Bodema®

Manual
Two-pillar lift BL 2-45T
4 500 kg

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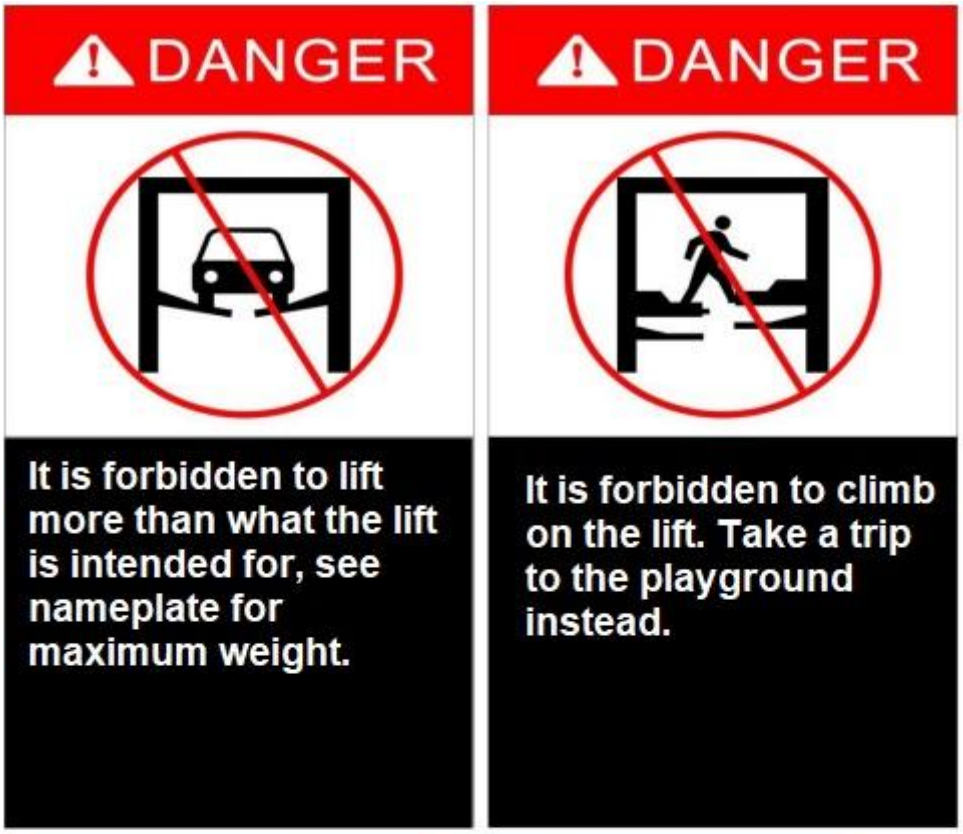
Important information

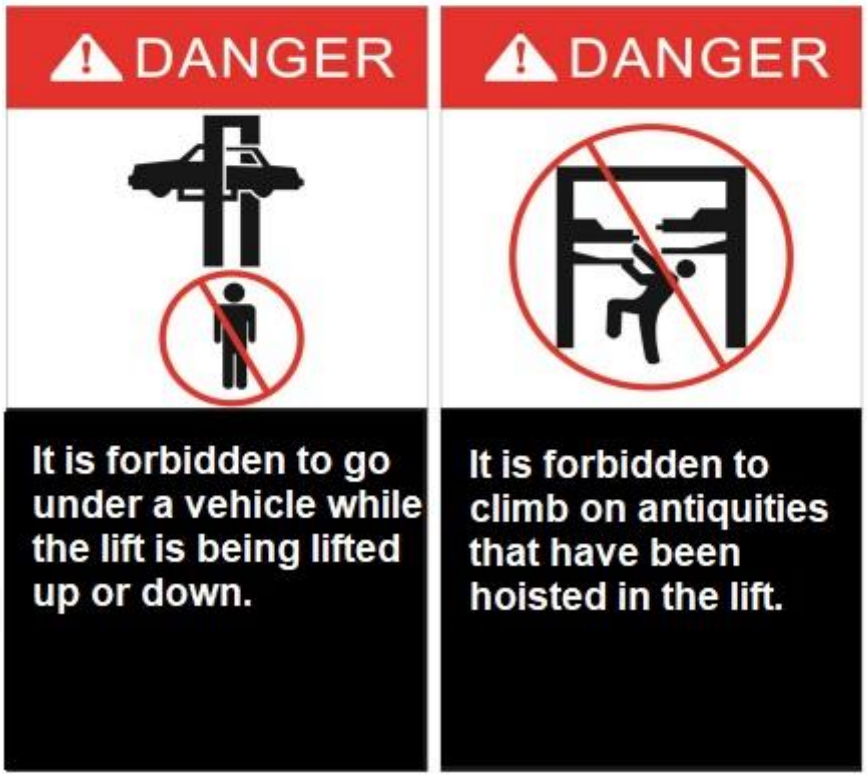
- Read this manual carefully before using the lift. Do not use or repair the lift without reading this manual first.
- The damage caused during the transport must be claimed by the buyer to the carrier.
- Safety performance has been sufficiently taken into account when this car lift was designed and manufactured. However, the necessary training and review of the safety features may be required before use.
- The lift must be maintained at regular intervals. If the lift has not been used for a long time, check it carefully before using it again.
- Never use the lift if it shows signs of malfunction or is damaged.
- Never manipulate the lifting speed, both up and down, this has been regulated by the manufacturer during testing to meet current standards.
- Do not exceed the maximum permissible load capacity stated on the rating plate.
- It is the user's responsibility if the lift is damaged due to the lifting capacity being exceeded.
- The electrical installation must be carried out by a qualified electrician. The power supply must be the same as on the lift's rating plate, also check that the motor has the correct direction of rotation. The power must be cut off if repairs are to be carried out.
- Make sure that the lifting arms are locked before lifting them.
- Make sure that the weight of the vehicle is evenly distributed before lifting the vehicle.
- Never stand under the lift when raising or lowering, nor sit in vehicles that are raised or lowered.
- Do not climb on the lift, take a trip to the playground instead.
- Keep the work area free of oils, debris, parts, etc. to avoid accidents.

Security features

- Steel wires are used for the lift to raise and lower evenly.
- Even if the wire or a hydraulic line should break, the mechanical locking still works so there is no risk of the vehicle falling down suddenly and causing damage.
- The lift is equipped with a limit switch that sits in one of the pillars and switches off before the hydraulic cylinders reach the top.
- The lift is equipped with an end position sensor located on the crossbeam and it switches off if the vehicle accesses the bar on the crossbeam before the hydraulic cylinders have reached the maximum height. Then the lift stops and it is not possible to lift any more.

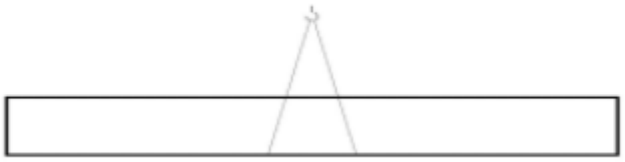

WARNING
The lifting area must be free of objects when the lift is to be used.
WARNING
Read the manual carefully before use.
WARNING
Position the vehicle so that the weight is evenly distributed.
WARNING
The lift must not be used by unauthorized persons.


DANGER
It is forbidden to lift more than what the lift is intended for, see nameplate for maximum weight.
DANGER
It is forbidden to climb on the lift. Take a trip to the playground instead.


DANGER
It is forbidden to go under a vehicle while the lift is being lifted up or down.
DANGER
It is forbidden to climb on antiquities that have been hoisted in the lift.

Management

- The lifting pillars are screwed together in a steel frame and completely covered by packaging. In the lifting pillars are lifting arms, lifting cushions, hydraulic hoses etc.
- The control box and engine with hydraulic tank are in separate boxes.
- Use a strap to lift the package and avoid attaching the straps to the mechanical lock, see picture below.
- The correct equipment and methods must be used for loading and unloading.
- The lift must be placed on a flat surface.
- After delivery, check that no damage has occurred during transport or storage. Also check that there is nothing missing in the order. If damage has occurred during transport, you should immediately inform the transport company.
- Be careful when opening the package, keep a certain distance. Do not lose small parts when opening the package.



Avoid attaching the straps to the mechanical lock.

Package contents

All parts are in the pillars or in cardboard. Below is a list and pictures of what comes with it except pillars, lifting arms, crossbeam and bar for crossbeam. Hydraulic oil not included. The parts' numbers reappear in the installation part and are then in parentheses.

NR	Produkt	Antal
1.	Plastic trays	2 pcs
2.	Control / power station	1 pcs
3.	Engine & hydraulic tank	1 pcs
4.	Hydraulic hose for extension with (In highest position)	1 pcs
5.	Hydraulic hose from motor to lift	1 pcs
6.	Lifting pillows	4 pcs
7.	Electromagnet for mechanical locks	2 pcs
8.	Grease	1 pack
9.	Brace for the lifting arms	4 pcs
10.	Holder for riser sleeves	2 pcs
11.	Elevation sleeves	4 pcs
12.	Foot protection	4 pcs
13.	Angles to the crossbeam	2 pcs
14.	End position sensor	1 pcs
15.	Bundle	1 pack
16.	Cylinder limit switch	1 pcs
17.	Expander bolt for pillars (M18)	10 pcs
18.	Holder for the bar and end position sensor	2 pcs
19.	Joints for the hydraulic hoses	2 pcs
20.	Screw card B	1 pcs
21.	Trays for pillars	10 pcs
22.	Screw card C	1 pcs
23.	Feedthrough for hydraulic hoses	2 pcs
24.	Mounting bracket for hydraulic hose	1 pack
25.	Screw card E	1 pcs


1.
2.
ADVANCED LIFT

3.


4.
5.
6.
7.

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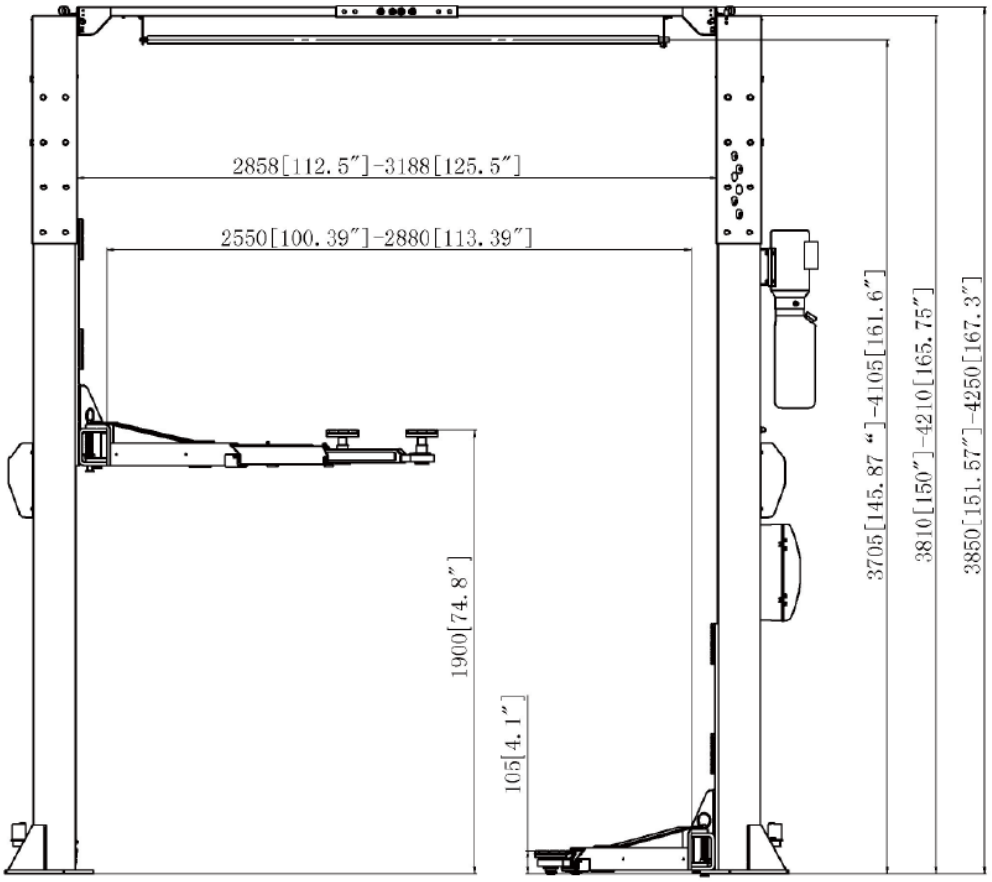
Technical description

- Maximum lifting height is 1900 mm.
- Only 100 mm in lowered position.
- The lifting pads are adjustable up to 100 mm and it also comes with raising sleeves of 100 mm which are perfect for raising the lifting pads further.
- The lift can be raised 400 mm and width 330 mm
- Total height in the lowest position is 3993 mm and 4393 mm in the highest position.
- The total width in the lowest position is 3440 mm and 3770 mm in the highest position.
- All wires and hydraulic hose go in the beam at the top so you get the floor free.
- The electrically controlled latches mean that you only have three buttons to think about, up, down and immersion so the arms rest on the latches.
- Aluminum motor of 2.2 kw.

Model	**BL 2-45T**
CE marked	**Yes**
Lifting capacity	**4 500 kg / 8820 LB**
Width between the pillars	**2500 - 2800 mm / 98 - 110 inch**
Lifting height (Max)	**1900 mm / 74 inch**
Height in lowered position (min)	**110 mm / 4 inch**
Power supply	**400V**
Engine power	**2,2 KW**
Oil pressure	**16 Mpa**
Net weight	**720 kg / 1600 LB**
Block	**Electrically**
Thickness of plate	**250 mm**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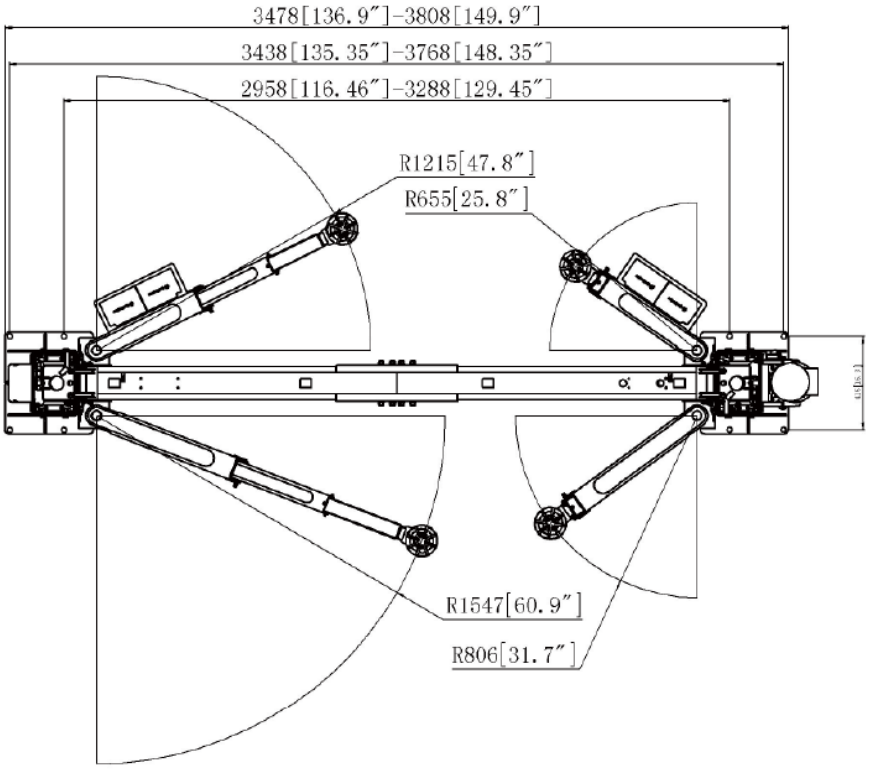
2550[100.39"]-2880[113.39"]
1900[74.8"]
105[4.1"]
3705[145.87 "]-4105[161.6"]
3810[150"]-4210[165.75"]
3850[151.57"]-4250[167.3"]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3438[135.35"]-3768[148.35"]
2958[116.46"]-3288[129.45"]
R1215[47.8"]
R655[25.8"]
R1547[60.9"]
R806[31.7"]

Only 110 mm in the lowered position and the lowest height and width.

The maximum height is 1900 mm.

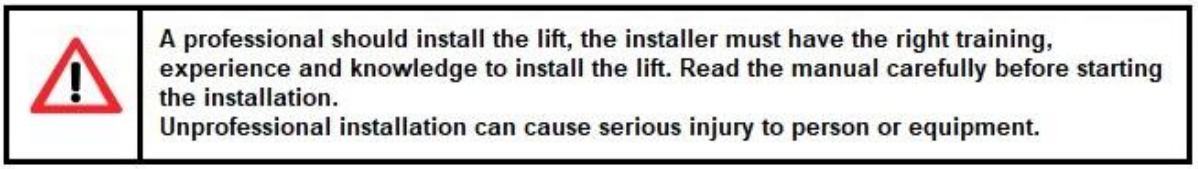
The electrically controlled latches mean that you only have three buttons to think about, up, down and immersion so that the "sled" settles on the latches.

Without raising sleeves, you can unscrew the lifting pads 100 mm, with the raising sleeves the height will be 200 mm.

Installation

Tools needed

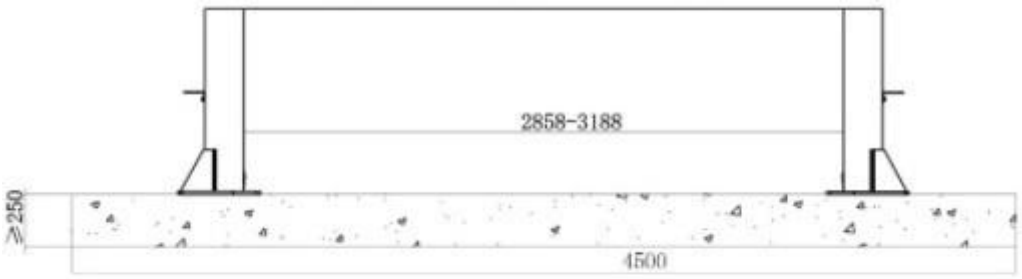
- Impact drill
- 18 mm Impact drill
- Ratchet shafts and sleeves in sizes 12, 14, 17, 19, 22 and 24
- Ring key in sizes 12, 14, 17, 19, 22 and 24
- Wrench Phillips screwdriver
- Flat head screwdriver
- Allen key in sizes 4, 5, 6, 8 and 10
- Hammer or sledgehammer
- Spirit level
- Lace or laser
- Measuring tape or measuring stick
- Pen
- Some nice friends who can help lift the pillars, preferably 2-3 pcs



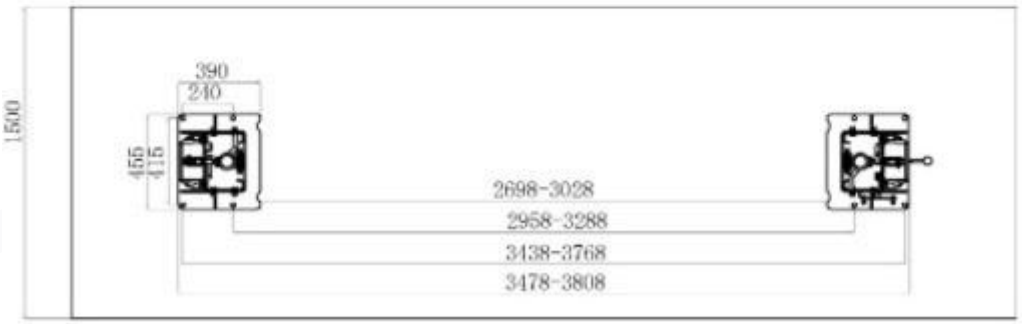
Investment

The lift is only intended for indoor use and should be placed on a flat surface, avoid placing the lift near the washing and painting area. Also think about whether there is something else to take into account, such as the escape route, minimum distance from walls or other equipment, etc.

The concrete where the lift is to be placed must have a thickness of 250 mm with a strength of more than 3000 psi that extends at least one meter from the lift. Keep in mind that a newly cast concrete slab must be older than one month to have burned sufficiently. Ideally, it should harden for several months.



Both pillars must be placed on the same concrete slab.

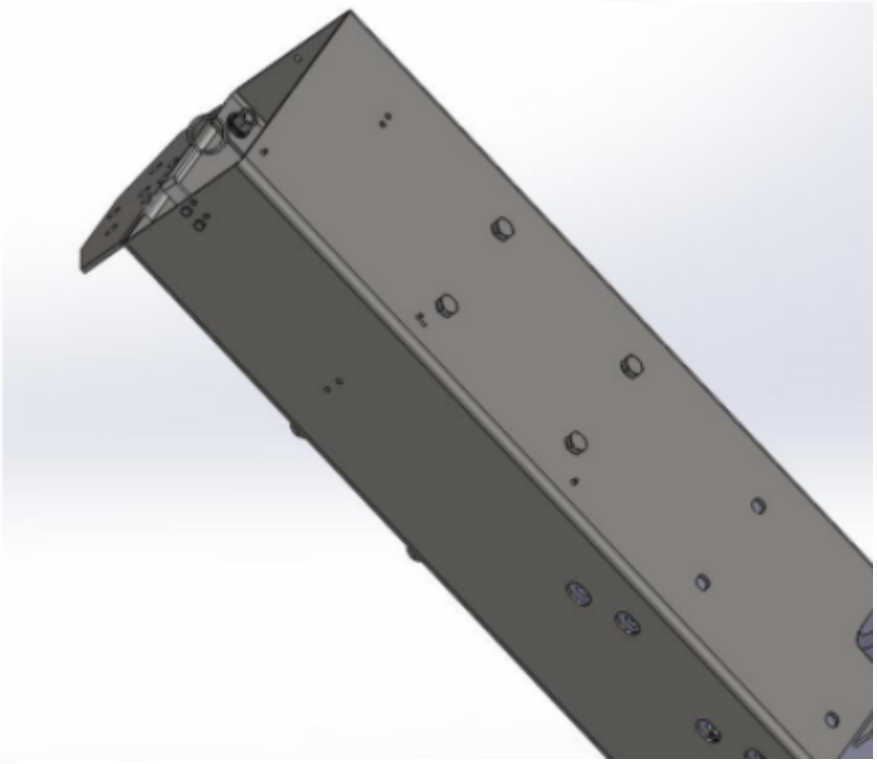


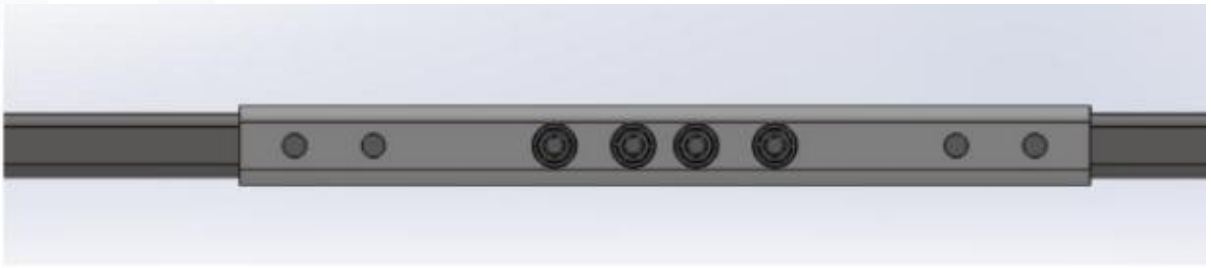
Install pillars and crossbeams

Fit angles to the crossbeam (13) on the columns and use M14 bolts, nuts and washers from screw map E. (25) Also mount the bushing for the hydraulic hoses and use M6x20mm bolt. The pillars have two heights and are delivered in the lowest height, if you want the pillars higher you loosen the bolts and slide out the upper part of the lift to the maximum height. The crossbeam is delivered in the lowest width, if you want it wider you loosen the bolts and push it out.

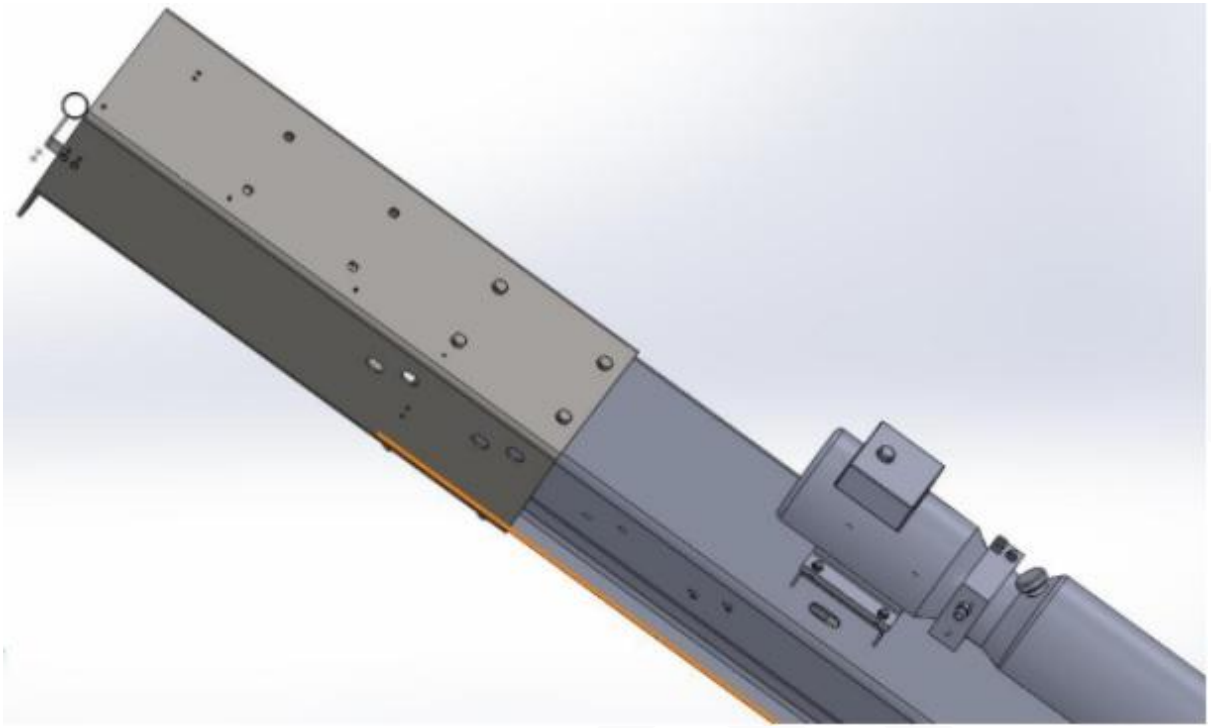
Note! If the height of the pillars is adjusted, the crossbeam must also be adjusted. This is so that the lifting wires can be installed correctly. For example, it is not possible to have the pillars at the lowest and the crossbeam at the widest or vice versa because the wire can then not be installed. See pictures below.

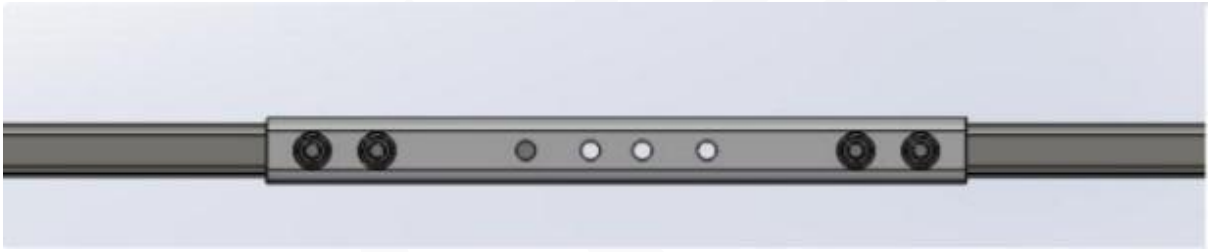
Pillars and cross beams in the lowest and narrowest position. (by delivery)





Pillars and cross beams in the highest and widest position.





It is easiest to raise the pillars with a machine, but it is also possible to do it by hand if you are 3-4 people.

Start by measuring and marking on the floor where the pillars should be placed. Raise the main column (the one on which the motor and control box are to sit) and drill 18 mm holes. Use a vacuum cleaner to remove all dust from the boreholes and check with a spirit level so that the column is straight both horizontally and vertically, if not use the supplied washers. (21) Then use a sledgehammer or sledgehammer to drive down the M18 expander bolt (17) in the holes until the spring washer takes in the pillar, the bolt should protrude about 3-5 mm above the nut. Then tighten the bolt until it can not move.

Raise the second pillar in the marked place and mount the crossbeam, use M14 bolts, nuts and washers from screw map E. **NOTE do not tighten the bolts completely yet!** Now check that there is the same dimension between the pillars both at the top and the bottom, if not then adjust so that it is the same. Drill holes and attach the second pillar in the same way as the first.

When everything is straight and tight, tighten the bolts to the crossbeam.



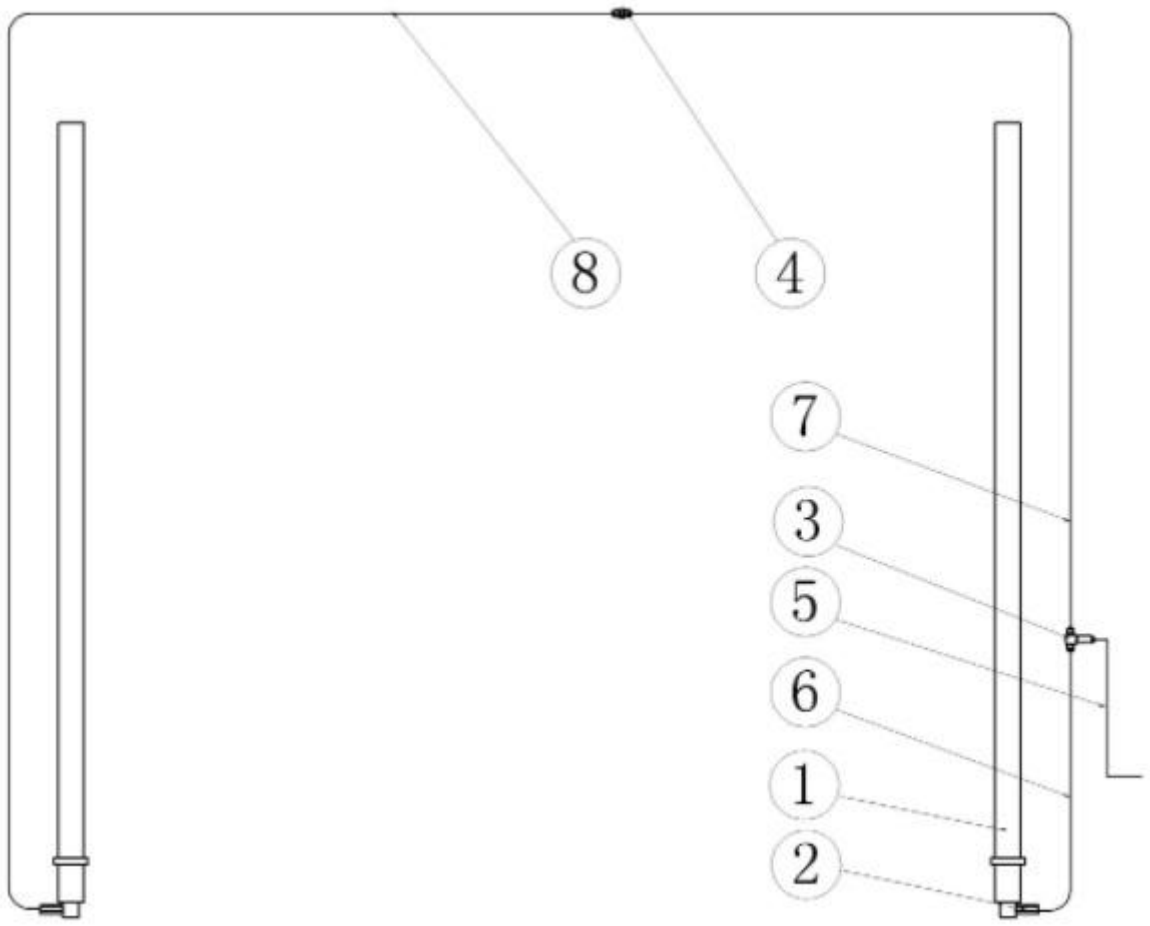

Hydraulic hoses

When the lift is delivered, all hydraulic hoses and couplings are already mounted in the columns, so you need to connect the hydraulic hoses in the cross member and mount the hydraulic hose between the motor and the lift.

If the lift is mounted in the lowest position, you only need to connect the hydraulic hoses from each pillar to each other in the crossbeam, use a hydraulic joint. (19) See picture on page 25.

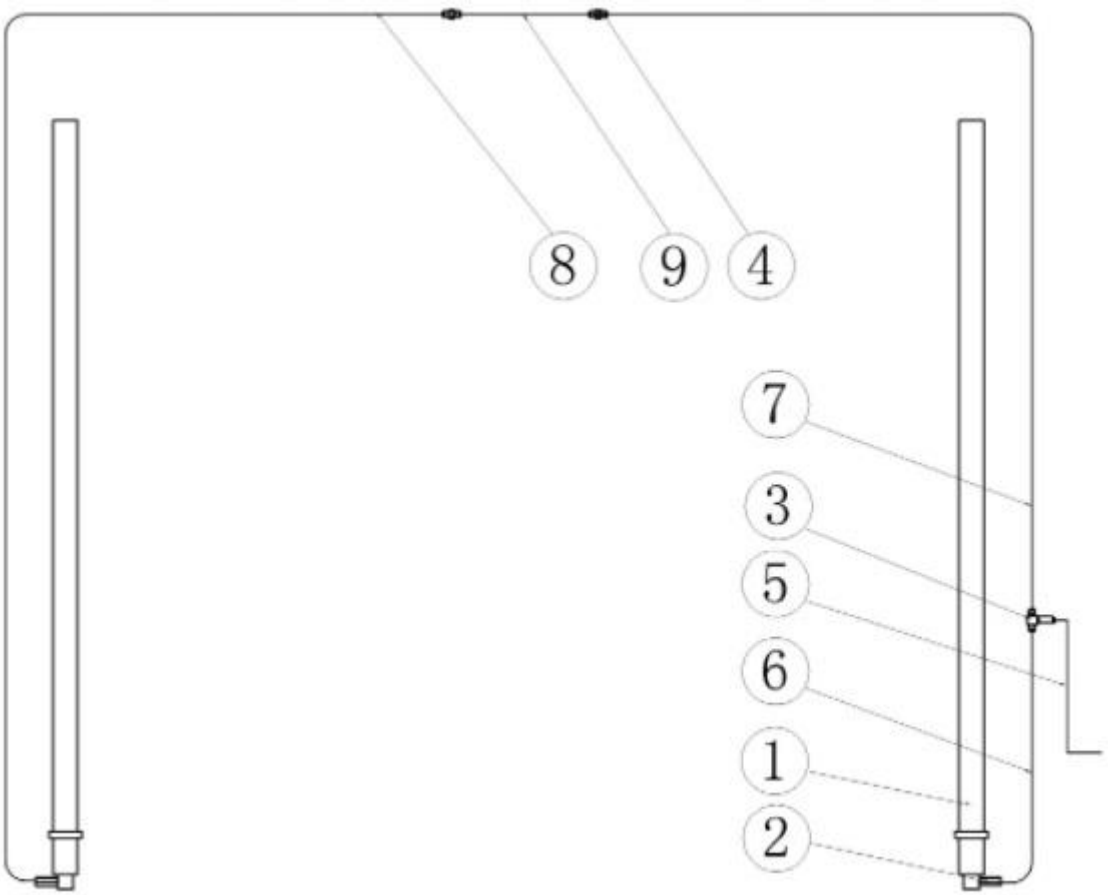
If the lift is mounted in the highest position, the hydraulic hoses from the columns will be too short, as you use the supplied hydraulic hose (4) and two hydraulic joints (19) to get the hydraulic hoses together. See picture on page 26.

Hydraulic hoses when the lift is to be mounted in the lowest position.



No.	Name	Spec. model	Quantity
1	Hydraulic cylinder		2 pcs
2	Hydraulic coupling to cylinder, mounted on delivery	NPT 3/8-M14-1,5-68	2 pcs
3	Hydraulic coupling T-joint, mounted on delivery	M16 X 1,5	1 pcs
4	Hydraulic coupling straight-joint	M16 x 1,5	1 pcs
5	Hydraulic hose between motor & lift	750 mm	1 pcs
6	Hydraulic hose, mounted on delivery	2080 mm	1 pcs
7	Hydraulic hose, mounted on delivery	3350 mm	1 pcs
8	Hydraulic hose, mounted on delivery	5520 mm	1 pcs

Hydraulic hoses when the lift is to be mounted in the highest position.



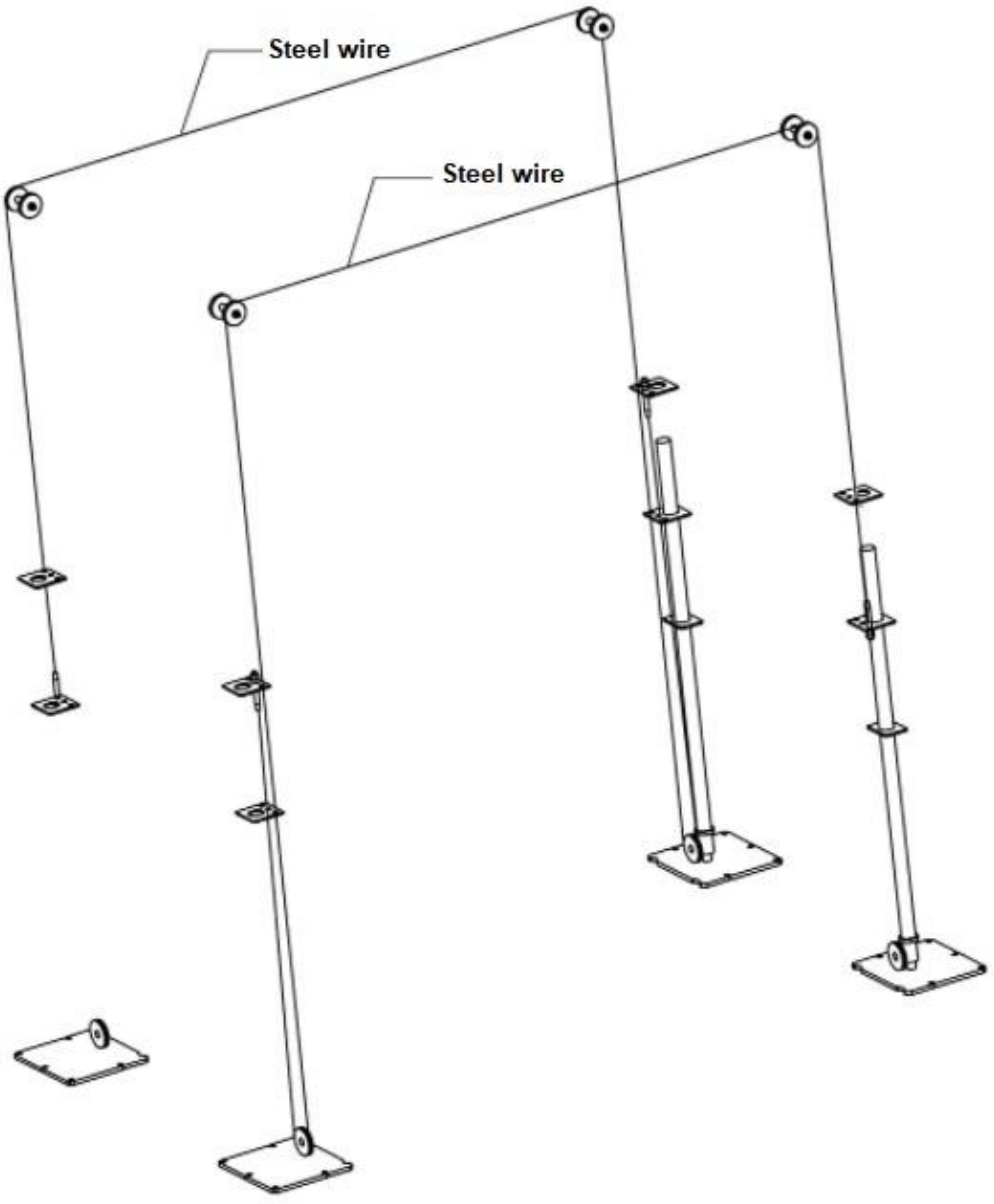
No.	Name	Spec. model	Quantity
1	Hydraulic cylinder		2 pcs
2	Hydraulic coupling to cylinder, mounted on delivery	NPT 3/8-M14-1,5-68	2 pcs
3	Hydraulic coupling T-joint, mounted on delivery	M16 X 1,5	1 pcs
4	Hydraulic coupling straight-joint	M16 x 1,5	2 pcs
5	Hydraulic hose between motor & lift	750 mm	1 pcs
6	Hydraulic hose, mounted on delivery	2080 mm	1 pcs
7	Hydraulic hose, mounted on delivery	3350 mm	1 pcs
8	Hydraulic hose, mounted on delivery	5520 mm	1 pcs
9	Hydraulic hose extension	1120 mm	1 pcs

Steel wire

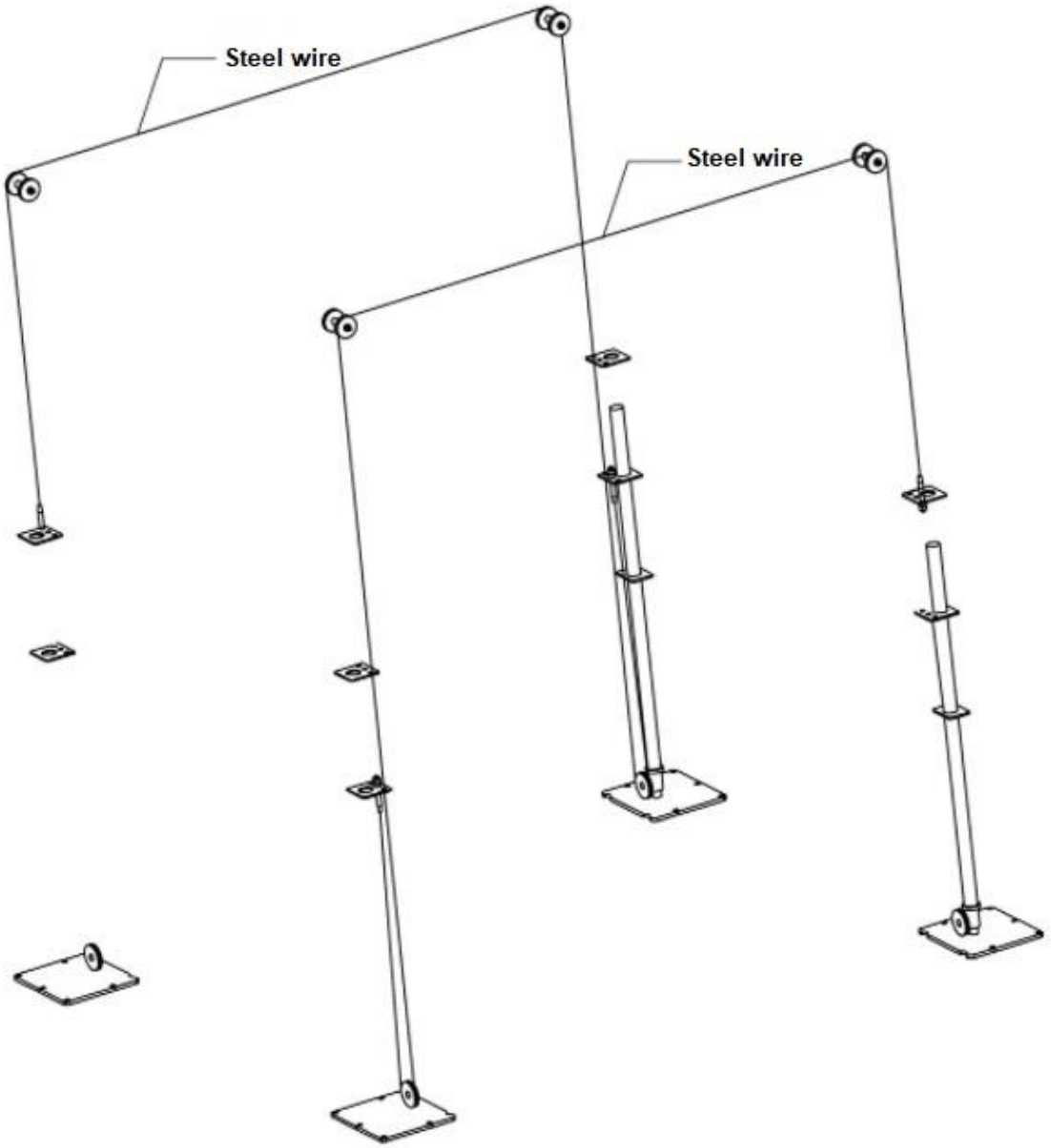
When the lift is delivered, one end of the steel wires is mounted in each pillar. The wires must be pulled over from one pillar - through the wire wheel in the crossbeam - over to the other side - through the wire wheel in the crossbeam and then attached to the sledge's upper or lower bracket, depending on the height of the lift.

To be able to adjust the wire, you must remove the door cover that sits on the sleds.

The steel wires when the lift is in the lowest position.



The steel wires when the lift is in the highest position.



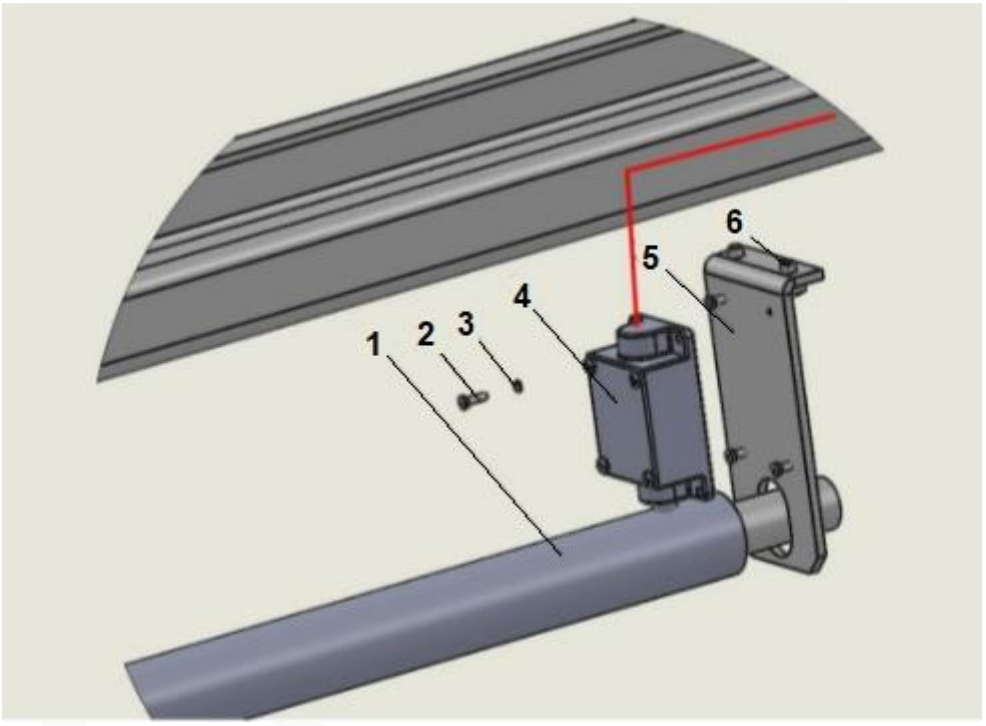
Steel wire mounted when the lift is in the lowest position.

Steel wire mounted when the lift is in the highest position.

End position sensor and rod

The end position sensor must be mounted on the crossbeam together with the bar. If the vehicle is hoisted up and accesses the bar on the cross member before the hydraulic cylinders have reached the maximum height, the lift stops and it is not possible to hoist any more. Only immersion is possible when the end position sensor has switched off.

Start by mounting the end position sensor (14) on the mounting plate, (18) use 4 screws M3 X 10 mm together with 4 spring washers. Then mount both mounting plates (18) on the crossbeam, use 4 screws M6 X 10 mm from screw map C. Route the cable through the crossbeam and down into the column of the control box.

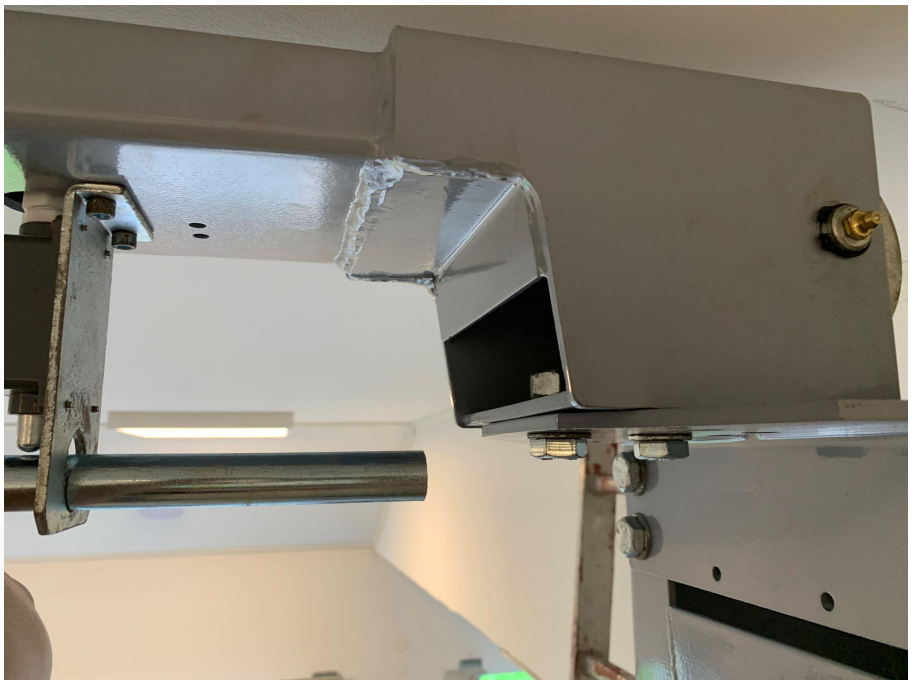


No.	Name	Spec. model	Quantity
1	Rod		1 pcs
2	Screw to the end position sensor	M3 X 10 mm	4 pcs
3	Spring washer	3 mm	4 pcs
4	End position sensor	LX19-001	1 pcs
5	Mounting plate		2 pcs
6	Screw for mounting plate	M6 X 10 mm	4 pcs

Mount the bar there by threading it through the hole in the mounting plate with the end position sensor and then screw it to the other mounting plate, using the screw and nut that is on the bar. Then pull the cable to the control box to connect it. See how to connect it in the section for the control box.

NOTE! If the lift is mounted in the lowest position, then make sure that the rod does not become too long, it may need to be cut by about 50mm. See picture below.

The length of the bar is too long and takes in the crossbeam, cut off about 50mm.



The length of the bar is reasonable and can move freely.

Cylinder limit switch

The cylinder limit switch switches off before the hydraulic cylinder is fully engaged, in order to avoid the hydraulic cylinder being damaged or broken.

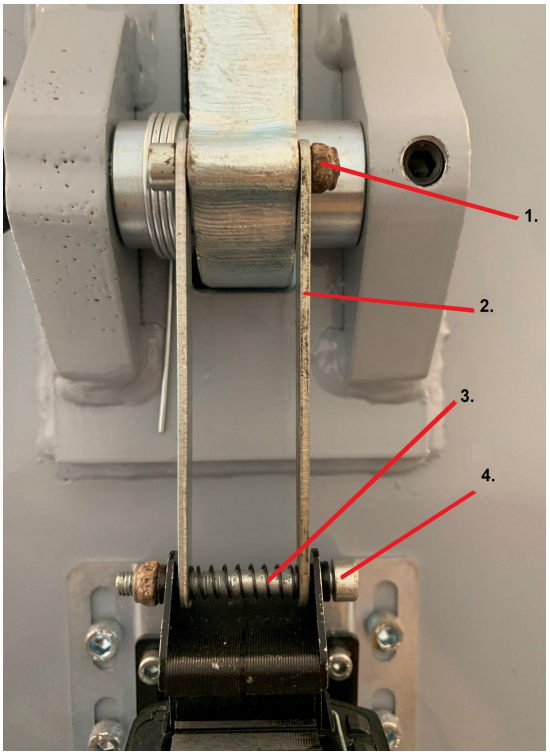
Mount the cylinder limit switch (16) on the supplied plate and then mount the plate on the inside of the main column in the two lower holes, use M5X10mm screw from screw map B. (20) See picture.

Then pull the cable to the control box to connect it. See how to connect it in the section for the control box.

Electromagnets for the latches

The electromagnets are the ones that release the latches when you lower the lift with the down button. There are no mechanical locks that need to be released before, but everything is controlled from the control box.
When the lift rests on the latches, you must first raise the lift a little before you can lower the lift, this so that the latches will be free so they can move. If you do not raise the lift before lowering it, it will only hum in the electromagnets because the latches can not move when the lift rests on the latches.

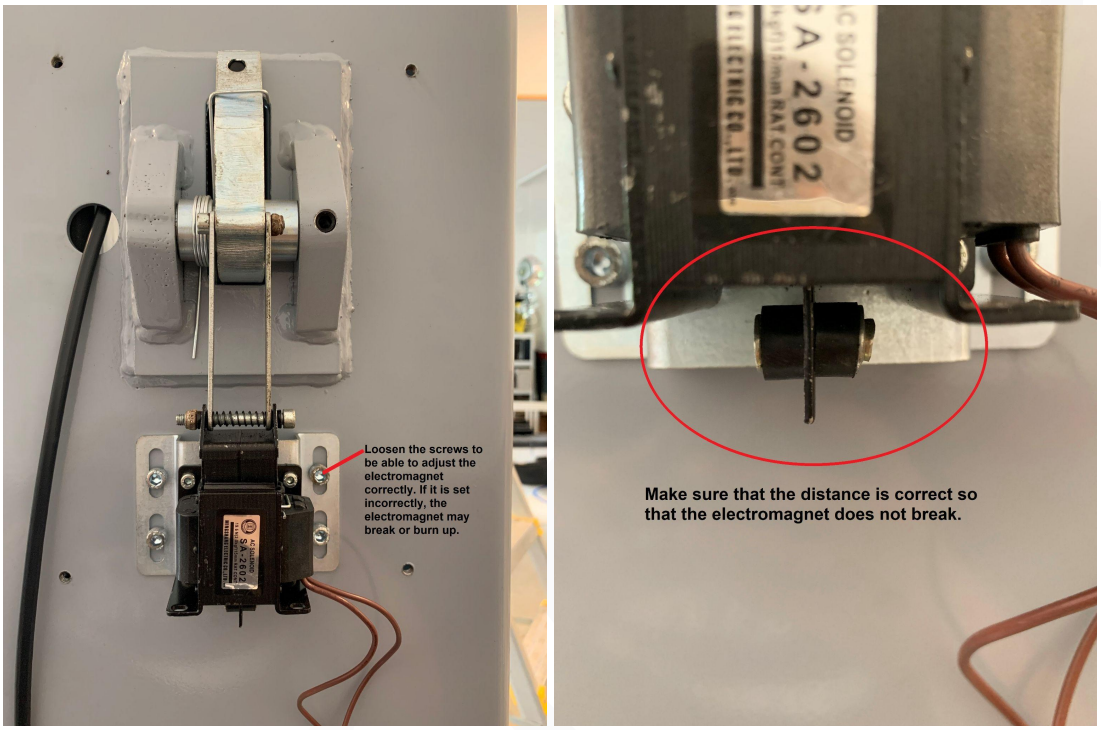
Mount the electromagnets (7) under the latch on each pillar, use screw M6x10mm from screw card C. (22) Use the supplied flat iron between the electromagnet and the latch, use M5x30 and M5x40 screw, spring and lock nut from screw card C to assemble it. See pictures. **NOTE! it should not be screwed on completely, it should be able to move when the electromagnets switch on and off.**



No.	1.	2.	3.	4.
Part	M5X30mm & locknut	Flat iron	Spring between flat irons	M5X40mm & locknut

To be able to adjust the electromagnet, you release the four screws that hold it in the column. It must be adjusted so that the catch does not touch anything when the electromagnet is pulled and the catch is in the released position, also make sure that there is a distance on the underside of the electromagnet. (what is circled in the picture below)

NOTE! If there is no distance between the "stop" and the electromagnet when the lift rests on the catches, the lift will break the electromagnet.



When the electromagnets are correctly mounted, they must be connected with the pre-wired cable (black two-wire) that has the correct contact. The cable should be pulled from the control box through the main column further through the crossbeam and down into the column on the other side. Then connect the electromagnets to the connector and the other end of the control box. See how to connect it in the section for the control box.

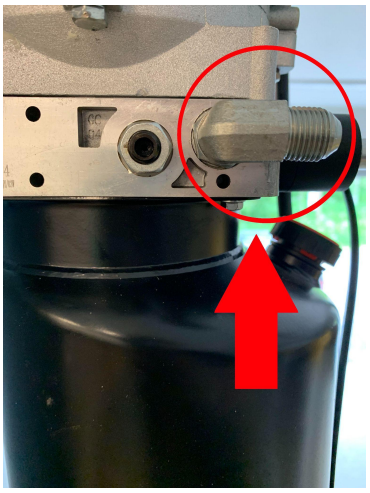
Motor

Mount the motor and tank (2) on the main column, use bolt M8X30mm, rubber washer and nut from screw map B. (20) Bolt, washer and nut are mounted but only screw on the nut a few turns, the rest is screwed on when the motor is in place. It is possible to mount it yourself, but it is easier if you are two so that you can hold on while the other screws the bolts. Make sure that the rubber washers end up between the motor and the pillars, See pictures.
Route the cables from the motor through the column down to the control box.

Engine power	Voltage
2 200W	400V

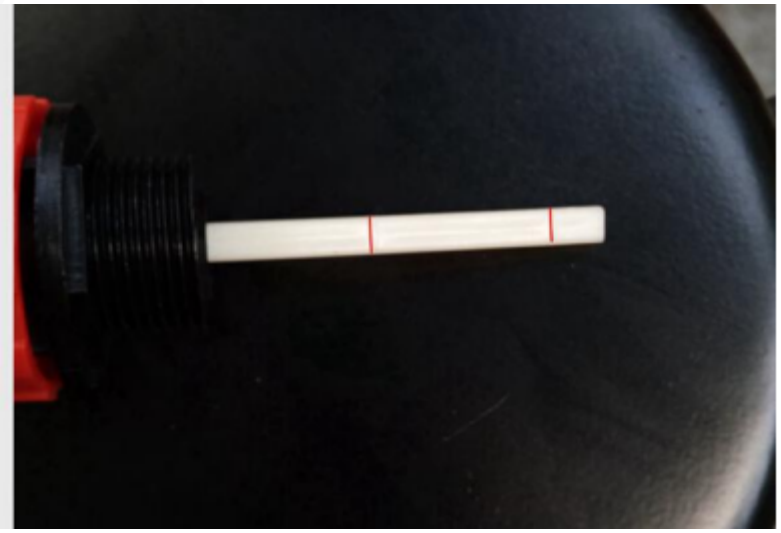
Hydraulic connection and oil tank

The connection for the hydraulic hose on the column is already mounted on delivery. Check that the connection for the hydraulic hose (5) on the motor is at the correct angle before mounting the hydraulic hose between the column and the motor. Angle the connection if necessary. Install the hydraulic hose with the angled connection at the engine and the other in the column. see pictures.



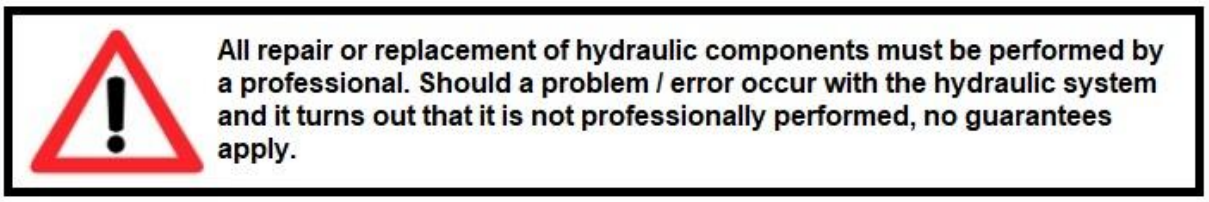
Oil type	Consumption
Hydraulic oil N46	12 Liter

Make sure that the oil level is at a level between the lines on the level dipstick located in the lid, see picture.

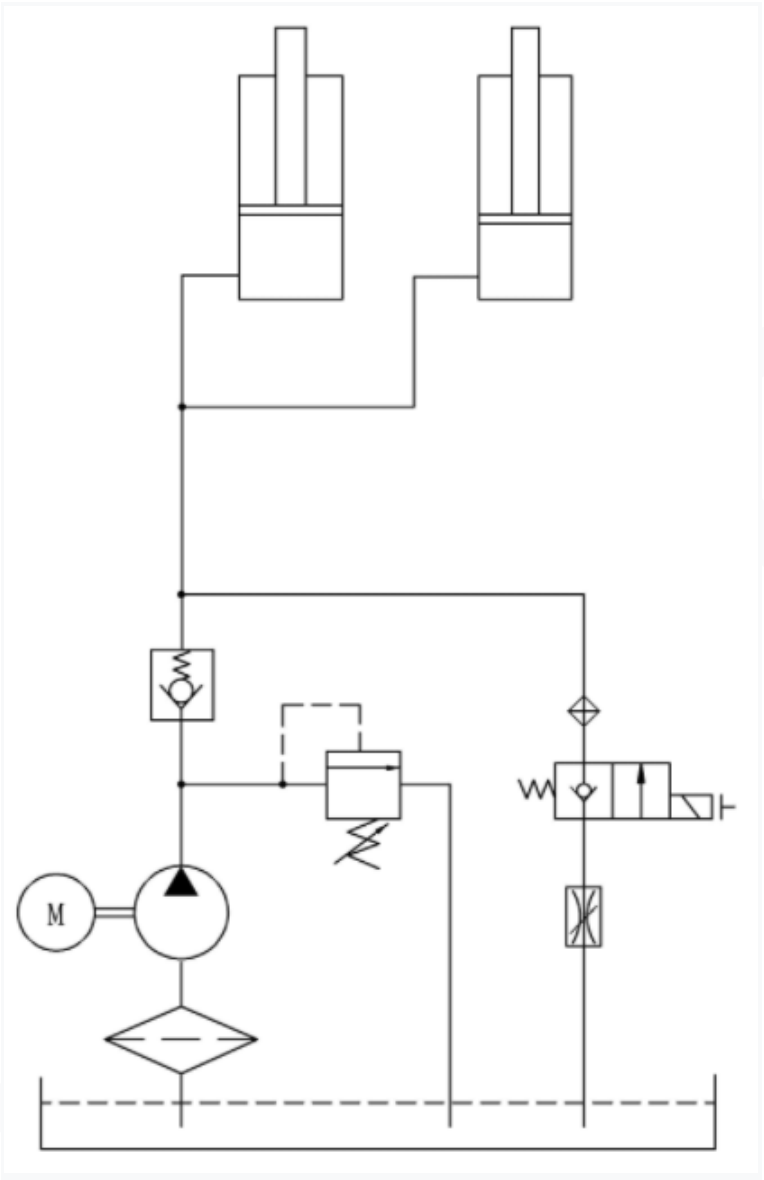


Safety rules for the hydraulic system

- Only a qualified professional may disassemble or repair pumps, valves etc.
- The system pressure should not be adjusted, if they are exceeded it may cause machine damage or personal injury.
- The hydraulic hoses must not reach sharp objects or be pinched.
- The hydraulic hoses must not come into contact with corrosive substances.
- If any hydraulic hose is damaged, it must be replaced.
- When replacing the hydraulic hose, the hose must withstand at least twice the system pressure.

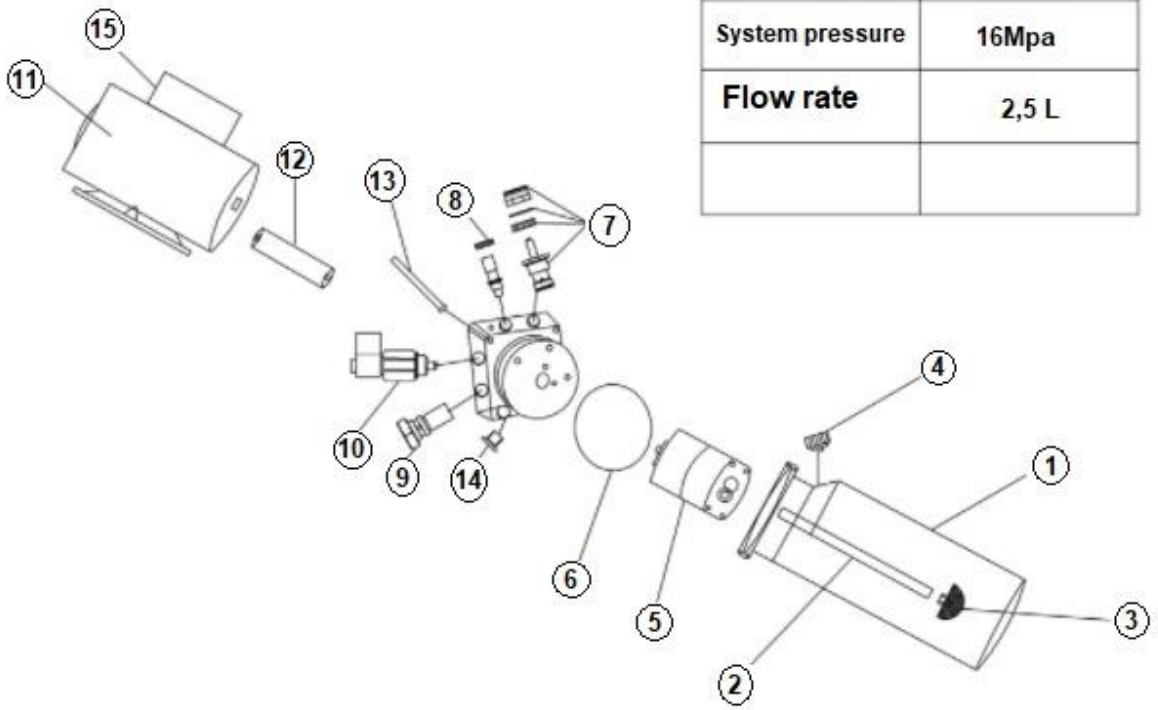


Hydraulic circuit diagram



Exploded view motor and pump

Voltage	230/400V
System pressure	16Mpa
Flow rate	2,5 L



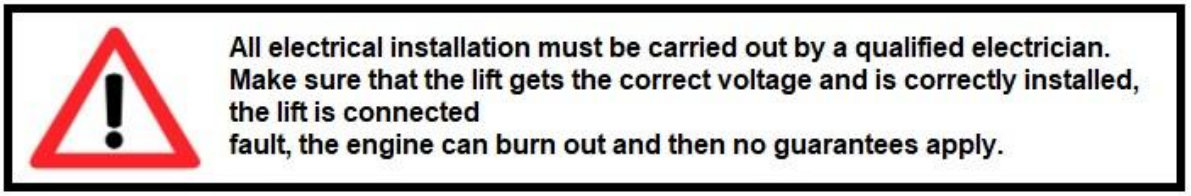
No.	Name	No.	Name
1.	Tank	9.	Check valve
2.	Pick-up pipe	10.	Electromagnetic directional valve
3.	Filter	11.	Engine
4.	Filling lid, also level marking	12.	End cap
5.	Gear pump	13.	Screw
6.	Ring to tank	14.	Tank screw
7.	Overflow valve	15.	Junction box
8.	Throttle valve		

Control box

From the control box you control the lift, you do not have to release any mechanical locks manually but everything is managed from the control box.

When the lift reaches a certain height, a clunking sound is heard, it is the barriers that sound. When the lift has the desired height, you hold down the lock button, then the lift sinks down and lies on the bars and then it is free to go under the lift.

When you are going to lower the lift and it is on the barriers, you must first drive up the lift a little before you can lower it, this so that the barriers can move freely. If the lift is not on the bars, you do not need to drive it up before lowering it, then you can lower it immediately.

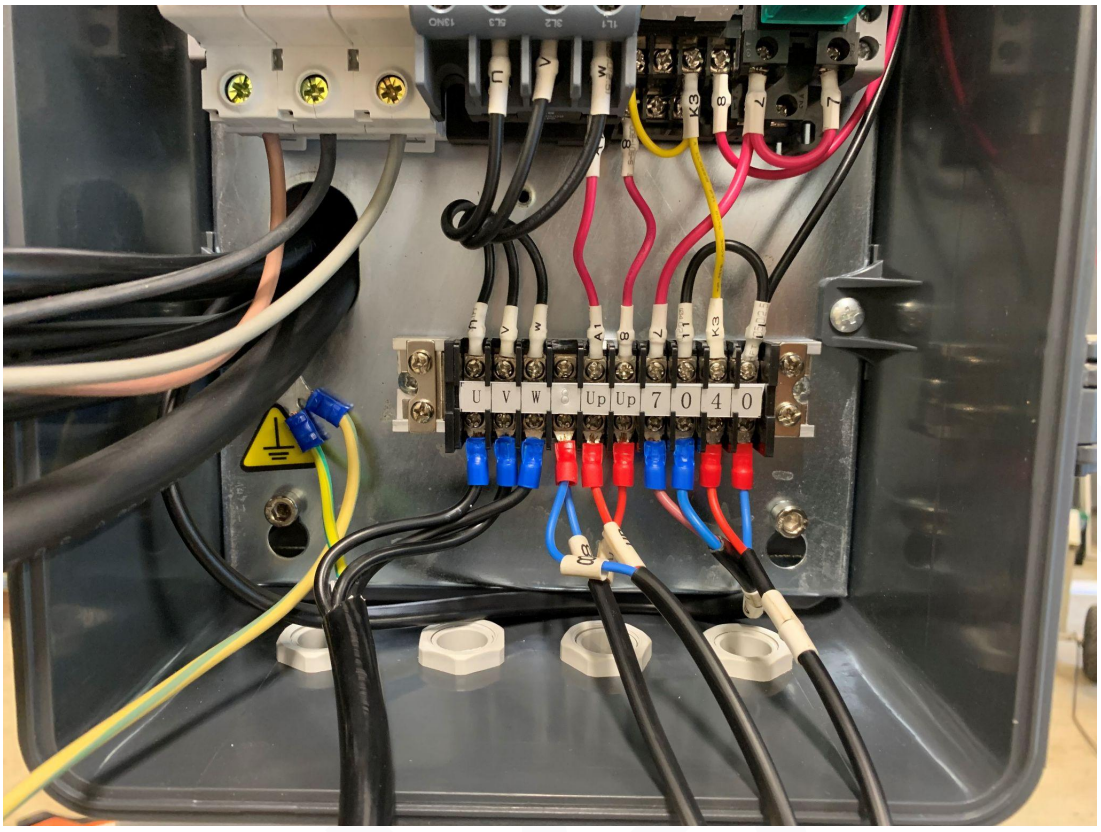


No.	Feature
1.	Raise the lift.
2.	Lower the lift, release the latches and lower the lift.
3.	Lock button, the lift is lowered but the locks are not released and the lift stops when it has placed on the locks.
4.	Indicator light that illuminates when the power is on.
5.	Buzzer that flashes and beeps when you lower the lift.
6.	Main switch, switching the power on and off.

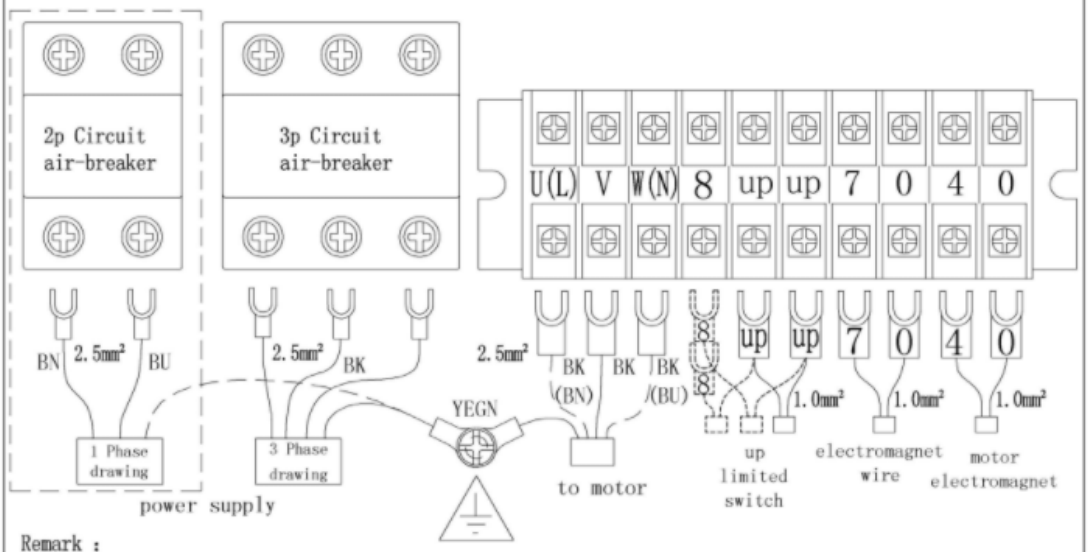
Safety rules for the electrical system

- All troubleshooting and repair must be performed by a qualified electrician.
- When troubleshooting, make sure the power source is turned off and the main power switch is locked.
- Never connect power to any equipment without determining that all persons performing any work on the lift are finished with their work.
- Do not open the electrical control box unless it is necessary to check electrical equipment.
- When replacing electrical components, make sure they are compliant manufacturer's specifications, including correct color coding.
- Do not modify the electrical circuits unless authorized to do so by the manufacturer.
- Take extra precautions in humid areas to protect yourself from accidental grounding.
- Do not carry metal objects such as. metal necklaces, chains, rings, etc. when working with electrical equipment.
- Do not change or bypass the safety catches. Read and observe all warning signs before starting.

Wiring diagram



Wiring diagram for control box for BL 2-45T

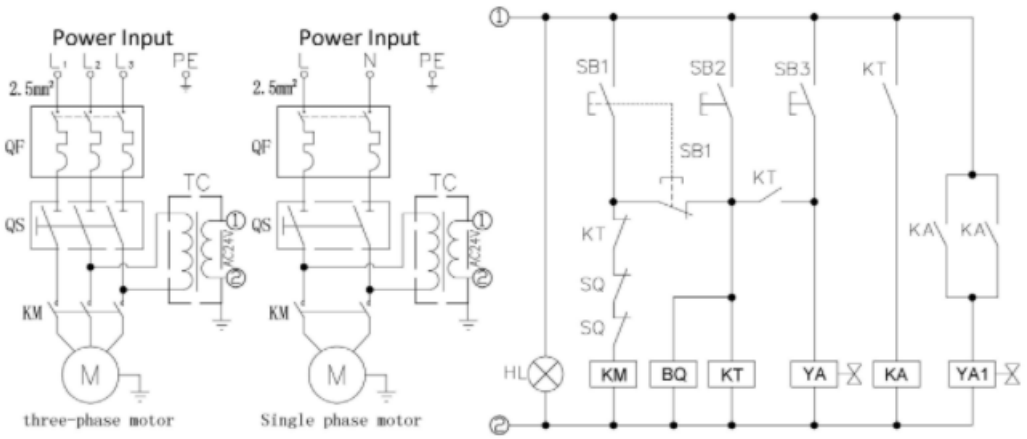


Remark :

1. Before install please confirm the voltage , phase and other parameters on the nameplate , connect the power supply by profession technician , make sure the motor direction rotation is correct .
2. Up limit switch connect way : floor plate two post lift with one limit swtich ;clean floor model with two limit switch . 8. up , 8. up (dotted line part)
3. Make sure each terminal fix firmed , to avoid not solid and damage equipment .
4. Ground wire should be fix well ;if the equipment use out door, should install anti thunder ground wire to avoid accident.
5. Ground resistance should less than4Ω.

Circuit diagram

Circuit diagram for control box for BL 2-45T



NOTE: please make sure the different electric circuit connection between three-phase/single, also pay attention to Positive and Negative for 3phase motor connection; The grounding connection of whole circuit system should be strong, Ground resistance is less than 4 Ω; input circuit Single wiring diameter is more than 2.5MM2.

QF	Circuit air-breaker	SB1	UP	TC	Transformer	KT	Time Relay
QS	Disconnect Switch	SB2	Down	YA	Valve Solenoid	KA	Intermediate relay
KM	A.C. contactor	SB3	Lock	YA1	Electromagnet	SQ	Limit switch
M	Motor	HL	Power Indicator				

Lifting arms

Position the arms so that the longest ones end up in the front (the direction that the front of the vehicle will be) and the short ones at the back. The lifting arms must be mounted and locked using the struts (9) Thread the struts (9) through the lifting arms and the slide, then lock the struts with the locking ring from screw map B. (20)

Insert the lifting pads (6) into the hole on the lifting arms and lock with a locking ring from screw map B. (20) If the raising sleeves (11) are to be used, place them in the lifting arm before the lifting pads. (6) See pictures below.

Mount a holder (10) for the riser sleeves on each pillar and use M8X12 mm screw from screw map B, see picture.

Install the foot guards (12) on the outside of each lifting arm, in which fit the washers (1) that can be used to load tools etc.

Checklist to go through before operation

- Check that the pillars are vertical and that the lifting arms are level.
- Make sure the expander bolts are securely fastened.
- Make sure that the lift gets the correct voltage before use.
- Make sure that the electrical cables are properly connected and the ground cable is connected.
- Make sure that nothing has or can be pinched or damaged.
- Make sure the oil pipes are properly connected and tightened.
- Make sure the workplace is adequate, clean and safe.

First commissioning

When the lift is put into operation for the first time, there are some things that must be done before use.

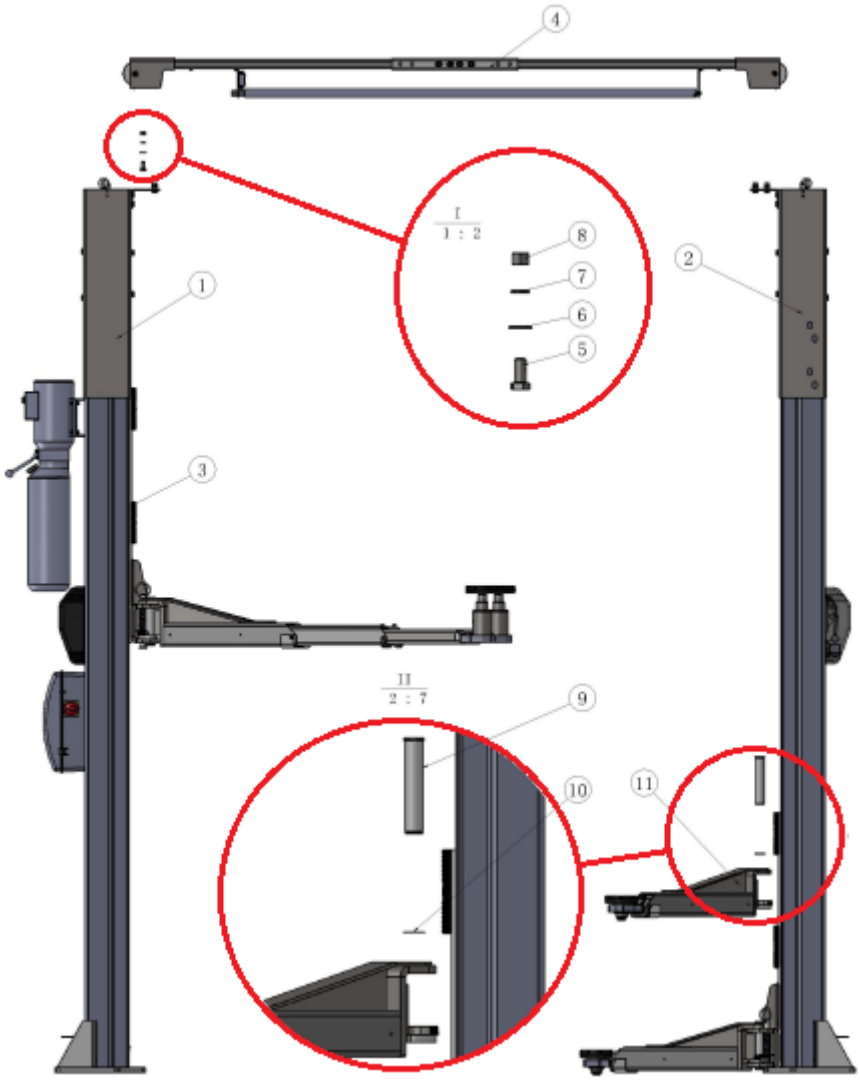
Direction of rotation of the motor. (Three-phase motor)
Press the up button for a maximum of 5 seconds and then unscrew the hydraulic hose at the T-joint in the main column and check if there is oil in the hose. If there is no oil in the hose, the engine goes in the wrong direction, then changes places on two of the phases in the control box so that the engine goes in the other direction. Repeat the same process again and check for oil.

Bleeding the hydraulic cylinders.
Press the up button and raise the listening arms to the highest position, then press the down button and lower the lifting arms again. Open the bolt on top of the cylinder and release the air, closing the bolt when there is only oil. Repeat the step a couple of times until all the air is out of the system.

Lift arm height and test run.
Raise the lift arms a bit and check that the lift arms are the same height from the floor on both sides. It may differ by a maximum of 5 mm. If it is not the same, adjust the steel wires until the dimensions are equal to + - 5 mm. Run the lift up and down a couple of times and check that there are no noises, oil leaks or shakes, also check that the engine is running in the right direction and that the electronic parts are working properly. Load the lift with weight and run it up and down again and check the same as before. If everything seems okay, then the lift is ready to start using.

Exploded view

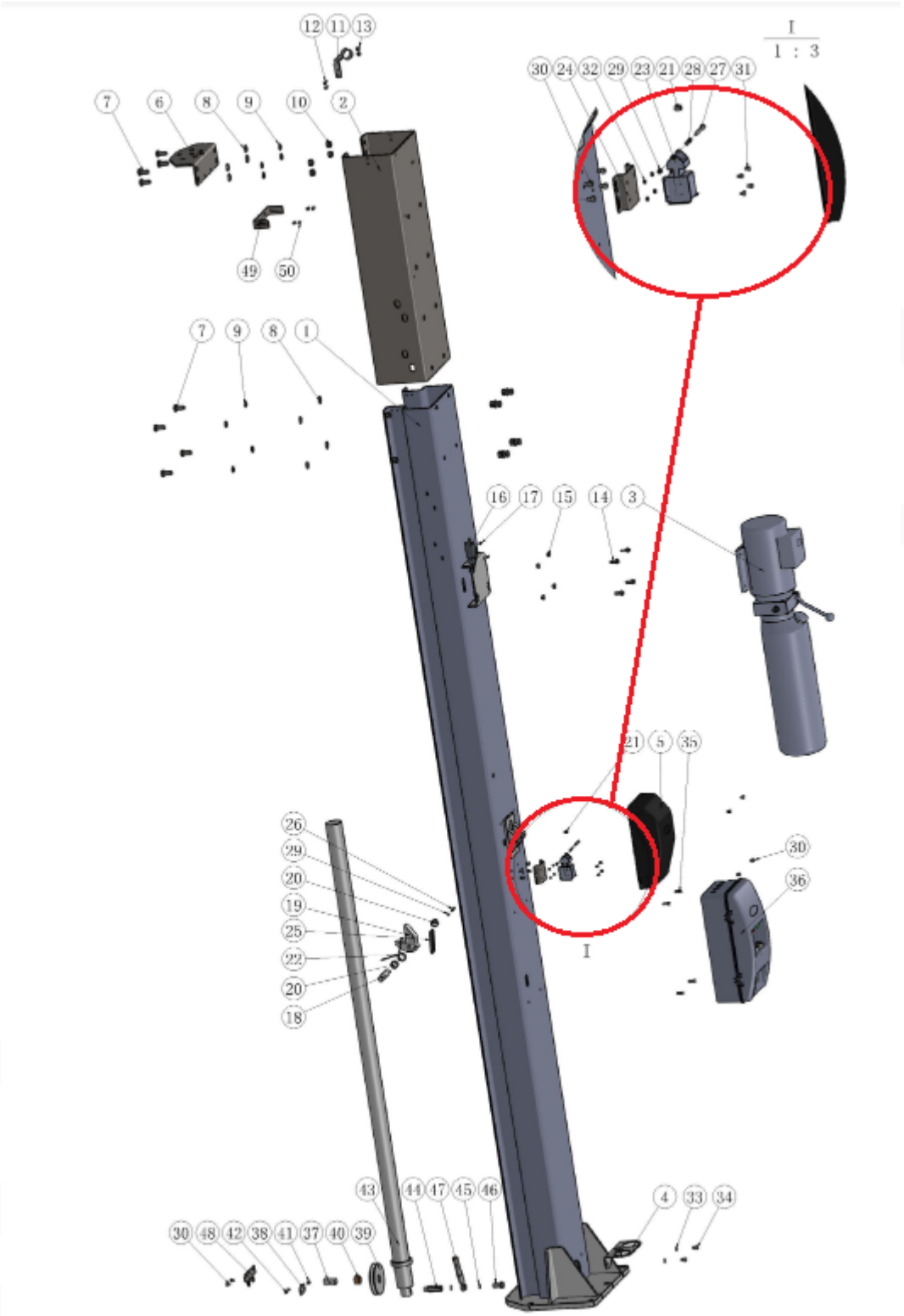
The lift in its entirety



The lift in its entirety continued

No.	Name	Serial no.	Specification	Quantity
1	Main pillar	21015411000		1
2	Pillar	21015412000		1
3	Sled mounted	21015220000		2
4	Cross member mounted	21015440000		1
5	Bolt to crossbeam		M14x30	4
6	Washer for crossbeam		∅ 14 mm	4
7	Spring washer for crossbeam		∅ 14 mm	4
8	Nut for crossbeam		M14	4
9	Stay for the sled	91015120900		4
10	Locking ring for stays		∅ 38 mm	4
11	Tappet	21015430000		4

Main pillar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12 11 13
7 6 8 9 10 2
49 50
30 24 32 29 23 21 28 27 31
7 9 8 1
16 17 15 14 3
21 5 35
26 29 20 19 25 22 20 18
30 36
43 44 47 45 46
4 33 34
30 48 42 38 41 37 40 39

Main pillars continued

No.	Name	Serial no.	Specification	Quantity
1	Main pillar	21015310100		1
2	Upper section	21015210300		1
3	Motor and pump			1
4	Holder for riser sleeves	91015111000		1
5	Protective cap electromagnet	91013200002		1
6	Bracket for crossbeam	21013110300		1
7	Bolt		M14x30	12
8	Tray		∅ 14 mm	12
9	Spring washer		∅ 14 mm	12
10	Nut		M14	12
11	Feed-through for hydraulic hose			1
12	Screw for bushing		M6x20	2
13	Nut for implementation		M6	2
14	Bolt for motor		M8x25	4
15	Nut to engine		M8	4
16	Limit switch		ME8108	1
17	Screw to limit switch		M5x12	2
18	Mechanical locking shaft			1
19	Mechanical lock	21013111300		1
20	Mechanical locking distance		∅ 14 mm	2
21	Screw to locking shaft			1
22	Torsion spring			1
23	Electromagnet			1
24	Bracket for electromagnet	91011211100		1

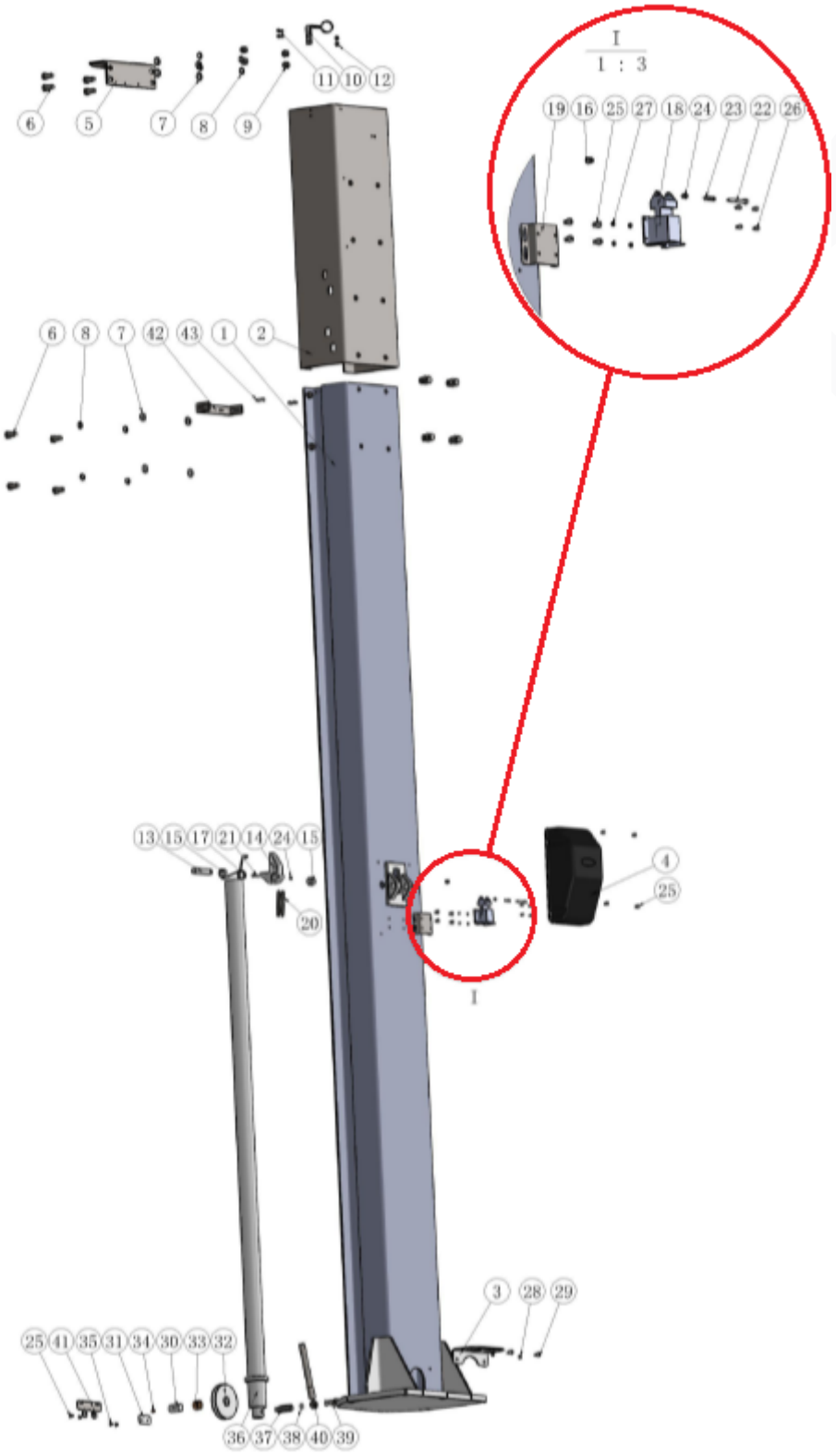
Main pillars continued

No.	Name	Serial no.	Specification	Quantity
25	Flat iron	91011211000		2
26	Screw to flat iron for electromagnet		M5x30	1
27	Screw to flat iron for electromagnet		M5x45	1
28	Compression spring			1
29	Locking screw for flat iron for electromagnet		M5	2
30	Screw for attachment to the electromagnet		M6x10	10
31	Screw to the electromagnet		M4x6	4
32	Nut for electromagnet		M4	4
33	Spring washer		∅ 8 mm	2
34	Screw to bracket for mounting sleeves		M8x12	2
35	Screw to control box		M6x20	4
36	Control box			1
37	Shaft to lower pulley			1
38	Fixation for shaft to pulley			1
39	Lower pulley			1
40	Self-lubricating bearings		253019	1
41	Oil cup		∅ 8 mm	1
42	Countersunk screw		M6x8mm	2
43	Piston cylinder			1
44	Hose connection		NPT 3-8 M14×1.5 -68	1

Main pillars continued

No.	Name	Serial no.	Specification	Quantity
45	Tray		∅ 14 mm	2
46	Hollow bolt		M14X30	1
47	Hydraulic hose		2080 mm	1
48	Washer for wire wheels			1
49	Not used	21015112400		1
50	Screw		M6X10 mm	4

Second pillar



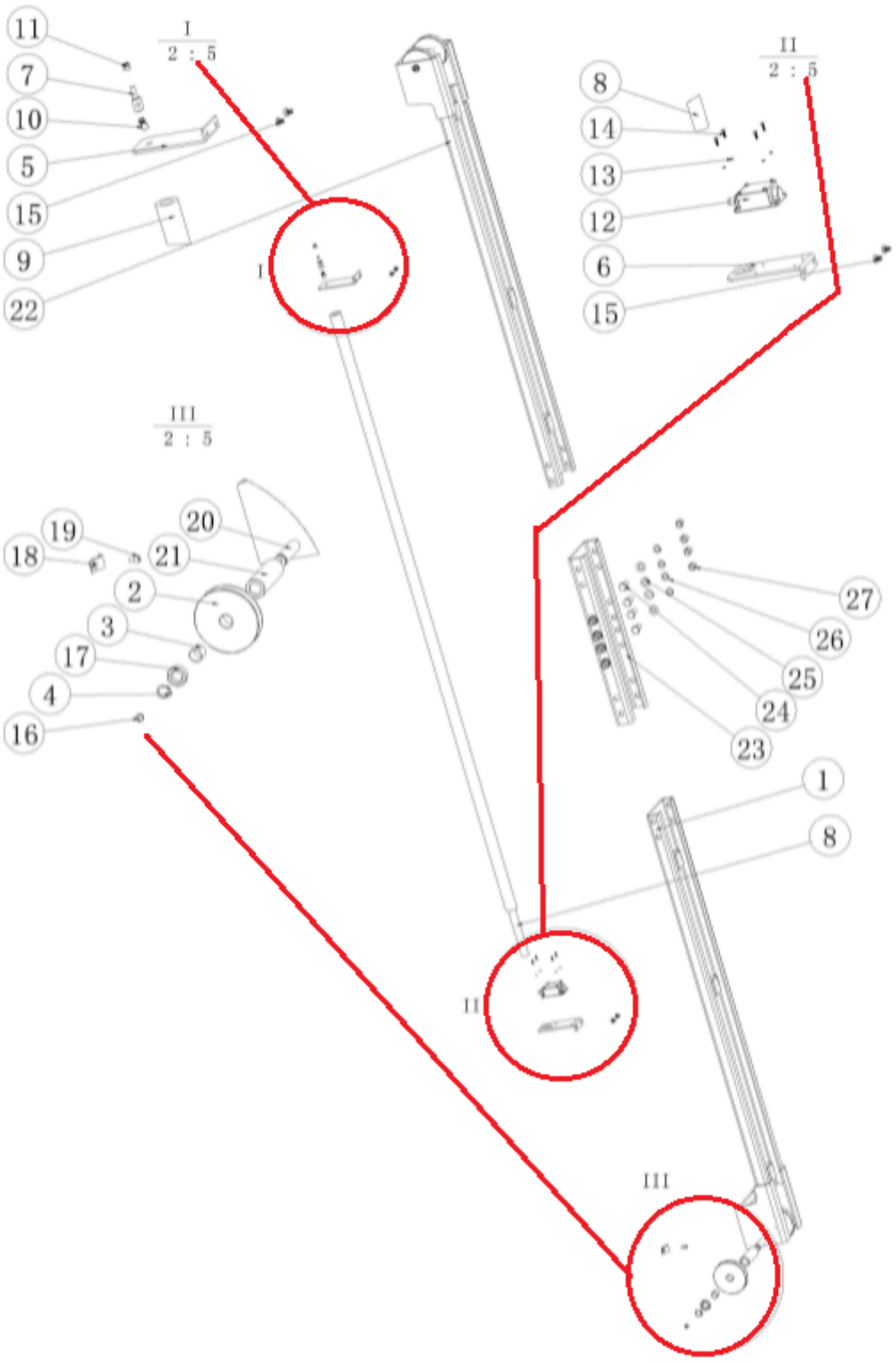
Second pillar continuation

No.	Name	Serial no.	Specification	Quantity
1	Pillar	21015310200		1
2	Upper section	21015210300		1
3	Holder for riser sleeves	91015111000		1
4	Protective cap electromagnet	91013200002		1
5	Bracket for crossbeam	21013110300		1
6	Bolt		M14X30 mm	12
7	Tray		∅ 14 mm	12
8	Spring washer		∅ 14 mm	12
9	Bolt		M14	8
10	Feed-through for hydraulic hose			1
11	Bolt		M6X20 mm	2
12	Nut		M6	2
13	Mechanical locking shaft			1
14	Mechanical lock	21013111300		1
15	Mechanical locking distance			2
16	Screw to locking shaft		M10X12 mm	1
17	Torsion spring			1
18	Electromagnet			1
19	Bracket for electromagnet	91011211100		1
20	Flat iron	91011211000		2
21	Screw to flat iron for electromagnet		M5x30	1
22	Screw to flat iron for electromagnet		M5x45	1
23	Compression spring			1
24	Locking screw for flat iron for electromagnet		M5	2

Second pillar continuation

No.	Name	Serial no.	Specification	Quantity
25	Screw		M6X8 mm	10
26	Electromagnet screw		M4X6 mm	4
27	Nut for electromagnet		M4	4
28	Spring washer		∅ 8 mm	2
29	Screw		M8X12 mm	2
30	Shaft to lower pulley			1
31	Fixation for shaft to pulley			1
32	Lower pulley			1
33	Self-lubricating bearings			1
34	Oil cup			1
35	Countersunk screw		M6X8 mm	2
36	Piston cylinder			1
37	Hose connection		NPT 3-8 M14×1.5 -68	1
38	Tray		∅ 14 mm	2
39	Hollow bolt		M14X30	1
40	Hydraulic hose		5520 mm	1
41	Washer for wire wheels			1
42	Not used Screw	21015112400		1
43	Screw		M6X10 mm	4

Crossbeam


11
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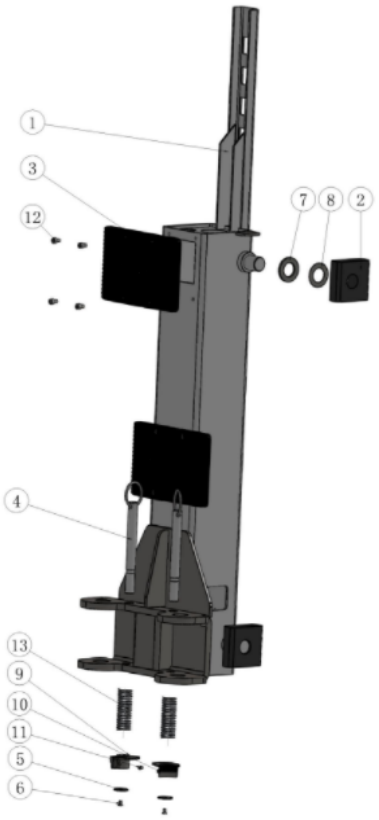
III

Cross beam continued

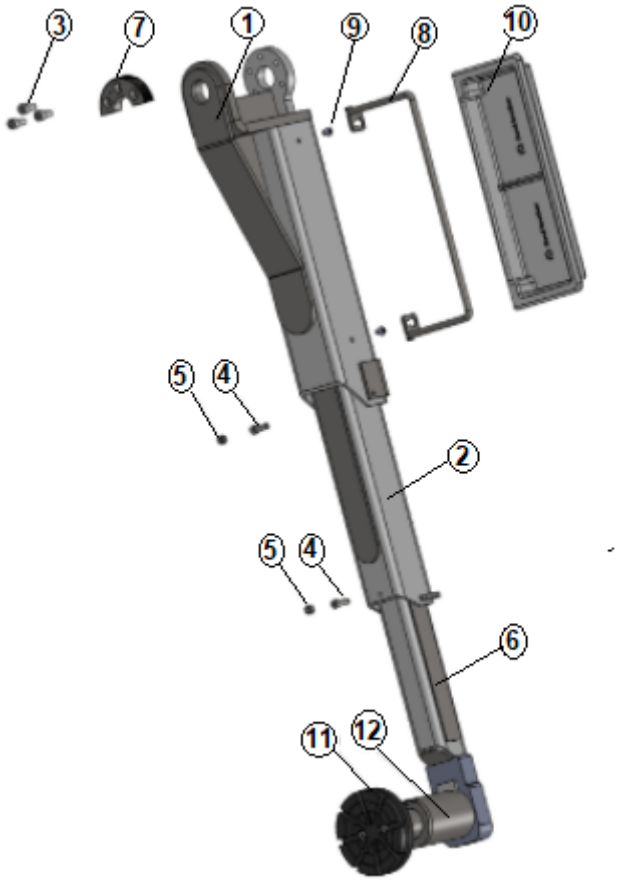
No.	Name	Serial no.	Specification	Quantity
1	Crossbar part 1	21015240100		1
2	Upper pulley	91013140200		4
3	Self-lubricating bearings		201819	4
4	Spring washer for shaft		∅ 18 mm	4
5	Angle iron A	91013140600		1
6	Angle iron B	91013110700		1
7	Boundary bar screw	91013110900		1
8	Limit bar	91013140800		1
9	Pipe insulation		∅35X∅20X1940	1
10	Bolt		M6X30 mm	1
11	Locknut		M6	2
12	Limit position sensor		LX19-001	1
13	Spring washer		∅ 3 mm	4
14	Cross screw		M3X10 mm	4
15	Cross screw		M6X8 mm	4
16	Oil cup		M8X1	4
17	Distance upper pulley	91013110400		4
18	3521- Pipe clamps	91030161305		2
19	Bolt		M6X10	2
20	Axle upper pulley	91013140600		2
21	Distance upper pulley	91013140300		2
22	Crossbeam part 2 (B-45KA)	21015240200		1
23	Crossbar part 3	91015240300		1
24	Bolt		M14X30 mm	8
25	Tray		∅ 14 mm	8
26	Spring washer		∅ 14 mm	8
27	Nut		M14	8

Sleigh



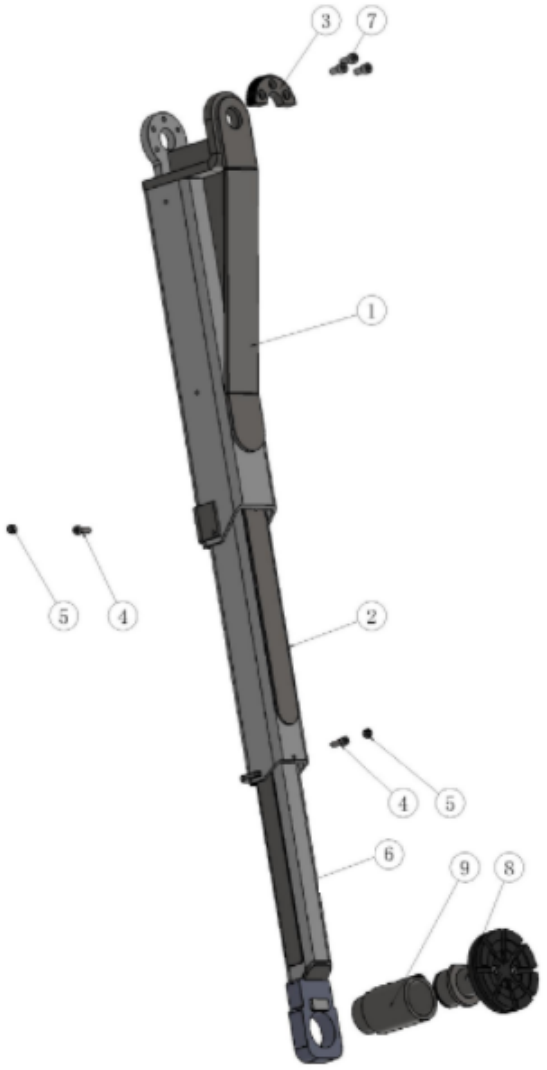
No.	Name	Serial no.	Specification	Quantity
1	Sleigh	21015220100		2
2	Sliding block	21015120200		8
3	Door protection	21013120300		4
4	Shaft to lock lifting arms			4
5	Tray			4
6	Screw		M6X12 mm	4
7	Washer sliding block	21013121400		8
8	Washer sliding block	21013121300		8
9	Internal gear A	21013121100		2
10	Internal gear B	21013121200		2
11	Insex screw		M8X12 mm	4
12	Screw for door protection		M8X12 mm	16
13	Springs for shoulder	91013121200		4

Lifting arm 1 R600



No.	Name	Serial no.	Specification	Quantity
1	Lifting arm R600	91015730100		2
2	Extension arm middle part R600	91015740100		2
3	Bolt		M10X20 mm	6
4	Bolt		M8X25 mm	4
5	Hexagon screw		M8	4
6	Extension arm end part R600	91015730300		2
7	Outer gears			2
8	Holder for washer	21013130600		2
9	Screw		M8X10 mm	4
10	Tray			2
11	Lifting pillow			2
12	Elevation sleeve			2

Lifting arm 2 R750



No.	Name	Serial no.	Specification	Quantity
1	Lifting arm R750	91015730400		2
2	Extension arm middle part R750	91015730500		2
3	Outer gears			2
4	Bolt		M8X25 mm	4
5	Hexagon screw		M8	4
6	Extension arm end part R750	91015730600		2
7	Bolt		M10X20 mm	6
8	Lifting pillow			2
9	Elevation sleeve			2

Notes