



**LIFT KING**

**Model: 167255LK**  
**Single Post Storage Lift**  
**Operation Manual**



2015-April

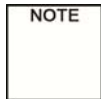
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# 1. Safety Information

## 1.1 Note, Caution and Warning

This document uses the following conventions—Note, Caution and Warning – to alert you to special instructions, tips, or hazards for a given procedure. Please familiarize yourself with the conventions described below.



Indicates the important information that requires special attention, such as a procedure for a specific vehicle, or tips on operating the equipment.



Indicates the potential for damage to equipment, accessories, or the vehicle unless you follow the instructions or procedure exactly.



Indicates the potential for property damage, personal injury, or death due to hazards associated with the equipment, vehicle, or environment. Do not perform any procedure until you have read and understood the warning instructions.

## 1.2 Important Information

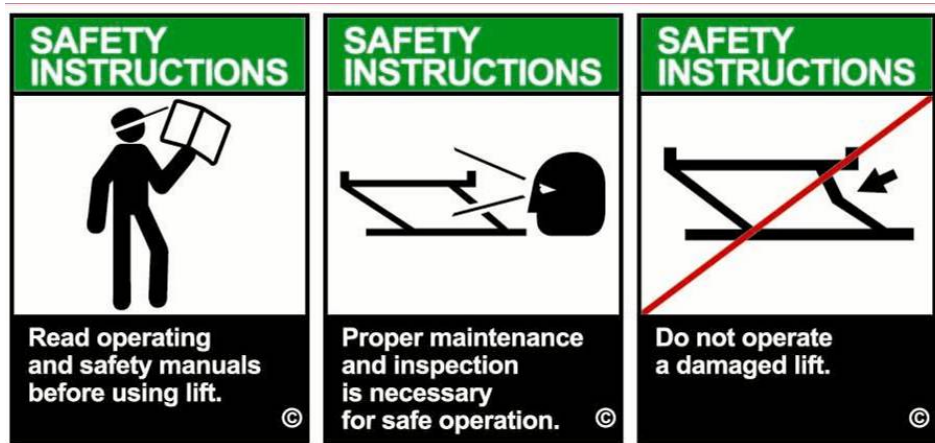
1. Read this manual thoroughly before installing, operating, or maintaining this lift.
2. This lift is designed for indoor use only, and should not be installed in a pit or depression.
3. The lifts have specific electrical requirements as described in the Installation Instructions section of this manual.
4. This lift has a minimum ceiling height requirement as described in the Installation Instructions section of this manual.
5. Failure by the owner to provide the **recommended shelter, mounting surface, electrical supply, and ceiling height** could result in unsatisfactory lift performance, property damage, or personal injury.
6. The operation of the lift is permitted by authorized person only.
7. If any confusion, please contact the service provider or contact the manufacturer:

### 1.3 Safety Instructions

1. **Do not** raise a vehicle on the lift until the initialization is completed as described in this manual.
2. Technicians should be trained to use and care for the lift by familiarizing themselves with the publications listed above. The lift should **never be operated by an untrained person**.
3. This equipment is **for storage vehicle only**. It cannot be used as a vehicle repairing machine.
4. This equipment is **for private use only**. It does not design for public society use.
5. **Do not overload the lift**. The capacity of the lift is shown on cover of this document and on the lift's serial number tag
6. **Never allow anyone to stand in the path of the vehicle as it is being positioned and never raise vehicle with passengers inside**.
7. Keep everyone clear of the lift working area (see Fig.3) when the lift is moving, the locking mechanism is disengaged, or the vehicle is in danger of falling.
8. Unauthorized personnel should never be near the working area when the lift is in use.
9. Inspect the lift daily. **The lift should never be operated if it has damaged components, or is malfunctioning**. Only qualified technicians should service the lift. **Replace damaged components with manufacturer's parts, or equivalent**.
10. **Keep the area around the lift clear of obstacles**.
11. **Never override the self-returning lift controls**.
12. Avoid excessive rocking of the vehicle when it is on the lift.
13. To reduce the risk of personal injury, keep hair, loose clothing, fingers, and all body parts away from moving parts.
14. To reduce the risk of electric shock, **do not** use the lift when wet, do not expose the lift to rain.
15. To reduce the risk of fire, **do not** operate equipment in the vicinity of open containers of flammable liquids (gasoline).
16. Use the lift only as described in this manual, **use only manufacturer's recommended attachments**.
17. **The equipment is designed for storage passenger cars, such as sedan, van,**

**SUV, MPV.** If you are not sure about whether your vehicle can be parked, contact the manufacturer or your manufacturer's representative.

18. **Unusual vehicles, such as limousines, RV's, and long wheelbase vehicles, may not be suitable for storage on this equipment.** If necessary, consult with the manufacturer or the manufacturer's representative.
19. The maintenance procedures described in this manual can be done by the lift's owner/employer. Any other procedure should only be performed by trained lift service personnel. **These restricted procedures include, but are not limited to, the following: cylinder replacement, platform and safety latch replacement, motor replacement, control board replacement, oil replacement and refilling, lubrication.**
20. When maintenance the lift, mind your head as the platform is rising.
21. Anyone who will be in the vicinity of the lift when it is in use should familiarize themselves with following Caution, Warning, and Safety related decals supplied with this lift, and replace them if they are illegible or missing.
22. Travelling on the load carry device is forbidden.
23. Climbing up to a raised vehicle is prohibited.
24. Only use on a level ground.
25. Wear necessary protective equipments before use.
26. Never step on the loading carrier.
27. Never raise the vehicle with persons inside.
28. Entry into the pit is prohibited.
29. Parked vehicles shall be secured with tire stops at front and rear tire against accidental movements.
30. When leaving the storage equipment the power switch on control panel shall be secured with a lock against unauthorized operation
31. Work on or under vehicles on load carriers is prohibited.
32. Load carriers shall always be moved to the lift's mechanical locking position after the vehicle is loaded.
33. Load carriers shall always be moved vertically to the access position before storage.



**Disclaimers**

The information contained in this manual was considered accurate at the time of printing and is subject to change without notification. Any corrections should be directed to KERNEL.

## 2. Technical Data

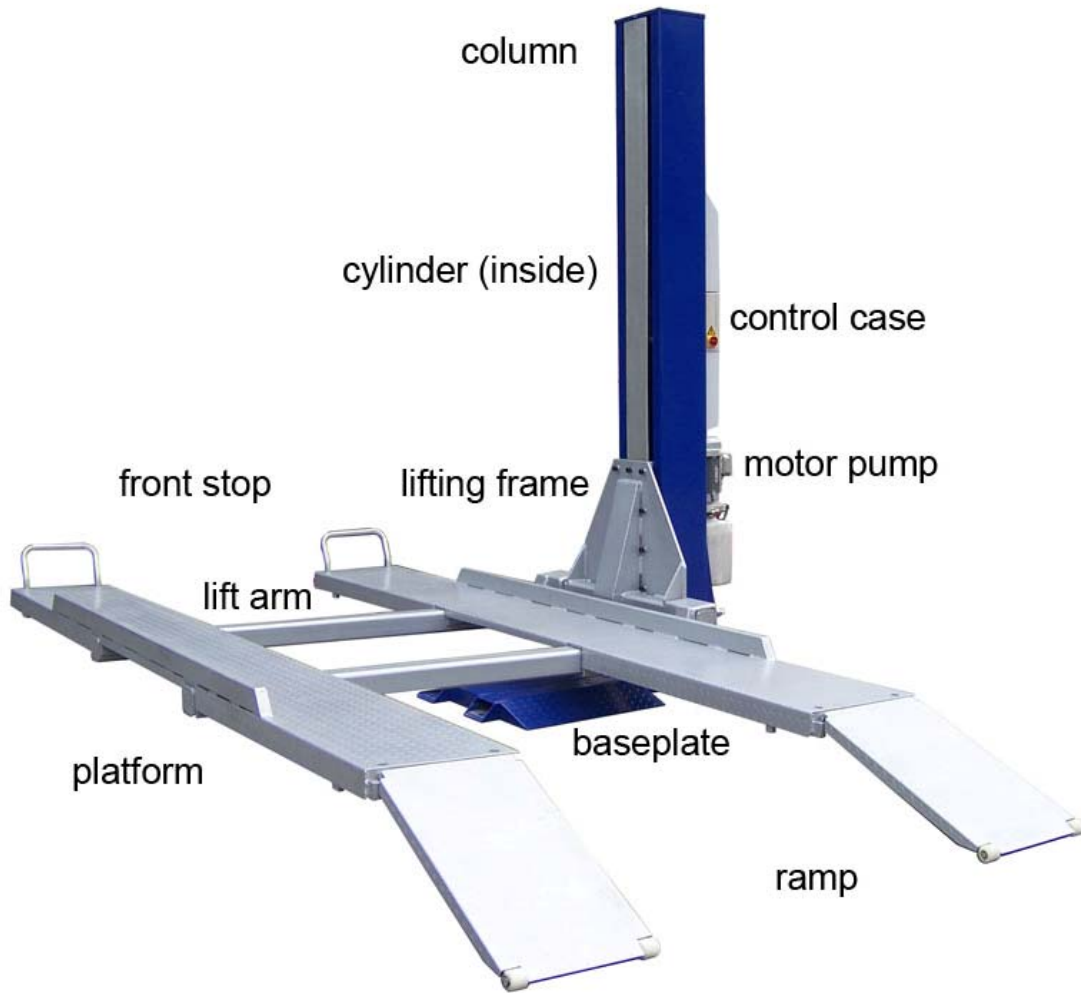
### 2.1 Product Description

The KERNEL hydraulic single post storage lift is a surface mounted, frame contact lift incorporating the latest safety technologies. Designed and manufactured for a lifting capacity of 2,500kg, is fully capable for lifting & storage vehicles, vans and safely holding them in an elevated position.

The KERNEL hydraulic single post storage lift consists of a fixed structural unit (base and posts), the mobile unit (carriage and arms) and the hydraulic power control system and safety devices.

### 2.2 Technical Data

Capacity	2,500 kg
Lifting Height, Max	1,950 mm
Height, Min	130 mm
Height Overall	3,059 mm
Width Overall	2,805 mm
Length overall	4,609 mm
Power Unit	220V, 60Hz, 15A, 2.2KW
Net Weight	1,050 kg
Working Area	5510 X 3335mm
Ambient Air Temperature	+5°C ~ +40°C
Ambient Air Humidity	≤50%
Altitude	below 1,000 m above sea level
Storage Temperature	-25°C ~ +55°C
Noise	<70db



**Fig. 1 Major Components**



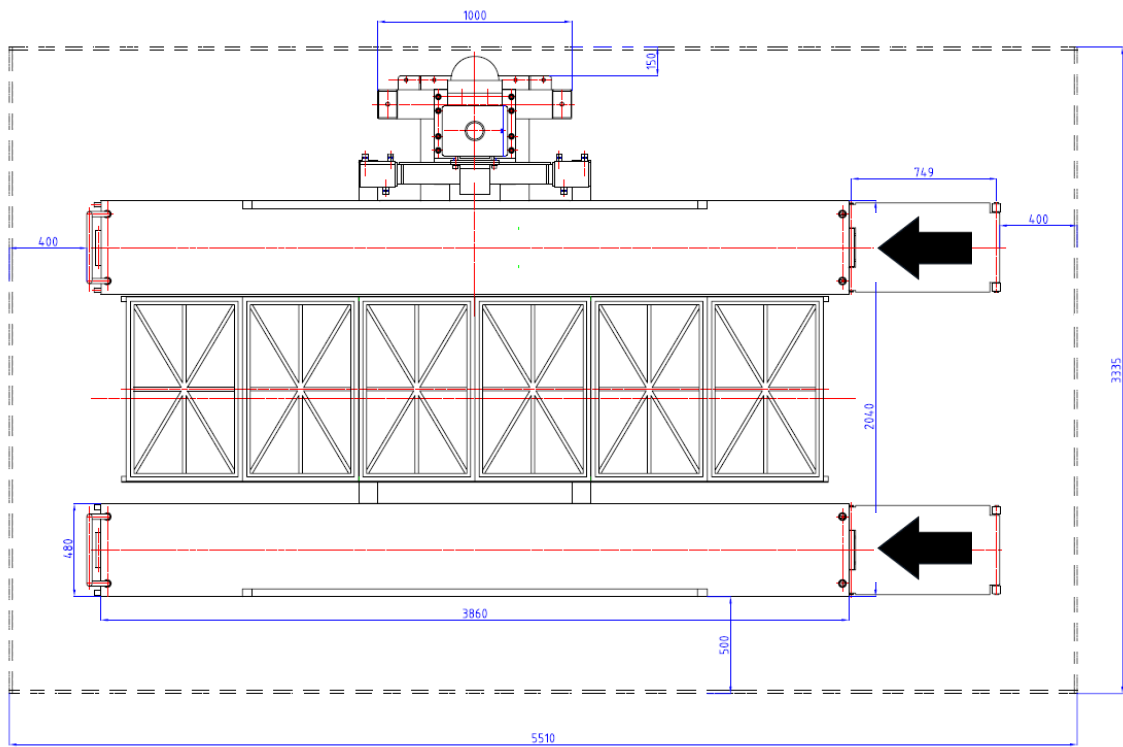
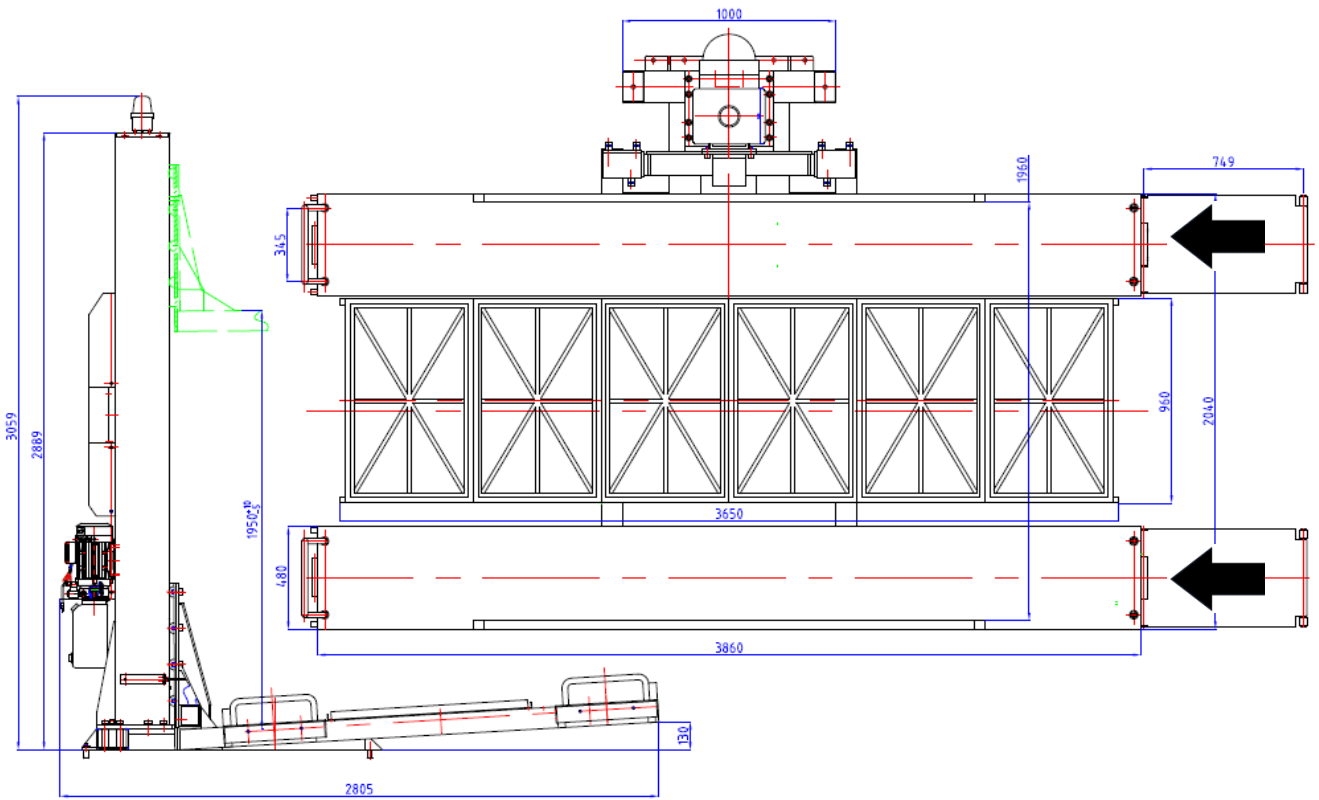
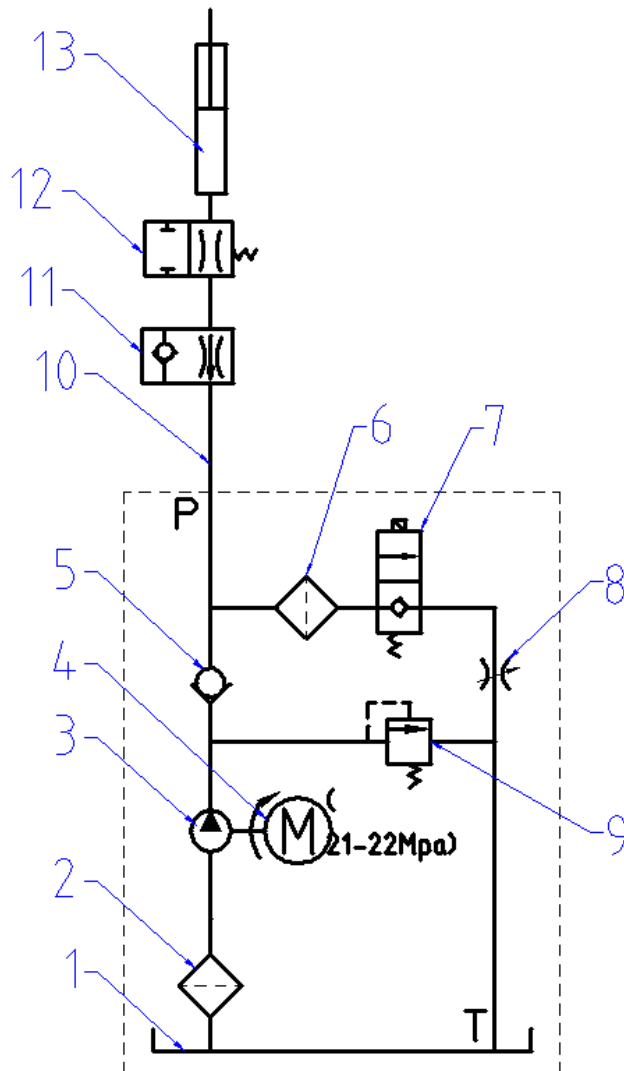


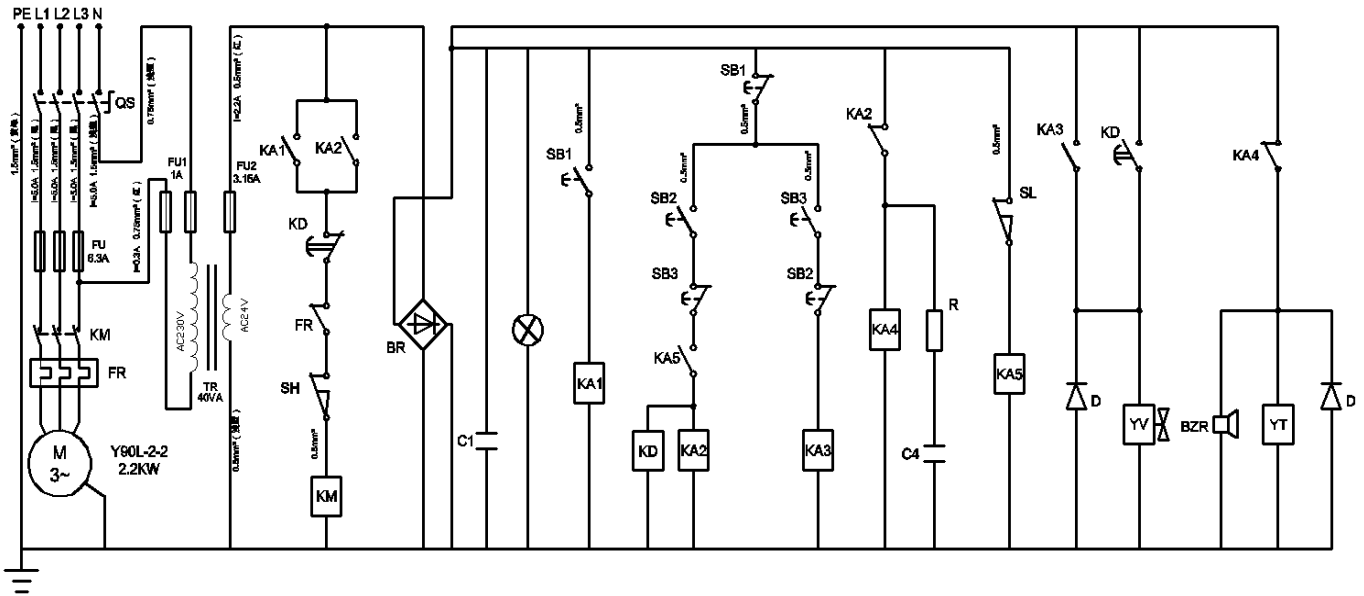
Fig. 3 Working Area

### 2.3 Hydraulic Scheme



1.	Oil tank
2.	Mesh
3.	Gear pump
4.	Motor
5.	One-way valve
6.	Mesh
7.	Solenoid valve
8.	Restrictor valve
9.	Overflow valve
10.	Rubber oil pipe
11.	One-way valve
12.	Anti-explosion valve
13.	Cylinder

## 2.4 Circuit Diagram



Item	Code	Description	Qty	Item	Code	Description	Qty
1	QS	Power Switch	1	13	YT	Electromagnet	2
2	FU	Fuse	3	14	D	Diode	2
3	TR	Transformer	1	15	KD	Time Relay	1
4	FU1	Fuse #1	2	16	KA1	Power Relay	1
5	FU2	Fuse #2	1	17	KA2,KA3,KA4,KA5	Intermediate Relay	4
6	SB1	"UP" Button	1	18	C1	Capacitance	1
7	SB2	"DOWN" Button	1	19	C4	Capacitance	1
8	SB3	"LOCL" Button	1	20	M	AC Motor	1
9	BZR	Alarm Light	1	21	FR	Overload Relay	1
10	BR	Bridge Rectifier	1	22	R	Carbon Resister	1
11	KM	AC Contactor	1	23	SH,SL	Limit Switch	1
12	YV	Solenoid Valve	1				

## **3. Installation**

### **3.1 Tools Required**

- Hammer Drill
- Hammer
- Open-End Wrench Set: SAE/Metric
- Socket and Ratchet Set: SAE/Metric
- Hex Key
- Large Crescent Wrench
- Crow Bar
- Chalk Line
- Medium Flat Screwdriver
- Needle Nose Pliers

### **3.2 Installer/Operator Protective Equipment**

Personal protective equipment helps makes installation and operation safer, it does not take the place of safe operating practices. Always wear durable work clothing during any installation and/or service activity.

Tight-fitting leather gloves are recommended to protect the technician's hands when handling parts. Sturdy leather steel-toe work shoes and oil resistant soles should be used by all service personnel to help prevent injury during typical installation and operation activities.

Eye protection is essential during installation and operation activities. Safety glasses with side shields, goggles, or face shields are acceptable. Black belts provide support during lifting activities and are also helpful in providing worker protection.

Consideration should also be given to the use of hearing protection if service activity is performed in an enclosed area or if noise levels are high.

### **3.3 Important Safety Instructions**

Do not attempt to install this lift if you have never been trained on basic automotive lift installation procedures. Never attempt to lift components without proper lifting tools such as forklift or cranes. Let the qualified service person to install this lift and a certified electrician to wire the electrical components. Stay clear of any moving parts that can fall and cause injury.

These instructions must be followed to insure proper installation and operation of your lift. Failure to comply with these instructions can result in serious bodily harm and void product warranty. Manufacturer will assume no liability for loss or damage of any kind, expressed or implied, resulting from improper installation or use of this product.

### 3.4 Site Selection

The hydraulic single post storage lift is designed only for indoor use. Application in a room with explosion hazard is not permitted. Setting in a wet place, a car wash center for instance, is forbidden.

Always use architectural plans when available. Check the working area dimension against the floor plan requirements, making sure that adequate space is available.

The area where the lift will be located should be free of overhead obstructions such as heaters, building supports, electrical lines, etc.

### 3.5 Surface Condition

The hydraulic single storage post lift should be installed on a solid concrete level floor with the minimum thickness of 200mm and minimum surface pressure is 3,000psi.



Failure in accomplish the foundation requirement may cause the lift instability or personal injury. Installing on asphalt, soft clay floor or near the expansion gap is prohibited.

### 3.6 Clearance and Other Requirements

Take Fig.3 Working Area as the minimum clearance (5510 X 3335mm) of installing the lift. There must be a 100mm min. distance from the top of the loaded vehicle to the nearest obstruction when the lift is in a raised position.

Keep the entrance of vehicle clear and an agreeable luminous environment.

### 3.7 Installation Instruction



**Some parts may be too heavy to lift for human. Use cranes or other facility to help installation. Proper protective methods should also be deployed. Lifting heavy parts by humans may damage the part and cause death or serious injury to humans.**

#### 3.7.1 Position the base plate

Place the base plate on the garage floor as close to its final position as possible. After the base plate is in place, you'll fix it on the ground by anchors (M16). Or, it may be anchored after everything is done. (Fig. 3-A, B, C)



**Fig. 3- A, B, C Anchoring the base plate**

**3.7.2 Mount the column**

The lifting column will have the carriage unit, the hydraulic cylinder and chain assembly, and safety latch cable already assembled in it.

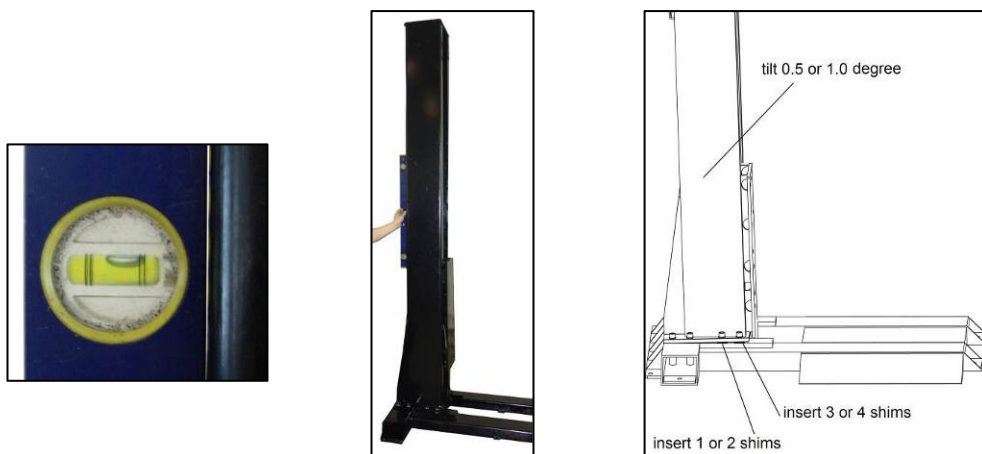
Pick the column up from a horizontal position by a forklift or an engine hoist. Lift it vertically high enough to set the column on the base plate and maneuver it around to line up the mounting holes. The column is easier to maneuver when it is vertical on the base plate. If possible, do not remove the lift chain from the column until you have got the mounting bolts started into the base plate. (Fig. 4-A, B, C, D)



**Fig. 4-A, B, C, D set up column (1)**

After you've put the column into position, you'll bolt it to the base plate. You'll need a wrench or a socket with a ratchet to tighten these bolts.

In order to make the column be vertical when car is loaded, it has been welded some shims at the bottom of the column. The tilting degree is between 0.5 and 1.0 (Fig 5-A, B, C).



**Fig. 5-A, B, C set up column (2)**

### 3.7.3 Mount the CE Stop

Mount the CE stop (part code 86) at side of the column. (Fig.6)



Fig.6

### 3.7.4 Mount the motor pump on the back of column

Mount the motor pump on the back of column. Fix it using bolts and nuts. Connect the hose from the cylinder to the motor pump. (Fig.7-A, B, C) The hose has different fittings on each end. So make sure you match up the end of the hose with the cylinder. There is an O-ring on the end of the cylinder tube. Make sure these fittings are tight.



Fig. 7-A, B, C, D pump & hose

Fill the tank with hydraulic oil (about 6 Liter). It is suggested to be ISO-22. It is Non-Detergent Non-Foaming Anti-Wear Hydraulic Oil.

Mount on the control unit. Hook up all the cables from the elec. valve, motor and other electric facilities inside the case.

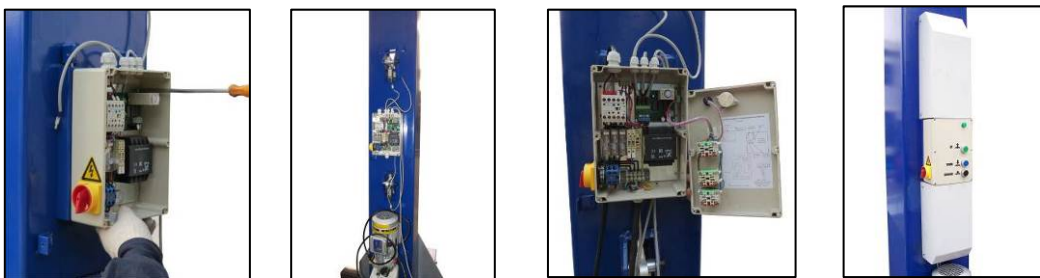


Fig. 8-A, B, C, D control unit and cover

Now you need to get the correct plug installed on the power cord. Your lift does not come with a cord attached to the control unit. But because there are so many receptacle variations, you will need to install the proper cord and a plug on the end of the cord. If you are not sure the cord size and which plug to use, consult your electrician. And the motor running direction should be the same as the indication on it.

Then connect the buttons on the case cover to the circuit board. Close the case by screws.

Also put on the covers of the safety lock. (Fig.8-A, B, C, D)

### 3.7.5 Position the lifting frame on the carriage with bolts

See Fig.9 A, B. A hydraulic floor jack or bottle jack is good for holes lining. Then tighten all the bolts on the frame.



Fig. 9-A, B lifting frame

### 3.7.6 Position two lift arms to the carriage frame

See Fig. 10-A, In order to make the platforms horizontal while car is loaded, preset the arms as following:

First is to lift up the far end of the arms with hydraulic jack to 5.5 inch (140mm) (Fig. 10-B,C).

Then tighten the back two screws and front one screw (Fig. 10-D & E).

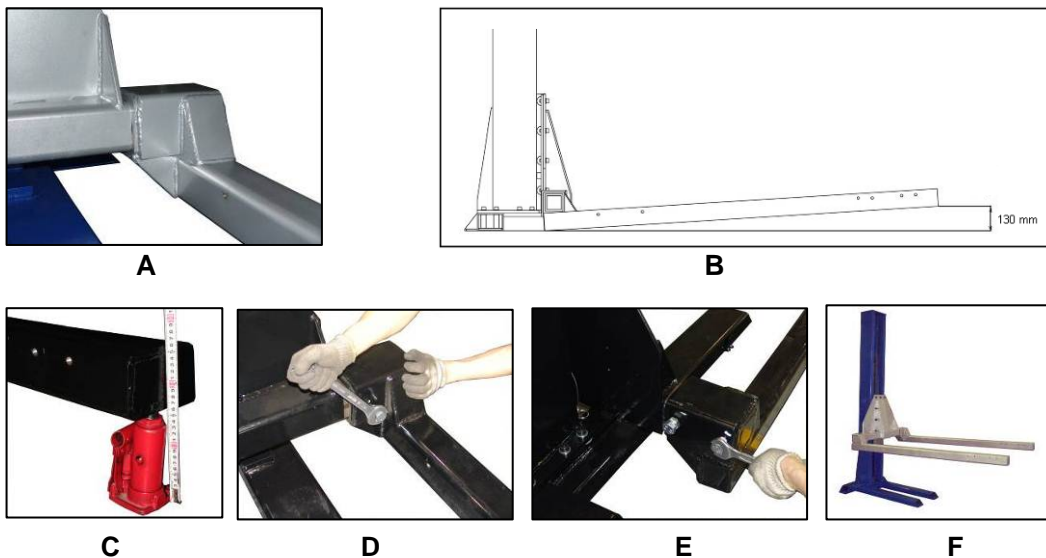


Fig. 10-A, B, C, D, E set up arms

### 3.7.7 Install the platforms on the lift arms

Install the platforms on the lift arms. If they are hard to move, you can use a chain and a fence-stretcher to help persuade them. Position the platforms according to the fixing holes on the arms. Then bolt up the platforms with the lifting arms and those adjusting bolts. (Fig. 11-A, B, C)



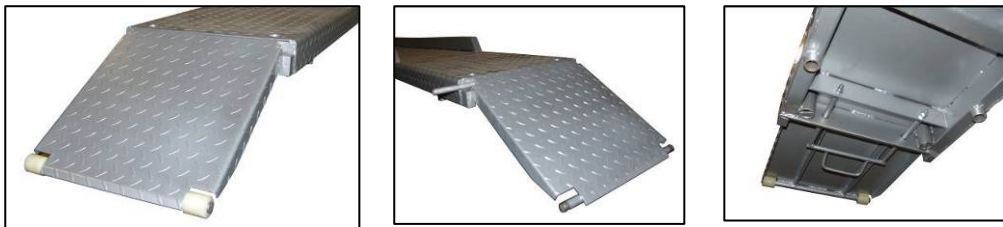


**Fig. 11-A, B, C platforms**

**3.7.8 Put on the ramps**

Put on the ramps of the platform and those ram supports according to the driving direction.

Pay attention to those Circlips. They shall be in their position. (Fig. 12-A, B, C)



**Fig. 12-A, B, C ramp and support**

**3.7.9 Put on the wheel stop**

Put on the wheel stop at the other end of the platform (Fig. 13). Bolt the ground ramp fixing chip on the base plate. Then put on the ground ramps and middle board. (Fig. 14, 15)

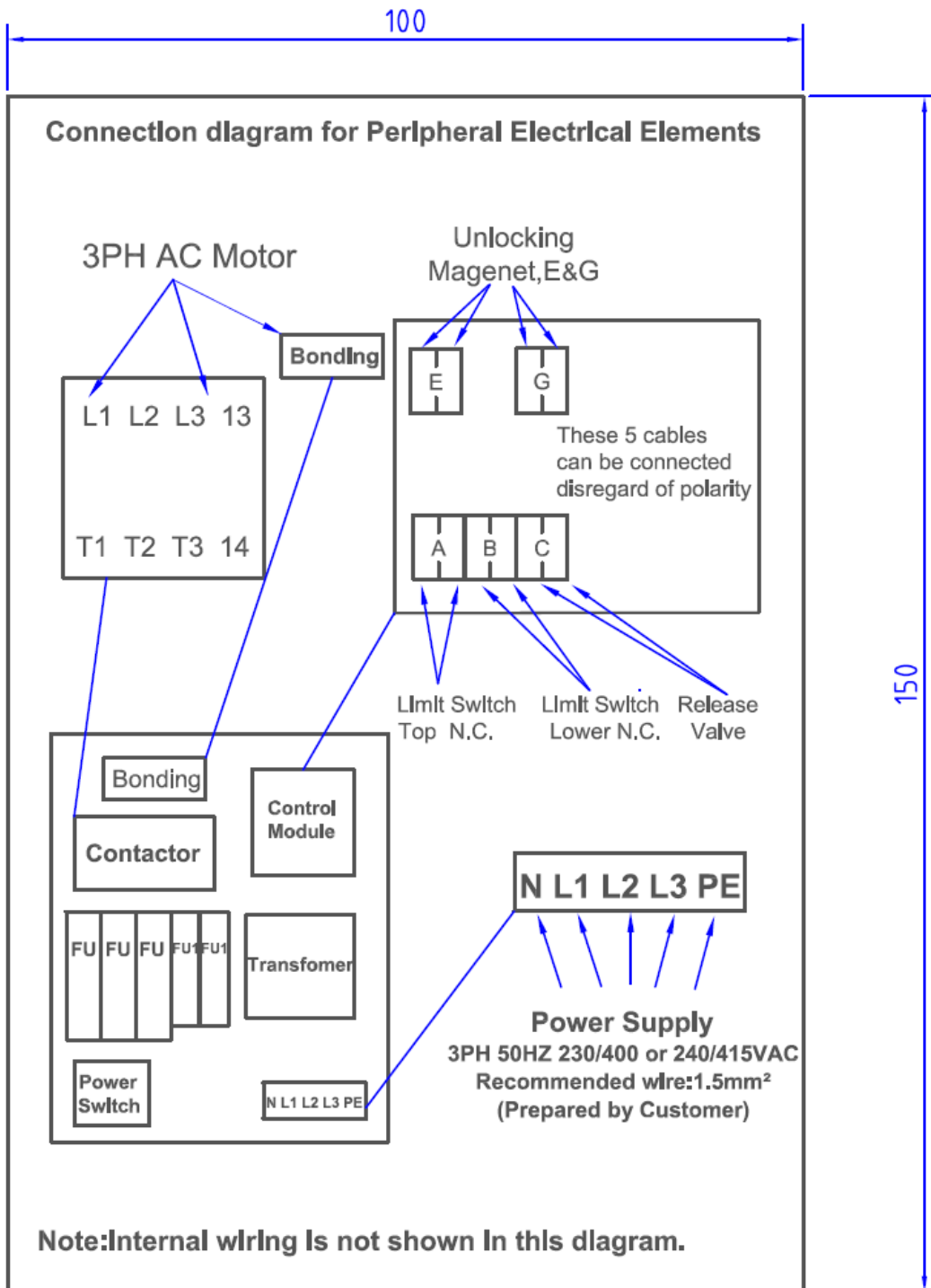


**Fig. 13, 14, 15 wheel stop and ground ramp**

**3.7.10 Connecting**

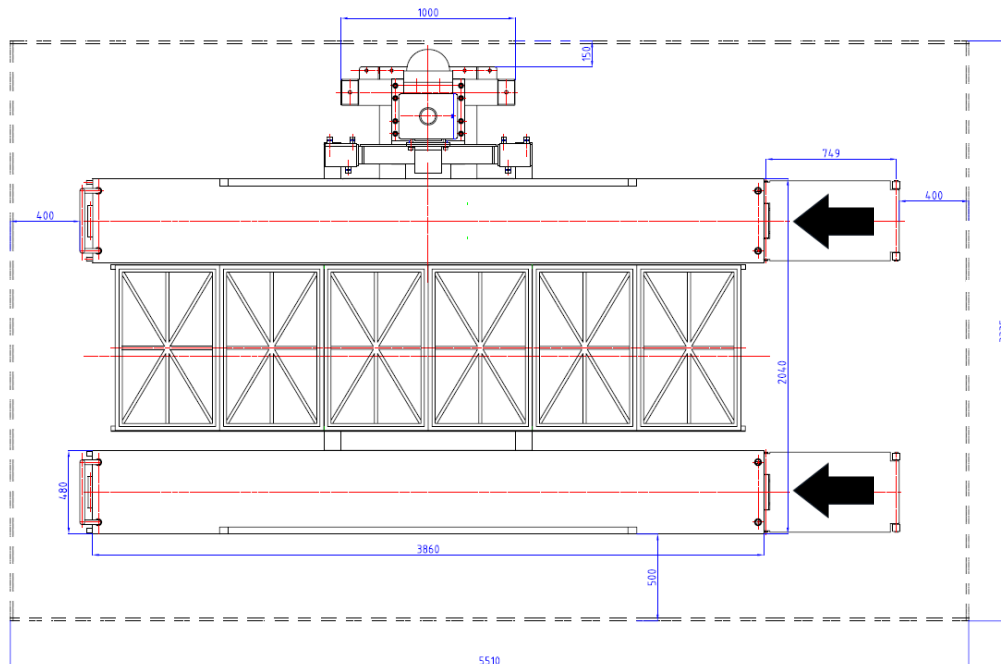
According to the connecting diagram, connect the magnetic coils and valve on the motor pump.

CONNECTING DIAGRAM OF THE CONTROL UNIT



### 3.8 Preparation for Starting up

- 3.8.1 The latch is **engaged** when was installed in the column.
- 3.8.2 The hydraulic oil should be ISO-22.
- 3.8.3 Have a certificate electrician establish 220V/60HZ/15A power supply to motor and overheated switch. A protection against indirect contact (RCCB) need to be provided by the user.
- 3.8.4 Air Evacuation. There may remain little air in the hose or cylinder during installation. Operating the lift up and down in the working height several times without load.
- 3.8.5 Raise the lift about two feet high and then lower it. Repeat this process two or three times, and then top off the hydraulic oil reservoir again, if necessary. This assures that hydraulic oil is distributed everywhere in the system that it needs to be.
- 3.8.6 Use double yellow lines on the ground marking the working area to prevent unauthorized person from entering. (the range of the working area as below) The working area shall NEVER be smaller than 5510mm×3335mm



**NOTE** Only top off the reservoir with the lift at the “down” position. If you fill the reservoir in the “up” position and then lower the lift, there will be too much hydraulic oil in the system, and it will squirt out of the top of the control unit.

## 4. Operation

Be sure to read and familiarize yourself with the Safety Instructions at the beginning of this manual. Failure to follow Safety Instructions may result in property damage, personal injury or death.

### 4.1 Caution and Warning Label



## 4.2 Operating Instructions



Be sure to read and familiarize yourself with the Safety Instructions at the beginning of this manual. Failure to follow Safety Instructions may result in proper damage, personal injury or death.



To avoid personal injury and/or property damage, permit only trained personnel to operate lift. After reviewing these instructions, get familiar with lift controls by running the lift through a few cycles before loading vehicle on the lift.



Only the driver with local drive license is allowed to park the car on/below the platform.

### 4.2.1 Information for safe operation

- It is the user's responsibility to read this manual thoroughly before operation the lift.
- The load limit of this lift is 2500kg. Check your vehicle weight before you drive it on the runway.
- The max. height of the vehicle storage under the runway is 1800mm; for the vehicle storage on the runway, the wheelbase should not exceed 3000mm and the distance between outside of the wheel should between 1870~1950mm; the distance between inner side of the wheel should between 1020~1100mm.
- Keep the entrance of vehicle clear and a good lighting at the working area.
- Before drive on the runway, check your vehicle for the minimum wheelbase. The outside platform can be adjusted by 80mm. Make sure your vehicle wheelbase fits the width of the runway.
- Make sure you have proper overhead clearance.
- There are two tire stops for the storage equipment. If either of them is missing, stop using the storage equipment and contact your manufacturer.

### 4.2.2 Lift Preparation:

Lift must be fully lowered and the working area clear of all personnel before the vehicles brought on lift.

### 4.2.3 About Control Panel

- a. Main Power Switch: The main power switch is at left side of the control panel. Turn the switch to ON position, the green light is lit and the storage lift is ready for operation.



- If there is a period of time not to use the lift or vehicle has parked on the platform, it is suggest securing the power switch at OFF position with a lock against unauthorized operation.
- In the case of emergency or accidental stoppage,



**such as lost electricity or uncontrolled moving of the lift, turn the switch to OFF position to stop the operation.**

- b. UP button: push to raise the platform, release to stop raising movement.
- c. DOWN button: push to lower the platform, release to stop lowering movement.
- d. GROUND button: push to lower the platform to the lift's mechanical locking position, or when the lift is lowered to about 200mm above the ground, push to lower the platform fully to the ground.

#### 4.2.4 Park the Vehicle on the platform

- a. Remove both tire stops on the platform and place either or both tire stops on the platform as the following picture:



The position of the tire stop depends on the vehicle's weighing center. Make sure when the vehicle is driving and the front wheel hits the tire stop, the vehicle's weighing center will locate merely at the center of the platform.

- b. Drive the vehicle slowly and carefully onto the platform through ramps, following the arrow, until the wheel hits the tire stops;



Take the column as a reference until the vehicle is about centered. Mind your wing mirror. Set the storage brake to hold vehicle in position.



NEVER drive car faster than 5km/h on the platform



Please make sure the tire stops are properly placed.



STOP driving the vehicle forward when the tire hits the tire stops. Further driving may cause damage to the vehicles and injuries to the driver.

- c. Set two tire stops (see parts code no.114) under the front and rear tire to prevent horizontal movement of vehicle.
- d. The driver should leave the vehicle and fold the wing mirror after packing on the lifting platform and activate the holding brake.
- e. Walk around the lift to ensure no obstructions will interfere with the vehicle being lifted.

#### 4.2.5 To Raise Lift

- a. Turn the switch to ON position, the green light is lit and the storage lift is ready for operation.
- b. Push UP button on control panel.
- c. Raise vehicle until clear the floor, then release the UP button.
- d. Check again for the vehicle storage safety on the lifting platform.
- e. Continue to raise to desired height only if vehicle is secure on lift
- f. During operation, observe the entire perimeter of the lift as well as overhead to ensure there are no obstructions that may damage vehicle and/or lift.
- g. Push the LOCK button to lower the platform with vehicle to the lift's mechanical locking position.
- h. Turn the power switch to OFF position. If you park your vehicle for a period of time. It is a suggestion to secure the power switch with a lock against unauthorized operation.



**BE CAREFUL NOT TO RAISE THE VEHICLE TOO HIGH THAT IT STRIKES THE CEILING! BE AWARE OF ANYTHING THAT PROTRUDES FROM THE CEILING, LIKE LIGHTBULBS, GARAGE DOOR OPENERS OR DOOR TRACKS.**



In order to maximum the height underneath the platforms, the ramp support shall be pull backwards. The ramp rests on the support as in Fig 16-A. Before loading or unloading the vehicle on the platform, the ramp support shall be push forward as in Fig. 16-B.



**Fig. 16-A, B ramp and it support**

#### 4.2.6 Placement of Lower Vehicle

- a. Once the lifting procedures have been followed. Check the power switch for OFF position. NEVER park the car below the platform when the power switch is ON
- b. Compare the height of the vehicle and the lower clearance; make sure the distance from top vehicle to the platform should be at least 250mm.

- c. Drive the lower vehicle under the lift platform to the location where the vehicle is properly positioned under the lift to allow clearance of the doors and the mirrors. Take the column as a reference; mind the left wing mirror.
- d. Make sure that the car is not beyond the working area
- e. Set the storage brake to hold vehicle in position.



**Dangerous! ALWAYS** follow the instructions above. Any ignorance or neglect may cause death or severe injury to humans and damages to vehicles.



Only one vehicle is allowed to park below the platform



NEVER try to operate the lift while there is a vehicle storage below the platform



Be careful while opening the car door



Before storage, make sure there is enough space between the ground and the platform

#### 4.2.7 Removal of Lower Vehicle

Carefully drive out the lower vehicle after making sure all is clear before lowering the lift platform.

#### 4.2.8 To Lower Lift



- a. Check all danger points of the lift and be sure that there are no objects or people in the working area (danger area) around the lift or on the lift.
- b. Lower the lift to the required height. Push blue button DOWN on control panel
- c. While lowering the lift always be watchful for objects, persons or animals that may wander under the lift platform during operation. Cease operation by release the blue DOWN button if area becomes obstructed.
- d. When the lift is lowered to about 200mm above the ground, the alarm beep sounds, then push the LOCK button to lower the lift until the drive-on ramp touch the ground.
- e. When the lift is in its lowest position, remove both tire stops from both wheels and carefully drive the vehicle out of the lift.
- f. Turn the power switch to OFF position. It is a suggestion to secure the power switch with a lock against unauthorized operation.



- **Remain clear of lift when lowering vehicle. Observe pinch point warning decals. If lift is not operating properly, DO NOT use until adjustment or repairs are made by qualified lift service personnel;**
- **Never move vehicle until the drive-on ramp fully touch the ground;**
- **Only authorized personnel shall interfere with the normal working of the equipment.**
- **Make sure no passenger is in the vehicle before lifting the vehicle;**
- **Keep irrelevant personal out of working area when the lift is in use;**
- **Keep good lighting around the lift.**
- **Never try to lower the load carrier when there is a car storage beneath.**
- **Never press the UP, DOWN, LOCK button for a long time when the load carrier is not moving. These actions may damage the vehicle storage lift.**
- **Never raise the vehicle with persons in the vehicle.**
- **Keep the working area with sufficient lighting when operation.**

## **4.3 Maintenance Instructions**

Contact your service provider for instruction before starting up if you are not completely familiar with automotive lift maintenance procedures. Only qualified personnel can perform maintenance on this equipment. Any failure in operation may cause personal injury or death.

### **4.3.1 Requirements of the maintenance staff**

- The maintenance staff should have the technical knowledge and skills of vehicle lift.
- The maintenance staff should use suitable tools and wear durable work clothing during service activity.
- All adjustments, whether mechanical or electrical, shall only be carried out by authorized persons in accordance with a safe system of work and the manufacturer's instructions.
- Keep good lighting around the working area when maintenance;
- Before maintenance, cut off the power of the lift and lock the power switch at OFF position.

### **4.3.2 Regularly Maintenance Requirements**

- ✓ Always keep bolts tight. Check periodically.
- ✓ Always keep lift components clean.
- ✓ Always if oil leakage is observed, contact your service provider.
- ✓ Check the function of all buttons and safety devices by lifting up and down without load every day.
- ✓ Check cables and sheaves for wear every day. Replace worn or broken parts with lift manufacturer's parts, or their equivalent.

#### **Every Month**

- ✓ Lubricate locking latch shafts. Push latch handle several times for oil to penetrate joints.
- ✓ With lift lowered check the hydraulic fluid level. If necessary add oil as described in the Installation Instruction section of this manual
- ✓ Check tightness of all bolts.
- ✓ Check the nuts for tightness every week for the first month, and every month afterwards.

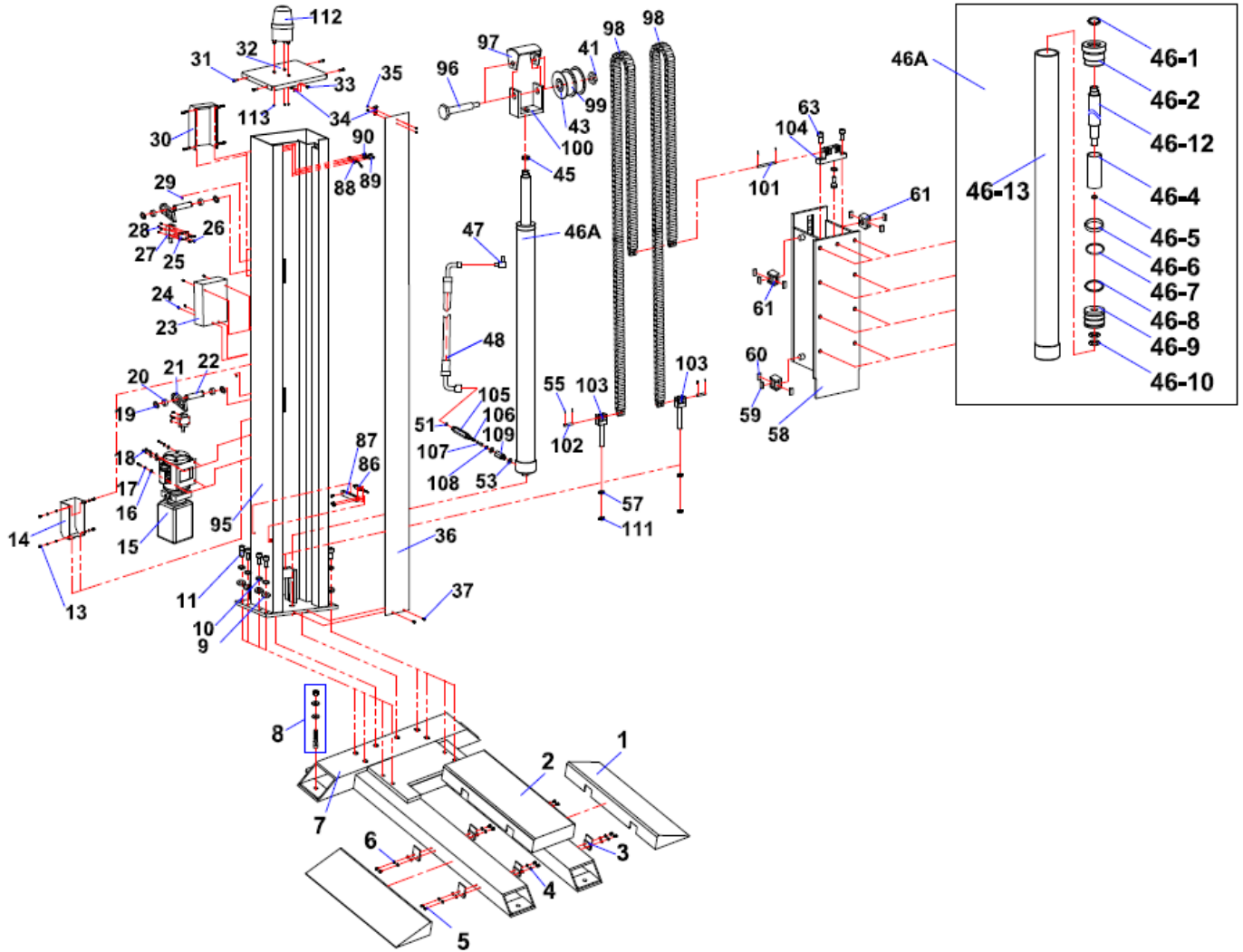
#### **Every 3 Months**

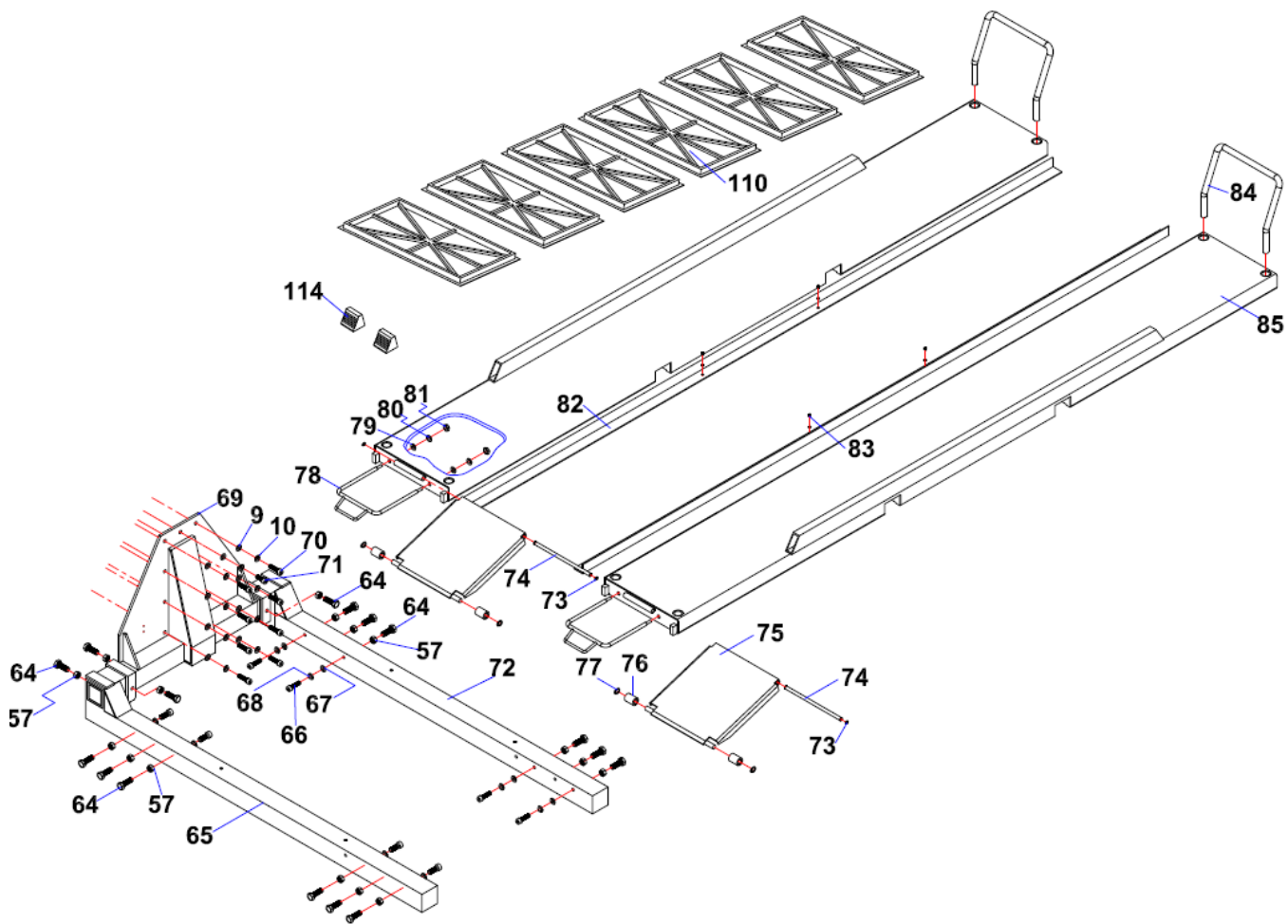
- ✓ Check and clean the oil filter

**Every 6 Months**

- ✓ Check fluid level of lift power unit and refill if required.
- ✓ If Lift stops short of full rise or chatters, contact your service provider.
- ✓ Replace all caution, warning or safety related decals on the lift if unable to read or missing. Reorder labels from service provider.
- ✓ Check all components wear situation.

## 5. Parts List





<b>Item</b>	<b>Code</b>	<b>Description</b>	<b>Qty</b>
1	DJ05-01400-000	Side Ramp Assy.	2
2	DJ05-01500-000	Middle Supporting Assy.	1
3	DJ05-01005-000	Fixed Hook Plate	6
4	5301-00006-000	Plain Washer	20
5	5105-06025-000	Hex Socket Head Cap Screw	12
6	5303-00006-000	Spring Washer	20
7	DJ05-01000-000	Fixed Frame Assy.	1
8	DJ05-10000-000	Expansion Anchor Bolt	10
9	5301-00016-000	Plain Washer	19
10	5303-00016-000	Spring Washer	20
11	5105-16050-000	Hex Socket Head Cap Screw	10
13	5110-06015-000	Cross Recess Pan Head Screw	8
14	DJ01-00001-A00	Safety Lock Cover	1
15		Hydraulic Power Unit	1
16	5301-00008-000	Plain Washer	4
17	5303-00008-000	Spring Washer	4
18	5101-08030-000	Hexagon Bolt	4
19	5304-00025-000	Elastic washer	4
20	SJ03-00019-000	Locating Sleeve	4
21	SJ03-00007-000	Safety Plate	2
22	SJ06-00006-000	Safety Spindle	2
23		Control Case	1
24	5110-04010-000	Cross Recess Pan Head Screw	4
25	SJ03-00027-000	Mounting Plate for Electromagnet	2
26	5107-03008-000	Cross Recessed Countersunk Head Screw	8
27	SJ03-12001-000	Electromagnet	2
28	5110-04008-000	Cross Recess Pan Head Screw	8
29	SJ03-00023-000	Suspension Plug	2
30	DJ05-00001-A00	Safety Lock Cover	1
31	5105-06030-000	Hex Socket Head Cap Screw	4
32	DJ01-00005-A00	Top Panel	1
33	5110-04016-000	Cross Recess Pan Head Screw	8
34	SJ06-00016-000	Hook	1
35	5206-00004-000	Hexagon Nylon Locknut	4
36	DJ05-00009-A00	Iron Sheet Cover	1
37	5110-06012-000	Cross Recess Pan Head Screw	2
41	5206-00024-000	Hexagon Locknut	1

43	DJ01-12003-000	Self Lubricating Bearing	1
45	DJ01-13001-000	Round Nut	1
46A	DJ01-12000-A00	Hydraulic Cylinder Assy.	1
46-1	5906-00030-000	Dustproof Ring	1
46-2	DJ01-13003-000	Guide Ring	1
46-12	DJ05-13002-000	Piston Rod	1
46-4	DJ01-13004-000	Sheath	1
46-5	5901-00030-000	O Ring	1
46-6	DJ01-13005-000	Guide Ring	1
46-7	5901-00066-000	O Ring	1
46-8	5905-00065-000	U Ring	1
46-9	DJ01-13006-000	Piston	1
46-10	DJ01-13007-000	Hexagon Nut	2
46-13	DJ05-13100-000	Cylinder Weld Assy.	1
47	SJ01-12001-000	Direct Fitting	1
48	DJ05-13200-A00	Oil Pipe Assy.	1
51	5901-00006-000	O Ring	1
53	DJ01-13008-000	Copper Gaskets	2
55	5404-03020-000	Cotter	4
57	5201-00020-000	Hexagon Nut	2
58	DJ05-05100-A00	Carriage	1
59	DJ01-08008-000	Top Slide Block	4
60	DJ01-08007-000	Side Slide Block	8
61	DJ01-08006-000	Slide Block Supporting	4
63	5105-16060-000	Hex Socket Head Cap Screw	3
64	5101-20040-000	Hexagon Bolt	12
65	DJ05-04000-000	Left Lifting Carriage	1
66	5105-12040-000	Hex Socket Head Cap Screw	8
67	5301-00012-000	Plain Washer	8
68	5303-00012-000	Spring Washer	8
69	DJ05-15000-000	Lifting Carriage	1
70	5105-16040-000	Hex Socket Head Cap Screw	8
71	5105-16030-000	Hex Socket Head Cap Screw	1
72	DJ05-05000-000	Right Lifting Carriage	1
73	5304-00016-000	Circlips for Shaft	4
74	DJ05-00003-000	Ramp Shaft	2
75	DJ05-09000-000	Ramp	2
76	DJ05-00004-000	Idler Wheel	4
77	5304-00020-000	Circlips for Shaft	4

78	DJ05-14000-000	Ramp Supporting	2
79	5301-00010-000	Plain Washer	4
80	5303-00010-000	Spring Washer	4
81	5201-00010-000	Hexagon Nut	4
82	DJ05-00005-000	Side Shelf	2
83	5107-06015-000	Cross Recessed Countersunk Head Screw	4
84	DJ05-00001-000	Limited Rod	2
85	DJ05-03000-000	Platform	2
86	DJ05-00030-A00	Vertical Travel Switch	1
87	DJ05-00020-A00	Lower Limitation Mounting Plate	1
88	SJ03-00022-000	Upper Travel Switch	1
89	5110-04030-000	Cross Recess Pan Head Screw	4
90	5110-04020-000	Cross Recess Pan Head Screw	3
95	DJ05-02000-B00	Column	1
96	DJ01-12002-B00	Idler Wheel Shaft	1
97	DJ01-18000-B00	Idler Wheel Protection Assy.	1
98	DJ05-06000-B00	Chain Assy.	1
99	DJ05-12001-B00	Wheel	1
100	DJ05-12000-B00	Wheel Basement	1
101	DJ05-00004-000	Long Chain spindle	1
102	DJ05-00005-B00	Short Chain spindle	2
103	DJ05-00003-B00	Up Position Bar	2
104	DJ05-00001-B00	Low Position Bar	1
105	DJ05-18001-000	Explosion-proof Valve Joint	1
106	DJ02-09003-000	Spring	1
107	DJ02-09002-000	Valve Element	1
108	DJ05-18002-000	Lock Nut	1
109	DJ05-18003-000	Throttle Valve Joint	1
110	DJ05-00020-B00	Drip Tray	6
111	5206-00016-000	Hexagon Nylon Locknut	2
112	DJ05-00021-B00	Alarm Light	1
113	5201-00003-000	Hexagon Nut	3
114	DJ05-00022-B00	wheel Stop	2



### Spare Parts List of Easy Worn & Replacement

Item	Code	Description	Specification	Qty	Check or Replace Frequency
1	DJ05-00001-000	Limited Rod		4	2 Years
2	DJ05-00004-000	Idler Wheel		2	1 Year
3	DJ01-08007-000	Side Slide Block		8	2 Years
4	DJ01-08008-000	Top Slide Block		4	2 Years
5	DJ01-13008-000	Copper Gasket		1	2 Years
6	5901-00006-000	O-Ring		1	2 Years
7	DJ01-12003-000	Self Lubricating Bearing		1	2 Years
8	JK01-10008-200	Fuse	Time-delay $\phi$ 6×30、6.3A	3	
9	JK01-10010-100	Fuse	Time-delay $\phi$ 5×20、1.0A	2	
10	JK11-10113-000	Fuse	Time-delay $\phi$ 5×20、3.0A	1	
11	JK01-00005-000	Power Switch	LW26-20	1	1 Year
12	JK01-00006-000	Indicator	AD56-16ES23G	1	
13	JK01-10005-000	AC Contactor	NC1-09/10-24V AC	1	1 Year
14	JK01-20002-000	Button	LA42P/10A	3	1 Year

## 6. Troubleshooting Guide

Problem	Cause	Solution
Motor does not run.	<ol style="list-style-type: none"> <li>1. Blown fuse or circuit breaker</li> <li>2. Incorrect voltage to motor</li> <li>3. Bad wiring connections.</li> <li>4. Motor up switch burned out.</li> <li>5. Overhead limit switch burned out.</li> <li>6. Motor windings burned out.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace blown fuse or reset circuit breaker.</li> <li>2. Supply correct voltage to motor.</li> <li>3. Repair and insulate all connections.</li> <li>4. Replace switch.</li> <li>5. Replace switch.</li> <li>6. Replace motor.</li> </ol>
Motor runs but will not raise lift.	<ol style="list-style-type: none"> <li>1. Open lowering valve.</li> <li>2. Pump sucking air</li> <li>3. Suction stub off pump.</li> <li>4. Low oil level</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair or replace lowering valve.</li> <li>2. Tighten all suction line fittings.</li> <li>3. Replace suction stub.</li> <li>4. Fill tank with ISO-22</li> </ol>
Motor runs-will raises unloaded lift but will not raise vehicle.	<ol style="list-style-type: none"> <li>1. Motor running on low voltage</li> <li>2. Debris in lowering valve.</li> <li>3. Improper relief valve adjustment.</li> <li>4. Overloading lift</li> </ol>	<ol style="list-style-type: none"> <li>1. Supply correct voltage to motor.</li> <li>2. Clean lowering valve.</li> <li>3. Replace relief valve cartridge.</li> <li>4. Check vehicle weight and/or balance Vehicle weight on lift.</li> </ol>
Lift slowly settles down.	<ol style="list-style-type: none"> <li>1. Debris in check valve seat.</li> <li>2. Debris in lowering valve seat.</li> <li>3. External oil leaks</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean check valve.</li> <li>2. Clean lowering valve.</li> <li>3. Repair external leaks.</li> </ol>
Slow lifting speed or oil blowing out filler breather cap	<ol style="list-style-type: none"> <li>1. Air mixed with oil.</li> <li>2. Air mixed with oil suction.</li> <li>3. Oil return tube loose</li> </ol>	<ol style="list-style-type: none"> <li>1. Change oil to <a href="#">ISO-22</a></li> <li>2. Tighten all suction line fittings.</li> <li>3. Reinstall oil return tube.</li> </ol>
Locking latches do not engage.	<ol style="list-style-type: none"> <li>1. Latch shafts rusted. (Usually occurs on outside installation or in high humidity areas such as vehicle wash bays.)</li> <li>2. Latch spring broken.</li> <li>3. Latch cable needs adjustment.</li> </ol>	<ol style="list-style-type: none"> <li>1. Remove covers, oil latch mechanism. Depress latch release handle several times to allow oil to coat shaft.</li> <li>2. Replace broken spring.</li> <li>3. Adjust clamps at cable end per lift installation instruction.</li> </ol>