

Bodema®

Manual

Scissor lift BL 35-19

3 500 kg/ 7716 LB



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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 nameplate of the lift, 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 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.
- It is not permitted to use the lift in humid environments.

Security features

- Bodemas BL 35-19 has a locking system that is equipped with two separate hydraulic circuits, which means that you avoid mechanical locking and thus avoid connecting compressed air to the lift. You do not need to drive up the lift for it to release any latch before lowering it, the lift can be run down or up directly.
- The double hydraulic circuits keep the lift and maintain the pressure even if one system breaks down.
- Photocell sensor that stops the lift if the signal is broken or if the lift lifts at an angle.

Management

- The lift is delivered in three packages that contain: Lifting ramps, control box, rubber blocks and cover plates for hoses and cables. See picture 1.
- The lifting ramps are screwed together during transport and the irons used remain on delivery. The irons are located in the holes for the expander bolt and must be removed before the lift is placed on the floor. See picture 2. Otherwise, the lift is completely covered by packaging.
- All hydraulic hoses and cables are connected in the lifting ramps upon delivery.
- The lifting ramps are very heavy and you should have at least two pieces when lifting / moving the platforms. You should use a machine to lift / move the platforms, but it also works with a motor lift or similar. Use a strap to lift the platforms.
- 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. Pay attention so you do not lose small parts when you open the package.



Picture 1



Picture 2

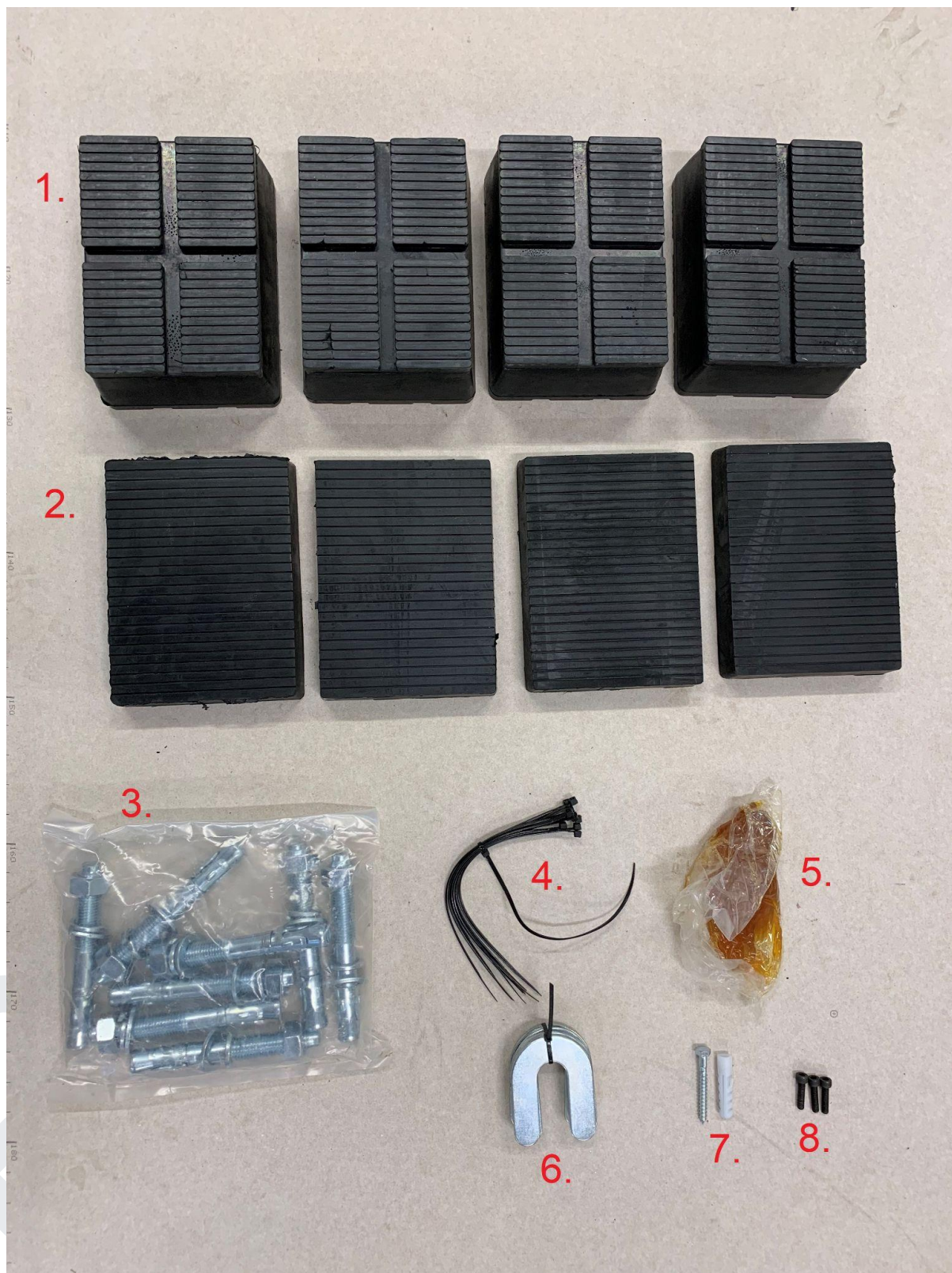
Package contents

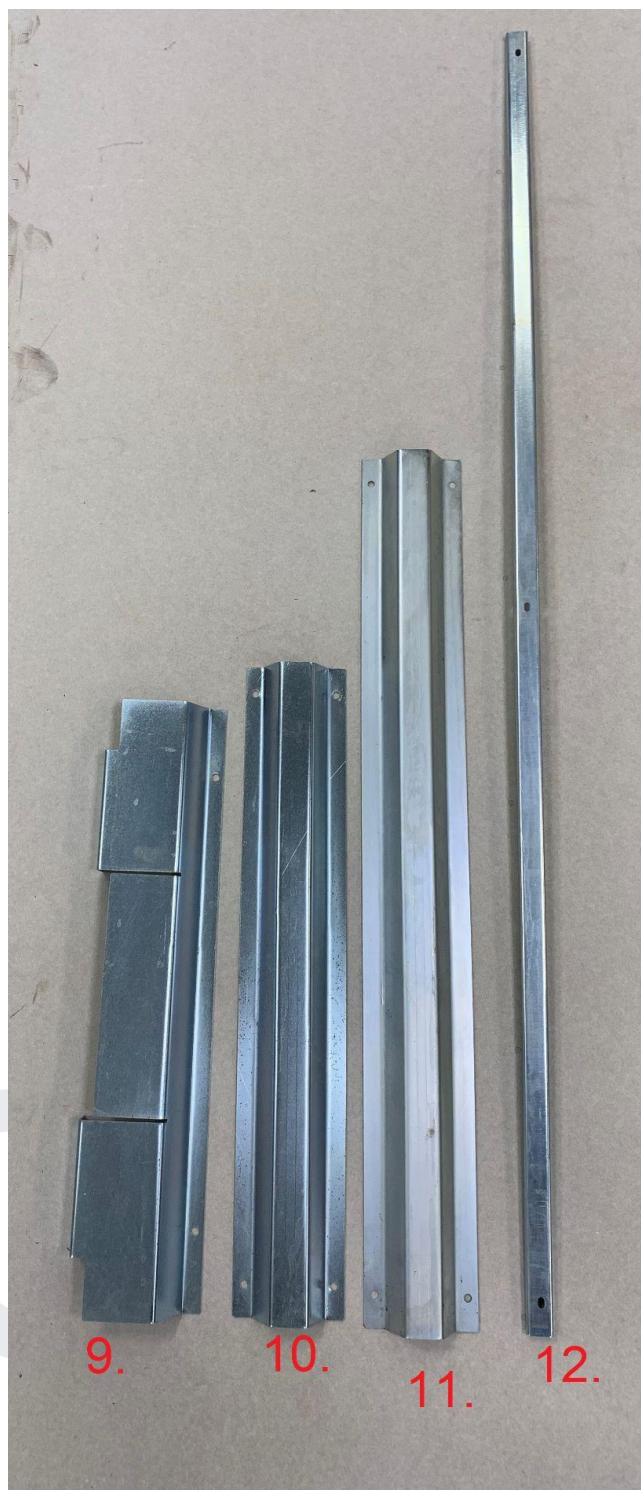
The packages have the following sizes:

Package nr	Content	Dimensions : L X W X H
Package 1	Platforms	L: 2000 mm W: 700 mm H:300 mm
Package 2	Control box with motor & tank	L: 480 mm W: 440 mm H:1100 mm
Package 3	Other parts	L: 1500 mm W: 200 mm H:125 mm

The scissor lift is delivered in three packages, below is a list and pictures of what comes with it except the lifting ramps, control box with motor and tank, hydraulic hoses and cabling. The number of the parts reappears in the installation part and is then in parentheses.

No	Product	Quantity
1.	Rubber lifting cushion L: 165 mm W: 120 mm H:65 mm	4 pcs
2.	Rubber lifting cushion L: 168 mm W: 125 mm H: 28 mm	4 pcs
3.	Expander bolt (M16X120)	8 pcs
4.	Bunle	10 pcs
5.	Grease	1 pack
6.	Washers for expander bolt	16 pcs
7.	Screw & plug for cover plates	32 pcs
8.	Screw for cover plate (no. 12)	3 pcs
9.	Cover plate lift W: 125 mm L: 600 mm	2 pcs
10.	Cover plate hoses and cables W: 110 mm L: 650 mm	3 pcs
11.	Cover plate hoses and cables W: 110 mm L: 900 mm	1 pcs
12.	Cover plate lowering sensor W: 25 mm L: 1440 mm	1 pcs

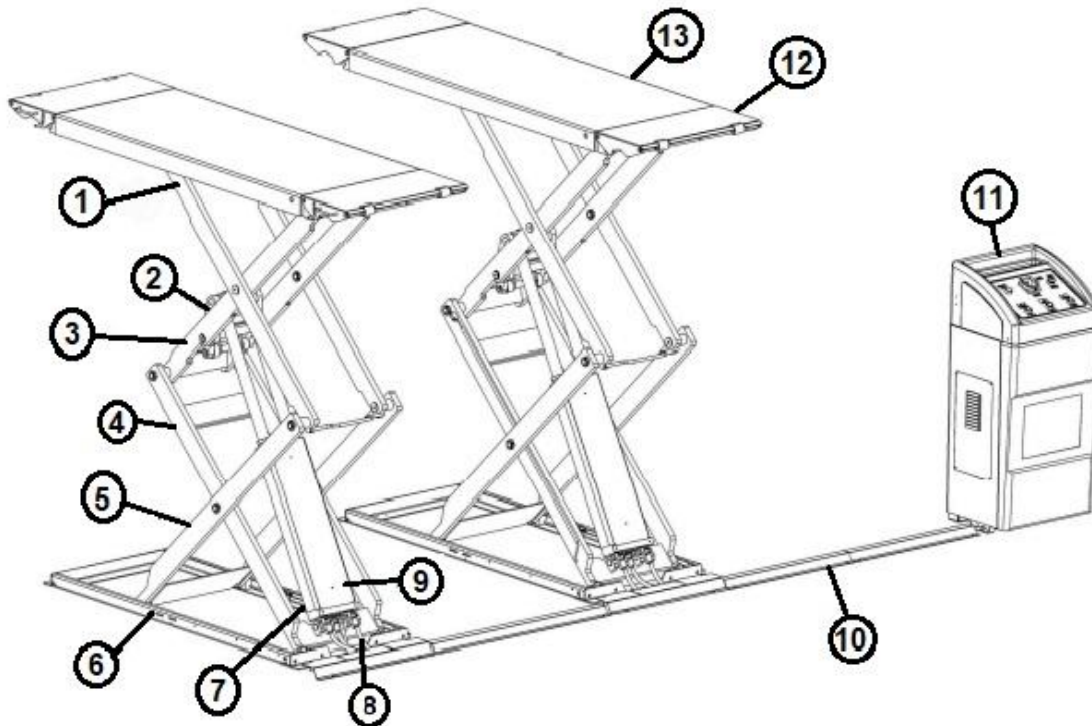
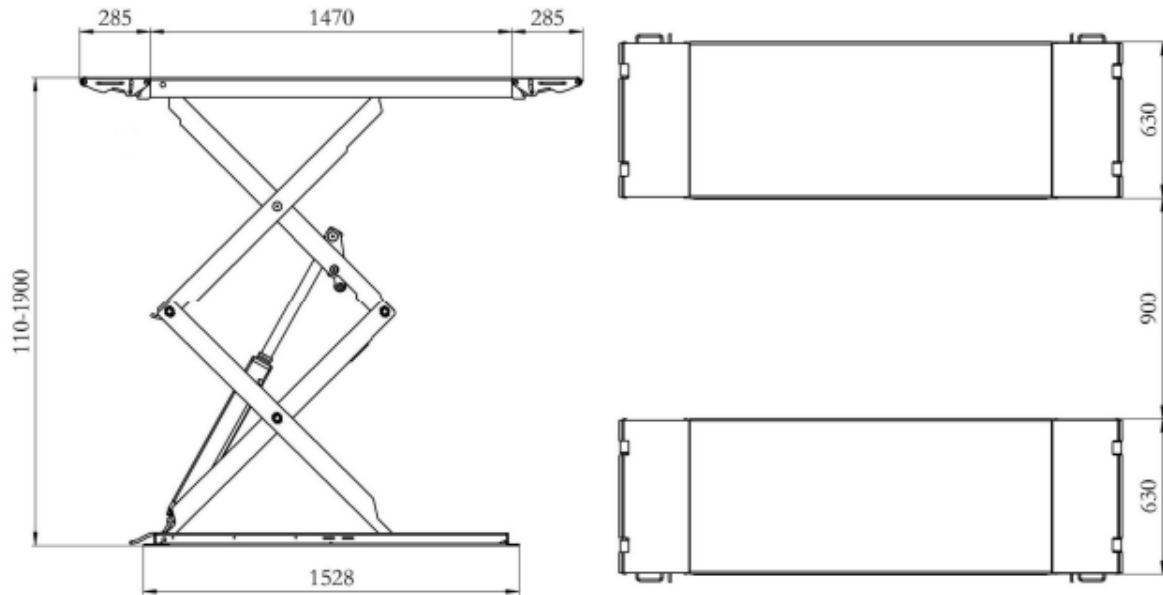




Technical description & use

- The maximum height is 1900 mm.
- Minimum height is only 110 mm, which means that you get over with low vehicles.
- The lift width is a total of 2160 mm and length is 1528 mm
- The width of the platform is 630 mm and the length is 1470 mm, each ramp is 285 mm and can be folded up so you extend the platform length to a total of 2040 mm.
- The distance between the lift and the control panel is 1000 -1500 mm.
- The lift's cylinders, pump and electrical components are of top quality. Laser cut Q345 steel and elegant design.
- Dual-circuit design that makes it stable and secure.

Model	BL 35-19
CE-Marked	Yes
Lifting capacity	3 500 kg / 7716 LB
Lifting height max	1900 mm / 74 inch
Height in lowered position (min)	110 mm / 4 inch
Power supply	380V
Engine power	3,0 KW
Oil pressure	25 Mpa
Net weight	880 kg / 1940 LB
Platform length min - max	1470 - 2040mm / 57 - 80 inch
The thickness of the concrete slab	Least 150 mm, rec 180-200 mm



1	Upper lifting arm outer	2	Piston linkage
3	Upper lifting arm inner	4	Lower lifting arm inner
5	Lower lifting arm outer	6	Base
7	Master cylinder	8	Hydraulic hose
9	Slave cylinder	10	Cover plates for hoses and cables
11	Control box	12	Ramp
13	Platform		



Maximum height of 1900 mm



Minimum height is only 110 mm, which means that you get over with low vehicles.

Control box



1.	Indicator light that illuminates when the power is on.
2.	Main switch, switching the power on and off.
3.	Buzzer that flashes and beeps when you lower the lift.
4.	Button, raises the lift.
5.	Key switch for photocell sensor, switch photocell sensor on or off.
6.	Down button, lowers the lift

Ramps

The ramps can be locked in the raised position, in this way the ramps are extended. if you want to lower the ramps again, you lift the ramp a little lightly and release the barrier for the ramp.



Ramp in lowered position (picture to the left) & raised position with the latch circled. (picture to the right)

Installation

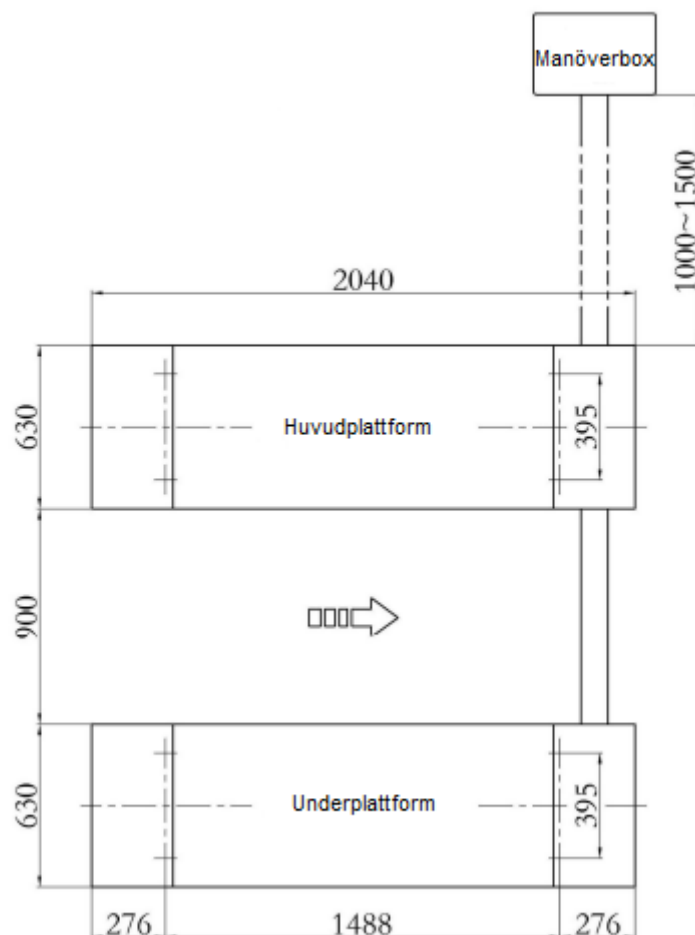
Tools needed

- Impact drill
- 16 and 10 mm Impact drill
- Ratchet shafts and sleeves in sizes 15, 17, and 19
- Ring key in sizes 15, 17, and 19
- Phillips screwdriver
- Flat head screwdriver
- Allen key in sizes 4, and 6
- Polygrip
- Cutter
- Locking ring bar
- Hammer or sledgehammer
- Spirit level
- Line or laser
- Measuring tape or measuring stick
- Pen
- Some nice friends who can help move around the platforms, preferably 2-3 pcs

Placing

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. The distance from the lift to walls or other equipment should be 2 m and the ceiling height should be only 4 m to be able to use the maximum height of 1900 mm.

The concrete where the lift is to be placed must have a thickness of at least 150 mm, recommended thickness 180-200 mm. The concrete slab must have a strength of more than 3000 psi and a level difference of max. 5 mm. 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.



Platforms

Start by measuring and marking on the floor where the platforms should be placed. Place the main platform, sub-platform and control panel in their places. The distance between the platforms must be 900 mm and have a tolerance of a maximum of 10 mm. Cross measure to see so the platforms are correctly positioned and have a tolerance of max. 5 mm.

On the main platform are sensors for up, down and photocell. The main platform has both hydraulic hoses and cables contracted while the sub-platform only has hydraulic hoses contracted. See picture below. Be careful with hoses and cables so they are not pinched or damaged. All hoses and cables must come out on the same side on both platforms.

The mounting holes for the expander bolts are circled in the picture on the next page. When attaching the platforms to the floor, there are two options.

Option 1: Start by connecting all the hoses and cables to be able to run up the lift, when this is done you will have to drill the lift into the floor.

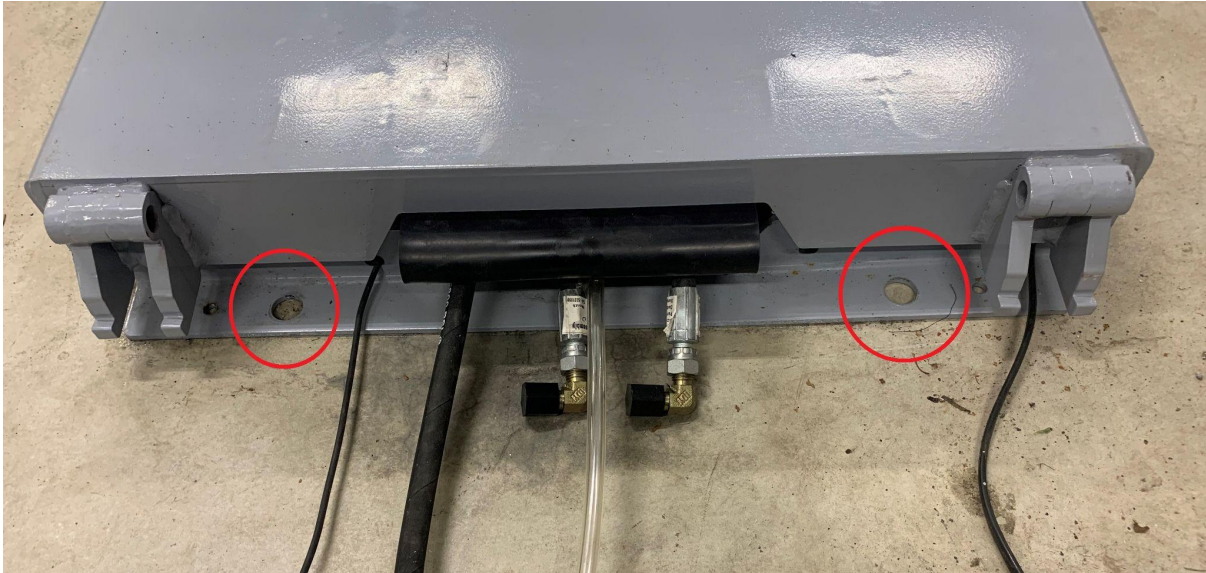
Option 2: Remove the ramps temporarily by removing the iron bar so the ramp is loose and then you can drill the lift into the floor.



The sub-platform with hoses (left) & the main platform with hoses & sensor cables. (to the right)

Hydraulic hoses and sensors

Hydraulic hoses

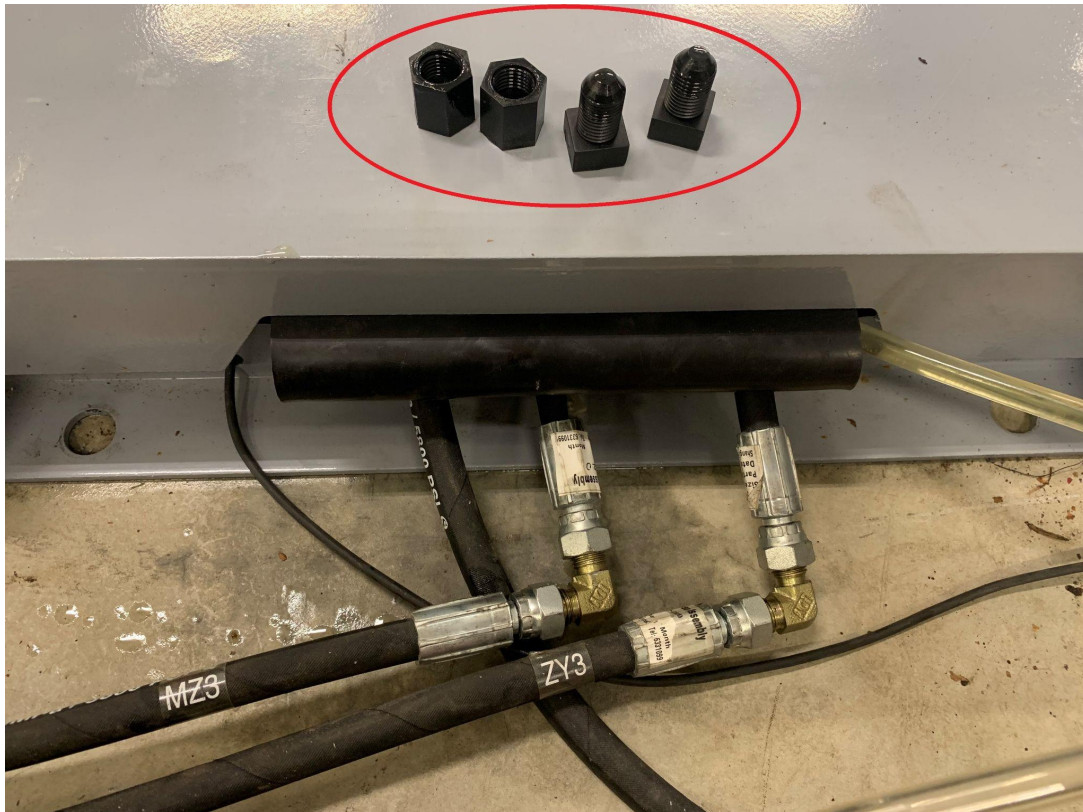


To make it easier to access the hydraulic hoses on the main platform, you can remove the ramp temporarily. The mounting holes for the expander bolts are circled in the picture.



Unplug all hoses and sensor cables from the platforms to the control box. Use the cable ties (4) to bundle hoses and cables.

Remove the transport couplings (circled in red in the picture) from the hydraulic hoses and connect the hydraulic hoses from the sub-platform to the couplings in the main platform. Then connect the hydraulic hoses to the pump, being careful not to connect the hoses incorrectly. See diagram for the hydraulic hoses on page 29.



Oil type	Consumption
Hydraulic oil N46	18 Liters



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

Sensors

Bodema BL35-19 is equipped with three sensors.

Lower sensor (down)

When the platform is lowered, the platform stops when the lower sensor (down) senses the platform and it is then not possible to lower any more. At this position, the platforms have 260 mm left before they are completely immersed. To be able to lower the last bit, you must release the down button and press it again, then the platform sinks down the last bit.



Lower sensor (down)



The cable for the immersion sensor (down) must be protected with a cover plate (12) which is mounted with the supplied screw. (8)



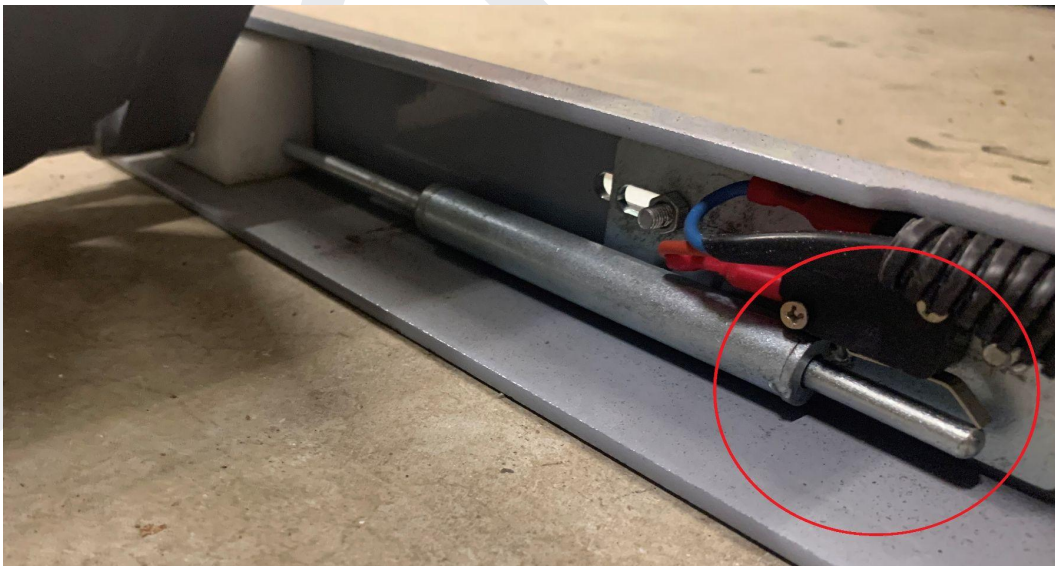
Cover plate (12) mounted.

Limit position sensor (UP)

When the platforms are raised, the sensor senses when the platform has reached its maximum height and then stops the platform. The maximum height that the platform should be able to go to is adjustable so that you can adjust it to the ceiling height. To adjust the height, raise the platforms to the desired height, then lighten the screws and adjust the position of the sensor so that the sensor is in the activated position, tighten the screws again. See pictures below.



Tighten the screws to adjust the position of the sensor.



The sensor is in activated mode.

Photocell sensor

The photocell sensor must always be switched on when the lift is used. It is mounted on one of the lifting arms and sends over a signal to the control box, should the signal be broken while driving due to someone e.g. going under the lift, the lift stops immediately and it is not possible to raise or lower the platforms.

When installing the lift, you must turn off the photocell sensor until both platforms run smoothly. Then it must be switched on again, this is done with the key switch on the control box.



The photoelectric safety stop sends a signal via reflex to the control box.



Key switch for Switching the photocell sensor on and off is located on the control box.

First commissioning

When the oil level is correct and the sensors and power cable are connected according to the wiring diagram on page 32, there are some things to check, see checklist below.

- Check that the platforms are level.
- Make sure that all connections are tightened and properly connected.
- Make sure that no cables or hoses get pinched or have been damaged, if any damage has occurred, it must be repaired before commissioning.
- Check that all cables are properly connected and that the ground cable is connected.
- Check that there is the correct voltage up to the lift and that it must match the rating plate on the lift. For single-phase motors, the cable area shall not be less than 4 mm² and for three-phase motors not less than 2.5 mm².
- Check the direction of rotation of the motor, (Three-phase motor) see description below.

Direction of rotation of the motor. (Three-phase motor)

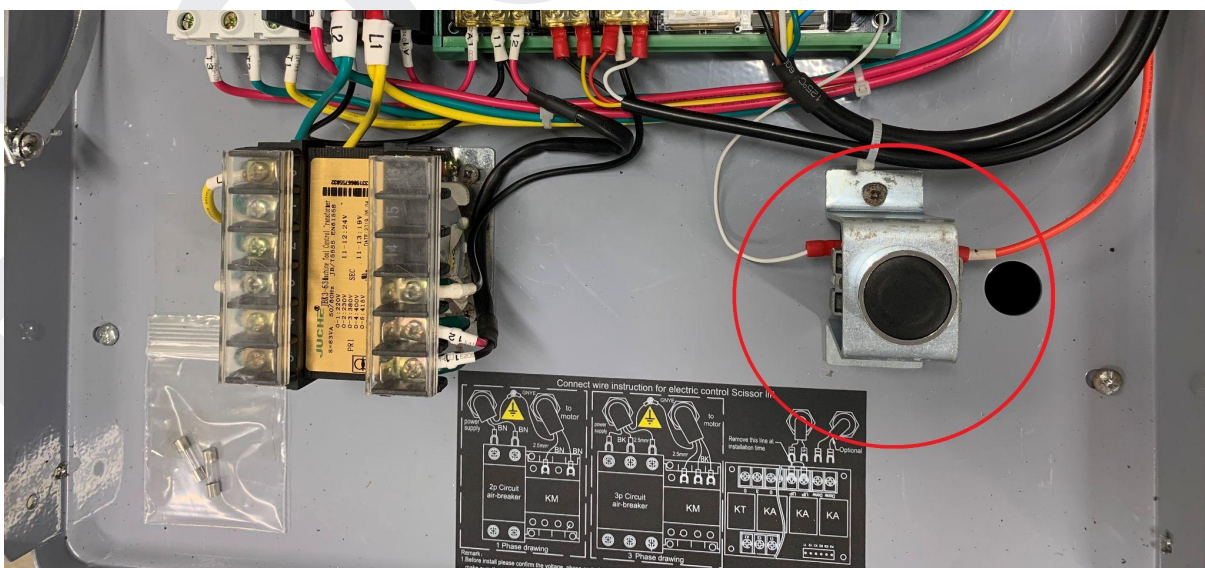
Remove the hydraulic hose on output ZZ and quickly press the button, if there is oil, the engine will go in the right direction. If there is no oil, the engine goes in the wrong direction, then change places on two of the phases in the control box so that the engine goes in the other direction. Repeat the same process again and check for oil.

Synchronize the platforms

Start by turning off the photocell sensor on the control panel and do the following:

1. Then hold down the up button and the platforms will lift. When the main platform activates the limit position sensor (UP), the lift has reached its maximum height.
2. Open the lid of the control box and hold down the adjustment button, (see picture below) the lift continues to rise.
3. When the lift has reached its highest position, keep the button pressed. Keep an eye on the two transparent return hoses that are connected in the hydraulic pump, connection MA & ZA. (See picture diagram for the hydraulic hoses on page 29) When there are no air bubbles left in the hoses, hold down the adjustment button for another 10 seconds, then release the button and hold down the down button for the lift to sink and lower it to the lowest position.
4. After repeating points 2 and 3 a few times, the declaration is complete.
5. Turn on the photocell sensor on the control panel again.

If the platforms should run unevenly during normal use, steps 2 and 3 above must be performed immediately. This must be done without load on the platforms. It is forbidden to adjust the platforms if they are loaded.



Adjustment button

Fastening to the floor

Drill 16mm holes in the mounting holes for the platforms, use a vacuum cleaner to remove all dust from the boreholes and check with a spirit level so that the platforms are straight in both directions. If not, use the supplied washers. (6) Then use a sledgehammer or sledgehammer to drive the M16 expander bolt (3) into the holes until the spring washer takes in the platform, the bolt should protrude about 3-5 mm above the nut. Then tighten the bolt until it can not move.



Cover plates

The cover plates must be mounted over the hoses and cables to protect. Mount a cover plate (9) at each platform, a cover plate (11) between the platforms and the last cover plates (10) between the platform and the control box.

NOTE! Run the platforms down to make sure that the platforms do not pinch the cover plate or the hoses / cables.

Mark on the floor where to drill and drill holes in the concrete, then use the supplied plug and screw (7) to mount the plate.



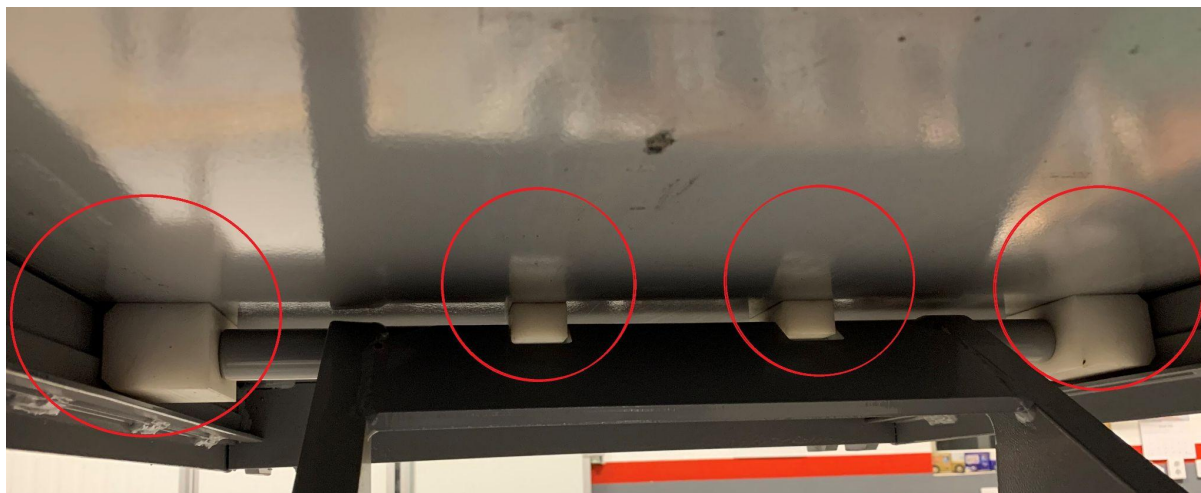
Cover plate at platform (picture on the left) and cover plate for control box (picture on the right)



Cover plate at each platform and a cover plate between the platforms.

Lubrication

Use grease (5) to lubricate the related points of the lift, See pictures below.



Apply grease to the underside of the platform and lubricate the encircled areas.



Also lubricate the bottom of each side.

Commissioning

Before the scissor lift can be used, there are some points that must be gone through, see list below.

- Check all hydraulic couplings so that there is no leakage, if there is a leak it must be repaired before commissioning.
- Check all hydraulic hoses and cables so that they have not been damaged, if any damage has occurred, it must be repaired before commissioning.
- Check that the limit sensor "UP" is set correctly so that no vehicle touches the roof.
- Make sure that the area around the lift is clean and safe.
- Sort out all rubbish and recycle what goes, other rubbish is left to the recycling center.

Hydraulics

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 it is 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.

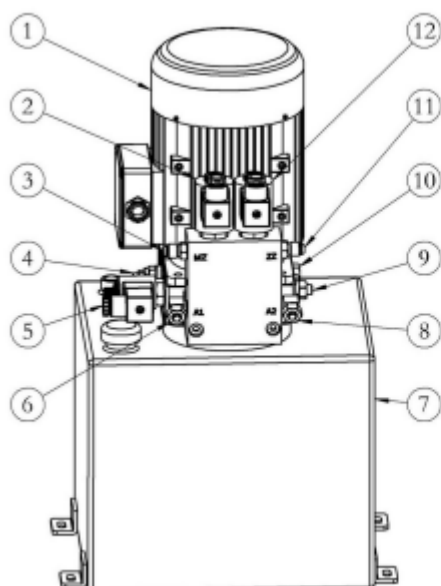


All repair or replacement of hydraulic components must be performed by a professional. Should a problem / error occur with the hydraulic system and it turns out that it is not professionally performed, no guarantees apply.

Bodemas BL 35-19 has a locking system that is equipped with two separate hydraulic systems, which means that you avoid mechanical locking and thus avoid connecting compressed air to the lift. You do not need to drive up the lift for it to release any latch before lowering it, the lift can be run down or up directly.

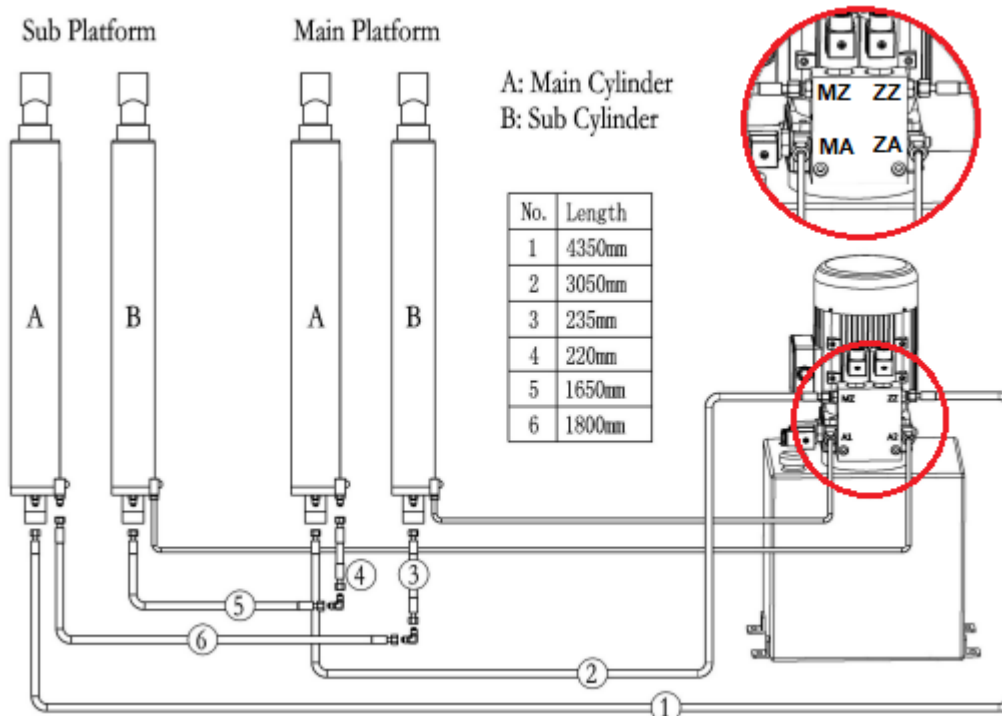
The hydraulic pump and the tank are located in the control box. The relief valve is used to adjust the system pressure, the pressure increases when screwed in and decreases when the bolt is unscrewed. The throttle valve is used to adjust the sink rate, the sink rate becomes faster when it is unscrewed and slower when it is screwed in.

NOTE! The relief valve and throttle valve have been adjusted to the correct position before delivery. Do not touch the adjustments as this may cause injury.

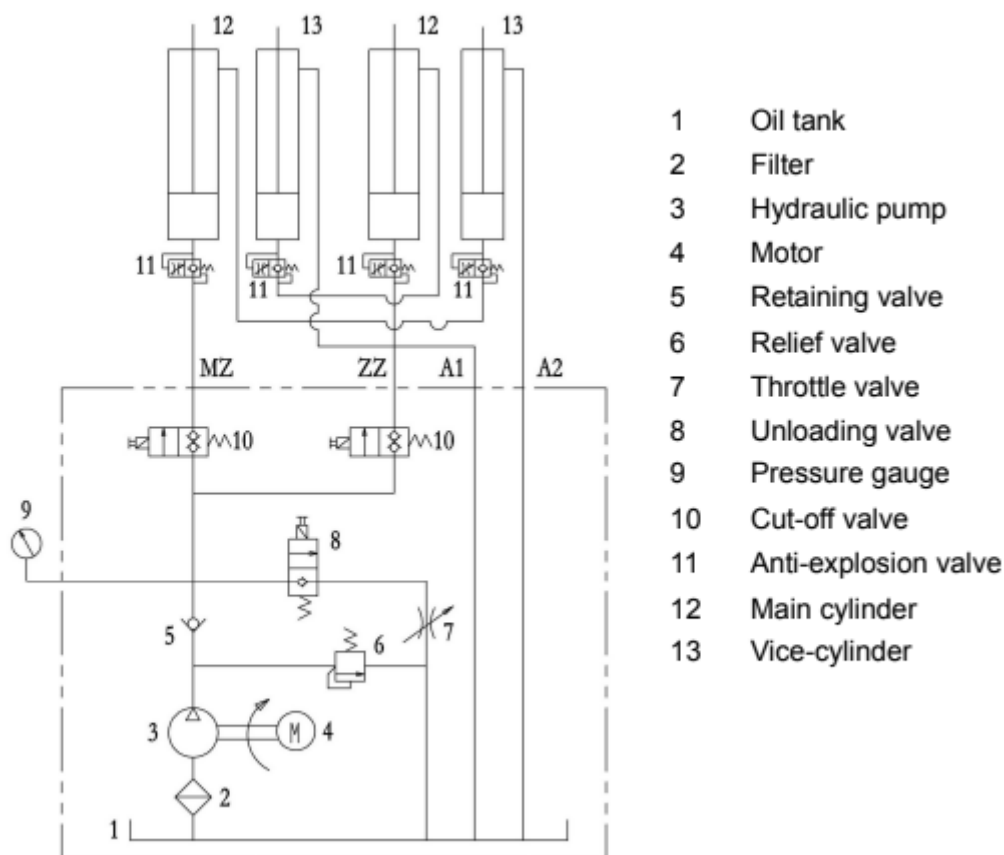


1	Motor
2	Cut-off valve
3	Pipe connector(MZ)
4	Relief valve
5	Unloading valve
6	Pipe connector(MA)
7	Tank
8	Pipe connector(ZA)
9	Throttling valve
10	Check valve
11	Pipe connector(ZZ)
12	Cut-off valve

Schedule for the hydraulic hoses



Circuit diagram hydraulics



Electrical installation

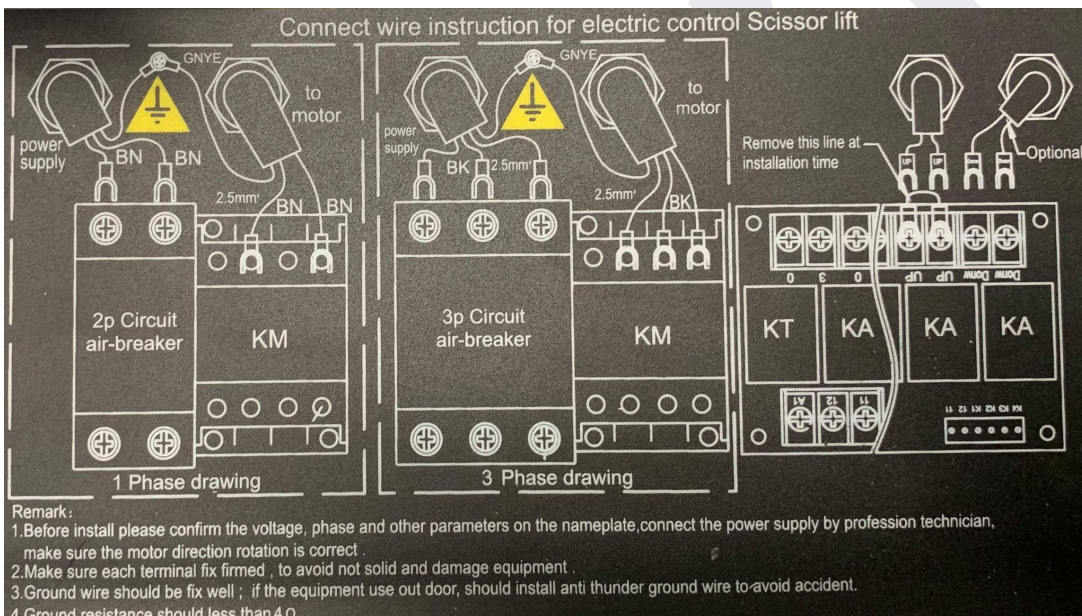
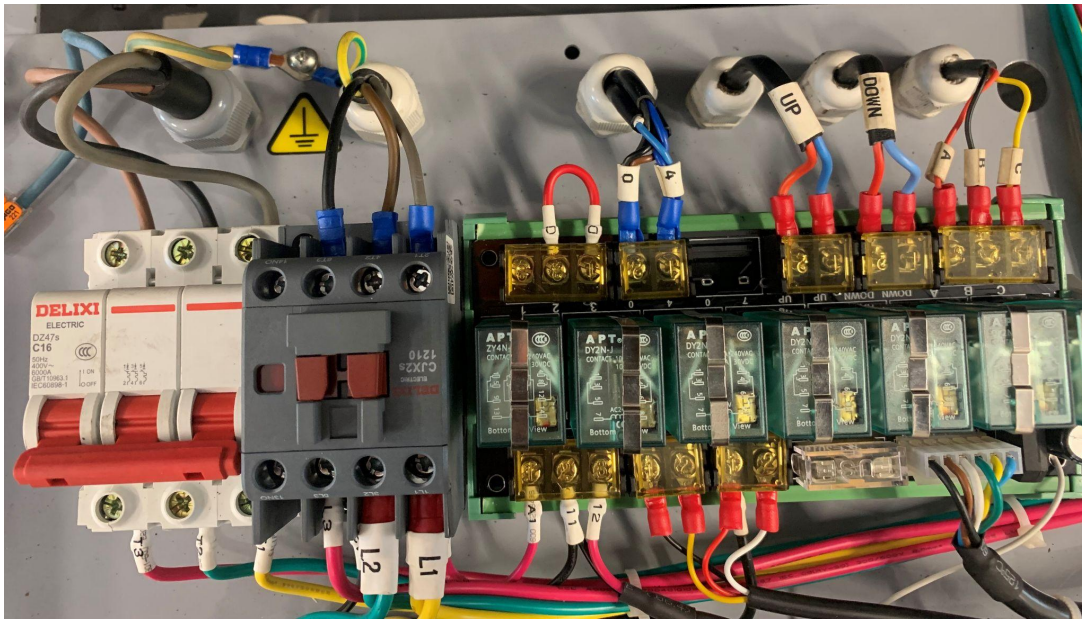
Safety rules for the electrical system

- 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.
- Before connecting power to any equipment, it must be established that all persons are ready.
- 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.



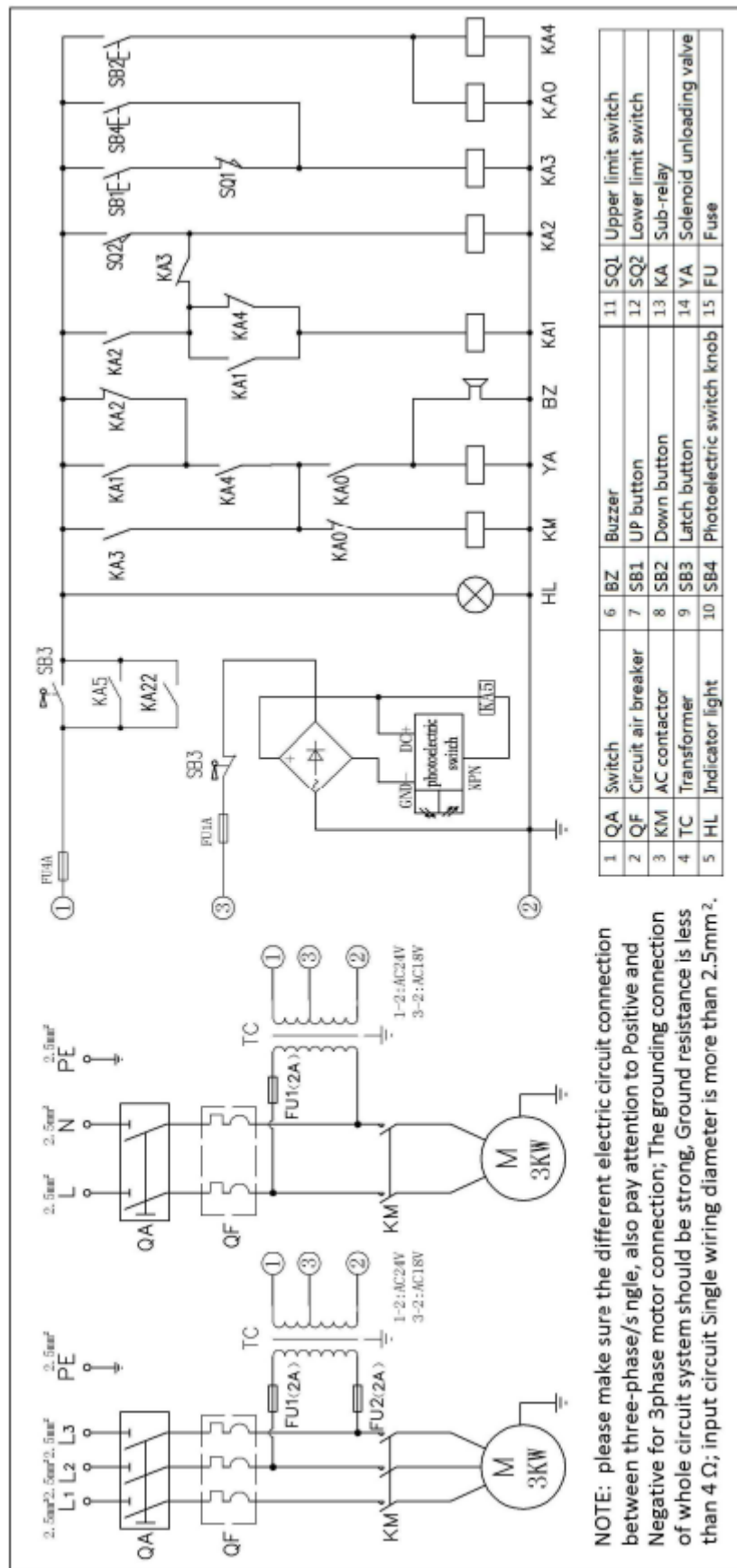
All electrical installation must be carried out by a qualified electrician. Make sure that the lift gets the right voltage and is correctly installed, if the lift is connected incorrectly the motor can burn out and then no guarantees apply.

Wiring diagram



Remove the bracket on the "UP" terminal block during installation.

Circuit diagram



Troubleshooting

Problem	Cause	Solution
Nothing happens, the lift is stationary & the engine is not running.	<ol style="list-style-type: none"> 1. No power to the lift. 2. The engine has been burned. 	<ol style="list-style-type: none"> 1. Check that the main switch and the fuses in the control box are switched on. 2. Replace engine.
The engine runs but the lift does not go up.	<ol style="list-style-type: none"> 1. The motor is going in the wrong direction. 2. Oil level too low. 3. The filter is clogged. 4. There is air in the pipes or connections. 5. The overflow valve is leaking. 	<ol style="list-style-type: none"> 1. Switch two phases in the control box. 2. Check the oil level and top up. 3. Clean the filter. 4. Tighten leaking couplings. 5. Change gasket to overflow valve.
Nothing happens when you press the "UP" button	<ol style="list-style-type: none"> 1. Something is wrong with the button. 2. The photocell sensor does not work. 	<ol style="list-style-type: none"> 1. Check the button and replace it if it is broken. 2. Check that the photocell sensor's signal makes contact with the reflector, clean the sensor.
There is pressure in the system but it is below 20 Mp and can not lift a car.	Lack of hydraulic oil	Top up with hydraulic oil.
The lift is shaky and difficult to adjust the height.	There is air in the hydraulic system.	See section Adjusting the platforms on page 22.
Heavy vehicles cannot be lifted.	Low pressure.	The most common pressure is 18 Mp, adjust the pressure to 21 Mp for heavy vehicles and adjust the pressure back when you are done.