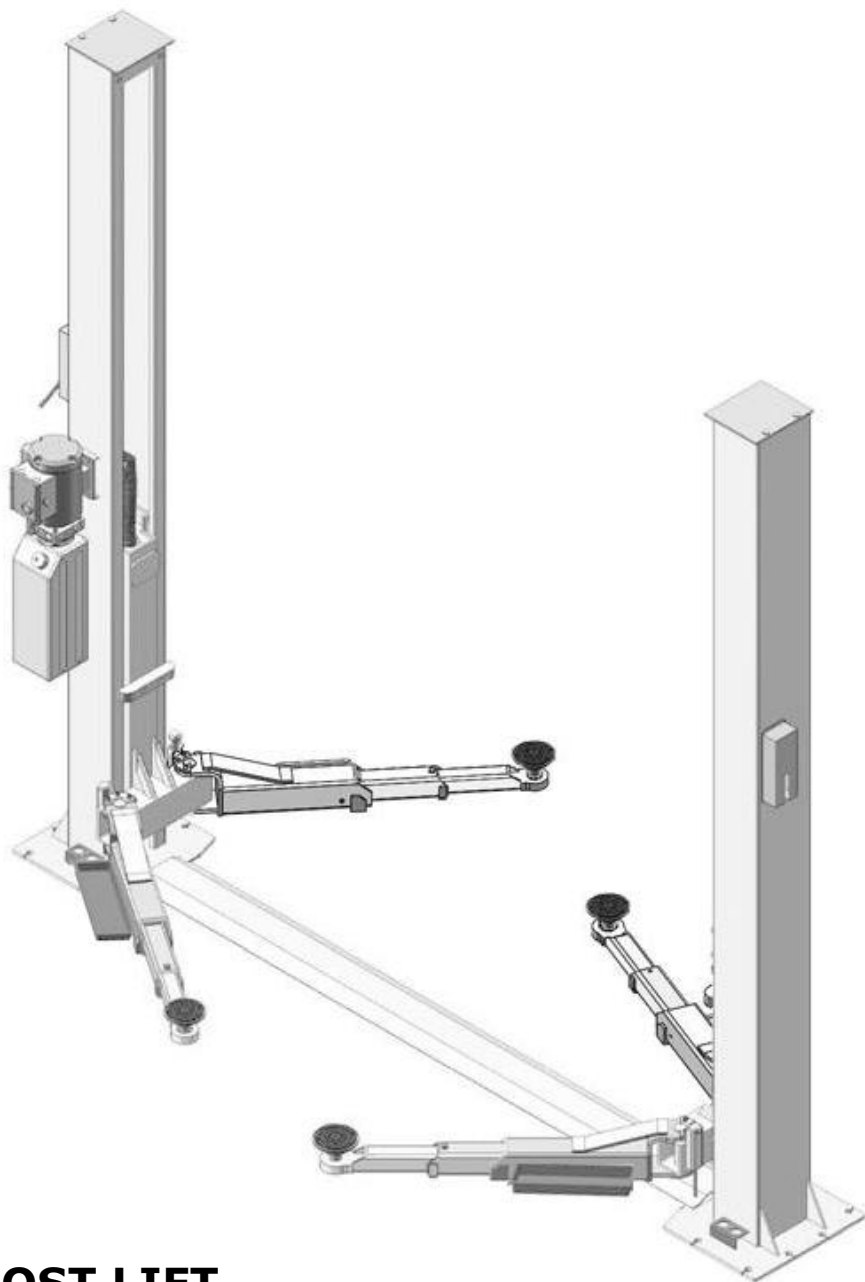


AMGO  [®] **Hydraulics**

Installation And Service Manual



TWO POST LIFT
Model:BP-9

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I. PRODUCT FEATURES AND SPECIFICATIONS

FLOORPLATE CHAIN-DRIVE MODEL FEATURES

Model BP-9 (See Fig. 1)

- Compact Floor-plate design, provide unobstructed floor space
- Dual hydraulic cylinders is designed and manufactured according to standard, utilizing imported seals
- Self- lubricating UHMW Polyethylene sliders and bronze bush
- Single-point safety release, and dual safety design
- 4 three-stage arms design with stackable rubber pads.

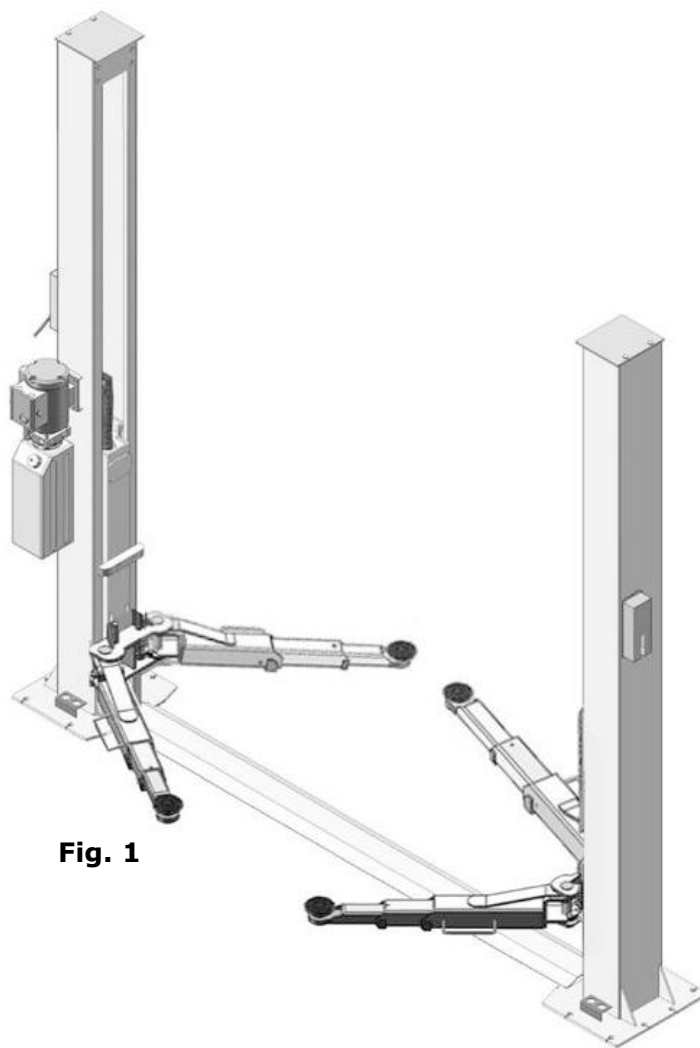


Fig. 1

MODEL BP-9 SPECIFICATIONS

Model	Style	Lifting Capacity	Lifting Time	Lifting Height	Overall Height	Overall Width	Minimum Pad Height	Motor
BP-9	Floor-plate Chain-driven	9,000lbs	45S	71-1/2"~75-1/2"	108"	131-7/8"	3-1/2"-7-1/2"	2.0 HP

Arm Swings View

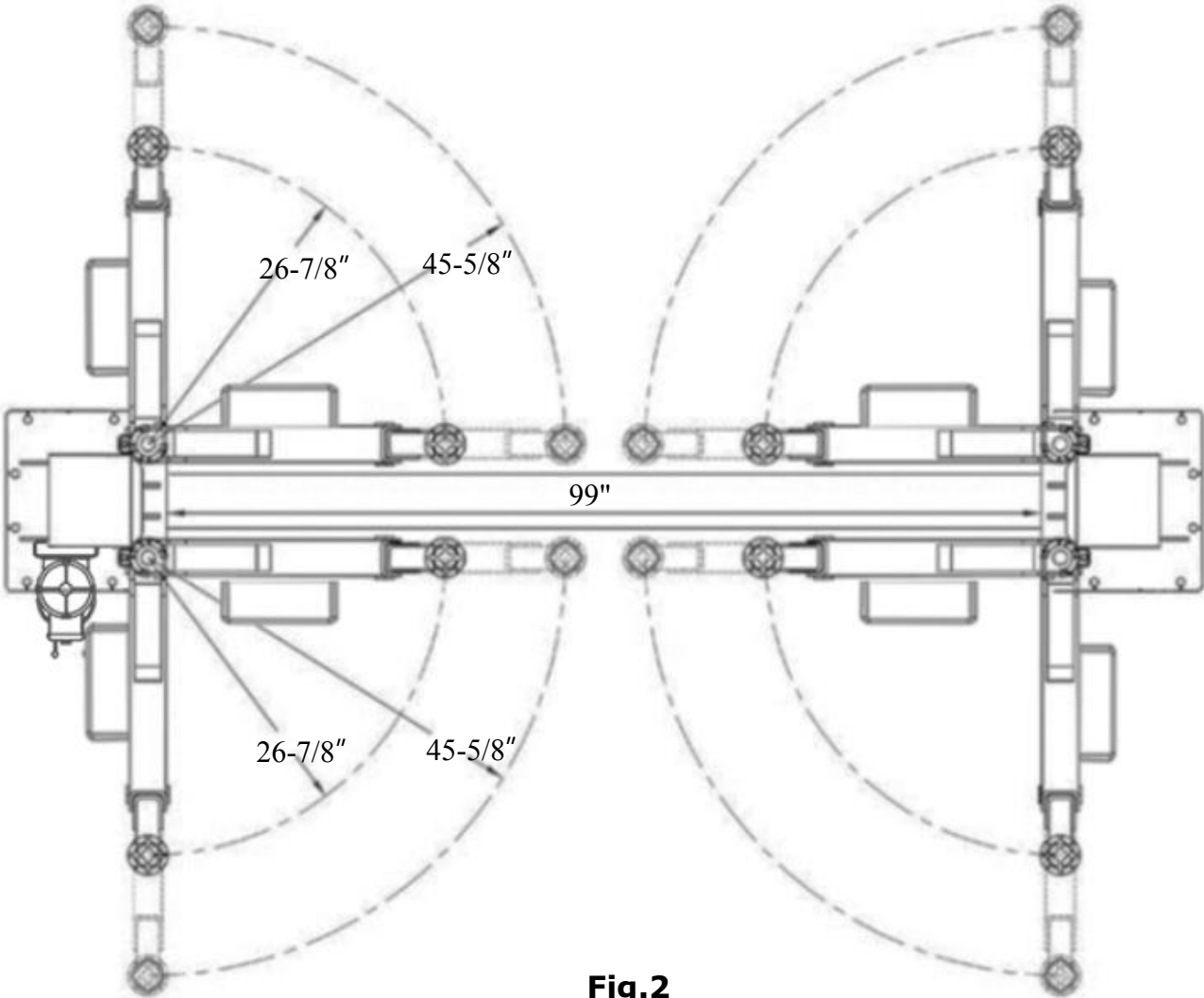


Fig.2

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.

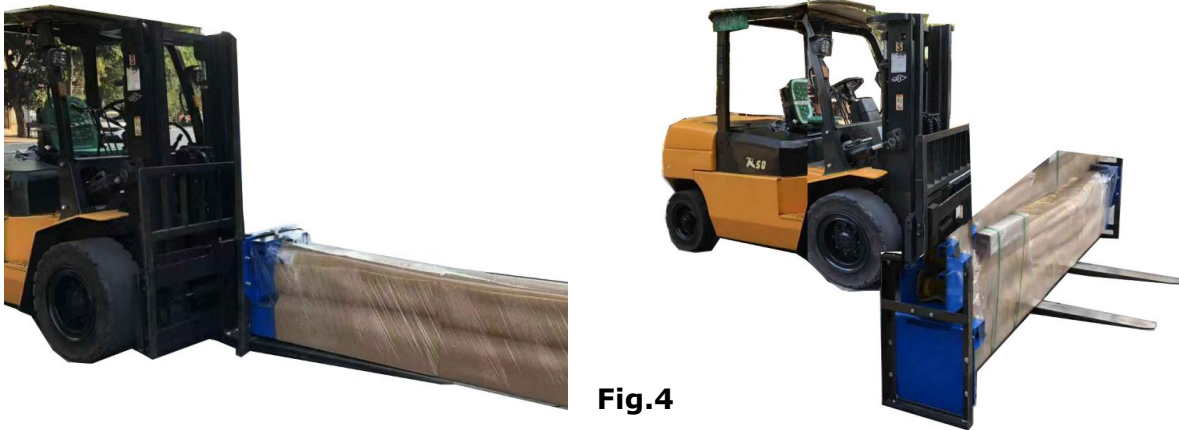


Fig.4

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.

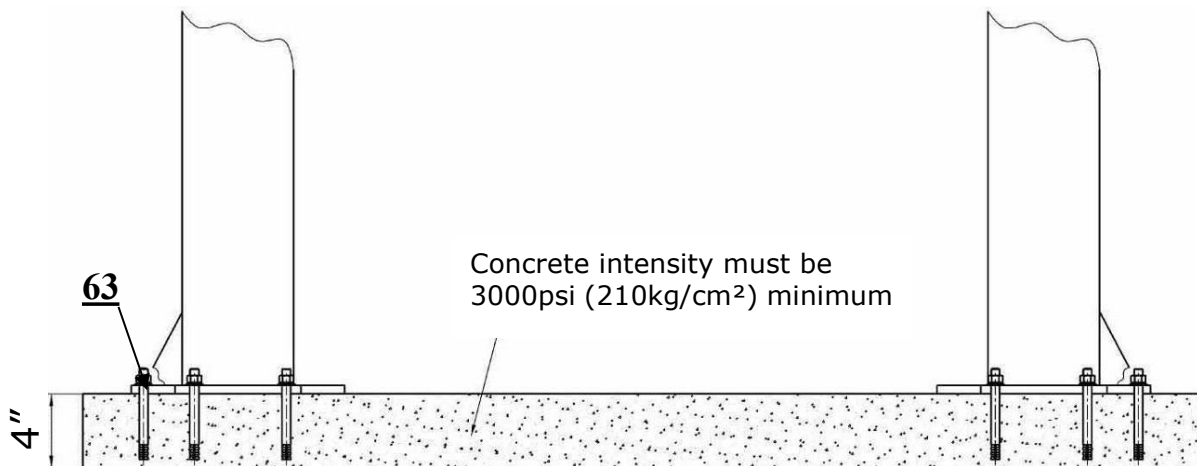


Fig. 5

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 base-plate (See Fig. 6).

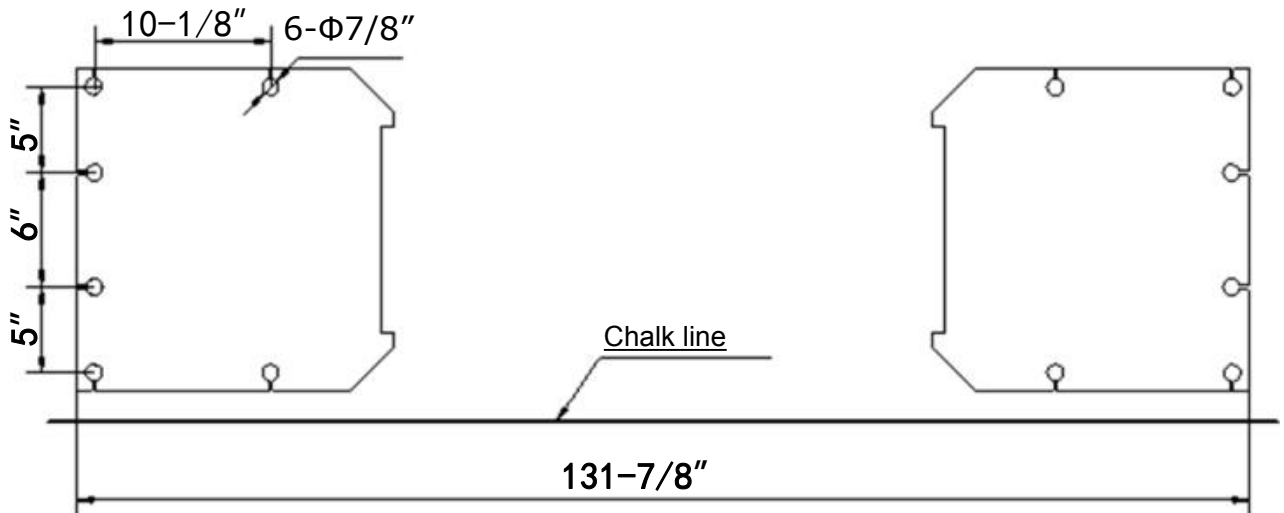


Fig. 6

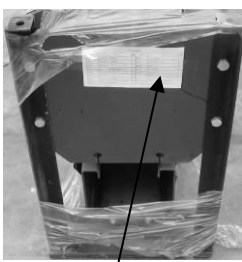
C. Check the parts before assembly.

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



Fig. 7

2. Move the lift aside with 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

Fig. 8

Parts box

- 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**).

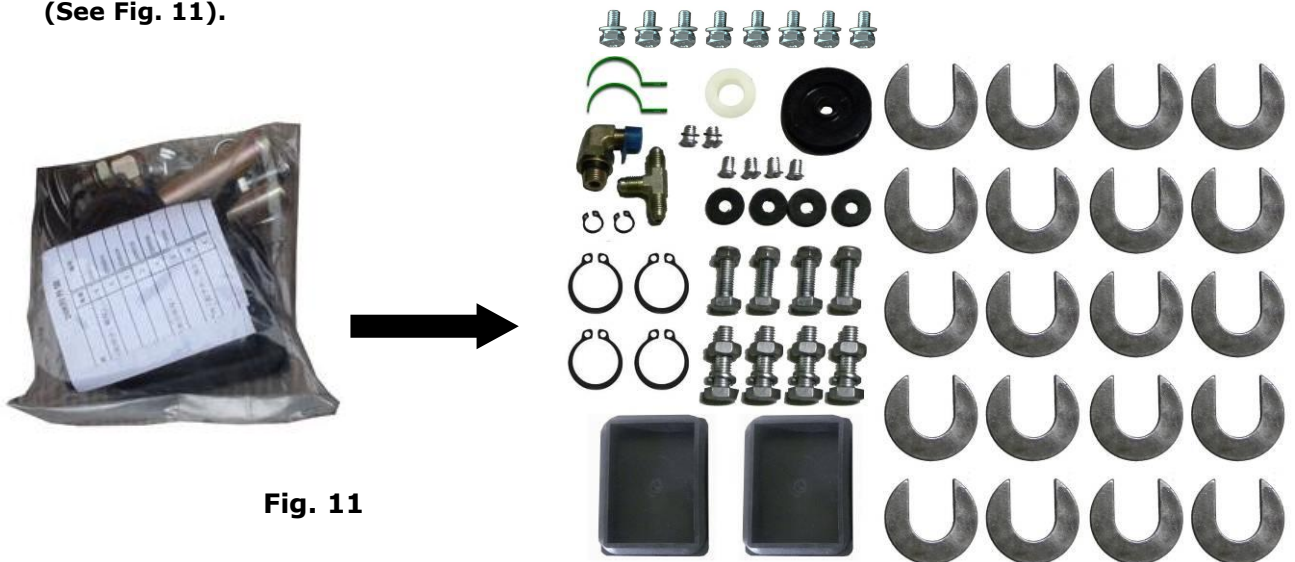


Fig. 11

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).

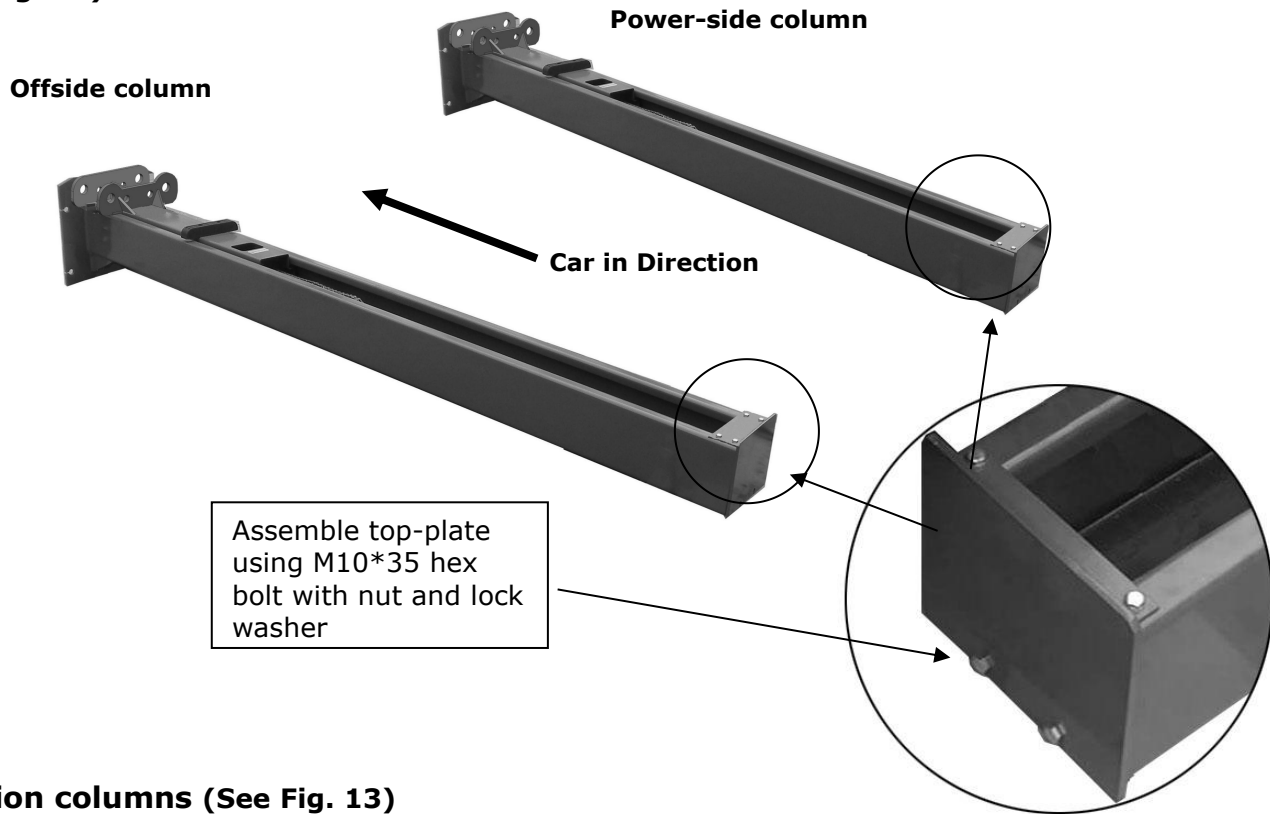


Fig. 12

E. Position columns (See Fig. 13)

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

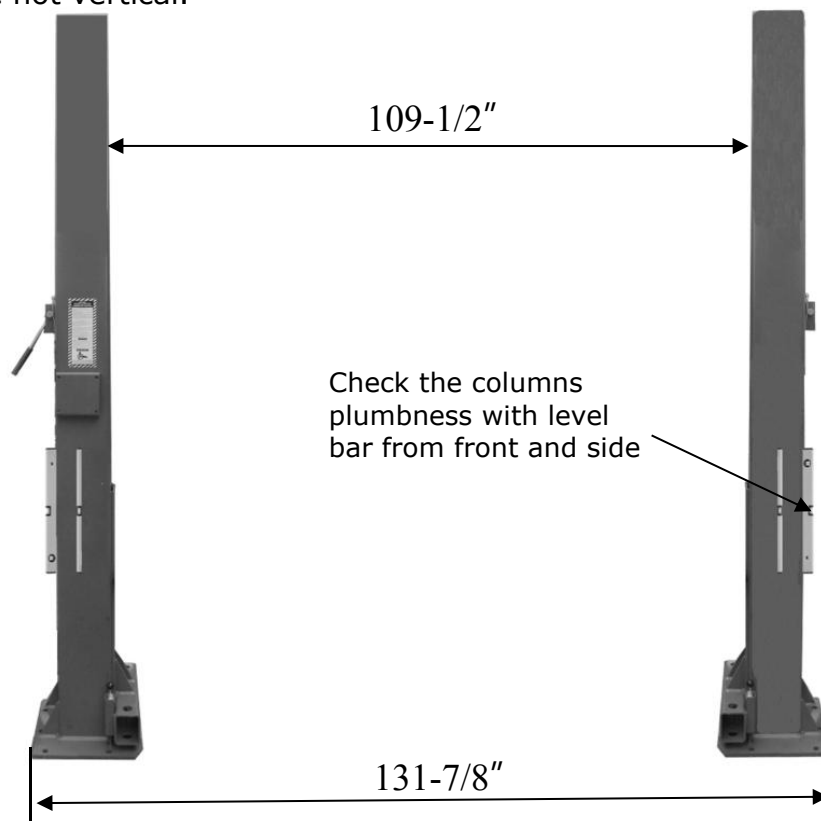


Fig. 13

F. Fix anchor bolts

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

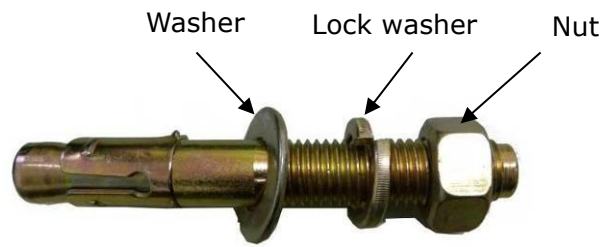


Fig.14

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".

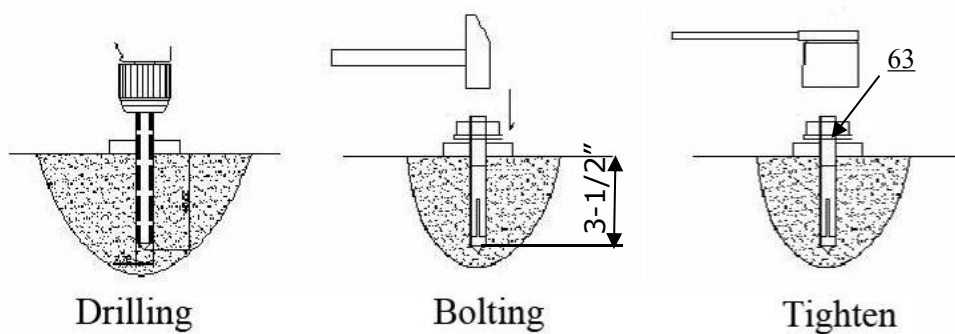


Fig.15

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

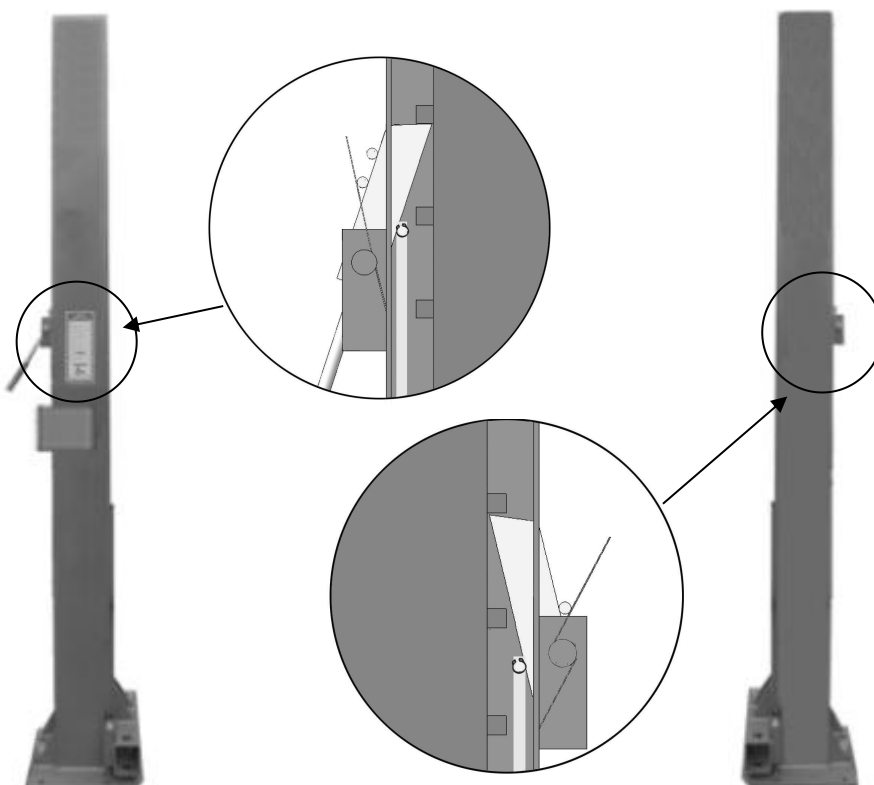


Fig.16

H.Connecting the cables

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

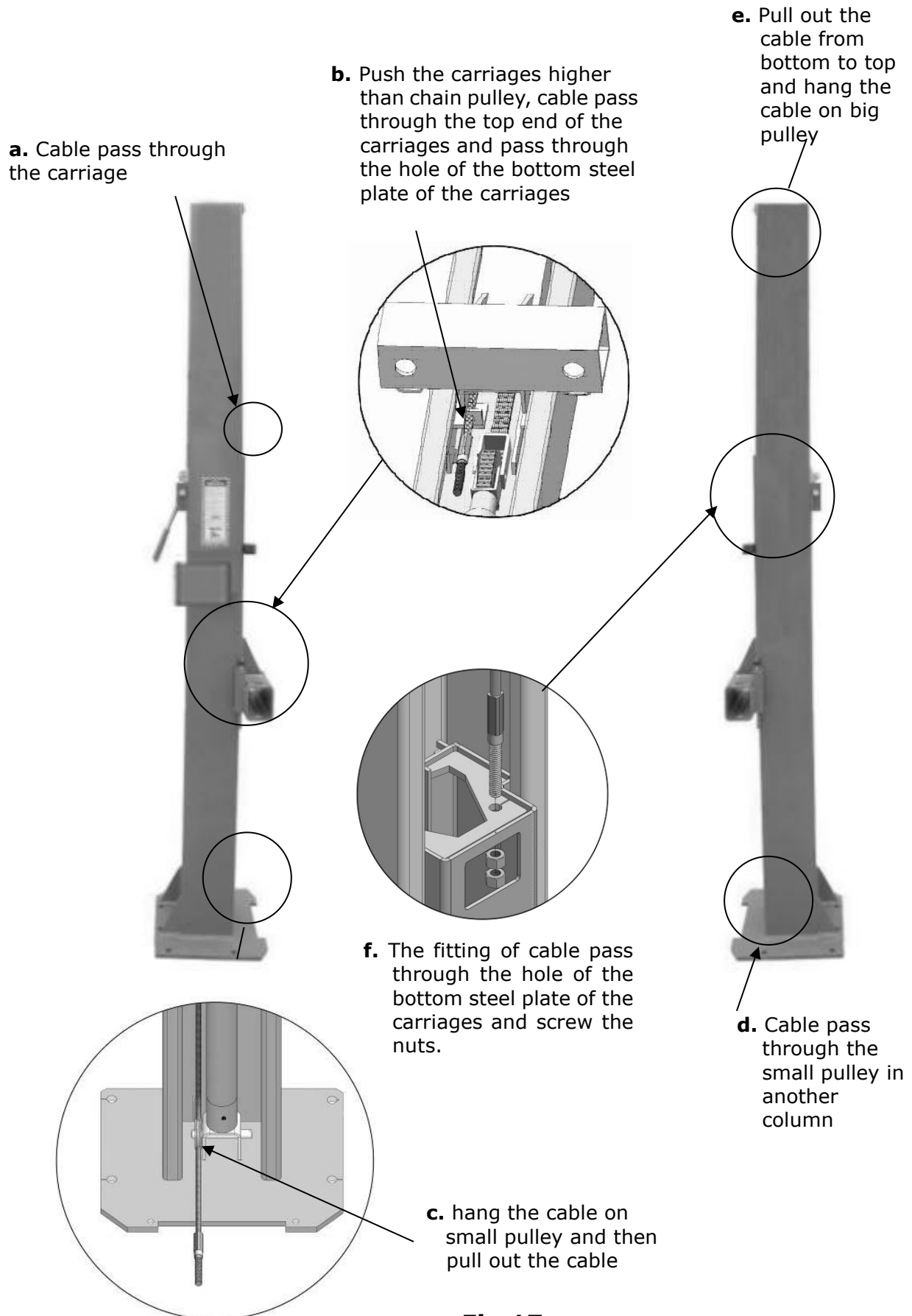
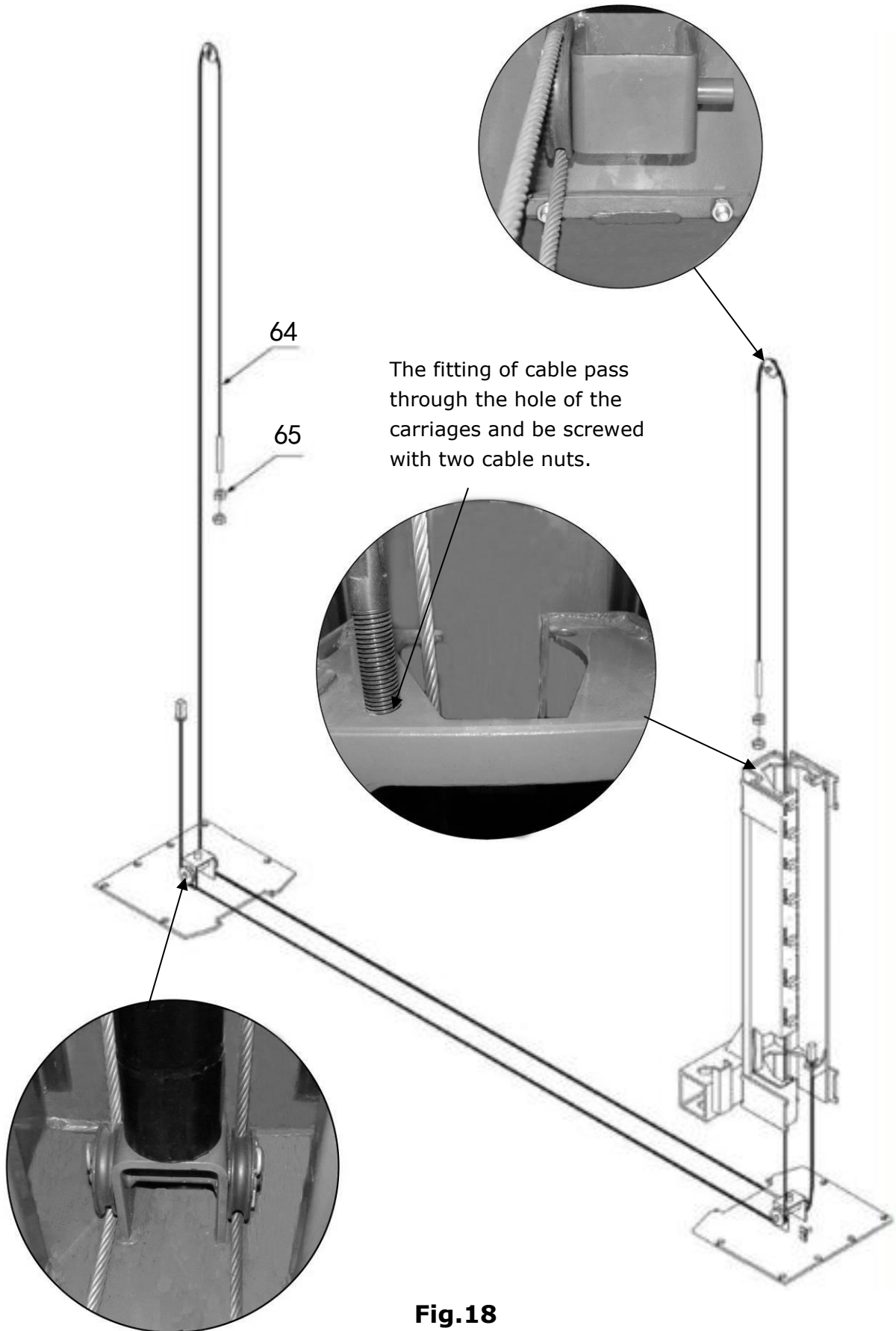


Fig.17

I. Install cable (See Fig. 18)



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

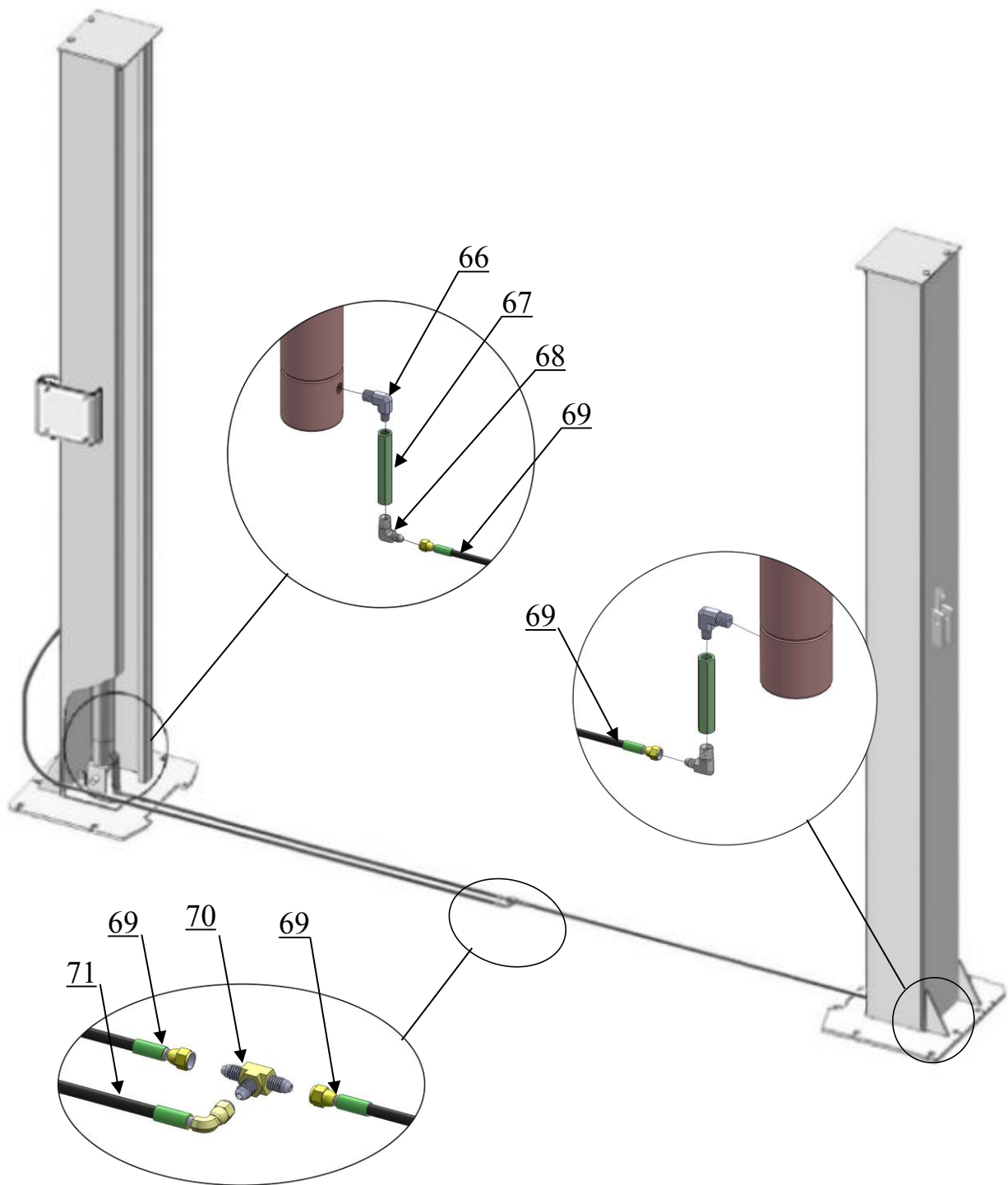


Fig. 19

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

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

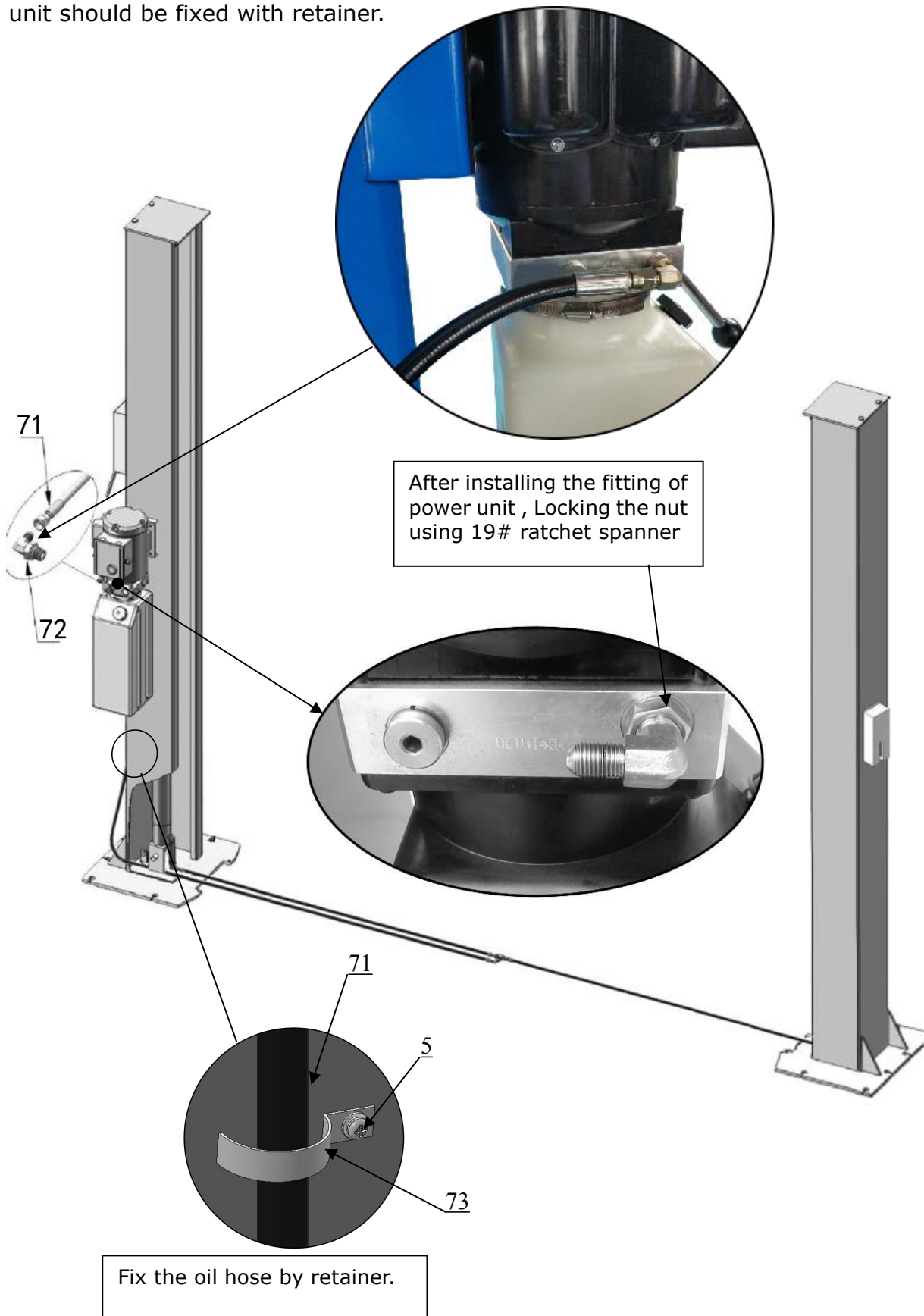
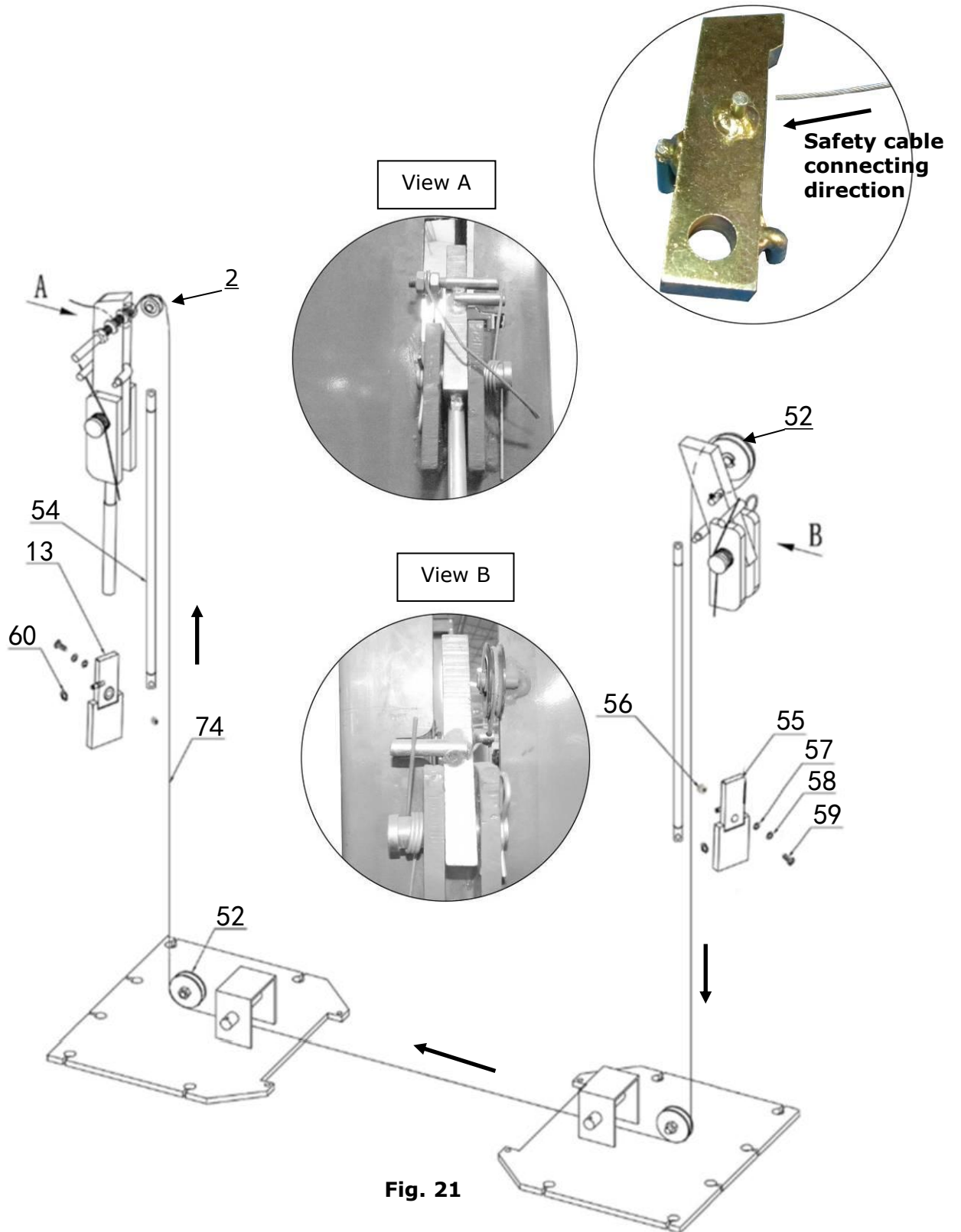


Fig.20

L. Install 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.



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

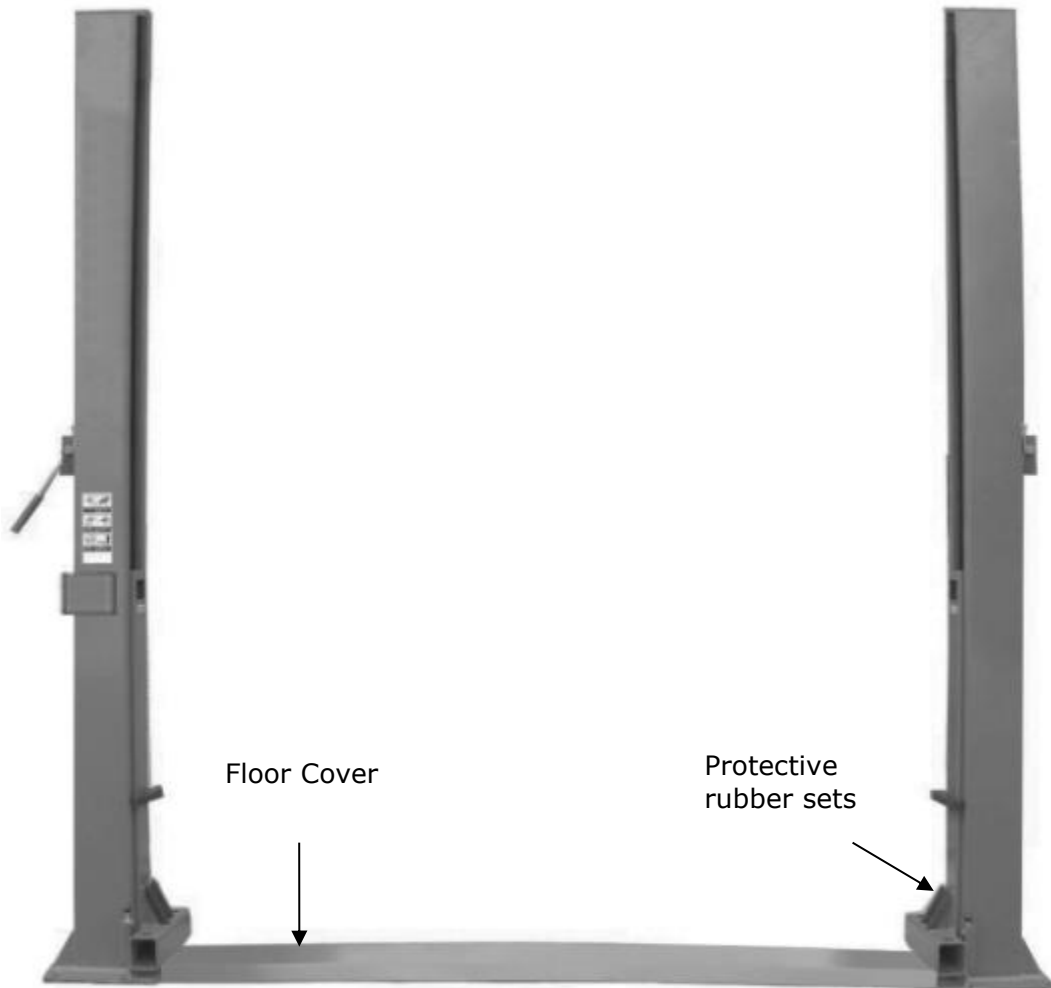


Fig.22

N. Install lifting arms and adjust the arm locks

1. After installing the lifting arms (See Fig.23).
2. Lowering down the carriage to the lowest position, use 17# spanner to loose fixed nut(see Fig.24),
3. Adjust the arm lock follow the arrow direction(see Fig.25),
4. Tighten the screws until arm lock and moon gear match in good condition. (see Fig.26).

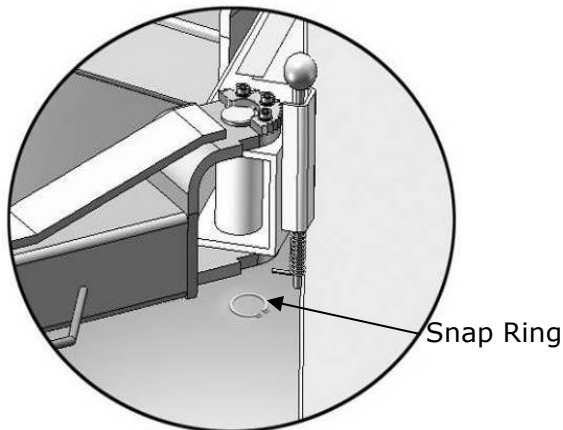


Fig. 23

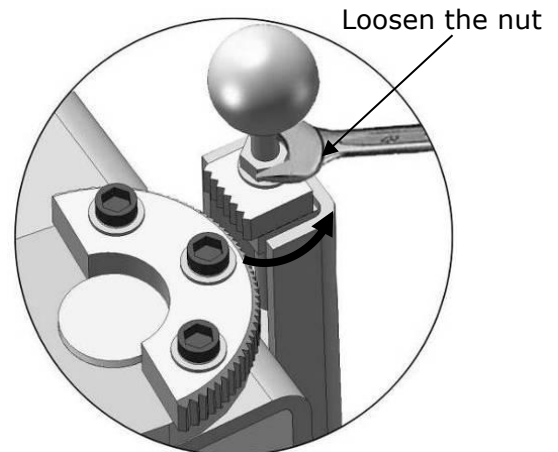
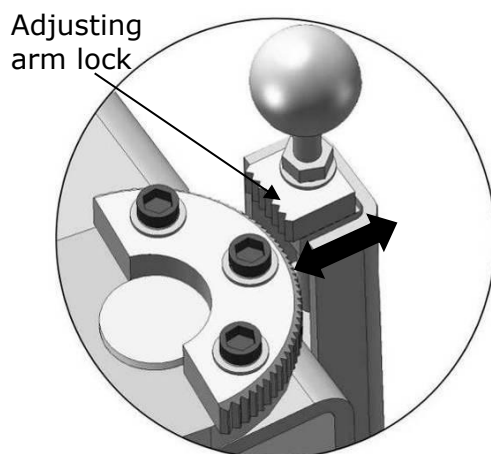


Fig. 24



**Adjust gear and arm
lock engagement**
Fig. 25

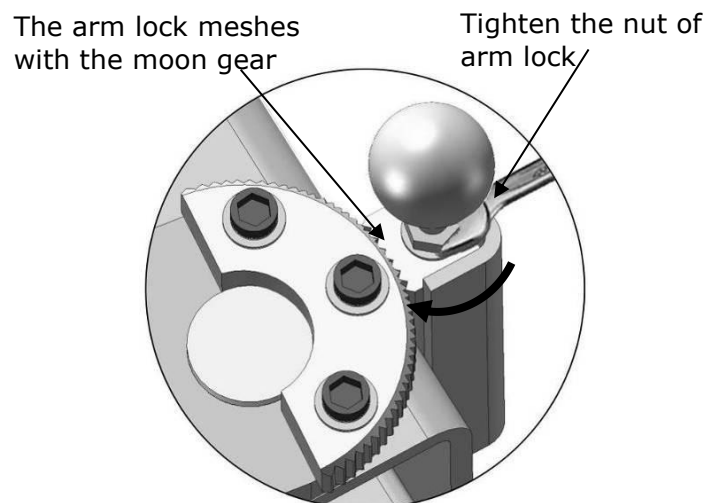


Fig. 26

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

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

Single phase motor

1. Circuit diagram (See Fig. 27)

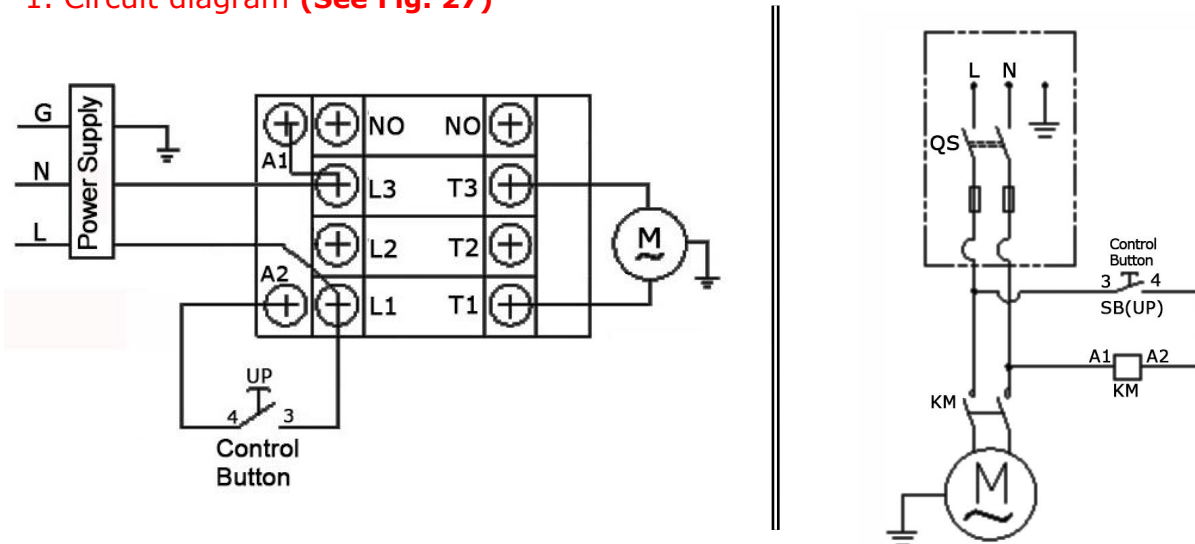


Fig. 27

2. Connection step (See Fig. 28)

Connecting the two power supply wires (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

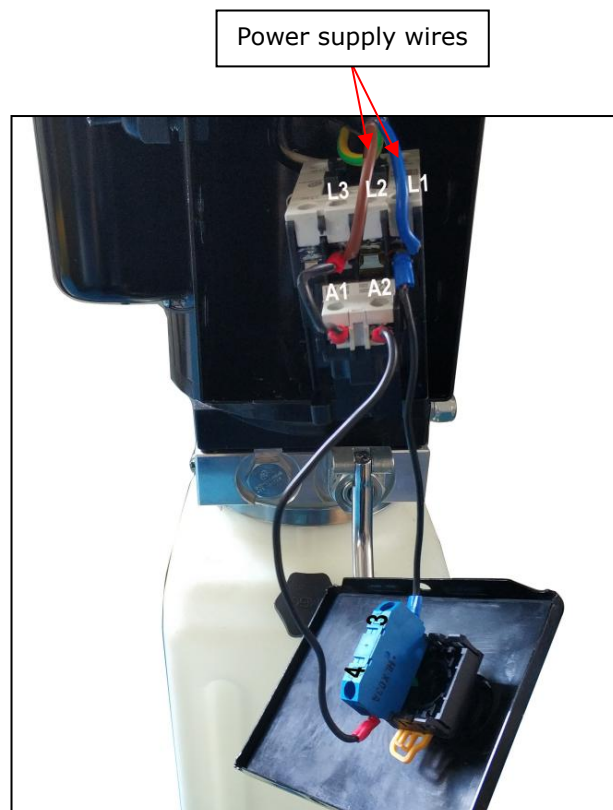


Fig. 28

IV. EXPLODED VIEW

Model BP-9

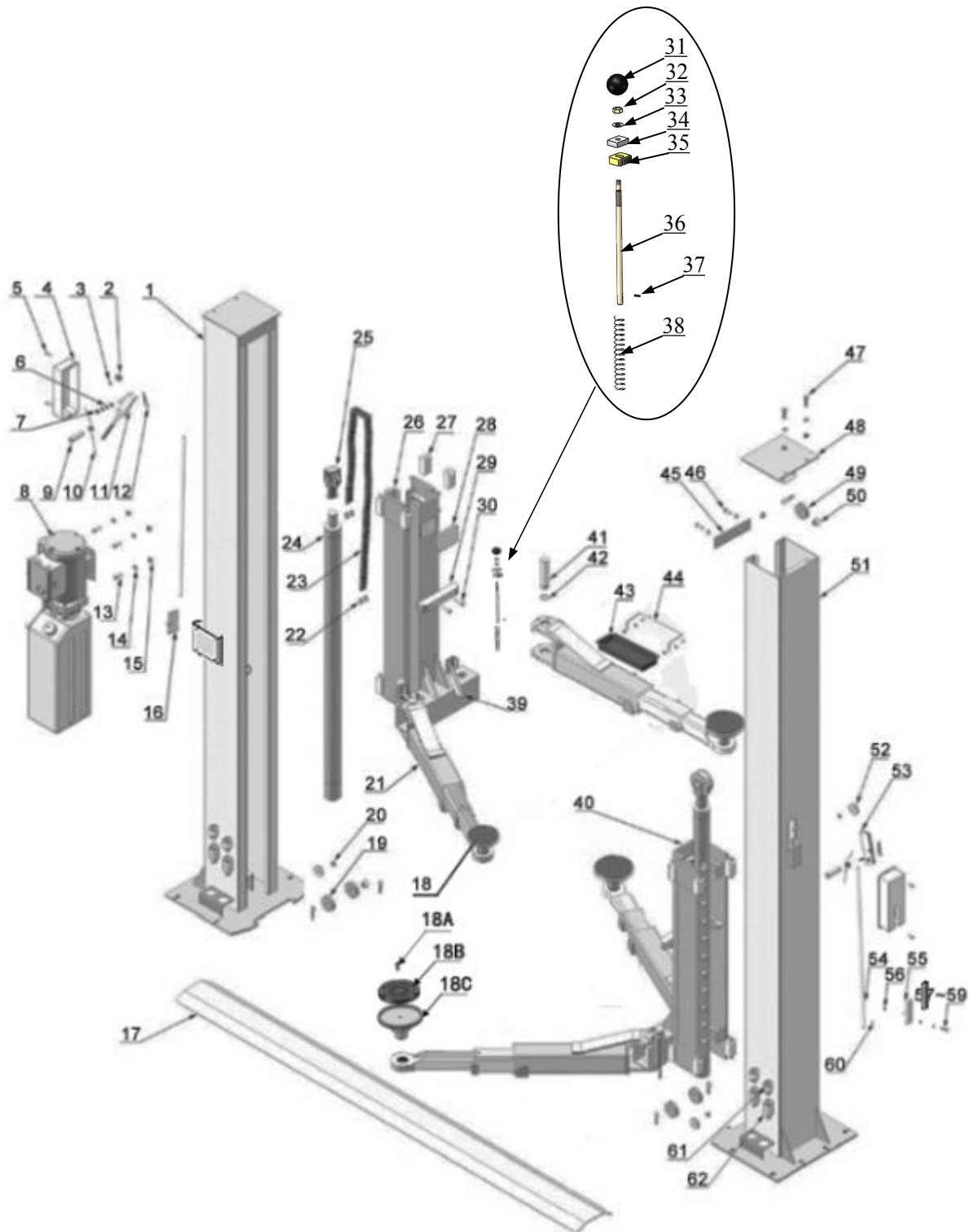


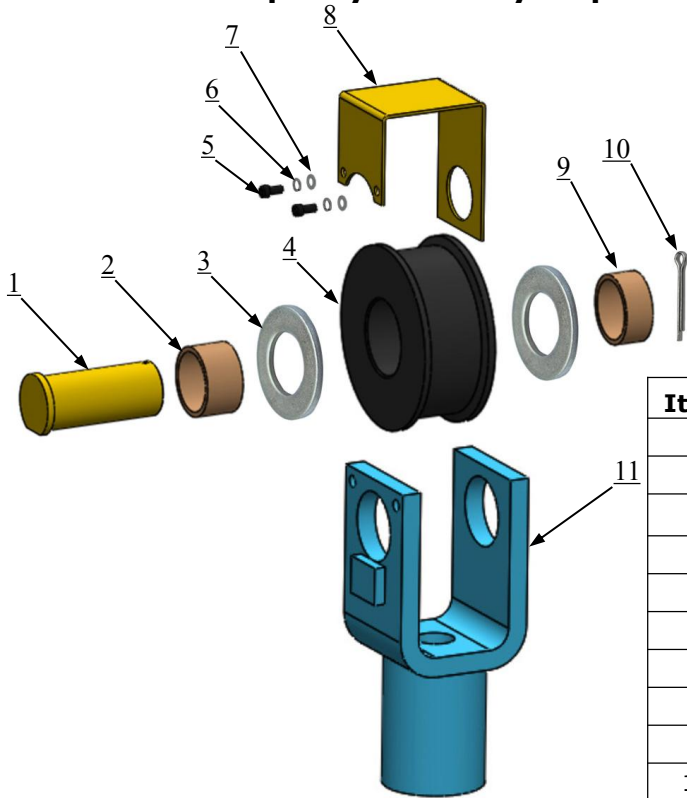
Fig.29

PARTS LIST

Item	Part#	Description	Qty.	Note
1	11205039	Power-side column	1	
2	10209011	Plastic pulley for safety device(white)	1	
3	10209010	Snap ring φ10	2	
4	10209008	Safety device protect cover	2	
5	10209009	Cap head bolt M6*8	6	
6	10206006	Washer φ12	2	
7	10206023A	Hex nut M12	2	
8	071101	Manual power unit	1	
9	11206002	Safety pin	2	
10	10209007	Safety spring	2	
11	11203263	Power-side safety main lock	1	
12	11209012	Hair pin	8	
13	11203261	Power-side safety device	1	
14	10209005	Self locking nut M8	8	
15	10209004	Rubber ring φ8*20*3	4	
16	10209003	Hex bolt M8x25	4	
17	11205002	Floor cover	1	
18	10201046A	Rubber pad support assy.	4	
18A	10420138	Socket bolt M6*16	4	
18B	10209134	Rubber pad	4	
18C	11680030C	Rubber Pad support frame	4	
19	11206020	Pulley	4	
20	10209056	Self locking nut M10	2	
21	11201043A	Lifting arm assy	4	
22	10201010	Chain connector	4	
23	10201009A	Chain	2	
24	10201008A	Cylinder	2	
25	11203176	Chain Pulley Support Assy.	2	
26	11205041	Power side carriage	1	
27	10206044	Slider Block	16	
28	10209016	Carriage plastic cover	2	
29	10206045	Protective rubber	2	
30	10206046	Self-tapping screw	4	
31	10209020	Plastic Ball	4	
32	10209021	Hex nut M10	8	
33	10209022	Washer φ10	10	
34	10209023A	Arm lock	4	
35	11201041	Limit Plate	4	
36	11209024	Arm Lock Handle	4	
37	10209025	Hair pin	4	
38	10209026	Spring	4	
39	10209027	Protective rubber set	4	
40	11205042	Offside carriage	1	
41	11209030A	Lifting arm pin	4	
42	10520023	Snap ring φ38	4	

Item	Part#	Description	Qty.	Note
43	10206190	Tool tray (Short)	2	
44	11206191	Short guardrail	4	
45	11205005	Connecting plate	2	
46	10209043	Hex Bolt M8*20	4	
47	10209046	Hex Bolt M10*35	4	
48	11205006	Top plate	2	
49	11209045	Pulley	2	
50	10209057A	Bronze Bush $\phi 25.4 * \phi 19.1 * 14.5$	6	
51	11205040	Off-side column	1	
52	10209049	Plastic pulley (black)	3	
53	11203264	Offside safety device	1	
54	11203784	Coupling	2	
55	11203262	Safety block (Secondly)	1	
56	10420018	Self locking nut M6	2	
57	10420045	Washer $\phi 6$	2	
58	10209149	Lock washer $\phi 6$	2	
59	10217013	Hex bolt M6*20	2	
60	10420049	Split pin $\phi 2 * 16$	4	
61	11209052B	Stackable Adapter (2.5")	4	
62	11209051B	Stackable Adapter (1.5")	4	
63	10209059	Anchor bolt 3/4 " *5-1/2 "	12	
64	10205009	Cable	2	
65	10209066	Hex bolt M16	4	
66	10207024	90° Fitting 3/8NPT(M)*1/4NPT(M)	2	
67	11201082	Extended Straight Fitting L=98mm	2	
68	10420097	90° Fitting 1/4NPT(M)*1/4JIC(M)	2	
69	10207034	Oil Hose 1/4*1390mm	2	
70	10211016	T Fitting	1	
71	10209059-01	Oil hose 1/4*2980mm	1	
72	10209060	90° Fitting for Power Unit	1	
73	11217048	Retainer	2	
74	10205010	Safety cable	1	
75	10205500A	Parts box	1	

4.1 Chain pulley seat assy. exploded view (11203176) :



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

Fig. 30

4.2. Lifting arm (1020143A) exploded view:

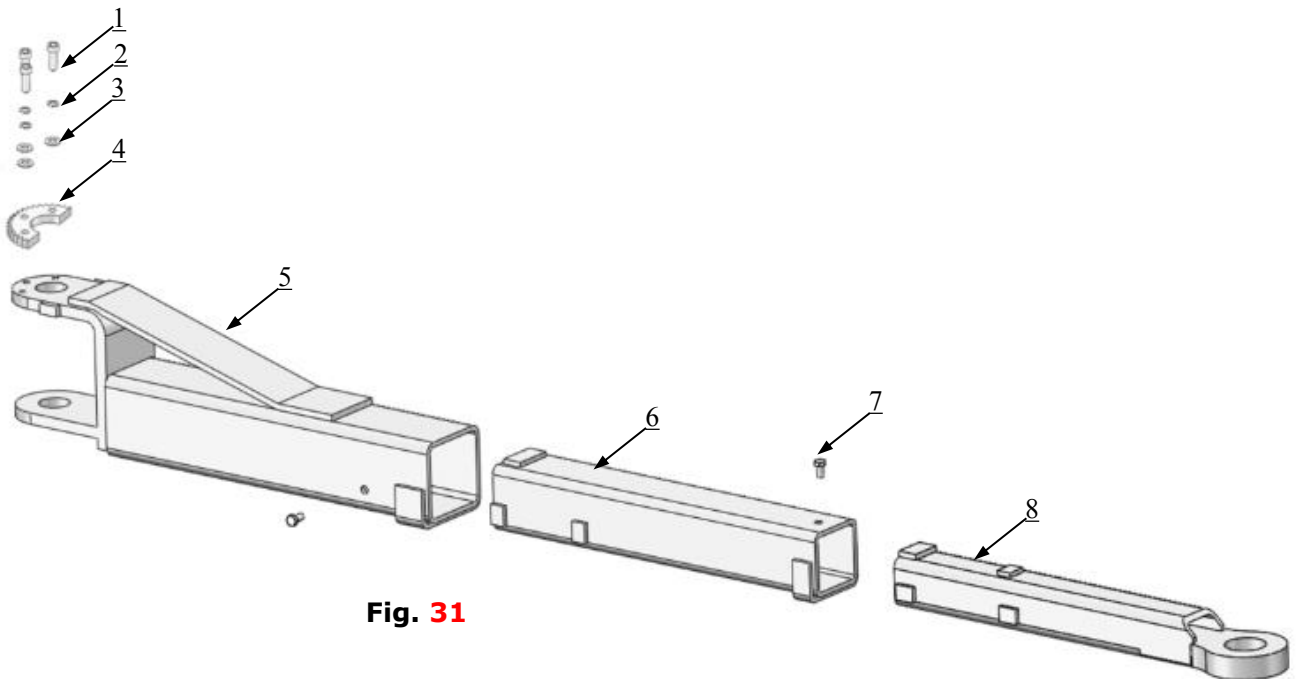


Fig. 31

Item	Part#	Description	QTY.	Item	Part#	Description	QTY.
1	10209032	Socket bolt M8*25	12	5	11201047	Outer arm assy.	4
2	10209034	Lock washer $\phi 8$	12	6	11201048	Middle arm assy.	4
3	10209033	Washer $\phi 8$	12	7	10201149	Cap Head Bolt M8*12	8
4	11209035	Moon gear	4	8	11201049A	Inner arm assy.	4

4.3.Cylinders(10201008A) exploded view:

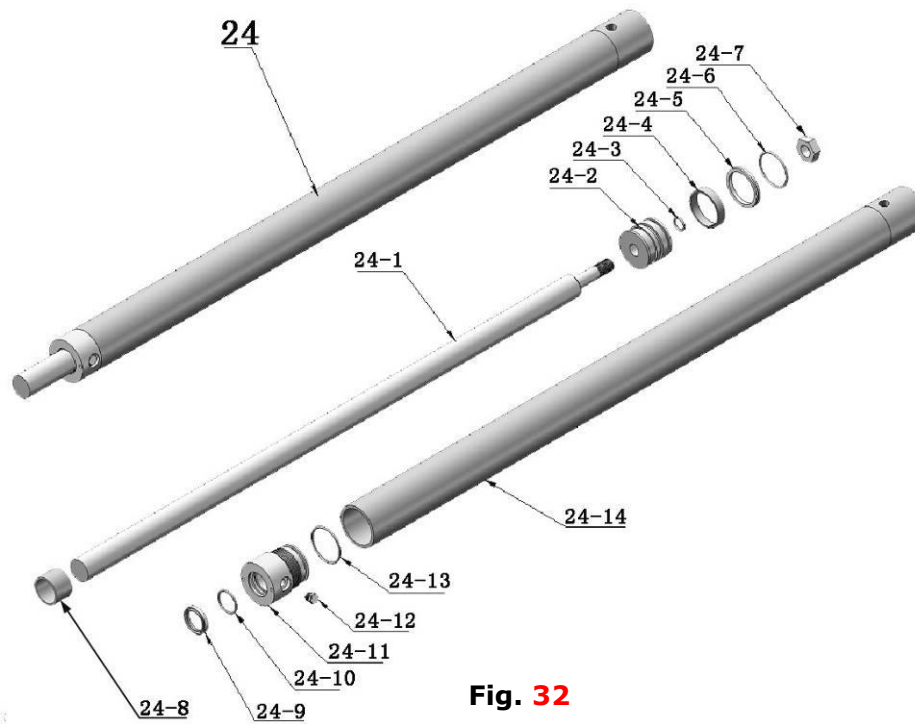


Fig. 32

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	10209078	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 OSI	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

4.4 MANUAL POWER UNIT(071101)

Manual Power unit 220V/60Hz

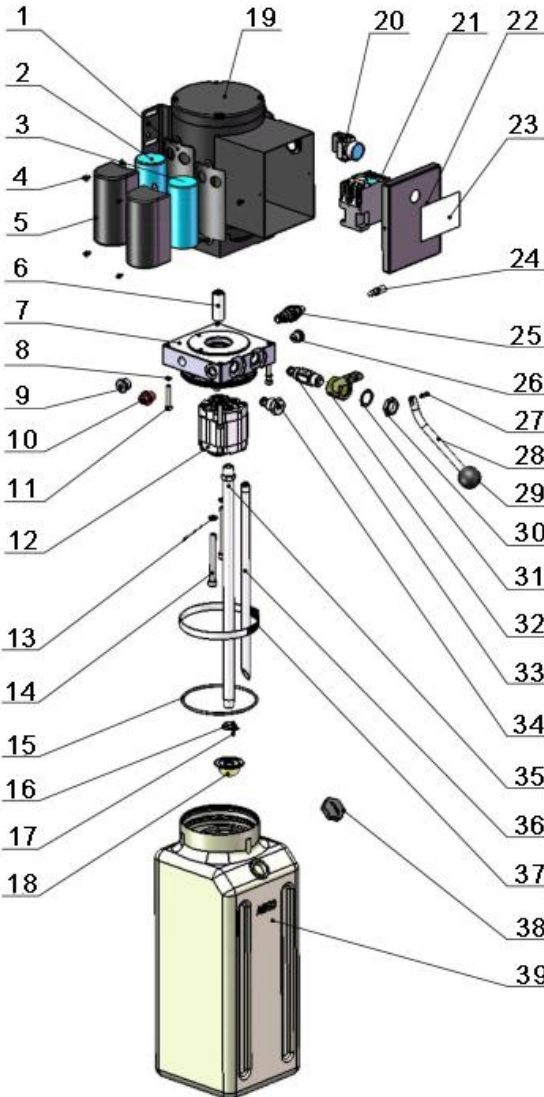


Fig.33

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	Hair 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

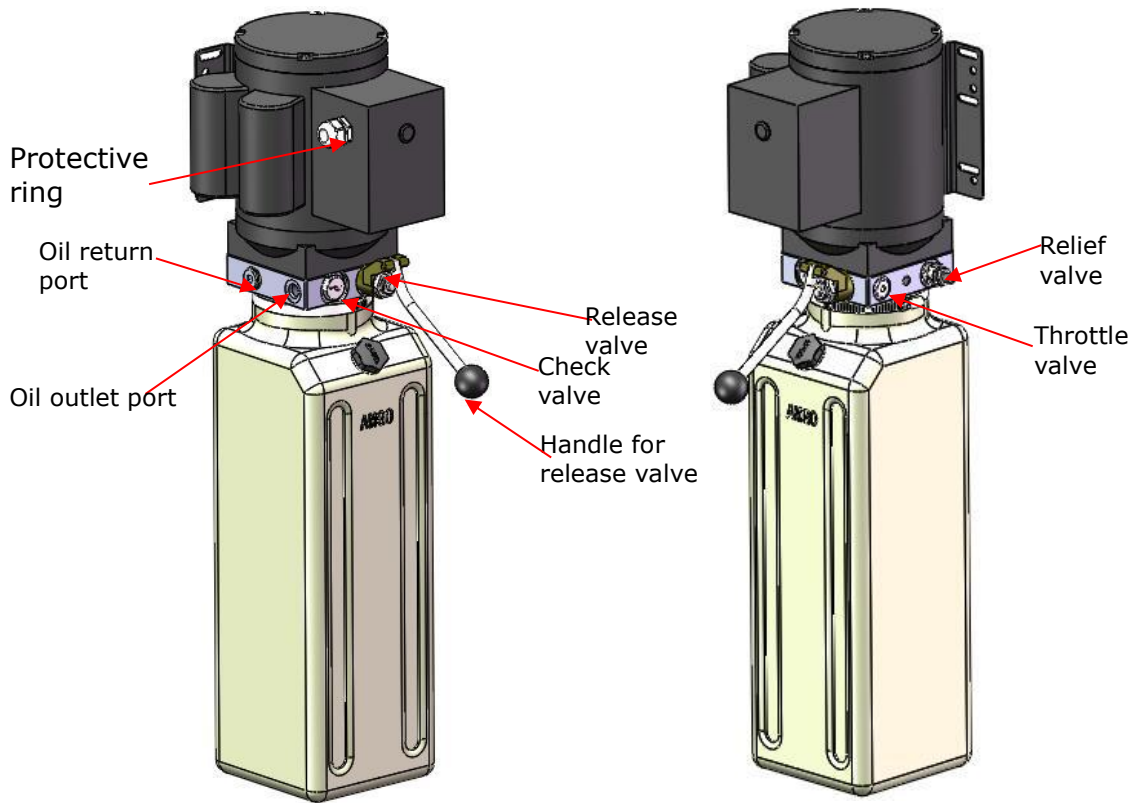


Fig.34

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.

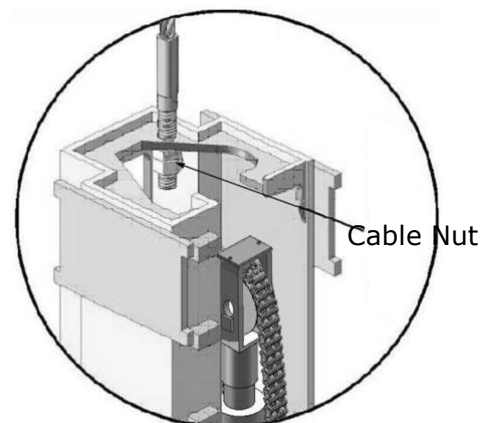


Fig. 35

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.

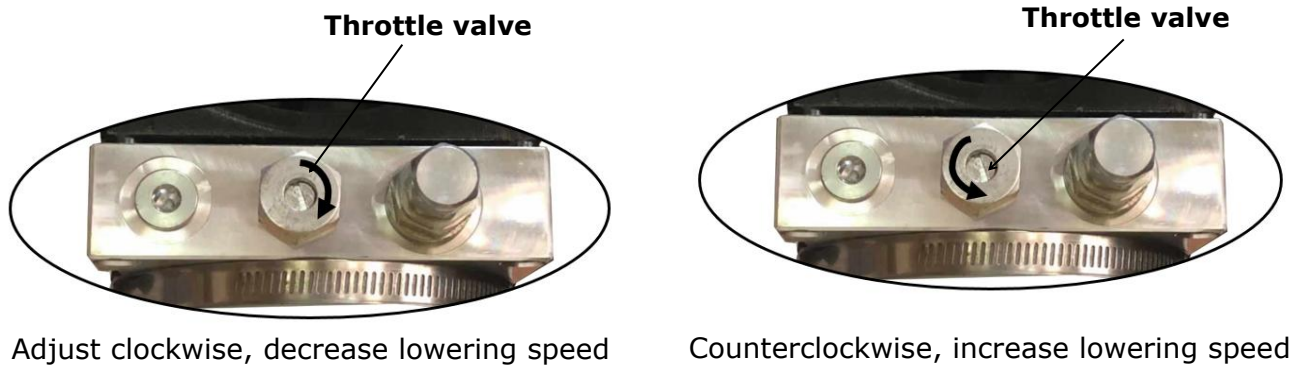


Fig. 36

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.

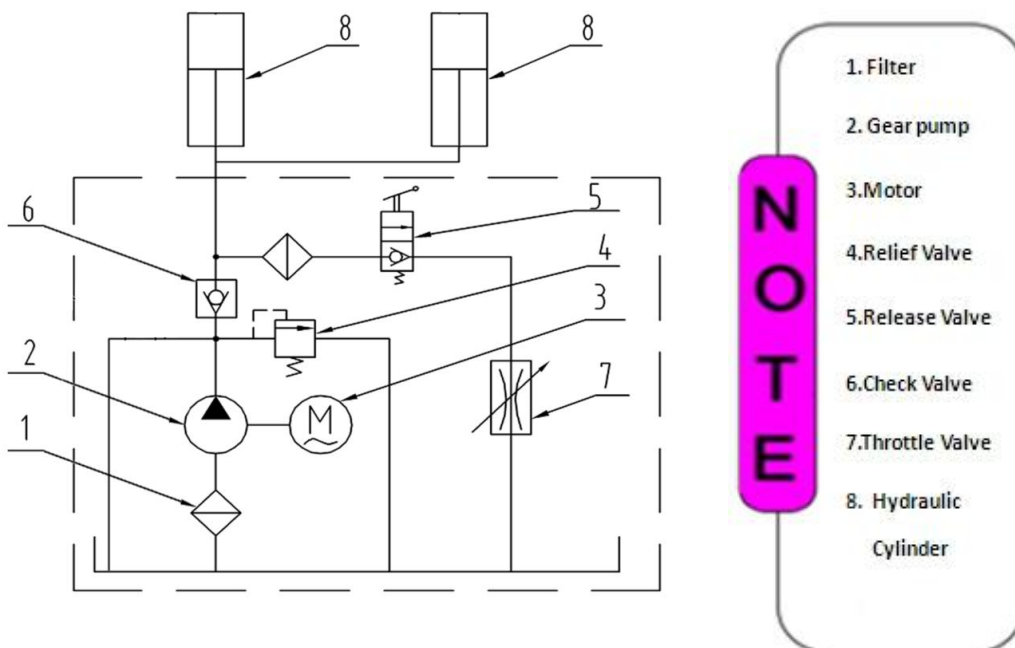


Fig. 37 Hydraulic System

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.

Note: In order to extend the service life of cylinders and seals, raise the machine to the highest at least once every 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 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. 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. 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: : 2022/02