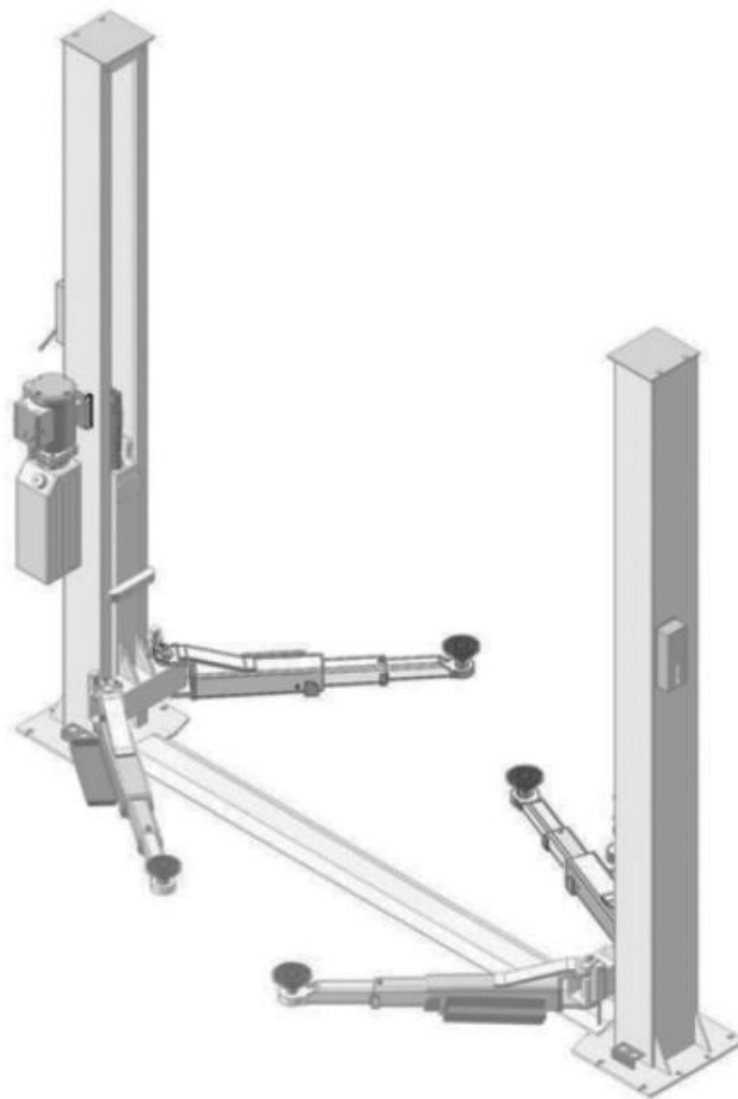


CLASSIC LIFT

Installation And Service Manual

Original



TWO POST LIFT
Model:BP4-L

CONTENTS

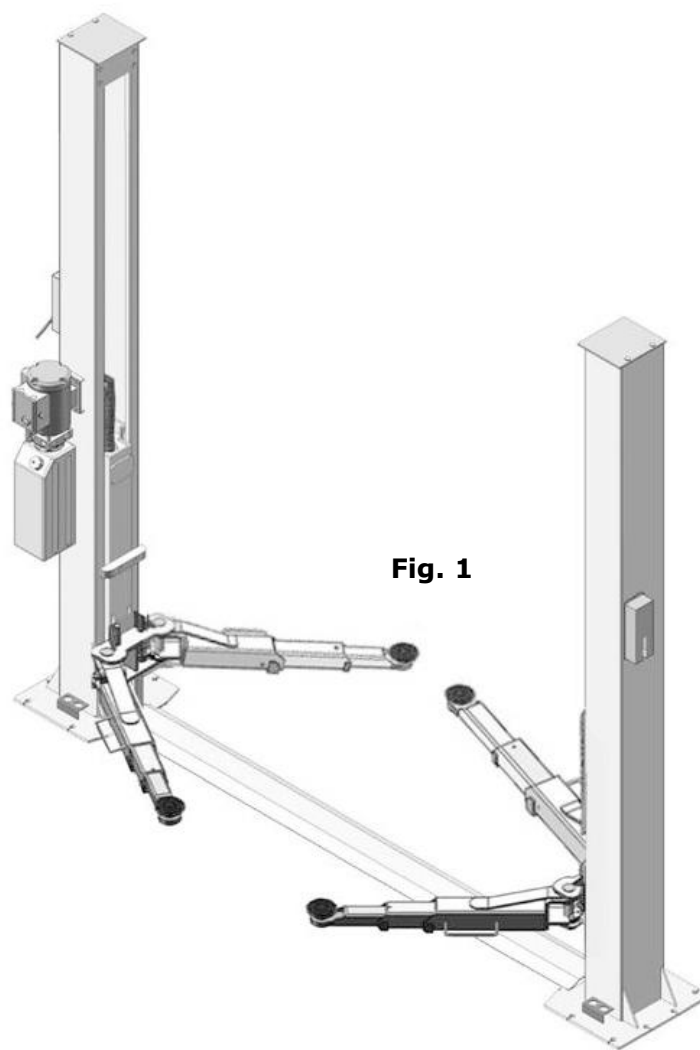
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I. PRODUCT FEATURES AND SPECIFICATIONS

FLOORPLATE CHAIN-DRIVE MODEL FEATURES

Model BP4-L (See Fig. 1)

- Compact Floor-plate design, provides unobstructed floor space.
- Dual hydraulic cylinders, designed and made as USA standards, with imported oil seal in cylinder
- Self- lubricating UHMW Polyethylene sliders and bronze bush
- Single-point safety release, and dual safety design
- 4pcs of 3-stages arms with stackable rubber pads.



MODEL BP4-L SPECIFICATIONS

Model	Style	Lifting Capacity	Lifting Time	Lifting Height	Overall Height	Overall Width	Width Between Columns	Minimum Pad Height	Gross Weight	Motor
BP4-L	Floor-plate Chain-driven	4000kg 9,000lbs	45S	1815-1917mm 71 1/2" - 75 1/2"	2742mm 108"	3350mm 132"	2780mm 109 1/2"	90-192mm 4 1/4"-9 1/4"	610Kg 1,345 lbs	3.0 HP

Arm Swings View

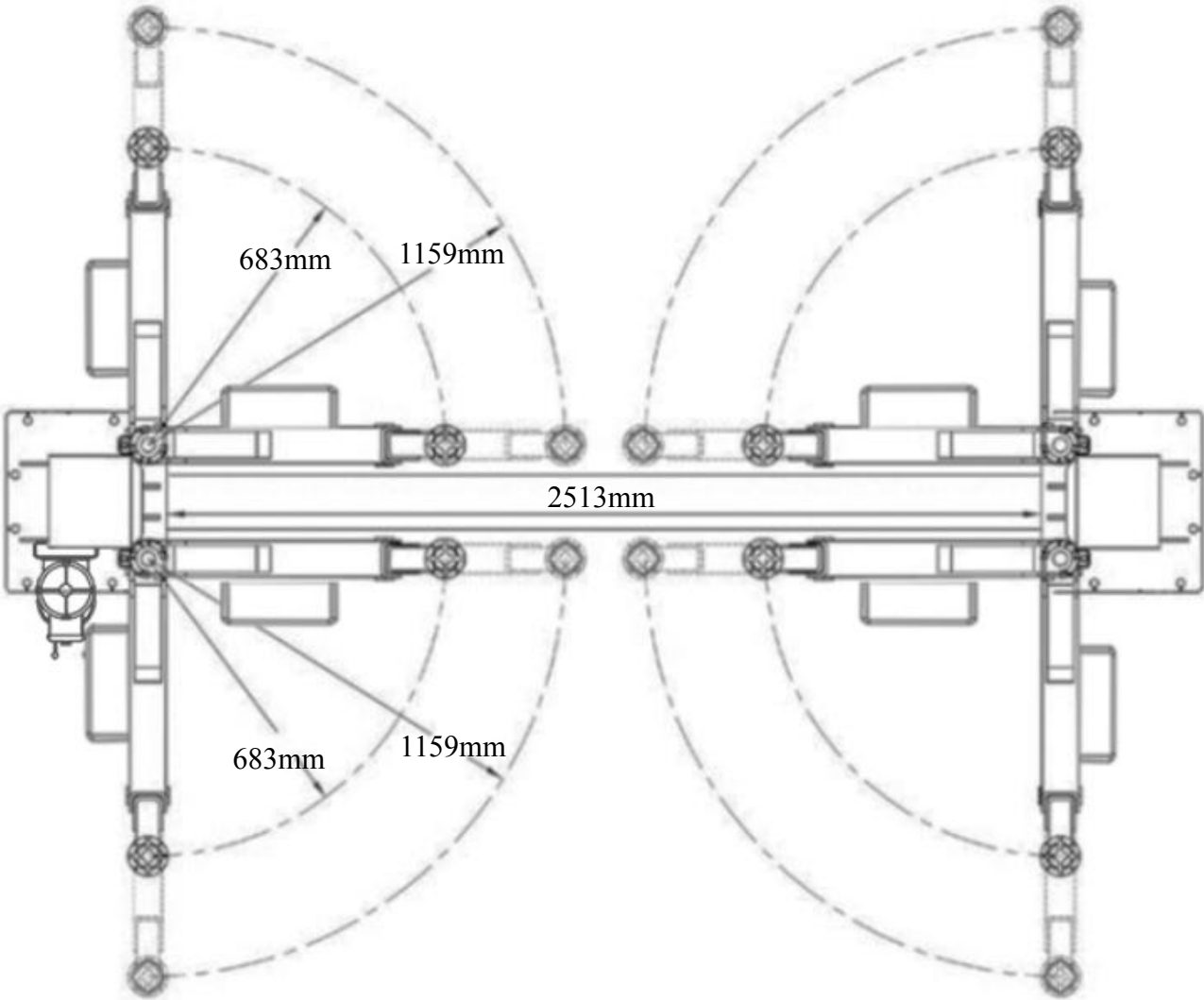


Fig. 2

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 (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.



D. SPECIFICATIONS OF CONCRETE (See Fig. 5).

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 100mm 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 (210kg/cm²) minimum.
3. Floors must be level and no cracks.

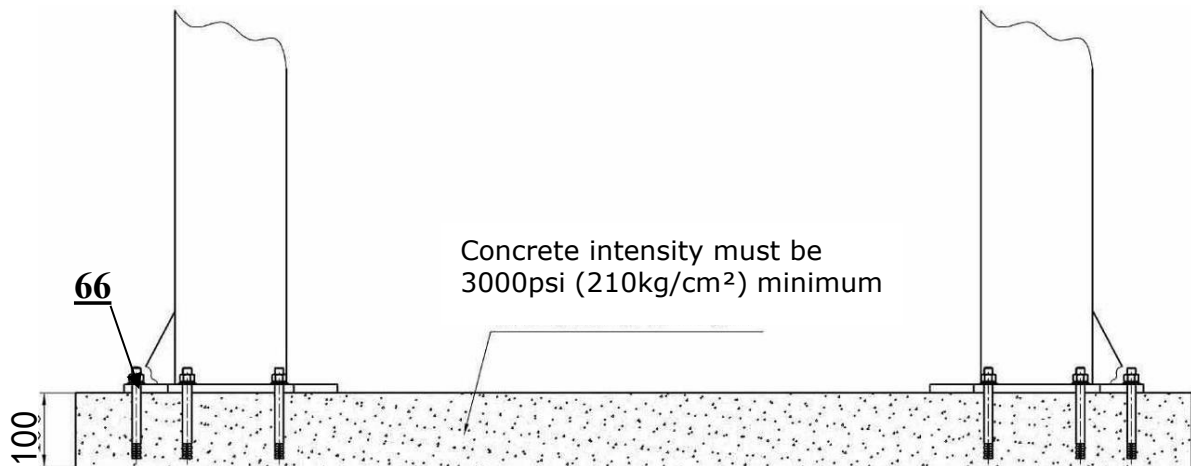


Fig. 5

E. POWER SUPPLY

The electrical source must be 3HP minimum. The source cable size must be 2.5mm² and in good condition of contacting with floor.

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 baseplate (See Fig. 6).

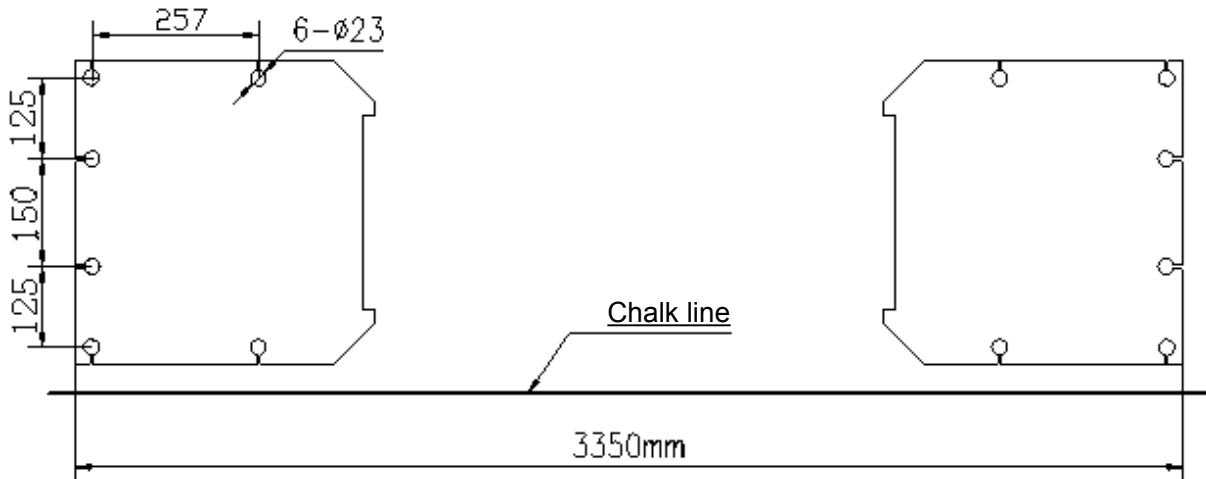


Fig. 6

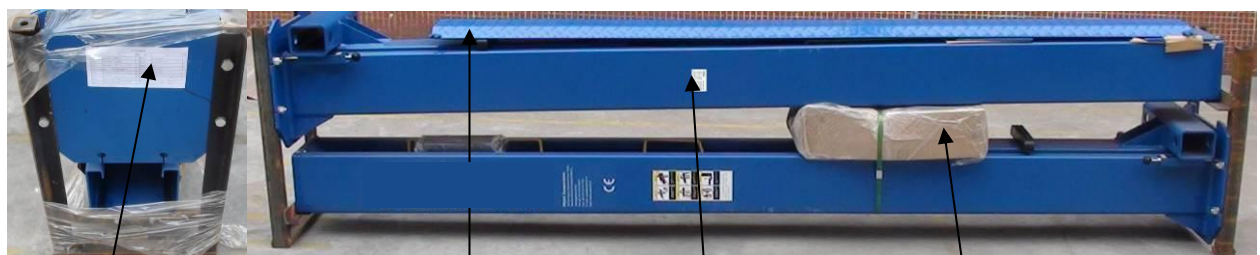
C. Check the parts before assembly.

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



Fig. 7

2. Move the lift aside with 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 list

Floor cover

Name plate

Parts box

Fig. 8

- Loosen 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, Fig. 10).



Fig. 9



Fig.10

Parts in the parts box (75)

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



Model



Fig. 11

D. Position power-side columns

Lay down two columns on the installation site parallelly, 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).

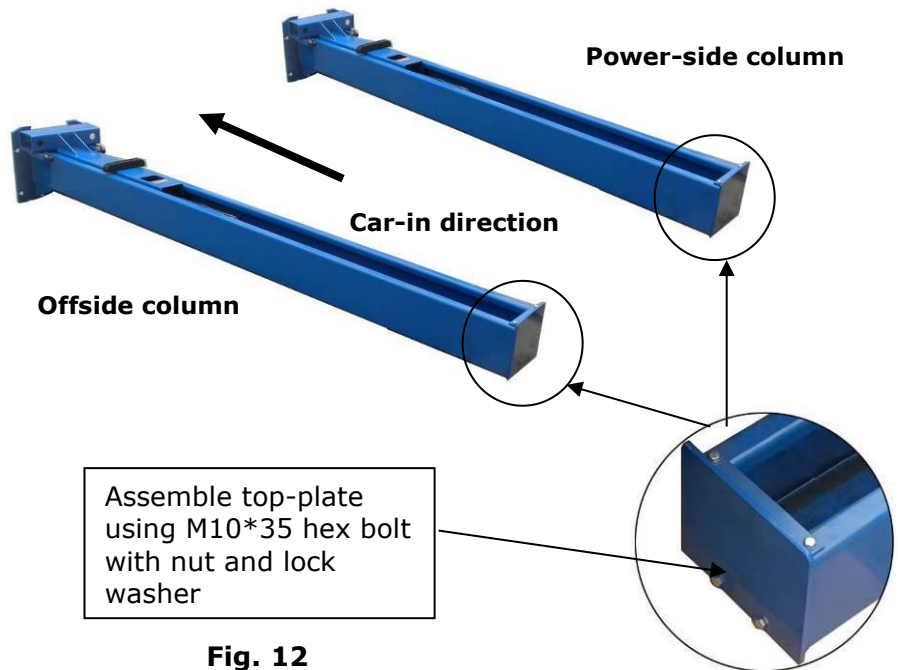


Fig. 12

E. Position columns (See Fig. 13)

Check the columns plumbness with level bar, and adjusting with the shims if the columns are not vertical.

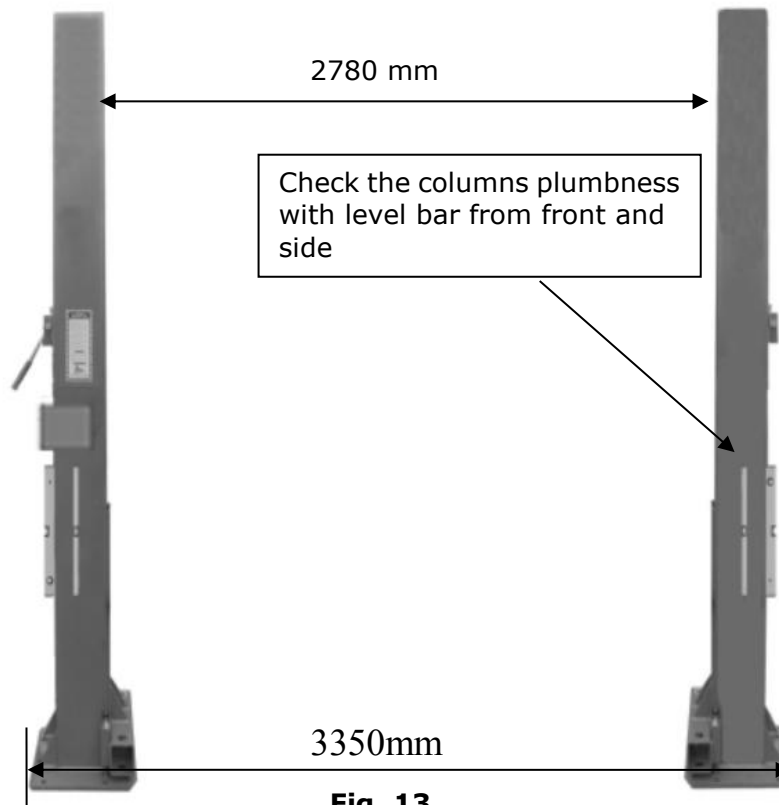


Fig. 13

F. Fix anchor bolts

1. Prepare anchor bolts (See Fig. 14).

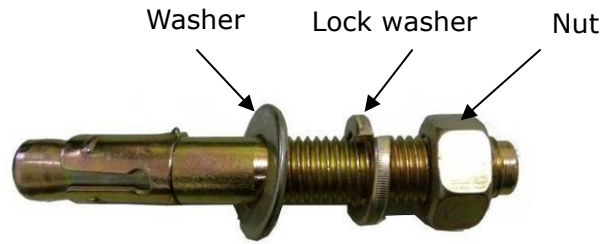


Fig.14

2. Using the prescribed rotary hammer drill, and drill all the anchor holes and install the anchor bolts. Then tighten the anchor bolts (See Fig. 15).

Note: Torque of Anchors is 150N.m .Minimum embedment of Anchors is 90mm.

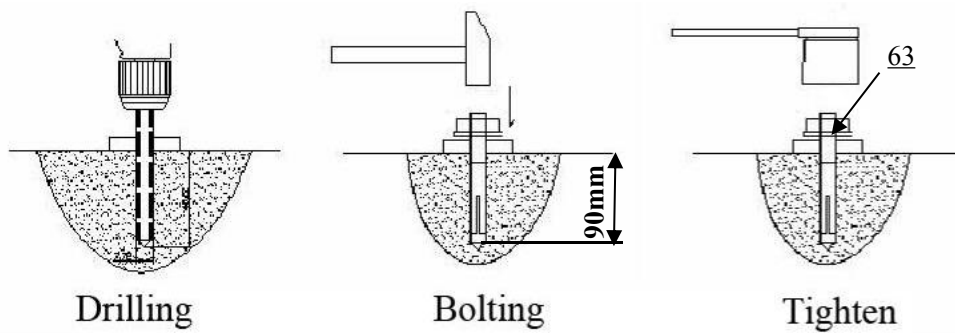


Fig.15

G. Lift the carriages up by hand and make them be locked at the same level (See Fig. 16).

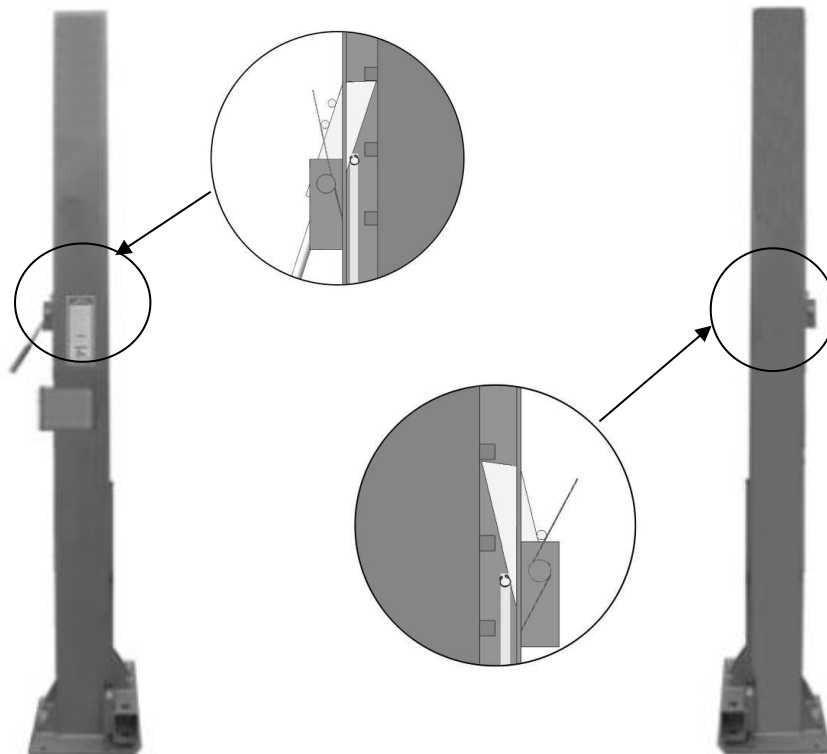


Fig. 16

H. Wire the cables

Thread the cables double side according to step a~f (See Fig. 17)

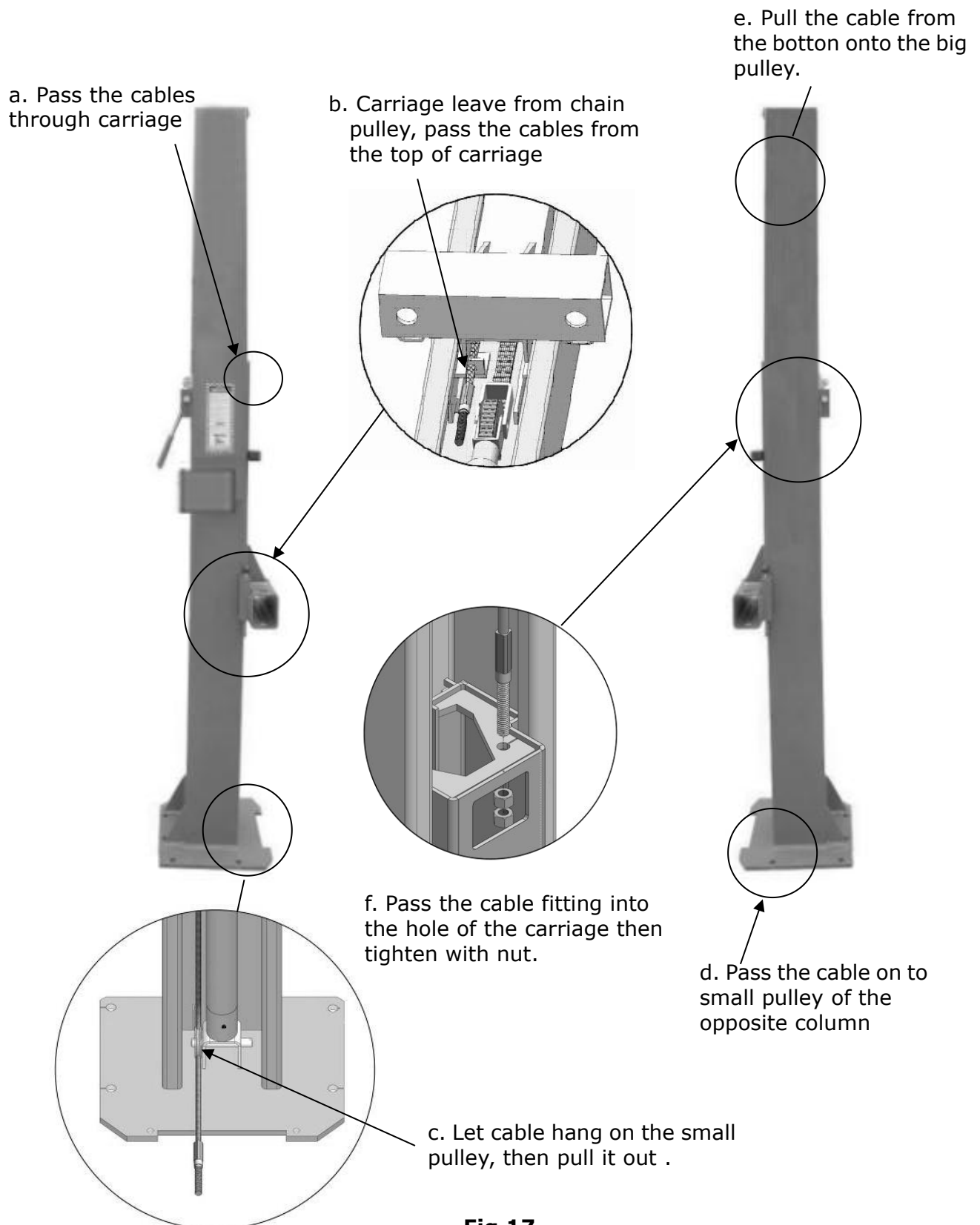
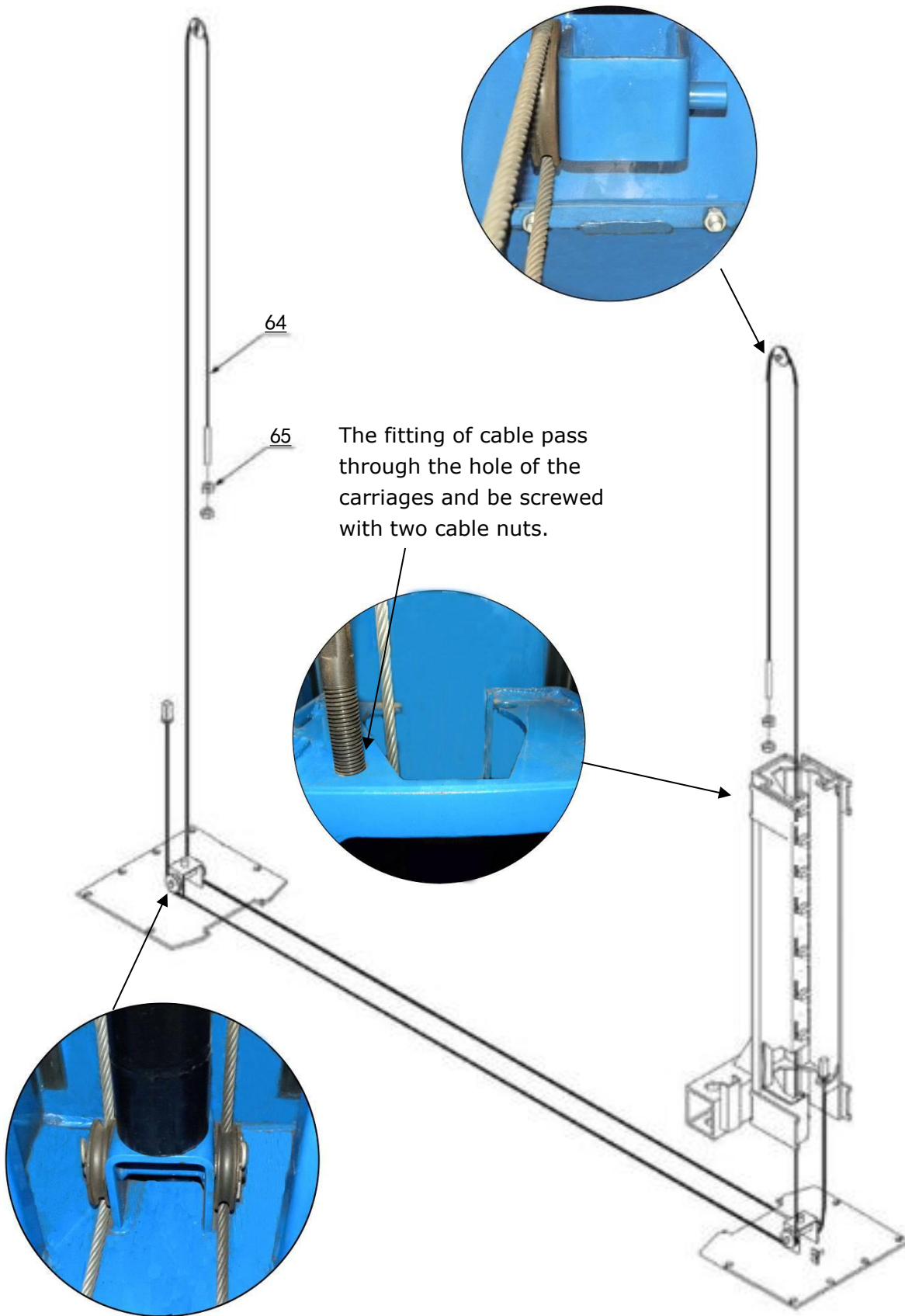


Fig.17

I. Install cable (See Fig. 18)



J. Assembly oil hose assy. (See Fig. 19).

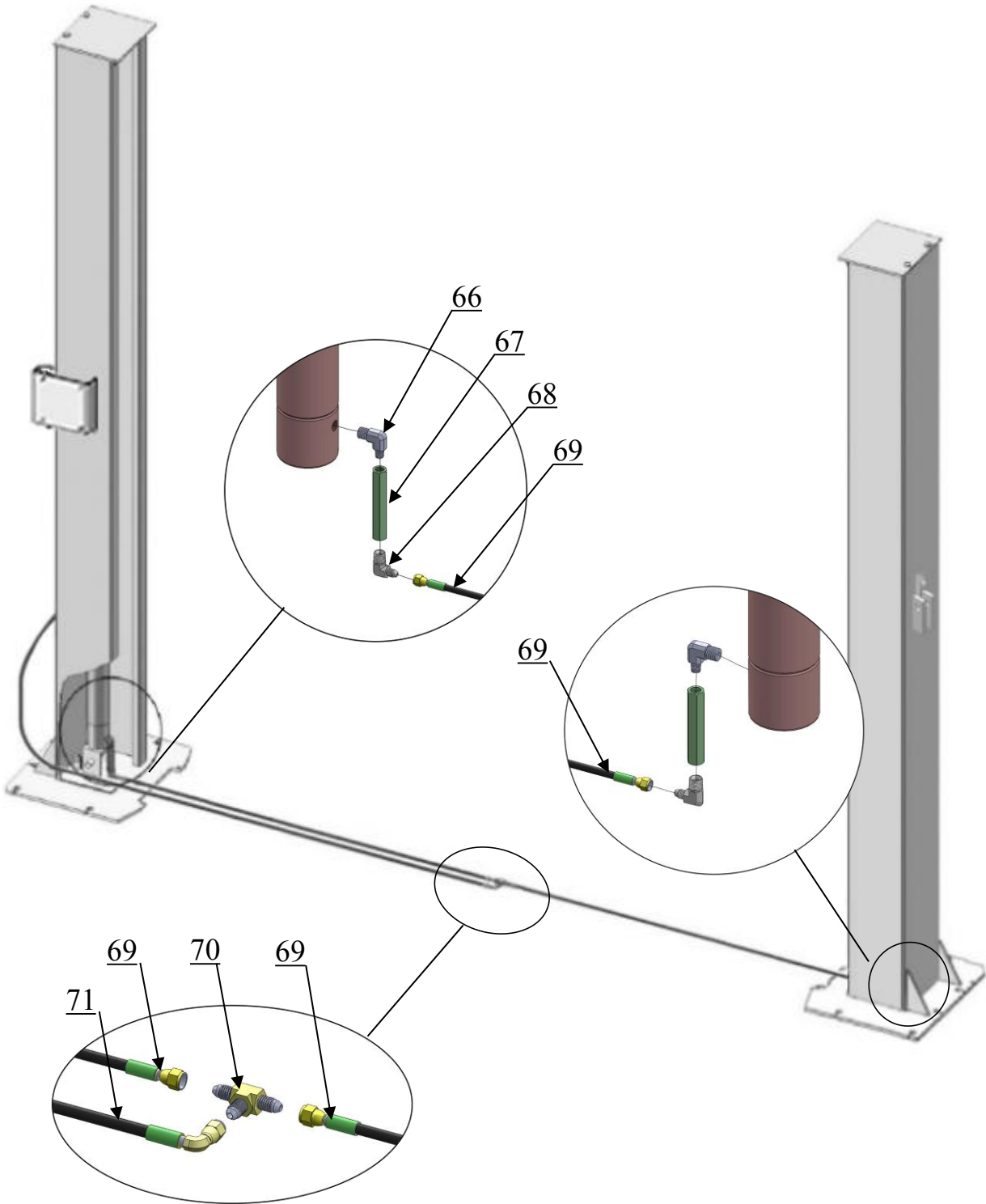


Fig. 19

K. Install hydraulic power unit and oil hose assy. (See Fig. 20).

Tighten all the hydraulic fittings, and fix the oil hose by retainer.

Note: In consideration of Power Unit's durability and keep the equipment running in the perfect condition, please use Hydraulic Oil 46#

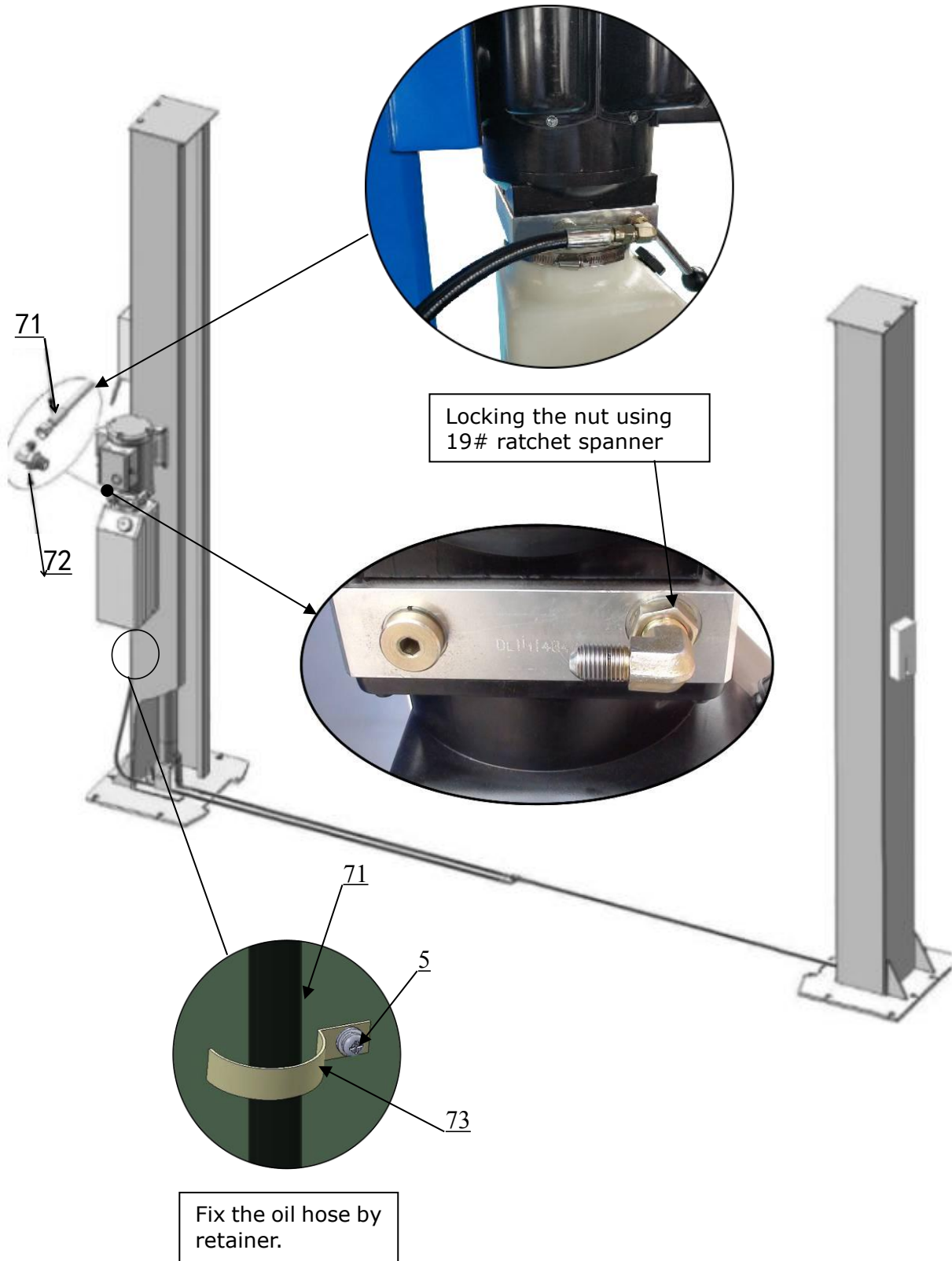


Fig. 20

L. Install safety device and safety cable (See Fig. 21).

- NOTE:** 1. Assemble safety cable from off-side safety assy.
2. Pay attention to the connecting direction of safety cable.

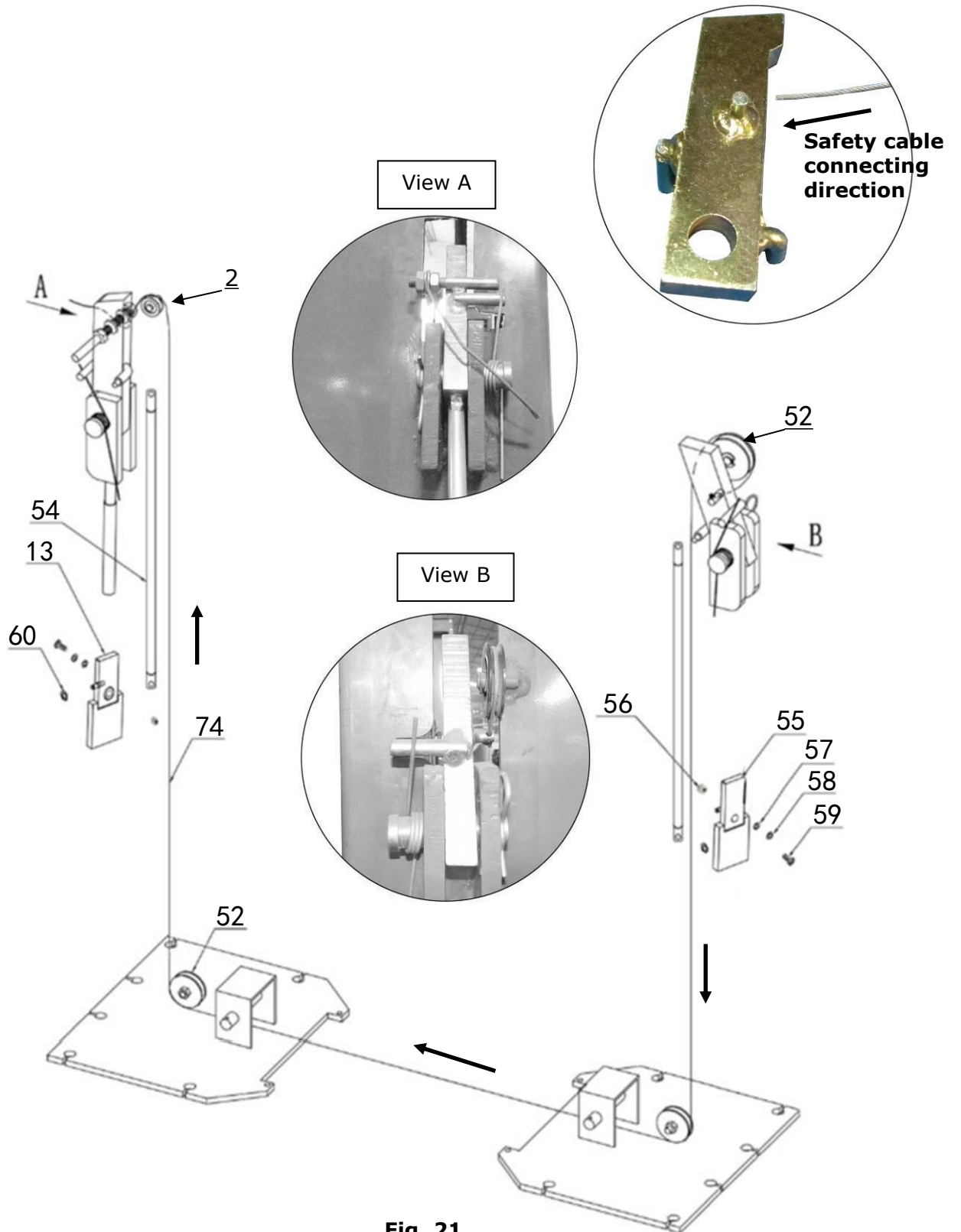


Fig. 21

M. Assemble floor cover and protective rubber sets (See Fig. 22).

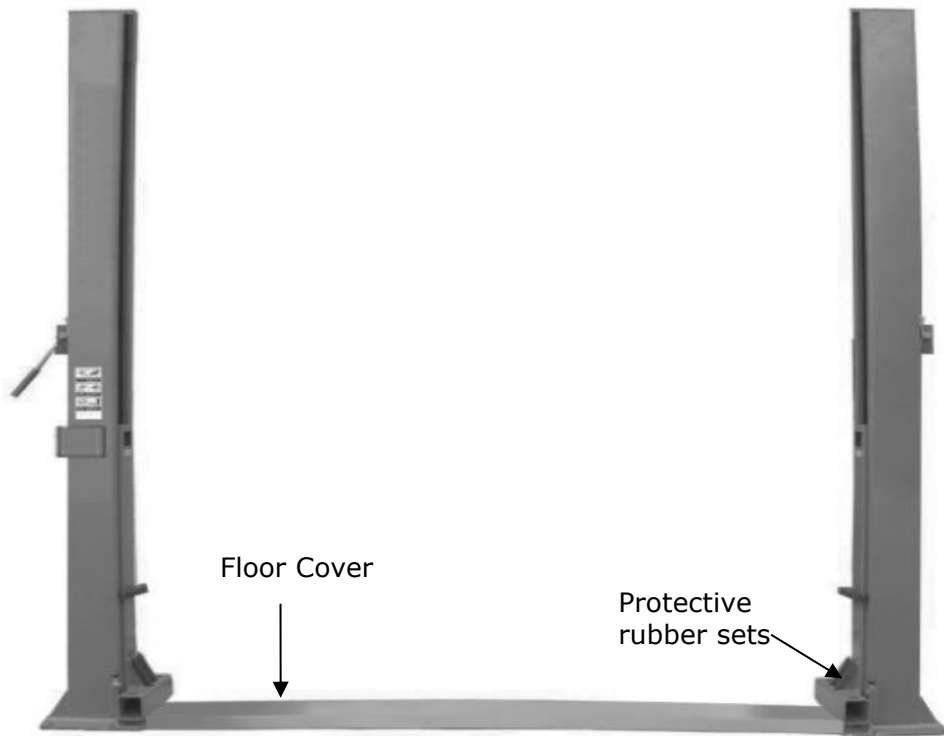


Fig. 22

N. Install lifting arms and adjust the arm locks

1. Install the lifting arms (See Fig. 22)
2. Lowering the carriages down to the lowest position, then use the 17# wrench to loosen the nut (See Fig. 23)

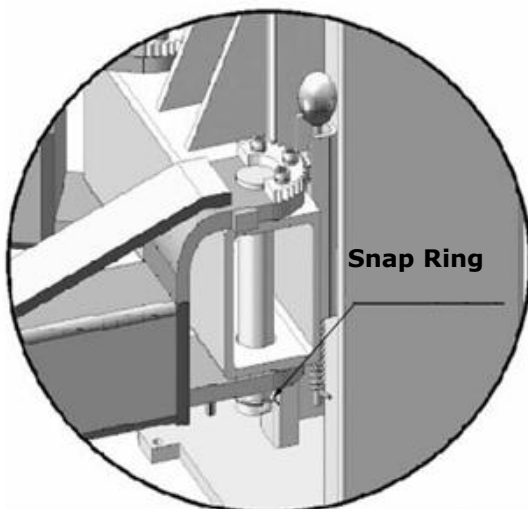


Fig. 22

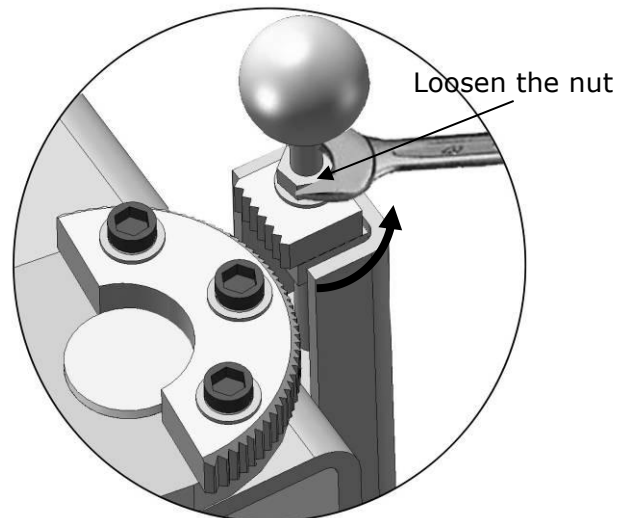


Fig. 23

3. Adjust the arm lock as arrow direction (**See Fig. 24**).
4. Adjust moon gear and arm lock to make it to be meshed, then tighten the nut of arm lock (**See Fig. 25**).

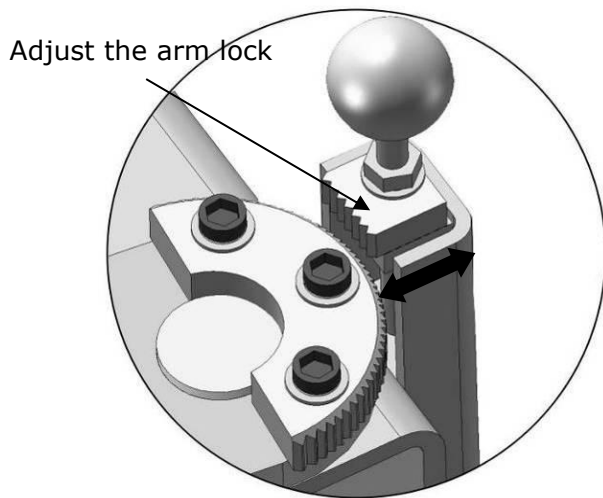


Fig. 24

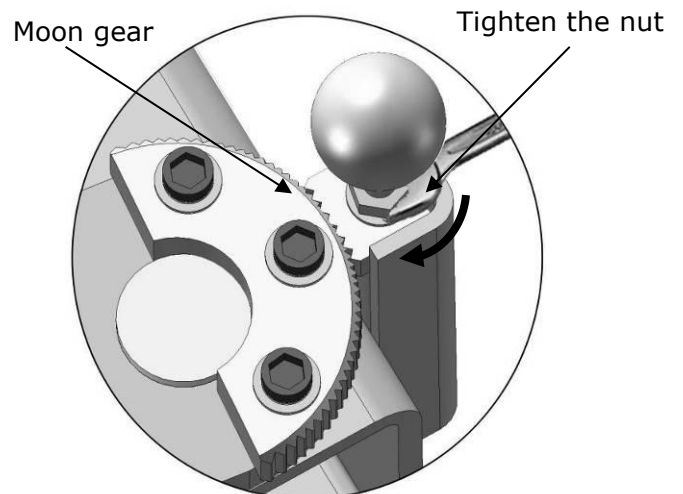


Fig. 25

O. Tighten all the hydraulic fittings, and fill the reservoir with hydraulic oil.

Note: In consideration of Hydraulic Power Unit's durability and keep the equipment running in the perfect condition, please use Hydraulic Oil 46#.

P. Install electrical system

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

- Note: 1. For the safety of operators, the power wiring must contact the earth well.**
2. Pay attention to the direction of rotations when using three phase motors.

Single phase motor

1. Circuit diagram (See Fig. 26)

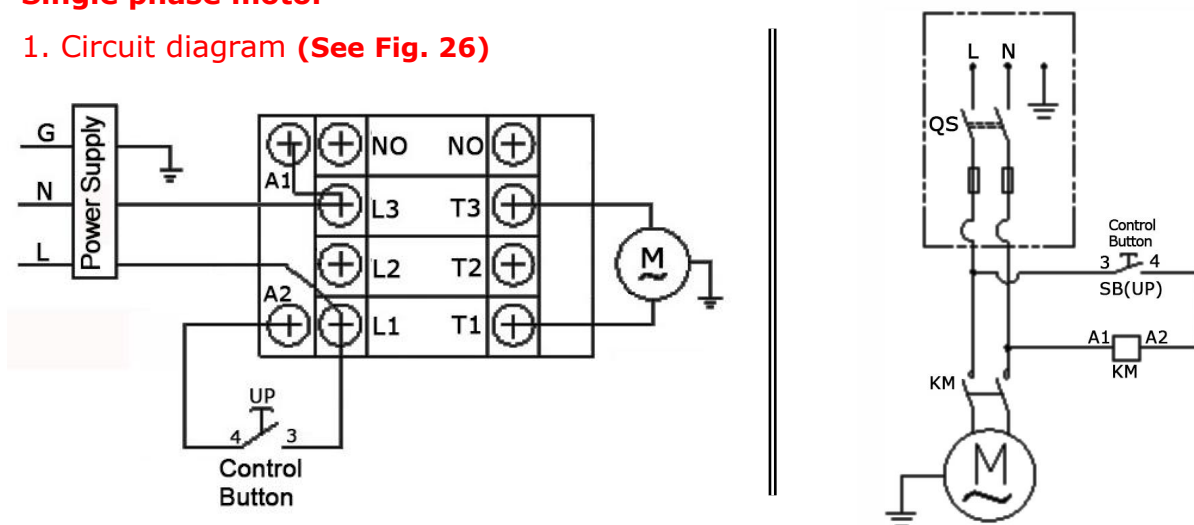


Fig. 26

2. Connection step (See Fig. 27)

Connecting the two power supply wires (active wire **L** and neutral wire **N**) to terminals of AC contactor marked L1, L3 respectively. Earth wire(yellow and green wire) is connected with the earth wire terminal of the motor

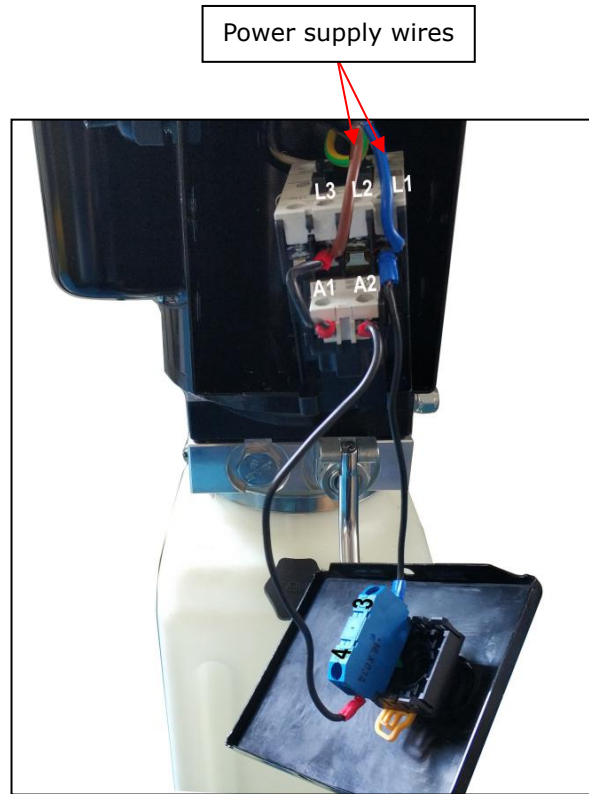


Fig. 27

Three phase motor

1. Circuit diagram (See Fig. 28)

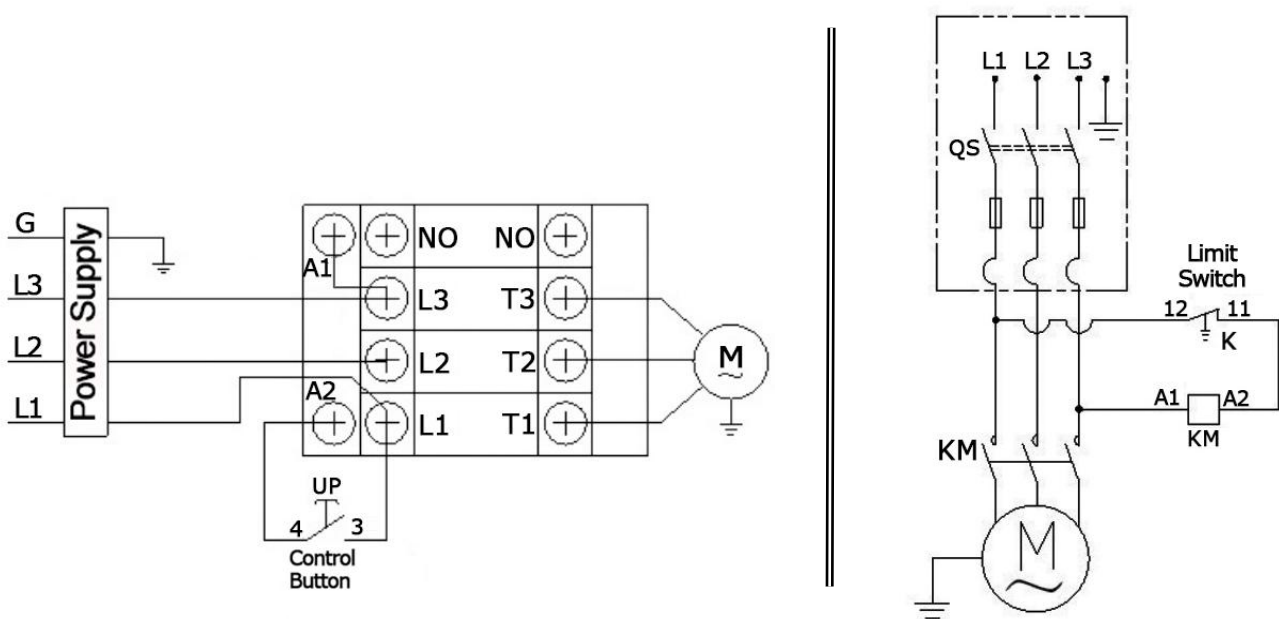


Fig. 28

2. Connection step (See Fig. 29)

The power supply wires **L1, L2, L3** are connected with terminals of AC contactor marked **L1, L2, L3** respectively. Earth wire (yellow and green wire) is connected with the earth wire terminal of the motor.

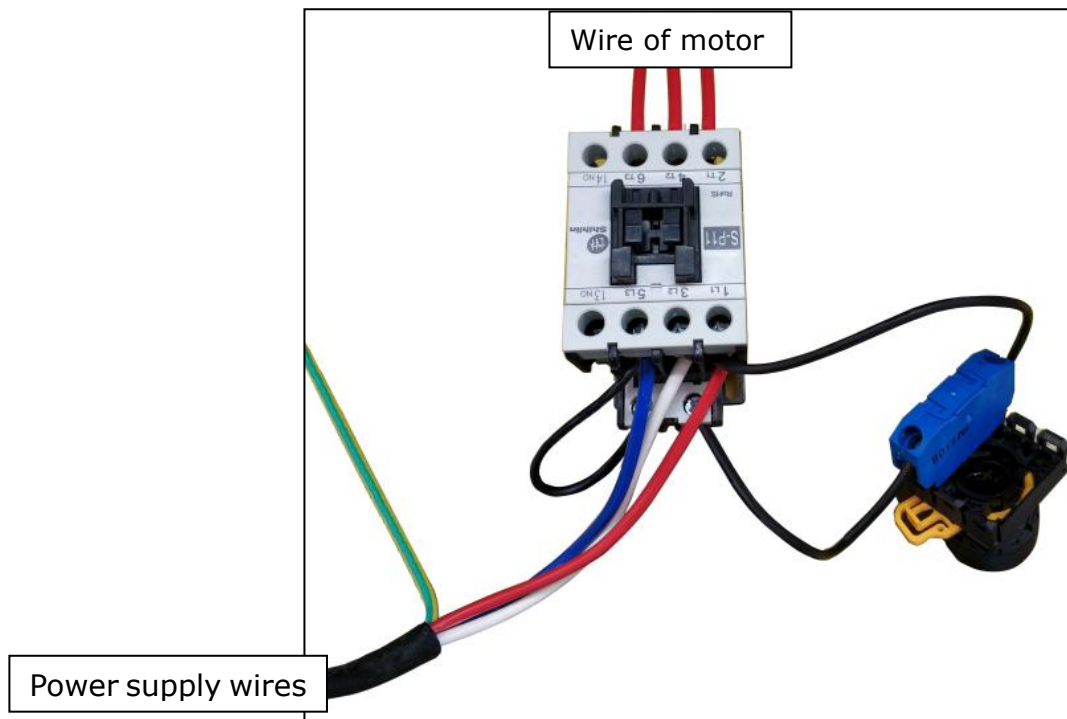


Fig. 29

IV. EXPLODED VIEW

Model BP4-L

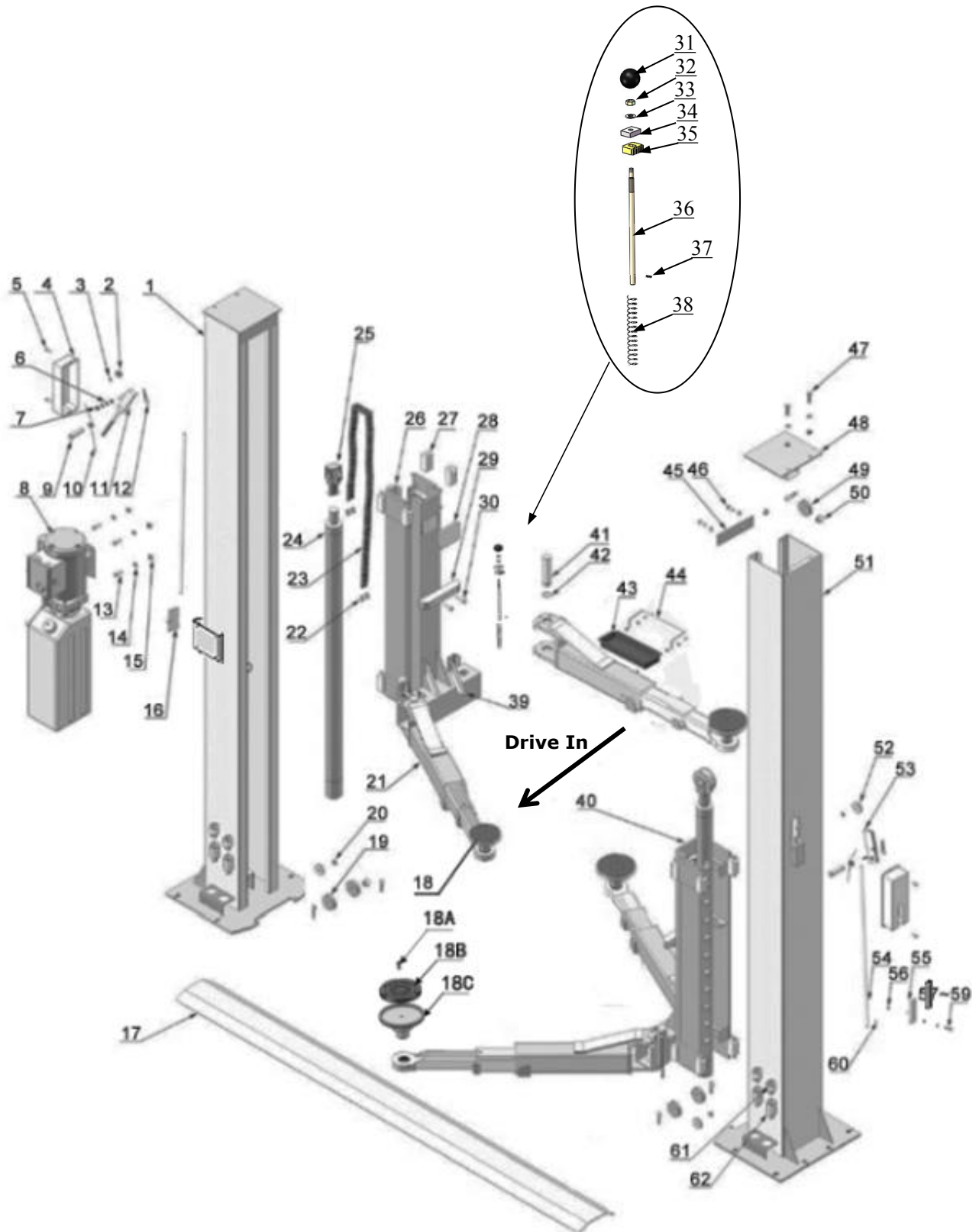


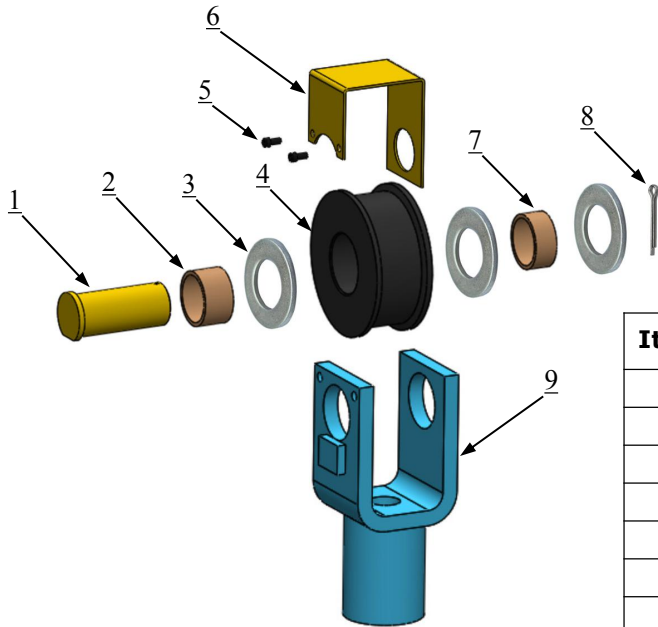
Fig. 30

PARTS LIST

Item	Part#	Description	Qty.	Note
1	11205039	Power-side column	1	
2	10BP4-L011	Plastic pulley	1	
3	10BP4-L010	Snap ring	2	
4	10BP4-L008	Safety device protect cover	2	
5	10BP4-L009	Cup head bolt	6	
6	10206006	Washer	2	
7	10206023A	Hex nut	2	
8	81513001/ 81513002	Manual power unit	1	
9	11206002	Safety pin	2	
10	10BP4-L007	Safety spring	2	
11	11203263	Power-side safety main lock	1	
12	11BP4-L012	Hair pin	8	
13	11203261	Power-side safety device	1	
14	10BP4-L005	Self locking nut	8	
15	10BP4-L004	Rubber ring	4	
16	10BP4-L003	Hex bolt	4	
17	11205002	Floor cover	1	
18	10201046A	Rubber pad support assy.	4	
18A	10420138	Socket bolt	4	
18B	10BP4-L134	Rubber pad	4	
18C	11680030C	Pad support frame	4	
19	11206020	Pulley ϕ 80*15	4	
20	10BP4-L056	Self locking nut	2	
21	11201043A	Lifting arm assy	4	
22	10201010	Chain connector	4	
23	10201009A	Chain	2	
24	10201008B	Cylinder	2	
25	11201704	Chain Pulley Seat Assy.	2	
26	11205041	Power side carriage	1	
27	10206044	Slider Block	16	
28	10BP4-L016	Carriage plastic cover	2	
29	10206045	Protective rubber	2	
30	10206046	Self-tapping screw	4	
31	10BP4-L020	Plastic Ball	4	
32	10BP4-L021	Hex nut	8	
33	10BP4-L022	Washer	10	
34	10BP4-L023 A	Arm lock	4	
35	11201041	Limit Plate	4	
36	11BP4-L024	Arm Lock Handle	4	
37	10BP4-L025	Hair pin	4	
38	10BP4-L026	Spring	4	
39	10BP4-L027	Protective rubber set	4	
40	11205042	Offside carriage	1	
41	11BP4-L030	Lifting arm pin	4	

	A			
42	10520023	Snap ring	4	
Item	Part#	Description	Qty.	Note
43	10206190	Tool tray (Short)	2	
44	11206191	Short guardrail	4	
45	11205005	Connecting plate	2	
46	10BP4-L043	Hex Bolt	4	
47	10BP4-L046	Hex Bolt	4	
48	11205006	Top plate	2	
49	11BP4-L045	Pulley	2	
50	10BP4-L057 A	Bronze bush $\phi 25.4 * \phi 19.1 * 14.5$	6	
51	11205040	Off-side column	1	
52	10BP4-L049	Plastic pulley (black)	3	
53	11203264	Off-side safety vice lock	1	
54	11203784	Coupling	2	
55	11203262	Safety block (Secondly)	1	
56	10420018	Self Locking Nut	2	
57	10420045	Washer	2	
58	10BP4-L149	Lock washer	2	
59	10217013	Hex bolt	2	
60	10420049	Split pin	4	
61	11BP4-L052 B	Stackable Adapter (2.5")	4	
62	11BP4-L051 B	Stackable Adapter (1.5")	4	
63	10BP4-L059 B	Anchor bolt	12	
64	10205009	Cable	2	
65	10BP4-L066	Hex bolt	4	
66	10207024	90° Fitting	2	
67	11201082	Extended Straight Fitting	2	
68	10420097	90° Fitting	2	
69	10207034	Oil Hose 1/4*1390mm	2	
70	10211016	T Fitting	1	
71	10BP4-L059- 01	Oil hose 1/4*2980mm	1	
72	10BP4-L060	90° Fitting for Power Unit	1	
73	11217048	Retainer	1	
74	10205010	Safety cable	1	
75	10205500A	Parts box	1	

4.1 Chain pulley seat assy. exploded view:



Item	Part#	Description	Qty.
1	11203040	Pin for chain pulley	2
2	10420132	Bronze bush $\phi 31*\phi 25.1*21$	2
3	10640109	Washer $\phi 44*\phi 25.2*2$	6
4	1102023002	Chain Pulley $\phi 105*41$	2
5	81400335	Socket bolt M5*10	4
6	11201738	Chain stop plate	2
7	10217020	Bronze bush $\phi 31*\phi 25.1*16$	2
8	10201005	Split pin($\phi 4*50$)	2
9	11201004	Chain pulley seat	2

Fig. 31

4.2.Lifting arm(1020143A) exploded view:

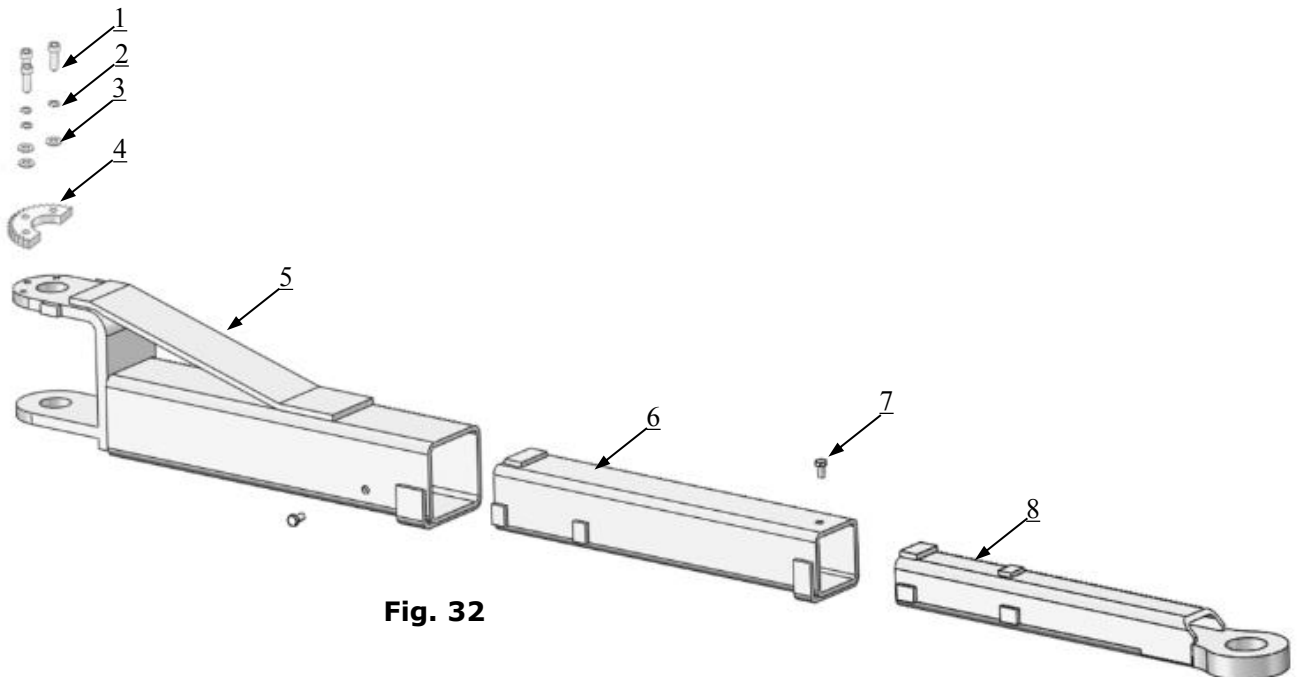


Fig. 32

Item	Part#	Description	Qty.	Item	Part#	Description	Qty.
1	10BP4-L03	Socket bolt	12	5	11201047	Outer arm assy	4
	2						

2	10BP4-L03 4	Lock washer	12	6	11201048	Middle arm assy	4
3	10BP4-L03 3	Washer	12	7	10201149	Screw	8
4	11BP4-L03 5	Moon gear	4	8	11201049A	Inner arm assy	4

4.3.Cylinders(10201008B) exploded view:

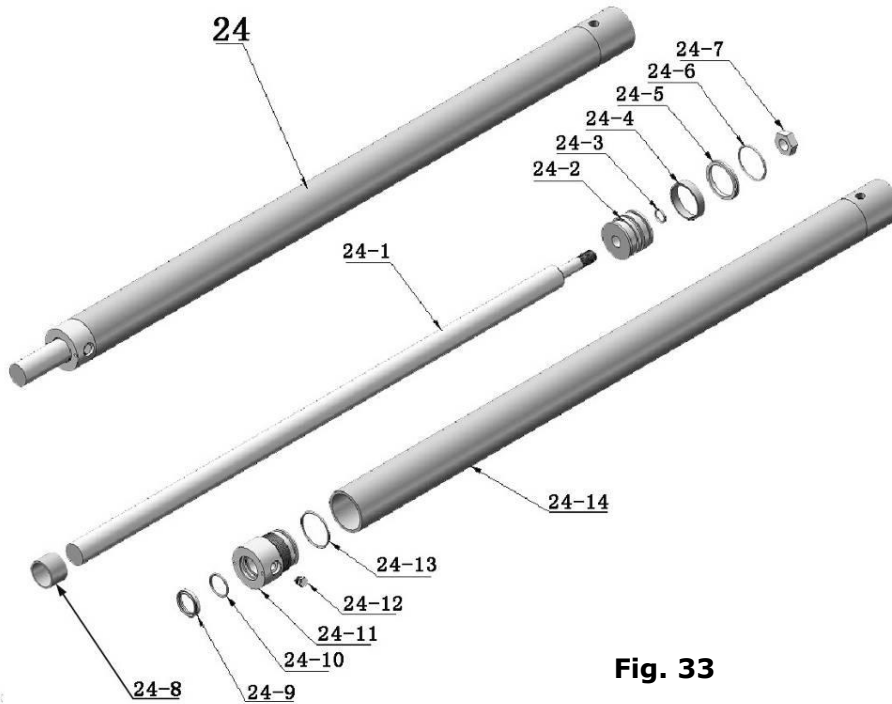


Fig. 33

Part list for Cylinder

Item	Part#	Description	Qty.	Item	Part#	Description	Qty.
24-1	11201027A	Piston rod	2	24-8	11201037	Piston rod adjusting sleeve	2
24-2	11201028	Piston	2	24-9	10BP4-L078	Dusty ring	2
24-3	10206069	O ring	2	24-10	10201032	O ring	2
24-4	10201029	Support ring	2	24-11	11201033	End cover	2
24-5	10201030	Y ring	2	24-12	10201034	Bleeding plug	2
24-6	10201031	O ring	2	24-13	10201035	O ring	2
24-7	10206071	Hex Nut	2	24-14	11201036A	Cylinder weldment	2

4. Power unit(81513001/81513002)explosive view

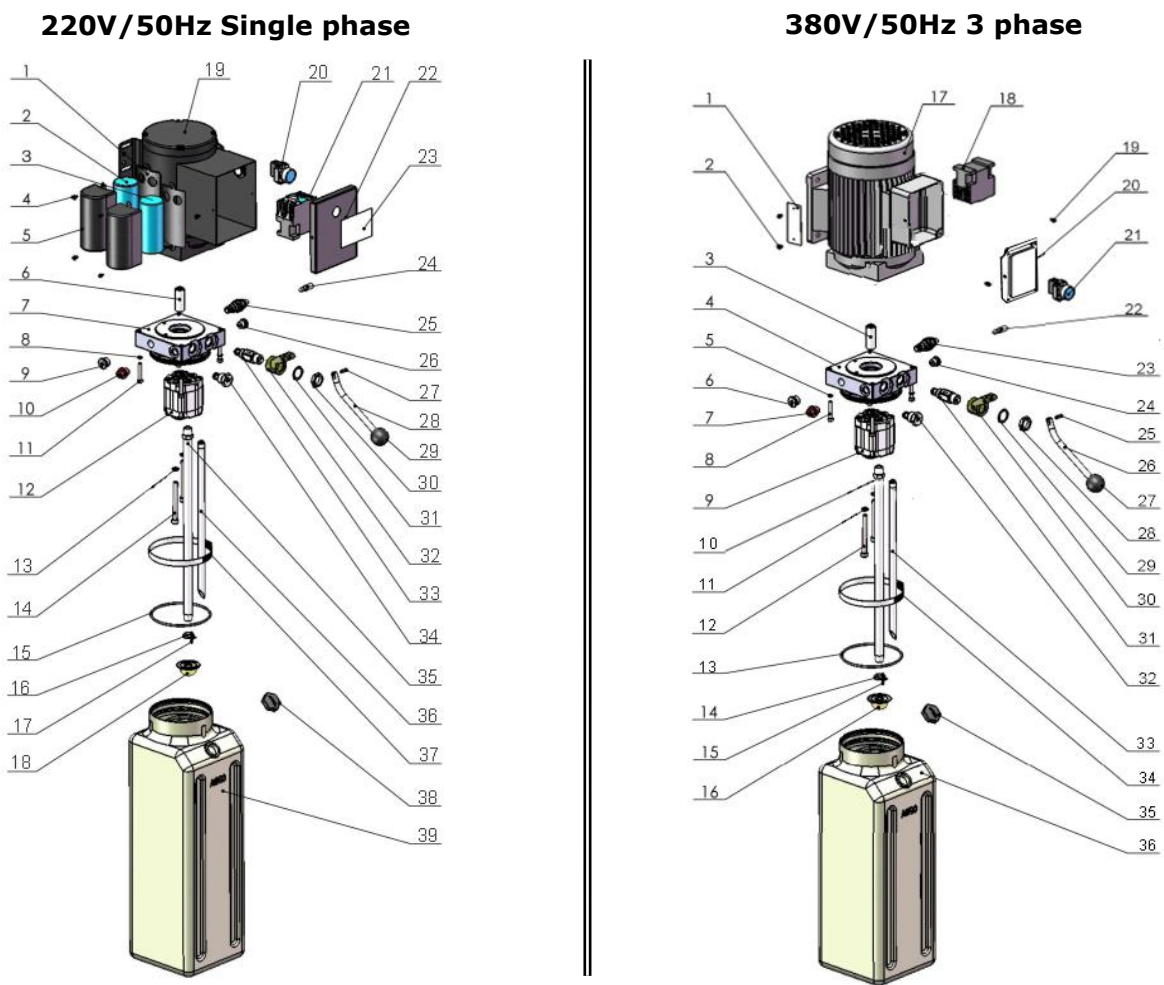


Fig. 34

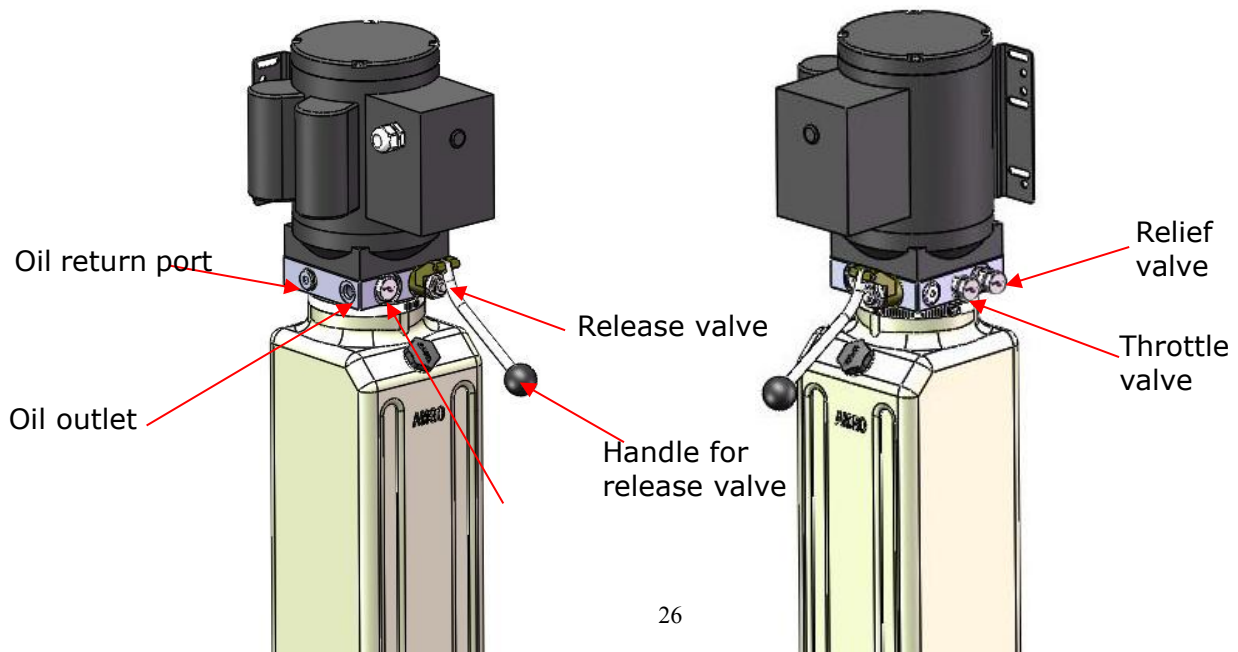
Parts For Manual Power Unit, 220V/50Hz/1 phase				
Item	Part#	Description	Qty.	Note
1	81400180	Rubber pad	2	
2	81400250	Start Capacitor	1	
3	81400200	Run Capacitor	1	
4	10420148	Cup Head Bolt with Washer	6	
5	81400066	Capacitor Protective Cap	2	
6	81400363	Motor Connecting Shaft	1	
7	80101013	Manifold Block	1	

8	10BP4-L149	Lock Washer	4	
9	81400276	Iron Plug	1	
10	81400259	Plastic Red Plug	1	
11	85090142	Socket bolt	4	
12	81400280	Gear Pump	1	
13	10BP4-L034	Lock Washer	2	
14	81400295	Socket bolt	2	
15	81400365	O-ring	1	
16	10BP4-L152	Ties	1	
17	85090167	Magnet	1	
18	81400290	Fliter	1	
19	81400413	Motor	1	
20	10420070	Switch	1	
21	41030055	AC connector	1	
22	81400287	Cover of Motor Terminal Box	1	
23	71111170	Name Plate	1	
24	81400560	Throttle Valve	1	
25	81400266	Relief Valve	1	
26	81400284	Iron Plug	1	
27	10720118	Hair pin	1	
28	81400451	Handle For Release Valve	1	
29	10BP4-L020	Plastic ball	1	
30	81400421	Release Valve Nut	1	
31	81400422	Self locking Washer	1	
32	81400449	Valve seat(low)	1	
33	81400567	Release valve	1	
34	81400566	Check valve	1	
35	81400288	Oil suction hose	1	
36	81400289	Oil return hose	1	
37	81400364	Clamp	1	
38	81400263	Oil tank cover	1	
39	81400275	Oil tank	1	

Parts For Manual Power Unit, 380V/50Hz/3 phase				
Item.	Part#	Description	Qty.	Note
1	71150055	AMGO Name plate	1	
2	81400300	Cup Head Bolt	2	
3	81400363	Motor Connecting Shaft	1	
4	81400362	Manifold block	1	
5	10BP4-L14 9	Lock Washer	4	
6	81400276	Iron plug	1	
7	81400259	Red rubber plug	1	
8	85090142	Socket bolt	4	

9	81400292	Gear pump	1	
10	81400288	Oil suction hose	1	
11	10BP4-L03 4	Lock washer	2	
12	81400295	Socket bolt	2	
13	81400365	O ring	1	
14	10BP4-L15 2	Ties	1	
5	85090167	Magnet	1	
16	81400290	Filter	1	
17	81400439	Motor	1	
18	81400348	AC connector	1	
19	10420148	Cup Head Bolt with washer	6	
20	80101022	Cover of Motor Terminal Box	1	
21	10420070	Switch button	1	
22	81400560	Throttle valve	1	
23	81400266	Relief valve	1	
24	81400284	Iron plug	1	
25	81400452	Hair pin	1	
26	81400451	Release Valve Handle	1	
27	10BP4-L02 0	Plastic Ball	1	
28	81400421	Release Valve Nut	1	
29	81400422	Self Locked washer	1	
30	81400449	Valve seat(low)	1	
31	81400567	Release valve	1	
32	81400566	Check valve	1	
33	81400289	Oil return hose	1	
34	81400364	Clamp	1	
35	81400263	Oil tank cover	1	
36	81400275	Oil tank	1	

Illustration of hydraulic valve for hydraulic power unit



Check valve

Fig. 35

V. TEST RUN

1. Adjust synchronous cable (See Fig.36)

Push button "UP" to lift the carriages up to the position that the cable nut is over chain pulley and lock the two vehicle carriages on the same grating of safety lock. Use wrench to hold the cable fitting, meanwhile use ratchet 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.

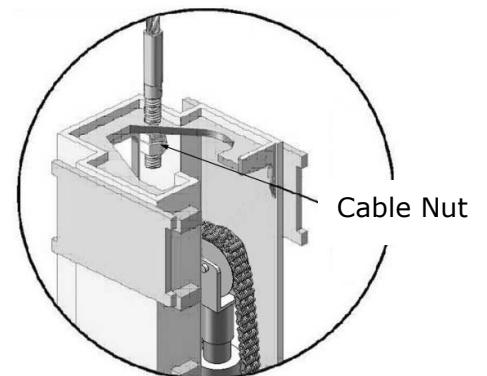


Fig. 36

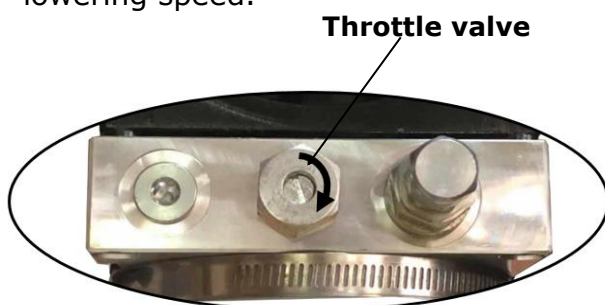
2. Adjust safety cable

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.

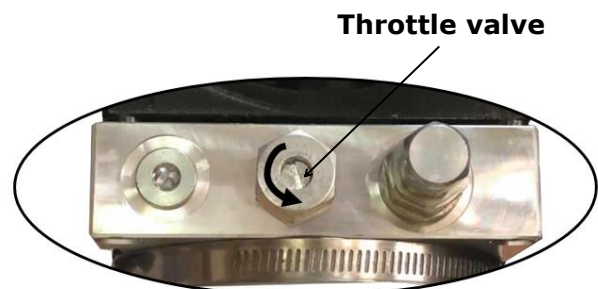
At last, install the plastic cover of the safety device.

3. Adjust the lower 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. 37

4. Test with load

After finishing the above adjustment, test running the lift with load. Run the lift in low position for several times first, make sure the lift can rise and lower synchronously, the Safety Device can lock and release synchronously. And then test run the lift to the top completely. If there is anything improper, repeat the above adjustment.

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

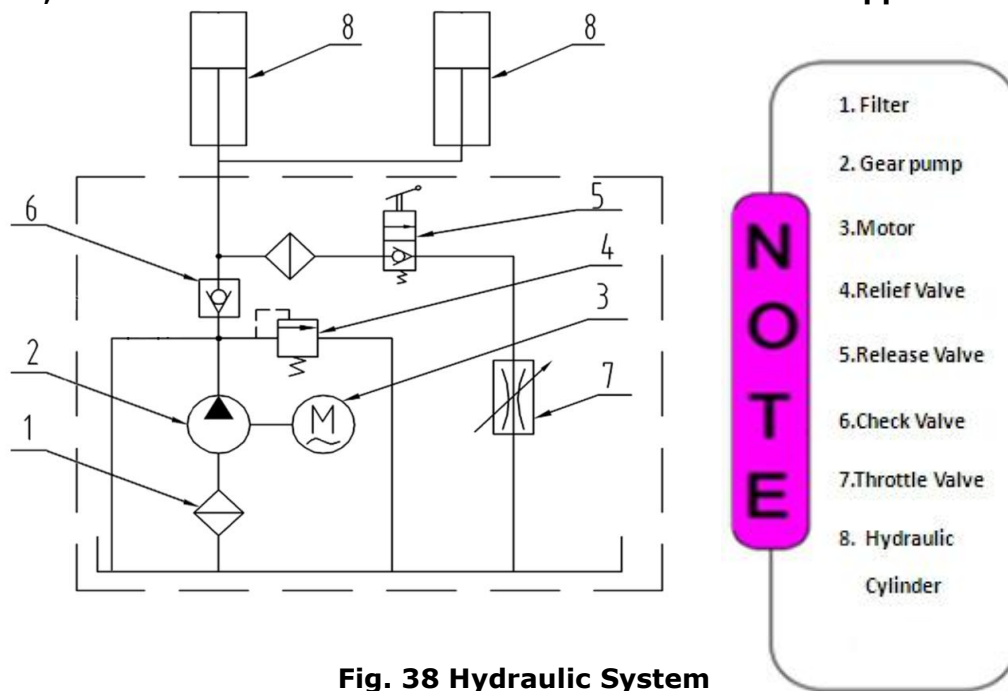


Fig. 38 Hydraulic System

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.
5. Turn off the power.

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 columns for plumbness.
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.

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. AC contactor in damage 	<ol style="list-style-type: none"> 1. Replace button 2.Repair all wiring connections 3. Repair or replace motor 4. Replace or replace
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. SCARPING OF EQUIPMENT

Once the equipment is unusable and needs to be scarped, please follow the local laws and regulations.

CLASSIC LIFT