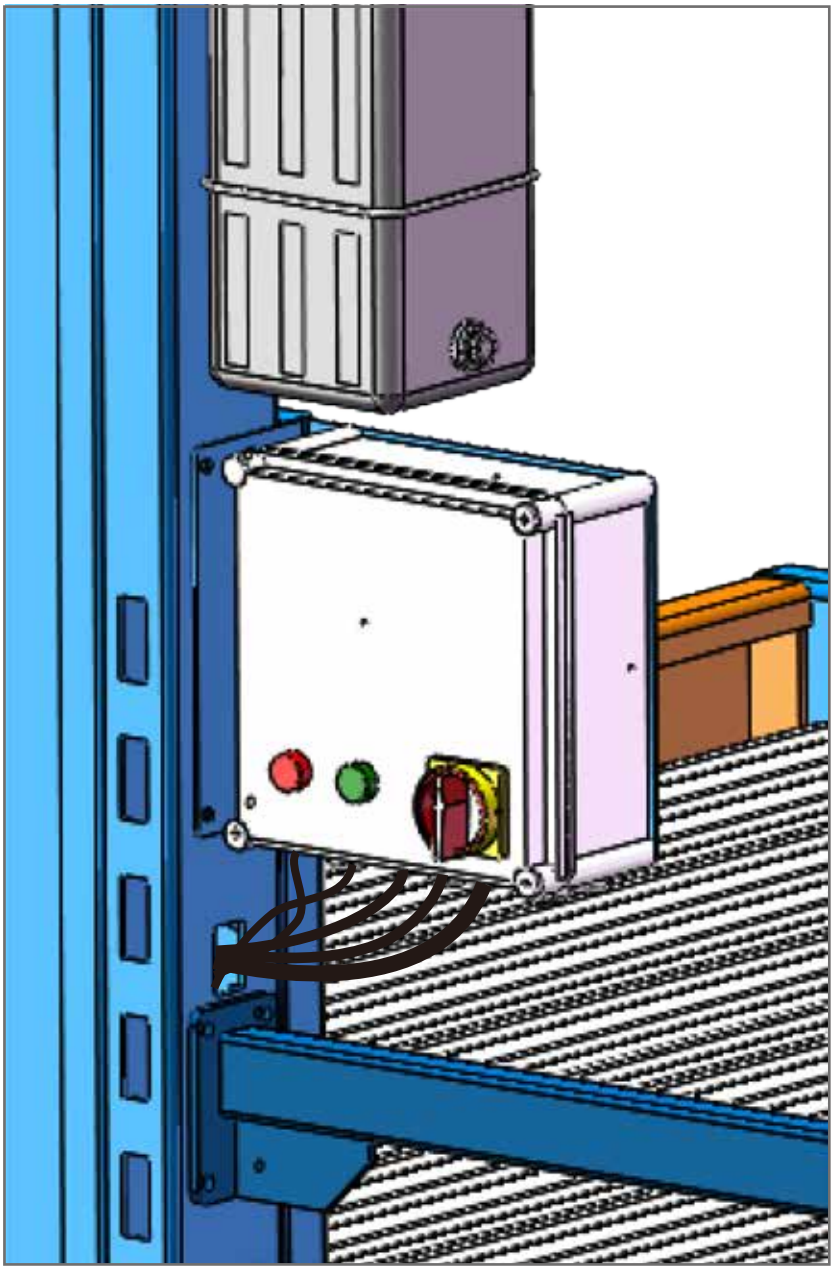


(46) Control box bracket onto primary post



(47) Fixing control box

4.5.31 By going through the cable holes in the bottom of control box, connect the wires of limit switch, motor, solenoid valve, photocell sensor and operation panel to corresponding points on electrical board in the control box. Connect each wire to correct point with the same number labeled on both wire and electrical board. Check and follow the electrical diagram and wiring diagram attached in this manual, and make sure all the wires are connected correctly and tightly.



(48) Wires into control box

4.5.32 Connect the main power supply to control box.

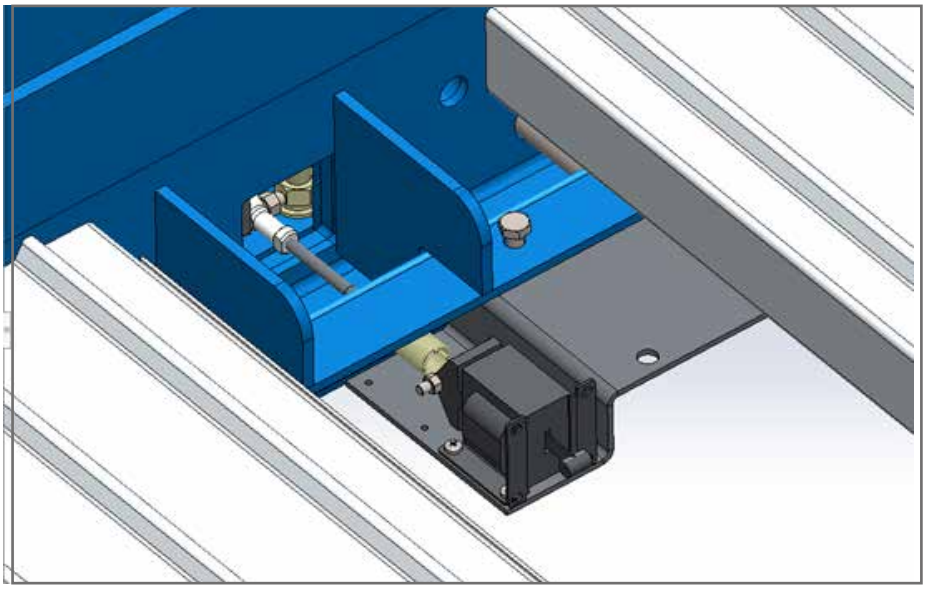
Note:

(1) Protect power pack from hitting or damage during transportation, installation and storage to avoid any product failure.
(2) Power pack should be earthing properly according to local regulation.
(3) Make sure main power supply is turned off during wiring.
(4) 10% of rated voltage is acceptable maximum voltage loss.
(5) Wires with larger wire diameter and as short as possible length is good for lowering voltage loss.
(6) Starting with voltage shortage will lead to abnormal operation or motor failure.
(7) If it's 3 phase power supply, check whether motor is rotating in correct direction first once connecting power pack with main power supply.
(8) Every O rings of all seals are to be lubricated by hydraulic oil and all seals are to be installed before fixing power pack.
(9) Do not bend oil hoses and wires too much. (the bending radius should be more than 9 times as outer diameter of oil hose or wires)
(10) Keep oil hoses and wires away from sharp items.

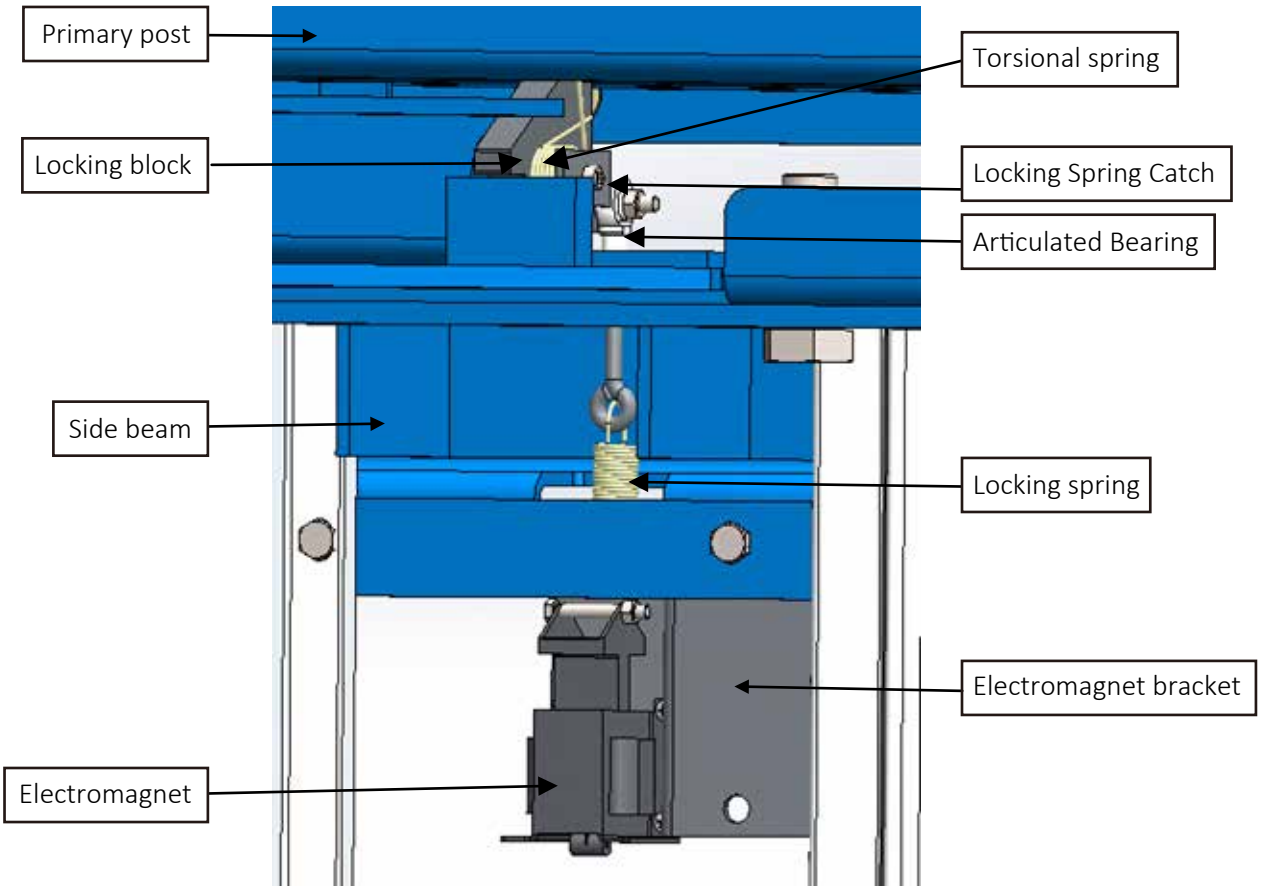
4.5.33 Keep turning the key switch on the operation panel to make the platform go up to the height about 1.8 meters.

4.5.34 Fix the electromagnet onto its bracket, and connect the front part of electromagnet, locking spring and articulated bearing, then fix the articulated bearing with locking block on carriage by torsional spring, locking spring latch, screw bolt and nut as shown below. After that, fix the electromagnet bracket onto side beam.

Repeat the above-mentioned actions at the other side of carriage and side beam.



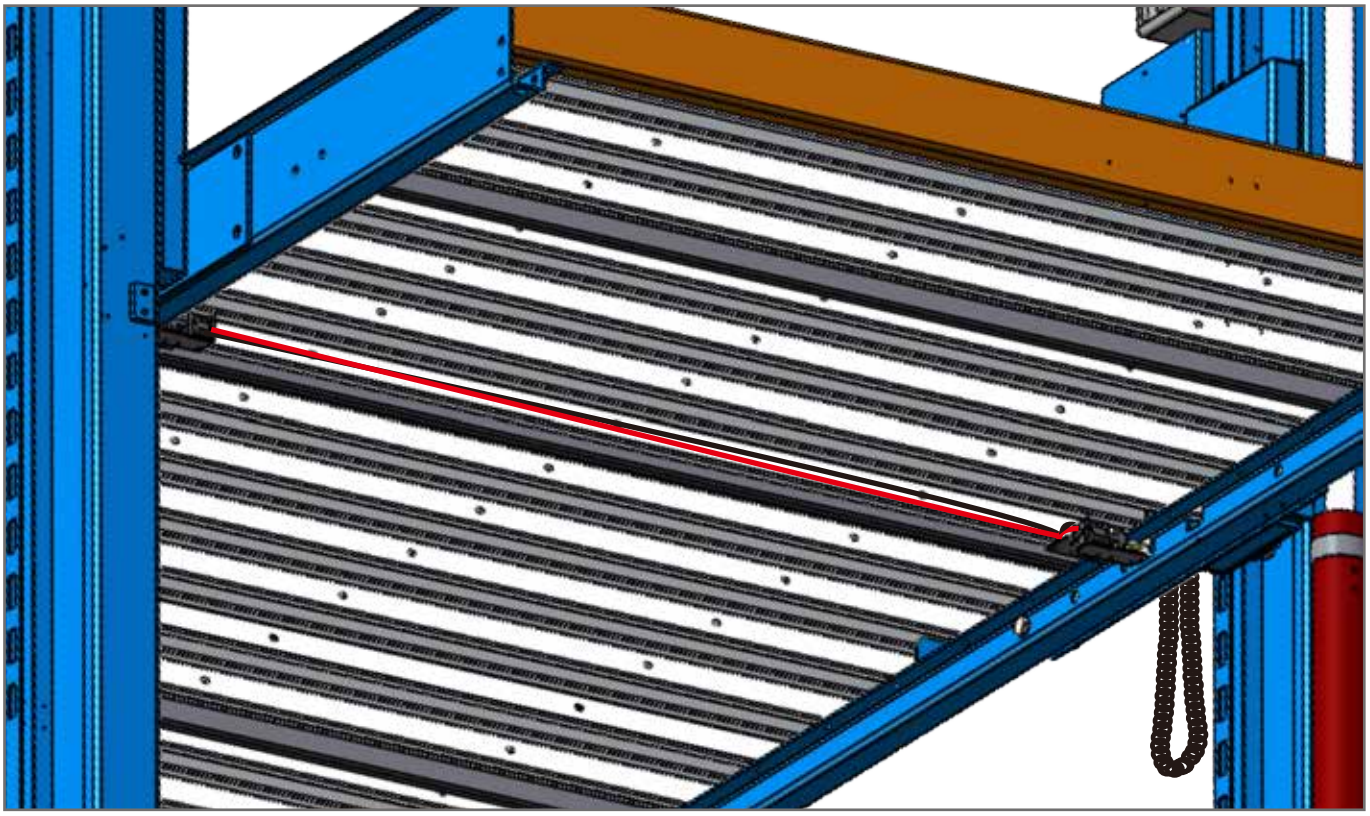
(49) Connection from electromagnet to locking block



(50) Connection from electromagnet to locking block

4.5.35 Fix all the waving plates by bolts.

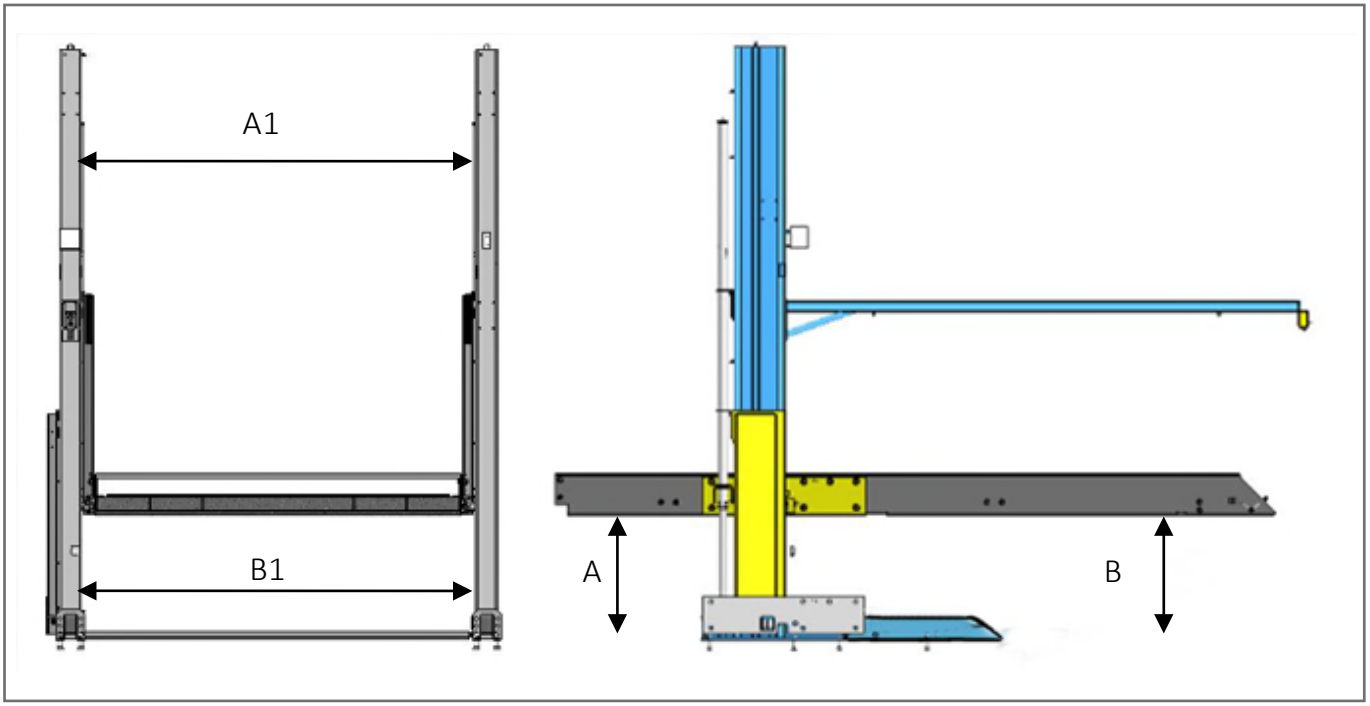
4.5.36 Make the wires of two electromagnets connected together, then lead in to control box by spring wire.



(51) Connection of electromagnet wires

4.5.37 By Adjusting the nut on adjustable screw rod to make the balance chain tighter or looser, make sure the platform is always level.

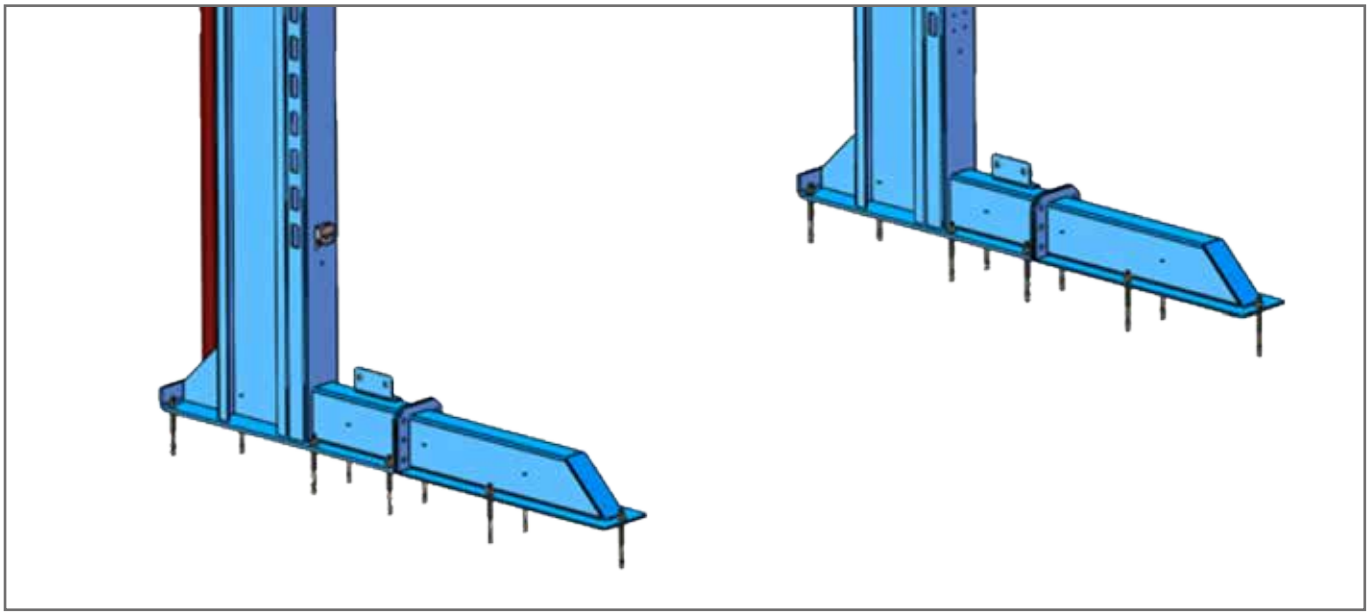
4.5.38 Adjust the posts by adding shims under post to make sure the distance A = B and A1 = B1, so the posts are completely vertical to the ground.



(52) Perpendicularity of parking lift

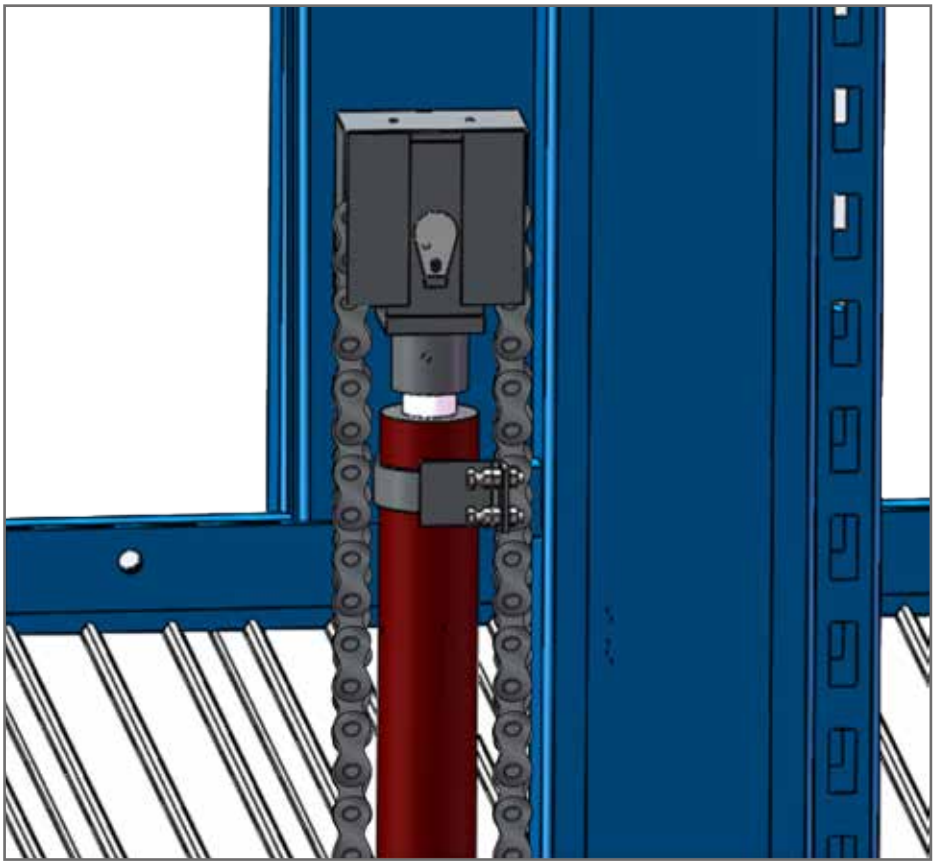
4.5.39 Fasten all the bolts except anchor bolts if no problem is found after 5 times of up and down movements. Check rotation of chain wheels, tension of chains and smoothness of platform moving.

4.5.40 Fasten all the anchor bolts if no problem is found after another 5 times of up and down movements.



(53) All anchor bolts

4.5.41 Fix the cylinder head cover onto cylinder head.



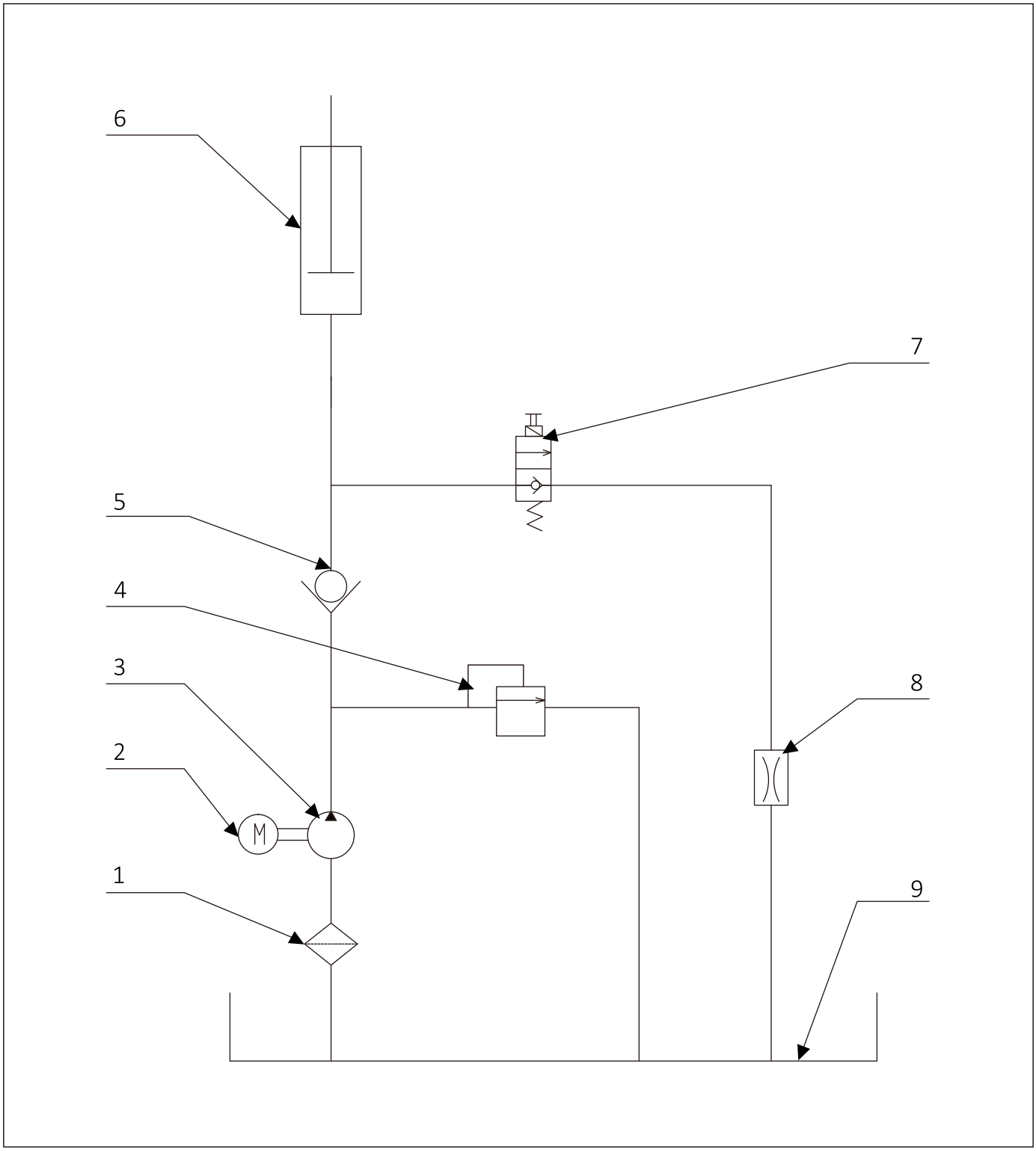
(54) Cylinder head cover

4.5.42 Lubricate every sliding part with the lubricant after installation.

ATTENTION: during all operation, please check carefully on all moving parts to make sure they are assembled correctly and work well. Fix any problem before installation finishes.

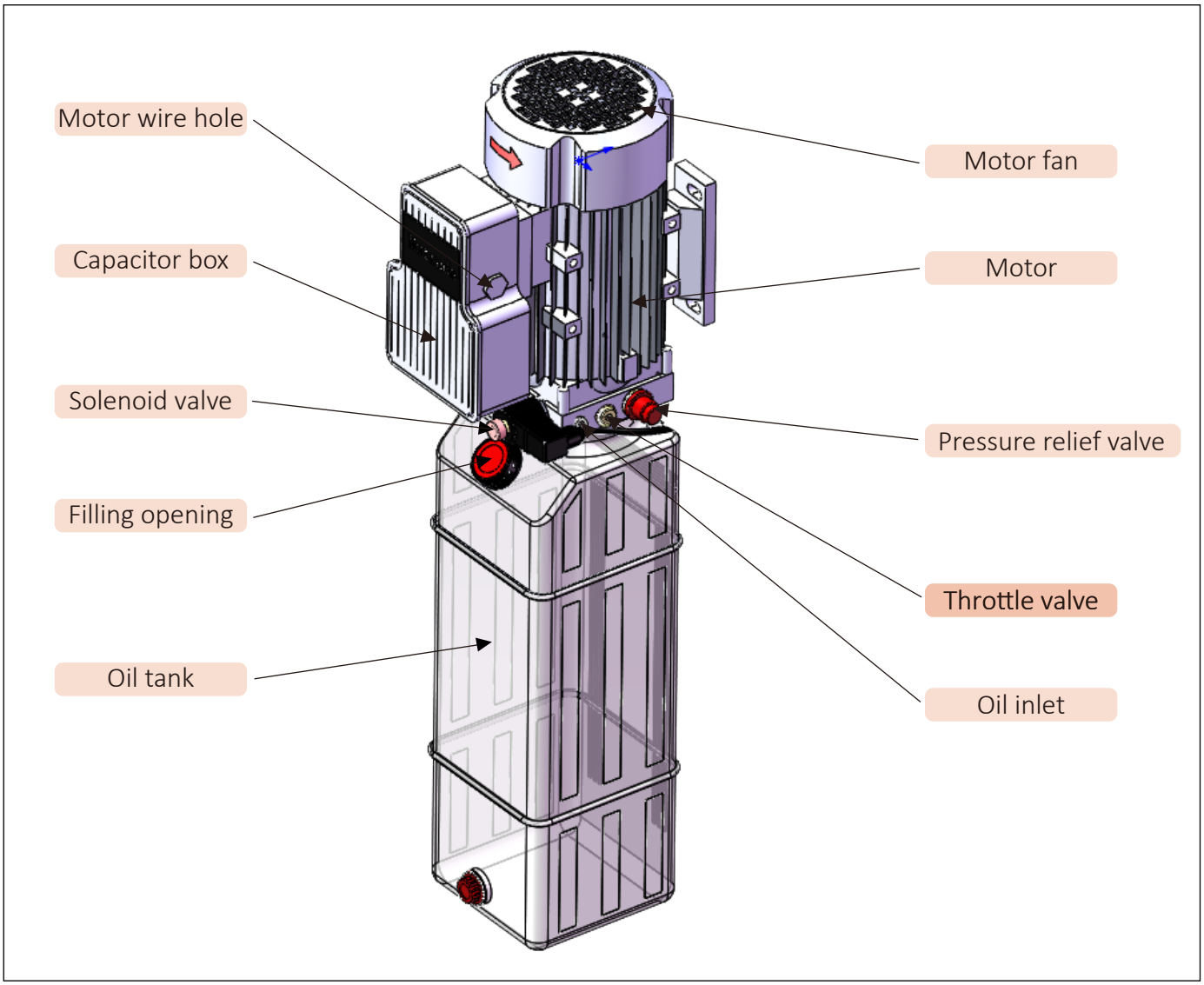
5 Hydraulic & Electrical

5.1 Hydraulic diagram



1	Filler	6	Cylinder
2	Motor	7	Solenoid valve
3	Gear pump	8	Throttle valve
4	Relief valve	9	Oil tank
5	One-way valve		

5.2 Hydraulic valves on power pack



Caution: Serious malfunction even human injury may occur if not properly follow adjustment method requested by manufacturer. Contact Mutrade or local Mutrade partner for permission and technical support before adjustment.

5.2.1 Setting pressure adjustment of pressure relief valve

- **5.2.1.1** Unscrew cap from pressure relief valve, and rotate inner adjusting screw to reset pressure.
- **5.2.1.2** Pressure gauge is essential to set pressure of pressure relief valve.
- **5.2.1.3** Setting pressure will raise approx. 1.2MPa by rotating clockwise adjusting screw with 45 degree, and vice versa. Screw down cap after adjustment finishes.
- **5.2.1.4** Repeat depressurizing and pressurizing to make sure new setting pressure reaches manufacturer's requirement.

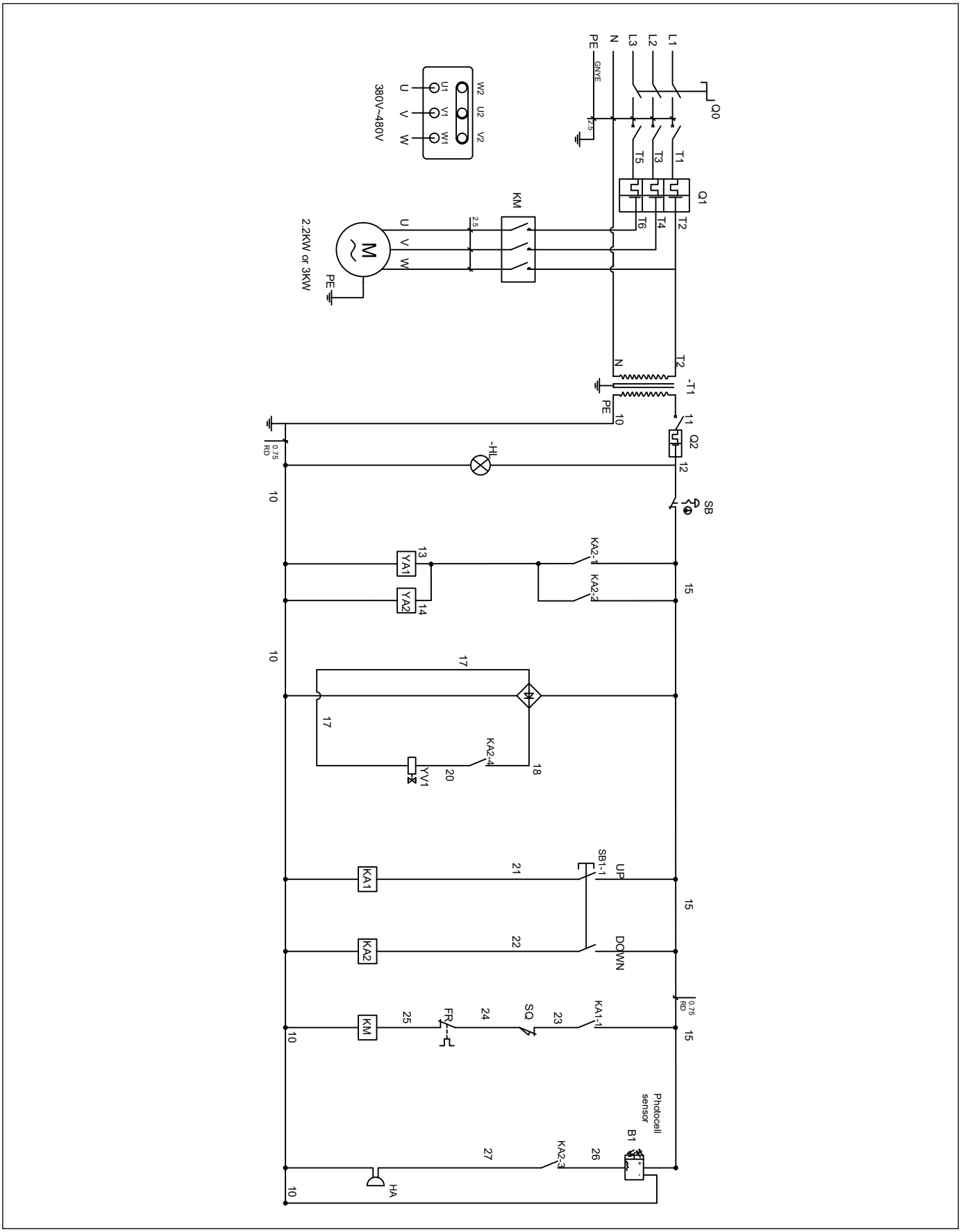
5.2.2 Descending speed adjustment

- **5.2.2.1** Unscrew nut on throttle valve.
- **5.2.2.2** 15 degree can be rotated each time. Speed of cylinder retracting will be lowered down by rotating clockwise adjusting screw, and vice versa.
- **5.2.2.3** Screw down nut after adjustment finishes.

5.2.3 Emergency depressurizing device of solenoid valve

- **5.2.3.1** Screw off cap nut from emergency depressurizing device of solenoid value.
- **5.2.3.2** Counterclockwise turn the emergency depressurizing screw slowly to make the platform go down.
- **5.2.3.3** Emergency depressurizing screw and cap nut is to be screwed down once platform descends on ground.

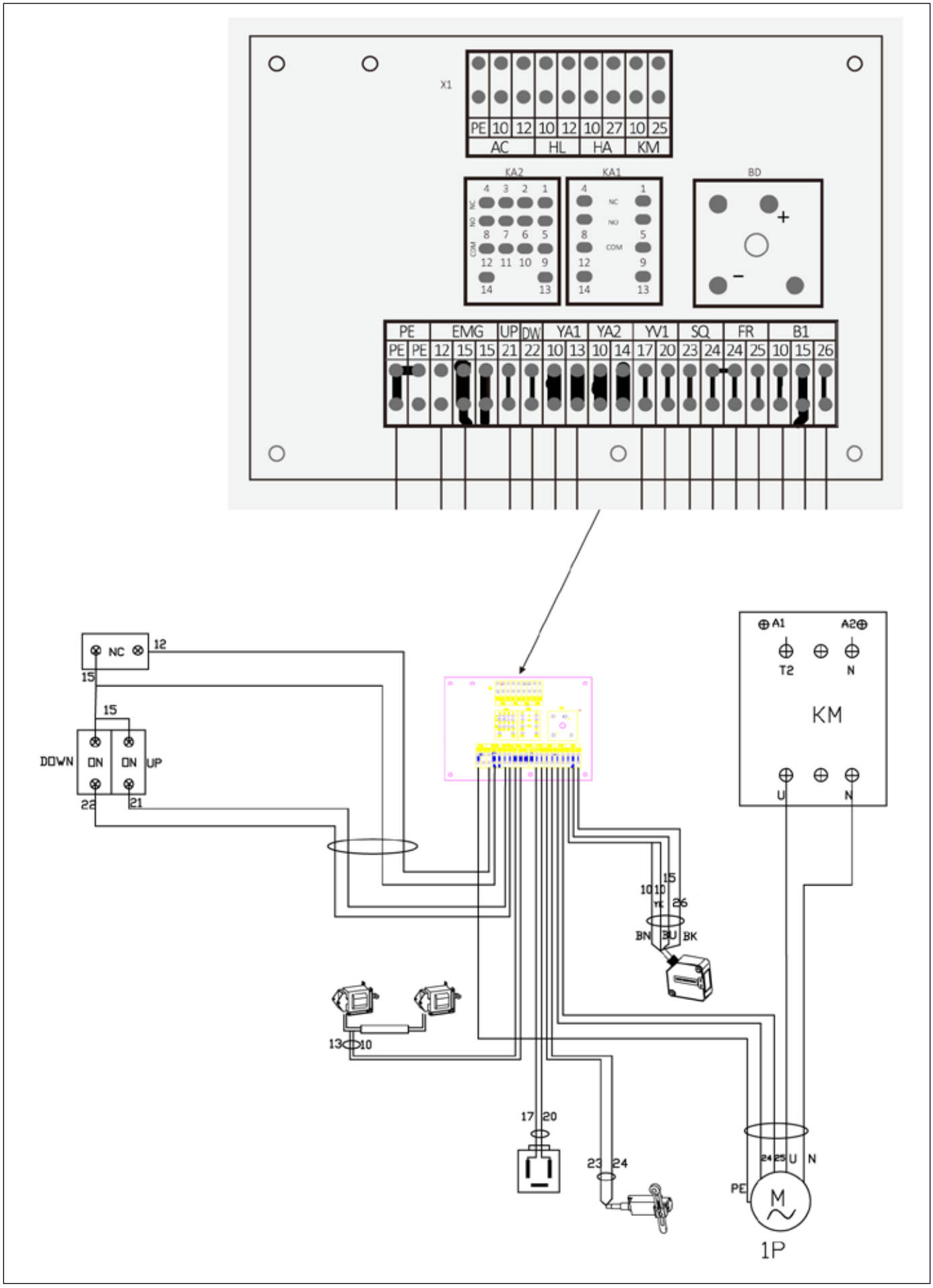
5.3 Electrical diagram



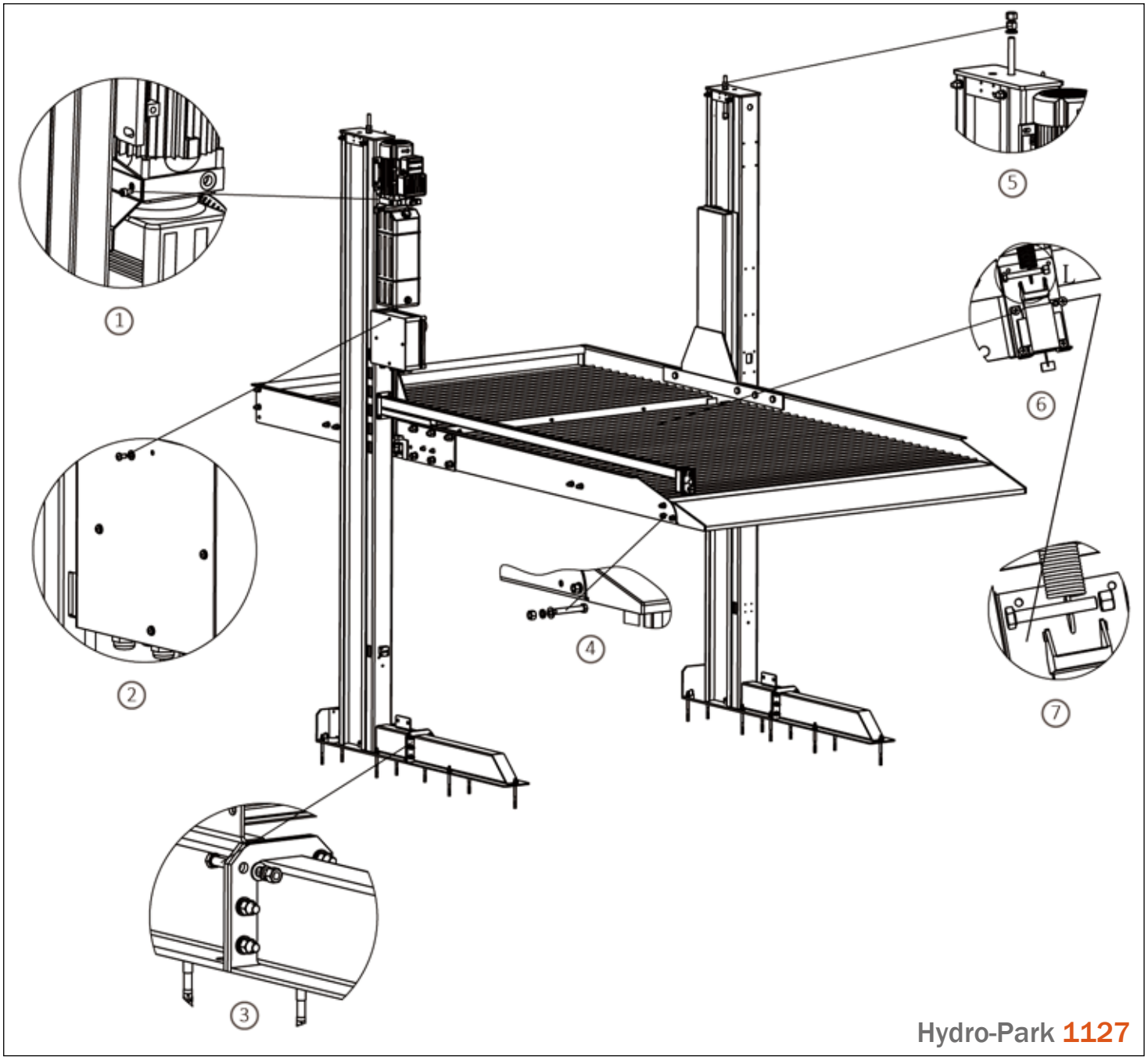
Note:

The above diagram is for single phase powere supply only. Please contact Mutrade or local Mutrade partner for 3-phase power supply.

5.4 Wiring diagram

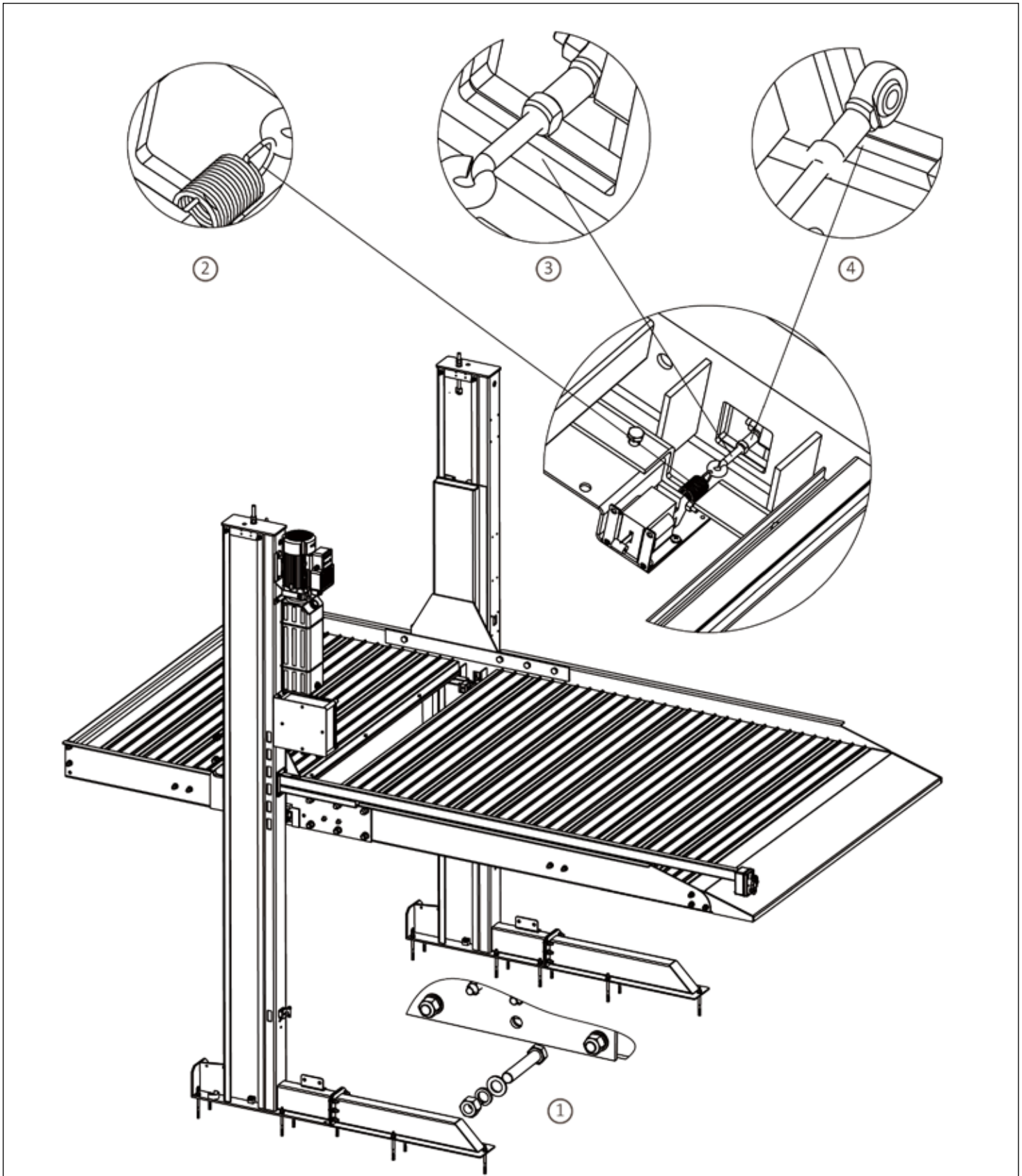


6 Standard Parts



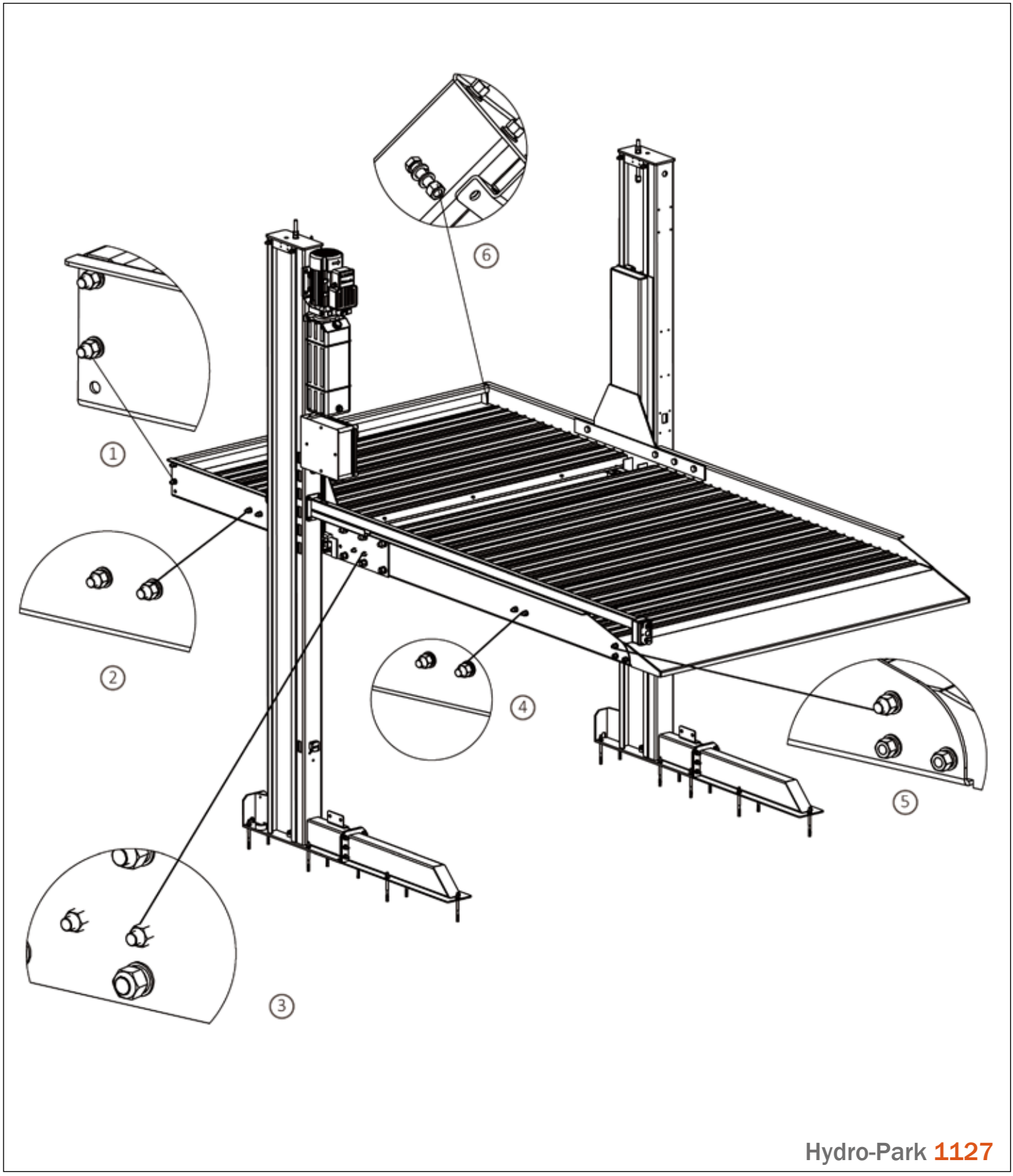
Hydro-Park 1127

NO.	Item Name	Spec.	Quantity
1	Hexagon Socket Screw	M10*15	2 Pieces
2	Cross Recessed Pan Head Screw	M5*10	4 Pieces
	Flat washer	M5	4 Pieces
3	Hexagon Bolt	M12*45	12 Sets
4	Hexagon Bolt	M14*100	4 Sets
5	Screw nut	M16*1.5	4 Pieces
	Flat Washer	M16	2 Pieces
6	Cross Recessed Pan Head Screw	M4*10	8 Pieces
7	Hexagon Bolt	M5*35	2 Pieces
	Screw nut	M5*1.5	2 Pieces
8	Cross Recessed Pan Head Screw	M4*20	4 Pieces
	Screw nut	M4	4 Pieces
9	Hexagon Socket Screw	M6*10	4 Pieces



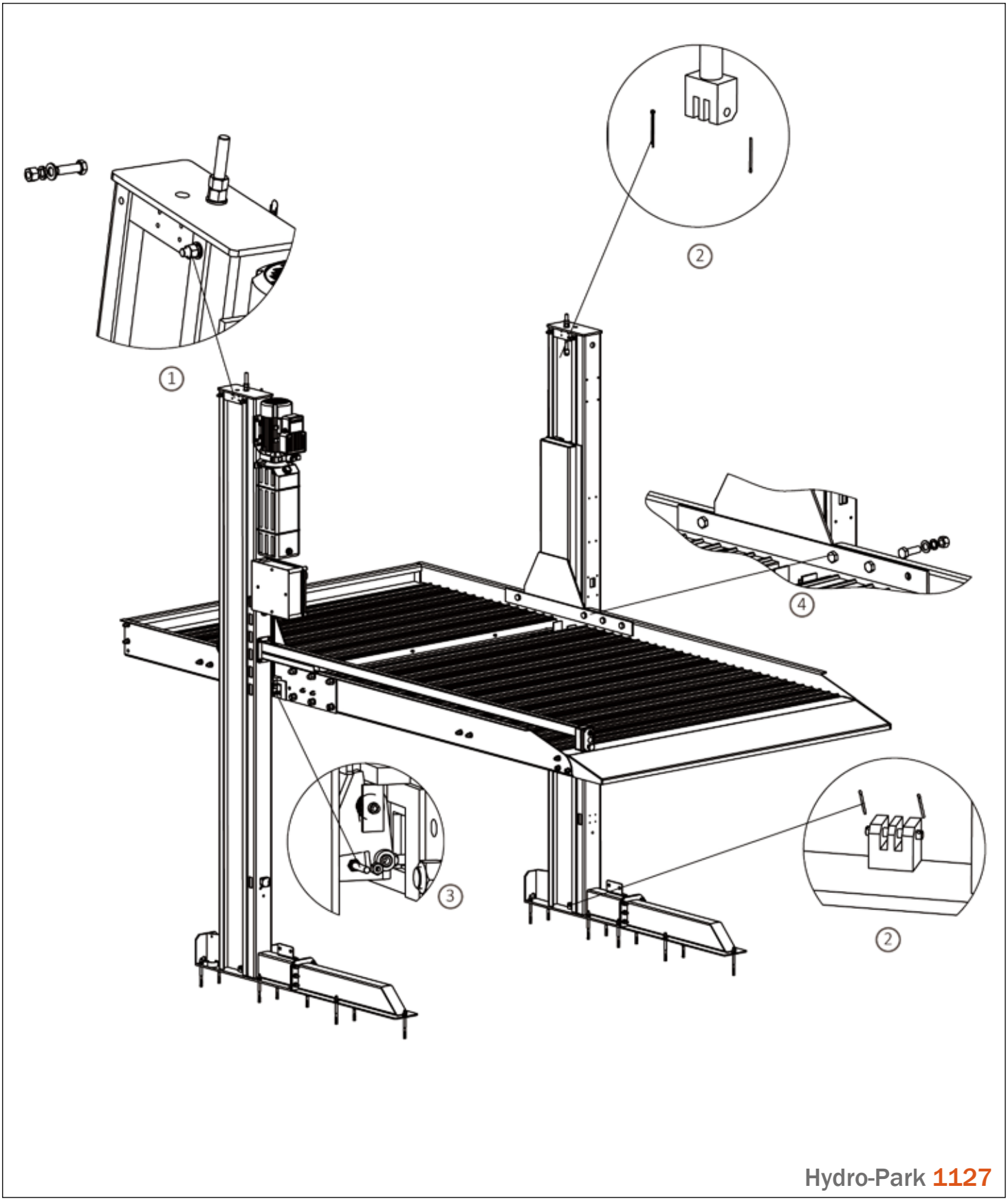
Hydro-Park **1127**

NO.	Item Name	Spec.	Quantity
1	Hexagon Bolt	M20*110	8 Sets
2	Locking Spring	ϕ1.8	2 Pieces
3	Loking Pull Rod	M6	2 Pieces
4	Articulated Bearing		2 Pieces



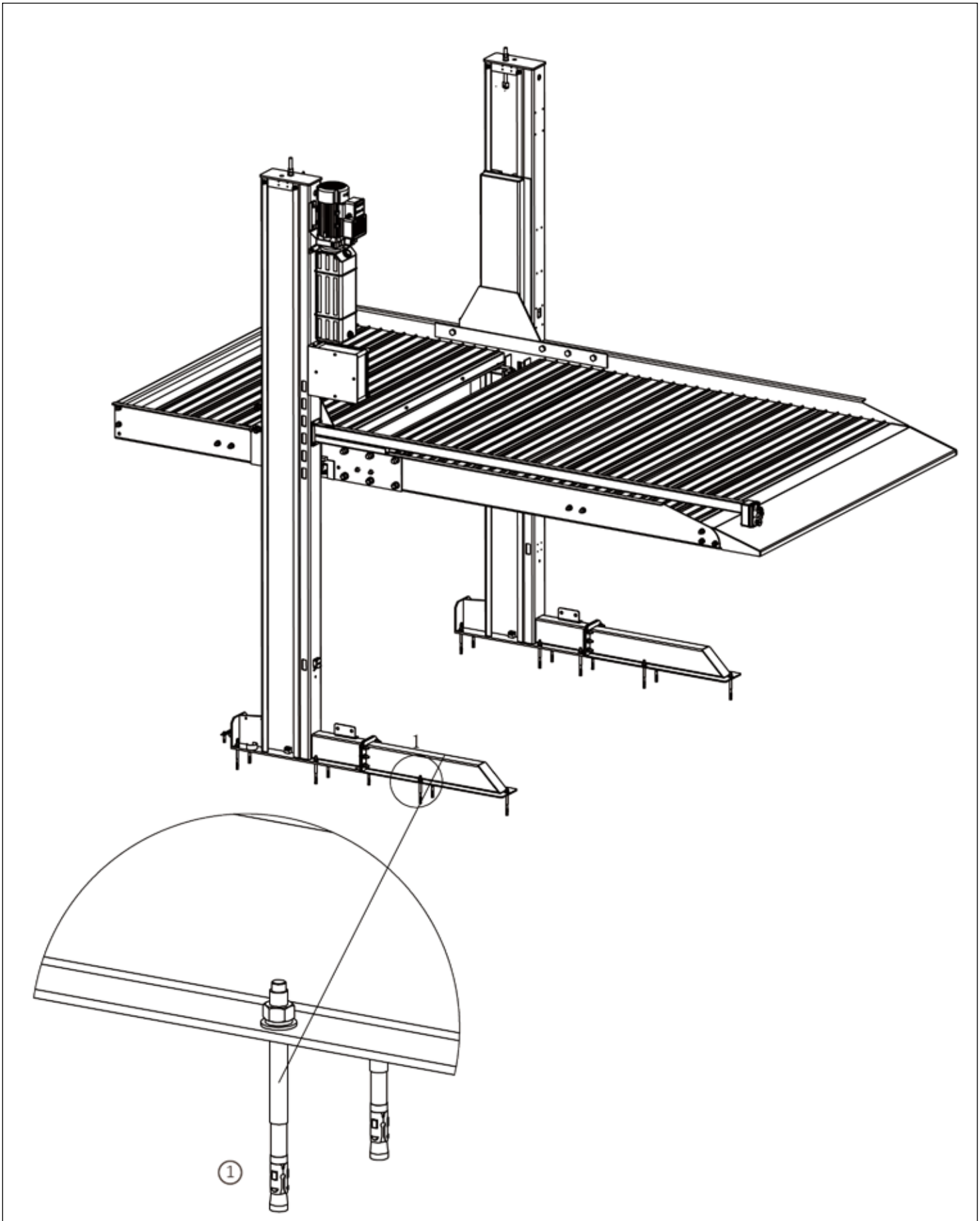
Hydro-Park **1127**

NO.	Item Name	Spec.	Quantity
1	Hexagon Bolt	M14*40	4 Sets
2	Hexagon Bolt	M14*40	4 Sets
3	Hexagon Bolt	M14*40	4 Sets
4	Hexagon Bolt	M14*40	4 Sets
5	Hexagon Bolt	M14*40	2 Sets
6	Hexagon Bolt	M14*40	2 Sets



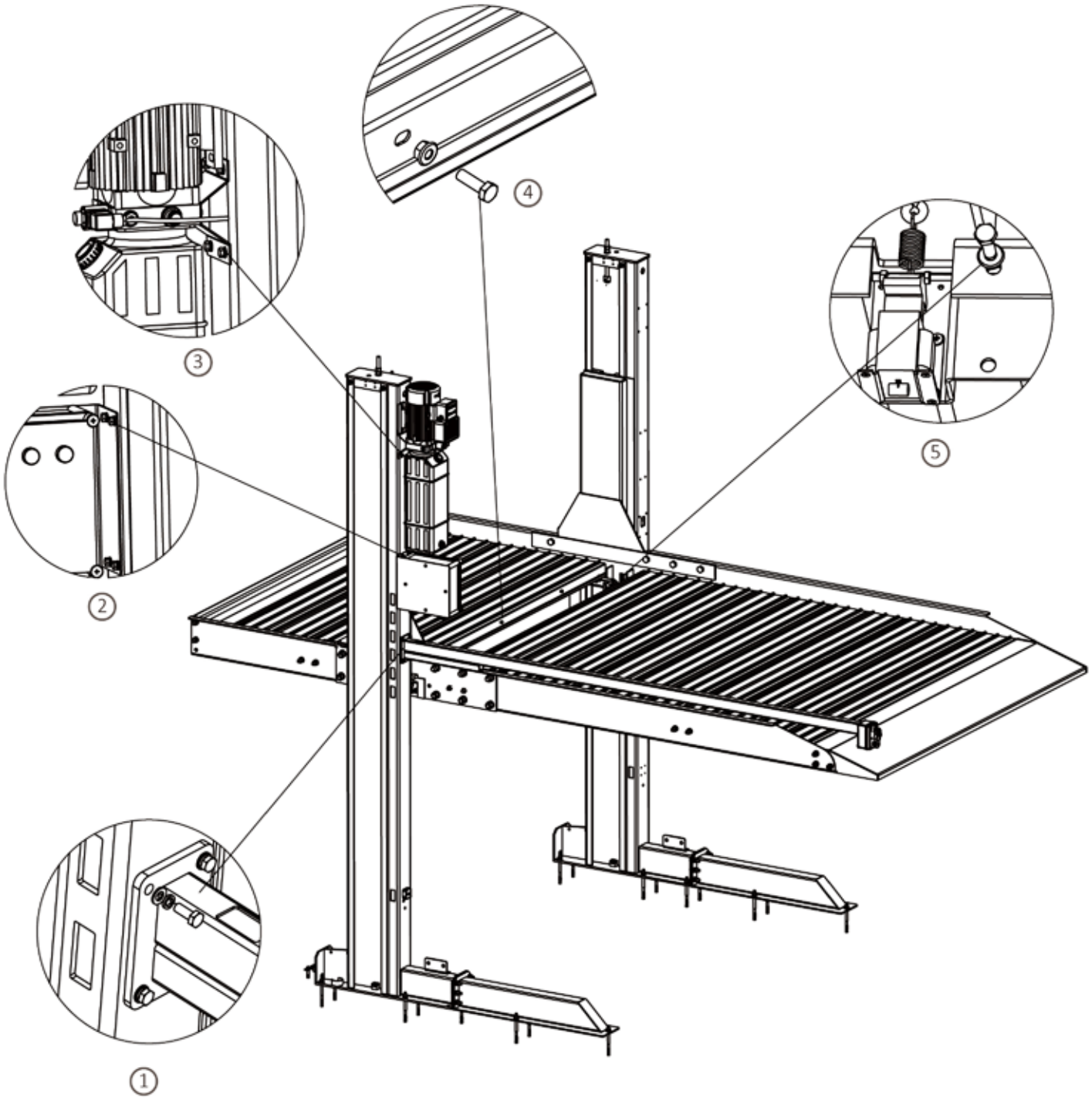
Hydro-Park **1127**

NO.	Item Name	Spec.	Quantity
1	Hexagon Bolt	M10*30	8 Sets
2	Split Pin	1.6*20	8 Pieces
3	Hexagon Bolt	M6*35	2 Pieces
	Screw nut	M6	2 Pieces
4	Hexagon Bolt	M20*55	8 Sets



Hydro-Park **1127**

NO.	Item Name	Spec.	Quantity
1	Bolted Anchor Bolt	M12*160	18 Sets



Hydro-Park **1127**

NO.	Item Name	Spec.	Quantity
1	Hexagon Bolt	M8*25	4 Pieces
2	Hexagon Bolt	M8*25	4 Pieces
3	Hexagon Bolt	M8*25	4 Pieces
	Hexagon Bolt	M8*25	51 Sets
4	Hexagon Bolt	M8*25	36 Sets

7 Operation

7.1 General notes

7.1.1 Do not operate the parking lift if the floor is cracked or any component is broken.

7.1.2 Do not operate the parking lift if there is person or obstacle above or under platform.

7.1.3 This equipment is designed for car parking only.

7.1.4 Safety locks should be in good condition at any time.

7.2 Parking

7.2.1 Drive the car backward onto the appropriate position of the platform. Collision with the control arm and side beams shall be avoided.

7.2.2 Put the brake on after vehicle parked on the targeted position to avoid any accidental movement.

7.2.3 Open the car door carefully to avoid any collision. Pay attention to the waving plates and side beams in case any falling down of person.

7.2.4 Turning UP to lift the car to the appropriate position, and the platform will be locked automatically.

7.2.5 Before another vehicle parked under platform, please check and make sure the nether vehicle is lower than platform height, to avoid any damage.

7.3 Operation

7.3.1 The inspection on whole equipment is necessary before operation, and make sure operation is under the condition that all functions work well.

7.3.2 Before first operation, firstly turn on main switch, secondly turn on the power switch on control box, and thirdly make sure the emergency stop button on control panel is open.

7.3.3 Make sure vehicle is parked in the left-right middle of platform, and the rear tires must reach the back board in the back of platform.

7.3.4 Over loading is not allowed for vehicle parked on the platform, the rated capacity of Hydro-Park 1127 is 2700kg and Hydro-Park 1123 is 2300kg.

7.3.5 The wheel base of vehicle parked on the platform should not be more than 2900mm for Hydro-Park 1127 and 2700mm for Hydro-Park 1123, and the total height of vehicle parked under platform should be not more than 2050mm.

7.3.6 The power indicator light is off until both main switch and power switch on control box is turned on, that will make the circle of whole control system on.

7.3.7 Pay all your attention on the movement of platform during parking lift working. Operation shall be stopped at once if any abnormal movement found.

7.3.8 Turn the key by anticlockwise to make the platform go up, and turn the key by clockwise to make the platform go down.
Keep holding the key switch to make platform move, which will stop at once by leaving the key switch.

7.3.9 Top limit switch stops platform lifting at maximum height, which is 2100mm above ground for standard version and can be customized to fit for different ceiling height.

7.3.10 Press the red and round button, the emergency stop button, to stop the movement of parking lift if any accident happens or anything else needing this equipment stop. Rotate the emergency stop button to reset it after being sure the parking lift is in good condition again.

8 Surface Cleaning & Protection

8.1 Surface cleaning

8.1.1 Basic cleaning of the platform upper side

A regular cleaning of the platform upper side helps to preserve the system and is absolutely essential. The platforms driven over by cars are swept clean by using a broom or vacuum cleaner.

Recommended frequency: At least 1 x yearly

8.1.2 Cleaning in winter

As the winter months cause more heavy wear due to snow, ice, road salt, chippings etc. when the platform surfaces are driven over, the following measures are to be observed:

■ **8.1.2.1** In winter any regular condensation is to be removed in particular below the platforms.

Recommended frequency: When droplets form below the platform

■ **8.1.2.2** Snow, ice, road salt and dirt deposits are to be removed from the platforms.

Recommended frequency: In winter if required several times during the month

■ **8.1.2.3** Carry out a thorough cleaning of the entire platforms with broom, vacuum or water jet (domestic water connection up to 5 bar). (Do not use high pressure cleaners.)

Recommended frequency: After the winter season ends, otherwise in addition to basic cleaning

8.1.3 Basic cleaning of the machine body/ground/pit, parts in the pit

■ **8.1.3.1** Wet clean the ground/pits:
Remove snow, rain, surface water etc. on the ground/in the pits by cleaning e.g. vacuum and then properly dispose of. It is necessary to secure the parking lift from lowering.
Recommended frequency: At least 1 x yearly, in winter monthly 1 x additionally check and if required carry out

■ **8.1.3.2** Posts, post bases and post mounts are to be cleaned of dirt deposits.
Recommended frequency: At least 2 x yearly

■ **8.1.3.3** Dry clean the pits, swept-clean.
Caution: Risk to life and limb! Before cleaning the ground/pits it is essential to request your local Mutrade partner to secure the parking lifts.

8.1.4 Disposal

For the proper disposal the local authorities, such as municipal authorities, environmental protection office or trade supervisory council, are to be informed – insofar as residual substances from car oils, batteries or similar have been collected.

Recommended frequency: As required

8.2 Surface maintenance

The parts have undergone different corrosion protection measures, depending on their atmospheric or mechanical loading as well as the individual requirements called for by the client. For an effective, long-term protection the following care requirements are to be observed:

8.2.1 Galvanized waving plates surfaces

■ **8.2.1.1** Zinc oxide (white haze) is caused by steady damp, poor ventilation or similar. The protective action of the zinc layer underneath is not affected by white haze! A special surface service is only necessary if required for optical reasons. We recommend the use of grinding wool grain A 280 medium fine or a brass brush (do not use wire brush!).

Caution: do not use grinding paper or grinding cloth, risk of damaging the surface. If required coat afterwards with a resistant coating material.

Recommended frequency: If required for optical reasons

■ **8.2.1.2** Iron oxide (rust) caused, for example, by mechanical loading, wear, road salt deposits, insufficient or neglected care. Care measures by means of lightly rubbing down the damaged surface with grinding wool grain A 280 medium fine. Paint treated surfaces.

Recommended frequency: At least 1 x yearly. Check during basic cleaning, and treat if need be

8.2.2 Screws, nuts, washers

When performing basic cleaning of the units immediately check all screws, nuts and washers for correct fit. In the event of rust, brush with a brass brush applying light pressure and clean and spray protective wax after cleaning.

Recommended frequency: At least 4 x yearly. Check and treat if necessary

8.2.3 Powder coated surfaces

Damage due to mechanical or other effects are to be treated as soon as they are detected in order to prevent impairments or infiltration of the powder coating. Care or improvement measures are to be carried out as follows: light rubbing with emery cloth, grain 120 or brass brush (do not use a wire brush!) followed by cleaning and degreasing with brake cleaner. Apply the touch-up paint to the damaged points with a brush, such as, for example Touch-up paint RAL 7016 anthracite grey, air-dried.

Recommended frequency: At least 2 x yearly. Check during basic cleaning and treat if necessary

8.2.4 Disposal

The materials we have named are to be disposed off in accordance with the respective manufacturer's recommendations. For proper disposal the local authorities, such as municipal authorities, environmental protection office or trade supervisory council, are to be informed – insofar as residual substances from car oils, batteries or similar have been collected.

Recommended frequency: As required

8.3 Protection (to be performed by the customer)

Premature corrosion damages to the protection coating can furthermore be prevented by:

8.3.1 limiting exposure to dampness and humidity (e.g. by removing the snow clumps from vehicle wheel housings)

8.3.2 seeing to appropriate site aeration (i.e. to prevent the relative atmospheric humidity levels from reaching < 80%, particularly in the colder months of the year)

8.3.3 performing regular and appropriate cleaning of all the top surface of the platform, ground and the pit floor

8.3.4 draining away any water accumulating on the ground or in the pit and by removing dirt and debris from the pit sump and/or from the pit drainage channels

8.3.5 the regular and appropriate reconditioning of any visible surface alterations

9 Maintenance & Servicing

9.1 General maintenance

9.1.1 Make sure the power is off and no accidental movement of the parking lift before any maintenance work.

9.1.2 If the equipment will be not in service for a long time, the main power supply should be turned off to avoid any accident and to save energy.

9.1.3 If the parking lift has not been in service for a long time, it's to be lubricated and inspected if there is any damage and rust corrosion before operation again. Check if the equipment is in good condition by no-load running.

9.1.4 Inside of posts and rubber sliders are to be lubricated once per month. All the sliders on carriages shall be lubricated well to make carriages slide smoothly on the posts.

9.1.5 Balance chain and lifting chain is to be lubricated once per month.

9.1.6 Change all the hydraulic oil three months after first operation; and change oil every nine months after first changing.

9.1.7 Check frequently the screw nuts of bolts fixing the electromagnet and locking block, any loosening screw nut shall be fastened ASAP.

9.1.8 Before operation, check and fasten the connector of electromagnet; then test top limit switch and photocell sensor, fix the problem if it cannot work, and replace it if cannot fix it.

9.1.9 The seals in hydraulic cylinder should be replaced every two years.

9.1.10 The sliders shall be replaced every two years.

9.1.11 The valve element in solenoid valve and filter in power unit shall be cleaned every half year.

9.1.12 An electromagnet with noise shall be replaced ASAP.

9.1.13 Any broken safeguards, warning signs, safety information, markings and lighting shall be replaced in time.

9.2 Servicing

9.2.1 If the platform tilts right-and-left when lifting, check and adjust the balance chain.

9.2.2 If the platform tilts fore-and-aft when lifting, first check if vehicle is parked correctly; second check the perpendicularity of post. Replace the rubber sliders if the platform still tilts after the above-mentioned works.

9.2.3 If the platform tilts right-and-left when descending, first check if the mechanical locking block at higher side is unlocked, make sure the wiring and related electromagnet works well if the locking block is locked; check and adjust the balance chain if the locking block is unlocked.

9.2.4 If the platform tilts fore-and-aft when descending, first check if vehicle is parked correctly; second check the perpendicularity of post, if the platform still tilts after the above-mentioned works please replace the sliding block.

9.2.5 Adjust throttle valve on the power pack, if the lifting/descending speed is too fast or too slow.

9.2.6 Check if the emergency stop button is open and air switch is closed, if platform don't move up when keep turning UP.

9.2.7 Check whether the solenoid valve is open, if platform don't move down when keep turning DOWN.

9.2.8 Check whether the electromagnet is working to make the mechanical locking block unlocked, if platform don't move down when keep turning DOWN.

9.2.9 Check whether the electromagnet is working to make the mechanical locking block unlocked, if the platform descends then stop on the locking tab when keep turning DOWN.

9.2.10 Check whether the photocell sensor works correctly if the platform only descends with buzzer and warning light on when keep turning DOWN.

9.2.11 Open the vent valve on the cylinder to make some air inside of cylinder released, if the platform jounces when lifts up.

9.2.12 How to get the parking lift balance:

(a) Lift the platform up to any locking hole above 500mm height;

(b) Manually open the manual switch of solenoid valve on power unit to make platform descend;

(c) Keep turning on the manual switch of solenoid valve until both two mechanical locking blocks on two sides of carriages fall on the bottom of the locking holes on same level

(d) Adjust the screw on adjustable screw rod to fasten or loosen the balance chain, to make the platform in balance during operation.

9.3 Maintenance and servicing of power pack

9.3.1 Inspection of power pack

■ **9.3.1.1** Regular inspection

◇ 9.3.1.1.1 Operate the parking lift for a circle to make sure it can be normally pressurized and depressurized if needed.

◇ 9.3.1.1.2 Any abnormal noise during operation should be checked.

◇ 9.3.1.1.3 Working temperature of motor should be checked regularly to make sure it's within normal range (from -10℃ to +60℃).

◇ 9.3.1.1.4 Check the possible leakage and abrasion at every oil hose connection. Fasten or replace the sealing at oil hose connection and fitting if any leakage or abrasion found.

■ **9.3.1.2** Monthly inspection

◇ 9.3.1.2.1 Check and replace the oil hose if any crack, abrasion or leakage found.

◇ 9.3.1.2.2 Check and replace the power line if any crack, abrasion or cut is found on insulating layer of power line.

◇ 9.3.1.2.3 Check the cleanness inlet filter and inside of oil tank. Clean or replace filter if bad cleanness.

◇ 9.3.1.2.4 Check the oil level when the platform is at lowest position. Hydraulic oil is to be replenished if lower than lowest oil level.

9.3.2 Maintenance of power pack

■ **9.3.2.1** Make sure the power supply is cut off and platform of parking lift is lowered down to ground before maintenance.

■ **9.3.2.2** Power line, oil hose or other component is to be replaced with the same specifications.

■ **9.3.2.3** The whole hydraulic system is to be depressurized completely before opened.

Note: the lifetime of hydraulic system may be affected by environment, human factor or lifetime of hydraulic components. Proper and regular maintenance could lower down probability of malfunction.

9.3.3 Servicing of power pack

Trouble	Possible causes	Solutions
Motor is working, but cylinder does not work	The rotation of motor is in wrong direction due to incorrect motor wiring	Re-connect wires from main power supply to motor to make motor rotate with correct direction
	Not enough hydraulic oil in oil tank	Hydraulic oil to be replenished into oil tank
	Broken inlet oil pipe	Inlet oil pipe to be replaced
	Broken coupling	Coupling to be replaced
	No oil can be pumped out due to blocked inlet filter	Inlet filter to be cleaned or replaced
	Valve element of solenoid valve is blocked	Solenoid valve to be cleaned or replaced
	Sealing failure of cushion valve	Cushion valve to be cleaned or replaced
	Setting pressure of pressure relief valve is too low	Turn up setting pressure of pressure relief valve (with permission of manufacturer)
	Emergency depressurizing device of solenoid valve is not turned off	Turn off emergency depressurizing device of solenoid valve
	Broken gear pump	Gear pump to be replaced
	Broken cylinder	Cylinder to be replaced
Motor is working, but platform move up slowly	Not enough hydraulic oil in oil tank	Hydraulic oil to be replenished into oil tankCV
	Broken inlet oil pipe	Inlet oil pipe to be replaced
	fewer oil can be pumped out due to blocked inlet filter	Inlet filter to be cleaned or replaced
	Valve element of solenoid valve is blocked	Solenoid valve to be cleaned or replaced
	Sealing failure of cushion valve	Cushion valve to be cleaned or replaced
	Valve element of pressure relief valve is blocked	Pressure relief valve to be cleaned or replaced
	Setting pressure of pressure relief valve is too low	Turn up setting pressure of pressure relief valve (with permission of Mutrade)
	Hydraulic oil deteriorates or is dirty	Replace hydraulic oil, clean inlet filter and oil tank
	Broken gear pump	Gear pump to be replaced
	Broken cylinder	Cylinder to be replaced
	Emergency depressurizing device of solenoid valve is not turned off	Turn off emergency depressurizing device of solenoid valve
	Oil temperature in oil tank is out of normal range	Stop motor working to cool down hydraulic oil until it's in normal temperature

Pressure cannot be maintained after platform lifted up	Valve element of one-way valve is blocked	One-way valve to be cleaned or replaced
	Valve element of solenoid valve is blocked	Solenoid valve to be cleaned or replaced
	Fitting of outlet pipe is not fastened or sealing is broken	Fasten fitting of outlet pipe, or replace sealing
	Hydraulic oil deteriorates or is dirty	Replace hydraulic oil, clean inlet filter and oil tank
Cylinder retracts slowly when depressurizing	Throttle valve is not properly adjusted	Throttle valve to be re-adjusted
	Throttle valve is blocked	Clean throttle valve and valve element
	Valve element of solenoid valve is blocked	Solenoid valve to be cleaned or replaced
Cylinder does not retract at all when depressurizing	Valve element of solenoid valve is blocked	Solenoid valve to be cleaned or replaced
	Coil of solenoid valve is broken, or working voltage is too low	Replace coil of solenoid valve, or supply normal working voltage
Working noise is too loud, or abnormal noise	Motor is broken	Motor to be replaced
	Air is absorbed into gear pump due to lack of hydraulic oil in oil tank	Hydraulic oil to be replenished into oil tank
	Pressure relief valve is turned on to make hydraulic oil go back to oil tank due to over loading	Only cars within rated capacity can be parked on platform. Or turn up setting pressure of pressure relief valve (with permission by Mutrade)
	Inlet filter is blocked	Replace coupling and clean inlet filter
	Gear pump is broken	Gear pump to replaced
	Hydraulic oil deteriorates or is dirty	Replace hydraulic oil, clean inlet filter and oil tank
	Pressure relief valve is broken	Pressure relief valve to be replaced
Motor does not work	Voltage shortage due to low supply voltage	Voltage stabilizer to be added
	Voltage shortage due to too long power line	Power line to be shortened, and voltage stabilizer to be added
	Voltage shortage due to too thin power line	Thicker power line to be used, and voltage stabilizer added
	Starting capacitor is broken	Starting capacitor to be replaced

9.4 Maintenance and servicing of cylinder

Only trained and qualified staff is allowed to do inspection, maintenance and service work of cylinder.

9.4.1 Inspection of cylinder

Before installation and usage of cylinder:

- **9.4.1.1** Check if the cylinder specifications, such as bore diameter, rod diameter, stroke length, etc. match the model of purchased parking lift.
- **9.4.1.2** Check if the actual working pressure and system supply pressure of cylinder is sufficient.
- **9.4.1.3** Check if hydraulic oil, working temperature and cylinder cleanness meet the requirement of sealing.
- **9.4.1.4** Check the piston surface if there is any adhered foreign particles or dirt, which will damage seals and piston rod surface.
- **9.4.1.5** No weldment or wiring on cylinder.
- **9.4.1.6** Check regularly if any leakage on hydraulic fluid port, piston rod, juncture of bore and piston.

9.4.2 Maintenance of cylinder

- **9.4.2.1** Clean the vent hole quarterly to keep surface of vent hole clean.
- **9.4.2.2** Keep clean hydraulic oil in hydraulic circuit by replace hydraulic oil regularly.
- **9.4.2.3** Inject lubrication oil (by injector oiler) through vent hole into lower cavity of cylinder, until lubrication oil spills from vent hole when cylinder is at maximum stroke.
- **9.4.2.4** Hydraulic fluid port and vent hole is to be well protected from dust, dirt or particles going into inside of cylinder.
- **9.4.2.5** Low-speed movement or jerky motion of rod has to be stopped and checked to avoid more damage.
- **9.4.2.6** Connection and load parts are to be checked and lubricated regularly. Loosen, galled, bent, blocked, cracked or deformed part should be replaced in time.
- **9.4.2.7** Score mark and scraping of chromium-layer on one side of piston rod surface means serious wear on one side. It's necessary to dismantle and inspect the cylinder, and replace worn part(s).
- **9.4.2.8** Check regularly hydraulic fluid port, vent hole and wiper seal at cylinder tube head end, replace the broken seals if leakage occurs.

9.4.3 Servicing of cylinder

Trouble	Possible causes	Solutions
Jerky motion of piston rod	Aerated oil	Air to be eliminate by exhaust
	Frictional resistance is too high or changes due to improper fabrication or assembly of parts with relative motion	Reduce frictional resistance by lubrication
	Poor lubrication between surfaces of moving parts	Inlet oil pipe to be replaced
	Poor seals alignment of cylinder piston and rod	Piston and rod to be aligned
	Serious cylinder leakage	Replace seals or increase pump flow
	Overlarge minimum stable flow of flow valve	Flow valve with small minimum stable flow to be employed
	Flexible hose employed between cylinder and flow valve	Replaced by nonflexible hose
	Frictional resistance increases due to abrasive particles in oil	Clean hydraulic elements, and replace hydraulic oil and filter

Pressure shock	Overlarge cushion clearance	Reduce cushion clearance
	One-way valve/throttle valve failure in cushion device	One-way valve/throttle valve to be repaired
	Overlarge pressure in cushion chamber due to undersized volume	Diameter and length of cushion chamber to be increased
Insufficient thrust or lowered motion speed	Oversize or undersize fit clearance between bore and piston, broken or too tight seals result in inner leakage or large moving resistance	Repair or replace part with wrong size and accuracy. Seals to be re-assembled, adjusted or replaced
	Bent piston rod results in intense friction	Piston rod to be straightened
	manufacture errors or poor assembly of moving parts results in decentration or intense friction on one side	Repair parts with errors, or re-assemble
	Scratch on bore results in blocked piston, or poorly processed bore	bore honing, repair or replace cylinder tube
	Contaminated oil by too much foreign particles makes piston or piston rod blocked	Clean hydraulic circuit, and replace hydraulic oil
	Too high oil temperature results in more leakage	Find out the reason of oil temperature rising and amend seal structure to lower down oil temperature
	Insufficient oil supply of power pack	Power pack to be repaired or replaced
	Too high oil return resistance in hydraulic return line	Diameter of oil return pipe to be enlarged, turn down the pressure of back pressure valve
	Too low setting pressure or regulating failure of pressure relief valve	Turn up setting pressure, or fix pressure relief valve
Leakage	Galling, scratch or damage of seal	Seal to be replaced
	Wrong direction of seal	Sealing direction to be corrected
	Voltage shortage due to low supply voltage	Screw to be tightened
	Longitudinal scratch or groove mark between moving parts inside cylinder body	Parts to be repaired or replaced
	Vibration of inlet and outlet pipes results in loosening	Tighten oil pipes, or amend connection type
Noise	Contaminated oil by air	Air to be eliminated by exhaust
	Too tight clearance between relative sliding surfaces	To be re-assembled with proper clearance
	Too high sealing friction, lack of lubrication on sling surface	Bottom diameter and width of seal groove, compression amount of seals to be correctly designed and manufactured
	Deformed or damaged guiding support ring	Guiding support ring to be repaired or replaced

9.5 Inspection of hydraulic oil

Hydraulic oil, as transmission medium in hydraulic transmission system, makes mechanism and parts in hydraulic system lubricated, cooled and rust-proof. The pressure, temperature and flow speed of hydraulic transmission system changes a lot in large ranges, so the different qualities of hydraulic oil have direct effect upon working performance of hydraulic system. The proper usage of hydraulic oil requires:

9.5.1 Cleanness of hydraulic oil NSA 9 to 10

9.5.2 Regular inspection of hydraulic oil

9.5.3 Well protection from contamination, which can cause premature rod seal failure. Abrasive particles suspended in the fluid can damage the seal and the piston rod surface, while airborne contamination can be drawn into a cylinder via a faulty wiper seal. Water is a common contaminant, affecting the lubricity of oil and causing some of the most widely used seal materials to 'age harden' at temperatures above 65°C. Air is also an oil contaminant, aerated oil can cause physical damage to piston rod seals. The presence of air in the oil can also intensify the transmission of vibration which, in turn, can lead to other forms of system failure.

9.6 Maintenance and servicing of chains

9.6.1 Inspection of chains

- **9.6.1.1** Check regularly the tension of chains. Fasten it if needed.
- **9.6.1.2** Check abrasion loss of chains. Replace the entire chain if tensile length is 2% more than standard length

9.6.2 Maintenance of chains

- **9.6.2.1** Keep good coplanarity of all transmission chain wheels, unobstructed path and proper sag of chains
- **9.6.2.2** Keep well lubrication with suitable lubrication oil or grease. Lubrication oil or grease with high viscosity is not recommended, it will be adhered with dirt which can block interstice to friction parts.
- **9.6.2.3** Chains to be cleaned regularly, and checked for lubrication.
- **9.6.2.4** To replace broken chain element in time is good for long lifetime.

9.6.3 Lubrication of chains

- **9.6.3.1** Frequency of lubrication

Windy and dusty working environment:

Environment temperature	Oil brand	Frequency
-10～0℃	Machine oil 20#	Once per week
0～40℃	Machine oil 30#	
40～50℃	Machine oil 40#	
50～60℃	Machine oil 50#	

Windless and clean working environment:

Environment temperature	Oil brand	Frequency
-10～0℃	SR4020	Once per two months
0～40℃	SR4020	
40～50℃	TX8R	
50～60℃	TX8R	

Note: In working environment with high humidity or acid-base medium, well rust-proof treatment and higher frequency of lubrication is necessary, once per month is recommended.

■ **9.6.3.2** Method of lubrication

◇ 9.6.3.2.1 Interstice between inner and outer plates, chain wheel and axis pin to be instilled by lubrication oil.

◇ 9.6.3.2.2 Every piece of chain plate, interstice between chain plate and axis pin, interstice between every two chain plates to be all lubricated.

◇ 9.6.3.2.3 All parts of chain to be applied evenly by lubrication grease.

◇9.6.3.2.4 Chains unused for long time or motionless part of chain should be cleaned and lubricated regularly.

10 Packing List

Item description	Quantity	Remark
Left carriage	1	Powder coating
Right carriage	1	Powder coating
Post	2	Powder coating
Left side beam	1	Powder coating
Right side beam	1	Powder coating
Front support of post	2	Powder coating
Top cover plate of post	2	Powder coating
Control arm	1	Powder coating
Connection rod	3	Powder coating
Cylinder head	1	Powder coating
Cylinder head cover	1	Powder coating
Cylinder bracket	1	Powder coating
Control box bracket	1	Powder coating
Power pack bracket	1	Galvanized
Backboard of platform	1	Powder coating
Ramp of platform	1	Powder coating
Cover plate of platform	1	Powder coating
Cylinder	1	Black
Power pack	1	Carton packing
Accessory box	1	Carton packing
Waving plates	16 (Hydro-Park 1127) / 15 (Hydro-Park 1123)	Galvanized
Lifting chain	1	Carton packing
Balance chain	1	Carton packing
Control box	1	Carton packing

11 Warranty policy

Within the warranty period, power units, hydraulic cylinders, and all other assembly components such as bolt and nuts, cables, chains, valves, switches, sliding blocks etc. are considered as consumable parts that warranted for 1 years against defects in material or workmanship under normal use unless specially specified.

MUTRADE shall repair or replace at their option for the defected parts during the warranty period which proved upon inspection to be defective. Mutrade will NOT responsible for any costs other than the value of the defected parts and the delivery cost of the parts.

Mutrade will not be responsible for the modification or upgrade of the product from the client.

These warranties do not extend to:

- defects caused by ordinary wear, abuse, misuse, shipping damage, un-proper installation, voltage or lack of required maintenance;
- damages resulting from purchaser's neglect or failure to install, operate or maintain products in accordance with instructions provided in the user's manual(s) and/or other accompanying instructions supplied;
- normal wear items or service normally required to maintain the product in a safe operating condition;
- any component damaged in shipment;
- other items not listed but may be considered general wear parts;
- damage caused by rain, excessive humidity, corrosive environments or other contaminants.
- any change or modification made to the equipment without pre-agreed.

These warranties do not extend to any cosmetic defect not interfering with equipment functionality or any incidental, indirect, or consequential loss, damage, or expense that may result from any defect, failure, or malfunction of a MUTRADE product or the breach or delay in performance of the warranty.

This warranty is exclusive and in lieu of all other warranties expressed or implied.

MUTRADE reserves the right to make design changes or add improvements to its product line without incurring any obligation to make such changes on product sold previously.

Warranty adjustments within the above stated policies are based on the model and serial number of the equipment. This data must be furnished with all warranty claims.

12 CERTIFICATE

TÜVRheinland®

CERTIFICATE

of Conformity
EC Council Directive 2006/42/EC
Machinery

Registration No.: AM 50326224 0001

Report No.: 17706570 001

Holder:
Qingdao Hydro Park Machinery
Co., Ltd.
No. 106 Haier Road, Tongji Street Office
Jimo, Qingdao 266200
P.R. China

Product:
Parking System of motor vehicles
(Two Post Parking Lift)

Identification:
Type Designation: Hydro-Park 1127
Serial No: Engineering sample
Tested acc. to: EN 14010+A1:2009
Remark: Refer to test report 17706570 001 for details.

This certificate of conformity is based on an evaluation of a sample of the above mentioned product. This is to certify that the tested sample is in conformity with all provision of Annex I of Council Directive 2006/42/EC, referred to as the Machinery Directive. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity. The holder of the certificate is authorized to use this certificate in connection with the EC declaration of conformity according to Annex II of the Directive.

Certification Body

Ling Xiao

TÜV Rheinland LGA Products GmbH Zertifizierungsstelle TÜVRheinland®

Date 08.01.2016

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

CE The CE marking may be used if all relevant and effective EC Directives are complied with. CE