INSTALLATION & OPERATION MANUAL

Atlas SLP-9K

9,000 lb. Capacity
Full Rise Scissor Lift

Atlas Automotive Equipment
www.atlasautoequipment.com
(866) 898-2604

Read this entire manual before operation begins.

Record below the following information which is located on the serial number data plate.

Serial No. _____
Model No. _____
Date of Installation _____

Contents

Printing Characters And Symbols

Throughout this manual, the following symbols and printing characters are used to facilitate reading:

	Indicates the operations which need proper care
	Indicates prohibition
	Indicates a possibility of danger for the operators
	Indicates the direction of access for motor vehicles to the lift
BOLD TYPE	Important information

WARNING: before operating the lift and carrying out any adjustment, read carefully chapter 7 “installation” where all proper operations for a better functioning of the lift are shown.

General Information

This chapter contains warning instructions to operate the lift properly and prevent injury to operators or objects. This manual has been written to be used by shop technicians in charge of the lift (operator) and routine maintenance technician (maintenance operator). The operating instructions are considered to be an integral part of the machine and must remain with it for its whole useful life. Read every section of this manual carefully before operating the lift and unpacking it since it gives helpful information about:

- **safety of people**
- **safety of the lift**
- **safety of lifted vehicles**

The company is not liable for possible problems, damage, accidents, etc. resulting from failure to follow the instructions contained in this manual.

Only skilled technicians of AUTHORISED DEALERS or SERVICE CENTERS AUTHORISED by the manufacturer shall be allowed to carry out lifting, transport, assembling, installation, adjustment, calibration, settings, extraordinary maintenance, repairs, overhauling and dismantling of the lift.

The manufacturer is not responsible for possible damage to people, vehicles or objects if said operations are carried out by unauthorized personnel or the lift is improperly used.

Any use of the machine made by operators who are not familiar with the instructions and procedures contained herein shall be forbidden.

1.1 Manual keeping

For a proper use of this manual, the following is recommended:

- keep the manual near the lift, in an easily accessible place.
- keep the manual in an area protected from the damp.
- use this manual properly without damaging it.
- Any use of the machine made by operators who are not familiar with the instructions and procedures contained herein shall be forbidden.

This manual is an integral part of the lift: it shall be given to the new owner if and when the lift is resold.

1.2 Obligation In Case Of Malfunction

In case of machine malfunction, follow the instructions contained in the following chapters.

1.3 Cautions For The Safety Of The Operator

Operators must not be under the influence of sedatives, drugs or alcohol when operating the machine.

Before operating the lift, operators must be familiar with the position and function of all controls, as well as with the machine features shown in the chapter “Operation and use”

1.4 Warnings

Unauthorized changes and/or modifications to the machine relieve the manufacturer of any liability for possible damages to objects or people. Do not remove or make inoperative the safety devices, this would cause a violation of safety at work laws and regulations.

Any other use which differs from that provided for by the manufacturer of the machine is strictly forbidden.

The use of non genuine parts may cause damage to people or objects

1.5 Scrapping

When your machine's working life is over and it can no longer be used, it must be made inoperative by removing any connection to power sources.

These units are considered as special waste material, and should be broken down into uniform parts and disposed of in compliance with current laws and regulations.

If the packing are not polluting or non-biodegradable, deliver them to appropriate handling station.

DECLARATION OF WARRANTY AND LIMITATION OF LIABILITY

The manufacturer has paid proper attention to the preparation of this manual. However, nothing contained herein modifies or alters, in any way, the terms and conditions of manufacturer agreement by which this lift was acquired, nor increase, in any way, manufacturer's liability to the customer.

TO THE READER

Every effort has been made to ensure that the information contained in this manual is correct, complete and up-to date. The manufacturer is not liable for any mistakes made when drawing up this manual and reserves the right to make any changes due the development of the product, at any time.

Product Identification

The identification data of the machine are shown in the label placed on the control unit.

LOGO

Type:	.....
Model:	.....
Serial Number:	.....
Year of manufacturing:	.....
Capacity:	.....
Voltage:	.....
Power:	.....

Use the above data both to order spare parts and when getting in touch with the manufacturer (inquiry). The removal of this label is strictly forbidden.

Machines may be updated or slightly modified from an aesthetic point of view and, as a consequence, they may present different features from these shown, this without prejudicing what has been described herein.

2.1 Warranty Certificate

The warranty is valid for a period of 12 months starting from the date of the purchase invoice.

The warranty will come immediately to an end when unauthorized modifications to the machine or parts of it are carried out.

The presence of defects in workmanship must be verified by the Manufacturer's personnel in charge.

2.2 Technical Servicing

For all servicing and maintenance operations not specified or shown in these instructions, contact your Dealer where the machine has been bought or the Manufacturer's Commercial Department.

Packing; Transport; Storage

Only skilled personnel who are familiar with the lift and this manual shall be allowed to carry out packing, lifting, handling, transport and unpacking operations.

3.1 Packing

The packing of the lift is delivered in following components:

- 2 base units packed in a steel frame, wrapped up in non-scratch waterproof material and sealed with 2 straps
- 1 power unit packed in a plywood box
- 4 drive-on ramps wrapped up in non-scratch waterproof material, including 4 rubber pads, 4 hydraulic hoses and 8 anchor bolts.

(If requested, optional accessories are available to satisfy each customer's requirements).

The average of the package is 2,400 lbs.

3.2 Lifting And Handling

When loading/unloading or transporting the equipment to the site, be sure to use suitable loading (e.g. cranes, trucks) and hoisting means. Be sure also to hoist and transport the components securely so that they cannot drop, taking into consideration the package's size, weight and center of gravity and it's fragile parts.

Hoist and handle only one package at a time

3.3 Storage And Stacking Of Packages

Packages must be stored in a covered place, out of direct sunlight and in low humidity, at a temperature between -10°C and +40°C.

Stacking is not recommended: the package's narrow base, as well as its considerable weight and size make it difficult and hazardous.

3.4 Delivery And Check Of Packages

When the lift is delivered, check for possible damages due to transport and storage; verify that what is specified in the manufacturer's confirmation of order is included. In case of damage in transit, the customer must immediately inform the carrier of the problem. Packages must be opened paying attention not to cause damage to people (keep a safe distance when opening straps) and parts of the lift (be careful the objects do not drop from the package when opening).

Product Description

4.1 Lift (Ref. Figure 1)

The lift has been designed for the lifting of motor-vehicles and for making them stand at any level between the minimum and maximum height.

The maximum lifting weight, including any additional load on the vehicle, is as specified on the serial plate.

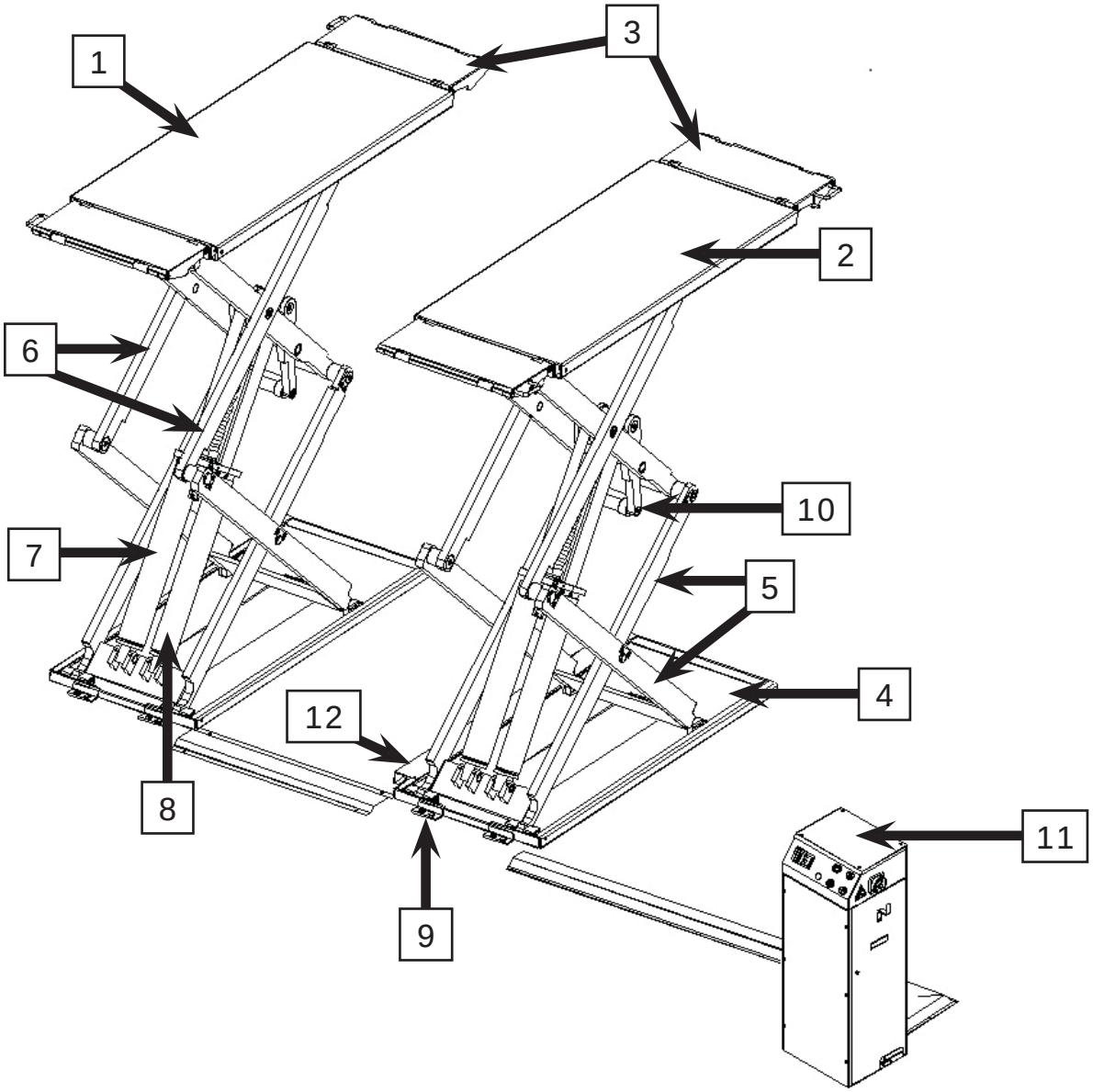


Figure 1 – Lift

All mechanical frames, such as platforms, extensions, base frames and arms have been built in steel plate to make the frame stiff and strong while keeping a low weight.

The electro hydraulic operation is described in detail in chapter 8.

This chapter describes the lift's principal elements, allowing the user to be familiar with the machine.

As shown in Figure 1, the lift is composed of two platforms: P1 (1) and P2 (2) each equipped with the drive-on/off ramps (3) which can be locked to the platforms as extensions, anchored to the ground by means of bases (4).

Platforms are linked to the base by means of a scissors lifting system.

The lifting system of each platform is composed of 4 arms: two inferior (5) and two superior (6), and a couple of cylinders: master (7) and slave (8). The mechanical safety (9) is built on each runway and can be locked and released by means of the air cylinder.

Motion is transmitted by a lever system, from the cylinders to the lever (10).

Lowering and lifting are carried out by means of a control unit (11), placed next to the lift.

Two limit switches are installed on the P2 base: one for the top position and one for the safety height, protected by a cover (12).

4.2 Operation

Platform lifting is carried out by the hydraulic unit which acts upon the cylinders. The platforms are raised simultaneously owing cross feeding of the hydraulic cylinders.

Lowering, even though electrically controlled, is carried out by the weight of both the platforms and the load lifted.

The hydraulic system is protected by a max pressure valve thus preventing pressure from exceeding the maximum fixed safety limit.

The synchronization of the platforms is carried out by the double master/slave circuit. Whenever the lift has to be lowered to the ground and the lowering button is pressed, the lift will stop at about 16 inches from the ground.

In this way, the operator must verify that neither persons nor objects are within the safety area. If so, the final lowering button can be pressed and the lift be lowered. A beep sound is heard during the last travel.

Technical Specification

5.1 Size And Main Features (Ref. Figure 2)

Capacity	**9,000 lbs**
Maximum lifting height	78” (6’ 6”)
Minimum height of lift	4 ½”
Overall Length	82"
Max Overall Width	79 ½"
Lift Platform	59 ½" x 25 ½"
Width Between Platforms	Adjustable up to 31"
Approach Ramps	11" x 25 ½"
Lifting time	50 s
Locking Positions	10
Locks Actuated	Air
Lifting Cylinders	4 (2 In Each Platform)
Oil Requirement	3.5 Gallons AW32/AW46
Compressed air pressure	6bar – 10bar
Noise level	70 dB(A)/1m
Total weight of the lift	2,400 lbs
Working temperature	-10 °C ÷ 40 °C

5.2 Electric Motor

Type	**ML90L2**	**G90N4**
Voltage	230V/220V-1Ph	400V/380V-3Ph
Power	2.2 KW	2.6 KW
N° Poles	2	4
Speed	2800 rpm	1375 rpm
Motor enclosure type	B14	
Insulation class	IP 54	

Motor connection must be carried out referring to the attached wiring diagrams (Figure 5).

The motor direction of rotation is shown in the label placed on the motor.

Before use of the lift, make sure to check if the motor specification shown in the nameplate of the motor conforms to the local electric supply.

If there is over 10% fluctuation on the electrical power supply, it is suggested to use the voltage stabilizer to protect the electrical components and system from overloading.

5.3 Pump

Type	Gear	
Flow rate	2.1 cm^3/g	4.8 cm^3/g
Continuous working pressure	260 bar	
Peak pressure	280 bar	

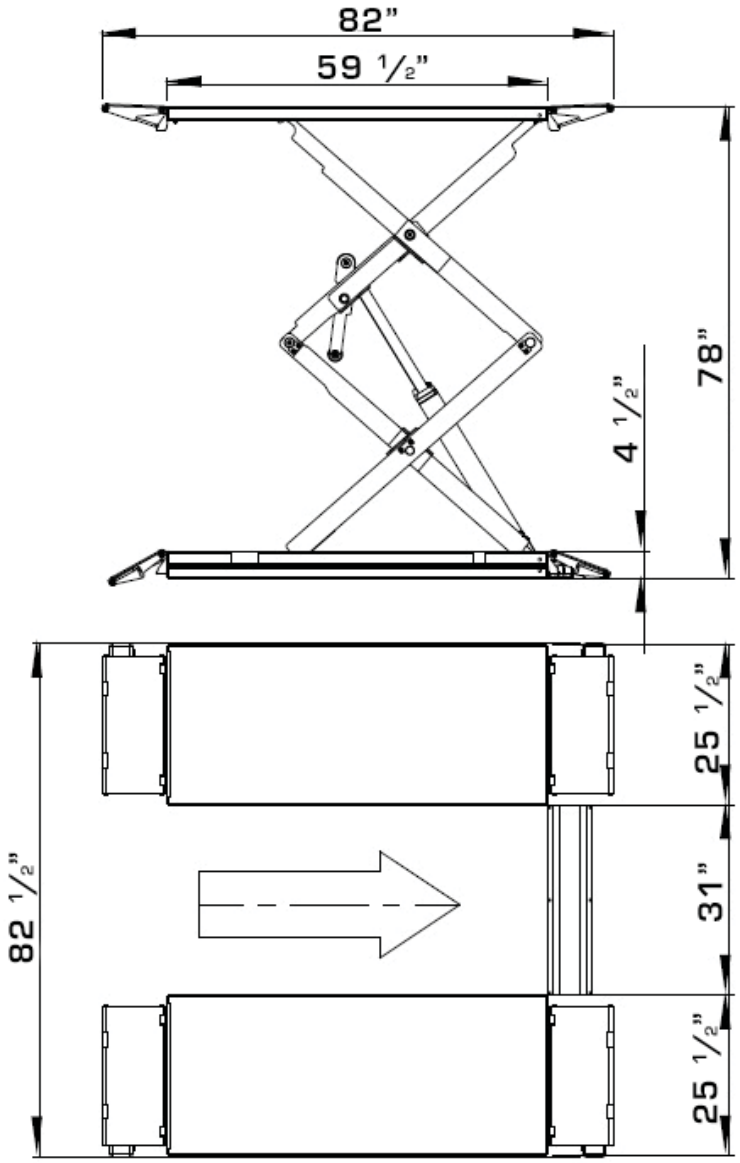


Figure 2 – Layout

5.4 Hydraulic Unit

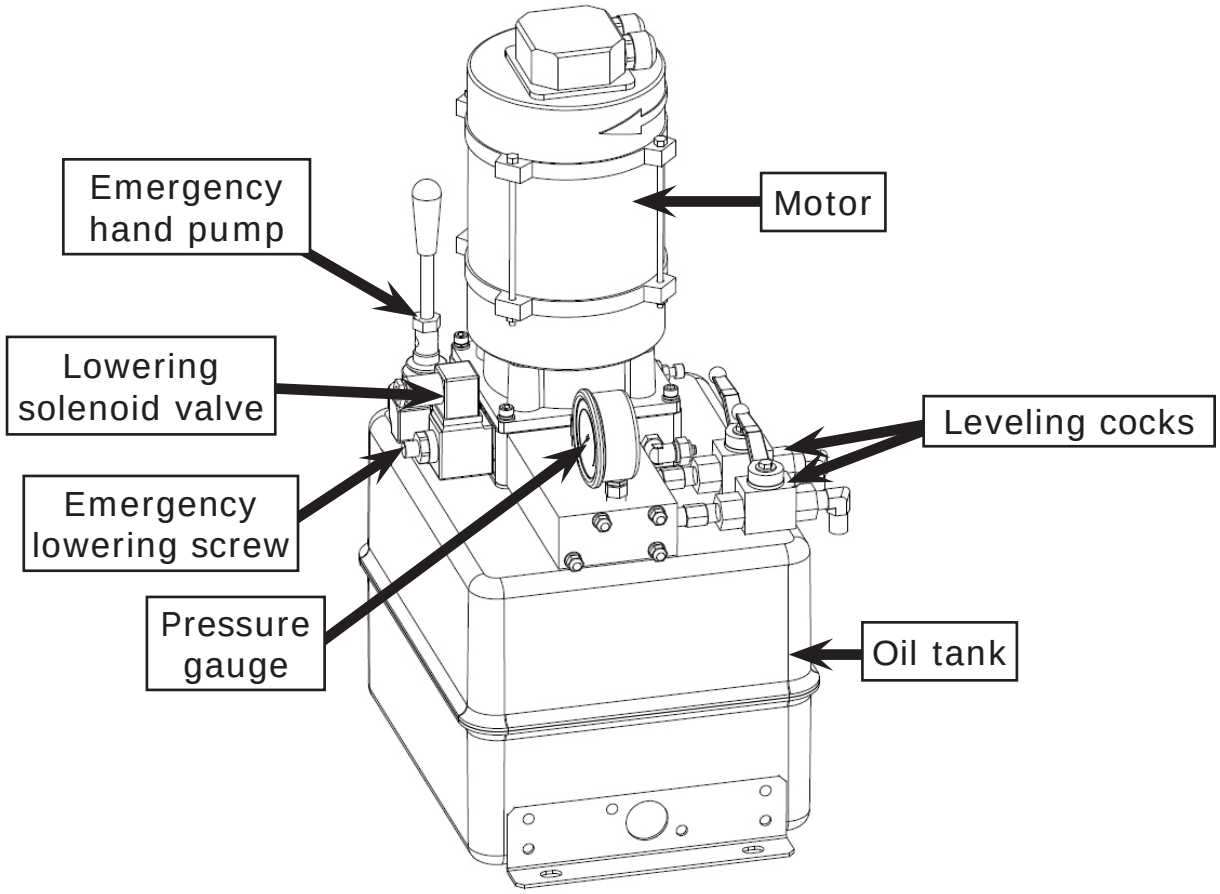


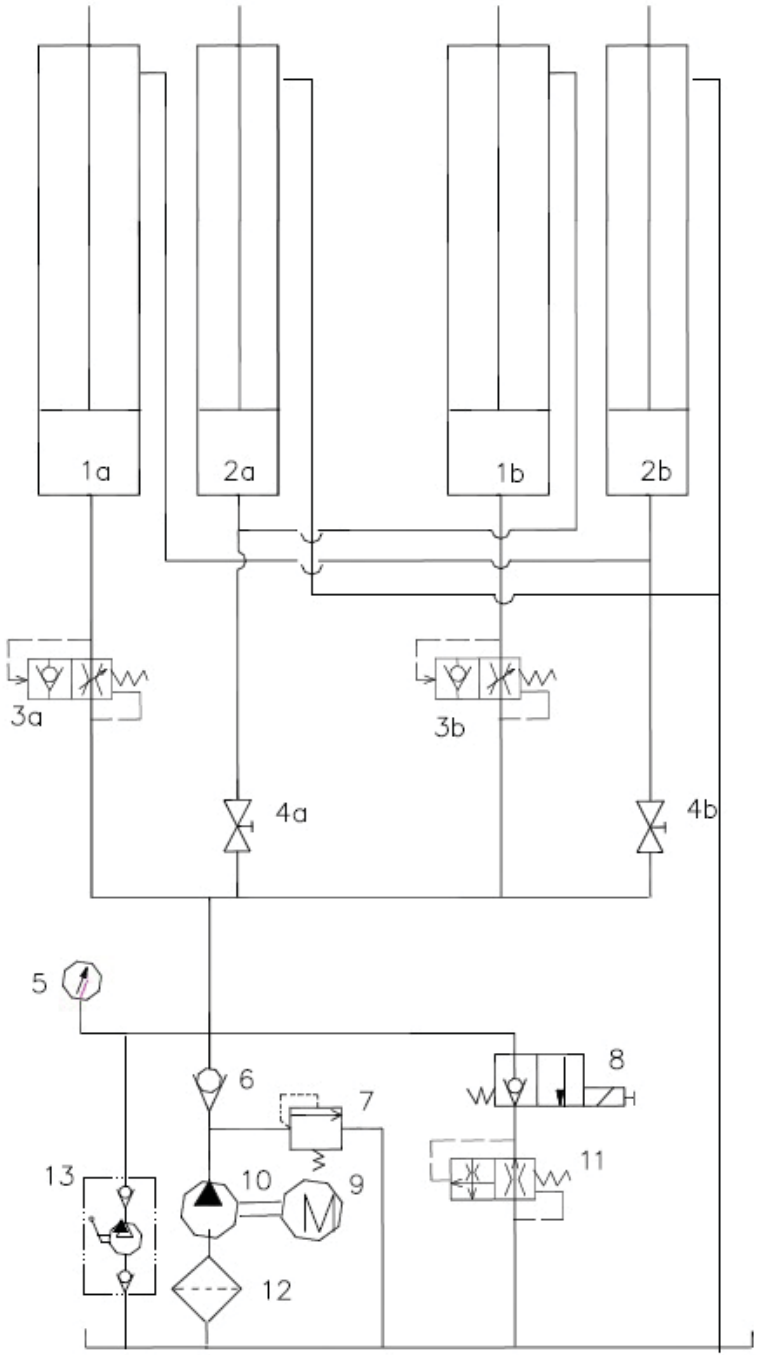
Figure 3 – Hydraulic Power Unit

5.5 Oil

Use wear proof oil for hydraulic drive, in conformity with ISO 6743/4 rules (HM class).

Test standards	Features	Value
ASTM D 1298	Density 20°C	0.8 kg/l
ASTM D 445	Viscosity 40°C	32 cSt
ASTM D 445	Viscosity 100°C	5.43 cSt
ASTM D 2270	Viscosity index	104 N°
ASTM D 97	Pour point	~ 30 °C
ASTM D 92	Flash point	215 °C
ASTM D 644	Neutralization number	0.5 mg KOH/g

Change hydraulic oil at 1 year intervals



1a	Platform P1 master cylinder	6	Non return valve
1b	Platform P2 master cylinder	7	Pressure overload valve
2a	Platform P1 slave cylinder	8	Lowering solenoid valve
2b	Platform P2 slave cylinder	9	Motor
3a	Parachute valve - P1	10	Gear pump
3b	Parachute valve - P2	11	Lowering speed control
4a	Leveling cock – P1	12	Oil filter
4b	Leveling cock – P2	13	Emergency hand pump
5	Pressure gauge		

Figure 4 - Hydraulic Plan

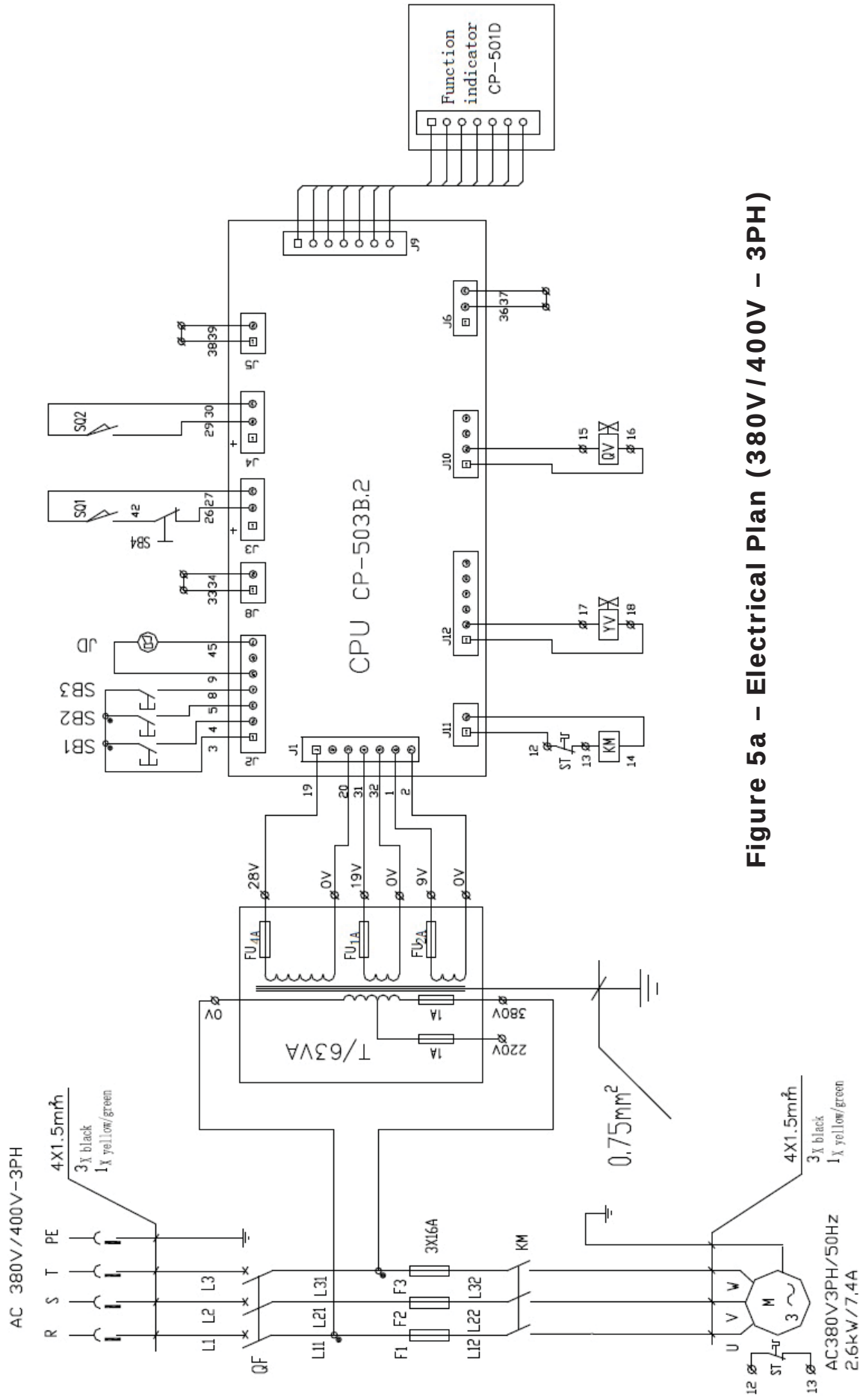


Figure 5a – Electrical Plan (380V/400V – 3PH)

QF	Power switch	SB1	Lifting button
M	Motor 2.2KW 1PH	SB2	Lowering/final lowering button
ST	Thermal relay	SB3	Safety engaging button
T	Transformer 80VA	SB4	Override button
KM	Contactor DC	SQ1	Top limit switch
YV	Lowering solenoid valve	SQ2	Safety height limit switch
QV	Safety air valve	JD	Beeper

Figure 5a – Electrical Plan (380V/400V – 3PH) (Continued)

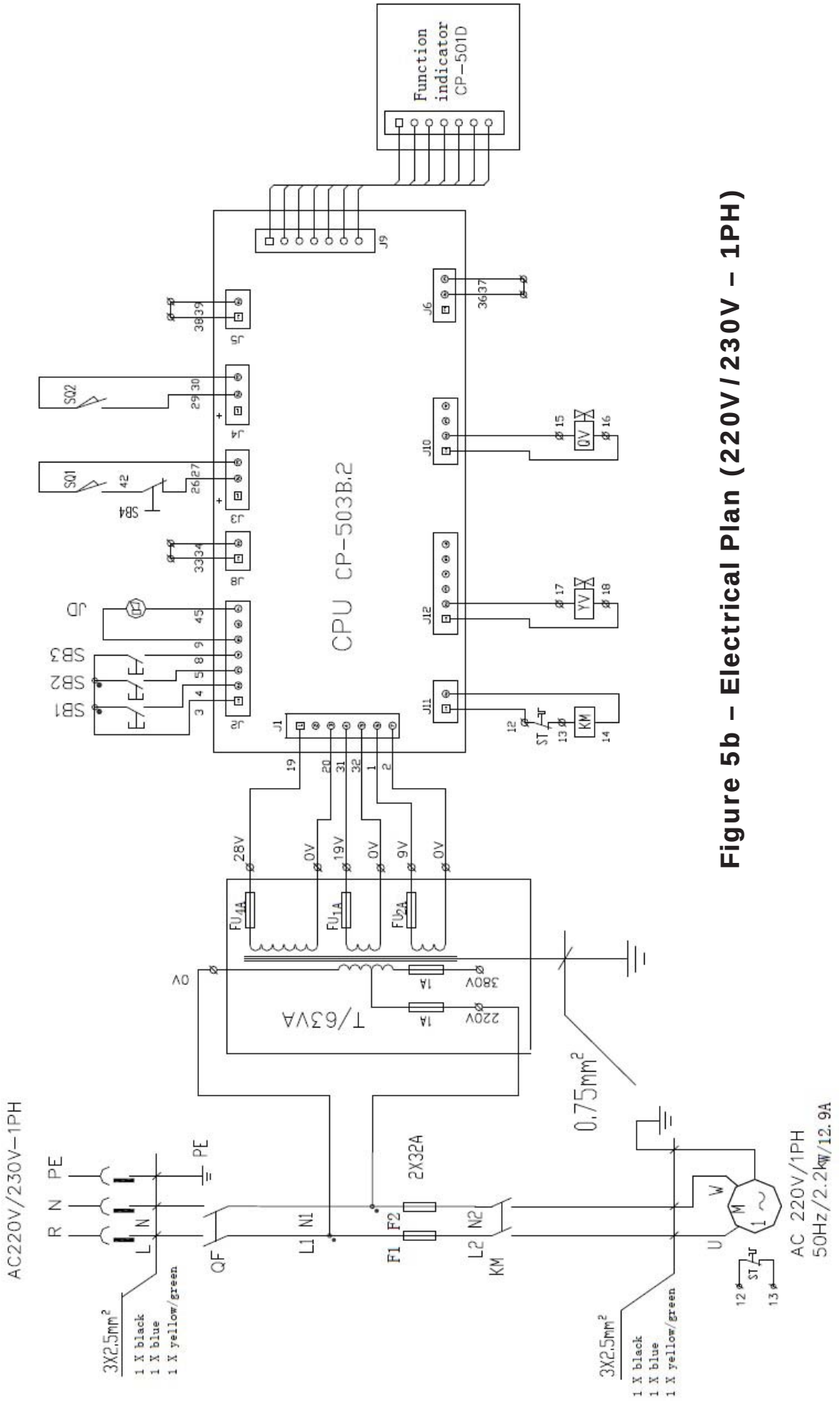


Figure 5b – Electrical Plan (220V/230V – 1PH)

QF	Power switch	SB1	Lifting button
M	Motor 2.2KW 1PH	SB2	Lowering/final lowering button
ST	Thermal relay	SB3	Safety engaging button
T	Transformer 80VA	SB4	Override button
KM	Contactor DC	SQ1	Top limit switch
YV	Lowering solenoid valve	SQ2	Safety height limit switch
QV	Safety air valve	JD	Beeper

Figure 5b – Electrical Plan (220V/230V – 1PH) (Continued)

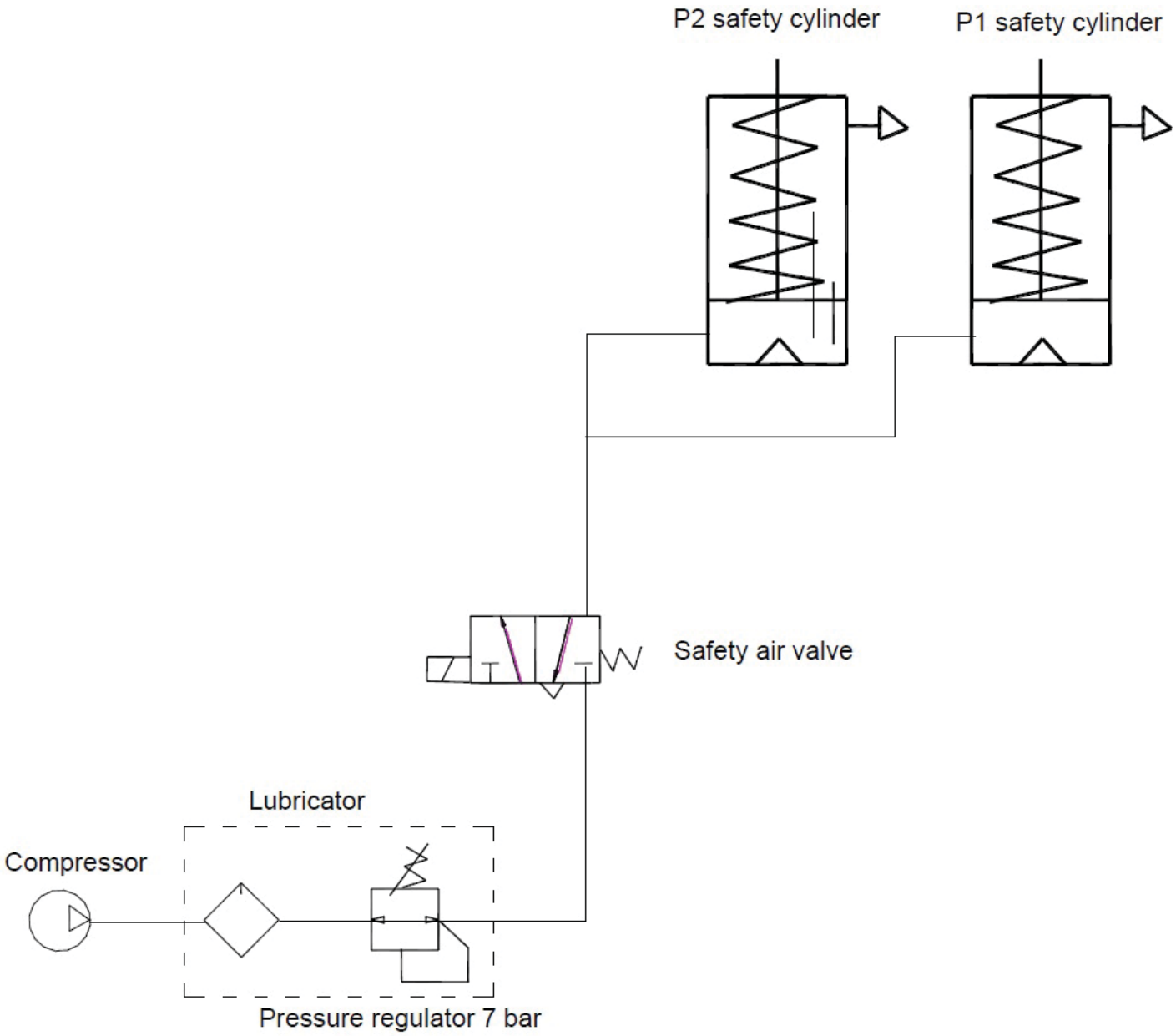


Figure 6 – Pneumatic Plan

Lubricator / pressure regulator can be supplied by the manufacturer on request. The pressure in the pneumatic line must be kept around 6bar – 8 bar.

Safety

Read this chapter carefully and completely because it contains important information for the safety of the operator and the person in charge of maintenance.

The lift has been designed and built for lifting vehicles and making them stand above level in a closed area. Any other use is forbidden.
The manufacturer is not liable for possible damages to people, vehicles or objects resulting from an improper or unauthorized use of the lift.

For operator and people safety, a safety area at least 3 feet away from the lift must be vacated during lifting and lowering. The lift must be operated only from the operator's control site in this safety area.

Operator's presence under the vehicle, during working, is only admitted when the vehicle is lifted and platforms are not running.

Never use the lift when safety devices are off-line. People, the lift and the vehicles lifted can be seriously damaged if these instructions are not followed.

6.1 General warnings

The operator and the person in charge of maintenance must follow accident-prevention laws and rules in force in the country where the lift is installed

They also must carry out the following:

- neither remove nor disconnect hydraulic, electric or other safety devices;
- carefully follow the safety indications applied on the machine and included in the manual;
- observe the safety area during lifting;
- be sure the motor of the vehicle is off, the gear engaged and the parking brake put on;
- be sure only authorized vehicles are lifted without exceeding the maximum lifting capacity;
- verify that no one is on the platforms during lifting or standing.

6.2 Risks During Vehicle Lifting

To avoid overloading and possibly breaking, the following safety devices have been used:

- A maximum pressure valve placed inside the hydraulic unit to prevent excessive weight.
- A special design of the hydraulic system, in case of pipeline failure, to prevent sudden lift lowering.

The maximum pressure valve has been preset by the manufacturer to a proper pressure. DO NOT try to adjust it to overrun the rated lifting capacity.

6.3 Risks For People

All risks the personnel could run, due to an improper use of the lift, are described in this section.

6.4 Personnel Crushing Risks

During lowering of runways and vehicles, personnel must not be within the area covered by the lowering trajectory. The operator must be sure no one is in danger before operating the lift.

6.5 Bumping Risk

When the lift is stopped at relatively low height for working, the risk of bumping against projecting parts occurs.

6.6 Risk Of The Vehicle Falling From The Lift

Vehicle falling from the lift can be caused when the vehicle is improperly placed on platforms, and when its dimensions are incompatible with the lift or by excessive movement of the vehicle. In this case, keep immediately away from the working area.

6.7 Slipping Risks

The risk of slipping can be caused by oil or dirt on the floor near the lift.

Keep the area under and around the lift clean. Remove all oil spills.

6.8 Electrocution Risks

Avoid use of water, steam, and solvent, varnish jets in the lift area where electric cables are placed and, in particular, next to the electric panel.

6.9 Risks Resulting From Improper Lighting

Make sure all areas next to the lift are well and uniformly lit, according to local regulations.

6.10 Risks Of Breaking Component During Operation

Materials and procedures, suitable for the designed parameters of the lift, have been used by the manufacturer to build a safe and reliable product. Operate the lift only for the use it has been designed for and follow the maintenance schedule shown in the chapter “Maintenance”.

6.11 Risks For Unauthorized Uses

The presence of unauthorized persons next to the lift and on the platforms is strictly forbidden during lifting as well as when the vehicle has been already lifted.

Any use of the lift other than that herein specified can cause serious accidents to people in close proximity of the machine.

Installation

Only skilled technicians, appointed by the manufacturer, or by authorized dealers, must be allowed to carry out installation. Serious damage to people and to the lift can be caused if installations are made by unskilled personnel.

Before carrying out any operations, remember to insert the safety piece of wood between the lower booms and the base frame.

7.1 Checking For Room Suitability

The lift has been designed to be used in covered and sheltered places free of overhead obstructions.

The place of installation must not be next to washing areas, painting workbenches, solvent or varnish deposits. The installation near to rooms, where a dangerous situation of explosion can occur, is strictly forbidden. The relevant standards of the local Health and Safety at Work regulations, for instance, with respect to minimum distance to wall or other equipment, escapes and the like, must be observed.

7.2 Lighting

Lighting must be carried out according to the effective regulations of the place of installation. All areas next to the lift must be well and uniformly lit.

7.3 Installation Surface

The lift must be placed on a 425 concrete floor with FEB 215 K reinforcement, 15cm thick at least, and in conformity with local regulations.

If a floor covering with the above mentioned requirements is not available, a foundation plate is needed or, some fixing points should be used, for fixing areas

at least, having sufficient size and thickness (made of concrete of the same quality, as shown).

The surface where the lift has to be installed must be even and leveled in all directions. An inclination not higher than 2 cm in drive-on lift direction and 1 cm cross-wise can be balanced with leveling wedges.

For installation on raised surface, the compliance with the maximum carrying capacity of the surface is recommended.

The new concrete must be adequately cured by at least 21 days minimum.

7.4 Runway Assembly And Control Unit Positioning

Unauthorized persons are not allowed to enter during assembly.

- Now locate the lift according to Figure 2, use a carpenters chalk line to layout a grid for the base locations according to the drive-on direction of the lift.
- Transport platforms to the installation site by using hoisting means with load capacity of 1100 lbs at least. To prevent the platform from dropping during transport, it should be lifted according to its center of gravity.
- Always raise platforms by holding them on the underside of the bases.
- Place the control unit in the position provided for.

7.5 Hydraulic System Connection (Ref. Fig. 12)

- Open the front cover of the control unit.
- Following Figure 12 connect hydraulic hose to the fittings referring to the letters shown on them.
- Tighten fittings thoroughly.

Make sure that the hoses are clear of any moving parts. Make sure to keep the hoses and fittings clean from dust. Failure to do so may result in hydraulic line failure which may result in damage or personal harm.

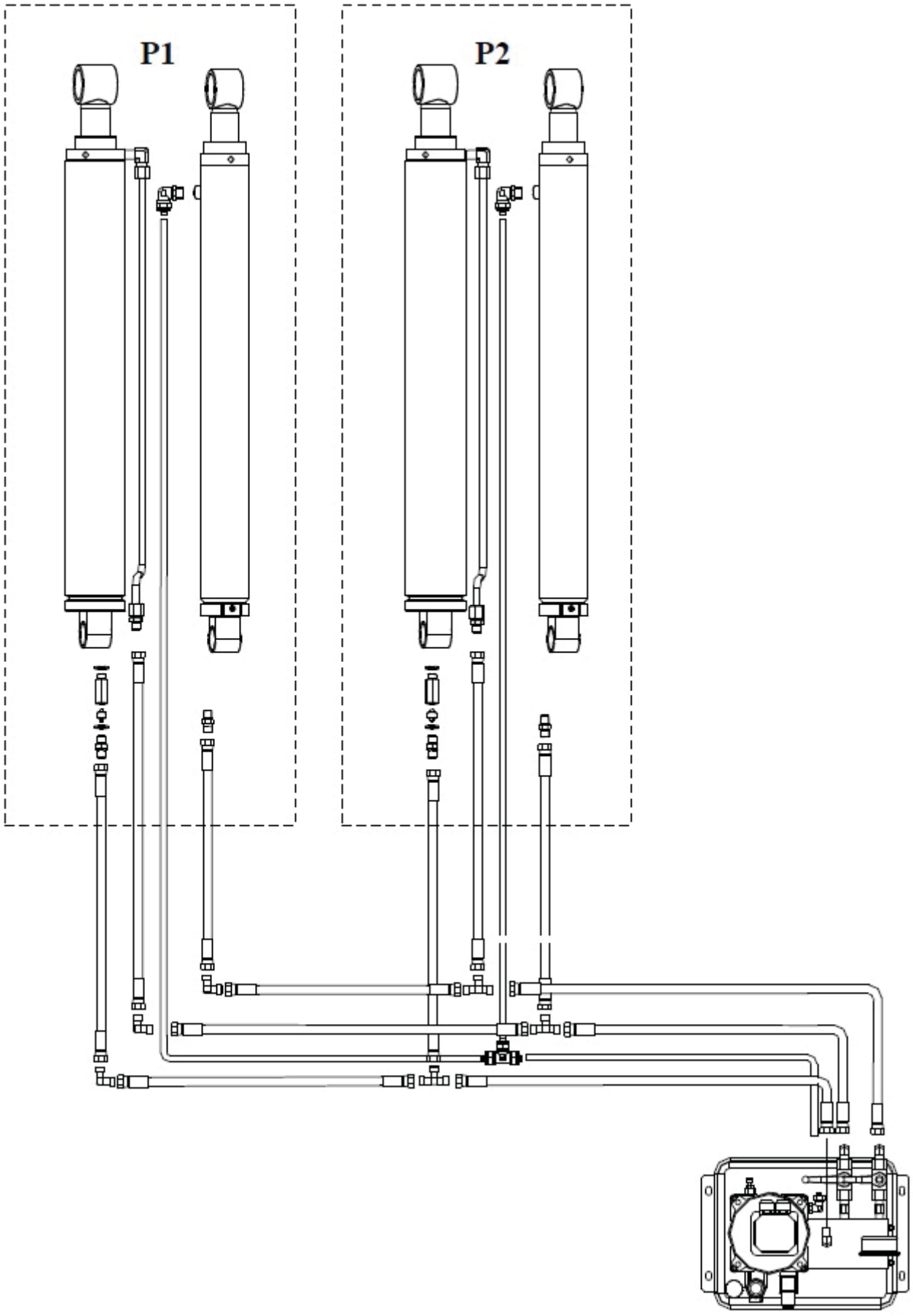


Figure 12 – Hydraulic Connection

7.6 Pneumatic System Connection

When routing the pneumatic line, make sure that the tube is clear of any moving part. Failure to do so may result in safety failure which may result in damage or personal harm.

The pressure in the pneumatic line must be kept around 6bar – 8 bar.

The pneumatic supply at site (to which the pneumatic system of the lift is connected) must be equipped with a servicing unit composed of water separator, lubricator and pressure reducer. These devices can be supplied by the manufacturer on request.

For the connection of the pneumatic lines proceed as follows referring to figure 6:

- Connect the pneumatic lines pre-assembled on the runways to the safety air valve in the control unit;
- Connect the pneumatic system of the lift to the pneumatic supply at site;
- Check the pneumatic control operations for proper performance.

7.7 Make The Electrical Hookup

The hookup work must be carried out by a qualified electrician. Make sure that the power supply is right.
Make sure the connection of the phases is right. Improper electrical hook-up can damage motor and will not be covered under warranty.
DO NOT run the hydraulic unit with no oil. Damage to pump can occur.
The control unit must be kept dry. Damage to power unit caused by water or other liquids such as detergents, acid etc., is not covered under warrant.

- Make the electric hookup to the hydraulic power unit referring to the wiring diagram Figure 5 using included electric cable.
- Make sure the connection of the phases is right and the lift is grounded.

7.8 Pre-Checks

During this procedure, observe all operating components and check for proper installation and adjustment. DO NOT attempt to raise vehicle until a thorough operation check has been completed.

7.8.1 Check

Make sure all pins and bolts to insure proper mounting

- Make sure the electrical system feeding voltage is equal to that specified in the nameplate on the motor
- Make sure the electric connections are in compliant with the wiring diagrams (Figure 5)
- Make sure no leakage or blow-up in hydraulic line and pneumatic line
- Make sure the lift is connected to the ground

7.8.2 Start

- Be sure the working area is free from people and objects
- Verify that the control unit is powered
- Pour oil in the tank (about 16 liters more than one time)
- Feed the lift by the power switch
- Verify that the motor direction of rotation is that shown on the label by pushing the lifting button. IF MOTOR GETS HOT OR SOUNDS PECULIAR, STOP IMMEDIATELY AND RECHECK THE ELECTRIC CONNECTIONS

7.9 Adjustment Of Limit Switches (Ref. Fig. 13)

Only skilled personnel must be allowed to carry out this operation. An improper adjustment of limit switches could cause damages to the lift, objects and people.

Limit switches must be adjusted during the installation of the lift. Two limit switches are installed on the scissor P2 for the top position and the safety height. If limit switches were not functioning properly, it’s possible to adjust them in the following way:

7.9.1 Adjustment Of Top Limit Switch

As the cylinders need the extra stroke about 3” for bleeding, NEVER raise the lift higher than the top limit height 78”. Manufacturer will not responsible for any damage to the lift if failure to do so.

- Place the lift at a height of 78”;
- Unloose nuts (1) and adjust it at the desired height;
- Tighten the nuts after adjustment.

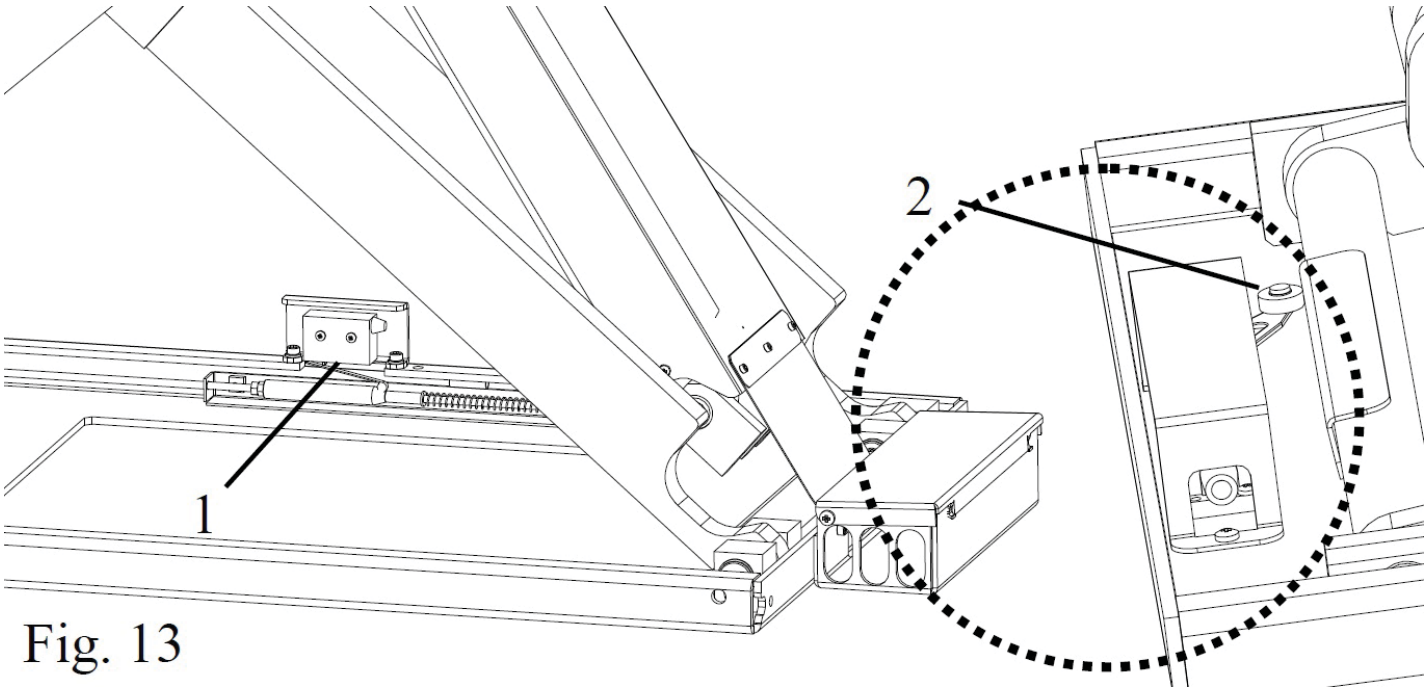


Fig. 13

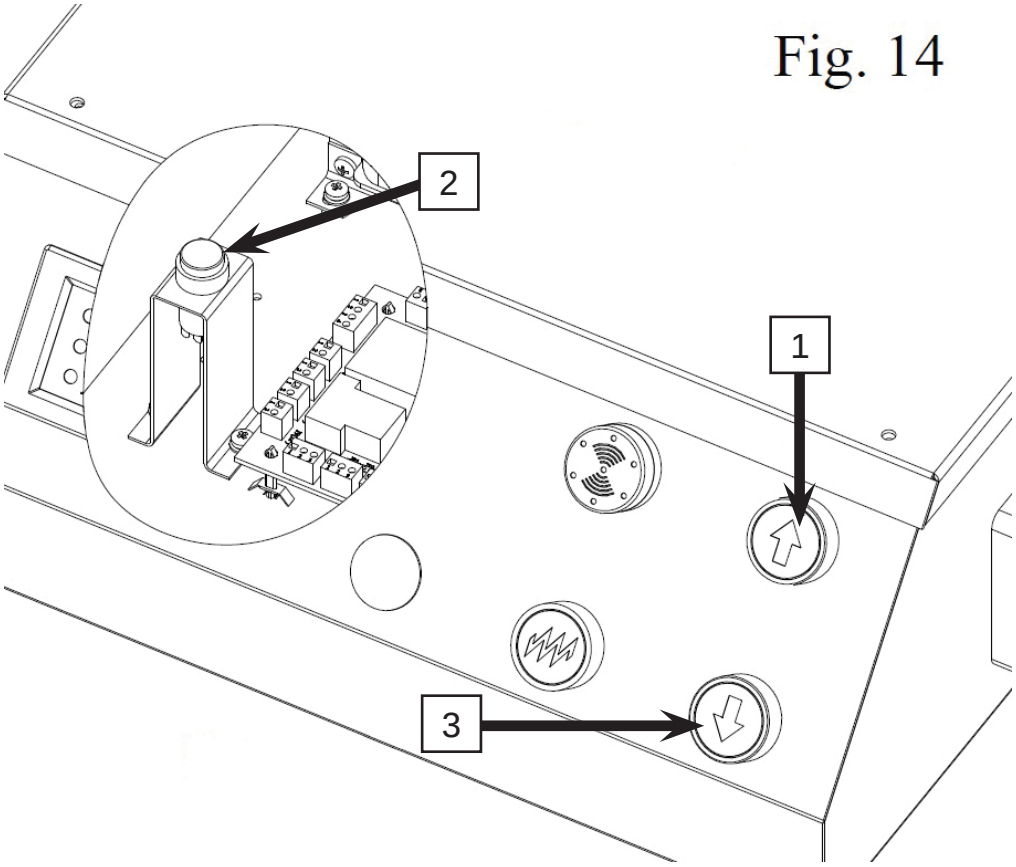
7.9.2 Adjustment Of Safety Height Limit Switch

- Place the lift at a height of 16”;
- Adjust the lever position at the desired height
- Tighten the lever after adjustment.

7.10 Feeding Oil And Bleeding (Ref. Fig. 14)

During the bleeding procedure, DO NOT load the lift.
The top limit switch must be installed before this procedure.

Fig. 14



- Push the lifting button (1) to feed the oil into the cylinders for approximate 30 seconds;
- Open the top cover of the control panel to locate the override button (2);
- Raise the lift by pressing the lifting button (1) until the lift is raised at the top limit position;
- At the top position, keep pressing the override button (2) and the lifting button for a few seconds until two platforms are in the same height. *In this procedure the limit switch is by-passed and the cylinders will override the top limit position about 3".*
- Lower the lift completely by pushing the lowering button (3). If the safety height limit switch is already installed, the lift will descend to the safety height. At this height, lower the lift completely by pressing the lowering button. A beep sound is heard during the last travel;
- Follow this procedure and repeat raise and lower the lift at least 2 times to bleed all the air out of the cylinders.

7.11 Anchoring The Lift

- Raise the platforms approximately 3 feet above the ground.
- Using the base frames as guide, drill each hole in the concrete approximately 4 1/2” deep with the rotary hammer drill D.16. To assure full holding power, do not ream the hole or allow drill to wobble.
- After drilling, remove dust thoroughly from each hole using compressed air or wire brush.
- Assemble the washers and nuts on the anchors then tap into each hole with a hammer until the washer rests against the base plate. Be sure if shimming is required, enough threads are left exposed.
- If shimming is required, insert the shims as necessary around the anchor bolts.
- With the shims and the supplied anchor bolts in place, tighten by securing the nut to the base.

7.12 Load Less Check

Carry out two or three complete cycles of lowering and lifting and check:

- the lift fixing to the ground and all anchor bolts tightened
- proper oil level in the tank
- no leakage and blow-by in hydraulic line
- cylinders for proper operation
- the level of the platforms
- the lift for reaching its maximum height
- the top limit switch for proper operation, adjust if necessary
- the safety limit switch for proper operation, adjust if necessary
- the beeper for proper operation during the final travel

7.13 Checking With Load

WARNING: please follow carefully the instructions in the coming paragraph for avoiding damages on the lift.

Before carrying out the checks with load, make inspection of the machine and check bolts and nuts for proper tightening.

- repeat checks provided for by 7.11 section with the vehicle loaded
- check no leakage and blow-by
- if the platforms weren't leveled, repeat the 7.8 section

Operation And Use

Never operate the lift with any person or equipment below.
Never exceed the rate lifting capacity.
If an anchor bolt becomes loose or any component of the lift is found to be defective, DO NOT USE THE LIFT until repairs are made.
Do not permit the electric control unit to get wet!

8.1 Controls

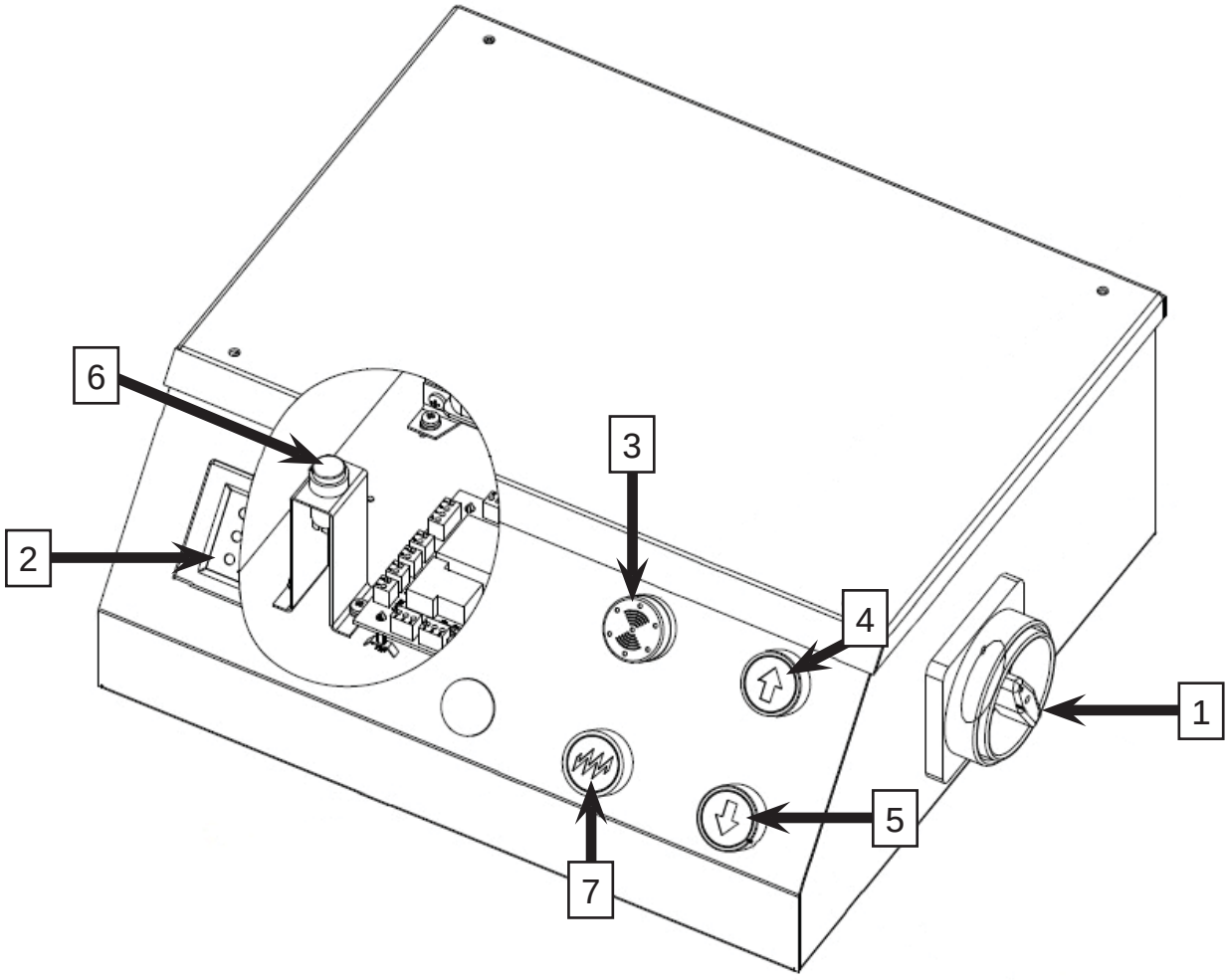


Figure 15 - Control Panel

Controls for operating the lift are:

POWER SWITCH (1)

The power switch can be set in two positions:

- **0 position:** the lift electric circuit is not powered; the switch can be padlocked to prevent the use of the lift.
- **1 position:** the main electric circuit is powered.

FUNCTION INDICATOR (2)

- When ON lights, it shows that the electric circuit is powered.
- When TX lights, it shows that the top limit switch is working.
- When TX lights, it shows that the safety height limit switch is working.
- When  lights, it shows that the power unit is working.
- When 1 Min lights, it shows that the lift starts the final lowering.
- When Err lights, it shows the electric circuit is connected incorrectly or has a malfunction.

BEEPER (3)

LIFTING BUTTON (4)

- When pressed, the electric circuit for the lift operates the motor and hydraulic circuit to raise the lift

LOWERING/FINAL LOWRING BUTTON (5)

- When pressed, the lift begins to descend to the safety height (about 16”).
- When pressed with the lift at the safety height, the lift is lowered to the ground. A beep sound is heard during the last travel.

OVERRIDE BUTTON (6)

- When pressed, the top limit switch is overridden and the lift is raised at extra 3” for bleeding the hydraulic system.

SAFETY ENGAGING BUTTON (7)

- When pressed, the lowering solenoid valve operates the hydraulic circuit to lower the lift to engage the nearest safeties.

Lift operation can be summarized into following steps:

8.2 Lifting

- Place the vehicle at the center of the platform and lock the extensions;
- Check to make sure that the vehicle is secured;
- Place pads under the positions indicated for lifting, by the motor vehicle's manufacturer;
- Set the power switch to 1 position and push the lifting button to lift the vehicle to the required height;
- To rest the lift in standing position by releasing the lifting button.

8.3 Standing

- To rest the lift in standing position at the desired height by releasing the lifting button;
- Press the safety engaging button to engage the nearest safeties. Always ensure that safeties are engaged before any attempt is made to work on or near the vehicle;
- Always ensure that two platforms MUST be in equal height when resting on the safety racks, and all safeties are engaged fully.

8.4 Lowering

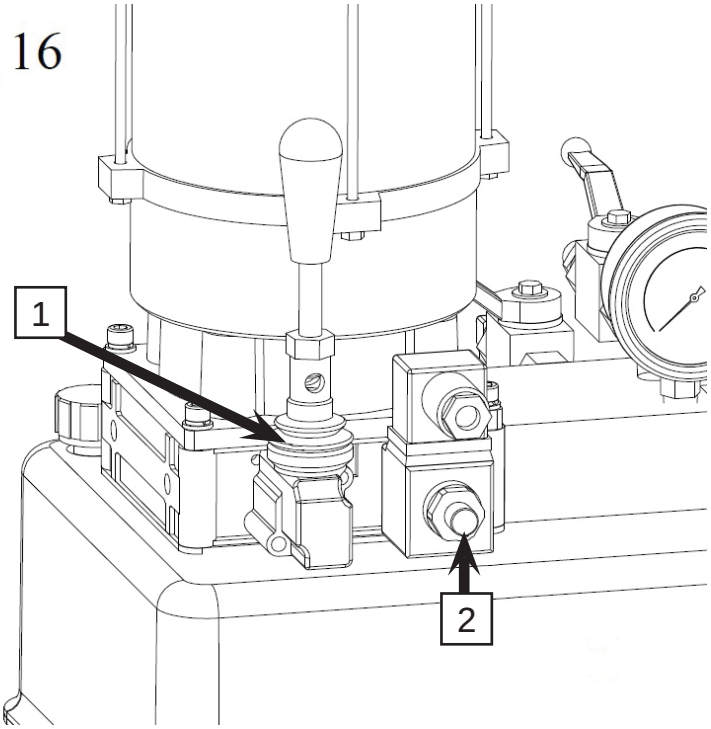
- Push the lifting button to raise the lift a little bit to clear off the safeties;
- Press the lowering button to carry out lowering. The lift will take seconds to release the safeties then it will descend to a safety height;
- Be sure the safety area is free of people and objects;
- Press the lowering button again until the lift is lowered to ground completely. A beep sound is heard during the last travel.

8.5 Manual Emergency Lowering

In case of an emergency (power failure), the lift can be lowered manually to its initial position as follows referring to Figure 16:

- Padlock the power switch;
- Open the front cover of the control unit;
- Operate the emergency hand pump (1) to raise the lift a little bit to clear off the mechanical safeties;
- Keep pressing the emergency button on the safety air valve located in the control unit;
- Unloosen the emergency screw (2) counter-clockwise to lower the lift;
- Retighten the emergency screw by screwing it clockwise after lowering the lift completely.

Fig. 16



Tip: when a mechanical safety is released, it is advised to use a carton board to put between the safety pawl and the rack to avoid it from engaging. In this case, do not need to press the emergency button continuously.
Screwing or loosing the screw can reduce or increase the lowering speed. After manual lowering of the lift, reset ordinary operating conditions. Lift cannot be lifted if solenoid valves are opened

Maintenance

Only trained personnel who knows how the lift works, must be allowed to service the lift.

To service properly the lift, the following has to be carried out:

- use only genuine spare parts as well as equipment suitable for the work required;
- follow the scheduled maintenance and check periods shown in the manual;
- discover the reason for possible failures such as too much noise, overheating, oil blow-by, etc.

Refer to documents supplied by the dealer to carry out maintenance:

- functional drawing of the electric and hydraulic equipment
- exploded views with all data necessary for spare parts ordering
- list of possible faults and relevant solutions.

Before carrying out any maintenance or repair on the lift, disconnect the power supply, padlock the general switch and keep the key in a safe place to prevent unauthorized persons from switching on or operating the lift

9.1 Ordinary maintenance

The lift has to be properly cleaned at least once a month using clean rags. Lubricate all pivot pins at least once a week.

The use of water or inflammable liquid is strictly forbidden

Be sure the rod of the hydraulic cylinders is always clean and not damaged since this may result in leakage from seals and, as a consequence, possible malfunctions.

9.2 Periodic Maintenance

Every 3 months	Hydraulic circuit	• check oil tank level; refill with oil, if needed; • check the circuit for oil leakage. • check seals for proper conditions and replace them, if necessary;
	Foundation bolts	• check bolts for proper tightening
	Hydraulic pump	• verify that no noise changes take place in the pump of the control desk when running and check fixing bolts for proper tightening
	Safety system	• check safety devices for proper operation
Every 6 months	Oil	• Check oil for contamination or ageing. Contaminated oil is the main reason for failure of valves and shorter life of gears pumps
Every 12 months	General check	• verify that all components and mechanisms are not damaged
	Electrical system	• a check of the electrical system to verify that control desk motor, limit switches and control panel operate properly must be carried out by skilled electricians

Troubleshooting

A list of possible troubles and solutions is given below

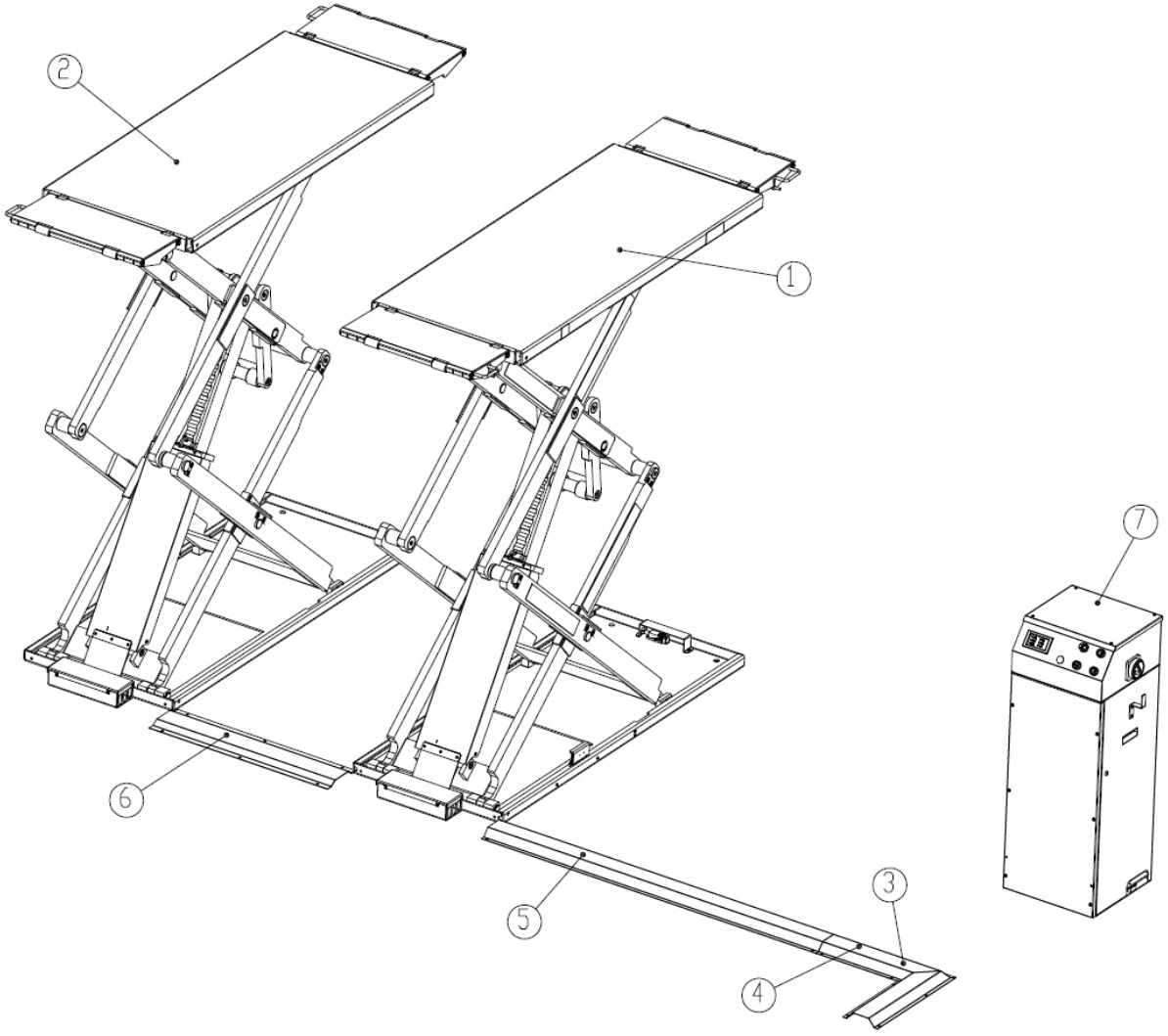
Trouble:	Possible Cause:	Solution:
The lift does not work	The main switch is not turned on	Turn the switch on
	There is no power	Check power and restore if necessary
	The electrical wires are disconnected	Replace
	Fuses are blown	Replace
	The one of limit switches is faulty.	Check the switch and relevant connection for proper operation. Replace, if needed.
The lift does not raise when the lifting button is pressed	The motor direction of rotation is not correct	Interchange the phases on the main switch
	The oil in the hydraulic unit is not sufficient	Add some hydraulic oil
	The lifting button is faulty	Check the lifting button and connection for proper operation. Replace, if needed
	The lowering solenoid valve does not close	Check and clean, if dirty, or replace, if faulty
	The emergency screw of lowering valve does not close	Retighten the screw
	The suction pump filter is dirty	Check and clean if needed

Trouble:	Possible Cause:	Solution:
The lift does not lower when the lowering button is pressed	The motor does not operate properly and does not release the mechanical safeties	Check the motor
	Electric board is faulty	Replace electric board
	The lowering solenoid valve does not discharge	Verify if it is powered and check the magneto for damages (replace if disconnected or burnt)
	The lowering solenoid valve is not operating	Verify if it is powered and check the magneto for damages (replace if disconnected or burnt)
	The lowering button is faulty	Check the button and connection for proper operation. Replace, if needed
The lift does not stop at the safety height	The safety height limit switch is not adjusted correctly or it is faulty	Adjust or change the limit switch
	The electric board is faulty	Replace electric board
	The lowering button is faulty	Check the DOWN button and connection for proper operation. Replace, if needed
	The lowering solenoid valve does not discharge	Verify if it is powered and check the magneto for damages (replace if disconnected or burnt)
The lift isn’t raising synchronous	Presence of air or dripping in the hydraulic circuit	Bleed the hydraulic circuit
	The cylinder gaskets can be damaged	Check and replace if necessary

Trouble:	Possible Cause:	Solution:
The lifting capacity is not sufficient	The oil in the tank is not enough	Fill oil in the tank
	The pump is faulty	Check the pump and replace if necessary
	The maximum pressure valve is not adjusted correctly	Adjust correctly
The lift does not lift or lower smoothly	Leakages or presences of air into hydraulic circuit	Bleed the hydraulic system
The motor does not stop when reaching it maximum height	The maximum height limit switch does not work	Check the limit switch and replace if needed
The lift does not lift or lower smoothly	Leakages or presences of air into hydraulic circuit	Bleed the hydraulic system
	The pump filter is dirty	Check and clean if needed
	The pump suction is blown	Check the seal and replace if needed

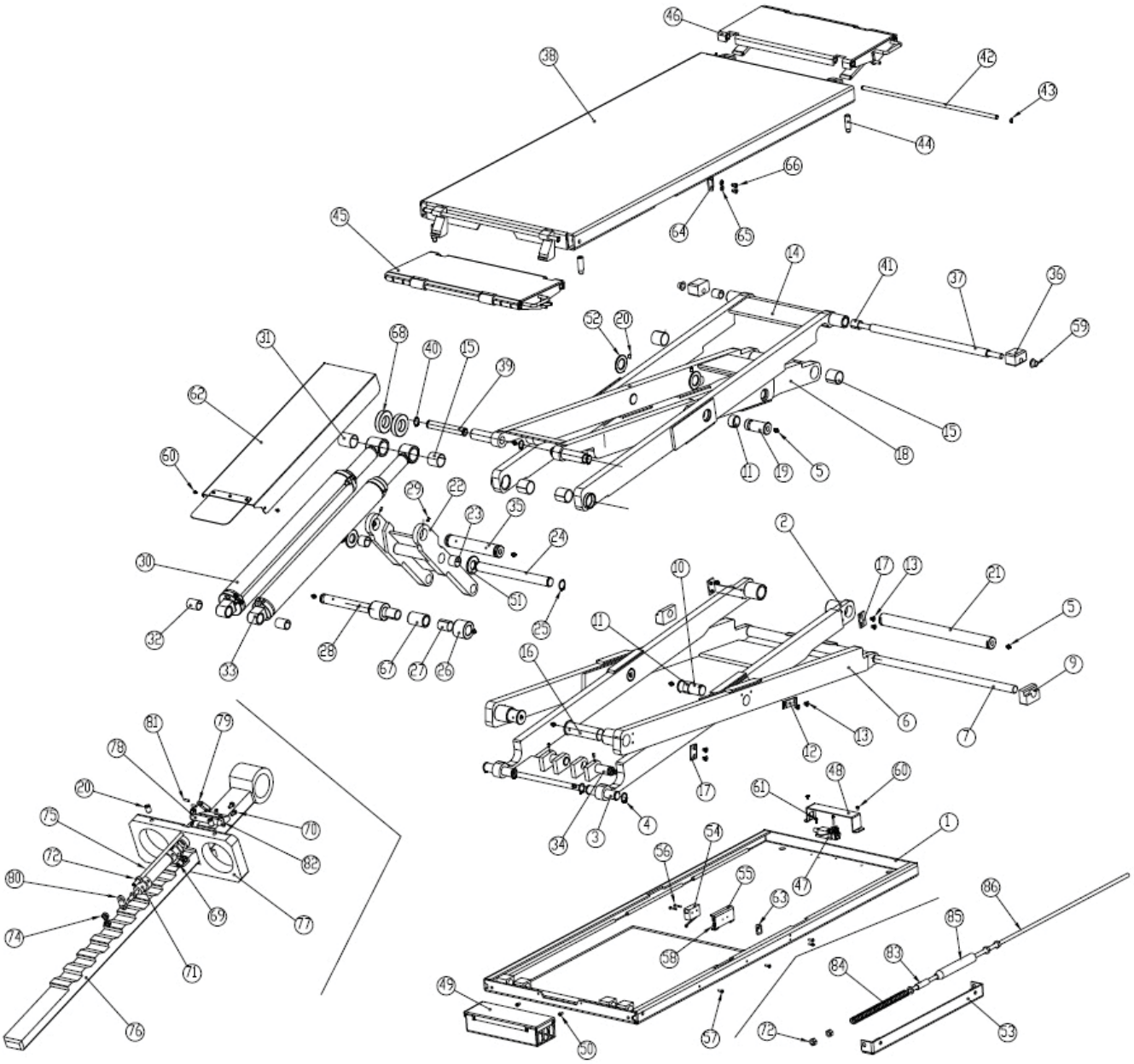
Parts Breakdown

Lift



ITEM	PART NO.	DESCRIPTION	QTY
1	J13D010000	Runway P2	1
2	J13D020000	Runway P1	1
3	NS12000-04-1	Corner hose cover	3
4	NS12000-04-2	Hose cover	1
5	NS12000-04-3	Hose cover	1
6	J13D641101	Middle hose cover	1
7	J13DD10001	Control unit	1

Runway

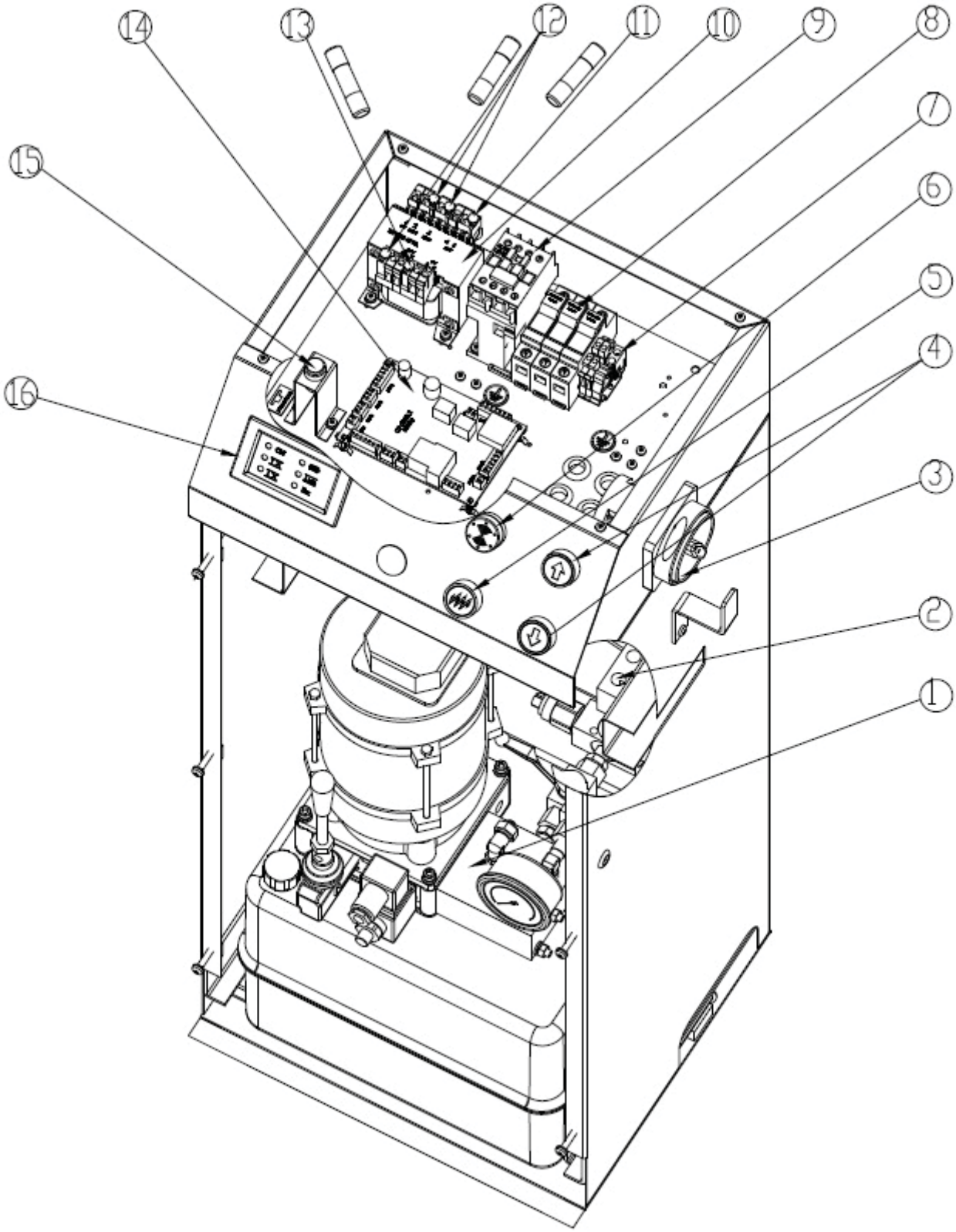


ITEM	PART NO.	DESCRIPTION	QTY
1	J13D010000	Base	1
2	J13D020000	Inferior inner scissor	1
3	J13C510115	Shaft	2
4	0212020	Seeger D.28 - GB/T894.1	4
5	0215021	Greaser 8X1	18
6	J13D210100	Inferior outer scissor	1
7	J13D510109	Lower shaft	1
8	J13C510110	Lower slider 1	1
9	J13C510111	Lower slider 2	1
10	J13C510104	Middle shaft	2

ITEM	PART NO.	DESCRIPTION	QTY
11	0210021	Bush 3520	4
12	NS60000-06	Fastening plate	2
13	0207016	Screw M8X12 - GB/T819.1	12
14	J13D230100	Superior outer scissor	1
15	0210031	Bush 4040	5
16	J13C510102	Shaft	2
17	NS60000-05	Fastening plate	4
18	J13D240100	Superior inner scissor	1
19	J13C510105	Middle shaft	2
20	0209060	Screw M8X12 - GB/T77	4
21	J13D510108	Shaft	1
22	J13D410100	Lifting lever	1
23	0210078	Bush 3027	2
24	J13D420101	Lever middle shaft	1
25	0212021	Seeger D.30 - GB/T894.1	2
26	J13C420104	Lever lower wheel	2
27	0210016	Bush 3040	2
28	J13D420103	Lever lower shaft	1
29	0209002	Screw M6X10 - GB/T79	6
30	J13DY75000	Master hydraulic cylinder	1
31	0210033	Self-lubricated bush 4050	1
32	0210012	Self-lubricated bush 2840	2
33	J13CY60000	Slave hydraulic cylinder	1
34	J13C510103	Cylinder lower shaft	2
35	J13D420102	Lever upper shaft	1
36	J13C510113	Upper slider	2
37	J13D510112	Upper shaft	1
38	J13D310100	Table	1
39	J13C510101	Shaft	2
40	0212004	Seeger D.25 - GB/T894.1	4
41	0210010	Self-lubricated bush 2530	2
42	J13C323101	Ramp shaft	4
43	0212001	Seeger D.12 - GB/T894.1	8
44	NS-8-61	Shock absorber	4
45	J13C320100	Ramp 1	1
46	J13C320200	Ramp 2	1
47	0505018	Limit switch 8108	1
48	J13C612101	Switch protection	1

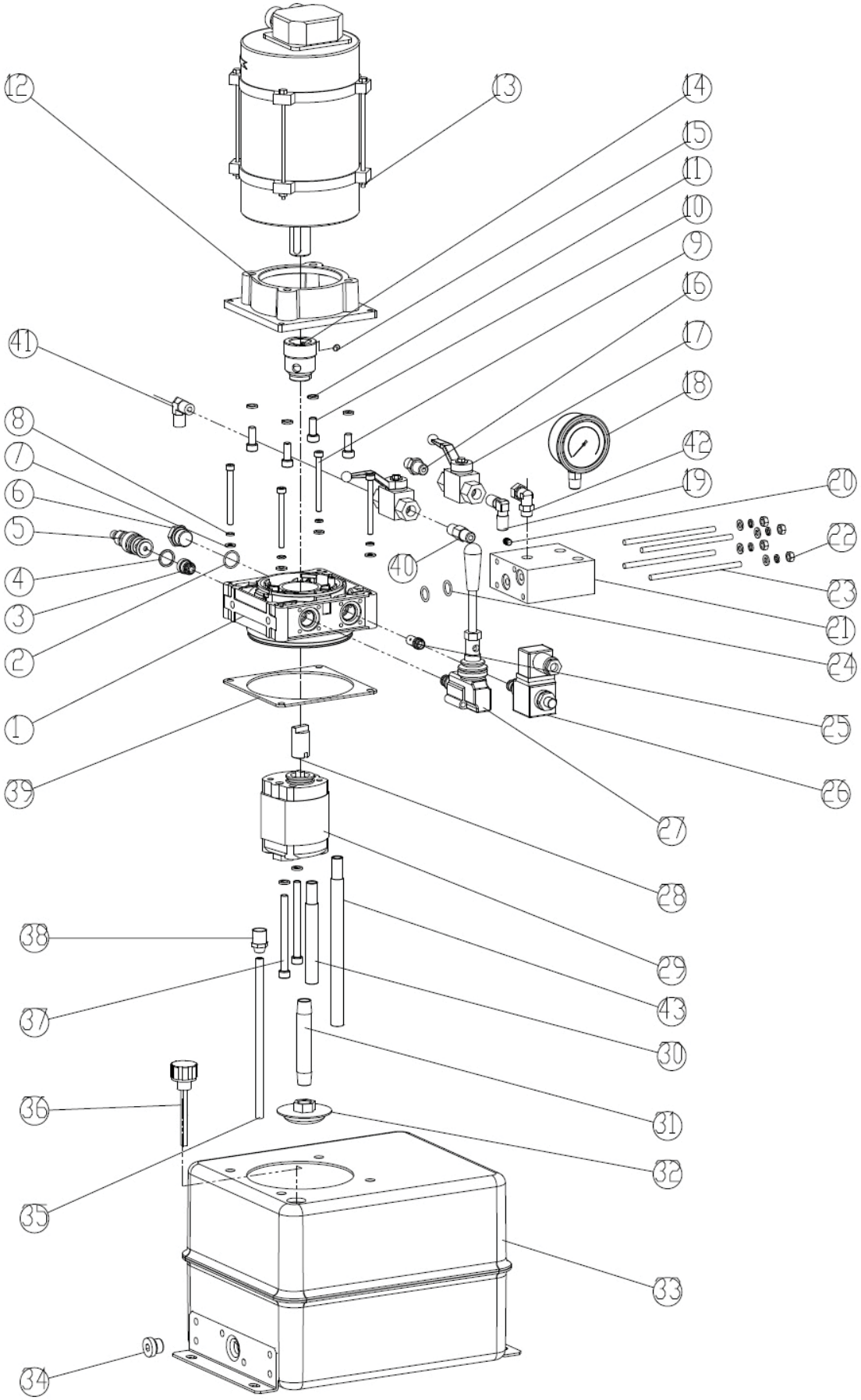
ITEM	PART NO.	DESCRIPTION	QTY
49	J13C631000	Hose connection cover	1
50	0202030	Screw M6X10 - GB/T70.1	4
51	J13C510107	Nylon spacer	2
52	J13C510106	Nylon spacer	2
53	J13C611100	Support	1
54	0505014	Micro switch	1
55	J13C611301	Switch support	1
56	0206017	Screw M4X25 - GB/T818	3
57	0206026	Screw M5X16 - GB/T818	4
58	0205006	Washer D.6 - GB/T97.1	3
59	J13C510114	Nylon bush	2
60	0206030	Screw M5X8 - GB/T818	4
61	0206013	Screw M4X12 - GB/T818	1
62	J13D621000	Cylinder protection	1
63	J13C611205	Support	1
64	J13C330101	Slider limiter	2
65	0205008	Washer D.8 - GB/T97.1	4
66	0202097	Screw M8X10 - GB/T70.1	4
67	J13D420108	Lever middle spacer	1
68	J13D420105	Spacer	1
69	0306083	90 degree rotation union 6-M5	1
70	0206023	Screw M4X8 - GB/T818	4
71	0306056	Safety release air cylinder 16X20	1
72	0203004	Nut M6 - GB52	7
73	0204014	Nut M16X1.5 - GB/T6173	1
74	0204003	Self-locking nut M6 - GB/T889.1	2
75	NS131802	Safety release pin	1
76	J13D431100	Safety rack	1
77	J13D430101	Support	1
78	NS131200	Safety hook	1
79	NS131801	Connection plate	1
80	NS131804	Connection plate	1
81	NS131803	Pin	2
82	NS131805	Fastening plate	2
83	J13C611203	Special nut M6	1
84	J13C611204	Spring	1
85	J13C611202	Guide bush	1
86	J13C611201	Switch actuator	1

Control Unit



ITEM	PART NO.	DESCRIPTION	QTY
1	BZ-YLY	Hydraulic power unit	1
2	0306190	Solenoid air valve DC24V	1
3	0505022	Power switch HZ5/2-20A	1
4	0502052	Pushbutton LA37G-EA21-10	1
5	0502054	Safety engaging button	1
6	0502021	Beeper DC24V	1
7	0507002	Wiring terminal	1
8	0504013	Overload cutoff 32A/10X38	2
9	0501044	Contactor 1210/DC24V	1
10	0503013	Transformer 63VA	1
11	0504004	Fuse 4A 5X20	1
12	0504016	Fuse 1A 5X20	3
13	0504003	Fuse 2A 5X20	1
14	0507040	Control board CP-503B.2	1
15	0502017	Override button LA16Y-11-Y	1
16	0507011	Function indicator CP-501D	1

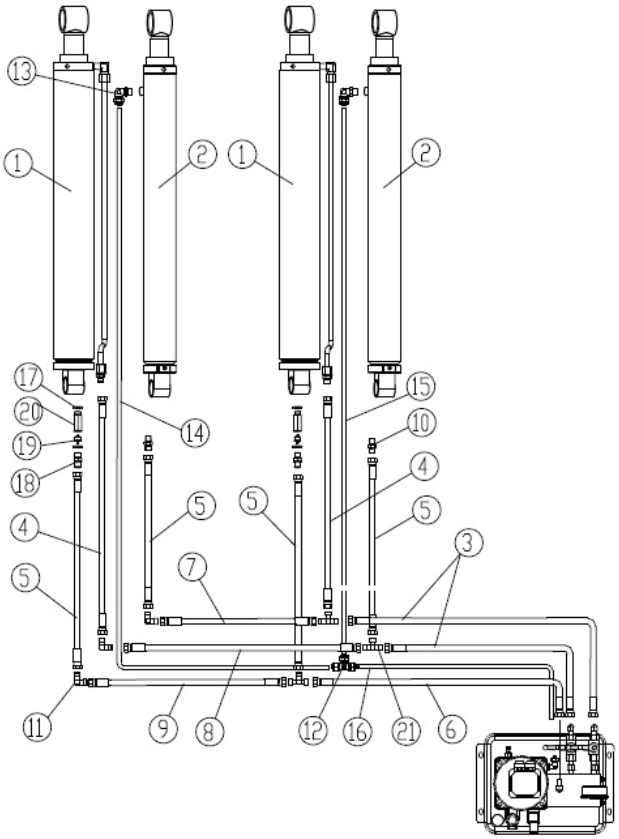
Hydraulic Power Unit

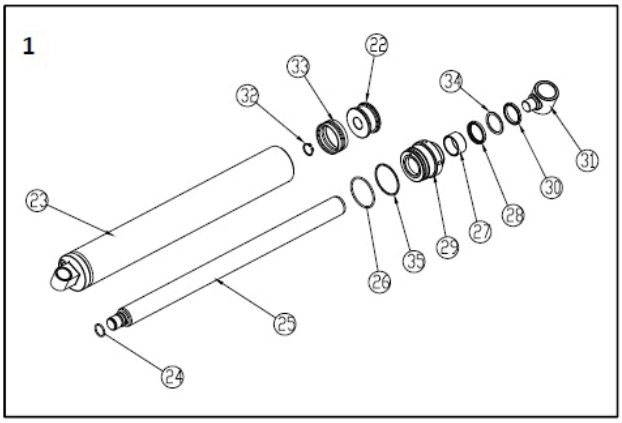


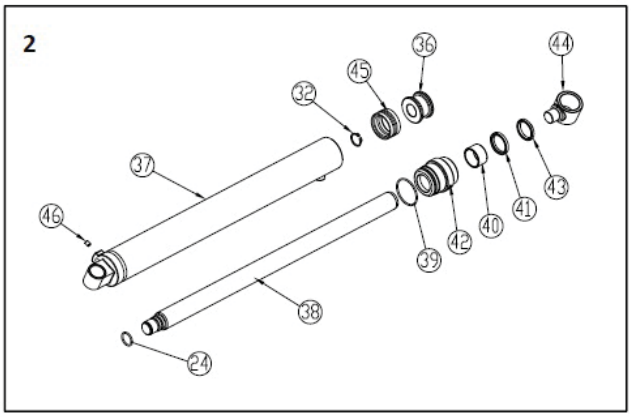
ITEM	PART NO.	DESCRIPTION	QTY
1	BZ-ZB-Y	Manifold	1
2	0309054	O-ring 17.0X1.8 - GB3452.1	1
3	0307067	Non return valve	1
4	0313057	Copper washer 16X20	1
5	0307010	Pressure overload valve	1
6	BZ-SD-01	Plug	1
7	0205006	Washer D.6 - GB/T97.1	8
8	0208005	Spring washer D.6 - GB/T93	8
9	0202036	Screw M6X65 - GB/T70.1	4
10	0202045	Screw M8X20 - GB/T70.1	4
11	0208006	Spring washer D.8 - GB/T93	6
12	BZ-DJ-1B	Motor flange	1
13	0509092	Motor 220V/60HZ/1PH 2.2KW 2P	1
14	BZ-ZT24	Motor joint	1
15	0209042	Screw M6X8 –GB/T80	1
16	0303063	Union 1/4 (1BT-04SP)	1
17	0307041	Leveling cutoff cock 1/4	2
18	0305054	Pressure gauge 400bar 1/4	1
19	0303031	90º union 1/4 (1T9-04SP)	1
20	0305001	Plug QD07	1
21	BZ-W-YLY	Interface block	1
22	0203004	Nut M6 - GB/T52	4
23	0213045	Screw M6X120 - GB/T901	4
24	0309019	O-ring 18X2.4 - GB1235	2
25	0307006	Lowering speed control valve D.2.5	1
26	0307048	Lowering solenoid valve DC24V	1
27	0307012	Emergency hand pump	1
28	BZ-BJ36	Pump joint	1
29	0301008	Gear pump 2.1cc	1
30	BZ-G14X120	Oil return pipe	1
31	BZ-G18X100	Oil suction pipe	1
32	0305010	Oil filter 3/8	1
33	HK2-0200	Oil tank	1
34	0305018	Plug 3/8	1
35	0306097	Rilsan hose 8X5 L=190	1
36	0305026	Oil level plug 3/8	1
37	0202053	Screw M8X90 - GB/T70.1	2
38	0306070	Union 8-3/8	1

ITEM	PART NO.	DESCRIPTION	QTY
39	BZ-F-01	Gasket	1
40	0303060	Union 1/4 (1T-04SPL)	1
41	0303002	90° union 1/4 (1BT9-04SP)	1
42	0306067	90º union 10-1/4	1
43	BZ-G14X200	Oil return pipe	1

Hydraulic Cylinders







ITEM	PART NO.	DESCRIPTION	QTY
1	J13DY75000	Master hydraulic cylinder	2
2	J13CY60000	Slave hydraulic cylinder	2
3	ZZ2700	Hydraulic hose 1/4 L=2700	2
4	ZZ190	Hydraulic hose 1/4 L=190	2
5	ZZ180	Hydraulic hose 1/4 L=180	4
6	ZZ2970	Hydraulic hose 1/4 L=2970	1
7	ZZ1300	Hydraulic hose 1/4 L=1300	1
8	ZZ1400	Hydraulic hose 1/4 L=1400	1
9	ZZ1380	Hydraulic hose 1/4 L=1380	1
10	0303063	Union 1/4 (1BT-04SP)	2
11	0303010	90° union 1/4 (1B9-04SP)	3
12	0306081	Tee rotation union 10	1
13	0306067	90° union 10-1/4	2
14	0306109	Rilsan hose 10X6.5 L=2300	1
15	0306109	Rilsan hose 10X6.5 L=900	1
16	0306109	Rilsan hose 10X6.5 L=3000	1
17	0313001	Washer 1/4	4
18	0303065	Union 1/4 (1B-04)	2

ITEM	PART NO.	DESCRIPTION	QTY
19	0307021	Parachute valve 1/4	2
20	7532-B	Valve union	2
21	0303021	Tee union 1/4	3
22	C13CY75801	Piston	1
23	C13DY75100	Master cylinder liner	1
24	0309025	O-ring 32X3.1 – GB1235	2
25	C13CY75802	Cylinder shaft	1
26	0309077	O-ring 71X3.55 – GB3452.1	1
27	0305006	Guide ring 45X25X2.5	1
28	0310014	Seal 45X55X7	1
29	C13CY75803	Cylinder guiding cover	1
30	0311009	Scraper 45X53X5	1
31	MS100-80-6	Shaft support	1
32	0212020	Seeger D.28 – GB/T894.1	2
33	0312024	Gasket 75X63X20.5	1
34	C13CY75804	Sealing ring	1
35	C13CY75805	Sealing ring	1
36	C13CY60801	Piston	1
37	C13CY60100	Slave cylinder liner	1
38	C13CY76002	Cylinder shaft	1
39	0309035	O-ring 63X3.1 – GB1235	1
40	0305006	Guide ring 40X25X2.5	1
41	0310013	Seal 40X50X6	1
42	C13CY60803	Cylinder guiding cover	1
43	0311008	Scraper 40X48X5	1
44	MS100-70-6	Shaft support	1
45	0312027	Gasket 60X48X20.5	1
46	0209046	Screw M8X10 – GB/T80	1

Warranty

This item is warranted for one (1) year on structural components and one (1) year on air or electric hydraulic power units, pneumatic power units, cylinders and major components from date of invoice. Wear items are covered by a 90 day warranty.

This LIMITED warranty policy does **not include a labor** warranty.

NOTE: ALL WARRANTY CLAIMS MUST BE PRE-APPROVED BY THE MANUFACTURER TO BE VALID.

The Manufacturer shall repair or replace at their option for this period those parts returned to the factory freight prepaid, which prove after inspection to be defective. This warranty will not apply unless the product is installed, used and maintained in accordance with the Manufacturers installation, operation and maintenance instructions.

This warranty applies to the ORIGINAL purchaser only, and is non-transferable. The warranty covers the products to be free of defects in material and workmanship but, does not cover normal maintenance or adjustments, damage or malfunction caused by: improper handling, installation, abuse, misuse, negligence, carelessness of operation or normal wear and tear. In addition, this warranty does not cover equipment when repairs or alterations have been made or attempted to the Manufacturer's products.

THIS WARRANTY IS EXCLUSIVE AND IS LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS FROM A PARTICULAR PURPOSE, AND ALL SUCH IMPLIED WARRANTIES ARE EXPRESSLY EXCLUDED.

THE REMEDIES DESCRIBED ARE EXCLUSIVE AND IN NO EVENT SHALL THE MANUFACTURER, NOR ANY SALES AGENT OR OTHER COMPANY AFFILIATED WITH IT OR THEM, BE LIABLE FOR SPECIAL CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR THE BREACH OF OR DELAY IN PERFORMANCE OF THIS WARRANTY. THIS INCLUDES, BUT IS NOT LIMITED TO, LOSS OF PROFIT, RENTAL OR SUBSTITUTE EQUIPMENT OR OTHER COMMERCIAL LOSS.

PRICES: Prices and specifications are subject to change without notice. All orders will be invoiced at prices prevailing at time of shipment. Prices do not include any local, state or federal taxes.

RETURNS: Products may not be returned without prior written approval from the Manufacturer.

DUE TO THE COMPETITIVENESS OF THE SELLING PRICE OF THESE LIFTS, THIS WARRANTY POLICY WILL BE STRICTLY ADMINISTERED AND ADHERED TO.