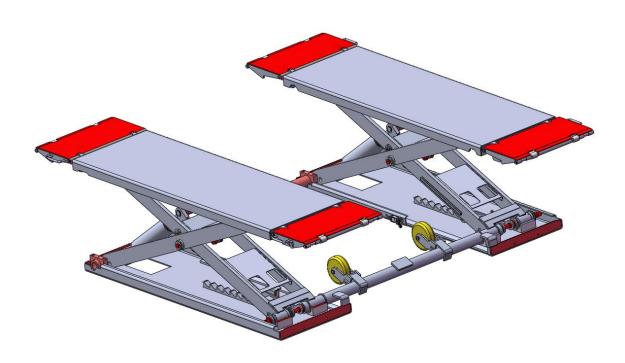


Model No. SL-MR80

Installation & Operation & Maintenance Instructions

Mid Rise Scissor Lift Automatic Release Lifting Capacity 8000 lbs



Important Note

- 1. This equipment can not be installed, operated or repaired without reading instructions.
- 2. Electricity must be hooked up by certified electrician.
- 3. Do not use this equipment beyond its rated capacity.

Questions, problems, missing parts? Before returning to your retailer, call our customer service department at 800-616-9618

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1. Packing, transport and storage

All packing, lifting, handling, transport and unpacking operations are to be performed exclusively by expert personnel with knowledge of the lift and the contents of this manual.

1.1 Packing

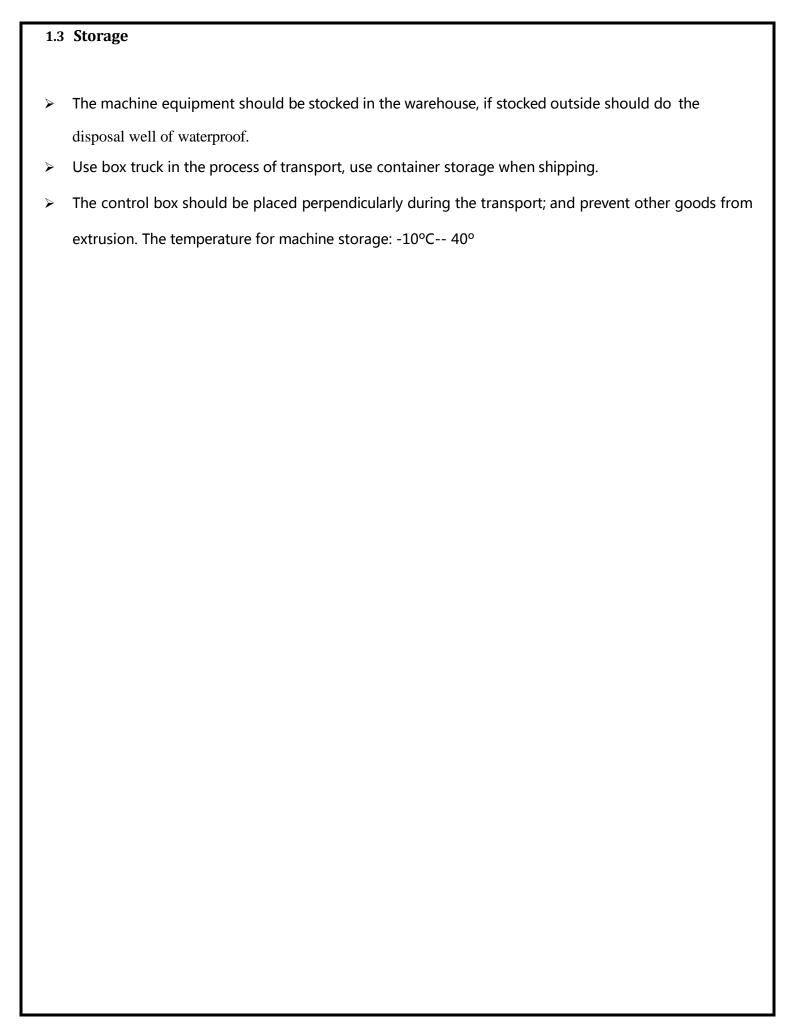
- > The packing of the lift is delivered in following components:
- a. 1 basic unit packed in a large wooden box, including all accessories, with base.
- b. 1 power unit packed in a small wooden box with base.

1.2 Transport

- > See Fig 1, packing can be lifted or moved by lift trucks, cranes or bridge cranes. In case of slinging, a
- > second person must always take care of the load, in order to avoid dangerous oscillations. During loading and unloading operation, goods must be handled by vehicles or ships.
- At the arrival of the goods, verify that all items specified in the delivery notes are included. In case of
- missing parts, possible defects or damage due to transport operations.
- If finding missing parts, possible defects or damage due to transport, one should examine damaged cartons according to << Packing List.>> to verify the condition of damaged goods and missing parts, also the person in charge or the carrier must be immediately informed.
- > The machine is heavy goods! Don't take manpower load and unload and transporting way into consideration, the safety of working is important.

Furthermore, during loading and unloading operation goods must be handled as shown in the picture.

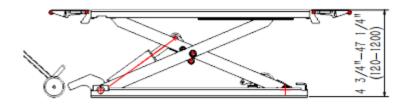


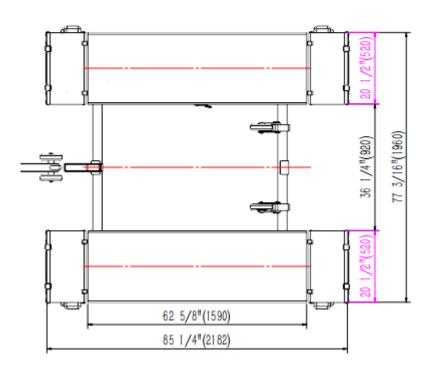


2. Technical specifications

Machine model	
Driving mode	Electro hydraulic drive
Lifting capacity	8,000lbs (3,500kg)
Lifting Height	47.24" (1200mm)
Lifting time	About 50 sec
Voltage	220V/110V
Frequency	60Hz
power	2.2KW
Hydraulic oil	46#/68#
working temperature	5-40℃
ambient humidity	30-95%
Machine noise	< 76dB(A)
Equipment weight	1,631 lbs (740kg)

2.1 Equipment plan





3. Safety

3.1 Important notices

- This ultra thin low lift is specially designed for lifting motor vehicles that weighs within its outmostlifting capacity. Users are not allowed to use it for any other purposes. Otherwise, we, as well as oursales agency, will not bear any responsibility for accidents or damages of the lift. Make sure to pay careful attention to the label of the lifting capacity attached on the lift and never try to lift cars with itsweight beyond.
- Read this manual carefully before operating the machine so as to avoid economic loss or personnel casualty incurred by wrong operation. Without professional advice, users are not permitted to make any modification to the control unit or whatever mechanical unit.

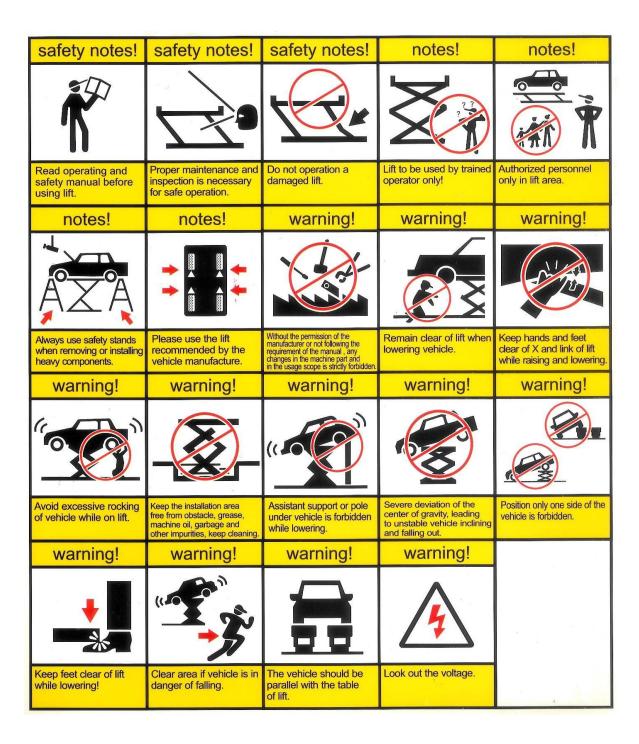
3.2 Qualified personnel

- Only these qualified staff, who have been properly trained, can operate the lift.
- Electrical connection must be done by a competent electrician.
- People who are not concerned are not allowed in the lifting area.

3.3 Danger notices

- > Do not install the lift on any asphalt surface.
- > Read and understand all safety warnings before operating the lift.
- > The lift, if is not specially designed upon customer's request, is not fit for outdoor use.
- > Keep hands and feet away from any moving parts. Keep feet clear of the lift when lowering.
- > Only these qualified people, who have been properly trained, can operate the lift.
- > Do not wear unfit clothes such as large clothes with flounces, tires, etc, which could be caught by moving parts of the lift.
- > To prevent evitable incidents, surrounding areas of the lift must be tidy and with nothing unconcerned.
- > The lift is simply designed to lift the entire body of vehicles, with its maximum weight within the lifting capacity.
- Always ensure the safety latches are engaged before any attempt to work near or under the vehicle.
- Make sure to place the lifting pads to the positions as suggested by vehicle makers and when gradually lift the vehicle to the desired height, operators should be certain that the vehicle will not slant, roll-over or slide in lifting process.
- > Check at any time the parts the lift to ensure the agility of moving parts and the performance of synchronization. Ensure regular maintenance and if anything abnormal occurs, stop using the lift immediately and contact our dealers for help.
- > Lower the lift to its lowest position and do remember to cut off the power source when service finishes.
- > Do not modify any parts of the lift without manufacturer's advice.

	a. If the lift is going to left used for a long time, users are required to: b. Empty the oil tank; c. Lubricate the moving parts with hydraulic oil.
3.4	Training
>	Only these qualified people, who have been properly trained, can operate the lift. We are quite willing to provide professional training for the users when necessary.
>	Attention: For environment protection, please dispose the disused oil in a proper way.
3.5	Warning signs
A	All safety warning signs attached on the machine are for the purpose of drawing the user's attention to safety operation. The labels must be kept clean and need to be replaced when they are worn-out or have dropped. Read the explanations of the labels carefully and try to memorize them.



4. 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.

4.1 Tool required

Rotary Hammer Drill D.20	Carpenter's Chalk
Hammer	Screw Sets
Level Bar	Tape Measure (7.5m)
English Spanner (12")	Pliers
Ratchet Spanner With Socket (28#)	Socket Head Wrench (3#, 5#, 8#)
Wrench set (10#, 13#, 14#, 15#, 17#, 19#, 24#, 27#, 30#)	Lock Wrench
(10#, 13#, 14#, 13#, 17#, 15#, 24#, 27#, 30#)	

- 4.2 Checking for room suitability
- 4.3 The lift has been designed to be used in covered and sheltered places free of overhead obstructions.
- The place of installation must not be next to washing areas, painting workbenches, solvent or varnish deposits.

The installation near to rooms, where a dangerous situation of explosion can occur, is strictly forbidden. The relevant standards of the local Health and Safety at Work regulations, for instance, with respect to minimum distance to wall or other equipment, escapes and the like, must be observed.

4.4 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.

4.5 Floor requirement

- The lift should be fixed on a smooth and solid concrete ground with its strength more than 3000psi, tolerance of flatness less than 5mm and minimum thickness of 200mm. New concrete must be adequately cured by at least 28 days minimum.
- Specifications of concrete must be adhered to. Failure to do so could cause lift failure resulting in personal injury or death.
- 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 considering to pour the new concrete slab.

4.6 Site layout

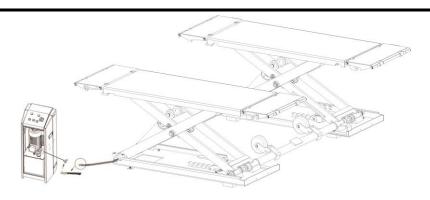
- Now locate the lift according to the floor plan the figure 3, use a carpenters chalk line to layout a grid for the column locations.
- After the column locations are properly marked, use a chalk or crayon to make an outline of the columns on the floor at each location using the column base plates as a template.
- > Double check all dimensions and make sure that the bases of each column are square and aligned with the chalk line.

4.7 Precautions for installation

- Joints of oil hose must be firmly connected in order to avoid leakage.
- ➤ All bolts should be firmly screwed up.
- Do not place any vehicle on the lift in the case of trial running.

4.8 Equipment installation instructions

- > Step 1: Remove the packaging and take the mechanical and hydraulic assembly to the designated installing place. Please do read and understand this manual thoroughly before next step.
- > Step 2: Connect the oil hose to the pump assembly with a proper wrench. (Make sure the hose end is clean).



- > Step3: Connect the wires of limit switch to the wiring terminals in the control box. Make sure to connect NO.1 wire with NO.1 terminal, NO.2 wire with NO.2 terminal and so forth.
- > Step4: Link the air hose to compressed air source. (This step is only for the type with pneumatic safety lock)
- > Step 5: Fix the base frame. (Optional)
- > This MSL 3 is portable. In other words users may use it without having it placed and fixed on the ground. Nevertheless, if you want to have it fixed, do fix it on a smooth and solid concrete surface.
- > Step 6: Trial testing with load. (Do not use cars for trial testing)
- ➤ Load applied shall not exceed 2500KG.
- > This step is of particular importance for it can check if the oil hose and air hose are well connected. Connections are qualified when there is no abnormal sound or leakage after having been tested for 2 or 3 times.

4.9 Items to be checked after installation

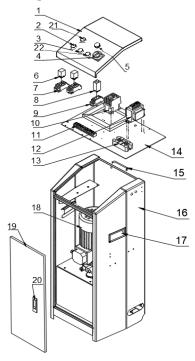
S/N	Check items	YES	NO
1	Are two platforms on the same level?		
2	Are oil hoses well connected?		
3	Are electrical connections correct?		
4	Do valves on the pump assembly leak?		

5. Operation and use

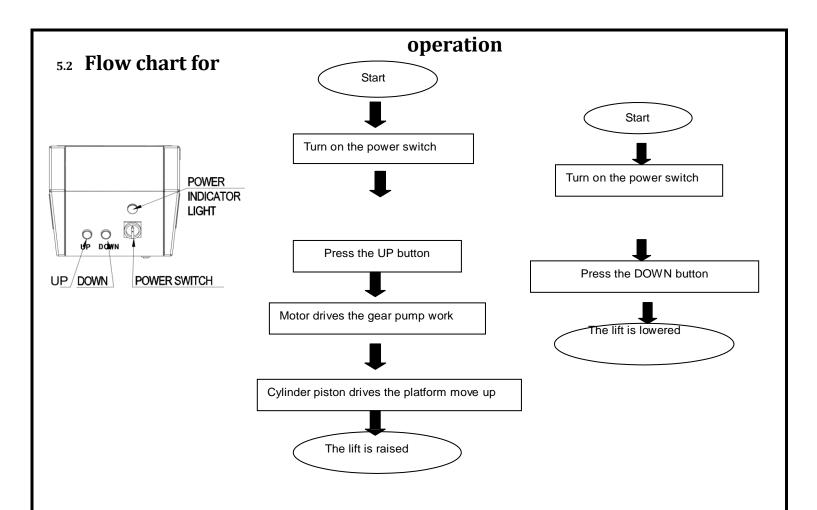
5.1 Precautions

- Check all the joints of oil hose. Only when there is no leakage, the lift can start work.
- ➤ The lift, if its safety device malfunctions, shall not be used.
- The machine shall not lift or lower an automobile if its center of gravity is not positioned midway of the rising platforms Otherwise, the Friend as well as our dealers will not bear any responsibility for any consequence resulted thereby.
- > Operators and other personnel concerned should stand in a safety area during lifting and lowering process.
- > When platforms rise to the desired height, switch off the power at once to prevent any wrong operation done by unconcerned people.
- Make sure the safety lock of the lift is engaged before start working under the vehicle and no people under the vehicle during lifting and lowering process.

Descriptions of control box



No	NAME	MODEL	Number
1	Upper box		1
2	UP Button		1
3	Lock Button		1
4	Power switch	LJW26-25/2GS	1
5	Power indicator	AD16-22DS	1
6	Relay	VE-R02	2
7	Relay holder	DYF14A	2
8	Time relay	H3Y-2	1
9	Time relay holder	DYF08A	1
10	Contactor	СЈХ2-1810	1
11	Wiring bank	12P	1
12	Transformer	BK-100VA	1
13	Rectifying bridge	MDQ100-16	1
14	Plate		1
15	Hold hands		1
16	Lower box		1
17	Hold hands		2
18	Moteo pumping station	1. 5KW/3. 2CC/R	1
19	Box body door		1
20	Lock		1
21	Alarm		1
22	DOWN Button		1



5.3 Operation instructions

Raise the lift

- Make sure that you have read and understood the operation manual before operation.
- > Drive and park the vehicle midway between two platforms.
- Place the four rubber pads under the prop-points of the vehicle and ensure car's gravity have fallenon the rubber pads.
- Press the UP button on the control box until rubber pads have touched the prop-points of vehicle.
- ➤ Keep on pressing the UP button to lift the vehicle a bit higher from the ground and check again if thevehicle is in a safe position.
- ➤ Having raised the vehicle to the required height, press the "Emergency stop" button beforeperforming maintenance or repair work.

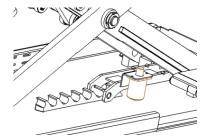
Lower the lift

- Switch on (press the "emergency stop button" until the power indicator is on).
- Press the DOWN button to lower the lift.(For the model with pneumatic safety lock, firstly platforms of the lift will rise about 5cm which is to release the safety lock; for the model without pneumatic safety lock, platforms will go down directly.)
- > Drive away the vehicle.

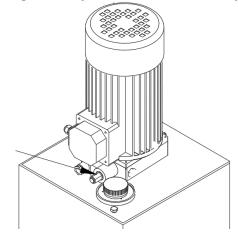
5.4 Emergency lowering in

case of no power

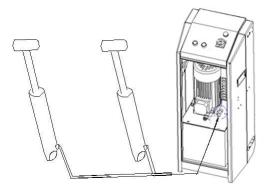
- > The safety lock is not engaged:
- > Tie up the safety teeth on both sides with rope; pull upward the rope making the safety teeth unlocked.



a. Having the safety teeth unlocked, manually loose the core of electro-magnetic valve on the pump assembly.



- b. The safety lock is engaged:
- c. Screw off the fitting (opposite to the oil out-let) to connect a hand pump.(Optional)

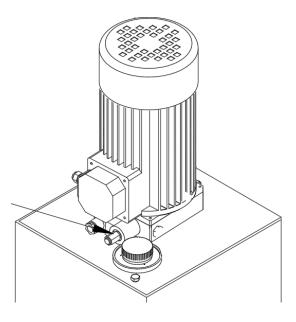


d. Connect the hydraulic assembly with the optional hand pump. Press down the handle of the pump to raise the platforms to have the safety teeth unlocked.

a. Tie up the safety teeth with rope and pull up the safety teeth.



b. Use a wrench to loose the core of the electro-magnetic valve to lower the platforms.

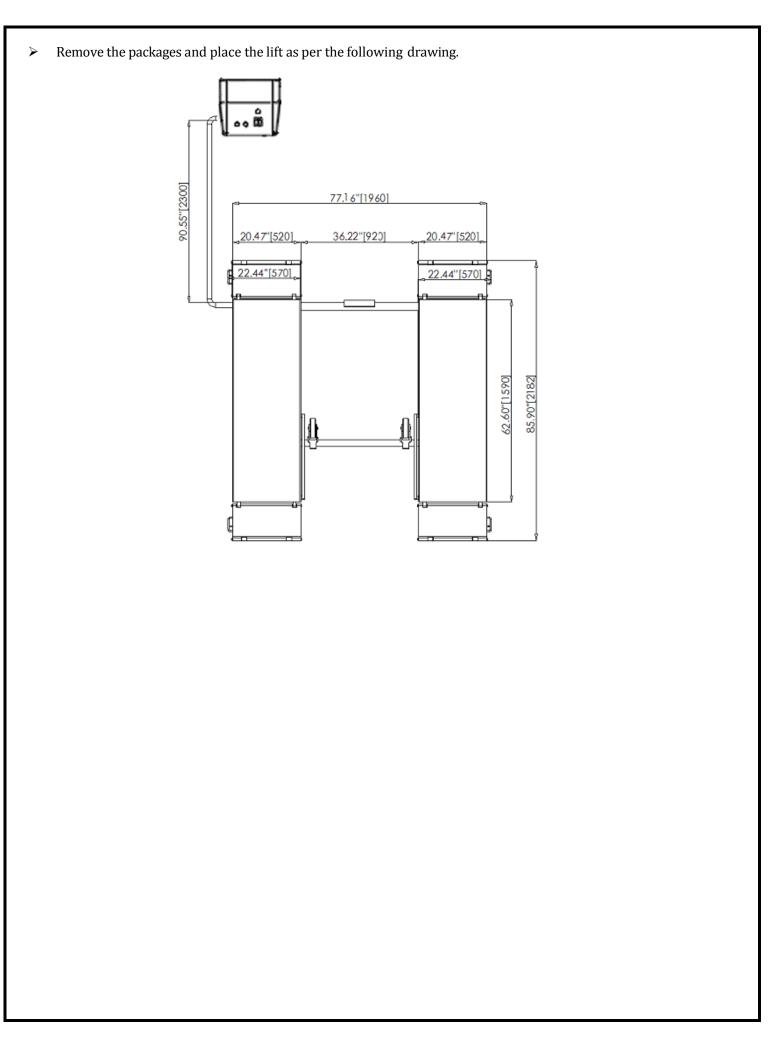


6. Troubleshooting

ATTENTION: If the trouble could not be fixed by yourself, please do not hesitate to contact us for help.

We will offer our service at the earliest time we can. By the way, your troubles will be judged and solved much faster if you could provide us more details or pictures of the trouble.

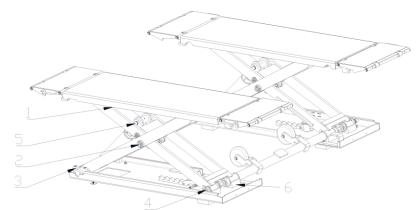
TROUBLES	CAUSE	SOLUTION
Motor does not run	The wire connection is loose.	Check and make a good
and will not raise	The motor is burnt	Replace it.
	The limit switch is damaged or the	Connect it or adjust or replace
	wire connection is loose.	the limit switch.
	The motor run reversely.	Check the wire connection.
Motor runs but will	Overflow valve is loose or jammed.	Clean or adjust it.
not raise	The gear pump is damaged.	Replace it.
	Oil level is too low.	Add oil.
	The oil hose became loose or	Tighten it.
	The cushion valve became loose or	Clean or adjusts it.
	The oil hose leaks.	Check or replace it.
Platforms go down slowly after being	The oil cylinder is not tightened.	Replace the seal.
raised	The single valve leaks.	Clean or replace it.
	The overflow valve leaks.	Clean or replace it.
	Electrical unloading valve leaks.	Clean or replace it.
	The oil filter is jammed.	Clean or replace it.
Raising too slow	Oil level is too low.	Add oil.
Raising too slow	The overflow valve is not adjusted to the right	Adjust it.
	The hydraulic oil is too hot (above	Change the oil.
	The seal of the cylinder is abraded.	Replace the seal.
	The throttle valve jammed.	Clean or replace.
Lowering too slow	The hydraulic oil is dirty.	Change the oil.
	The anti-surge valve jammed.	Clean it.
	The oil hose jammed.	Replace it.



7. Maintenance

- Easy and low cost routine maintenance can ensure the lift work normally and safely. Following are requirements for routine maintenance. You may choose the frequency of routine maintenance by consulting your lift's working conditions and time.
- ➤ The Following parts need to be lubricated.

S/N	Description
1	Small idler wheel
2	Rotor shaft
3	U-shape block
4	Safety shaft
5	Rotor shaft of oil tank
6	Slider



7.1 Daily checking items before operation

- > The user must perform daily check. Daily check of safety lock system is very important the discovery of device failure before action could save your time and prevent you from great loss, injury or casualty.
- **>** Before operation, judge whether the safety lock is engaged by sound.
- > Check whether oil hose well connected and whether it leaks or not.
- Check the electrical system.
- > Check whether plug bolts firmly screwed.
- Check if safety teeth and safety block matched well or not.

7.2 Weekly checking items

- Check the flexibility of moving parts.
- Check the working conditions of safety parts.
- ➤ Check the amount of oil left in the oil tank. Oil is enough if the platforms can be raised to highest position.
- > Otherwise, oil is insufficient.
- Check whether plug bolts firmly screwed.

7.3 Monthly checking items

- Check whether plug bolts firmly screwed.
- > Check the tightness of the hydraulic system and screw firm the joints if it leaks.

7.4 Yearly checking items

- > Empty the oil tank and check the quality of hydraulic oil.
- Wash and clean the oil filter.

If users strictly follow the above maintenance requirements, the lift will keep in a good working condition and meanwhile accidents could be avoided to a large extent.

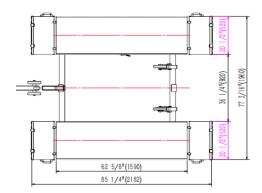
8. ANNEX

8.1 Annex 1, Packing List of the whole lift

S/N	Name	Drawing #/Spec.	Qty
1	MSL 3 Mechanical Assembly	MSL 3-000	1
2	Mobile kit		Optional
2.1	Wheel	MSL 3-A25-B1	2
2.2	Prop trough	MSL 3-A25-B2	1
2.3	All directional wheel	MSL 3-A25-B3	1
3	Feet protector	MSL 3-A1-B7	2
4	Hydraulic system	MSL 3-A24	1
5	Inside hex screw	M8*12	4

8.2 Annex 2, Overall diagram

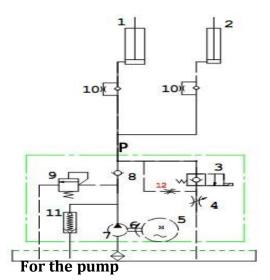




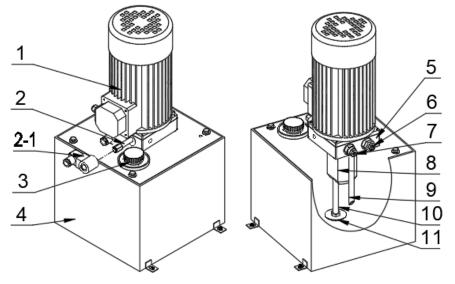
8.3 Annex 4, Pneumatic working system

- 1. Air filter
- 2. Pneumatic solenoid valve
- 3. Pneumatic cylinder for the main platform
- 4. Pneumatic cylinder for the assistant platform

Hydraulic working system

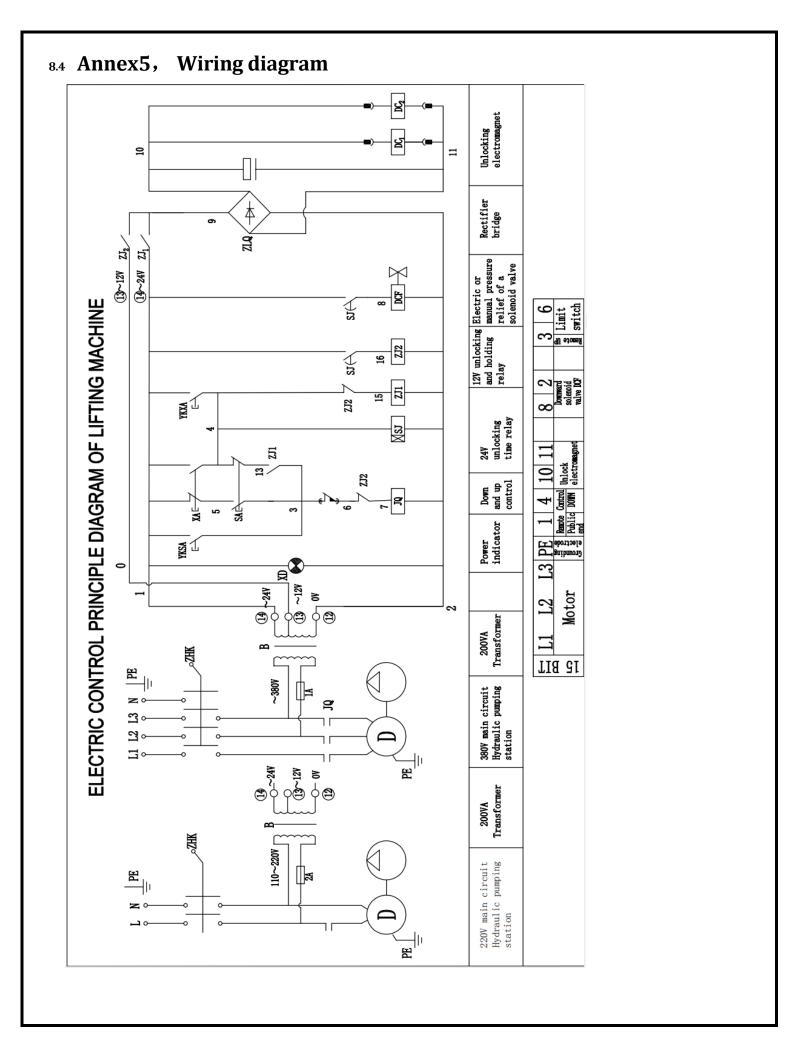


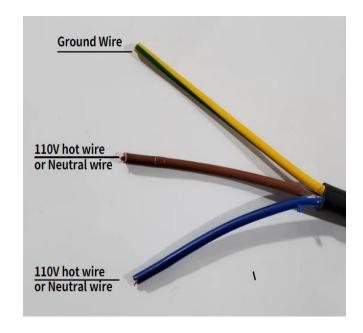
- 1. Driving cylinder
- 2. Assistant cylinder
- 3. Electrical release valve
- 4. Lowering throttle valve
- 5. Motor
- 6. Coupling
- 7. Gear pump
- 8. One-way valve
- 9. Over-flowing valve
- **10**. Anti-surge valve
- **11**. Cushion valve
- 12. Emergent unloading valve

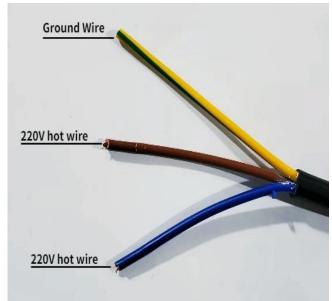


NAME		
Motor		
Down Solenoid Spool valve		
Down Solenoid Coil		
Fuel tank cap		
Tank		
Hydraulic manifold block (pump body)		
Pressure regulating valve		
Throttle valve		
Gear pump		
Return pipe		
Intake pipe		
Oil filter screen		

- 1, 5, 8, 9, 10, 11: Motor and pump station: play the role of pump oil
- 2. 2-1: Lowering valve element: control lowering
- 3, 4: oil tank with filtered oil
- 6: Pressure regulating valve: pressure regulating valve: overweight vehicle can not move, open nut cover and see the word "—" (or 6mm hexagon screw) turn half a turn to the right.
- 7. Throttle valve: adjust the mechanical descent speed, open the nut cover, see the word "—" (or 5 mm hexagon screw) turn quickly to the left and slowly to the right.







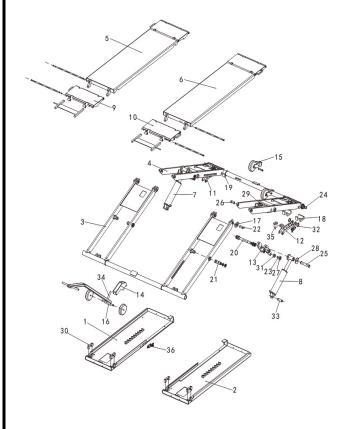
Connection wire:

Yellow Green Wire: Ground Wire

Blue and Brown Wire:

- 1. If the supply voltage is 110V, either one can be 110V hot wire or neutral wire, which means if you want blue wire is 110V hot wire, the brown is neutral wire, if you want brown wire is 110V hot wire, the blue will be neutral wire.
- 2. If the supply voltage is 220V, both blue and brown wires are hot wire, no neutral wire.

8.5 Annex6, Separate diagrams for the lift



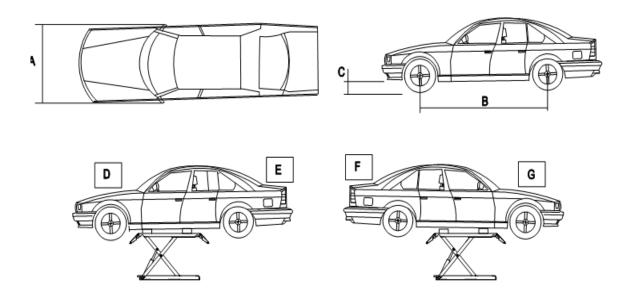
36	Vertical limit switch	3
35	magnetic plug	1
34	The crowbar connects the shaft	1
33	Base connection shaft of the oil cylinder	2
32	Unlock the component gasket	4
31	Short knife ear roller B	4
30	Seamless tube is fixed on the block	4
29	Auxiliary arm compartment	4
28	Short knife-ear oil cylinder spacer sleeve	4
27	Short knife ear roller	4
26	Top slider shaft	4
25	Short blade ear top shaft	2
24	Unlock the blade rotation shaft	2
23	Fixed shaft of the bottom roller	4
22	Sliding shaft	4
21	Main center axis	4
20	The center shaft of the booster arm	2
19	The slide block B	2
18	The slide block A	2
17	On the slider	8
16	Craystick welding combination	1
15	Wheel connection block assembly combination	2
14	Solder joint combination of crowbars	1
13	Short blade and ear welding combination	2
12	Welding combination of the secondary solenoid valve plate	1
11	Welding combination of the main solenoid valve plate	1
10	Running board left assembly combination	2
9	Running board right assembly combination	2
8	Ultra thin cut left cylinder	1
7	Ultra thin cut right cylinder	1
6	Secondary cover plate welding combination	1
5	Welding combination of the main cover plate	1
4	Inner knife arm welding combination	1
3	External knife arm welding combination	1
2	Auxiliary bottom plate welding combination	1
1	Main bottom plate welding combination	1
NO	PART LIST	QUA

8.6 Annex 7.Spare parts -- electrical system

Cylinder unlock									
12	Pneumatic solenoid valve	4C210-08/DC24	2						
13	Silencer	G1/8"	2						
14	Pneumatic right angle joint	G1/4"	4	>					
15	screw	G1/4"	2						
16	Pneumatic control valve	AFR2000	1						
17	Cylinder	CDJ2B16-25-\$R	2	- Control					
18	Pneumatic right angle joint	M5X0.8-PE6	2						
19	Three connector	PE6	1						
Electromagnet unlock									
12	electromagnet	RX1905 /DC24V	2						

8.7 Annex8, Size and weight requirements on vehicles

Note: Offers may differ as per different requirements on the version.



Model	A/(inch)	B/(inch)	C/(inch)	D/(lbs)	E/(lbs)	F/(lbs)	G/(lbs)
SAE-MS9000XT	74 13/16	114 3/16	4 5/16	5291	3527	5291	3527

9. Special notes

9.1 Environmental damage

Only appropriately trained personnel may dismantle and dispose of the unit.

9.2 Dismantling

- > To dismantle the product, proceed as follows: ELECTRICAL HAZARD!
- When carrying out any decommissioning and dismantling work on the unit, switch off all power supply connections, ensure they cannot be switched on unintentionally and verify that they have been
- disconnected. Earth and short-circuit them, and cover or otherwise isolate any neighboring live parts. Failure to do so may lead to serious injuries or death.
- HIGH PRESSURE HAZARD.
- When carrying out any unit decommissioning and dismantling work, close off and empty all the connection pipes until the pressure is the same as the ambient air pressure. Failure to do so may lead to injury.
- > Make sure that the hydraulic circuit has been switched off. Close all hydraulic shut-off valves.
- > Disconnect all connections, making sure at the same time, that no operating materials escape, such as oil, refrigerant and water-glycol mixture.
- Loosen the connection to the base. PERSONAL INJURY!
- Secure the unit against slipping. The unit is ready for transporting.
- It is important that all transport information is observe

9.3 Disposal

- A specialist company with the appropriate competence must dispose of the unit and individual components. This technical services department must ensure that:
- the components are separated according to material types
- > that the operating materials are sorted and separated according to their properties. ENVIRONMENTAL DAMAGE.
- > Dispose of all components and operating materials (such as oil, refrigerant and water-glycol mixture)
- separately according to material and in line with local laws and environmental regulations.

9.4 Noise declaration

- Sound power level: LWA<85dB Accompanied uncertainly K=4 dB</p>
- With the rated load, the pump motor rotate.
- Applied operating conditions are:
 - According the test report, the operating position have the max noise value, but the noise risk is not the obvious hazard of the lift and the noise value is not big more to hurt operator.
 - If the noise is higher than the value, the lift must be stopped and check the trouble and repair.



Contact Customer Service directly by telephone at: 800-616-9618

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