

INSTALLATION & OPERATION MANUAL



Atlas SLP-7K 7,000 lb. Capacity Full Rise Scissor Lift



Atlas Automotive Equipment
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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 _____


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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 adjustments, read Chapter 7 "Installation" carefully. All proper operations for a better functioning lift are shown.
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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 lifetime. Read every section of this manual carefully before unpacking and operating the lift. It gives helpful information about:

- **safety of the operators**
- **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 AUTHORIZED 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 moisture.
- 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.
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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"
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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.
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	Any other use which differs from that provided for by the manufacturer of the machine is strictly forbidden.
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	The use of non genuine parts may cause damage to people or objects
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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 the dealer where the machine was purchased 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:

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

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

The average weight of the package is *2,300 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 14°F and 104°F. 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 damage 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. 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.

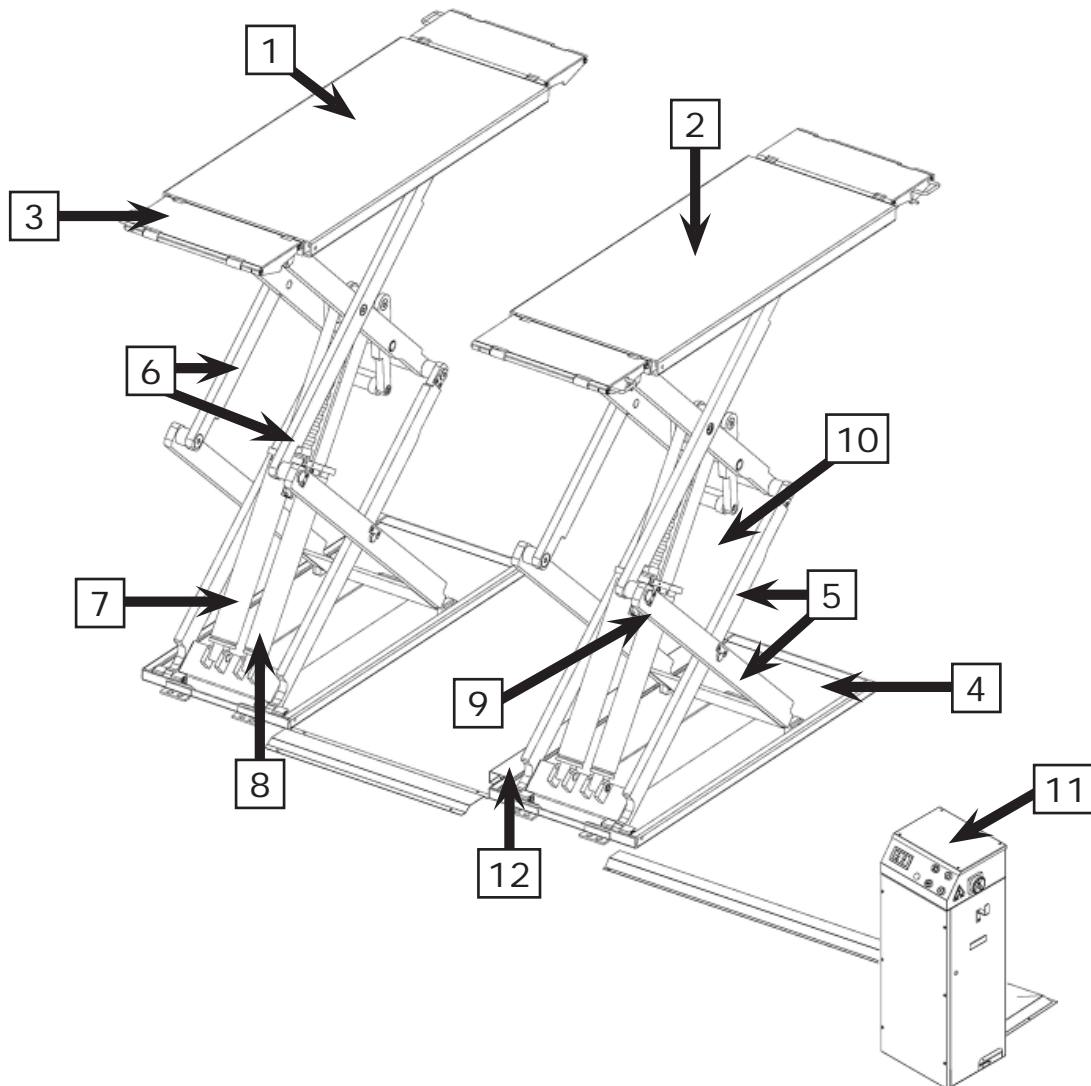


Figure 1 - Lift

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 scissor lifting system.

The lifting system of each platform is composed of N.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.

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 will be completely lowered. A beep sound is heard during the last travel.

Technical Specification

5.1 Size And Main Features (Ref. Figure 2)

Capacity	7,000 LBS.
Maximum lifting height	74" (6' 2")
Minimum height of lift	4 3/8"
Length of the platform	56 1/4"
Width of platforms	23 1/2"
Width between platforms	Adjustable up to 31"
Overall length	78"
Maximum overall width	78 1/2"
Lifting time	50 s
Lowering time	50 s
Noise level	70 dB(A)/1m
Total weight of the lift	2,300 LBS.
Working temperature	14 °F ÷ 104 °F

5.2 Electric Motor

Voltage	220V +/- 5% (209-231volts) -1Ph
Power	2.2 KW
N° Poles	2
Speed	2800 rpm
Motor enclosure type	B14
Insulation class	IP 54

Motor connection must be carried out referring to the attached wiring diagrams (Fig. 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 failure.

5.3 Pump

Type	Gear	
Flow rate	2.1 cm ³ /g	4.8 cm ³ /g
Continuous working pressure	210 bar – 230 bar	
Peak pressure	250 bar	

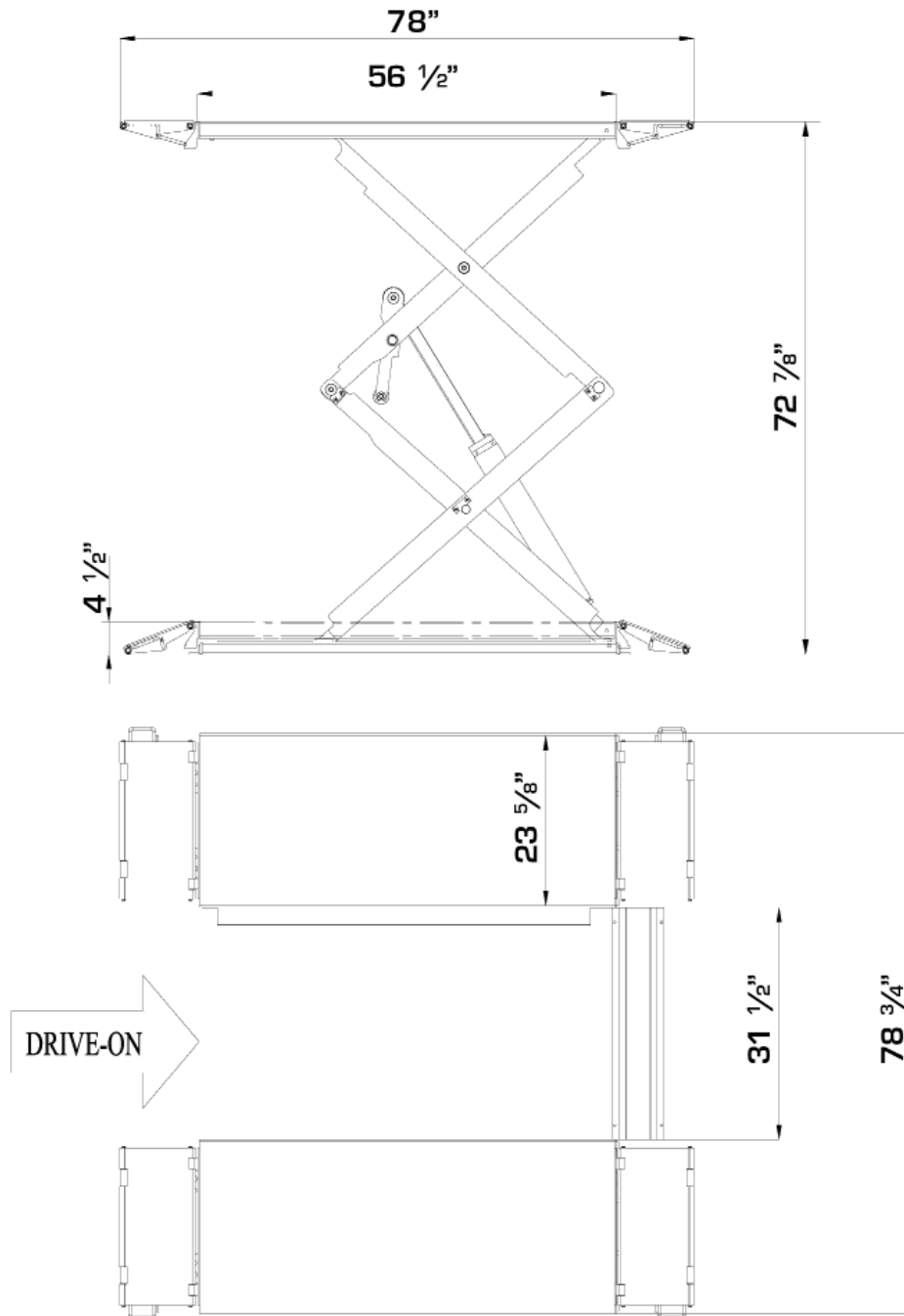


Figure 2 – Layout

5.4 Hydraulic Power Unit

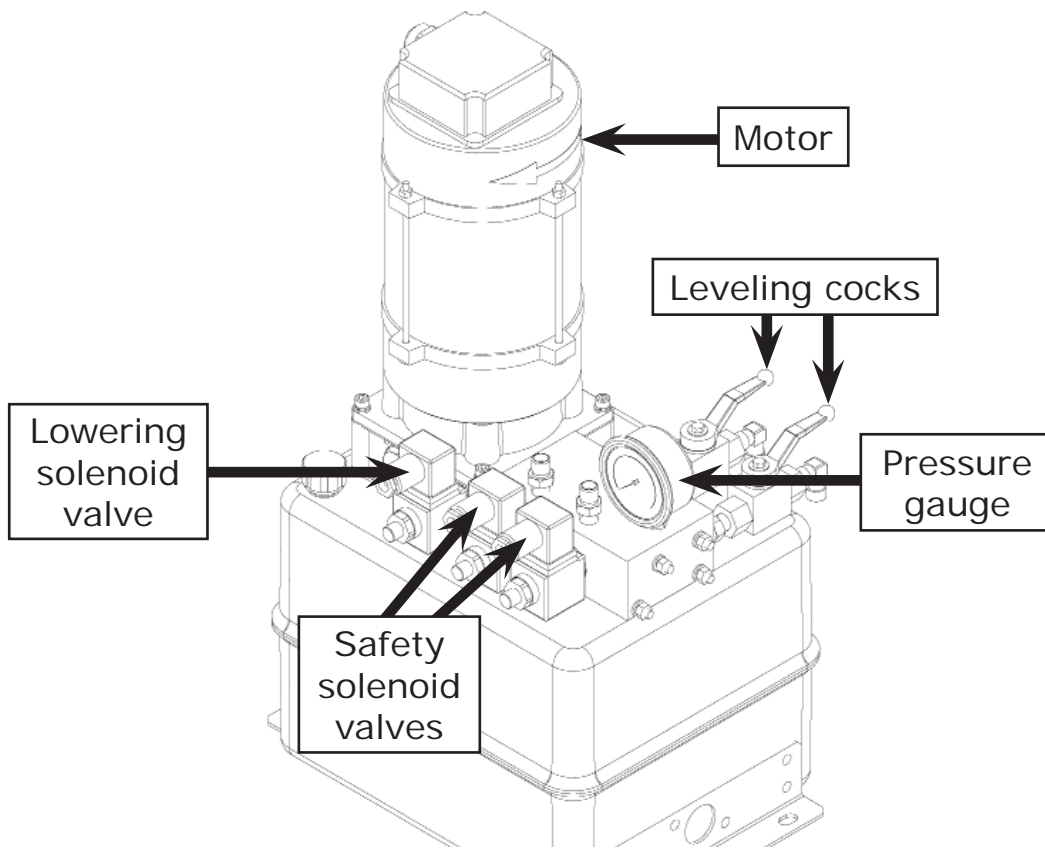


Figure 3 – Hydraulic Power Unit

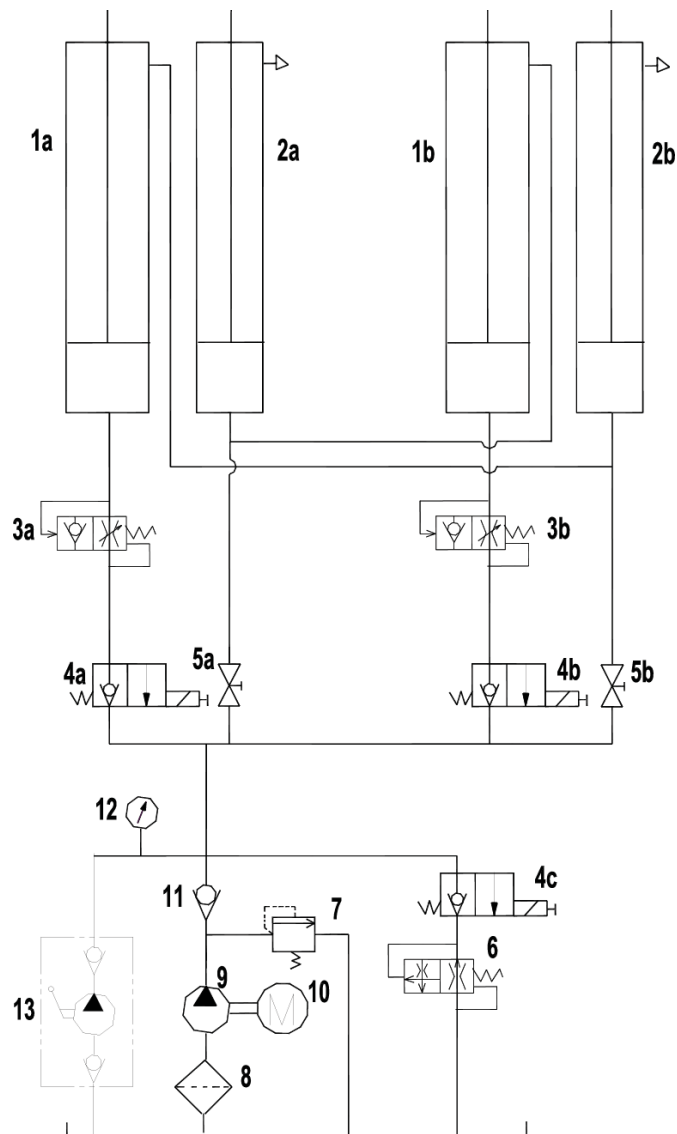
5.5 Oil

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

Figure 4 – Hydraulic Plan

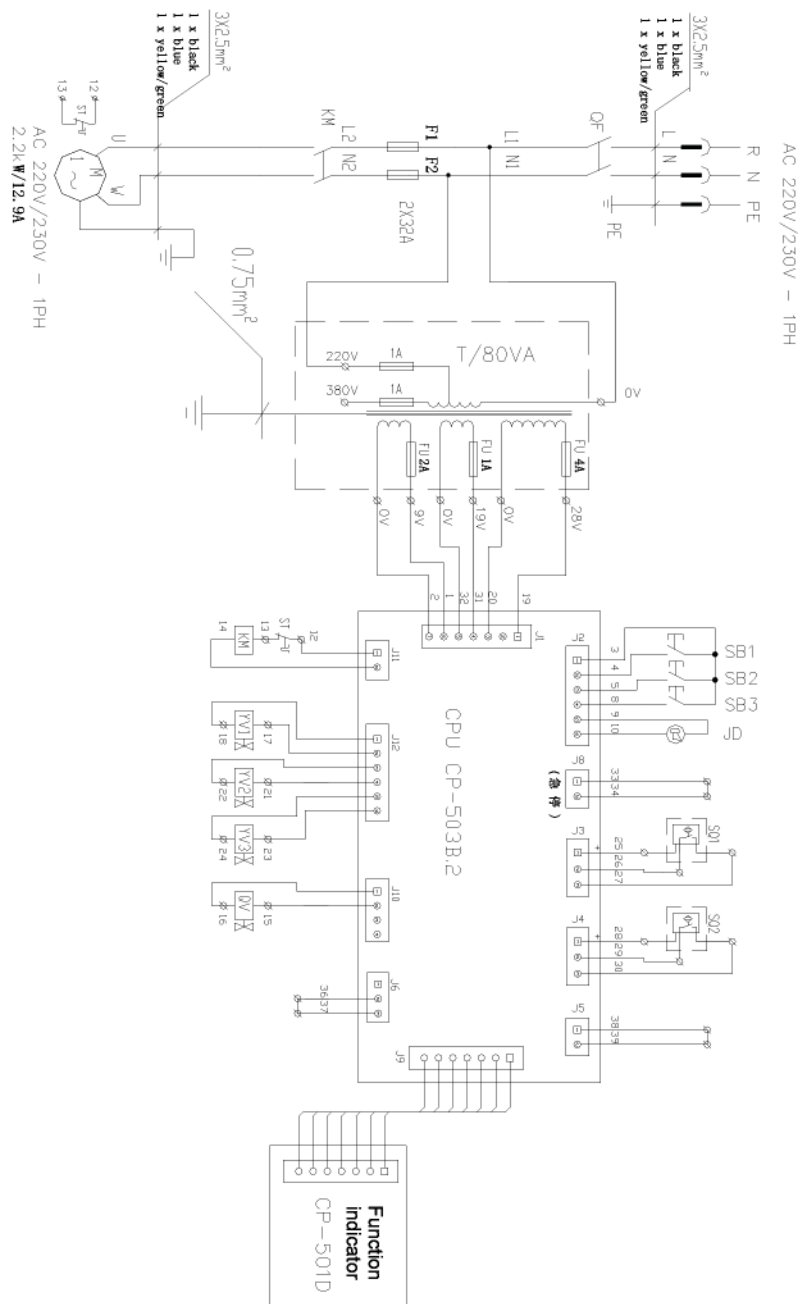


Figure 5b – Electrical Plan (220V/230V-1PH)

QF	Power switch	QV	Safety air valve
M	Motor 2.2KW 1PH	SB1	Lifting button
ST	Thermal relay	SB2	Lowering/final lowering button
T	Transformer 80VA	SB3	Safety engaging button
KM	Contactora DC	JD	Beeper
YV1	Lowering solenoid valve	SQ1	Top limit switch
YV2	Safety solenoid valve – P1	SQ2	Safety height limit switch
YV3	Safety solenoid valve – P2		

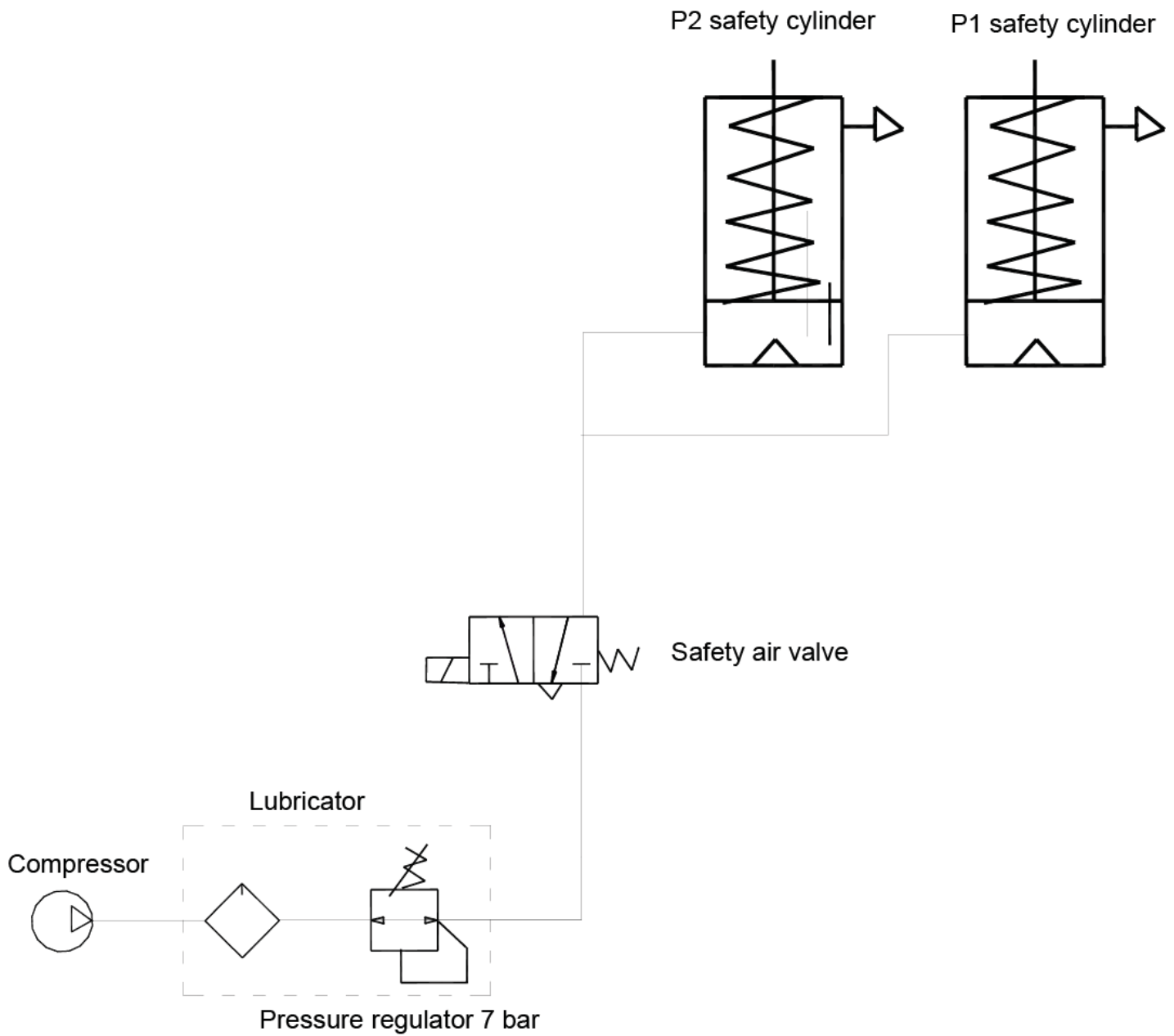




Figure. 6 – Pneumatic Plan

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

	<p>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.</p> <p>The manufacturer is not liable for possible damages to people, vehicles or objects resulting from an improper or unauthorized use of the lift.</p>
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For the safety of the operator and anyone near the lift, a safety area of at least 3 ft. around 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.

	<p>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.</p>
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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 possible 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.
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6.3 Risks For People

All the possible risks due to 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, immediately move 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 Electrocutation 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 Components 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 injury 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. Installation near 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, minimum 6 inches thick, 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 level in all directions. An inclination not higher than 1 inch in drive-on lift direction and ½ inch 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 the figure 2, use a carpenter's 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 at least *1,100 LBS*. 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. 13)

- Open the front cover of the control unit.
- Connect hydraulic hose to the fittings referring to the letters shown on them.
- Tighten 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.

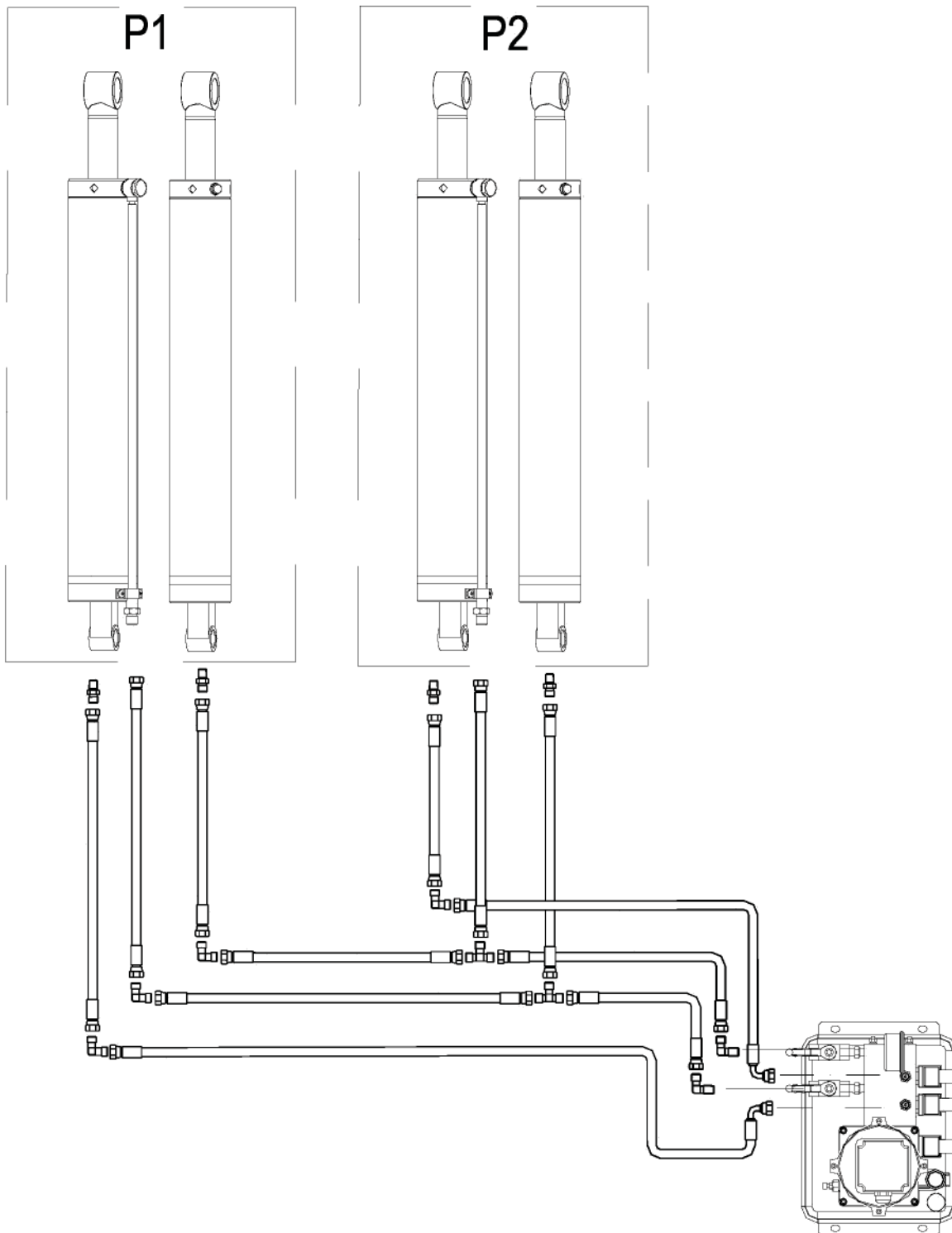




Figure 13 – Hydraulic Connection

7.6 Make The Electrical Hookup To Control Unit

	<p>The hookup work must be carried out by a qualified electrician.</p> <p>Make sure that the power supply is right.</p> <p>Make sure the connection of the phases is right. Improper electrical hook-up can damage the motor and will not be covered under warranty.</p> <p>DO NOT run the hydraulic unit without oil. Damage to pump can occur.</p> <p>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 warranty.</p>
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- Make the electric hookup to the hydraulic power unit referring to the wiring diagram in figure 5 using included electric cable.
- Make sure the connection of the phases is right and the lift is grounded.

7.7 Feeding Oil And Bleeding

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

- Inspect 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 this is no leakage or blow-up in the hydraulic line and pneumatic line
- Make sure the lift is connected to the ground


7.7.2 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

7.7.3 Feeding Oil

- Turn on the leveling cocks (fig.14 - 1);
- Push the lifting button (fig. 15 – 1) to feed the oil into the cylinders for approximately 30 seconds;
- Turn off the leveling cocks;

7.7.4 Bleeding The Hydraulic Line

	<p>Do not install the safety height limit switch before the bleeding procedure.</p> <p>ATTENTION: Refill the oil if there is not enough during this procedure.</p> <p>After adjusting the level of the lift, reset to ordinary operating conditions.</p> <p>To lower the lift, be sure to raise the lift a little bit by pushing the lifting button to release the safeties and then lower the lift by pressing the lowering button.</p>
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- Raise the lift by pressing the lifting button until the cylinder bottoms out and stops;
- Press the lowering button (fig. 15 – 2) with the leveling cocks turned on;
- Hold the lowering button to lower the lift completely;
- Raise the lift to the top position with the levelling cocks off;
- Lower the lift completely with the levelling cocks on;
- Follow this procedure and repeat raising and lowering the lift at least 5 times to bleed all the air out of the cylinders.

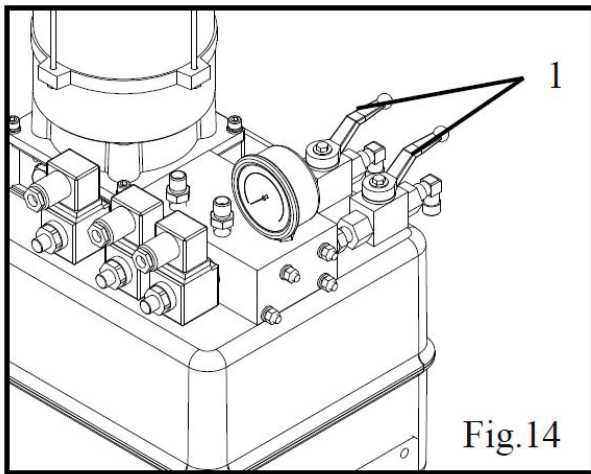


Fig.14

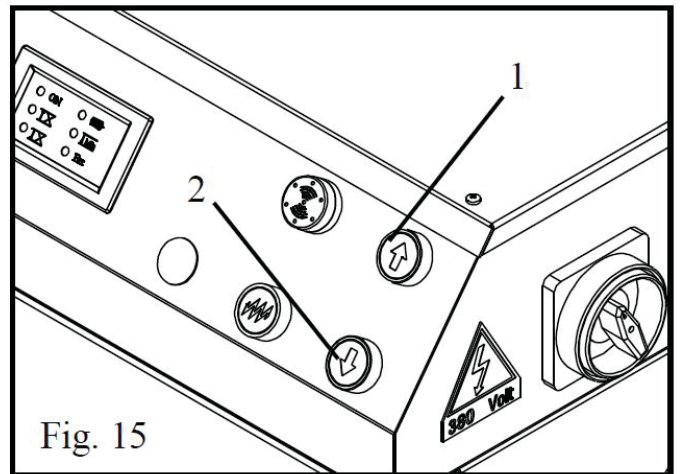


Fig. 15

7.7.5 Platform Leveling

If the platforms aren't leveled (one of the two platforms is lower than the another one), follow these instructions:

- Turn on the leveling cock of the lower platform.
- Feather-push the lifting button until this platform is in the same height as another.
- Turn off this leveling cock after leveling.

7.8 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 5 inches 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.

7.9 Adjustment Of Limit Switches (Ref. Fig. 16)



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

This lift is equipped with 2 proximity switches for the top position and the safety height position. Both are to be mounted on the P2 base and can be activated by the slider when it passes by.

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 (Fig.16-1)

- Place the lift at a height of *6 feet*;
- Loosen the nuts (3) of the limit switch and adjust it at the desired height;
- Tighten the nuts after adjustment.

7.9.2 Adjustment Of Safety Height Limit Switch (Fig.16-1)

- Place the lift at a height of *1 foot*;
- Loosen the nuts (3) of the limit switch and adjust it at the desired height;
- Tighten the nuts after adjustment.



After adjustment of the switches, make sure to fix the switch protection (fig.16-4) on the base. Failure to do so can damage the switches.

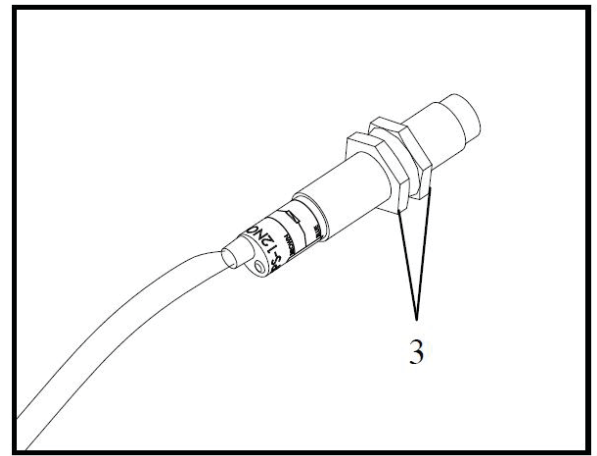
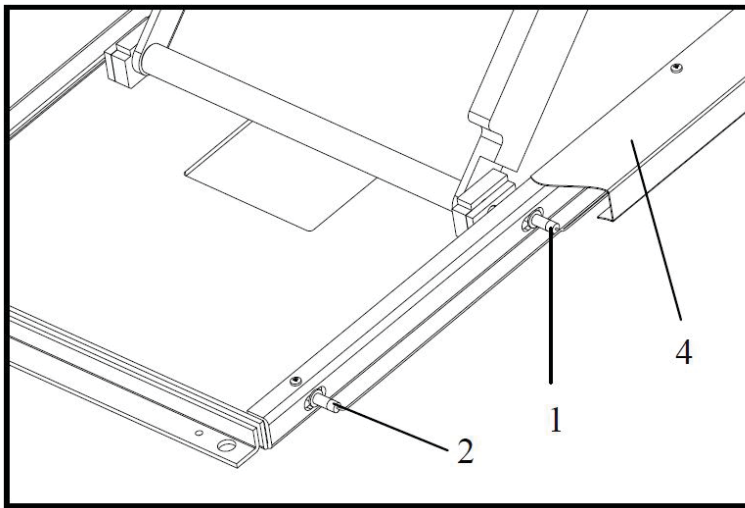


Figure 16 – Limit Switches

7.10 Loadless Check

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

- 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 limit switches for proper operation
- the horn/signaling light for proper operation during the final travel

7.11 Checking With Load




WARNING: please follow the instructions in the following paragraph carefully to avoid damaging the lift.

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

- repeat checks provided for by 7.10 section with the vehicle loaded
- if the platforms weren't leveled, repeat the 7.7 section

Operation And Use

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

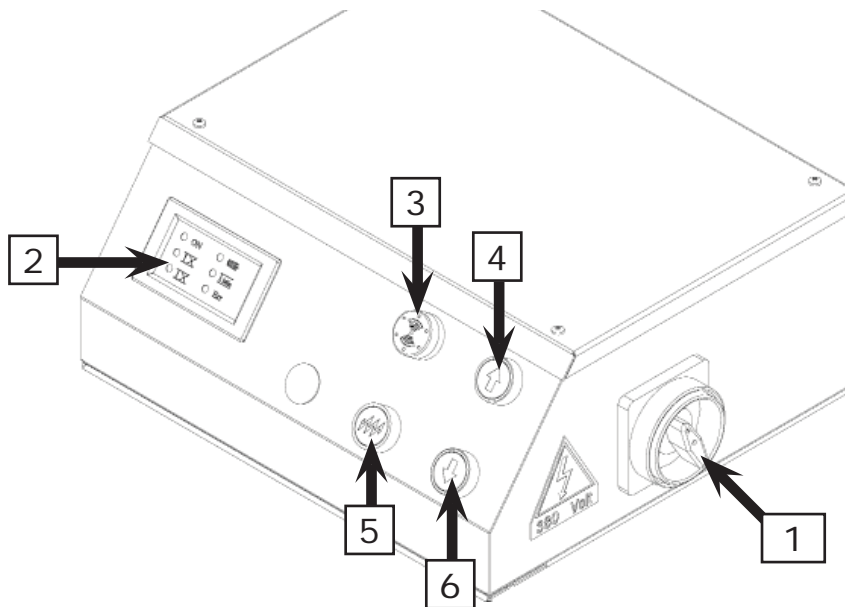


Figure 17 - Control Panel






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  lights, it shows that the top limit switch is working.
- When  lights, it shows that the safety height limit switch is working.
- When  lights, it shows that the power unit is working.
- When  lights, it shows that the lift has started the final lowering.
- When  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

SAFETY ENGAGING BUTTON (5)

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

LOWERING/FINAL LOWRING BUTTON (6)

- When pressed, the lift begins to descend to the safety height (about 1 ft.).
- 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.



Be sure the safety area is free from people and objects during the final travel

Lift operation can be summarized into four 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
- Push the lifting button to lift the vehicle to the required height;
- Rest the lift in standing position by pushing the safety engaging button to engage the safeties.

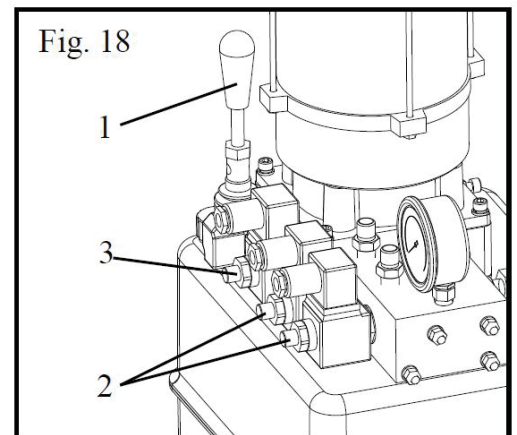
8.3 Lowering


- Raise the lift a little bit to release the safeties
- Press the lowering button;
- The lift will descend, under its own weight and car's, to the safety height of 1 ft.;
- 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.

8.4 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 18:

- Padlock the power switch;
- Open the front cover of the control unit;
- Open the safety solenoid valves by turning the emergency screws (2) counter clockwise;
- Operate the emergency hand pump (1) to raise the lift a little bit to clear the mechanical safety locks;
- Hold the emergency button on the safety air valve located in the control unit;
- Open the lowering solenoid valve by turning the emergency screw (3) counter clockwise to lower the lift.
- Retighten the emergency screw clockwise after lowering the lift completely.



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



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

To properly service 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 self-cleaning clothes. 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 lead to possible malfunctions.

9.2 Periodic Maintenance

Every 3 months	Hydraulic circuit	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • check bolts for proper tightening
	Hydraulic pump	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • check safety devices for proper operation
Every 6 months	Oil	<ul style="list-style-type: none"> • Check oil for contamination or ageing. Contaminated oil is the main reason for failure of valves and shorter life of gear pumps
Every 12 months	General check	<ul style="list-style-type: none"> • verify that all components and mechanisms are not damaged
	Electrical system	<ul style="list-style-type: none"> • 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 problems and solutions are 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
	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 UP 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

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
	Because safety air valve is faulty	Replace air valve
	Because the air does not reach the circuit	Verify the compressor and air hose ability
	Because 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 lift does not stop at the safety height	The lowering button is faulty	Check the lowering button and connection for proper operation. Replace, if needed
	The safety height limit switch is not adjusted correctly or it is faulty	Adjust or change the limit switch
	The electric board is not operating	Replace electric board
	The motor does not operate properly and does not release the mechanical safeties	Check the motor
	The lowering button is faulty	Check the lowering button and connection for proper operation. Replace, if needed
The lift isn't raising synchronous	The electric board is faulty	Replace electric board
	Presence of air or dripping in the hydraulic circuit	Bleed the hydraulic circuit
	The cylinder gaskets are damaged	Check and replace if necessary

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 pressure valve is not adjusted correctly	Adjust it correctly
The lift does not lift or lower smoothly	Leakages or presence of air in the hydraulic circuit	Bleed the hydraulic system
The motor does not stop when reaching it maximum height	The top limit switch does not work	Check the limit switch and replace if needed
The lift does not lift or lower smoothly	Leakages or presence of air in the 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

Warranty



This item is warranted for two (2) years on structural components and two (2) years on hydraulic power units and cylinders from invoice date. 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.