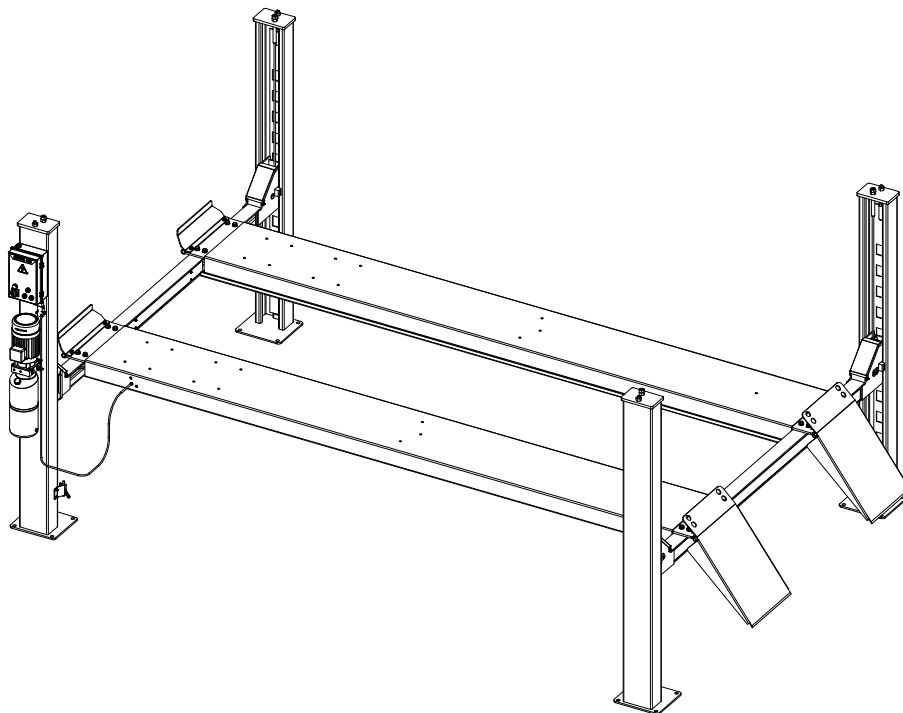


USE AND MAINTENANCE MANUAL

FOUR POST LIFT

STD-6745B



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.
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CHAPTER 1 – 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 CENTRES 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
--	---

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.

CHAPTER 2 – 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.

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.

CHAPTER 3 - PACKING, TRANSPORT AND STORAGE

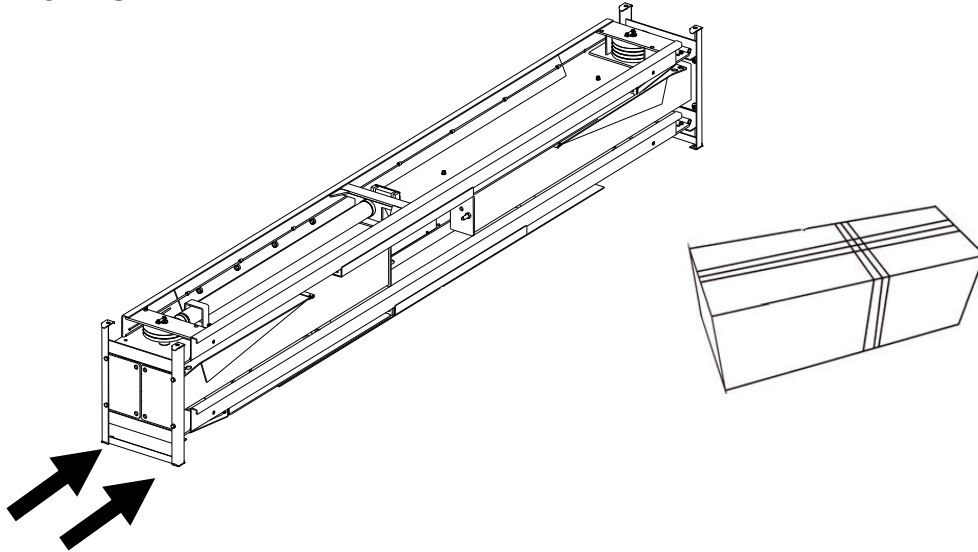
3.1 PACKING

The packing of the lift is shown in the figure 1: N. 1 base unit packed in a steel frame, wrapped up in non-scratch material, and N.1 package of power unit.

The package weight is about 2200kg.

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

Figure 1 - PACKAGE



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 centre of gravity and its fragile parts.

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).

CHAPTER 4 - PRODUCT DESCRIPTION

LIFT DESCRIPTION (Ref. Figure 2)

The lift is suitable for lifting motor vehicles having maximum weight as described in the nameplate on the power side column of the lift.

All mechanical parts 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.

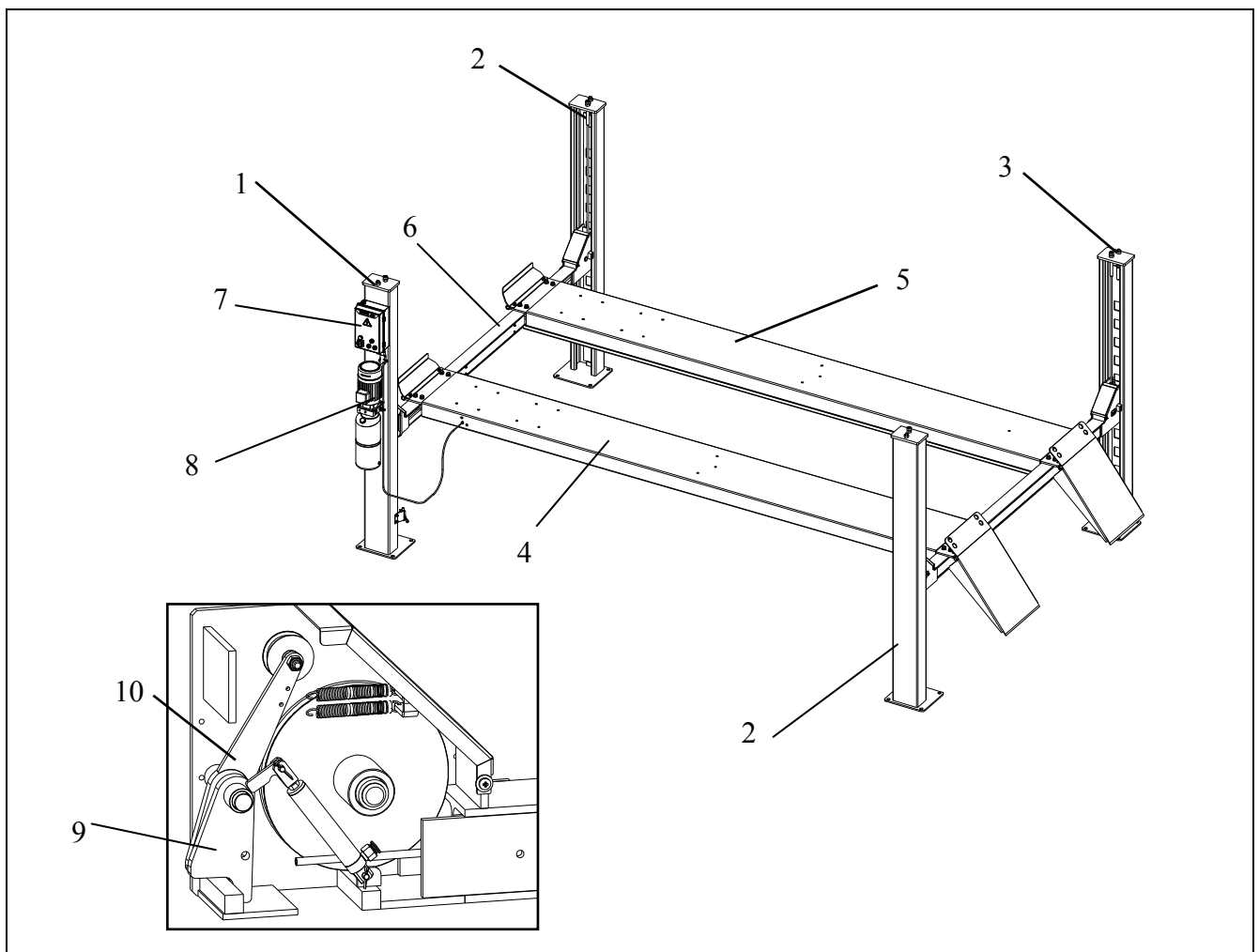
This chapter describes the lift's principal elements, allowing the user to be familiar with the machine. As shown in figure 2, the lift is composed of four columns: N.1 power-side column (1), N.3 off-side columns (2 and 3), two platforms: the power-side platform (4) and the off-side platform (5), and two transverse beams (6), anchored to the ground by means of the column base plates.

Raising motion is carried out by pushing the lifting button on the control panel (7) to operate a power unit (8) delivering the hydraulic fluid to cylinders to act on cable lifting system.

Lowering motion is controlled by pushing the lowering button on the control panel and carried out under the weight of the load lifted.

The automatic mechanical back-up safety (9) holds on the lift in the elevated position and the slack cable safety (10) in event of cable slackening and/or failure.

Figure 2 – LIFT



5.1 SIZE AND MAIN FEATURES (Ref. Figure 3)

LIFT CAPACITY	4200kg
Max. raised height: standard type	1800mm
Max. raised height: alignment type	1850mm
Min. lowered height: standard type	130mm
Min. lowered height: alignment type	180mm
Runway length	4808mm
Runway width	512mm
Free width between runways	912mm
Width between two columns	2850mm
Overall length	5038mm
Overall height	2263mm
Overall width	3154mm
Raised time	60s
Noise level	80 dB(A)/1m
Rated pneumatic pressure	6bar – 8bar
Working temperature	-10 °C - 40 °C
Average weight of package	Standard type: 1250kg
	Alignment type: 1870kg

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 (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 overloading.

5.3 PUMP

Type	Gear	
Flow rate	2.1 cm ³ /g	4.8 cm ³ /g
Continuous working pressure	180 bar	
Peak pressure	200 bar	

Figure 3a – LIFT LAYOUT - STANDARD TYPE

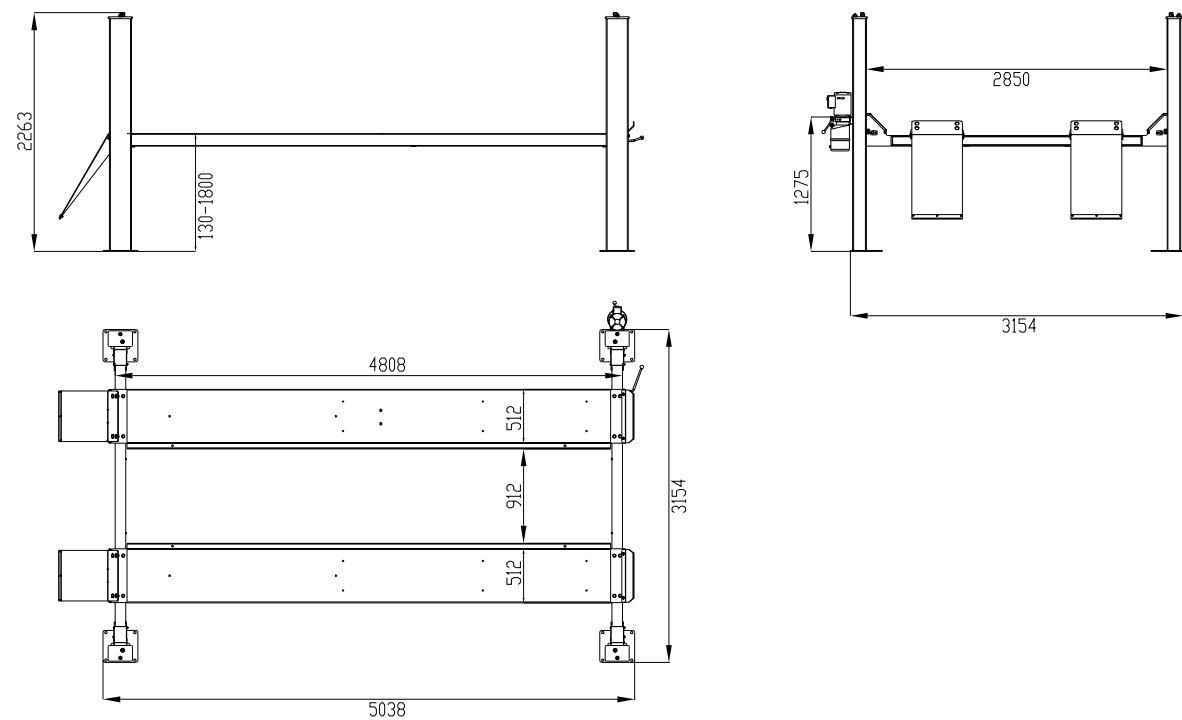
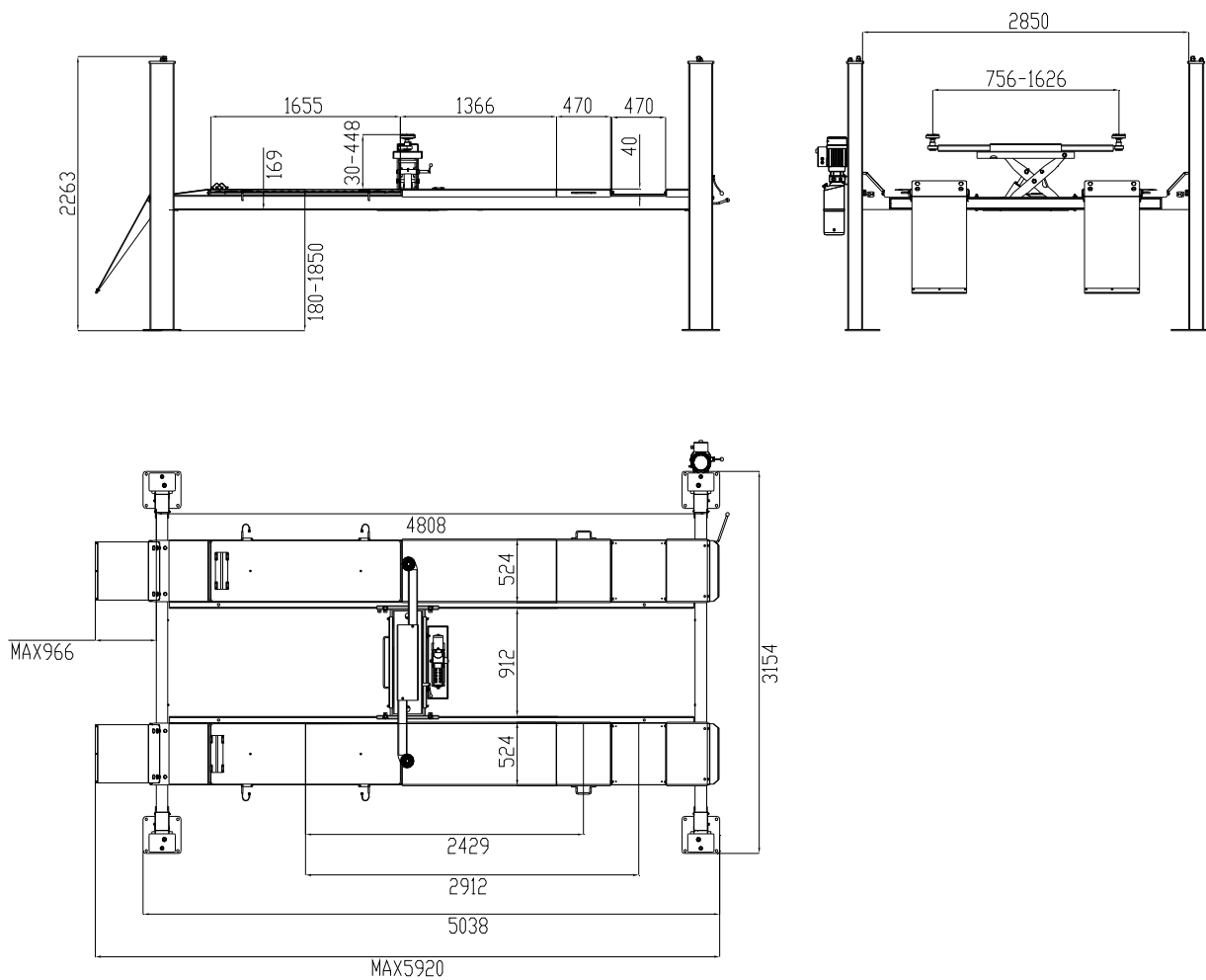


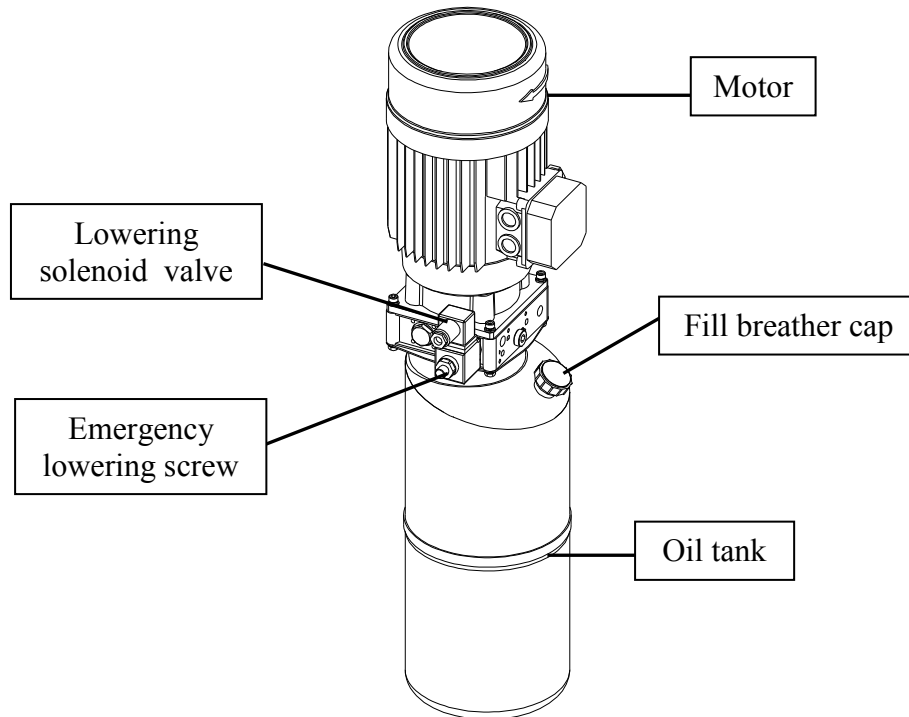
Figure 3b – LIFT LAYOUT – ALIGNMENT TYPE



5.4 HYDRAULIC POWER UNIT

The hydraulic unit is equipped with

Figure 4 – HYDRAULIC POWER UNIT



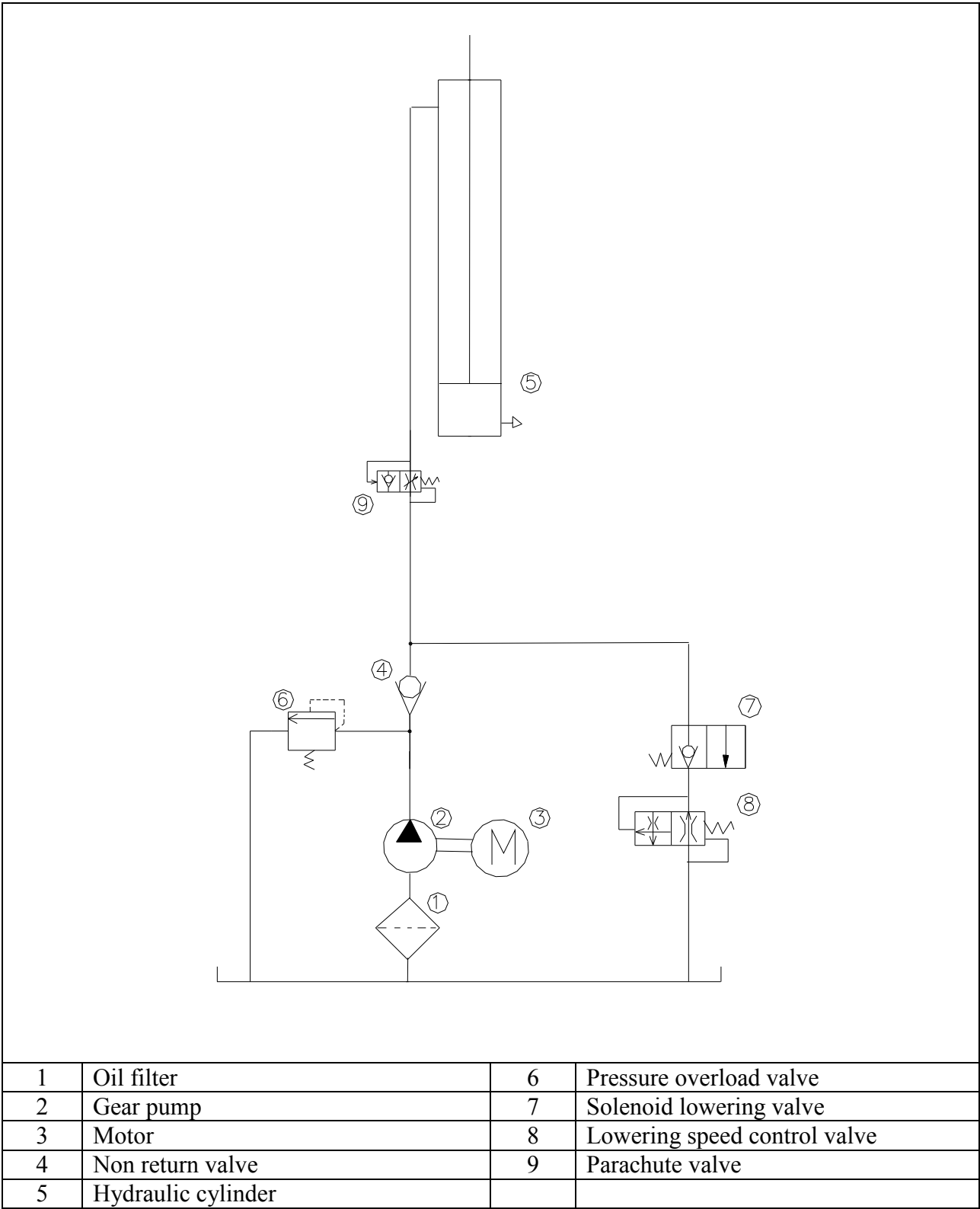
5.5 OIL

Use wear proof oil for hydraulic drive, in conformity with *ISO 6743/4* rules (HM class). The oil with features similar to those shown in the table is recommended.

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
---	---

Figure 5 -HYDRAULIC PLAN



AC 380V/400V-3PH

4X1.5mm²
3Xblack
1Xyellow/green

QF

L1 L2 L3

PE

0.75mm²

4X1.5mm²
3Xblack
1Xyellow/green

2.6kW/7.4A

12 13

U V W

ST

M

3

0V

220V

380V

FU 1A

FU 1A

T/63VA

FU 4A

28V

0V

19V

0V

9V

0V

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

SB1

SB2

SB3

HL

HL

SQ2

QV

YV

KM

Y

CP-503B.2

QF	Power switch	SB2	Lowering/final lowering button
KM	Contactor DC	SB3	Safety locking button
M	Motor 3.3KW 3PH 4P	SQ2	Safety height limit switch
ST	Overhear protector	YV	Lowering solenoid valve
T	Transformer	QV	Solenoid air valve
SB1	Lifting button	HL	Pilot lamp

Figure 6b – ELECTRICAL PLAN (220V/230V-1Ph)

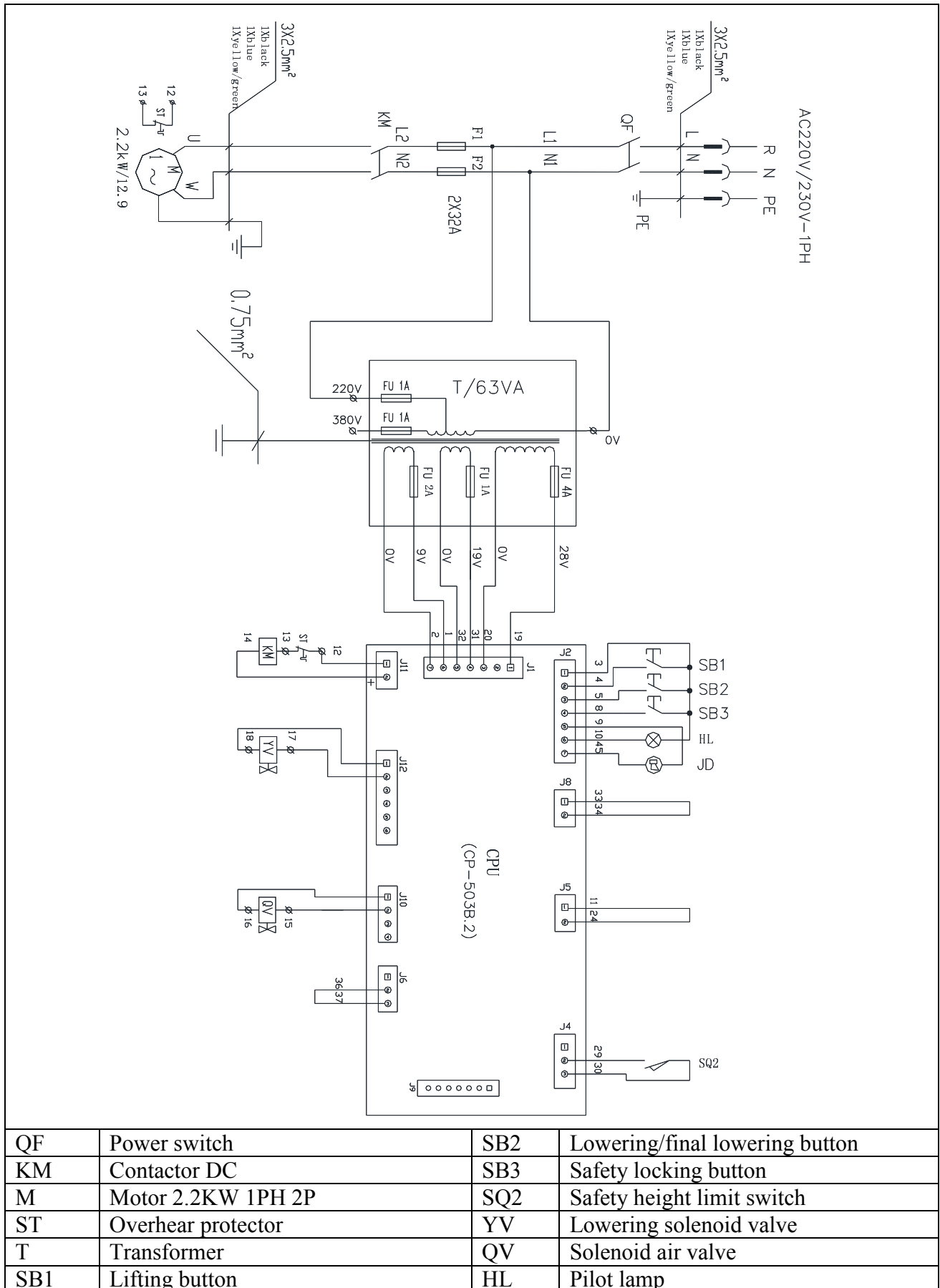
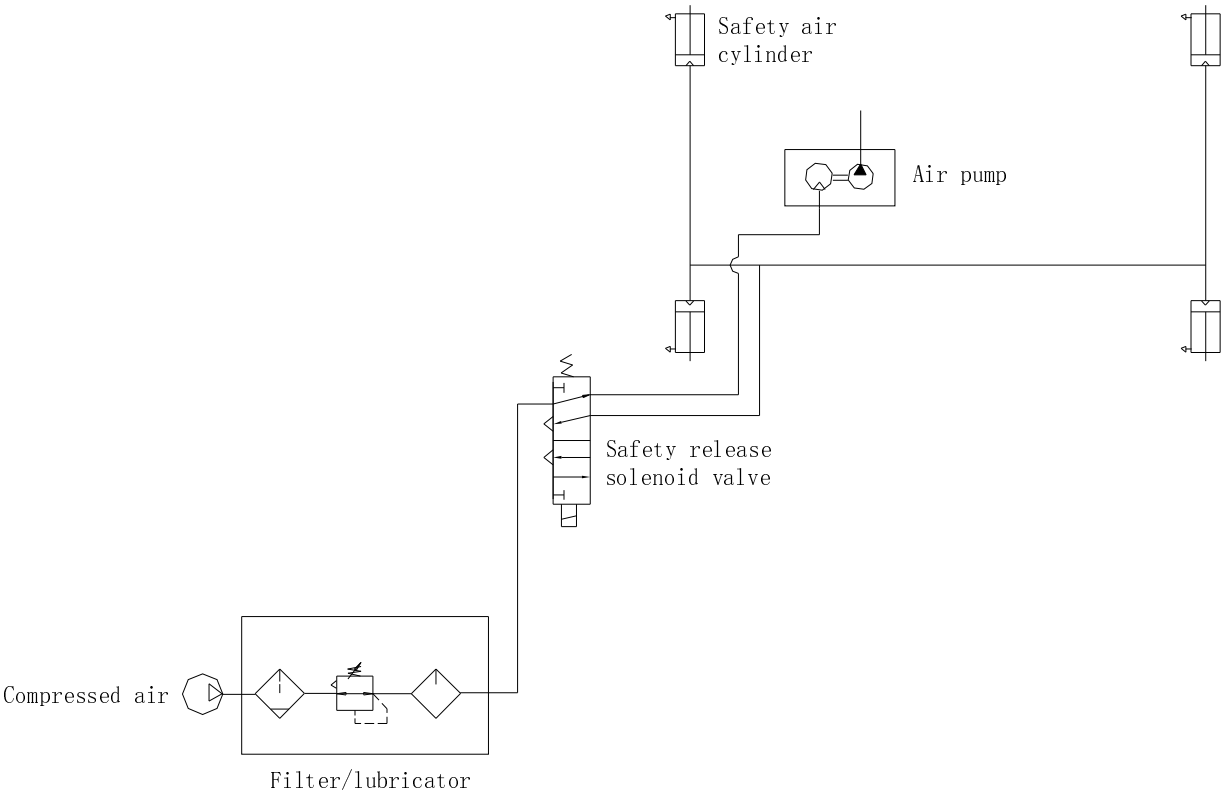


Figure 7 – PNEUMATIC PLAN



Filter/regulator must be equipped on the air circuit and the air pressure is to be set at 6-8bar.
Filter/regulator is not supplied by the manufacturer if no special order.

CHAPTER 6 – 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 1m free 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 runways 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 runways during lifting or standing.

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

6.2 RISKS FOR PEOPLE

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

6.3 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.



Fig. 8a

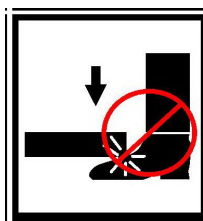


Fig. 8b



Fig. 8c

6.5 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.



Fig. 9a



Fig. 9b



Fig. 9c

6.6 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.

6.7 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.



Fig. 10

6.8 RISKS RESULTING FROM IMPROPER LIGHTING

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

6.9 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”.

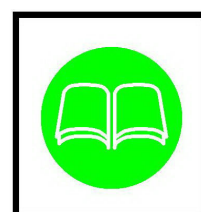


Fig. 11

6.10 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



Fig. 12

6.11 RISKS DURING VEHICLE LIFTING AND WORKING

To avoid overloading and possible breaking during lifting and working, the following safety devices have been used:

- A maximum pressure valve placed inside the hydraulic unit to prevent excessive weight.
- A parachute valve is built in the cylinder to prevent the lift from a sudden lowering in case of the hose burst.



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.

- Automatic mechanical back-up safety holds on the lift in the elevated position.
- Slack safety in event of cable slackening and/or failure.
- Beeper sound can be heard for the final lowering phase to avoid the feet from crushing.



It is strictly forbidden to modify any safety device. Always ensure the safety device for proper operation during the service.

CHAPTER 7 – 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.

Always refer to the exploded views attached during installation.

7.1 TOOL REQUIRED

- | | |
|----------------------------|----------------------------------|
| † Rotary Hammer Drill D.19 | † Hex-Key/Allen Wrench Set |
| † Masonry Bit | † Crow Bar For Shim Installation |
| † Hammer | † Chalk Line |
| † Level | † Medium Cross Screwdriver |
| † Open-End Wrench Set | † Medium Flat Screwdriver |
| † Medium Crescent Wrench | † Tape measure |

7.2 CHECKING FOR ROOM SUITABILITY

The lift has been designed to be used in covered and sheltered places.

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, must be observed.

7.3 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.

7.4 INSTALLATION SURFACE

The lift must be placed concrete surface sufficiently resistant. The surface must be suitable for bearing maximum stress values, also in unfavorable working conditions. New concrete must be adequately cured by at least 21 days minimum. For installations on raised surface, compliance with the maximum carrying capacity of the surface is recommended.



A level floor is suggested for proper installation. Small differences in floor slope may be compensated for by proper shimming. Any major slope change will affect the level lifting performance. If a floor is of questionable slope (more than 3 degrees), considering to pour the new concrete slab.

7.5 SITE LAYOUT

- Determine which end of the lift will be approach side.
- Determine which side the power-side runway (with the hydraulic cylinder attached) will be located on. Remember that the power-side runway must be installed on the same side as the power-side column.

7.6 INSTALLATION OF RUNWAYS AND TRANSVERSE BEAMS

	It is important to position the power-side runway (with the hydraulic cylinder) on the same side as the power unit location. The rails on each side must be installed to the inside. Elevate runways off the floor with blocks of wood to prevent any damage. Pay attention that “T” fitting for air supply is closest to the power side of the lift.
---	---

- Unpack the lift by removing all wrapping films.
- Place each runway in the predetermined location. Make sure that the rails on each side must be installed to the inside. Pay attention to the location of the power-side runway.
- Place the front and rear transverse beams on each ends of runways. The runways and transverse beams should be laid out as shown in figure 13. Make sure the accessories are installed in the runways before installation. Make sure that the plastic slide blocks are in position.
- Remove all covers on transverse beams.
- Slide the steel cables from the end of power-side runway and route the cables through the transverse beams referring to the routing diagram (fig. 14). Pay attention the cable “D” is for routing through the power-side column. Make sure that the cables are not twisted during routing and routed on the correct pulleys in runways.

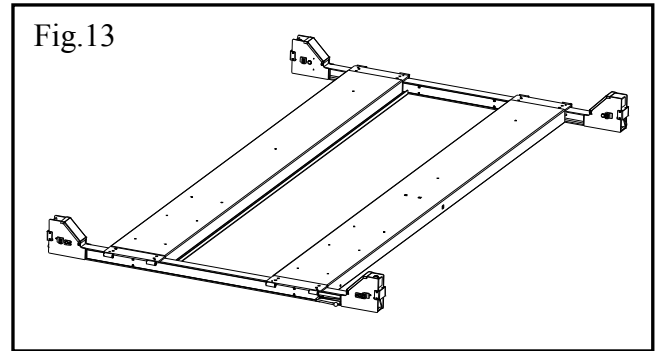
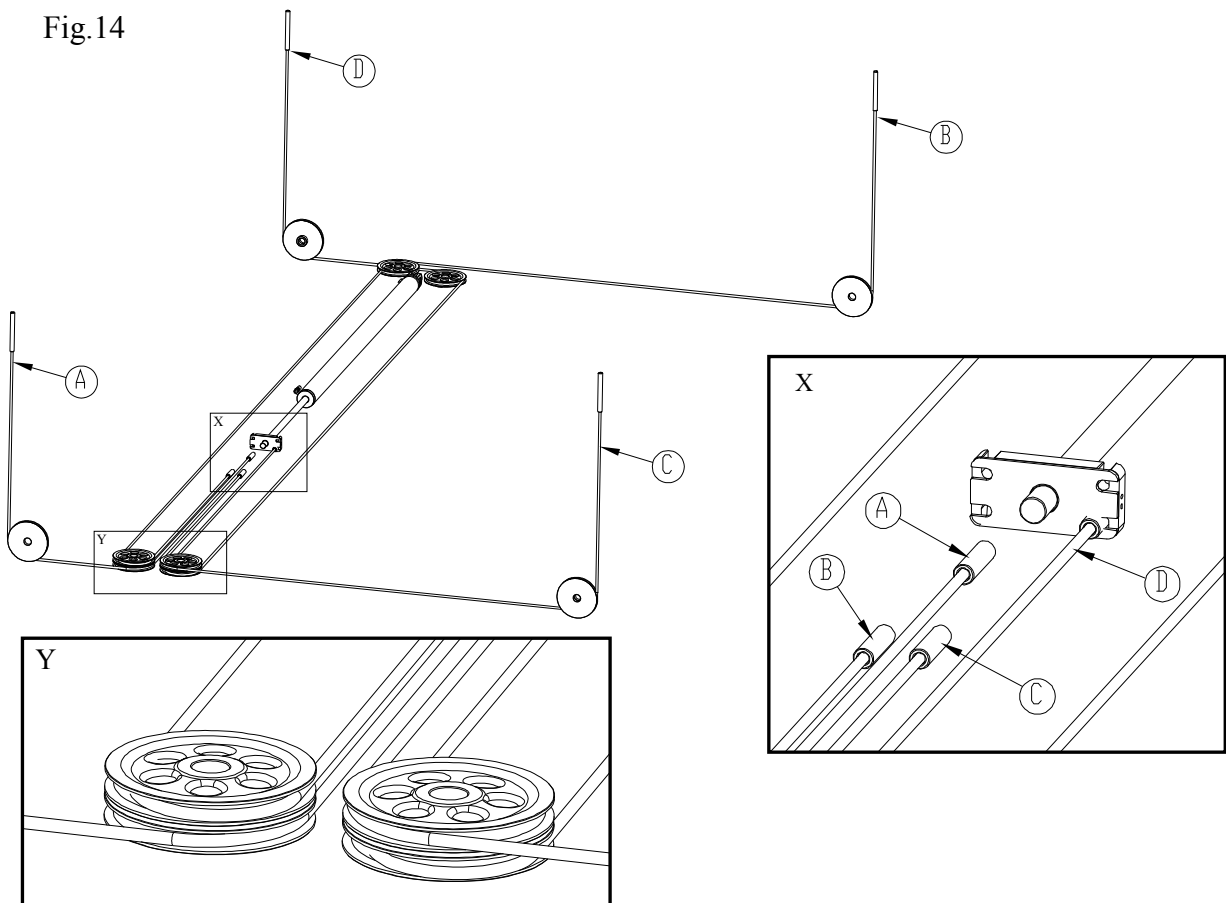


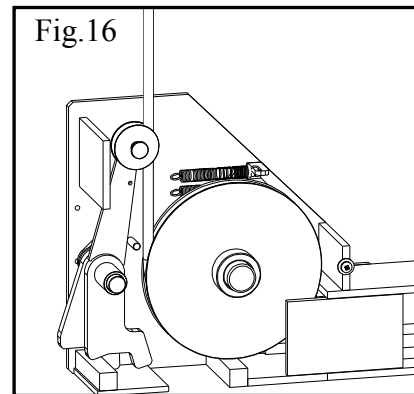
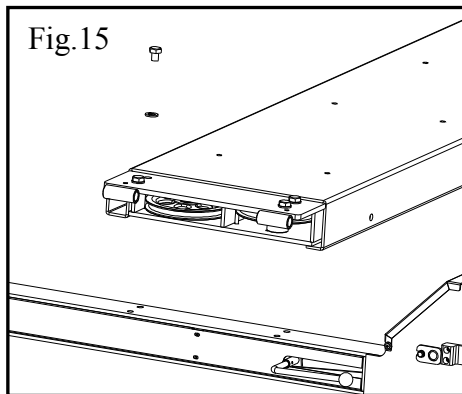
Fig.14



- Line up the runways with the bolt holes in the transverse beams and temperately bolt the screw M16X20 and the washer D.16 in position as shown in the figure 15.
- Make sure the cables are routed correctly as shown in the figure 16 and make sure that cables on the safety rollers.

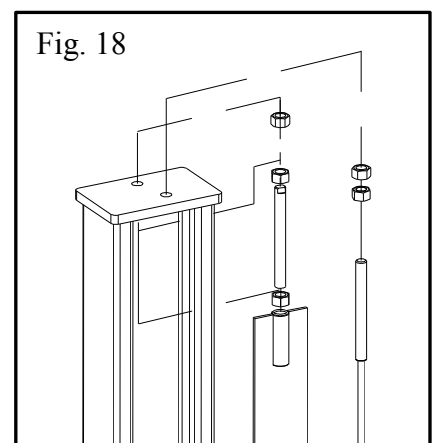
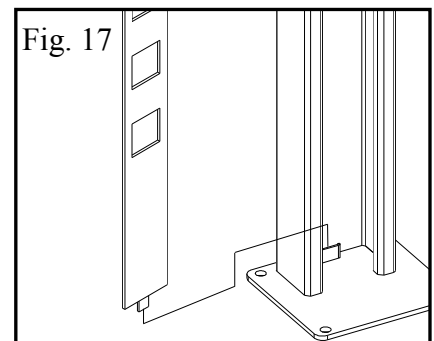


Before installation, make sure that all accessories have been installed in the runways and transverse beams.



7.7 INSTALLATION OF COLUMNS (ref. fig. 17)

- Transport the columns to the located site.
- Move each column toward the respective end of the transverse beam until stopped by the slide block on the transverse beam. Make sure that all columns are positioned in the correct location (ref. fig.2). Make sure to use caution to prevent columns from falling over. If necessary, use the shims.
- Slide the safety rack down inside each column. Make sure to slide it into the groove on the bottom of the column (ref. fig. 17).
- Insert the adjustment rod through top of the column and assemble it into the safety rack with the nuts M20. Be sure all nuts are installed correctly as shown in the figure 18.
- Insert the steel cable through top of the column and assemble the nuts M20 on it.
- Adjust each rack in equal height by tightening or unloosing the nuts.
- Adjust each cable in equal tension by tightening or unloosing the nuts.



7.8 ANCHORING COLUMNS

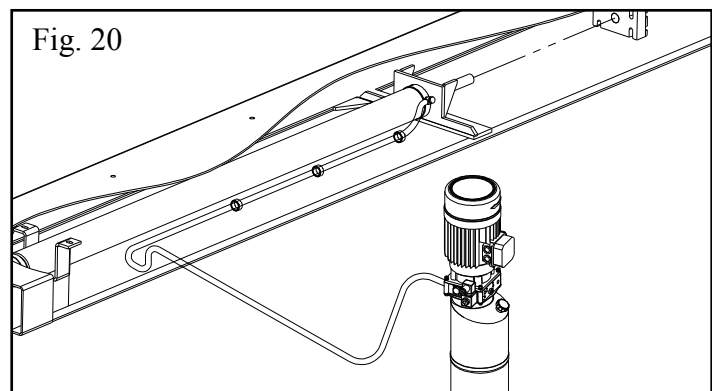
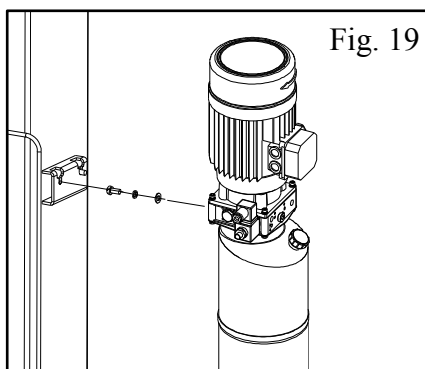
- Before proceeding, check the measurement referring to the layout figure 2 and make sure that the base plate of each column is square.
- Using the base plate as guide, drill each hole in the concrete approximately 120mm deep with the rotary hammer drill D.16. To assure full holding power, do not ream 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, the columns will be plumb.
- With the shims and anchor bolts in place, tighten by securing the nut to the base.

7.9 HYDRAULIC SYSTEM CONNECTION

	When routing the hydraulic hose, make sure that the hose is clear of any moving part, make sure to keep the hose and fittings clean from dust. Failure to do so may result in hydraulic line failure which may result in damage or personal harm.
---	---

- Fix the hydraulic power unit onto the support mounted on the power-side column using the supplied 2 screws M20X20, washers D.20 and locking washers D.20 as shown in the figure 19.
- Route the hydraulic hoses referring to the figure 20.
- Tighten the fittings thoroughly.



7.10 PNEUMATIC SYSTEM CONNECTION

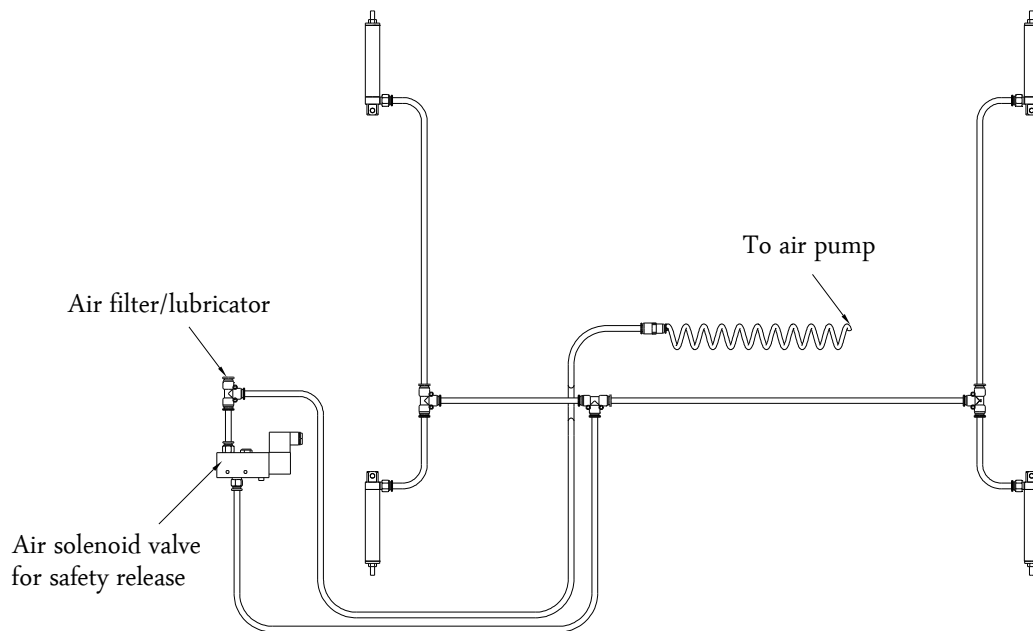
	When routing the air tubes, make sure that the tubes are clear of any moving part. It may necessary to tie the hoses clear by using nylon tie straps or wire. Failure to do so may result in safety failure which may result in damage or personal harm. Filter/regulator must be equipped on the air circuit and the air pressure is to be set at 6-8bar.
---	--

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 follow:

- Install the air solenoid valve on the power-side column using 2 x screws M4X30 (ref. fig. 21).
- Connect the pneumatic lines pre-assembled on the runways as shown in the figure 21.
- Connect the pneumatic system of the lift to the pneumatic supply at site.
- Check the pneumatic control operations for proper performance.

Figure 21 – PNEUMATIC LINE CONNECTION



7.11 MAKE THE ELECTRICAL HOOKUP TO THE POWER UNIT



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.

The power unit must be kept dry.

- Install the control panel on the power side column as shown in the figure 22 using 4 x screws M6X20.
- Make the electric hookup to the hydraulic power unit referring to the wiring diagram (fig. 6) using included electric cable.
- Make sure the connection of the phases is right and the lift is grounded.

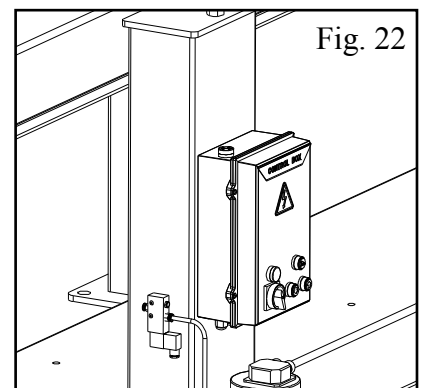


Fig. 22

7.12 OIL FILLING AND BLEEDING



DO NOT run power unit with no oil. Damage to pump can occur.

If motor gets hot or sounds peculiar, stop immediately and recheck the electric connection.

- Use the hydraulic fluid recommended in the chapter 5.5.

- Remove the oil level plug on the oil tank and pour oil in the tank about 12 liters.
- Raising the lift slowly by pressing the lifting button until the lift reaches the full height. DO NOT continue pressing button after lift reaches full height. Damage to motor can occur if continued.
- Repeat raise and lower the lift completely at least 3 times to bleed the trapped air inside the cylinder.



If the oil level plug is lost or broken, order the replacement. The oil tank must be vented well.

7.13 CHECK BEFORE START-UP



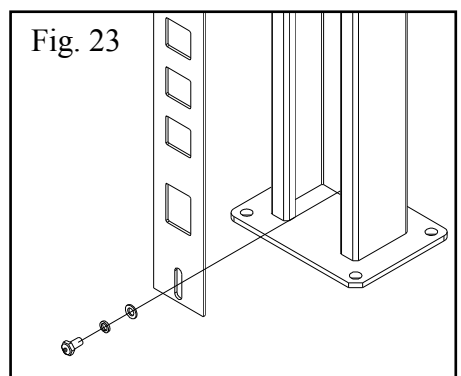
During START UP procedure, observe all operating components and check for proper installation and adjustment. DO NOT attempt to raise vehicle until a thorough operation check has been completed.

7.13.1 GENERAL CHECKS

- Make sure to check that the columns are plumb;
- Make sure to check the lift anchored to the ground and all anchor bolts tightened.
- Make sure to check the electrical system feeding voltage is equal to that specified in the nameplate on the motor;
- Make sure to check the electric system connection in conformity of the electric plan shown as the electric diagram (fig. 6) and for proper grounding.
- Make sure to check all plastic sliders are on the position and greased properly.
- Make sure to check all pins are installed correctly and greased properly.
- Make sure to check all bolts, nuts and screws are tightened securely.
- Particularly, below checks must be followed:

7.13.2 MECHANICAL SAFETIES FOR PROPER INSTALLATION

- Check to make sure that all air hoses are connected properly and the air pressure is set to 6-8bar.
- Check to make sure that the safeties in four columns are engaging uniformly. If not, repeat the adjustment procedure described in the chapter 7.7.
- After the adjustment, fit each safety racks onto the column using a screw M16X30, a locking washer D.16 and a washer D.16 as shown in the figure 23.
- Check to make sure that both the back-up safety and the slack cable safety for proper operation.



7.13.3 STEEL CABLE FOR PROPER INSTALLATION



There will be some initial stretching of the cables in the beginning. It will be necessary to re-adjust the cables a week after the first week, then three months thereafter. Failure to do this will cause uneven lifting.

- Check to make sure that all cables are routed correctly and are on the correct pulleys.

- Raise the lift off all safety locks until the cables are supporting the lift and check that all cables are adjusted in the same tension and the lift can be raised evenly. If not, repeat the adjustment procedure described in the chapter 7.7.

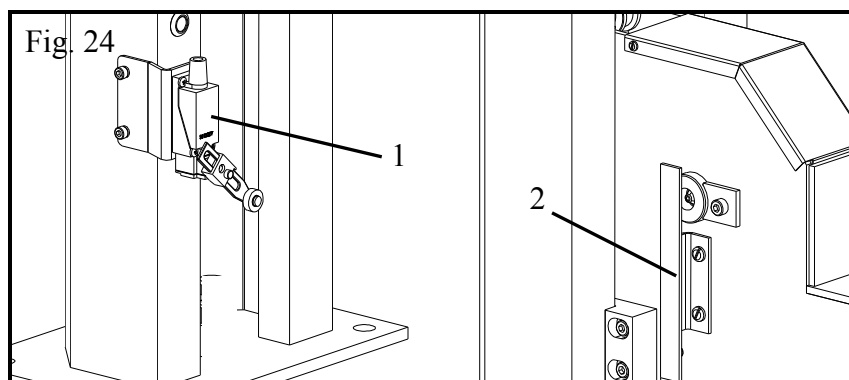
7.13.4 HYDRAULIC SYSTEM FOR PROPER OPERATION

- Proper oil level in the tank, refill if needed.
- Raise the lift to the full height and keep the motor running for 5 seconds.
- Check all hoses connections to make sure no leakage. Tighten the connections or reseal if necessary.
- Check the lift for reaching its maximum height.

	If the oil level plug is lost or broken, order the replacement. The oil tank must be vented well.
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7.14 INSTALLATION OF SAFETY HEIGHT LIMIT SWITCH (fig.24)

- Place the lift at a height of 380 mm.
- Install the limit switch (1/fig.24) on the power side column and the actuator (2/fig.24) on the transverse beam as shown in the figure 24.
- Carry out the complete cycle of lowering and lifting and check for proper installation and make sure the alarm can be heard during the final lowering phase. If necessary, adjust the switch by changing the position of switch lever until the switch contacts the actuator and is activated.

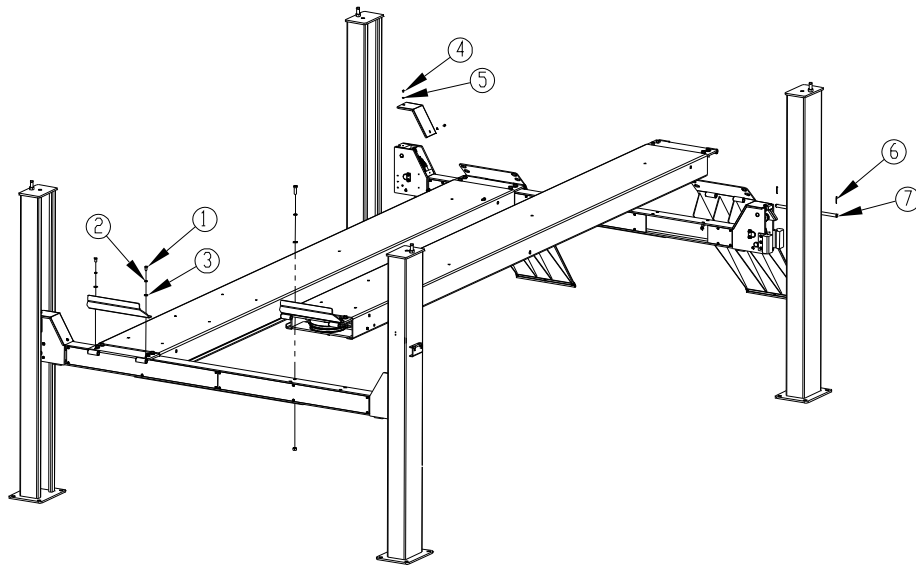


7.15 INSTALLATION OF ACCESSORIES (ref. fig. 25)

- Install all covers onto transverse beams.
- Install the front wheel stops.
- Install the drive-on ramps onto the lift.

Item	Description	Item	Description
1	Screw M12X20	5	Washer D.6
2	Locking washer D.12	6	Split pin 2.5X40
3	Washer D.12	7	Ram pin
4	Screw M6X10		

Figure 25 – INSTALLATION OF ACCESSORIES



7.16 CHECK WITH LOAD



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

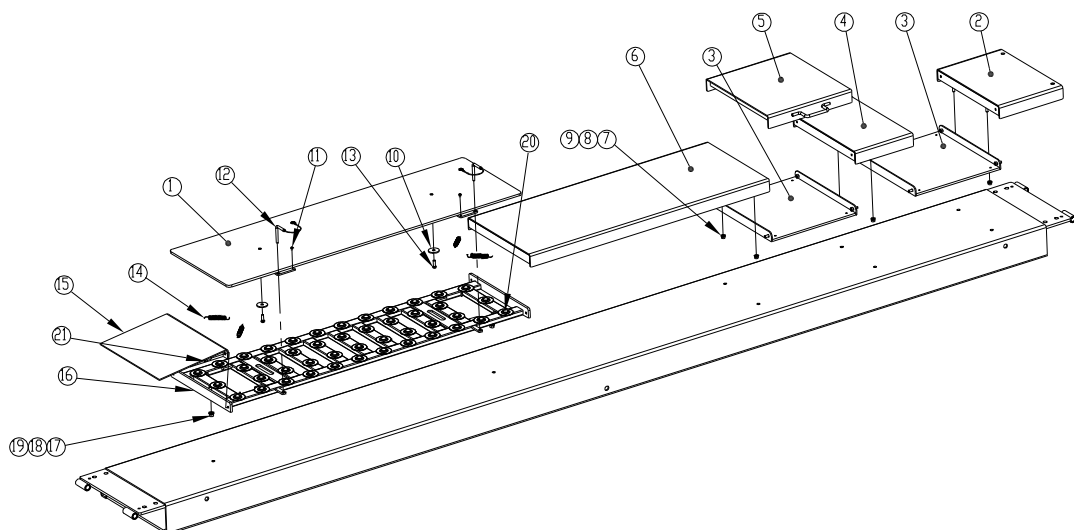
Carried out two or three complete cycles of lowering with the vehicle loaded and lifting and:

- Repeat the checks provided for by 7.13.
- Check no strange noise during lifting and lowering.
- If the runways weren't leveled, readjust.

7.17 INSTALLATION OF ALIGNMENT KIT (optional)

- The optional alignment kit can be ordered separately and bolted on platforms of lift.
- Install the alignment kit following the exploded drawing shown in the figure 26.

Figure 26 – INSTALLATION OF ALIGNMENT KIT

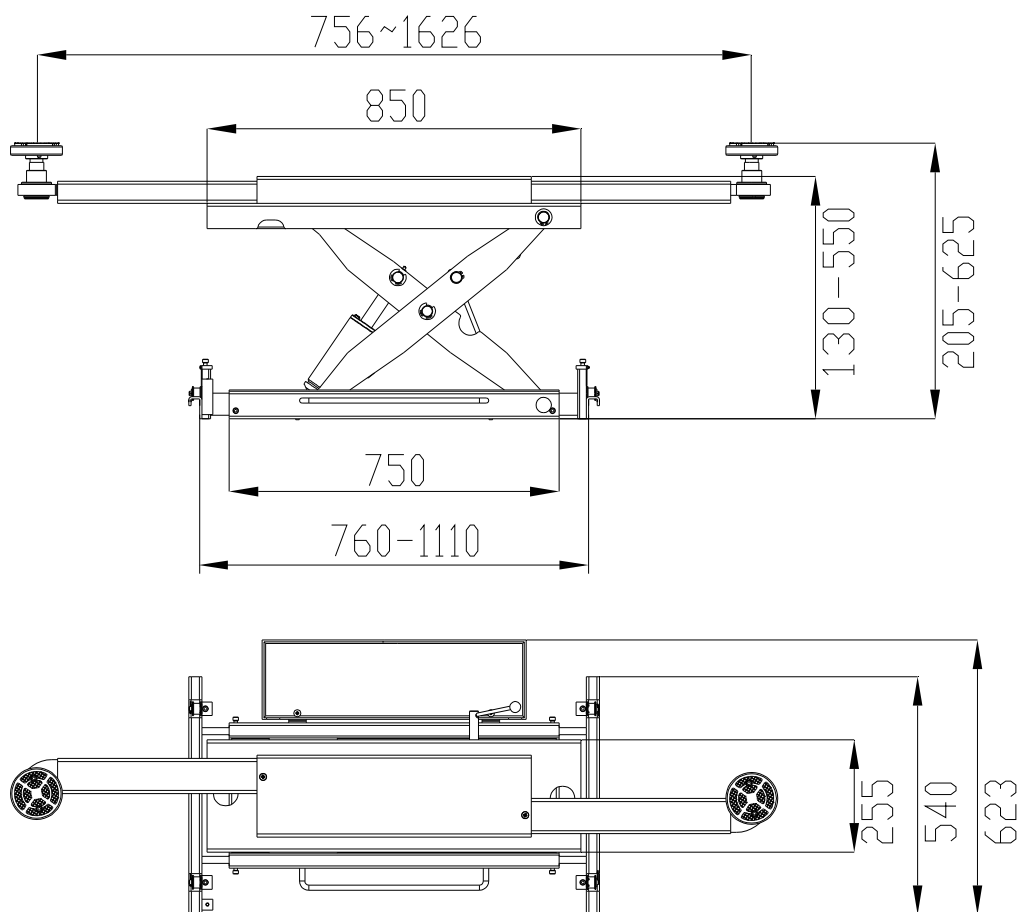


Item	Description	Item	Description
1	Slipping plate	12	Plate stop pin
2	Spacer 2	13	Screw M10X30
3	Recess base plate	14	Spring
4	Spacer 1	15	Approach ramp
5	Turntable recess cover	16	Ball support
6	Long spacer	17	Nut M12
7	Nut M10	18	Locking washer D.12
8	Locking washer D.10	19	Washer D.12
9	Washer D.10	20	Steel ball unit
10	Washer	21	Screw M10X25
11	Screw M6X8		

7.17 INSTALLATION OF JACKING BEAM (optional)

This jacking beam is designed to be equipped with a 4 post lift. The maximum capacity is 3200kg (7000lbs).

Figure 27 – JACKING BEAM LAYOUT



To install the jacking beam on a 4 post lift, do as followings.

- Lower the lift fully.
- Lower the jacking beam all the way down.
- Use a proper hoist equipment to place the jacking beam on rails inside runways of the lift.
- Adjust the base to the correct width.
- Check to make sure that all sliders are seated properly on rails as shown in the figure 28.
- Make sure that rail channel is clean of debris.
- Raise the lift up off the ground so that the jacking beam is off the ground.
- Check the clearance and movement of the jacking beam by sliding it forward and rearward on the rails. Width adjustment of the jack base may be necessary to ensure the proper operation.
- Connect the pneumatic line following the figure 21 and the instruction on the chapter 7.10.
- Connect the hydraulic hose following the figure 29.
- Fill the pump reservoir with the oil suggested in the chapter 5.5.
- Without a vehicle loaded, raise the jack at full stroke to check for the proper operation.
- Check for the safety operation by lowering the jack.

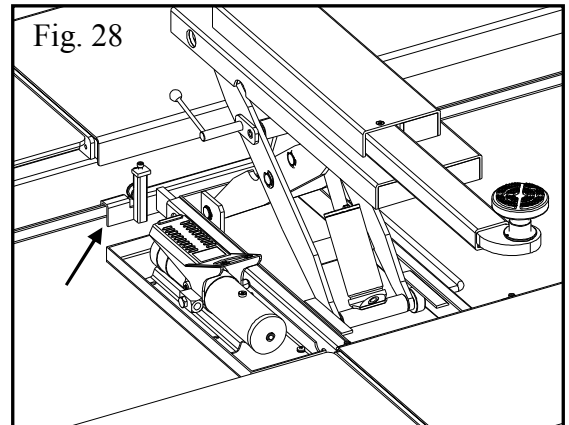
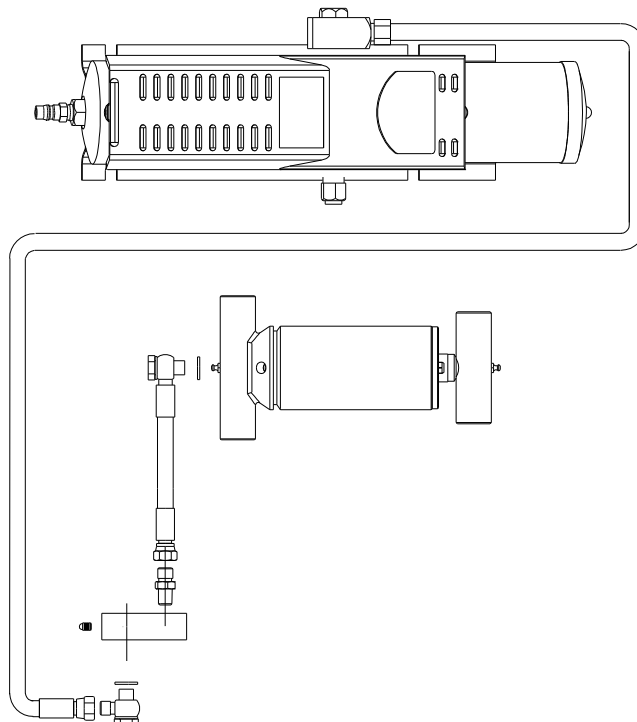


Figure 29 – HYDRAULIC LINE CONNECTION OF JACKING BEAM

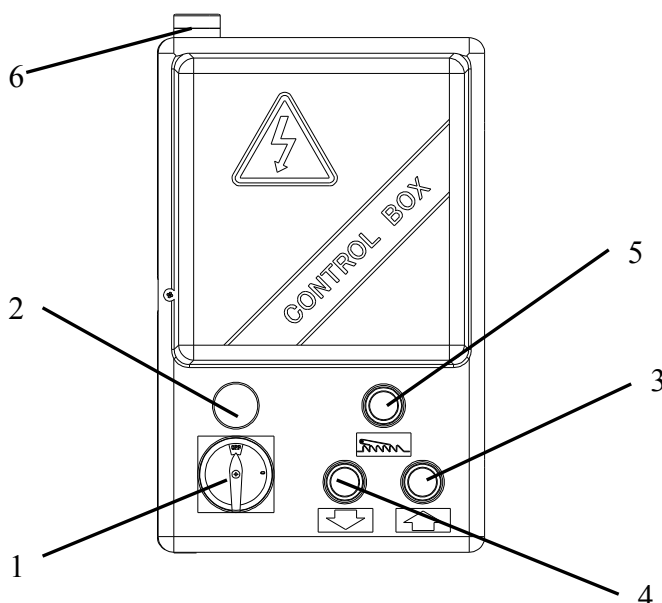


CHAPTER 8 - OPERATION AND USE

	Never operate the lift with any person or equipment below. Never exceed the rated lifting capacity. Always ensure that the mechanical safeties are engaged before any attempt is made to work on or near the vehicle. Never leave the lift in an elevated position unless the safeties are engaged. 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.
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8.1 CONTROLS OF LIFT

Figure 30 – CONTROLS OF LIFT



Controls for operating the lift are:

POWER SWITCH (1)

The main switch can be set in two positions:

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

PILOT LAMP (2)

- It shows that the electric circuit is powered

LIFTING BUTTON (3)

- When pressed, the power unit is running and the lift can be raised to a desired height until the button is released.

LOWERING/FINDAL LOWERING BUTTON (4)

- When pressed, the lift will take seconds to release the mechanical safeties at first and then begin to descend to the safety height under its weight and the load lifted.
- Pressed at the safety height, the lift will be lowered fully to ground. A beep sound is heard during the last travel.

SAFETY LOCKING BUTTON (5)

- When the pressed, the lift starts to descend to engage the nearest safeties.

BEEPER (6)

- It will be alarming for the final lowering to remind to keep the working area clean of personnel and any object

Lift operation can be summarized into three steps:

8.1.1 LIFTING

- Pay attention to overhead clearance and
- The lift must be fully lowered and no one in the service area while the vehicle is driven onto the lift.
- If the jacking beam is equipped with the lift, it must be lowered fully.
- Position the wheels in center of each runway.
- Stop the vehicle when it contacts the front stops or at the desired position.
- Set the parking brake or place the wheel chops on each side of the rear wheels.
- Make sure the all personnel must be exit before the lift is raised.
- Raise the lift by pushing the lifting button until reaching the desire height.

8.1.2 STANDING

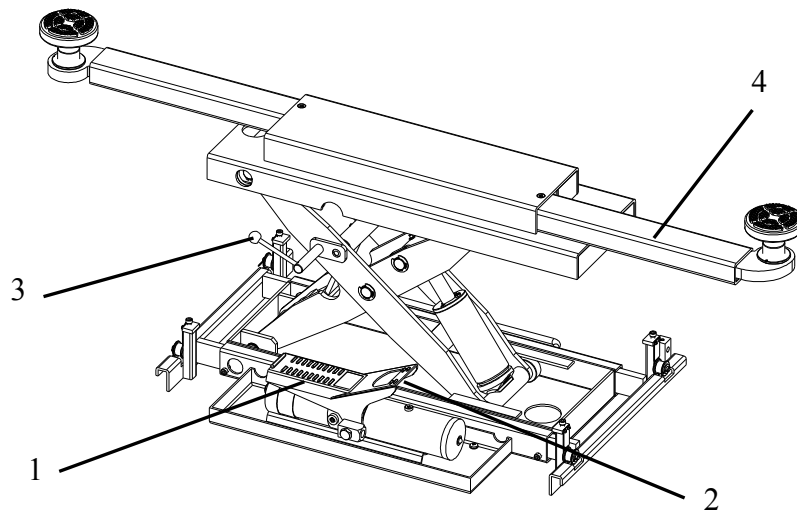
- Press the s to engage the nearest mechanical safety.
- Always ensure that the safety in each column is engaged before any attempt is made to work on or near the vehicle.

8.1.3 LOWERING

- Be sure the safety area is free of people and objects.
- Raise the lift high enough by pushing the lifting button to clear off the mechanical safeties.
- Lower the lift by pressing the lowering button to the safety height.
- Observe the lift and the vehicle to be sure the lift is level while being lowered.
- Lower the lift fully by keeping pressing the lowering button. A beep sound is heard during the last travel.
- Remove the wheel chops and check to be sure that the area is clear before removing the vehicle off the lift.

8.2 CONTROLS OF JACKING BEAM (optional)

Figure 31 – CONTROLS OF JACKING BEAM



LIFTING SIDE OF PEDAL (1)

- When pressed, the hydraulic fluid is delivered from the oil reservoir of the pump into the jack cylinder to raise the jack.

LOWERING SIDE OF PEDAL (2)

- When pressed, the hydraulic fluid is released from the jack cylinder into the oil reservoir of the pump to lower the jack under the weight loaded. The lowering speed can be controlled by the pressing force.

SAFETY RELEASE HANDLE (3)

- Flip the safety release handle up off the safety.

JACK LIFTING ARM (4)

Jack operation can be summarized into three steps:

	Never operate the jacking beam with any person. Never exceed the rated lifting capacity. Always ensure that the mechanical safeties are engaged before any attempt is made to work on or near the vehicle.
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8.2.1 LIFTING

- Check and keep the rail channel clean of debris and any object that may hinder the movement of the jacking beam.
- Lower the jack fully by depressing the lowering side of the pedal.
- Adjust the width of the jack lifting arms so that the rubber pads can contact the lifting points of the vehicle recommended by the vehicle manufacturer.

- Raise the jack by depressing the lifting side of the pedal. Keep an eye on the jack when the rubber pads contact the vehicle to ensure the proper contact. Adjust the width of the jack lifting arms if necessary.

8.2.2 STANDING

- Stop raising the jack just as vehicle is raised off the lift runways. Confirm the vehicle is stable and seated properly before lifting the vehicle to the desired height.
- After the vehicle is raised to the desired height, lower the jack to the nearest safeties.

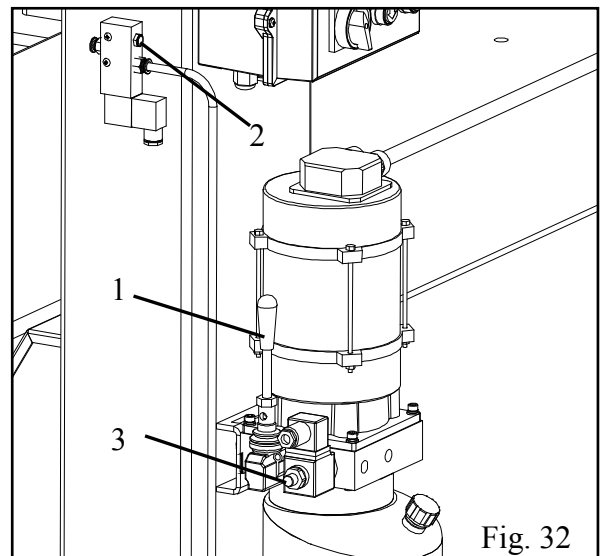
8.2.3 LOWERING

- Be sure the safety area is free of people and objects.
- Raise the jack high enough to clear off the mechanical safeties and then flip the safety release handle up off the safeties.
- Lower the jack fully by keeping pressing the lowering side of the pedal.

8.3 MANUAL EMERGENCY LOWERING (optional) (ref. fig. 32)

In case of no electric power or power unit failure, lower the loaded vehicle manually to its initial position as follows:

- Padlock the power switch;
- If the mechanical safeties are engaged, raise the lift enough high using a hydraulic jack or the emergency hand pump (1/fig.32, if ordered with the lift) to clear off the safeties.
- Keep pressing the emergency button (2/fig.32) of the air solenoid valve to avoid the safeties from engagement.
- Unscrew the emergency screw (3/fig.32) anti-clockwise to lower the lift. Screwing or unscrewing the screw can reduce or increase the lowering speed.
- Retighten the emergency screw by screwing it clockwise after lowering the lift completely.



After manual lowering of the lift, reset ordinary operating conditions. Lift cannot be raised if the lowering valve is opened.

CHAPTER 9 - 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 manufacture or dealer to carry out maintenance.



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.



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, in possible malfunctions.

9.2 PERIODIC MAINTENANCE

Daily pre-operation	• Check hydraulic connections and hoses for leaks • Check safety lock audibly and visually while in operation • Check bolts, nuts and screws are tight
Every 1 month	• Check all cable connections, pins and bolts to insure proper mounting • Check all anchor bolts and retighten if necessary • Check columns for square-ness and plumb • Check steel cable tension, adjust if necessary • Check all lifting pads, replace if necessary • Lubricate columns with grease • Lubricate all pivot pins • Check the hydraulic oil, fill or replace if necessary • Check hydraulic systems for proper operation
Every 12 months	• Verify that all components and mechanisms are not damaged • Verify the steel cables are not worn up to 5%, change if necessary • Check the electrical system to verify that the motor, limit switch and control panel operate properly (this work must be carried out by skilled electricians) • empty the oil tank and change the hydraulic oil

CHAPTER 10 – 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 on to restore if necessary
	The electrical wires are disconnected	Reconnect
	Fuses are blown	Check for correct voltage Replace
The lift does not raise	The lift is overloaded	Check the vehicle weight
	The motor direction of rotation is not correct.	Interchange the two phases on the main switch
	The oil in the power unit is not sufficient.	Add some hydraulic oil
	The UP button is faulty.	Check UP button and connection for proper operation. Replace if needed
	The pressure overload valve clogged or leaks	Check and clean if dirty, or replace if faulty
	The lowering valve does not close.	Check and clean if dirty or replace if faulty
	The suction tube or pump filter is dirty.	Check and clean if needed.
The lifting capacity is not sufficient	The pump is faulty	Check the pump and replace if needed.
	Oil leakages in hydraulic circuit	Check the circuit for any leakage
The lift does not lower when the lowering button is pressed	The DOWN button is faulty.	Check UP button and connection for proper operation. Replace if needed
	The lowering valve does not work properly	Check the valve and replace if needed
	The safety lock is not released	Release the safety lock
	The air power is not sufficient	Check the air circuit or the air supply
	The steel cables are not in the same tension.	Readjust the steel cables.
The lift does not lower smoothly	Presence of air in the hydraulic system	Bleed the hydraulic system
	Lubrication of sliders is not enough.	Grease
	Sliders are damaged	Replace