

QL10K OWNER'S MANUAL



TWO-POST LIFT

Model:QL10K

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I. PRODUCT FEATURES AND SPECIFICATIONS

CLEARFLOOR DIRECT-DRIVED MODEL FEATURES

MODEL QL10K (See Fig.1)

- Direct-driving design, minimize the lift wear parts and breakdown ratio.
- Dual hydraulic cylinders, designed and made on high standard, high quality seals.
- Self-lubricating UHMW Polyethylene sliders and bronze bush.
- Single-point safety release, and dual safety design.
- Clear-floor design, provide unobstructed floor space.
- Overhead safety shut-off device.
- With 4 three stages arms, make lifts easily find the lift point of the car.
- Stackable adapters 1.5", 2.5", 5" as standard.



Fig. 1

MODEL QL10K SPECIFICATIONS

Model	Style	Lifting Capacity	Lifting Time	Lifting Height	Overall Height	Overall Width	Minimum Pad Height	Motor
QL10K	Clear-floor Direct-drive	4500KG (10000lbs)	60s	1890-2119mm (74 13/32"-83 13/32")	3854mm (151 3/4")	3676mm (144 23/32")	90mm (3 9/16")	2.0HP

Arms swing view

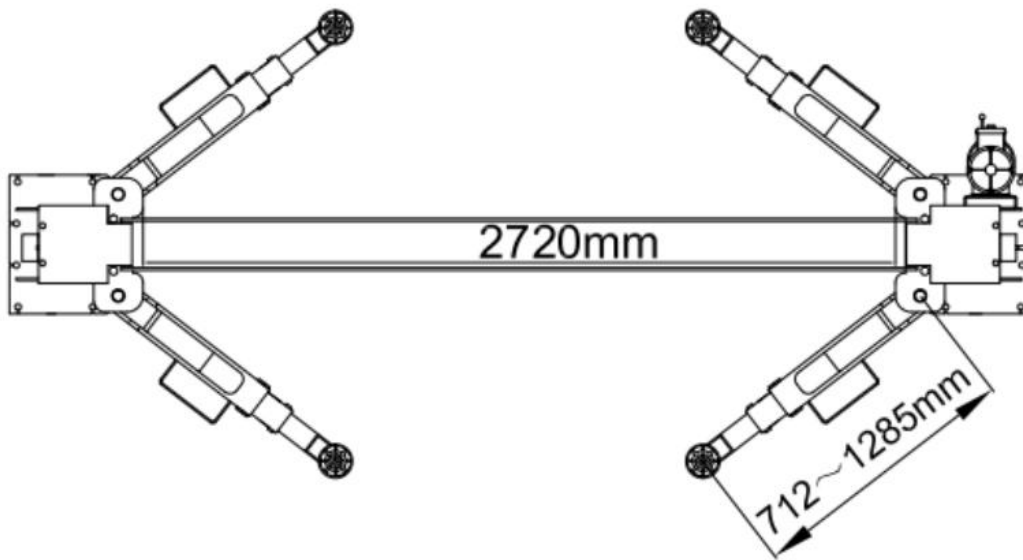


Fig. 2

II. INSTALLATION REQUIREMENT

A. TOOLS REQUIRED

- ✓ Rotary Hammer Drill ($\Phi 19$)



- ✓ Hammer



- ✓ Level Bar



- ✓ English Spanner (12")



- ✓ Ratchet Spanner With Socket (28#)



- ✓ Wrench set

(10#, 13#, 14#, 15#, 17#, 19#, 24#, 27#)



- ✓ Carpenter's Chalk



- ✓ Screw Sets



- ✓ Tape Measure (7.5m)



- ✓ Pliers



- ✓ Socket Head Wrench (3#, 6#)



- ✓ Lock Wrench



Fig. 3

B. Equipment storage and installation requirements.

The equipment should be stored or installed in a shady, normal temperature, ventilated and dry place.

C. The equipment should be unload and transfer by forklift.

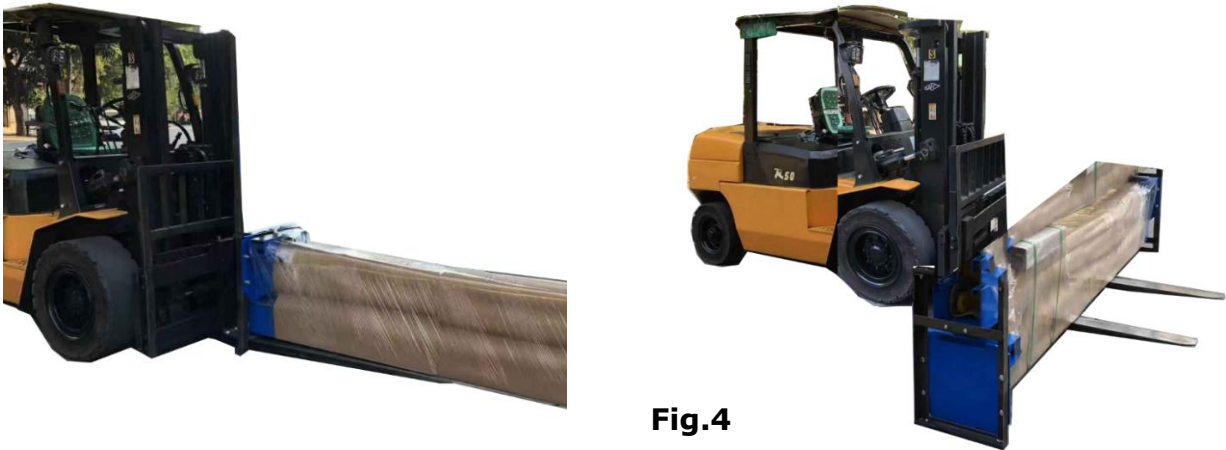


Fig.4

D. SPECIFICATIONS OF CONCRETE (See Fig. 10)

Specifications of concrete must be adhered to the specification as following.

Failure to do so may result in lift and/or vehicle falling.

1. Concrete must be thickness 4 inches minimum and without reinforcing steel bars, and must be dried completely before the installation.
2. Concrete must be in good condition and must be of test strength 3,000psi minimum. Solidify at least 15 days.
3. Floors must be level without cracks.

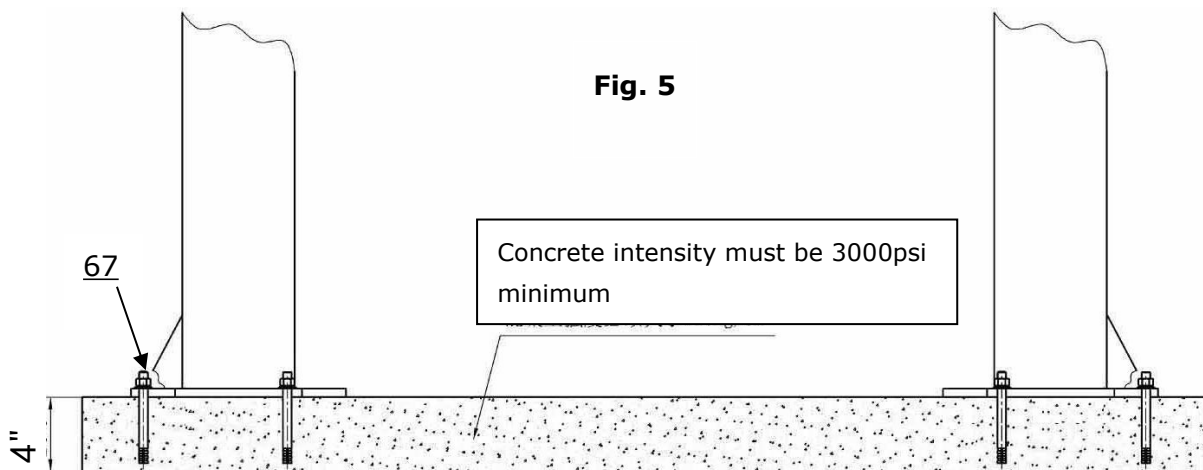


Fig. 5

E. POWER SUPPLY

The electrical source must be more than 3.0HP, with a cord larger than 12AWG, and must be properly grounded.

III. STEPS OF INSTALLATION

A. Location of Installation

Check and insure the installation location (concrete, layout, space size etc.) is suitable for lift installation.

B. Use a carpenter's chalk line to establish installation layout of base plate (See Fig. 6).

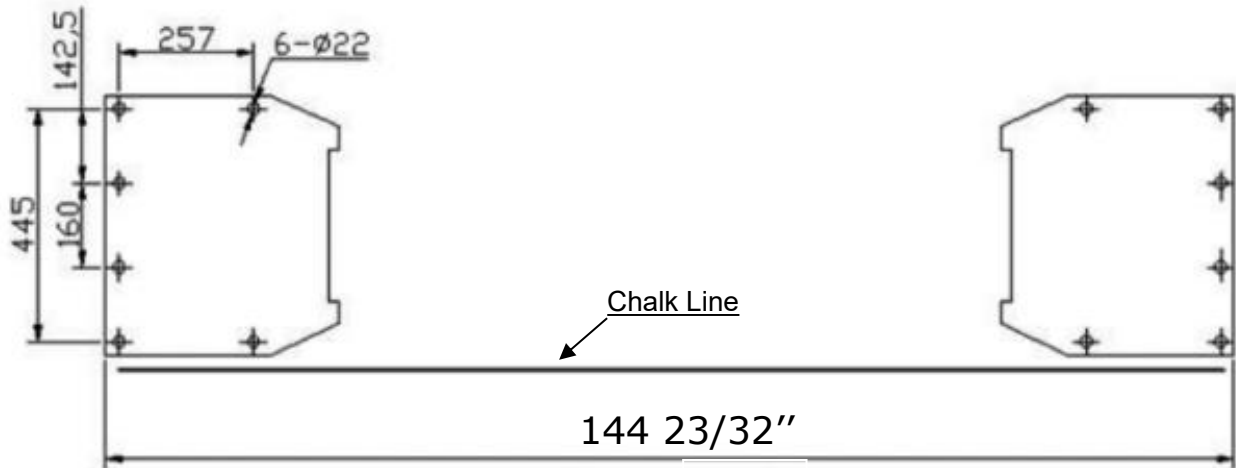


Fig. 6

C. Check the parts before assembly

1. Packaged lift and hydraulic power unit (see Fig. 7)

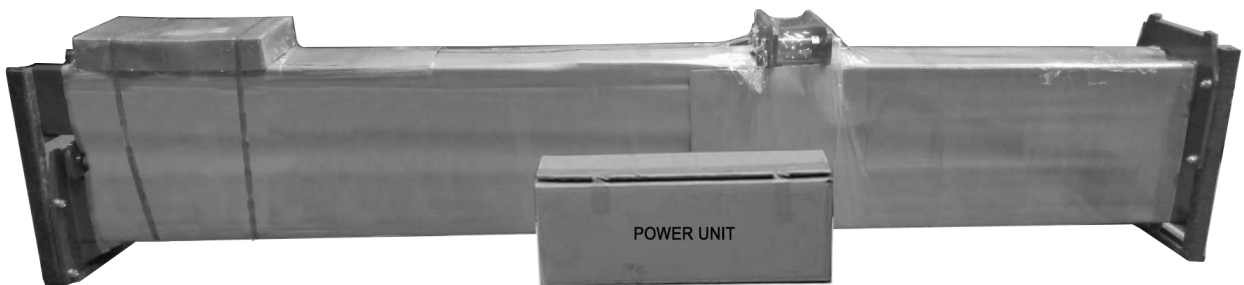
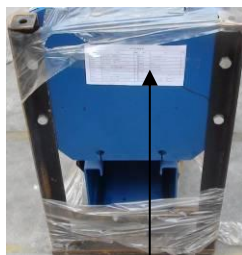
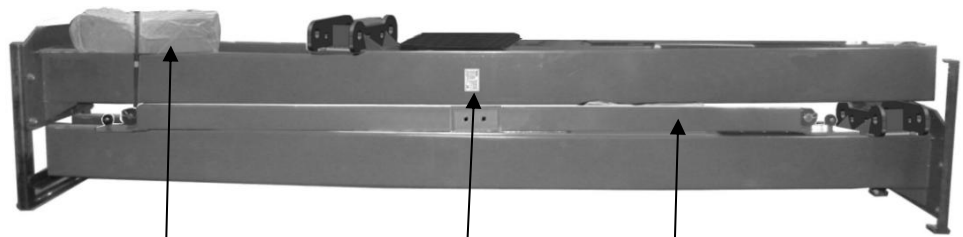


Fig. 7

2. Move the lift aside with a fork lift or hoist, and open the outer packing carefully, take off the parts from upper and inside the column, take out the parts box, check the parts according to the shipment parts list (See Fig. 8).



Shipment Parts



Parts box.

Serial number

Top beam

Fig. 8

- Loose the screws of the upper package stand, take off the upper column and remove the package stand.
- Move aside the parts and check the parts according to the shipment parts list **(See Fig. 9,10).**



Fig. 9

Parts in the shipment parts list



Fig. 10

Parts in the parts box (37)

- Open the bag of parts and check the parts of the parts bag according to parts bag list **(See Fig. 11).**



parts bag(1)



parts bag(2)



parts bag(3)

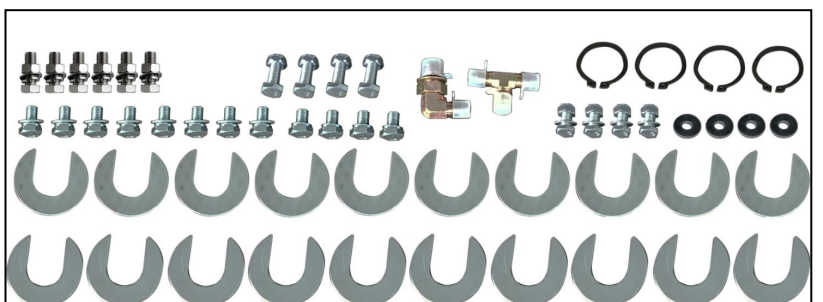


Fig. 11

D. Position power side column

Lay down two columns on the installation site parallel, position the power side column according to the actual installation site. Usually, it is suggested to install power side column on the front-right side from which vehicles are driven to the lift (See Fig. 12).

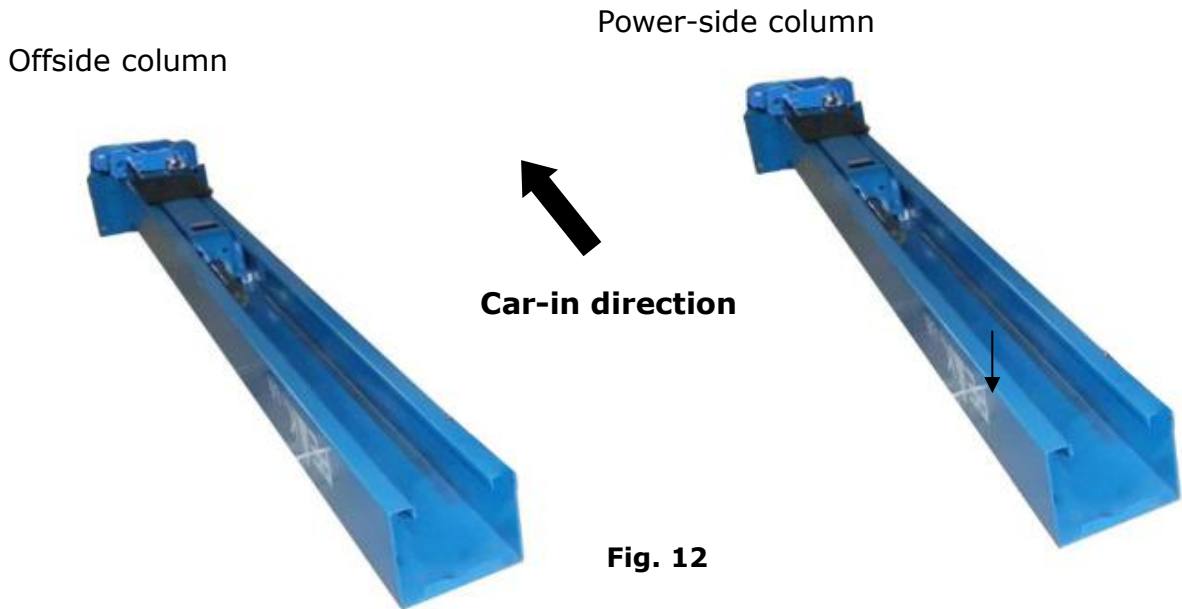


Fig. 12

E. Lay down aside the columns with cables and oil hoses installed, face the open way of each columns. (Fig.13)

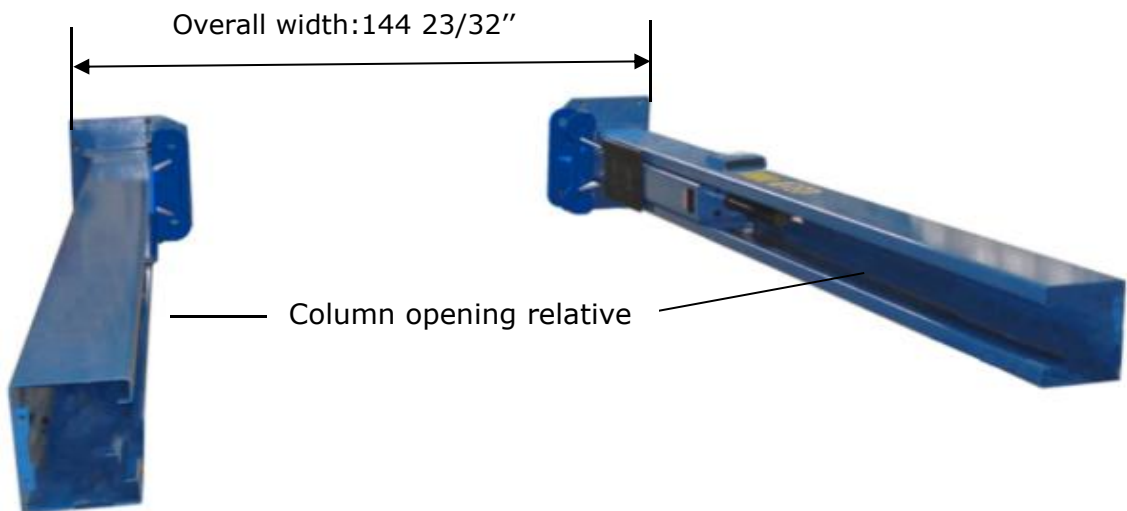


Fig. 13

F. Position columns

Place the columns on the installation layout of base plate. Install the anchor bolts. Do not tighten the anchor bolts (**See Fig.14**).

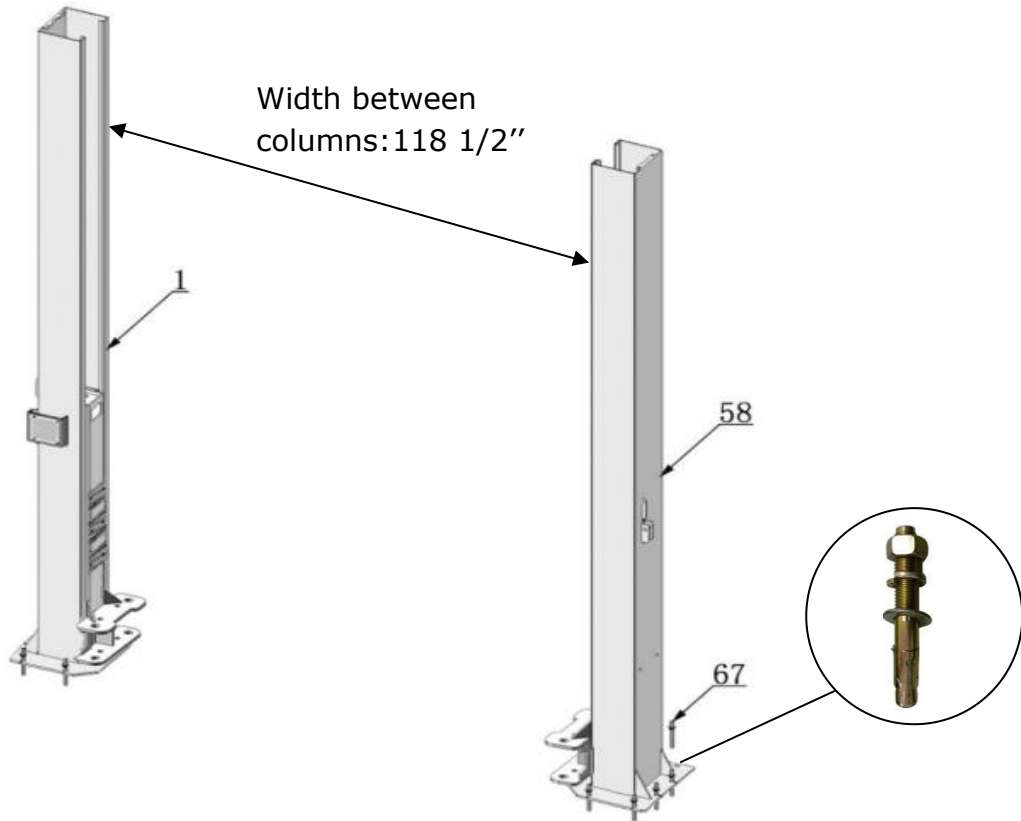


Fig.14

Note: Minimum embedment of anchors is 3 9/16\"(90mm).



Fig. 15

G. Mounting the top beam by lifting equipment. Fig.16

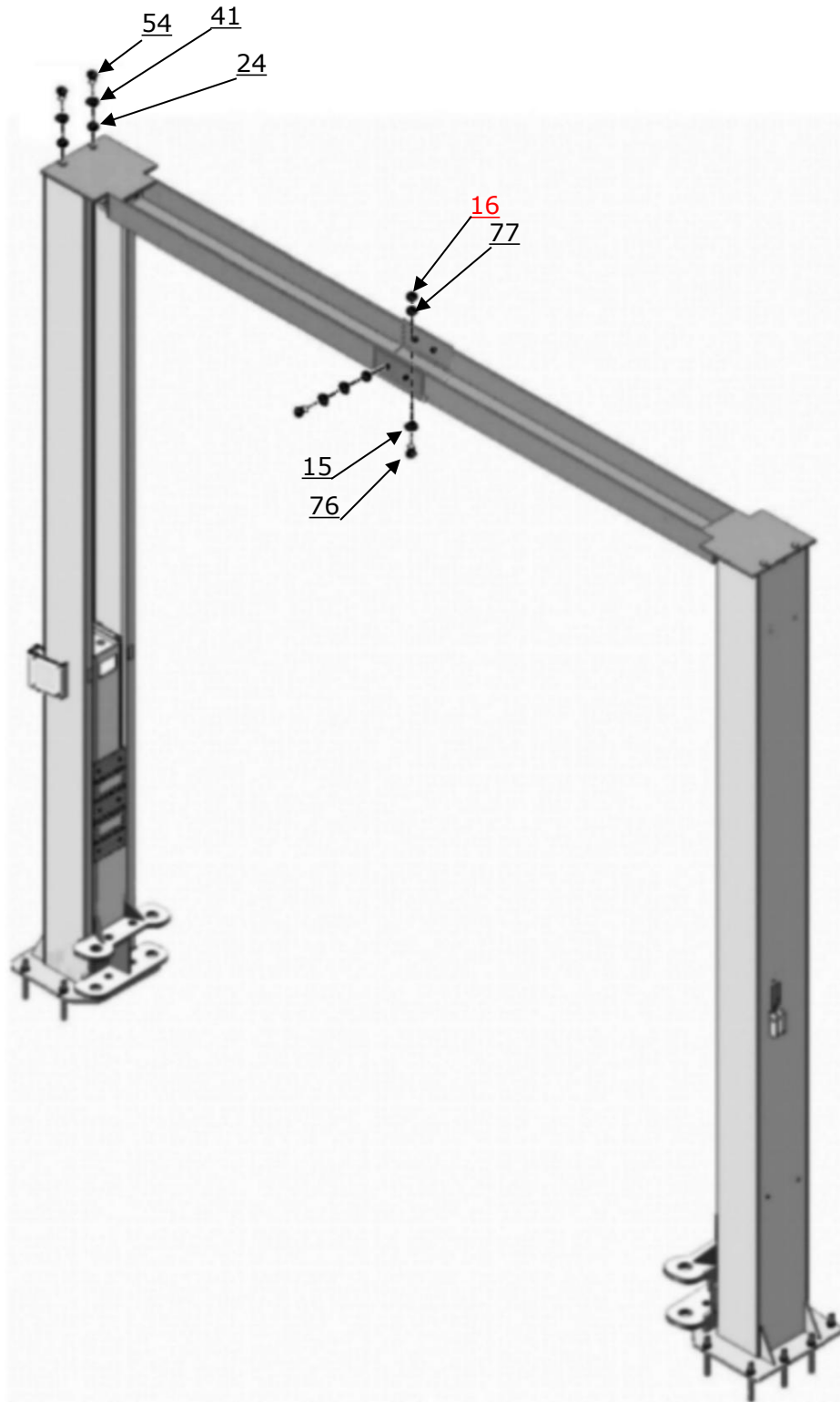
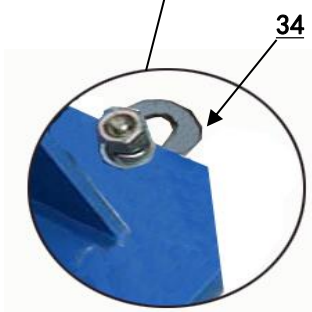


Fig. 16

H. Check the vertical of the columns with level bar, and adjusting with the shims if the columns are not vertical. Tighten the anchor bolts (**See Fig.17**).



Measure the vertical of column from front and side by a level bar or not.



Adjusting with the shims

Tighten

Note: Torque of Anchors is 150N.m

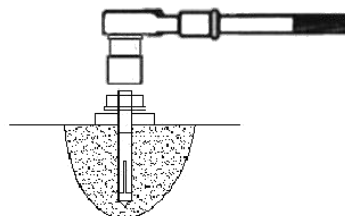
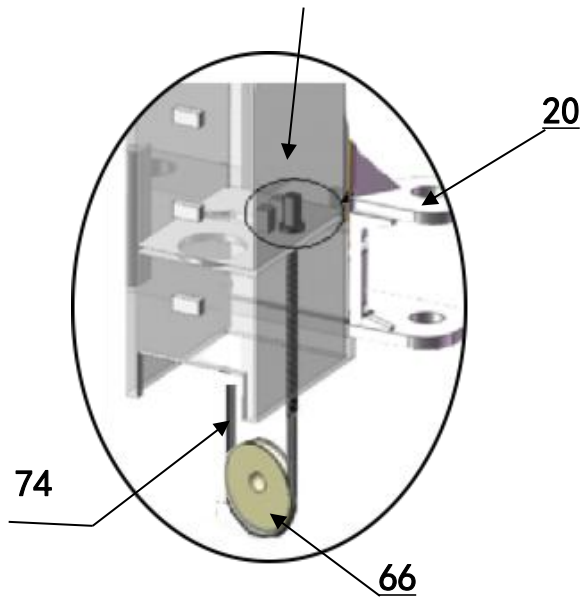


Fig. 17

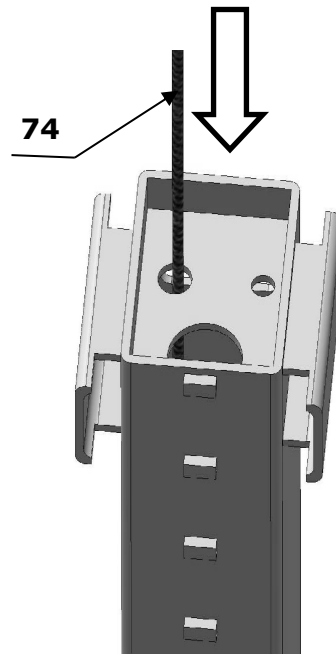
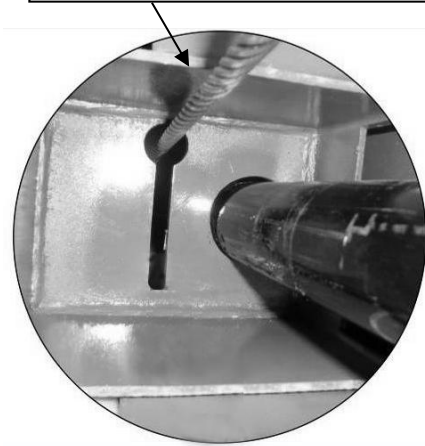
I. Pull out the carriage, cross the cable (See Fig. 18).

1. Pass one end of the cable through the bottom of the carriage and clamp it on the slot.

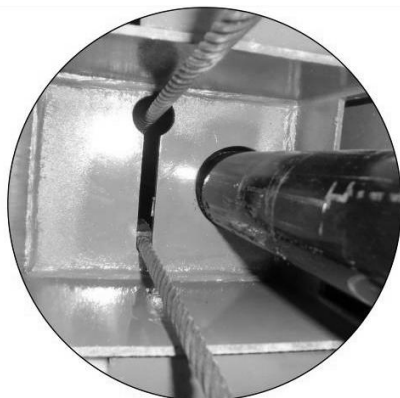


Cable cross over bottom

2. Pass the other end of the cable up from the bottom of the other lifting carriage.



View from the top of carriage



Finished installation

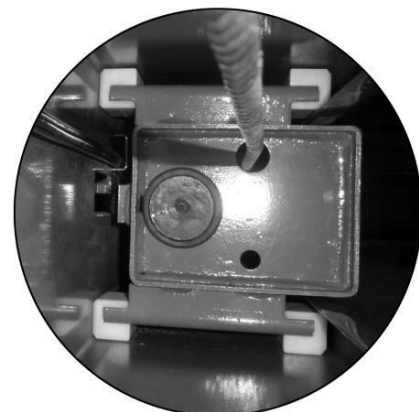


Fig. 18

J. Install cables (See Fig. 19).

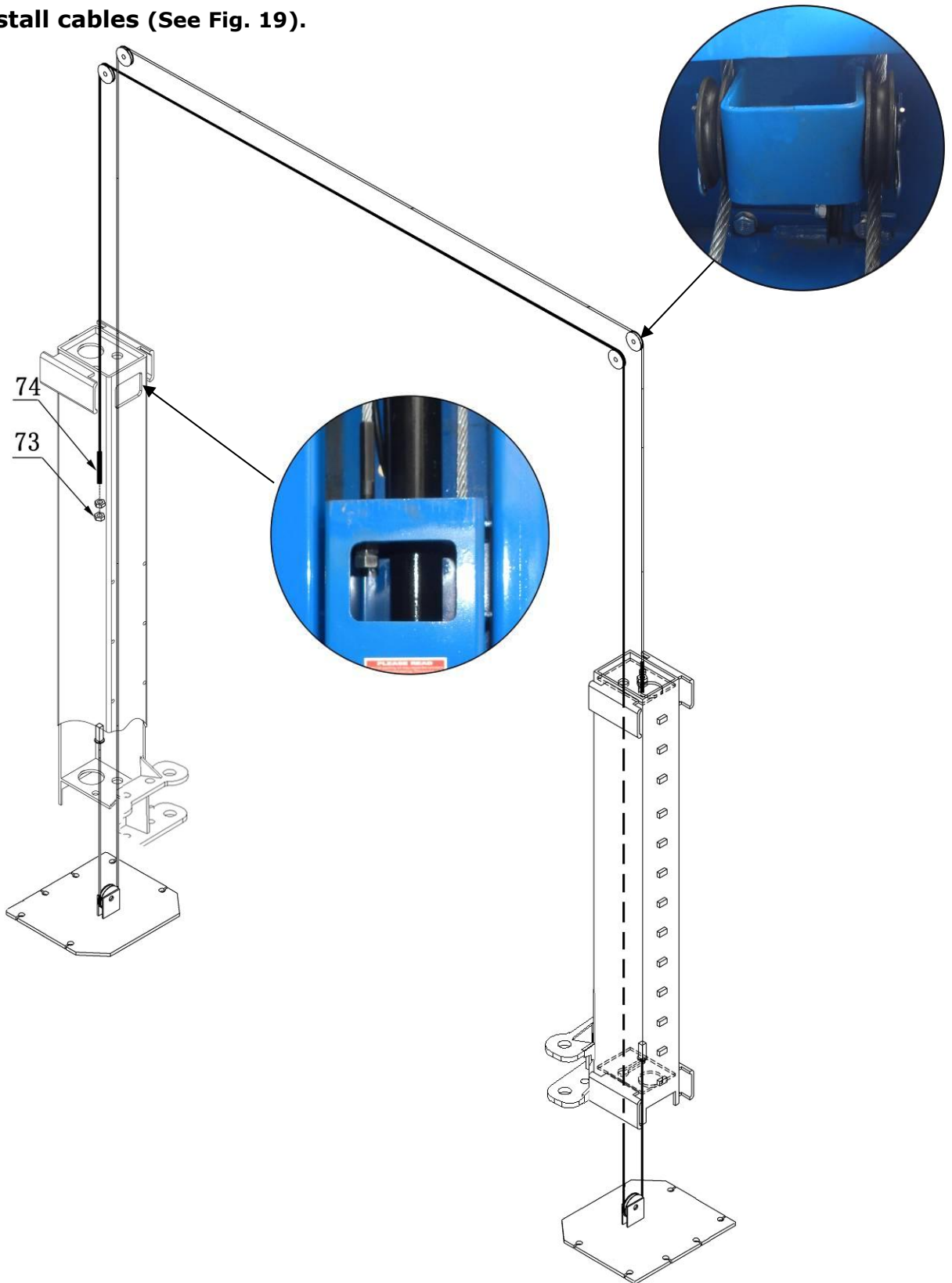


Fig. 19

K. Assembly oil hose, and tighten all the oil hose joint (See Fig. 20).

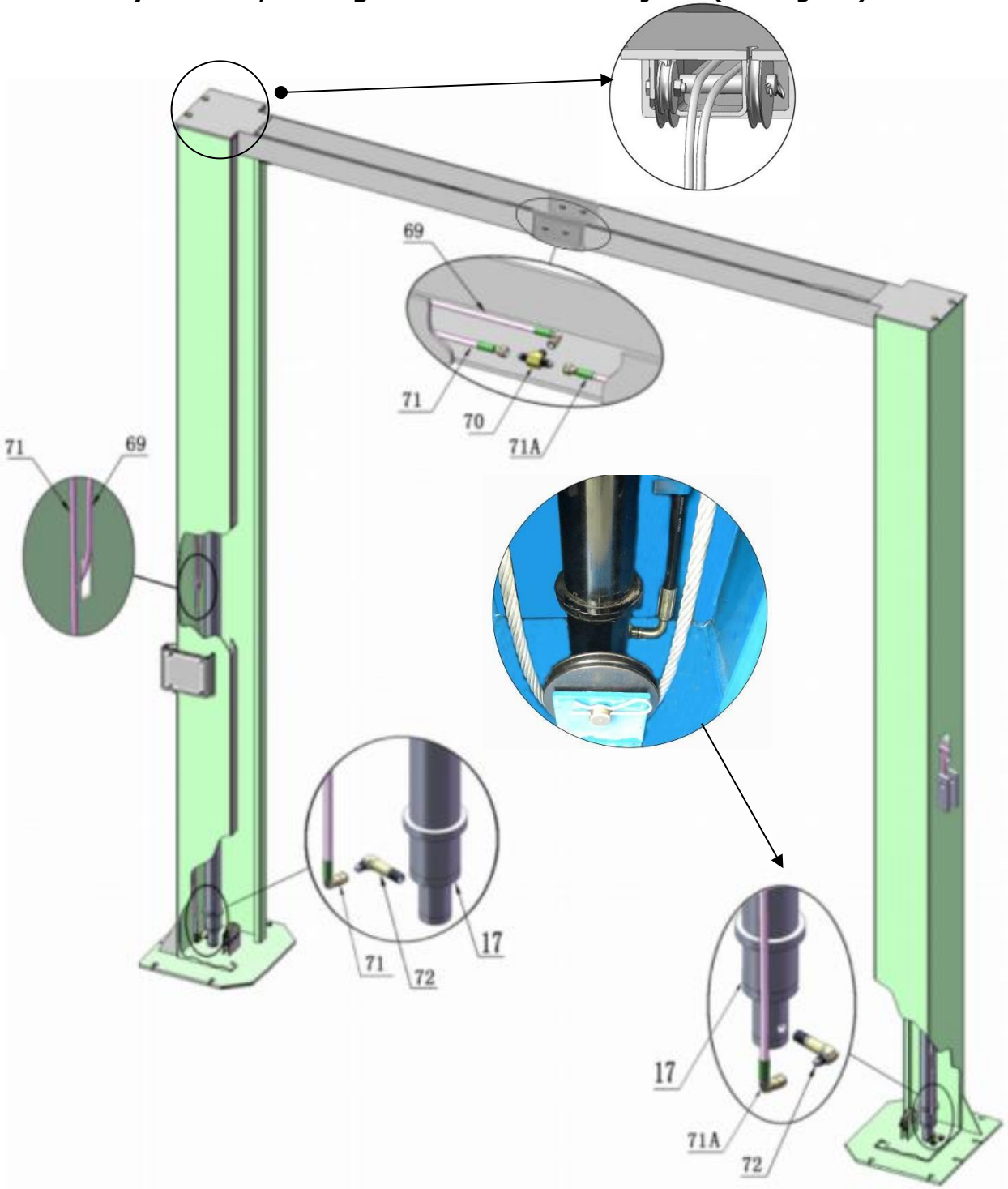


Fig. 20

L. Install power unit and oil hoses (See Fig. 21)

Pay attention to lock the hose joint and power to prevent oil leakage

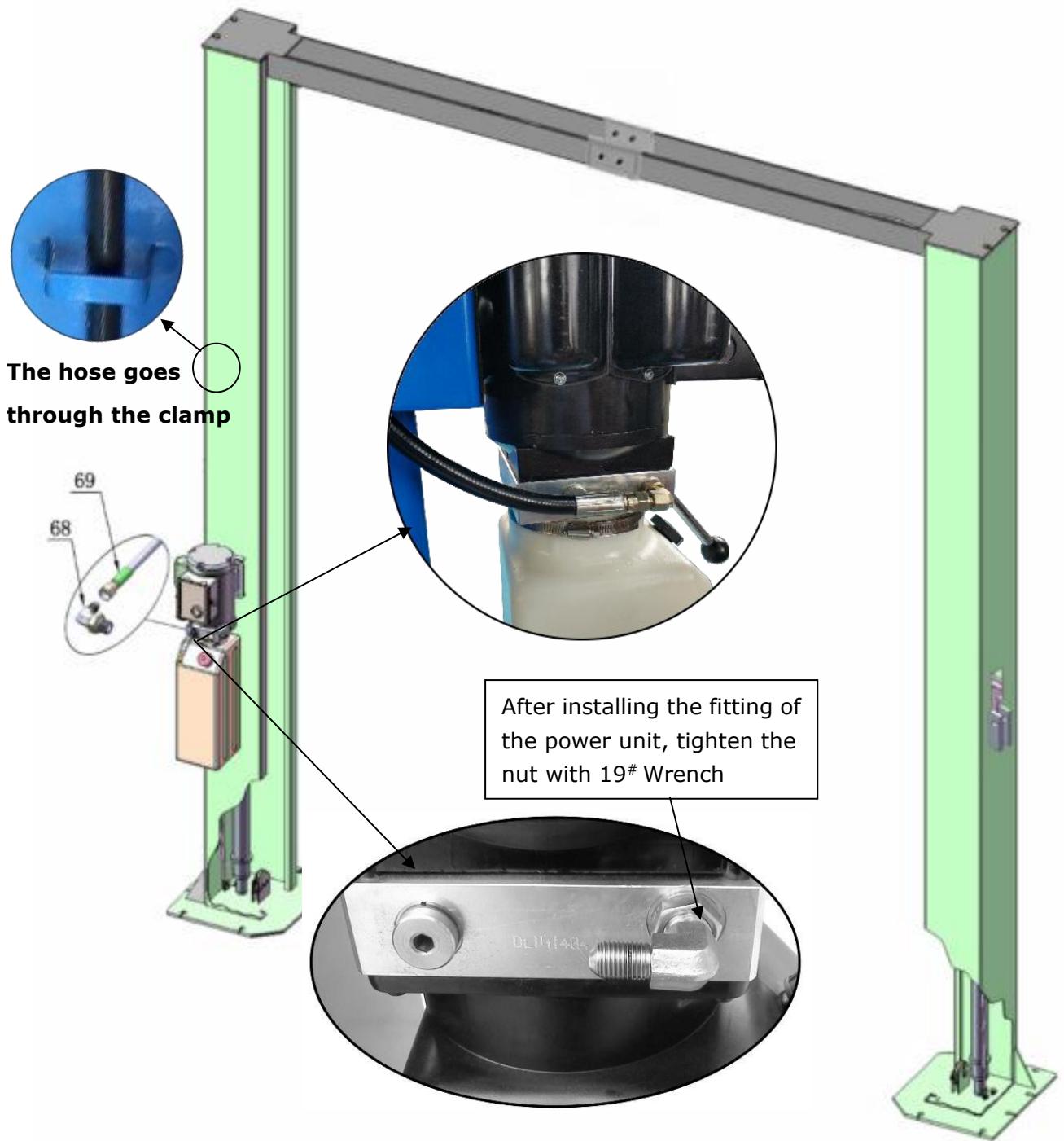


Fig. 21

M. Install safety cable (See Fig. 22).

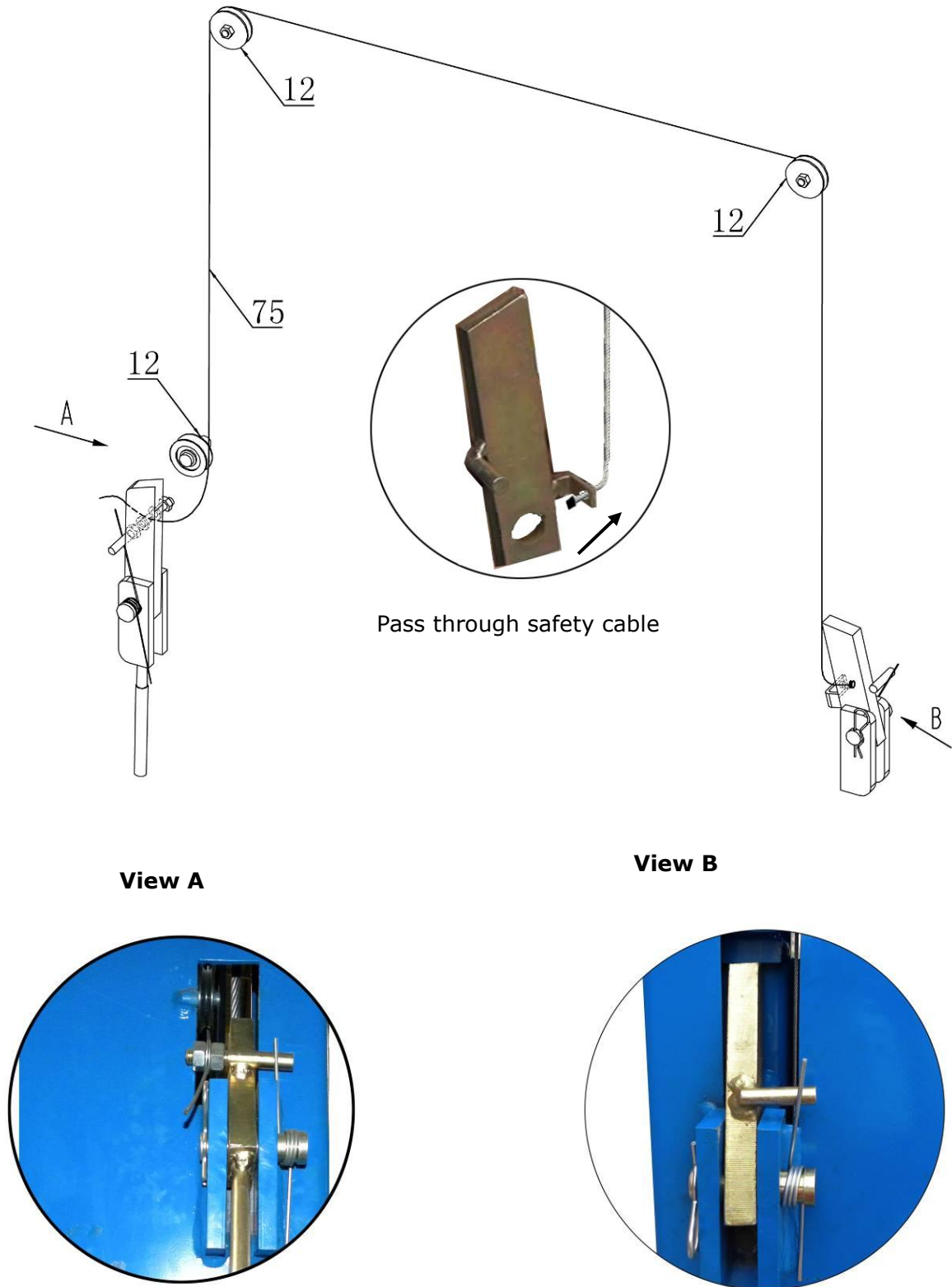


Fig. 22

N. Install control bar for limit switch (See Fig. 23)

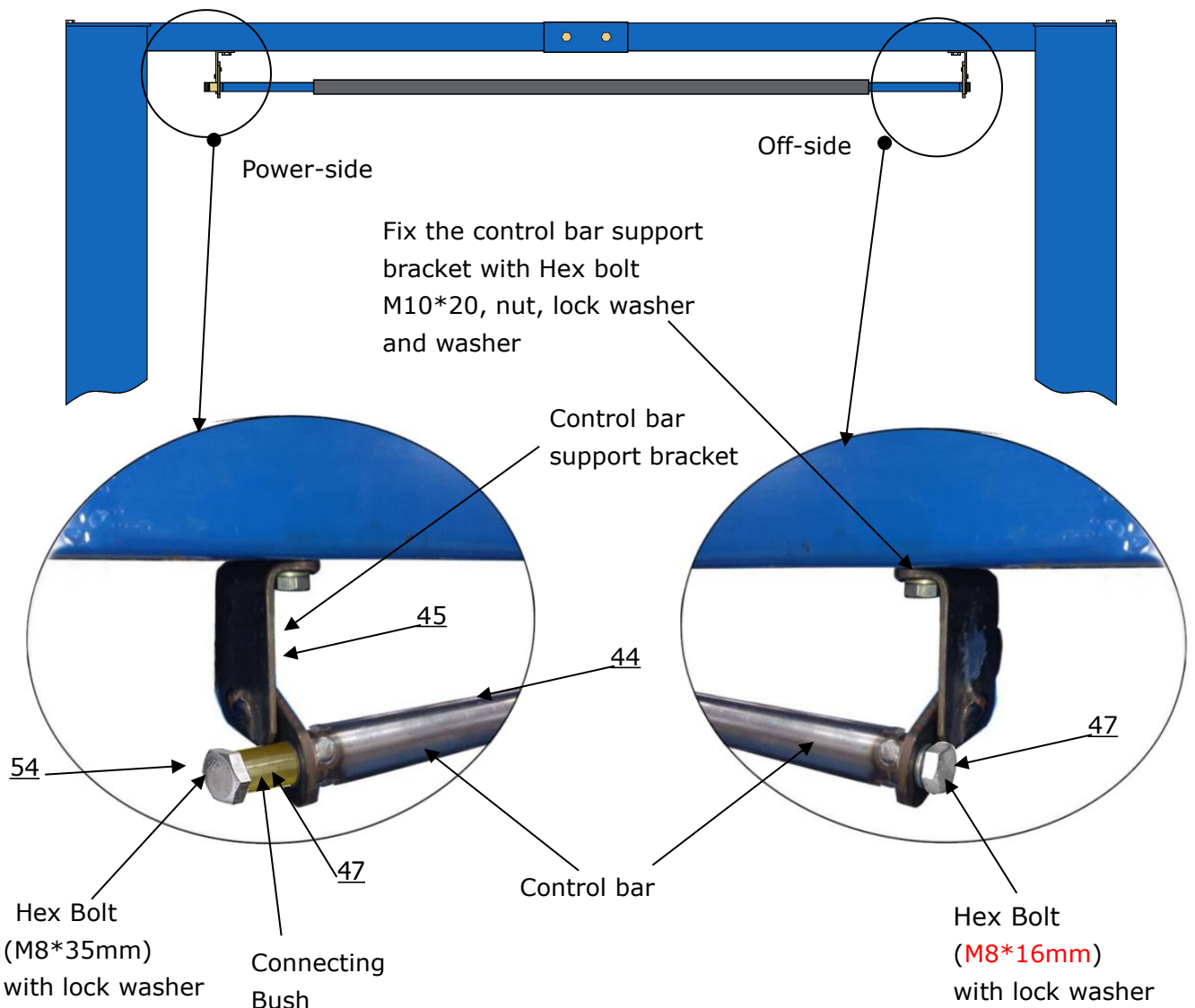


Fig.23

O. Installing the limit switch and wire.

1.Connect the wire:

Connect the red wire to terminal NC#, another side of the wire connect to the terminal A2 on AC contactor of power unit.

Connect the black wire to terminal C#, another side of the wire connect to the terminal 4 on control button of power unit.

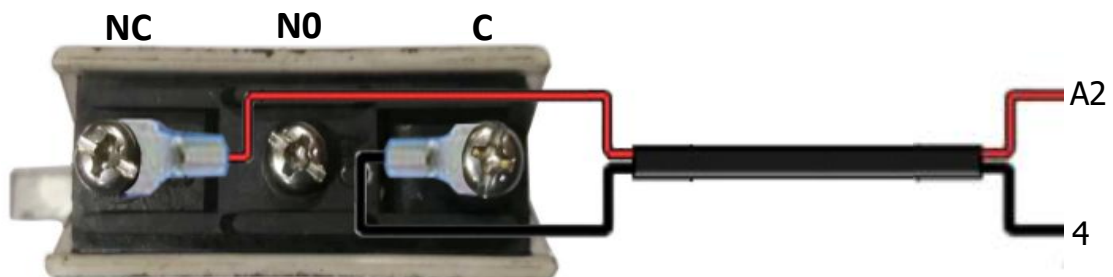


Fig.24

2. Tighten limit switch .Fix the limit switch on control bar support bracket of the power-side as the photo. The wire pass through the top beam and connected to the AC contactor of power unit.

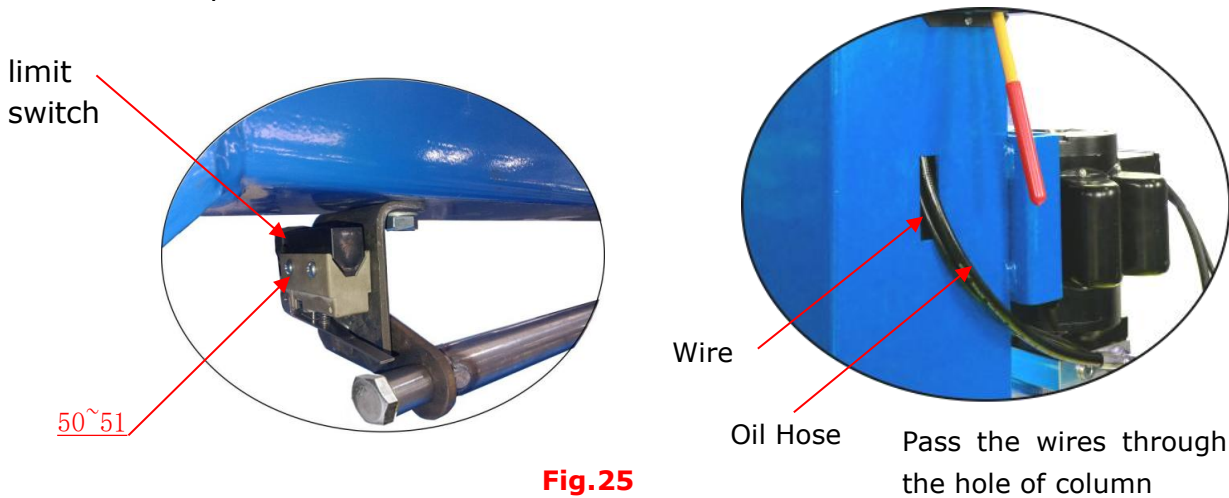


Fig.25

P. Tighten all the oil pipe joints and fill the hydraulic station with hydraulic oil (to ensure the service life of the hydraulic system and ensure the best operation of the equipment, please add No. 46 high-quality anti-wear hydraulic oil).

R. Install electrical system

Connect the power source on the data plate of power unit.

Note:

- 1. Must install limit switch;**
- 2. For safety of operators, the power wiring must contact the floor well;**
- 3. Pay attention to the direction of rotations when using three phase motors.**

Single phase motor

- 1. The two live wires of the input power supply are respectively connected to the terminals marked L1 and L3 on the AC contactor.
- 2. Connecting limit switch wire: remove the short wire connecting terminal 4# of control button and A2 of AC contactor firstly (See Fig.40), then according to the wire number of the limit switch, connect them respectively to terminal 4# of control button and A2# of AC contactor. (See Fig. 41)

Internal wiring diagram of limit switch: The cable has been connected.

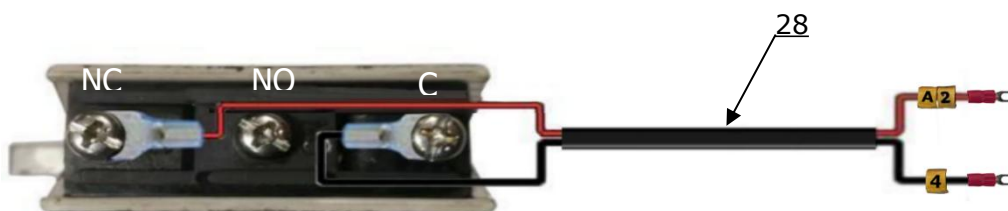
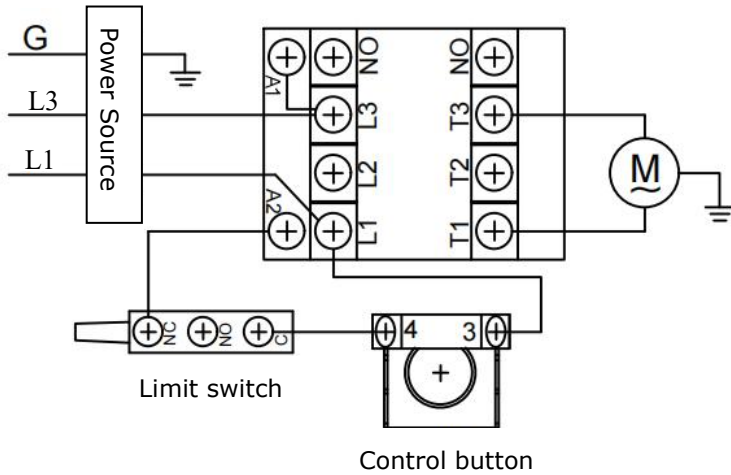


Fig.38

Motor wiring diagram of single phase power unit



Circuit diagram

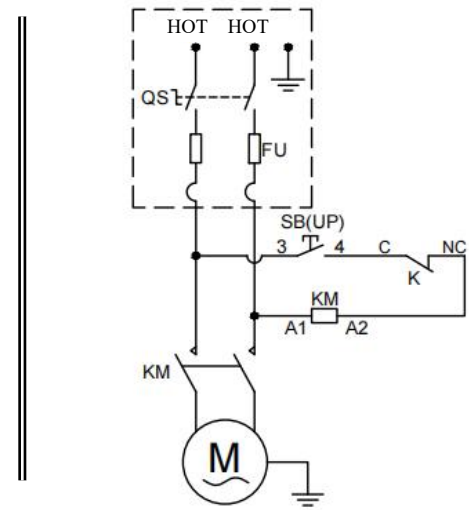


Fig.39

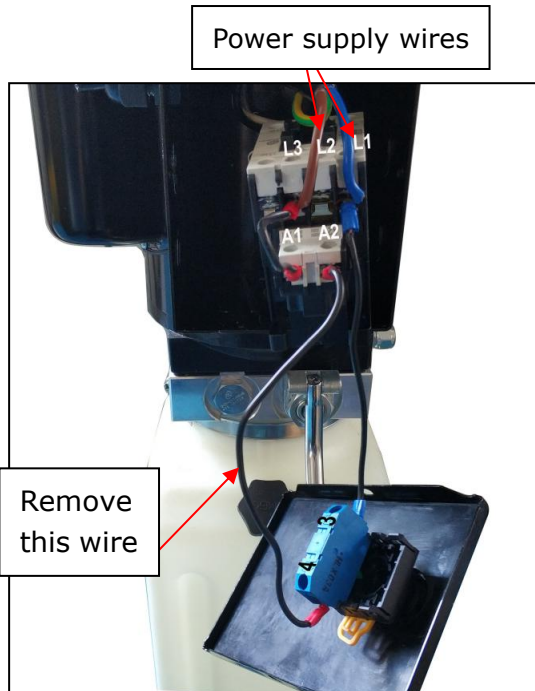


Fig. 40

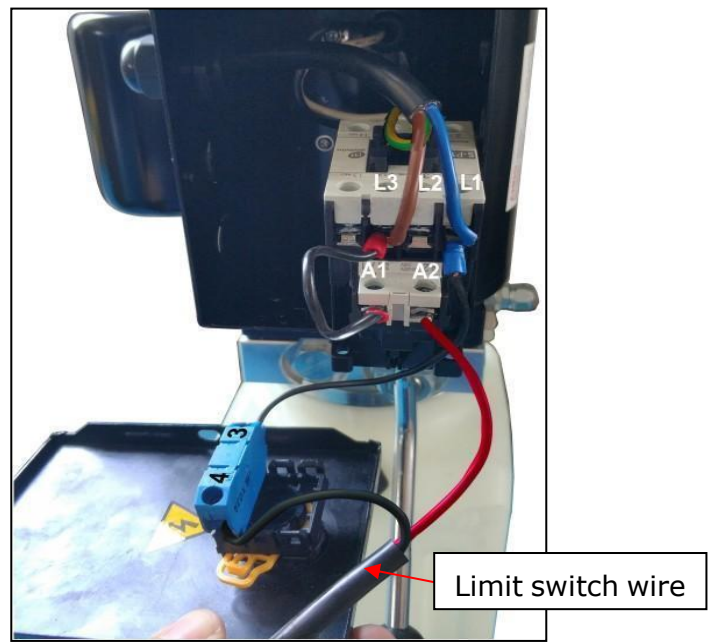


Fig.41

⚠ DANGER All wiring must be performed by a licensed, certified Electrician. If someone who is not a certified Electrician attempts these tasks, they could damage the Lift or be electrocuted, resulting in serious injury or even death.

⚠ DANGER The power unit's motor should not be located in a recessed area or below floor level. Never expose the motor to rain or other damp environments; damage to the motor caused by water is not covered by the warranty.

R. Install lifting arms and adjust the arm locks

1. Install the lifting arms (See Fig. 31).
2. Lowering the carriages to the lowest position, then use the 8# wrench to loosen the nut of gear (See Fig. 32).
3. Adjust the arm lock as direction of arrow (See Fig. 33)
4. Adjust the moon gear and arm lock to make it to be meshed, then tighten the nut of arm lock (See Fig. 34).

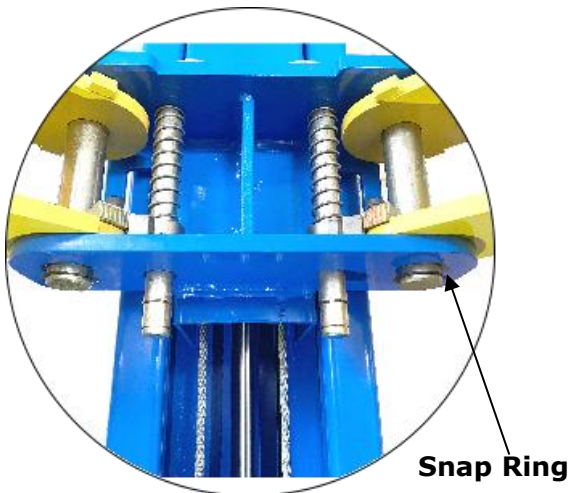


Fig. 31

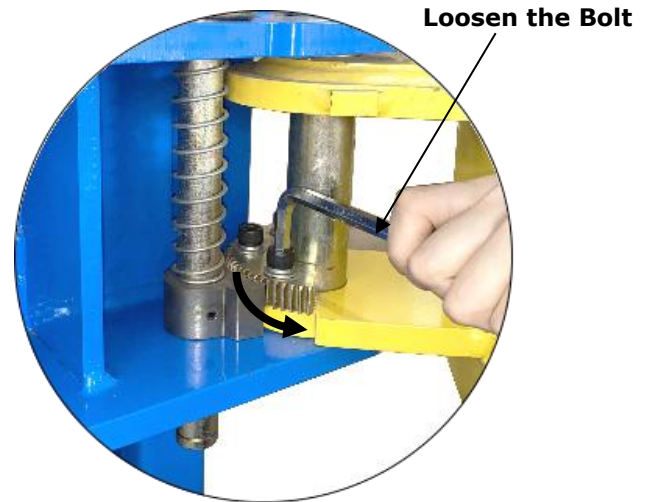


Fig. 32

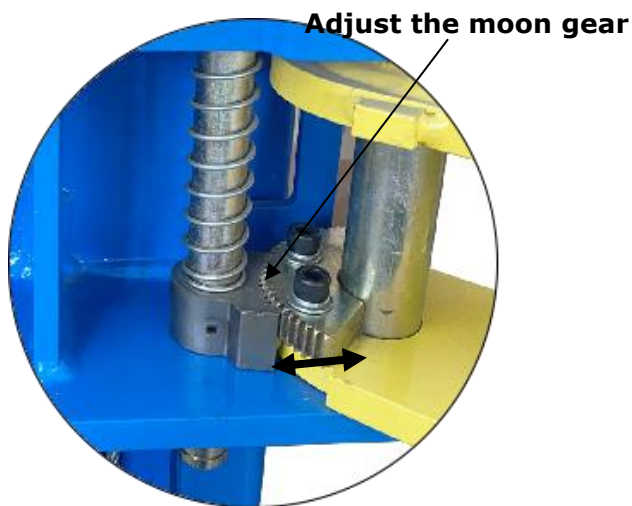


Fig. 33

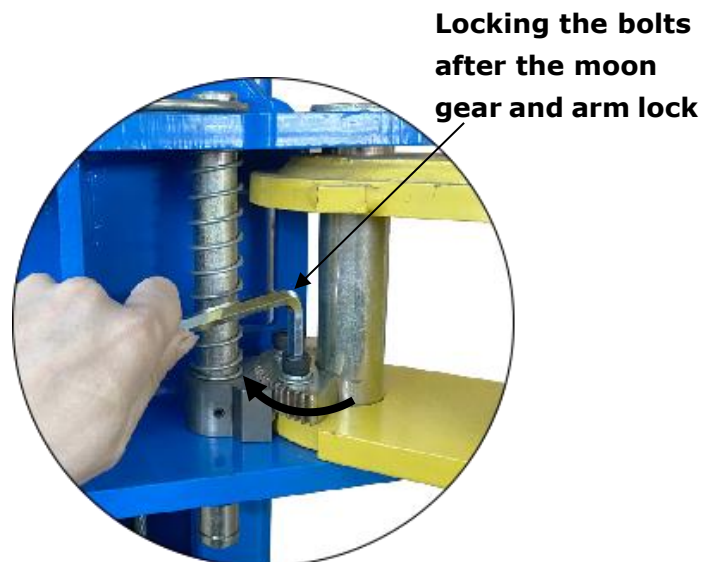


Fig. 34

IV. EXPLODED VIEW

Model QL10K

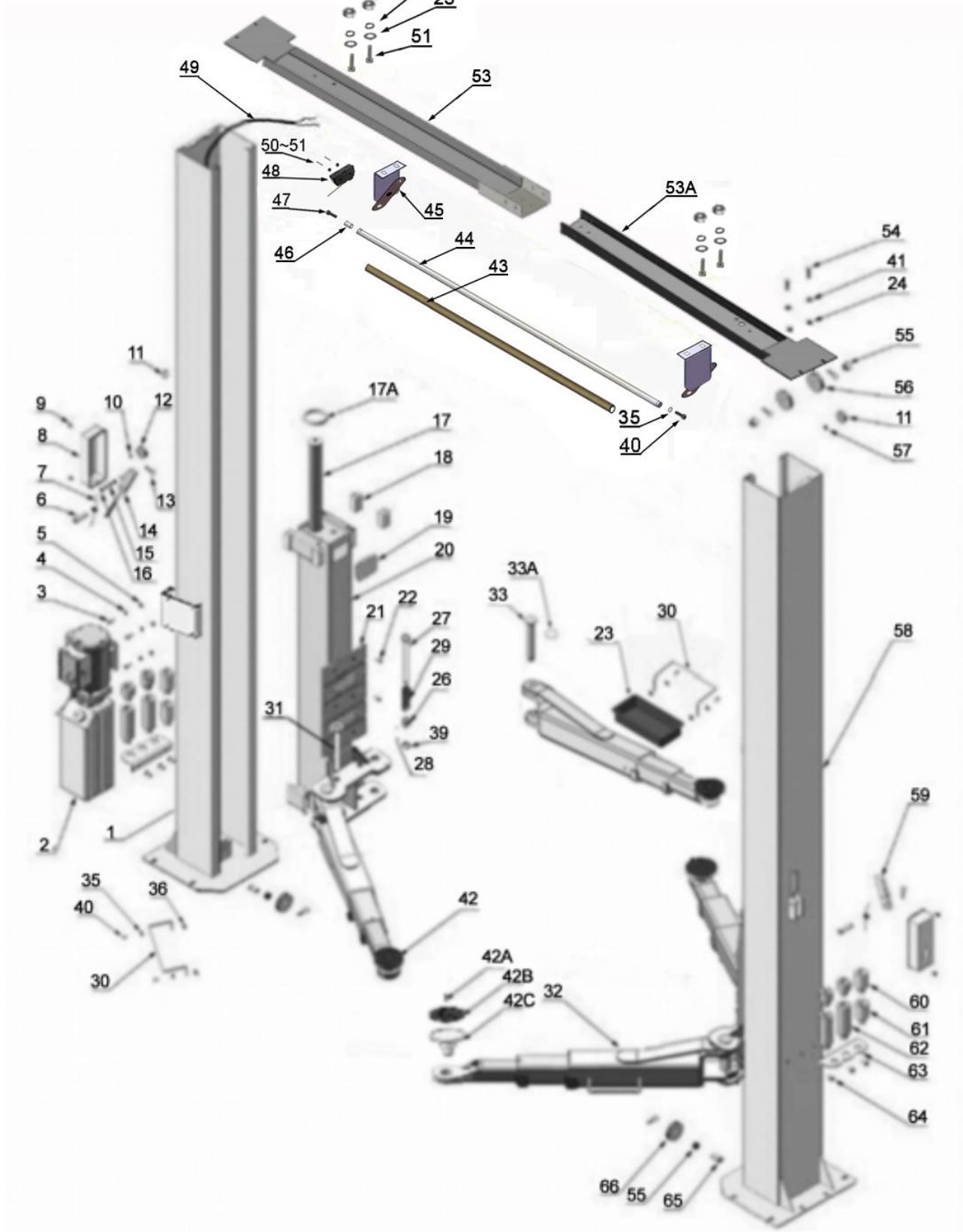


Fig. 35

PARTS LIST

Item	Part#	Description	Qty.
1	11209206	Power side Column	1
2	81513001	Power Unit 220V/50HZ/1Phase	1/1
	81513002	Power Unit 380V/50HZ/3Phase	
3	10209003	Hex Bolt M8*25	4
4	10209004	Rubber Ring φ8*20*3	4
5	10209005	MS Self-locking Nut M8	4
6	11206002	Safety block Pin	2
7	10209007	Safety Spring	2
8	10209008	Safety Cover	2
9	10209009	Cup Head Bolt M6*8	4
10	10209010	φ10 Snap Ring	1
11	10620059	Protective ringφ12	1
12	10209049	Plastic small pulley(BLACK)	3
13	10209012	φ3.2Hair Pin	8
14	11209013	Power side Safety Lock	1
15	10206006	φ12Washer	8
16	10206023A	Hex Nut M12	8
17	11209014-02	Cylinder	2
17A	11209111	Protective ring for cylinder	2
18	10209015	Slider Block	16
19	10209016	Carriage Plastic Cover	2
20	11209208	Carriage	2
21	10209018	Protective Rubber	2
22	10209019	Screw M6*16	12
23	10206190	Tool tray	2
24	10209021	Hex Nut M10	8
25	10209022	Washer φ10	8
26	10217044-01	Arm lock	4
27	11217046A	Arm lock bar (left)	2
28	10206036	Hair Pin φ6*40	4
29	10217045	Spring φ26*φ31*φ2.5	4
30	11206191	Toe guard bar	4
31	11217046	Arm lock bar (right)	2
32	10203156	Front arm assy.	4
33	11217168	Arm Pin	4
33A	10520023	Snap Ringφ38	4
34	10201090	Shim 1mm	10
	10620065	Shim 2mm	10
35	10209034	Lock Washer φ8	9
36	10209033	Washer φ8	8
37	10209502B	Part box	1
38	10209153	Pull tab for arm lock bar	4
39	10206032	Snap ring φ25	4
40	10201002	Hex Bolt M8*16	9

Item	Part#	Description	Qty.
41	10209039	φ10 Lock Washer	8
42	11217114A	Rubber Pad Assy.	4
42A	10420138	M6*16 Socket bolt	4
42B	10209134	Rubber Pad	4
42C	11680030B	Rubber Pad Support Frame	4
43	10206025A	Foam Cushion	1
44	1102072001-01	Control Bar	1
45	1103072003A-01	Control Bar Fixing Bracket	2
46	110207007	Connecting bush φ14*20	1
47	10201002	Hex Bolt M8*16	1
48	1002022001	Limit Switch CZ-7120 10A	1
49	10209250-01	Wire 2*1 ² *3505mm	1
50	10420164	Cup Head Bolt M4*30	2
51	10620095	Hex Nut M4	2
52	10206017	Hex Bolt M10*20	4
53	1102682001A-01	Power-side Top Beam	1
53A	1102682002A-01	Offside Top Beam	1
54	10201122	Hex Bolt M8*35	4
55	1002011001	Steel Bush φ22*φ19*14	6
56	1102011001	Small Pulley φ80	4
57	10209056	Self-locking Nut M10	2
58	11209207	Offside Column	1
59	11211013	Offside Safety Lock	1
60	11209051B	Stackable Adapter (1.5")	4
61	11209052B	Stackable Adapter (2.5")	4
62	11209053B	Stackable Adapter (5")	4
63	11209054A	Stackable Adapter Bracket	2
64	10680003	Hex Bolt M8*12	4
65	11209044	Pin for Pulley	2
66	1102012001	Big Pulley φ100	2
67	10209059	Anchor Bolt	12
68	10209060	90° Fitting for power unit	1
69	10211014-01	Oil hose (1straight 1 curved)	1
70	10211016	T- fitting	1
71	10211015A-02	Oil hose	1
71A	10211020-02	Oil hose	1
72	10211017	Extend 90° fitting for Cylinder	2
73	10209066	Hex Nut	4
74	10211018A-01	Cable φ9.52×9567mm	2
75	10211019A	Safety Cable	1
76	10217069	Hex Bolt M12*30	6
77	10420026	Lock Washer φ12	6

4.1 Lifting arm assy. (10203156) explosive view

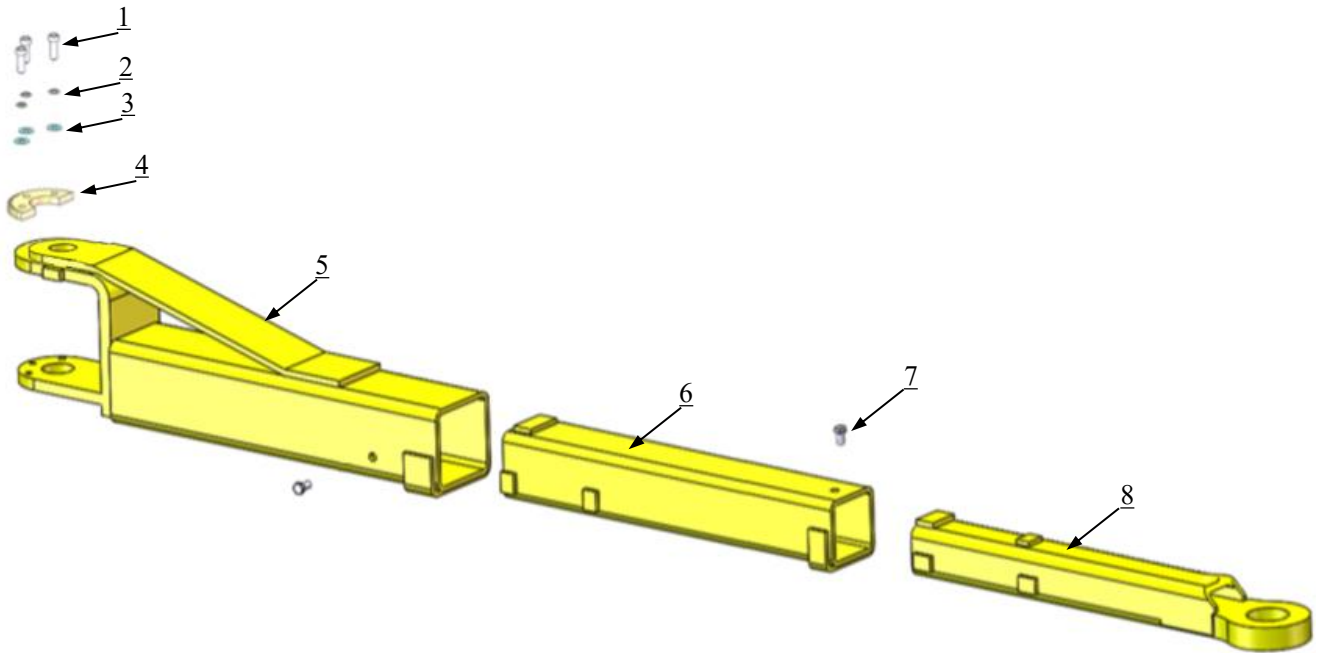


Fig.36

Item	Part#	Description	Qty.
1	10206048	Socket nut M10*30	12
2	10209039	Lock Washer ϕ 10	12
3	10209022	Washer ϕ 10	12
4	11206049	Moon gear	4
5	11203146	Outer arm	4
6	11203147	Middle arm	4
7	10201149	Cup head bolt M8*12	8
8	11203148	Inner arm	4

4.2 Cylinders (10209014-02) explosive view

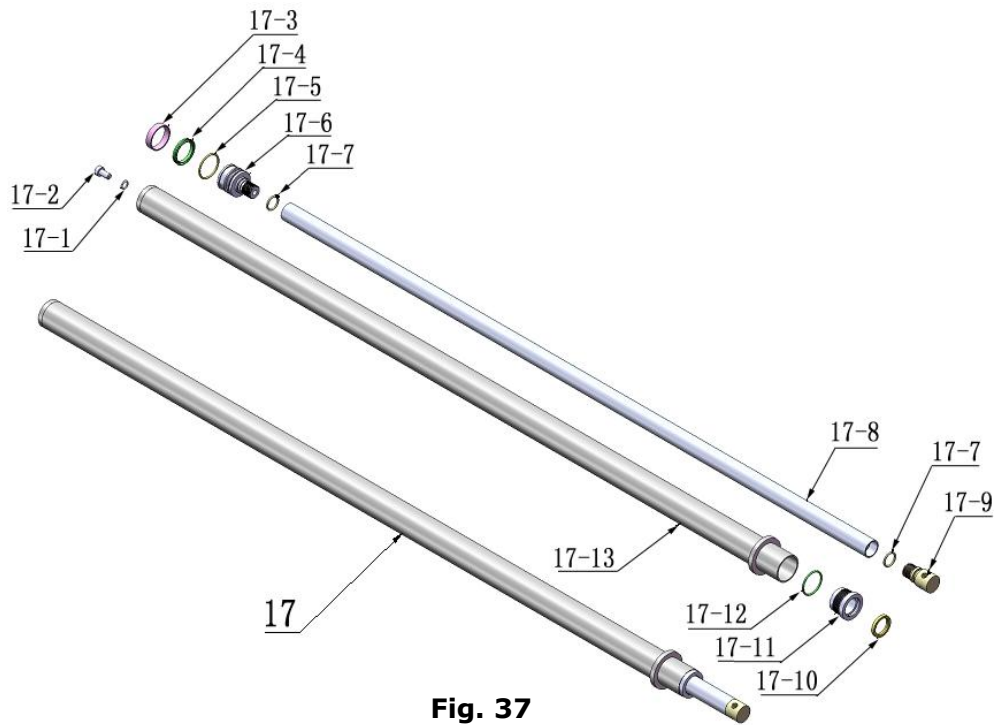


Fig. 37

Part list for cylinder

Item	Part#	Description	Qty.
17-1	10209069	O-ring	2
17-2	10209070	Bleeding Plug	2
17-3	10209071	Support Ring	2
17-4	10209072	Y-ring	2
17-5	10209073	O-ring	2
17-6	11209074	Piston	2
17-7	10209075	O-Ring	4
17-8	11217076-01	Piston rod	2
17-9	11209077	Piston Rod Fitting	2
17-10	10209078	Dust wing	2
17-11	11209079-01	Cover	2
17-12	10209080	O ring	2
17-13	11209081	Bore Weldment	2

4.3 MANUAL POWER UNIT(071101)

Manual Power unit 220V/60Hz

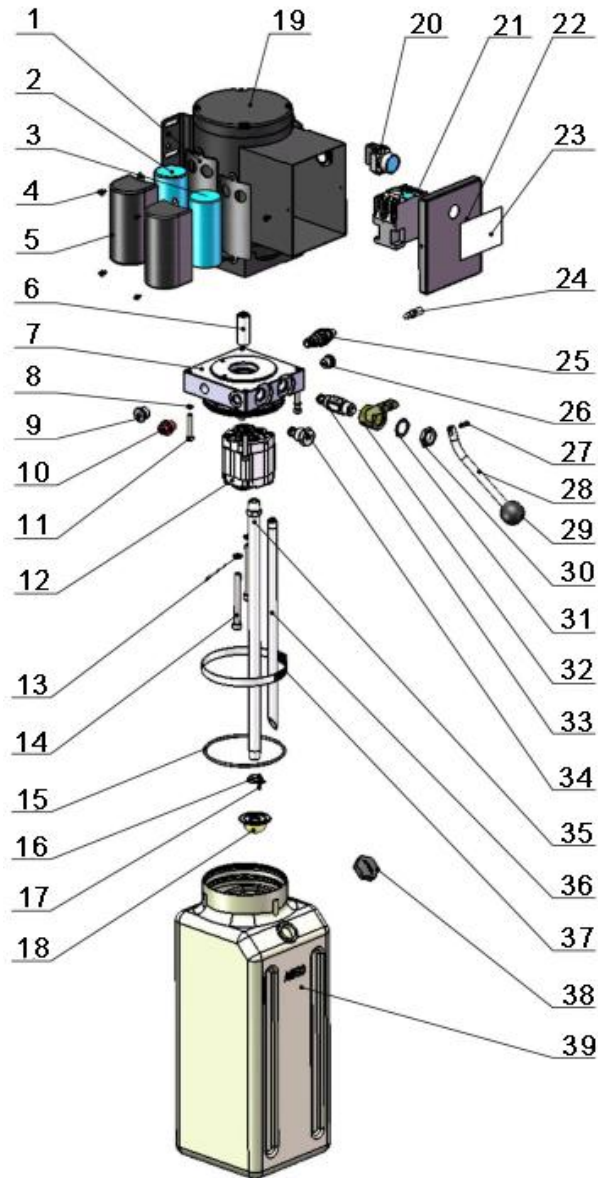


Fig.33

Parts For Manual Power Unit 220V/60Hz/Single phase			
Item	Part#	Description	Qty.
1	81400180	Rubber Pad	2
2	81400250	Starting capacitor	1
3	81400200	Running capacitor	1
4	10420148	Cap Head Bolt with washer	4
5	81400066	Cover of Motor Terminal Box	2
6	81400363	Motor Connecting Shaft	1
7	090106	Manifold block	1
8	10209149	Washer	4
9	81400276	Iron plug	1
10	81400259	Red rubber plug	1
11	85090142	Socket bolt	4
12	81400280	Gear pump	1
13	10209034	Washer	2
14	81400295	Socket bolt	2
15	81400365	O ring	1
16	10209152	Ties	1
17	85090167	Magnet	1
18	81400290	Filter	1
19	81400413	Steel Motor	1
20	10420070	Push button	1
21	41030055	AC connector	1
22	81400287	Motor terminal box cover	1
23	71111216	Power unit label	1
24	81400560	Throttle valve	1
25	81400266	Relief valve	1
26	81400284	Inner hex iron plug	1
27	10720118	Elastic pin	1
28	81400451	Release valve handle	1
29	10209020	Plastic ball for release handle	1
30	81400421	Release valve nut	1
31	81400422	Shim	1
32	81400449	Valve Seat(low)	1
33	070001	Release Valve	1
34	070002	Check Valve	1
35	81400288	Oil suction pipe	1
36	81400289	Oil return pipe	1
37	81400364	Clamp(stainless steel)	1
38	81400263	Oil tank cap	1
39	81400275	Oil tank	1

Illustration of hydraulic valve for hydraulic power unit

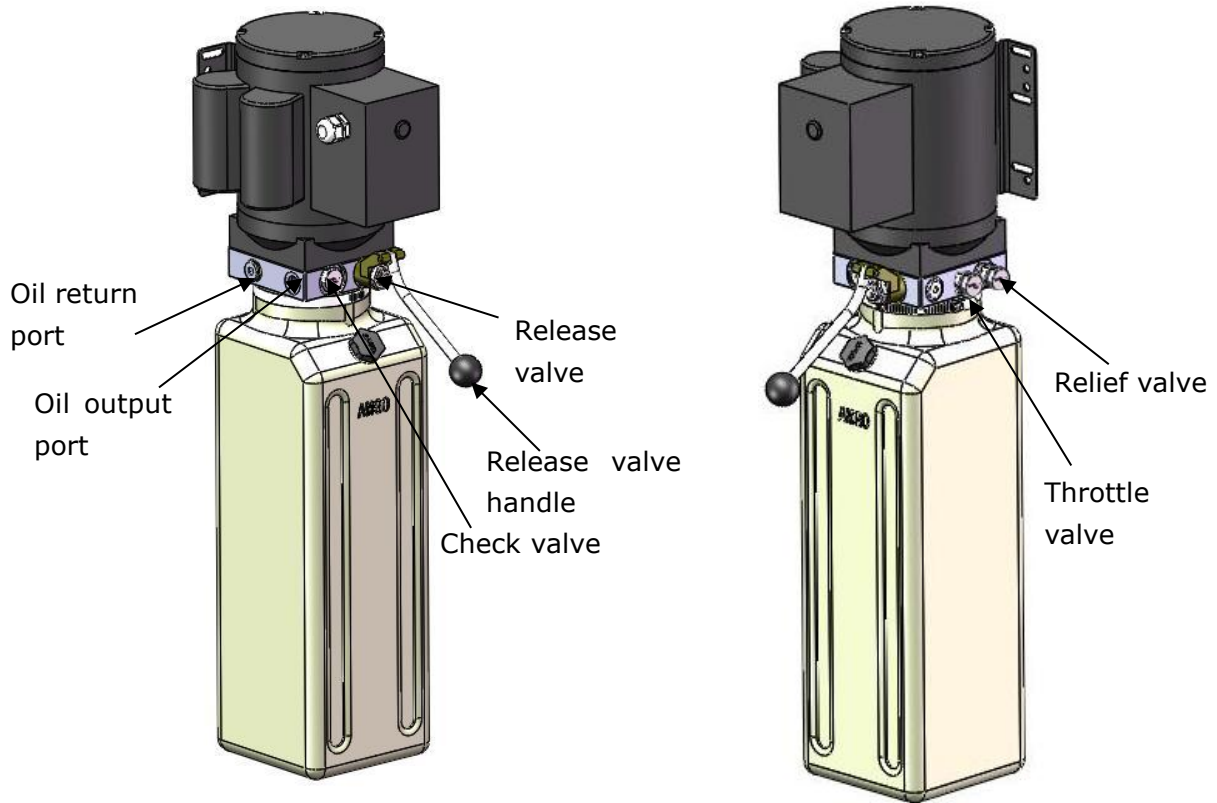


Fig.39

V. TEST RUN

1. Adjustment of synchronous cable (See Fig. 40)

Use wrench to hold the cable fitting, meanwhile using ratche spanner to tighten the cable nut until the two cables are in the same tension.

If the two vehicle carriages do not Synchronized when lifting and lowering, please screw and tighten the cable nut on the lower side carriage.

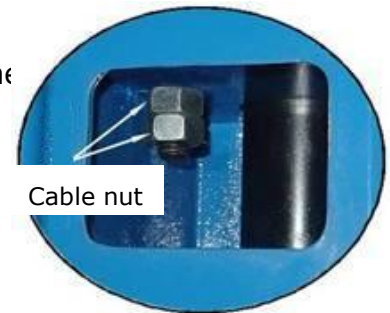


Fig. 40

2. Adjust safety cable

Rise the vehicle carriages and lock them at the same height, strain the safety cable and then release a little, and then tighten the safety cable nuts. Make sure the safety device can always lock the carriages properly.

At last, install the plastic cover of the safety device.

3. Bleeding air from oil cylinder (See Fig. 41)

This hydraulic system is designed with a bleeding plug, located at the top of the cylinder, Raise the carriages to about 1 meter height and loose the bleeding plug, the air would be discharged automatically, then tighten the plug after bleeding air, the lift would work stably and smoothly, otherwise, repeat bleeding air.

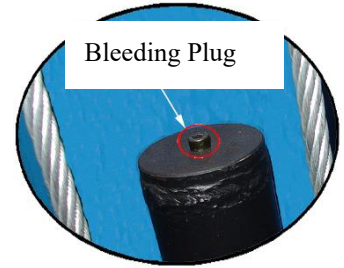
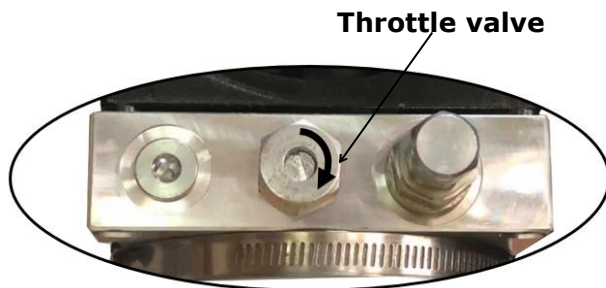


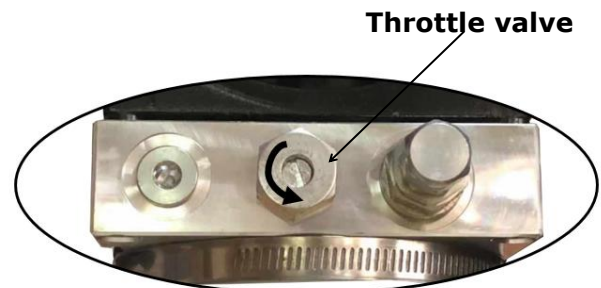
Fig. 41

4. Adjust the lowering speed

You can adjust the lowering speed of the lift if needing: screw the throttle valve clockwise to decrease the lowering speed, or counterclockwise to increase the lowering speed.



Adjust clockwise, decrease lowering speed



Counterclockwise, increase lowering speed

Fig. 42

5. Test with load

After finishing the above adjustment, test the lift with load. Raise the lift in low position for several times firstly, make sure the lift can be raised and lowered synchronously, and the safety device can be locked and released synchronously. And then raise the lift to the top position completely. If there is anything improper, repeat the above adjustment.

NOTE: It may be vibrated when lifting at start, lifting it with load for several times, the air would be bled and the vibration would be disappeared automatically.

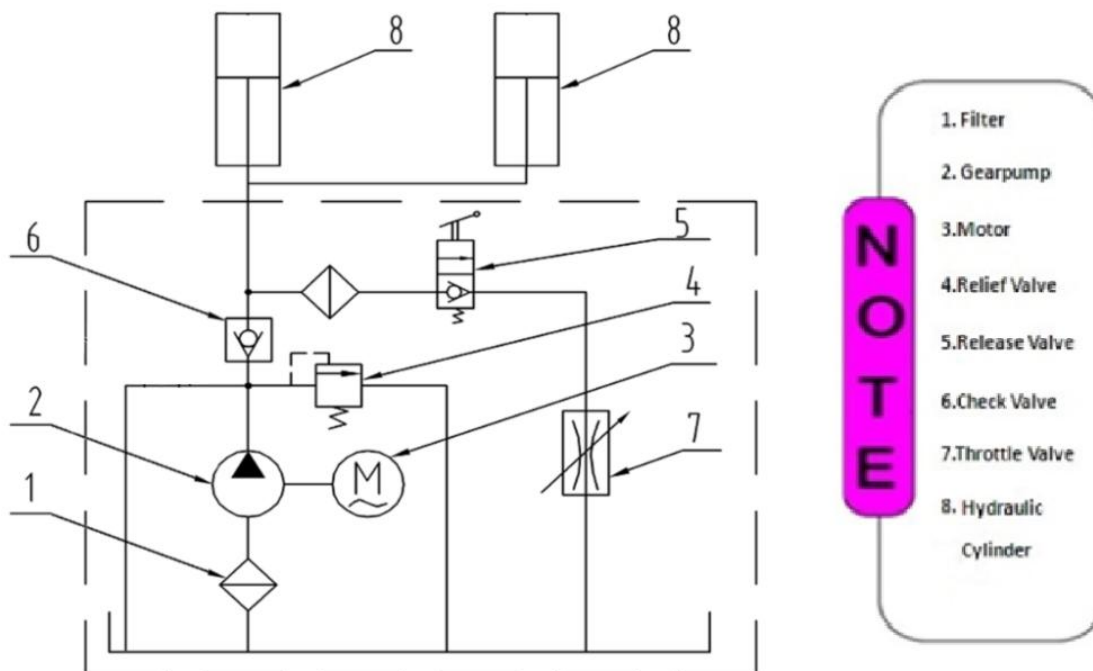


Fig. 43 Hydraulic System

VI. OPERATION INSTRUCTIONS

Please read the safety tips carefully before operating the lift

To lift vehicle

1. Keep clean of site near the lift;
2. Position lift arms to the lowest position;
3. To shortest lift arms;
4. Open lift arms;
5. Position vehicle between columns;
6. Move arms to the vehicle's lifting point;

Note: The four lift arms must at the same time contact the vehicle's lifting point where manufacturers recommended

7. Push button **UP** until the lift pads contact underside of vehicle totally. Recheck to make sure vehicle is secure;
8. Continue to raise the lift slowly to the desired working height, ensuring the balance of vehicle;
9. Push lowering handle to lower lift onto the nearest safety. The vehicle is ready to repair.

To lower vehicle

1. Be sure clear of around and under the lift, only leaving operator in lift area;
2. Push button **UP** to raise the vehicle slightly, and then release the safety device, lower vehicle by pushing lowering handle.

3. Open the arms and position them to the shortest length;
4. Drive away the vehicle.

Note: In order to extend the service life of the cylinder and seals, raise the machine to top at least once a day

VII. MAINTENANCE SCHEDULE

Monthly:

1. Re-torque the anchor bolts to 150 Nm;
2. Check all connectors, bolts and pins to insure proper mounting;
3. Lubricate cable with lubricant;
4. Make a visual inspection of all hydraulic hoses/lines for possible wear or leakage;
5. Check safety device and make sure proper condition;
6. Lubricate all rollers and pins with 90wt. Gear oil or equivalent;

Note: All anchor bolts should take full torque. If any of the bolts does not function for any reason, DO NOT use the lift until the bolt has been replaced.

Every six months:

1. Make a visual inspection of all moving parts for possible wear, interference or damage.
2. Check and adjust as necessary, equalizer tension of the cables to insure level lifting.
3. Check the vertical of columns.
4. Check rubber pads and replace as necessary.
5. Check safety device and make sure proper condition.

Oil cylinder maintenance:

In order to extend the service life of the oil cylinder, please operate according to the following requirements.

1. Recommend to use N46 anti-wear hydraulic oil.
2. The hydraulic oil of the lifts should be replaced regularly during using. Replace the hydraulic oil 3 months after the first installation, Replace the hydraulic oil once a year afterwards.
3. Make at least one full trip raising and lowering per day. For exhausting the air from the system, which could effectively avoid the corrosion of the cylinder and damage to the seals caused by presence of air or water in the system.
4. Protect the outer surface of the oil cylinder's piston rod from bumping and scratching, and timely clean up the debris on the oil cylinder dust-ring and the piston rod.

VIII. TROUBLE SHOOTING

TROUBLE	CAUSE	REMEDY
Motor does not run	<ol style="list-style-type: none"> 1. Button does not work 2. Wiring connections are not in good condition 3. Motor burned out 4. Height Limit Switch is damaged 5. AC Contactor burned out 	<ol style="list-style-type: none"> 1. Replace button 2. Repair all wiring connections 3. Repair or replace motor 4. Replace the Limit Switch 5. Replace AC Contactor
Motor runs but the lift is not raised	<ol style="list-style-type: none"> 1. Motor runs in reverse rotation 2. Gear Pump out of operation 3. Release Valve in damage 4. Relief Valve or Check Valve in damage 5. Low oil level 	<ol style="list-style-type: none"> 1. Reverse two power wire 2. Repair or replace 3. Repair or replace 4. Repair or replace 5. Fill tank
Lift does not stay up	<ol style="list-style-type: none"> 1. Release Valve out of work 2. Relief Valve or Check Valve leakage 3. Cylinder or Fittings leaks 	Repair or replace
Lift raises slowly	<ol style="list-style-type: none"> 1. Oil line is jammed 2. Motor running on low voltage 3. Oil mixed with Air 4. Gear Pump leaks 5. Overload lifting 	<ol style="list-style-type: none"> 1. Clean the oil line 2. Check electrical system 3. Fill tank 4. Replace Pump 5. Check load
Lift cannot lower	<ol style="list-style-type: none"> 1. Safety device are locking 2. Release Valve in damage 3. Safety cable broken 4. Oil system is jammed 	<ol style="list-style-type: none"> 1. Release the safeties 2. Repair or replace 3. Replace 4. Clean the oil system

IX. Lift disposal.

When the car lift cannot meet the requirements for normal use and needs to be disposed, it should follow local laws and regulations.

