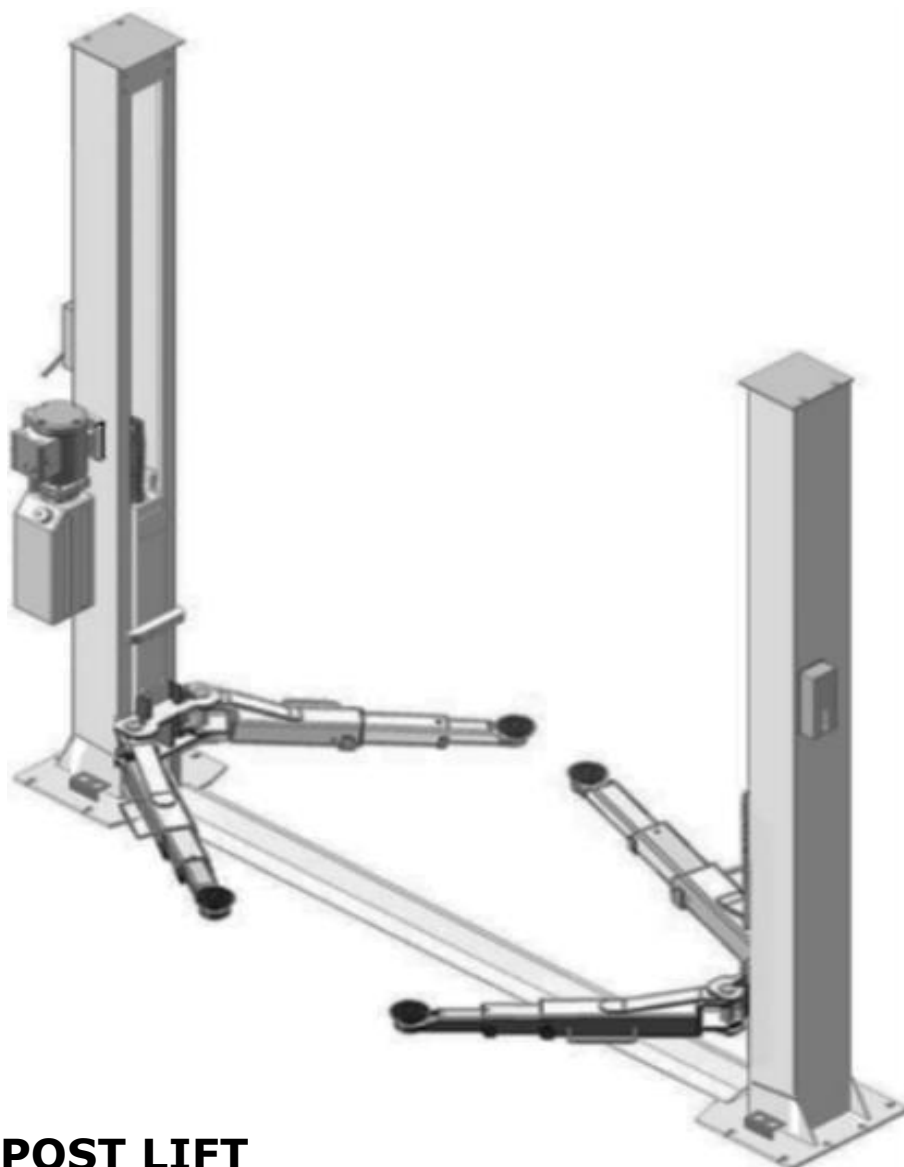


AMGO  [®] **Hydraulics**

Installation And Service Manual



TWO POST LIFT
Model: BP-9X BP-10

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I. PRODUCT FEATURES AND SPECIFICATIONS

FLOORPLATE CHAIN-DRIVE TWO POST LIFT

Model BP-9X , BP-10 (See Fig. 1)

- Compact design
- Dual hydraulic cylinders is designed and manufactured according to USA standard, utilizing imported seals
- Self- lubricating UHMW Polyethylene sliders and bronze bush
- Floor-plate design, provide unobstructed floor space
- Single-point safety release, and dual safety design
- 4 three-stage arms design, combined drop-in and double screw rubber pad assembly

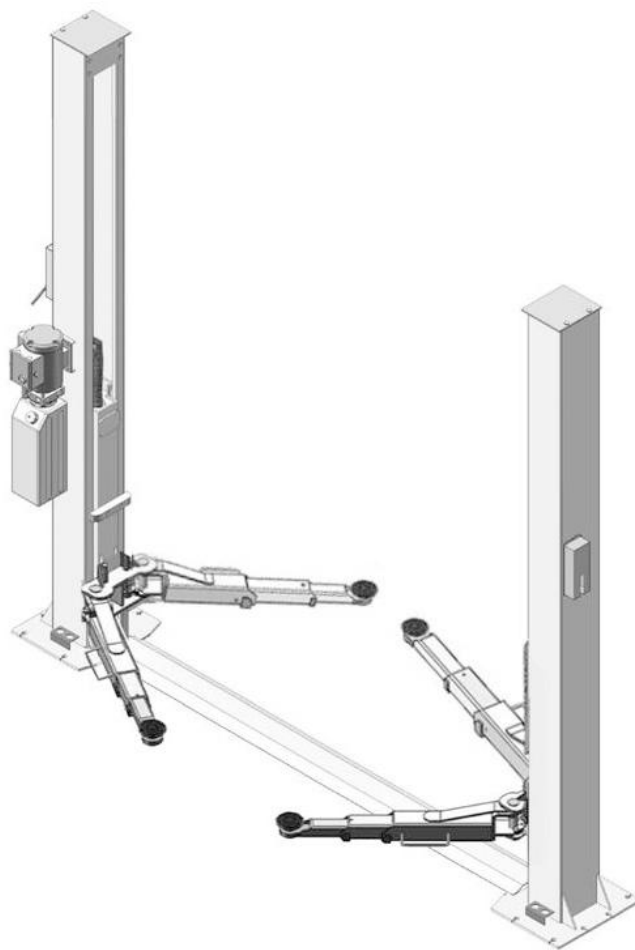


Fig. 1

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Height	Overall Width	Minimum Pad Height	Motor
BP-9X	9000lbs	76-3/8"~85-3/8"	49s	111-7/8"	136-1/4"	3-1/2"~12-1/2"	2.0HP
BP-10	10000lbs	77-3/8"~86-3/8"	62s	111-7/8"	139-1/8"	3-1/2"~12-1/2"	2.0HP

Arm Swings View

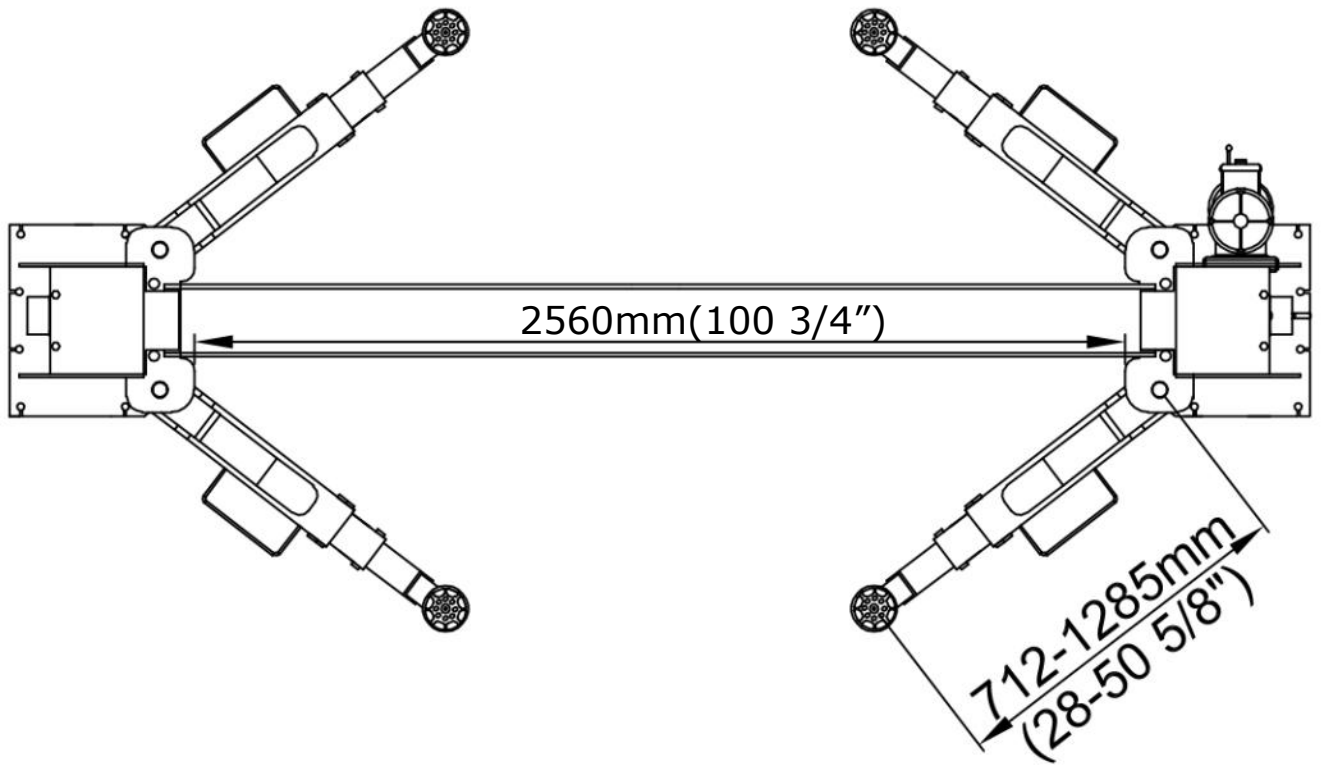


Fig. 2

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.

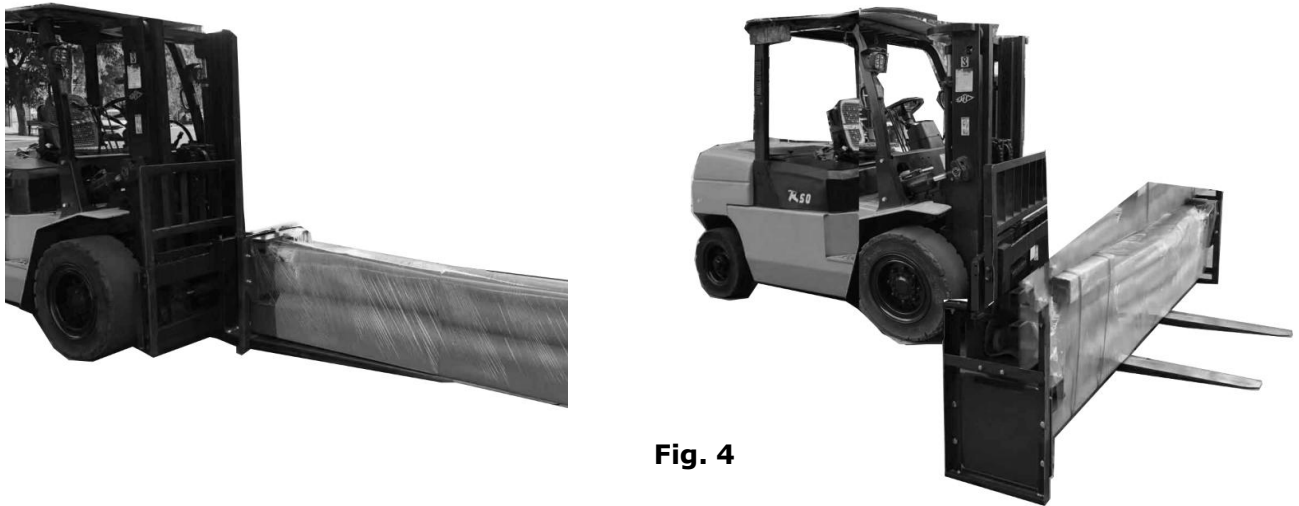


Fig. 4

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 4" 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.

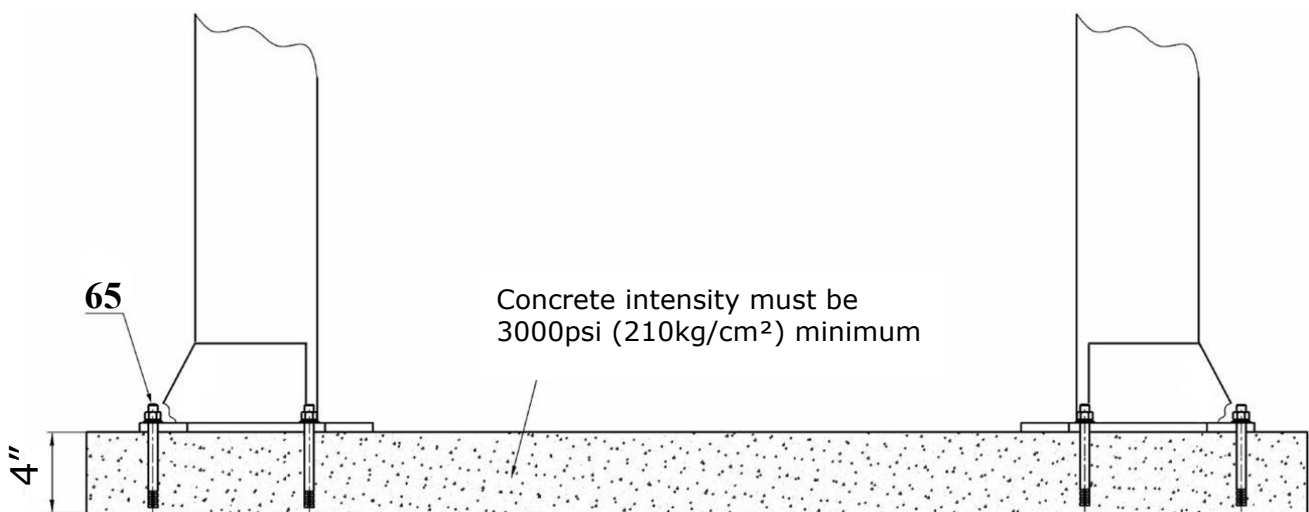


Fig. 5

E. POWER SUPPLY

The electrical source must be 2.0HP 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**).

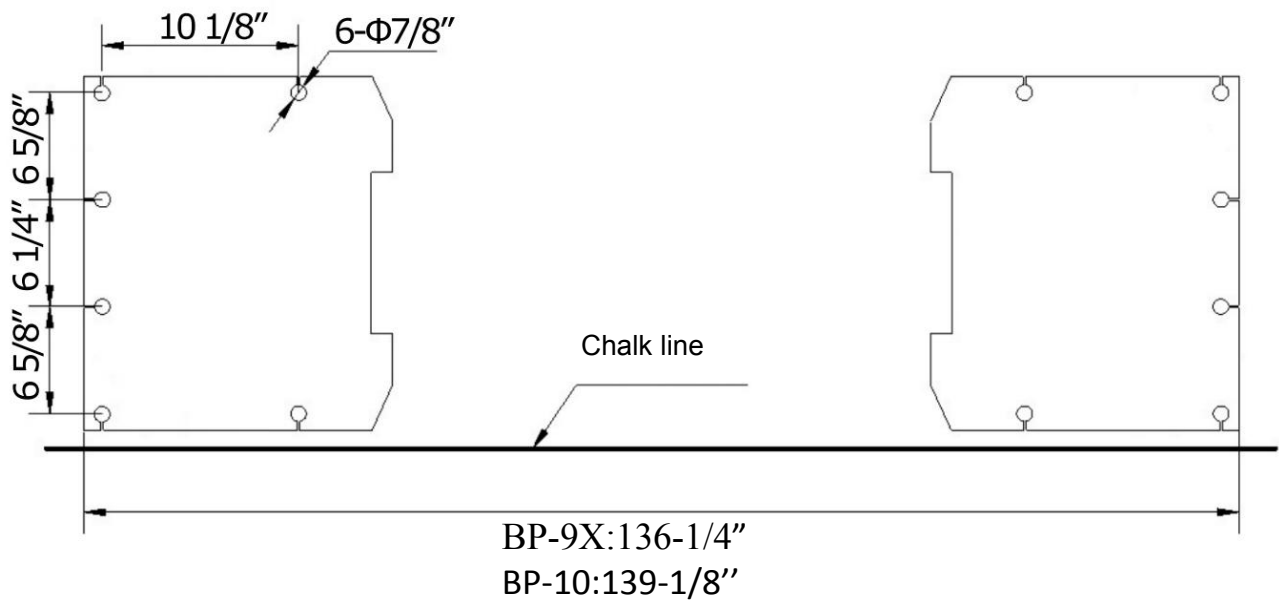


Fig. 6

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).

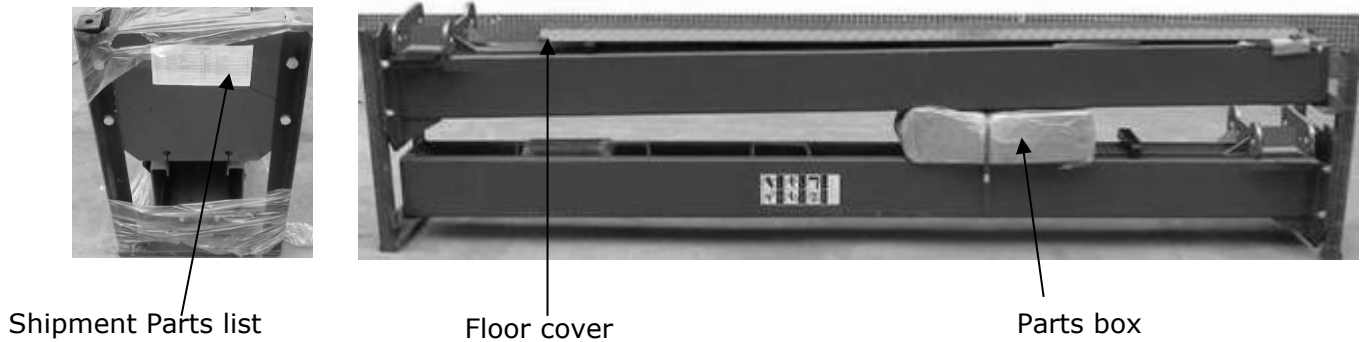


Fig. 8

3. Loosen the screws of the upper package stand, take off the upper column and remove the package stand.

4. Move aside the parts and check the parts according to the shipment parts list.

(See Fig. 9, Fig. 10).

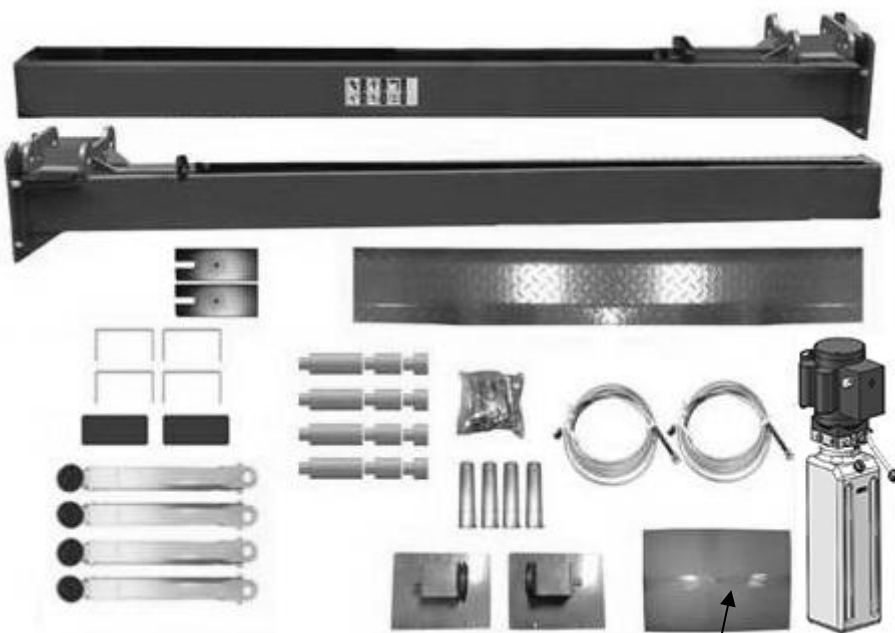


Fig. 9

78



Fig. 10

Parts in the parts box (78)

5. Open the carton of parts and check the parts according to parts box list(See 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).

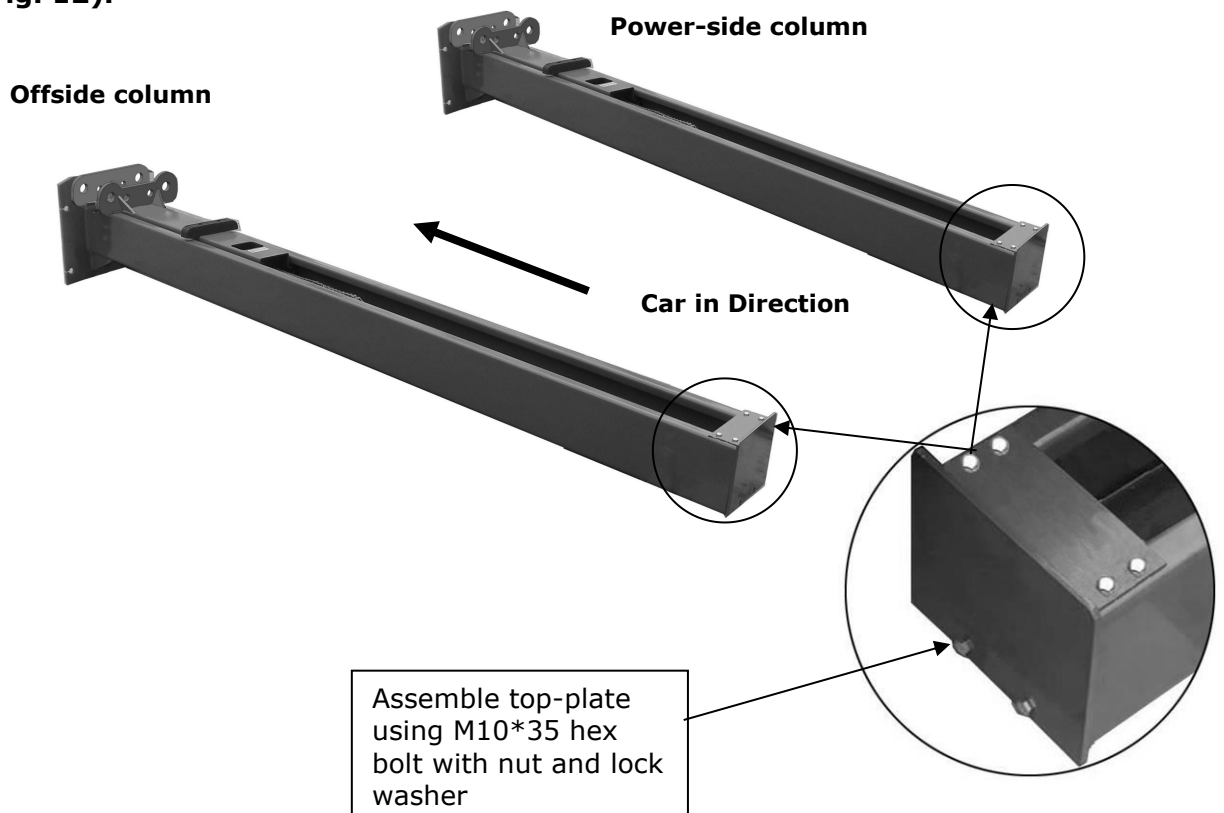


Fig. 12

E. Position columns (See Fig. 13)

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

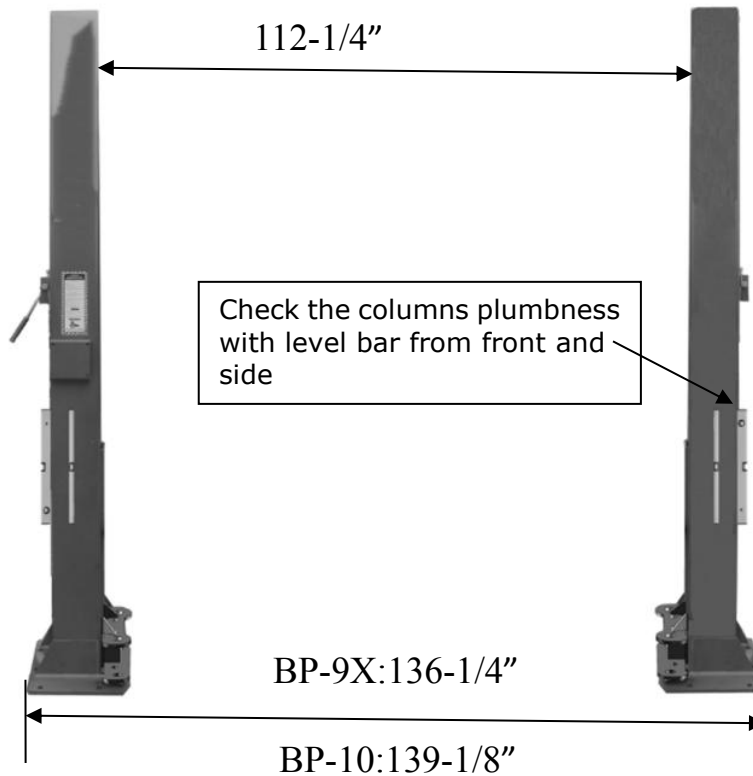


Fig. 13

F. Fix anchor bolts

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

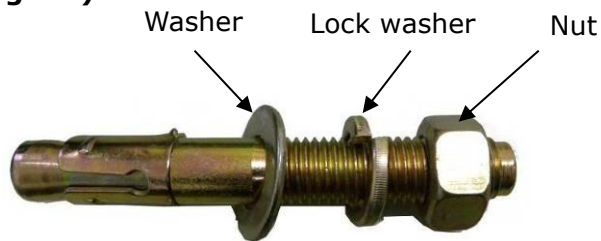


Fig. 14

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 3-1/2".

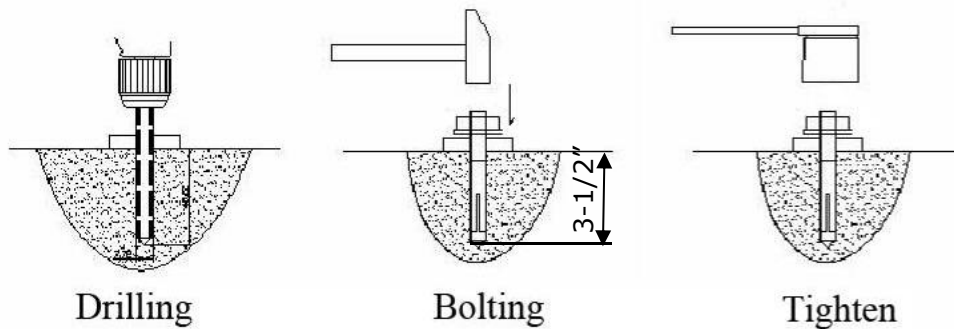


Fig. 15

G. Raise up the carriage and lock it in the same position of safety device, see Fig.16

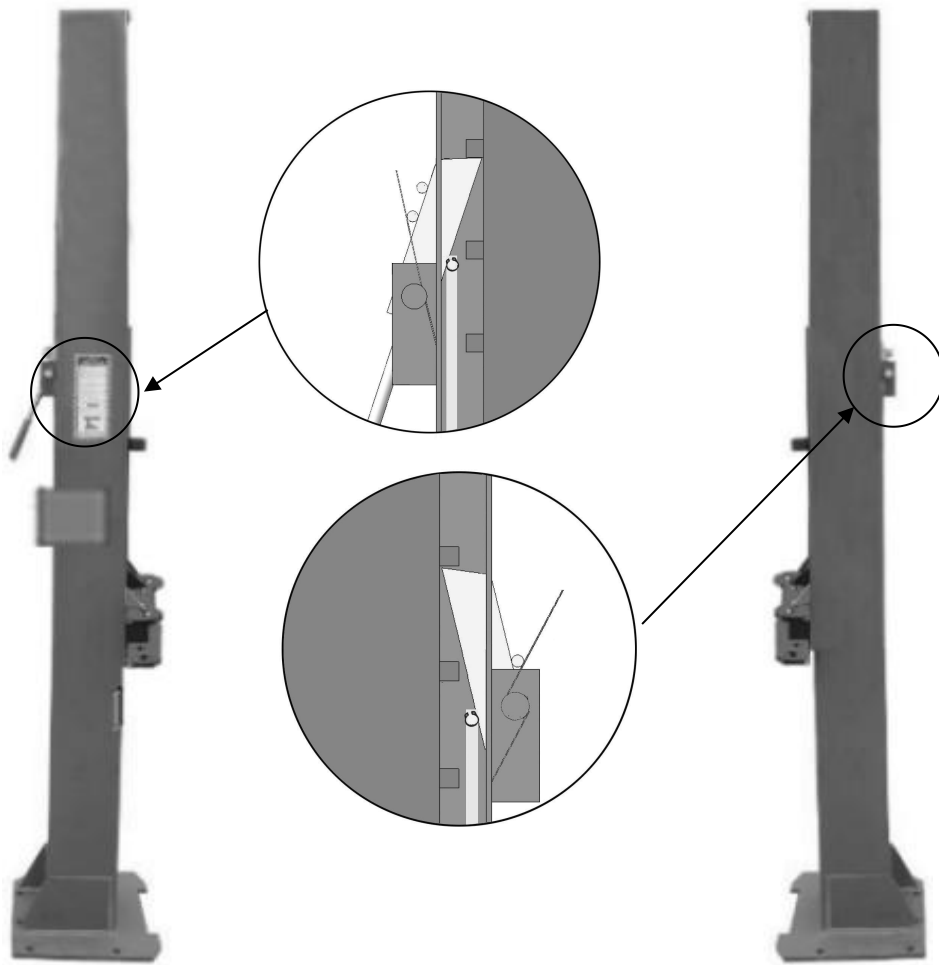


Fig.16

H. Connecting the cables

1. Connect the cables follow step **a** to **f**. (See Fig. 17).

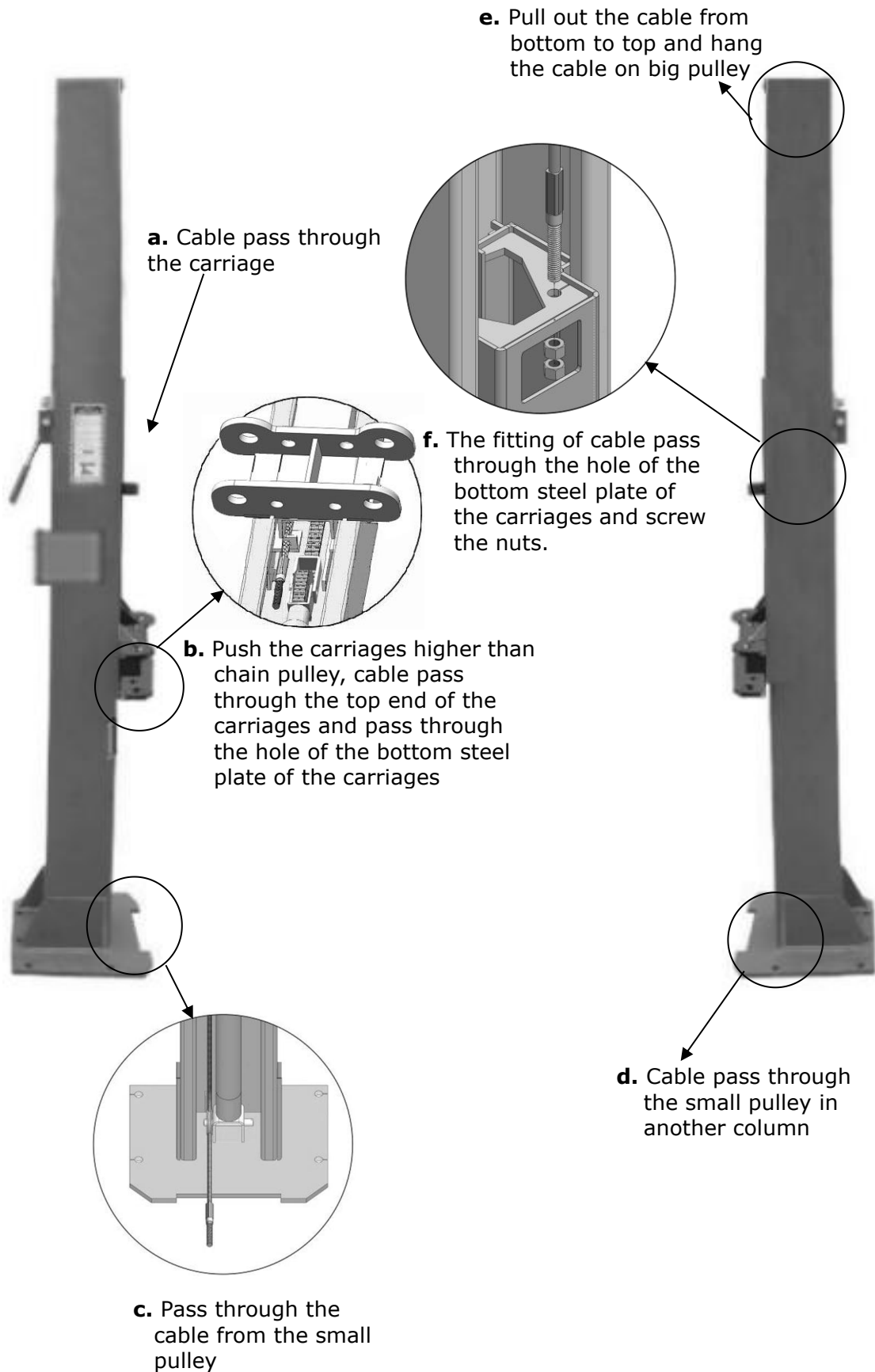


Fig.17

2. Assemble cables (See Fig. 18)

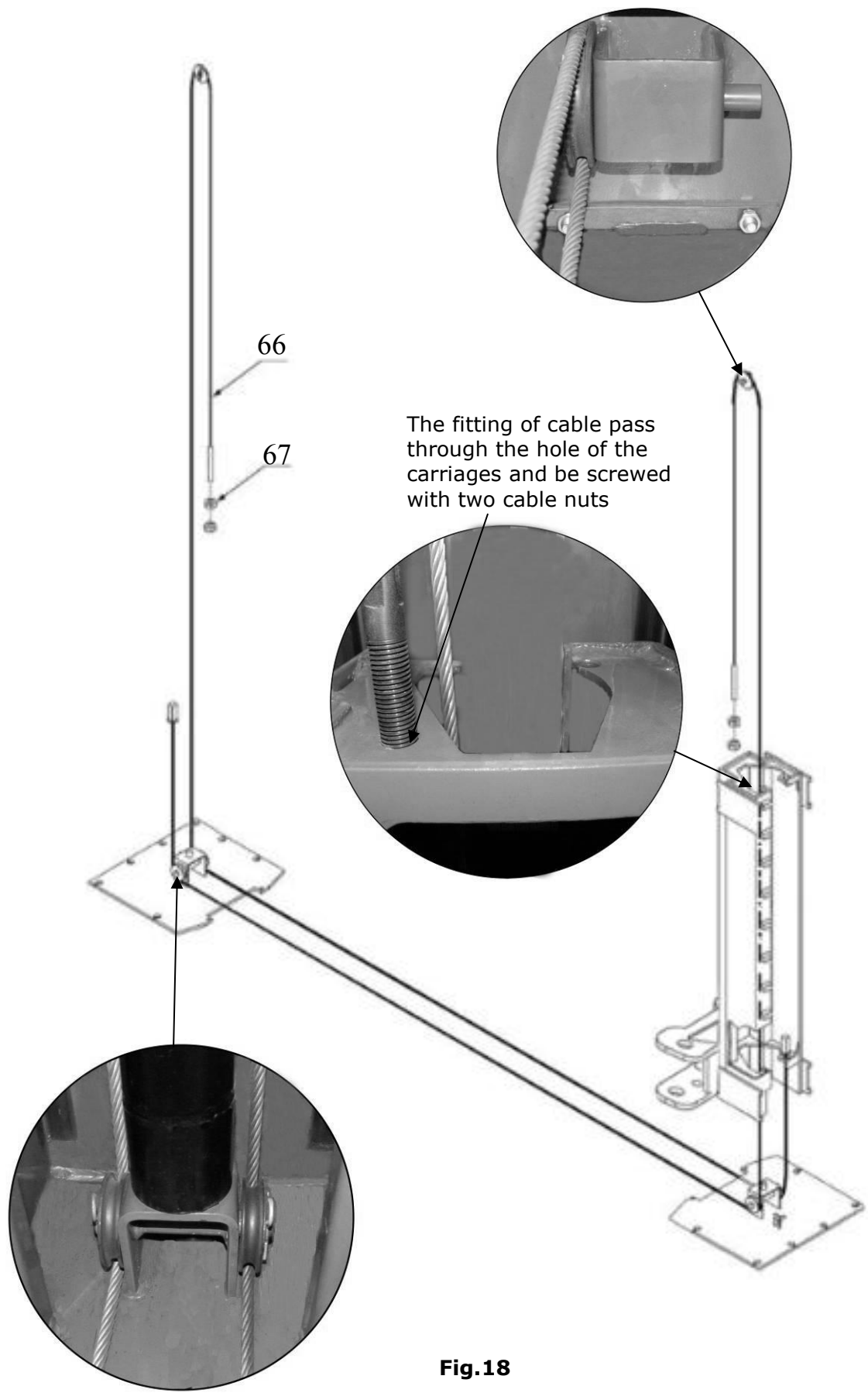


Fig.18

I. Assemble oil hose assy. (See Fig. 19)

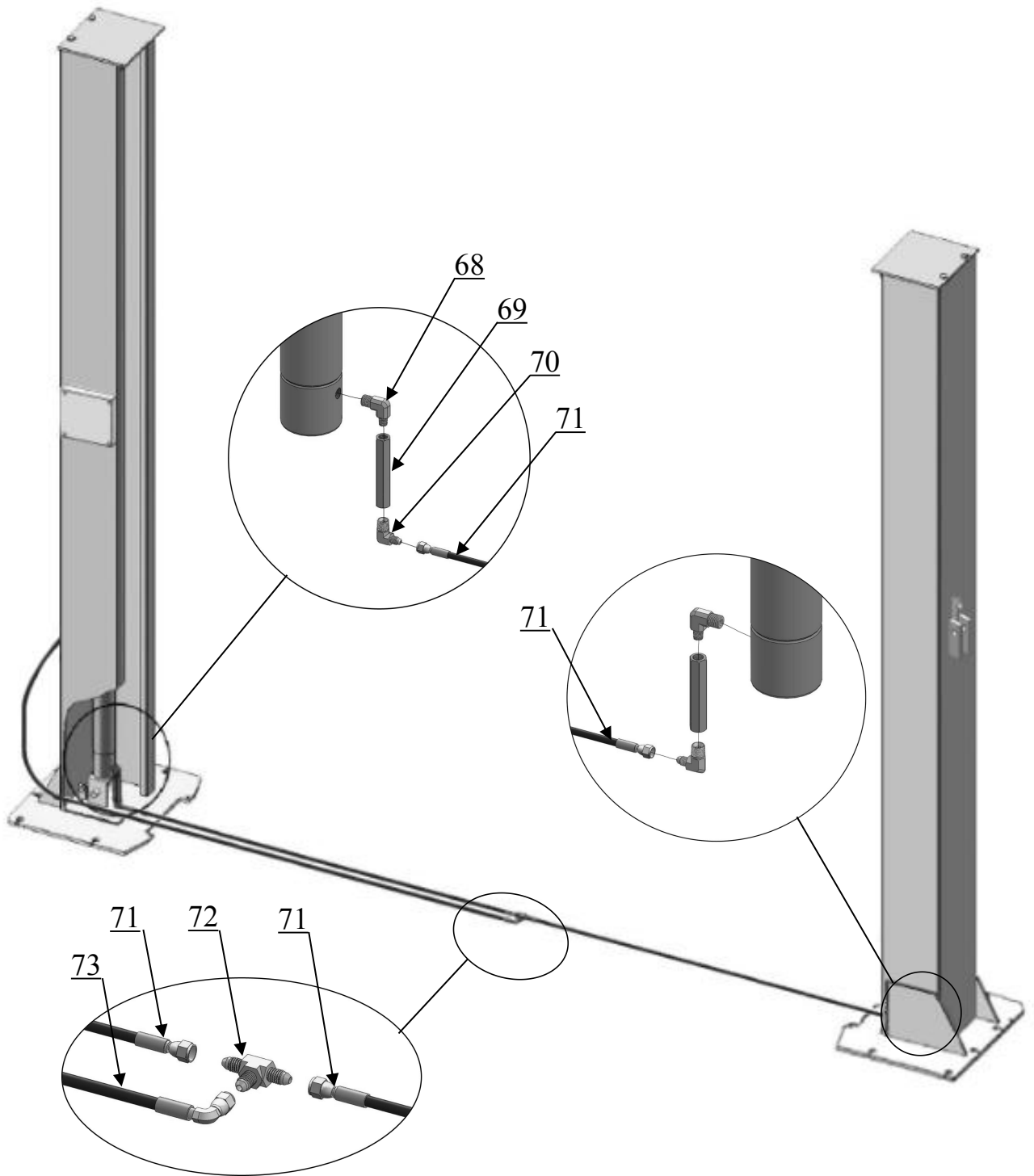


Fig.19

J. Install power unit and oil hose(See Fig. 20).

NOTE: Tighten oil hose and power unit fittings, avoid oil leakage. The oil hose of power unit should be fixed with retainer.

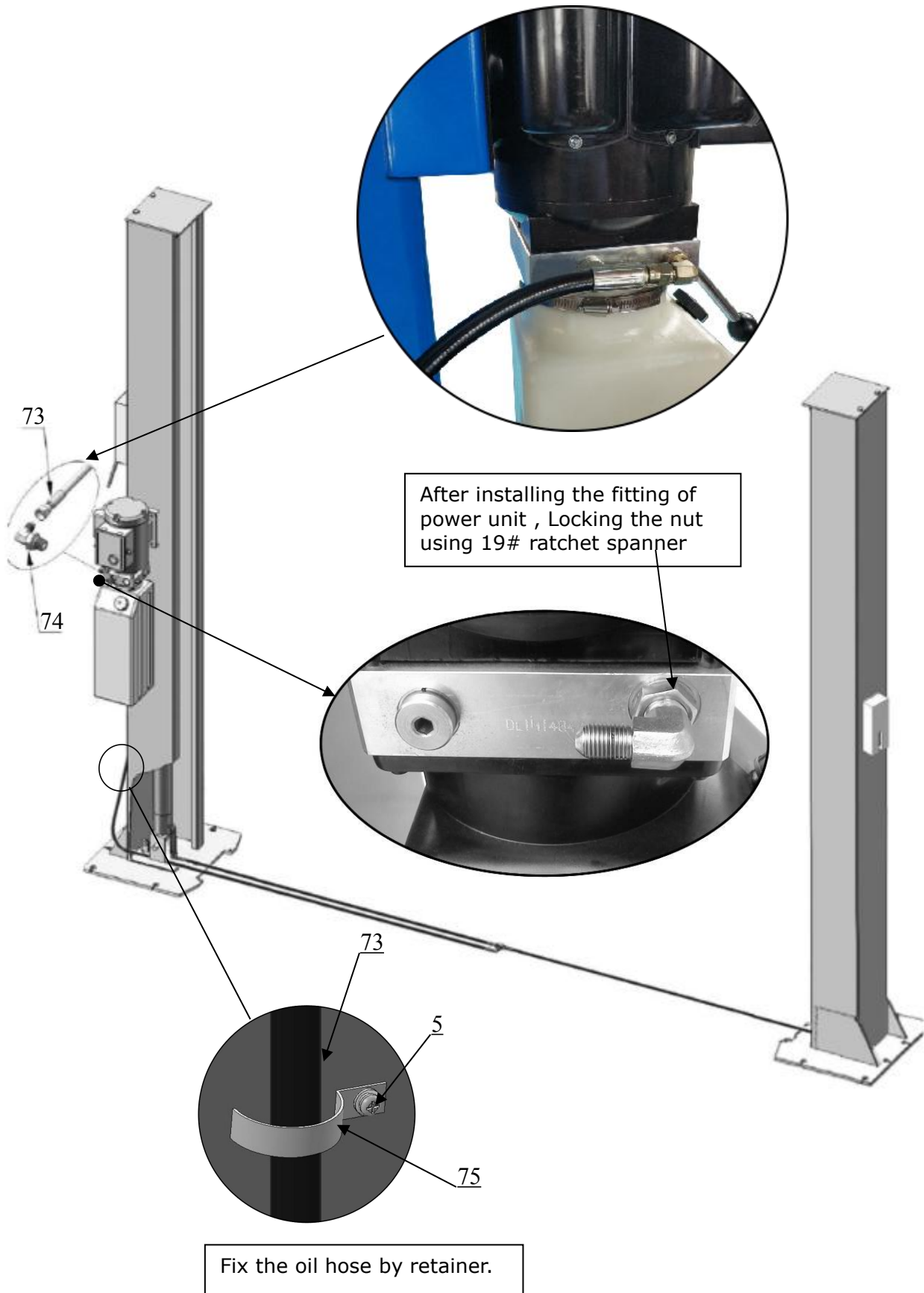


Fig.20

K. Install safety cable (See Fig. 21).

NOTE: 1. Assemble safety cable from offside safety assy.

2. Pay attention to the connecting direction of safety cable.

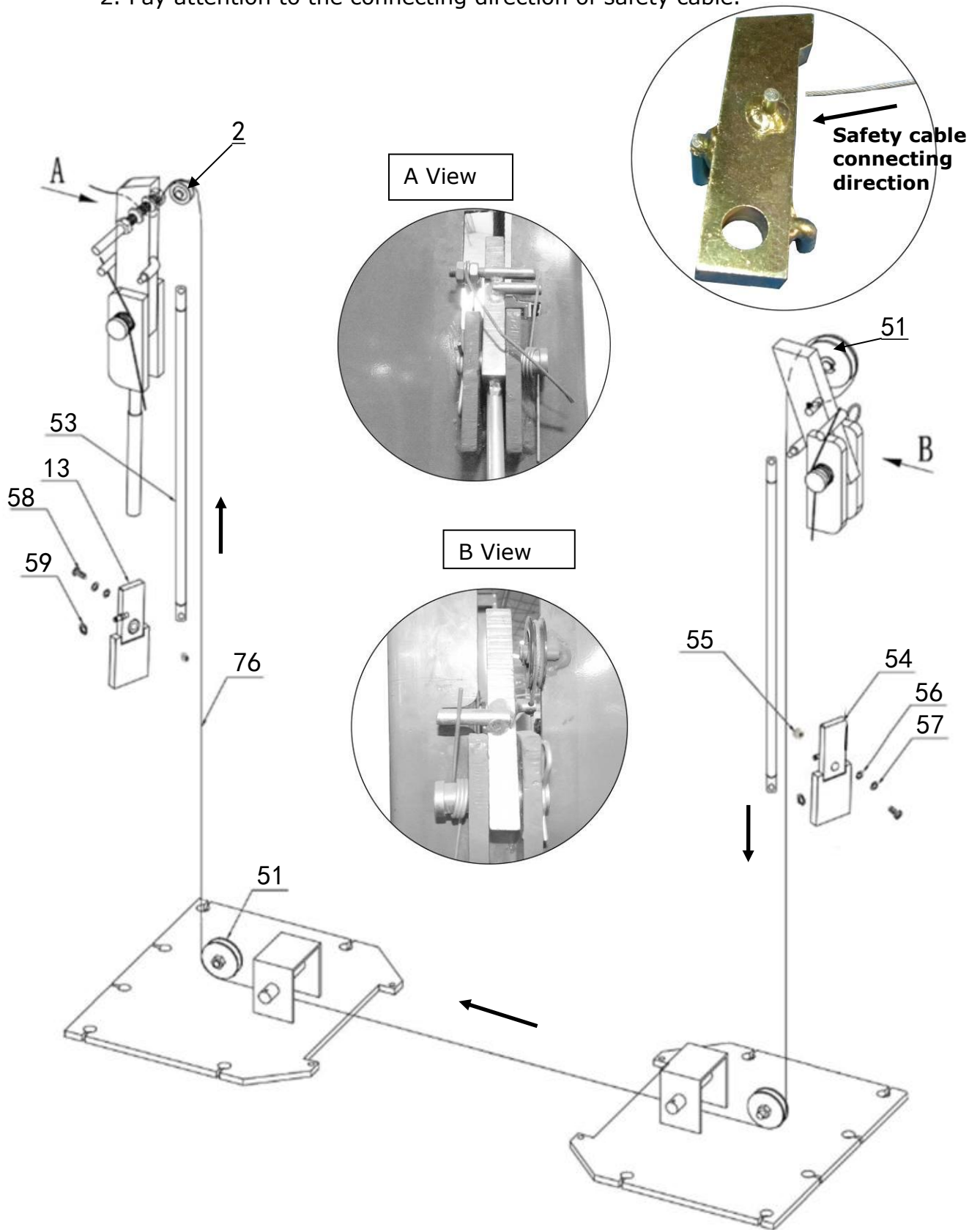
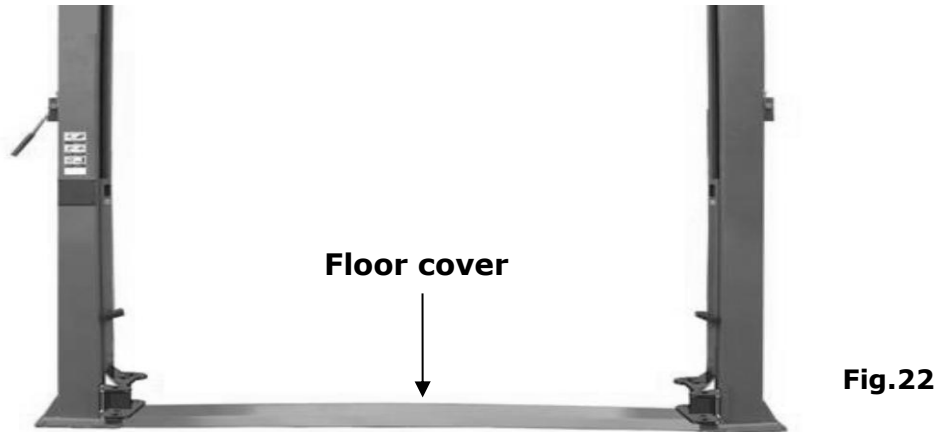


Fig.21

L. Assemble floor cover (See Fig. 22).



M. Install lifting arms and adjust the arm locks.

1. Install the lifting arms (See Fig. 23)

2. Lowering the carriages down to the lowest position, then use the 8# socket head wrench to loosen the socket bolt (See Fig. 24)

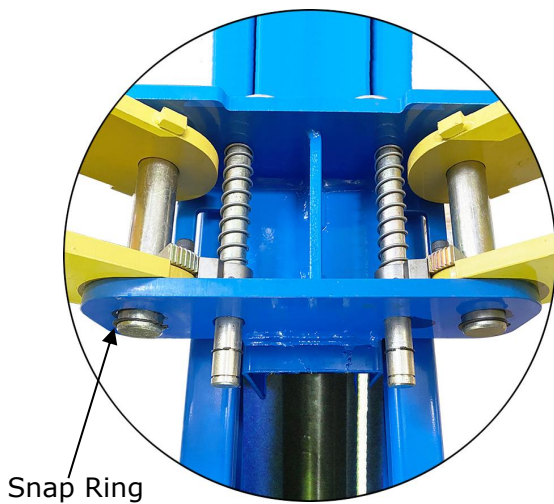


Fig. 23

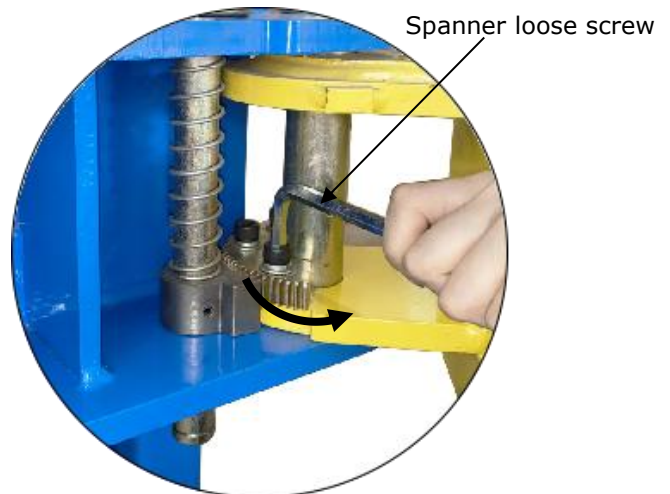


Fig. 24

3. Adjust the moon gear as arrow direction (See Fig. 25).

4. Adjust the moon gear and arm lock to make it to be meshed, then tighten bolts of arm lock (See Fig. 26).

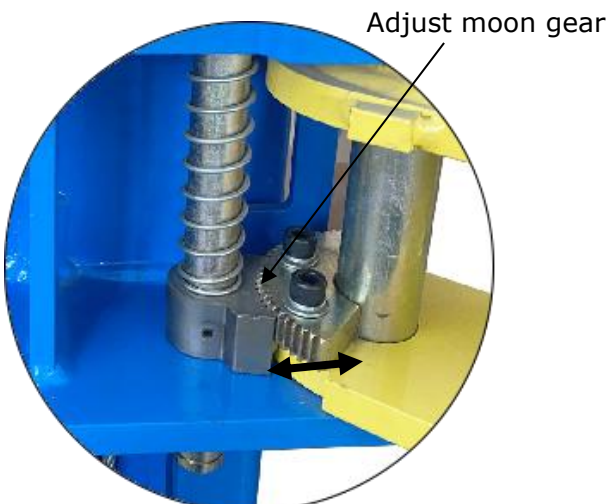


Fig. 25

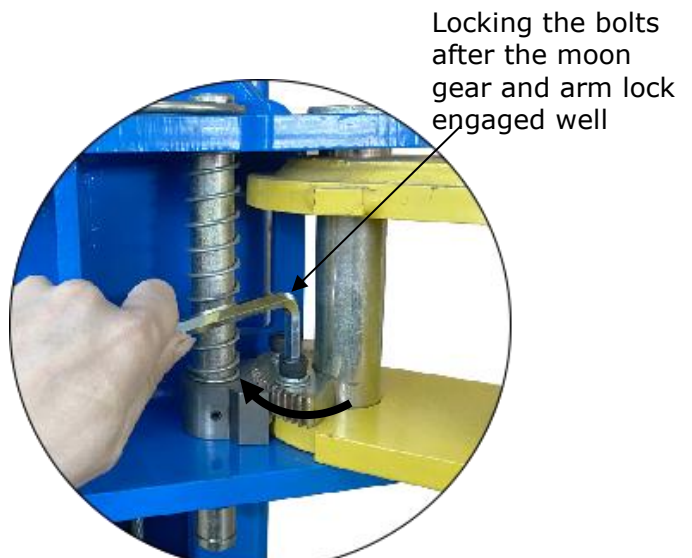


Fig. 26

N. 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#

O. Install Electrical System

Connect the power source on the data plate of Power Unit.

Note: For the safety of operators, the power wiring must contact the floor well.

Single phase motor

1. Circuit diagram (See Fig. 27)

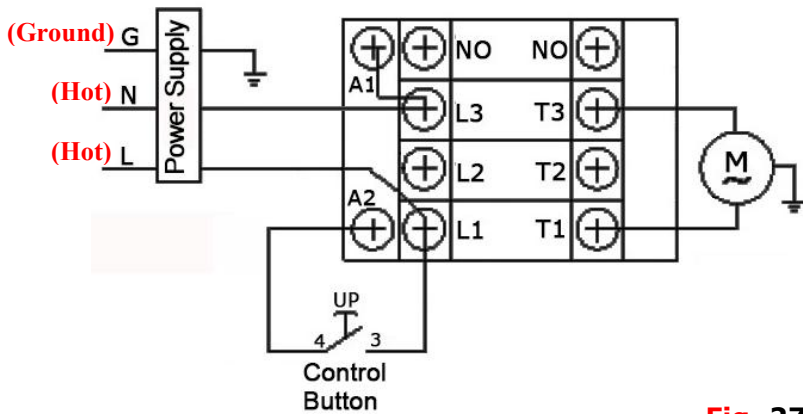
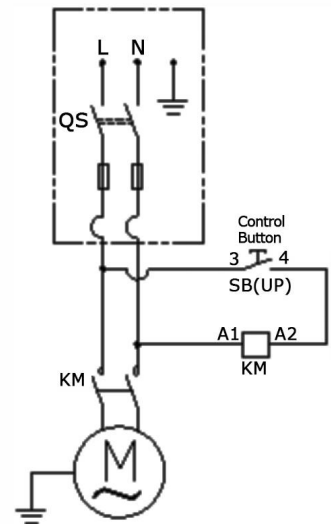


Fig. 27



2. Connection step (See Fig. 28)

Connecting the two power supply wires 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

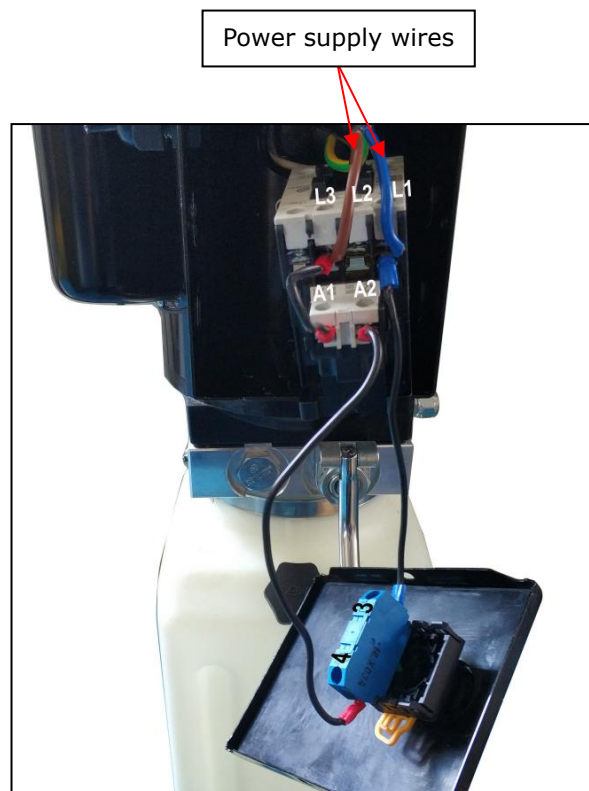


Fig. 28

IV. EXPLODED VIEW

Model BP-9X , BP-10

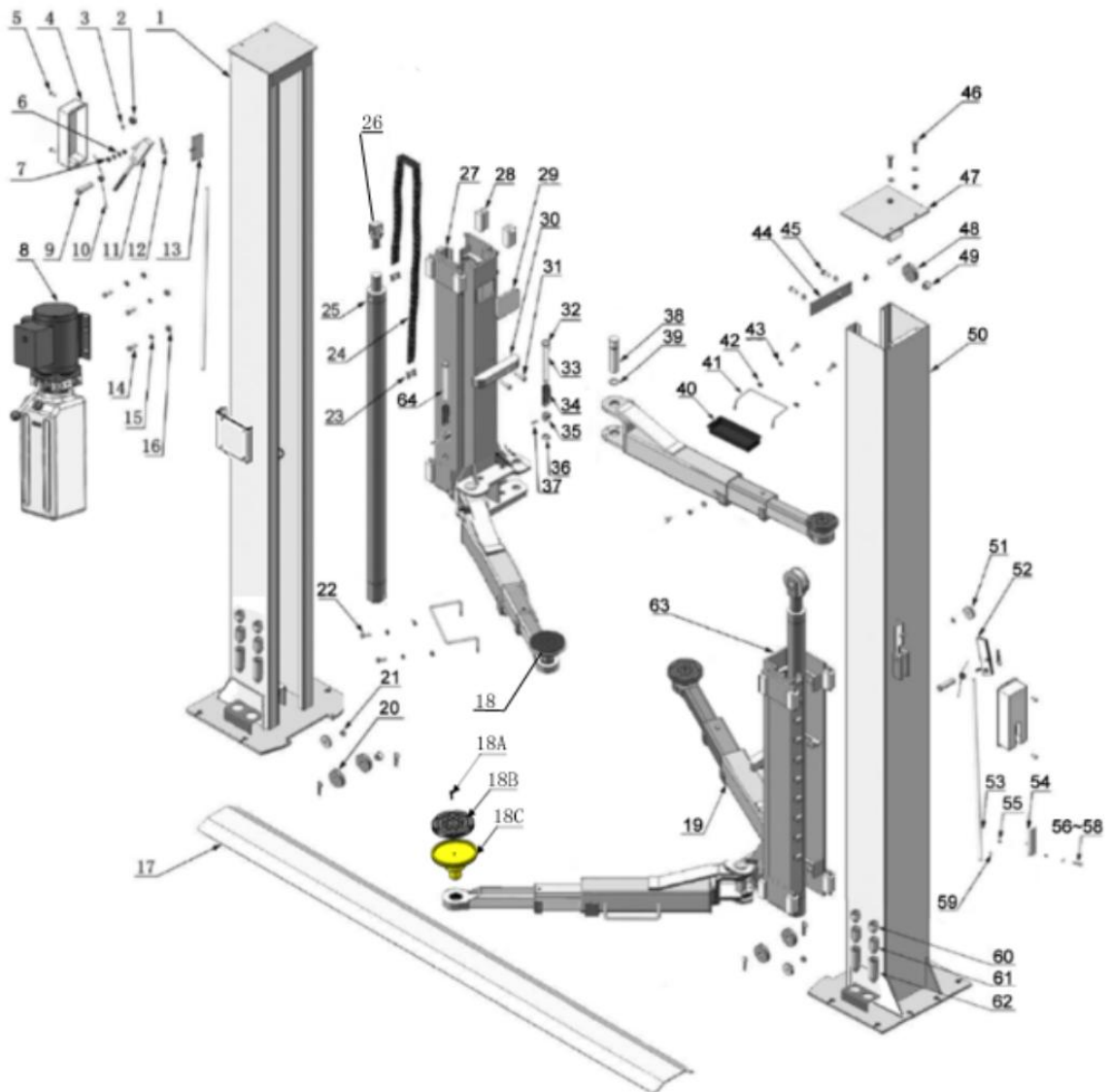


Fig.29

Parts list for BP-9X, BP-10

Item No.	Part#	Description	QTY.	
			BP-9X	BP-10
1	11203257	Power-side Column	1	0
	11203259		0	1
2	10209011	Plastic Pulley for safety device(white)	1	1
3	10209010	Snap Ring ϕ 10	2	2
4	10209008	Safety device protect cover	2	2
5	10209009	Cap Head Bolt M6*8	6	6
6	10206006	Washer ϕ 12	2	2
7	10206023A	Hex Nut M12	2	2
8	071101	Manual Power Unit	1	1
9	11206002	Safety Pin	2	2
10	10209007	Safety Spring	2	2
11	11203263	Power-side Safety device	1	1
12	10209012	Elastic Pin	8	8
13	11203261	Safety Block (Main)	1	1
14	10209003	Hex Bolt M8x25	4	4
15	10209004	Rubber Ring ϕ 8*20*3	4	4
16	10209005	Self locking nut M8	8	8
17	11203003	Floor Cover	1	1
18	10201046A	Rubber Pad Assy.	4	4
18A	10420138	Socket Bolt M6*16	4	4
18B	10209134	Rubber Pad	4	4
18C	11680030C	Rubber Pad Frame	4	4
19	10203156	Lifting Arm Assy	4	4
20	11206020	Pulley	4	4
21	10209056	Self locking nut M10	2	2
22	10201002	Hex Bolt M8*16	14	14
23	1102041002	Chain Pin ϕ 12*43	4	4
24	1002045001	Chain BL644	2	2
25	10201008	Hydraulic Cylinder	2	2
	10203078		0	2
26	11203176	Chain pulley support assy.	2	2
27	11203267	Power-side carriage	1	0
	11203265		0	1
28	10209015	Slider	16	16
29	10209016	Carriage Plastic Cover	2	2
30	10206045	Protective Rubber Bar	4	4
31	10206046	Self-tapping Screw M4.5*50	4	4
32	10209153	Pull Ring for Arm Lock Bar	4	4
33	11217046A	Arm Lock Bar (left)	2	2
34	10217045	Snap Ring ϕ 26* ϕ 31* ϕ 2.5	4	4
35	10217044-01	Moon gear	4	4
36	10206032	Snap Ring ϕ 25	4	4
37	10206036	Hair Pin ϕ 6*40	4	4
38	11217168	Arm Pin	4	4
39	10520023	Snap Ring ϕ 38	4	4
40	10206190	Tool Tray (short)	2	2
41	11206191	Toe guard (short)	4	4

Item No.	Part#	Description	QTY.	
			BP-9X	BP-10
42	10209033	Washer φ8	22	22
43	10209034	Lock Washer φ8	14	14
44	11203009	Connecting plate	2	2
45	10209043	Hex Bolt M8*20	8	8
46	10209046	Hex Bolt M10*35	4	4
46A	10209039	Spring washer φ10	4	4
46B	10209021	Hex Nut M10	4	4
47	11203268	Top plate	2	0
	11203266		0	2
48	11209045	Pulley	2	2
49	10209057A	Bronze Bush For Pulley	6	6
50	11203258	Offside column	1	0
	11203260		0	1
51	10209049	Small Plastic Pulley (Black)	3	3
52	11203264	Offside safety device	1	1
53	11203784	Coupling	2	2
54	11203262	Safety Block (Secondly)	1	1
55	10420018	Self locking nut M6	2	2
56	10420045	Washer φ6	2	2
57	10209149	Lock Washer φ6	2	2
58	10217013	Hex Bolt M6*20	2	2
59	10420049	Split Pin φ2*16	4	4
60	11209051B	Stackable Adapter (1.5")	4	4
61	11209052B	Stackable Adapter (2.5")	4	4
62	11209053B	Stackable Adapter (5")	4	4
63	11203136	Offside Carriage	1	0
	11203145		0	1
64	11217046	Arm Lock Bar (Right)	2	2
65	10209059	Anchor bolt 3/4*5-1/2	12	12
66	10203020	Cable Assy.φ9.52*8225mm	2	0
	10203069	Cable Assy.φ9.52*8290mm	0	2
67	10209066	Hex Nut M16	4	4
68	10207024	90° Fitting 3/8NPT(M)*1/4NPT(M)	2	2
69	11201082	Extended Straight Fitting L=98mm	2	2
70	10420097	90° Fitting 1/4NPT(M)*1/4JIC(M)	2	2
71	10203109	Oil Hose 1/4*1445mm	2	0
	10203107	Oil Hose 1/4*1475mm	0	2
72	10211016	T Fitting	1	1
73	10201081-01	Oil Hose 1/4*2980mm	1	0
	10203106-01	Oil Hose 1/4*3050mm	0	1
74	10209060	90° Fitting for Power unit	1	1
75	11217048	Cable clamp	2	2
76	10203021	Safety cable assy.φ2.5*7250mm	1	0
	10203071	Safety cable assy.φ2.5*7325mm	0	1
77	10203501B	Parts box	1	0
	10203502A		0	1
78	10201090	Shim (1mm)	10	10
	10620065	Shim(2mm)	10	10

4.1 Chain pulley seat assy. (11203176) explosion view

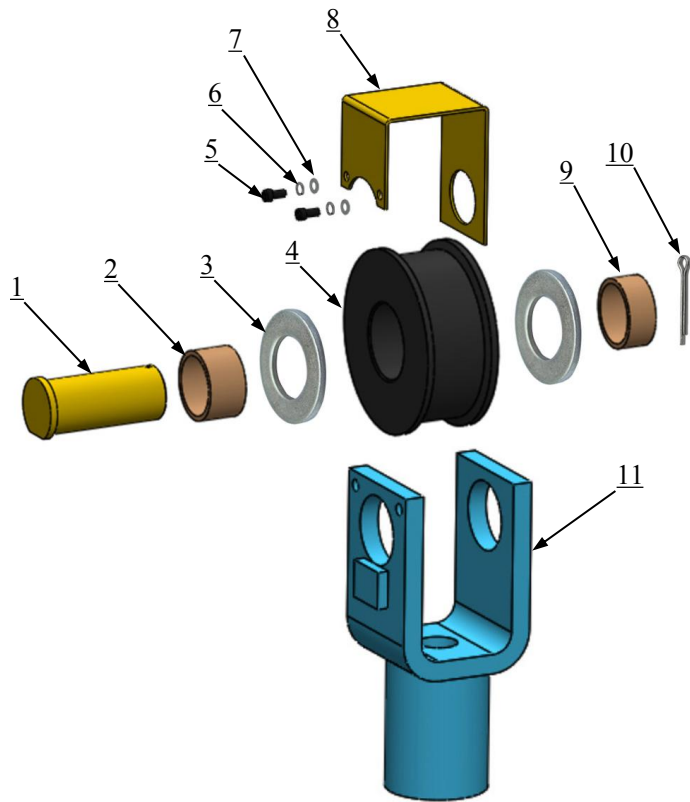


Fig.30

Item	Part#	Description	QTY.
1	11203040	Pin for chain pulley	2
2	10203004A	Bronze bush $\phi 31 * \phi 25.1 * 21$	2
3	10640109	Washer $\phi 44 * \phi 25.2 * 2$	4
4	1102023002	Chain Pulley $\phi 105 * 41$	2
5	81400335	Socket bolt M5*10	4
6	10209143	Spring Washer $\phi 5$	4
7	10420152	Washer $\phi 5$	4
8	11201152	Chain stop plate	2
9	10217020	Bronze bush $\phi 31 * \phi 25.1 * 16$	2
10	10201005	Split pin($\phi 4 * 50$)	2
11	11201004	Chain pulley seat	2

4.2 Lifting arm(10203156) explosion view

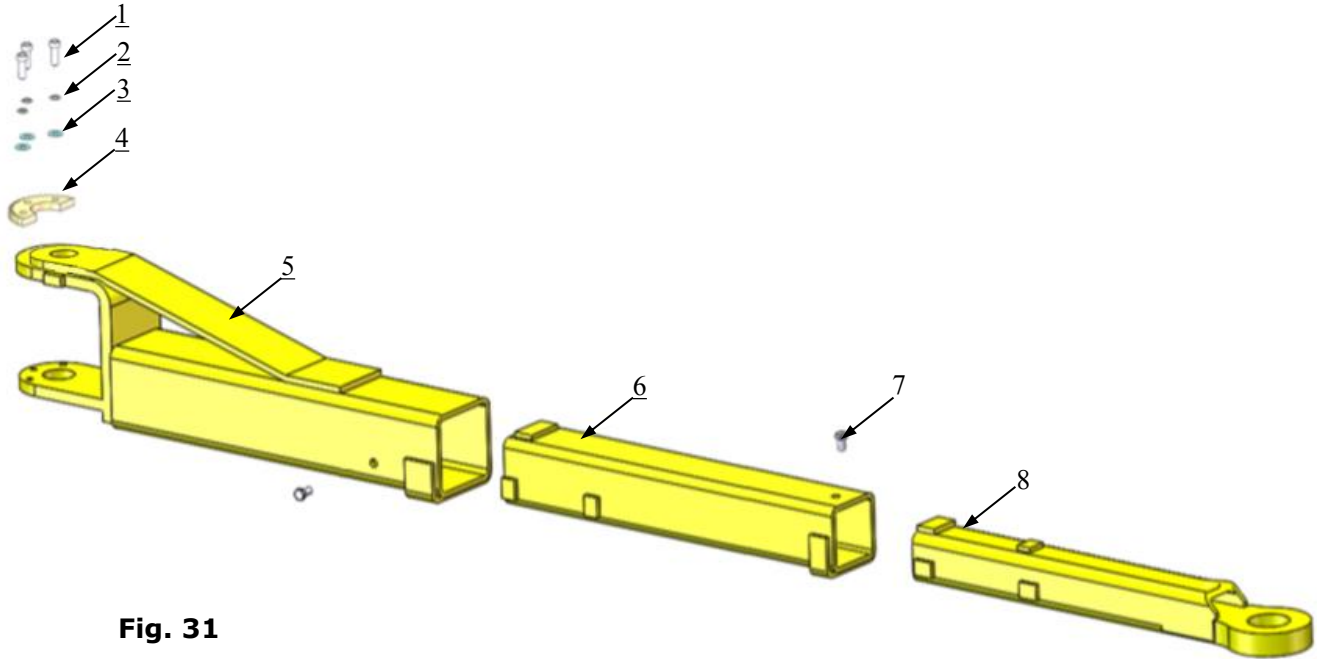


Fig. 31

Item	Part#	Description	QTY.
1	10206048	Hex Bolt M10*30	12
2	10209039	Lock washer φ10	12
3	10209022	Washer φ10	12
4	11206049	Moon Gear	4
5	11203146	Outer Arm	4
6	11203147	Middle Arm	4
7	10201149	Cap Head Bolt M8*12	8
10	11203148	Inner Arm	4

4.3 Cylinder (BP-9X:10201008/BP-10:10203078) explosion view :

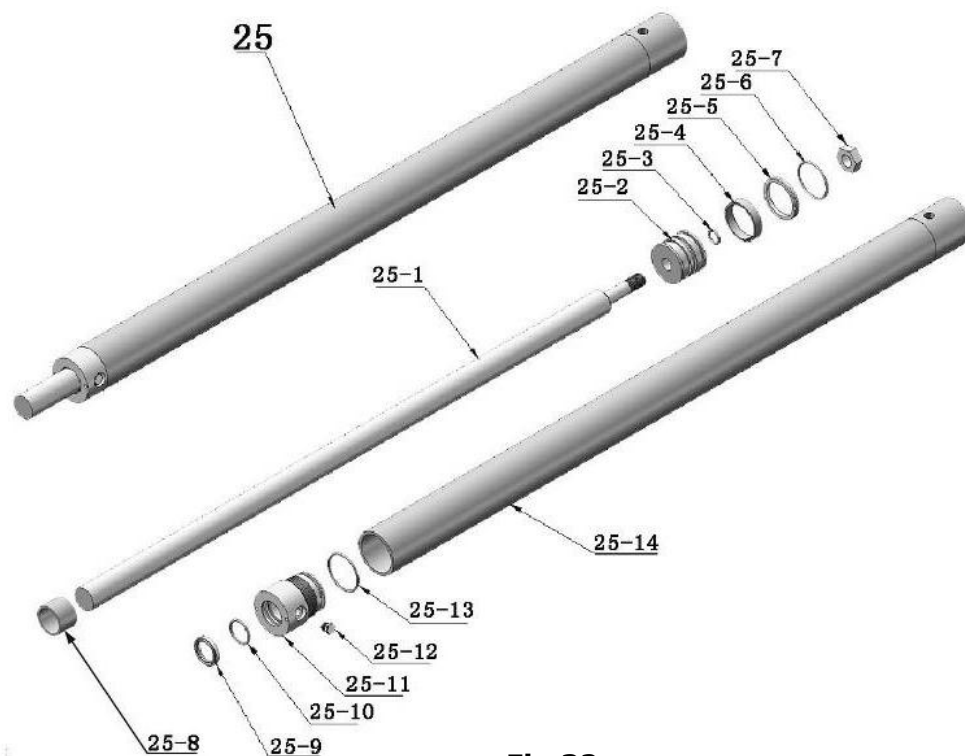


Fig.32

Part list for cylinder

Item	Part#	Description	QTY.	
			BP-9X	BP-10
25-1	11201027	Piston rod	2	2
25-2	11201028	Piston	2	0
	11203079		0	2
25-3	10206069	O ring	2	0
	10203082		0	2
25-4	10201029	Support ring	2	0
	10410086		0	2
25-5	10201030	Y ring OSI	2	0
	10410087		0	2
25-6	10201031	O ring	2	2
25-7	10206071	Hex nut	2	2
25-8	11201037	Piston rod adjusting sleeve	2	2
25-9	10209078	Dusty ring	2	2
25-10	10201032	O ring	2	2
25-11	11201033	Head Cap	2	0
	11203083		0	2
25-12	10201034	Bleeding Plug	2	2
25-13	10201035	O ring	2	0
	10203084		0	2
25-14	11201036	Cylinder tube	2	0
	11203085		0	2

4.3 MANUAL POWER UNIT(071101)

Manual Power unit 220V/60Hz

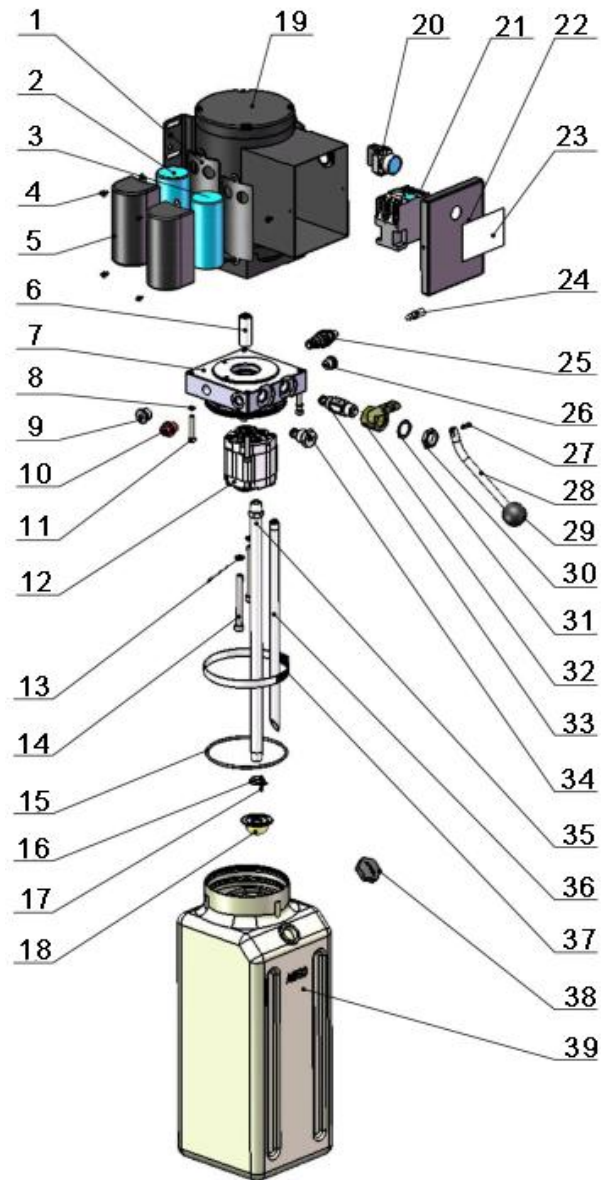


Fig.33

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	AMGO 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

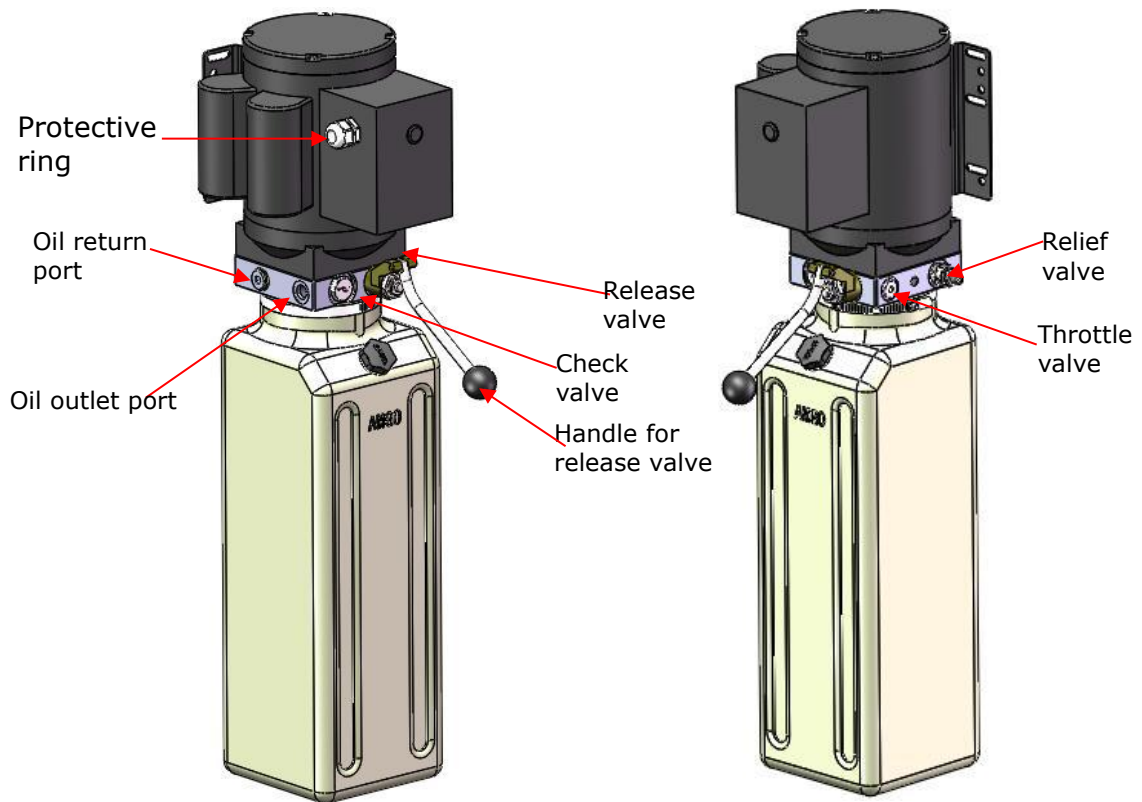


Fig.34

V. TEST RUN

1. Adjustment of synchronous cable (See Fig.35)

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.

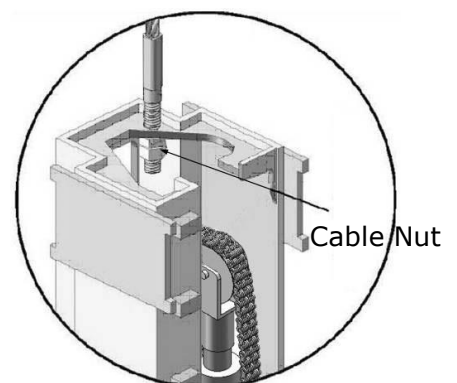


Fig. 35

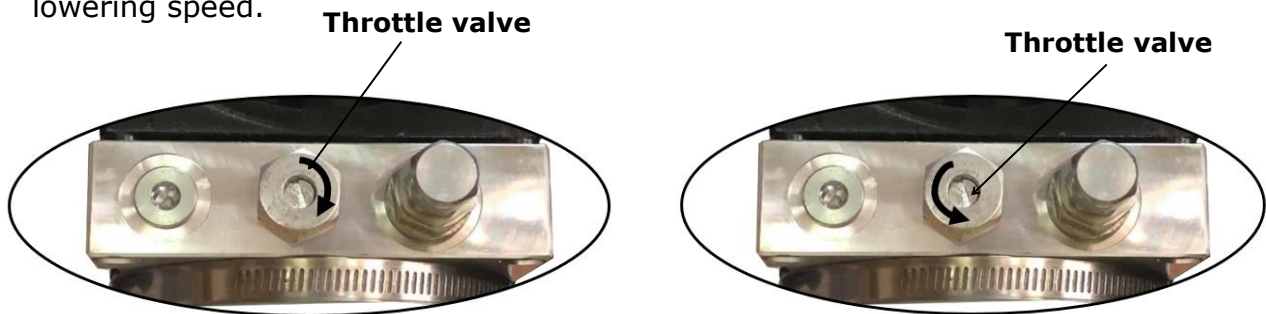
2. Adjust safety cable

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 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. 36

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.

Hydraulic Schematic Diagram

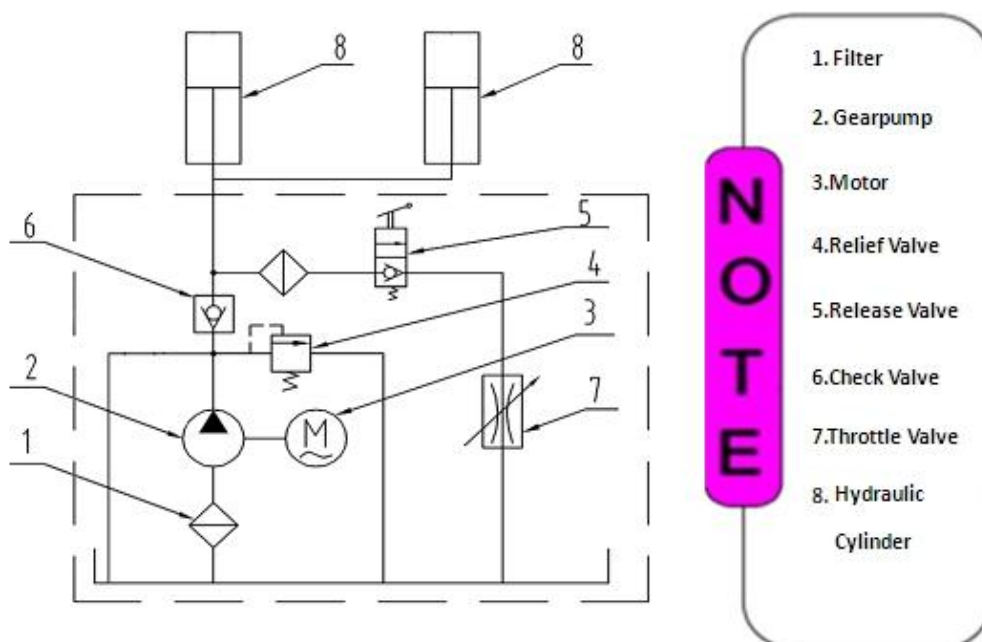


Fig. 37

VI. OPERATION INSTRUCTIONS

Please read the safety tips carefully before operating the lift

To lift vehicle

1. Keep clear 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 N·m;
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.
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. Start 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 Start 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. 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.



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Revision Date: 2022/05