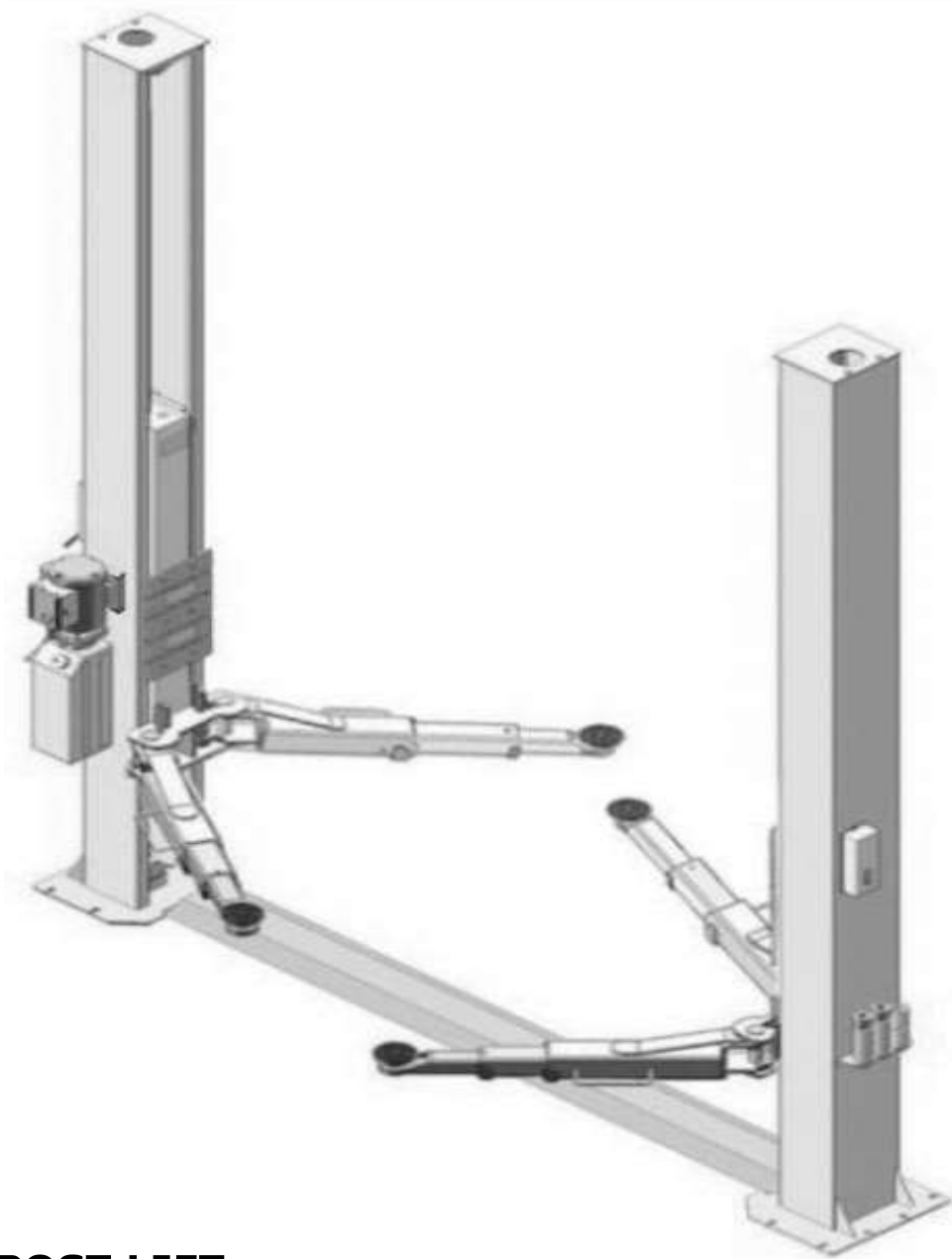


CLASSIC LIFT

Installation And Service Manual

Original



TWO-POST LIFT
Model:BP4500

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I. PRODUCT FEATURES AND SPECIFICATIONS

FLOORPLATE DIRECT-DRIVED MODEL FEATURES

MODEL BP4500 (See Fig.1)

- Direct-driven design, minimize the lift wear parts and breakdown ratio.
- Dual hydraulic direct-drive cylinders, designed and made as standard, utilizing 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.

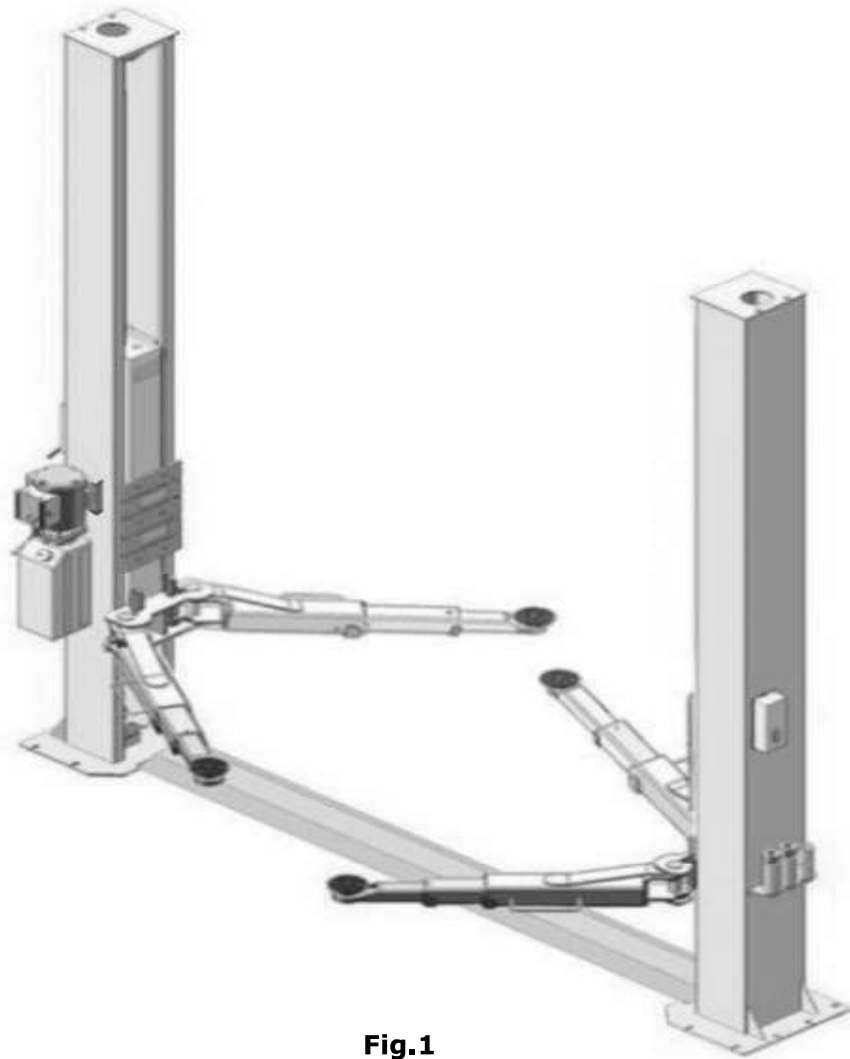


Fig.1

MODEL 210 SPECIFICATIONS

Model	Lifting Capacit	Lifting Height	Lifting Time	Overall Height	Overall Width	Minimum Pad Height	Motor
BP4500	4500KG	1890~2119mm	61s	3604mm	3516mm	90~319mm	3.0HP

Arm Swings View

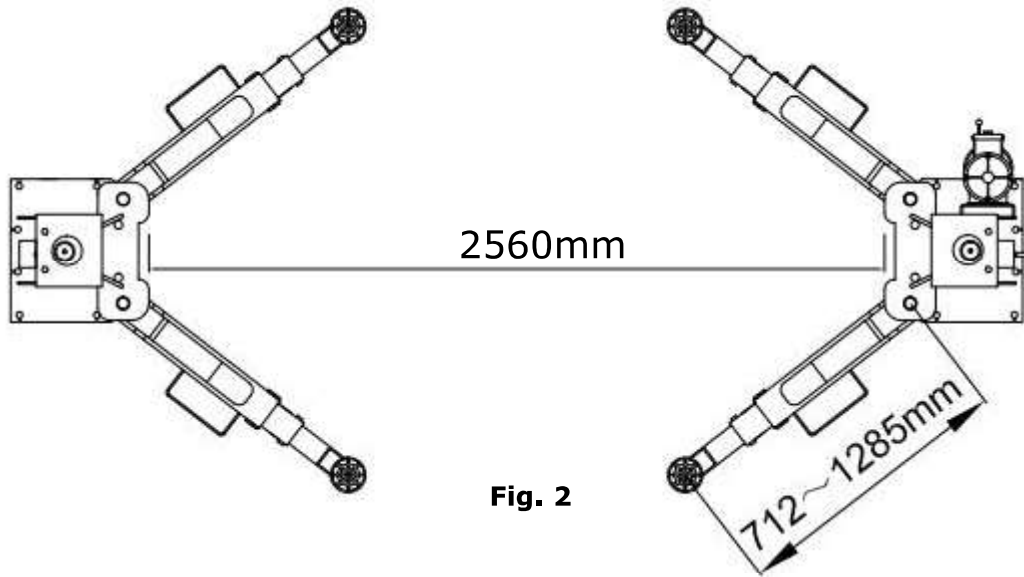


Fig. 2

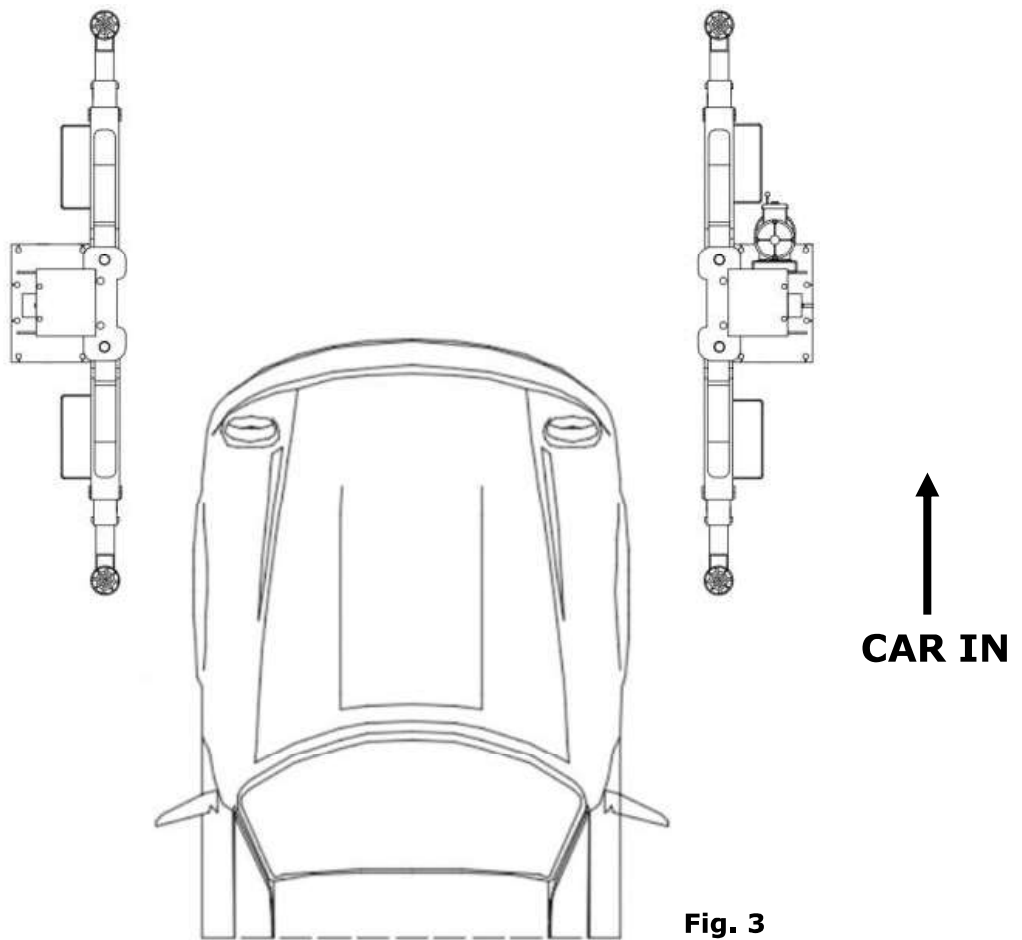


Fig. 3

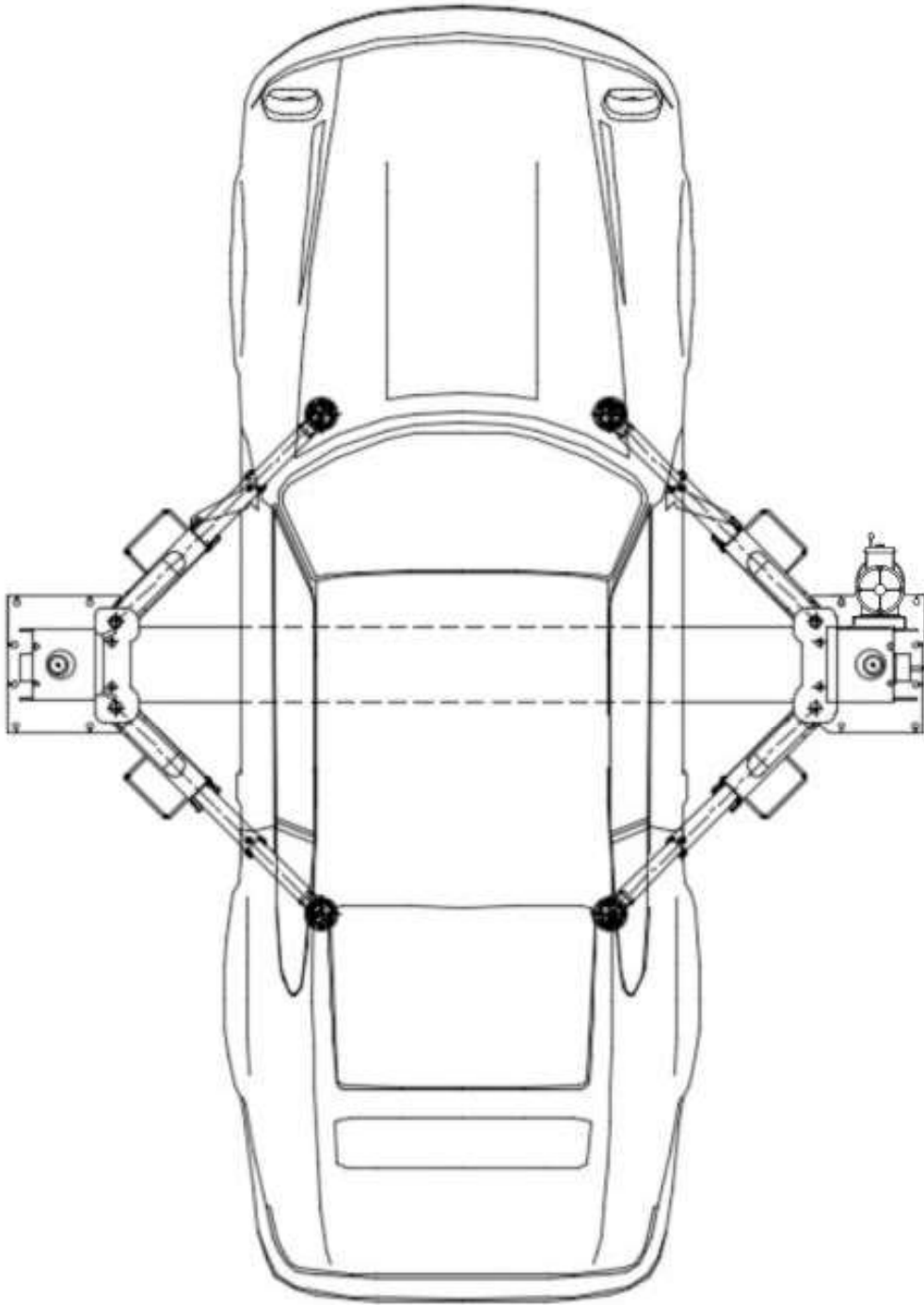


Fig. 4

II. INSTALLATION REQUIREMENT

A. TOOLS REQUIRED

- ✓ Rotary Hammer Drill (Φ19)



- ✓ 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. 5

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.6

D.SPECIFICATIONS OF CONCRETE (See Fig. 7)

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 lift installation.
2. Concrete must be in good condition and must be of test strength 210kg/cm² (3,000psi) minimum.
3. Floors must be level and no cracks.

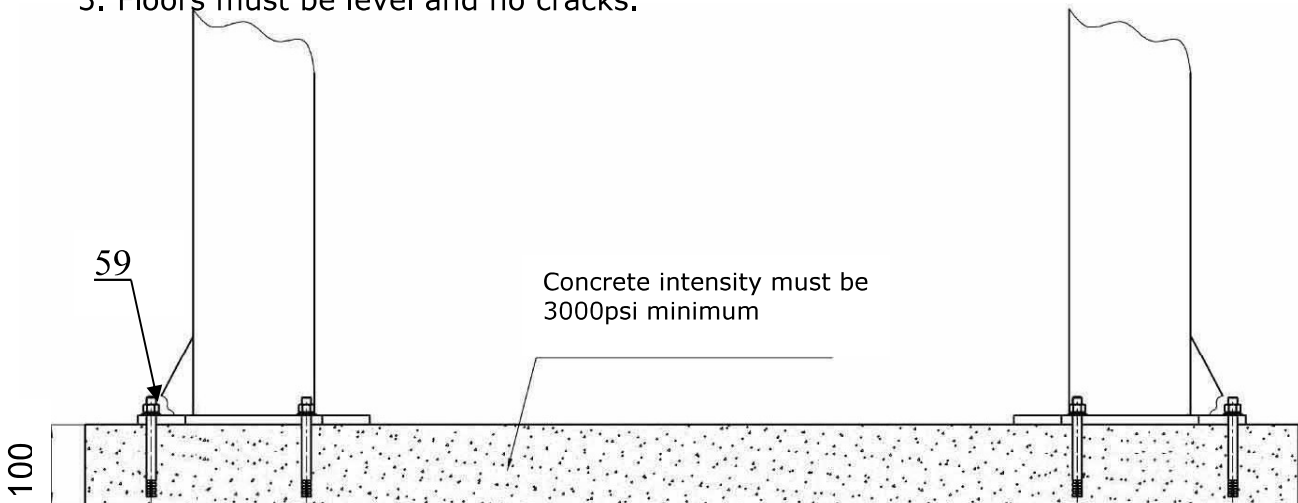


Fig. 7

E. POWER SUPPLY

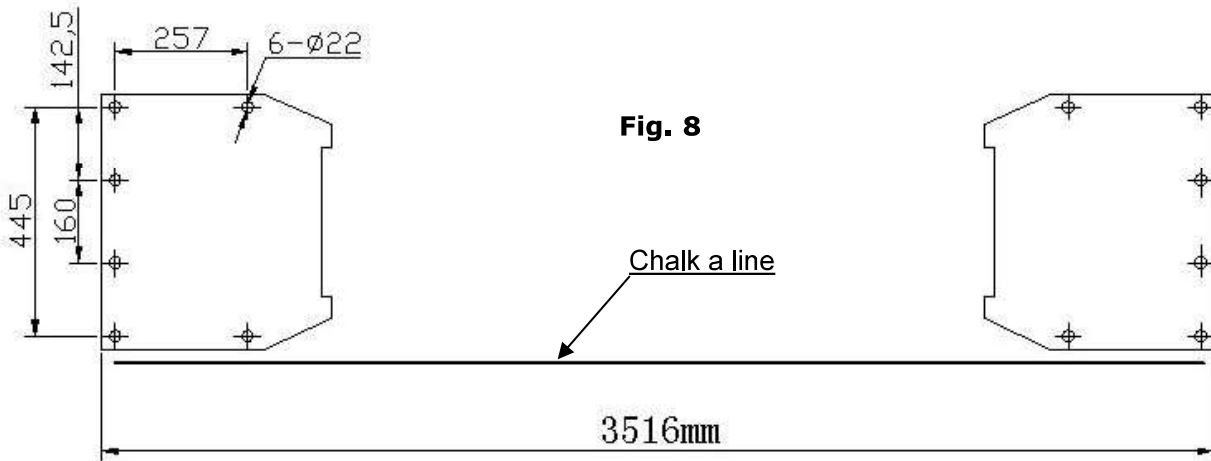
The electrical source must be 3HP minimum. The source cable size must be 2.5mm² minimum and in good condition of contacting with floor.

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. 8**).



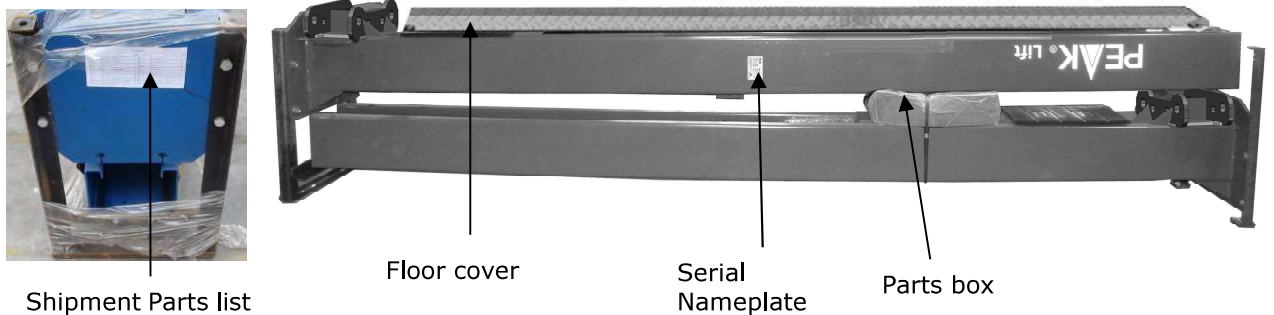
C. Check the parts before assembly

1. Packaged lift and hydraulic power unit (**See Fig.9**)



Fig. 9

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. 10**).



3. Loose 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. 10,11).



Fig. 11
Parts in the shipment parts list



Fig. 12
Parts in the parts box (29)

5. Open the parts bag and check the parts according to parts box list (See Fig. 13).

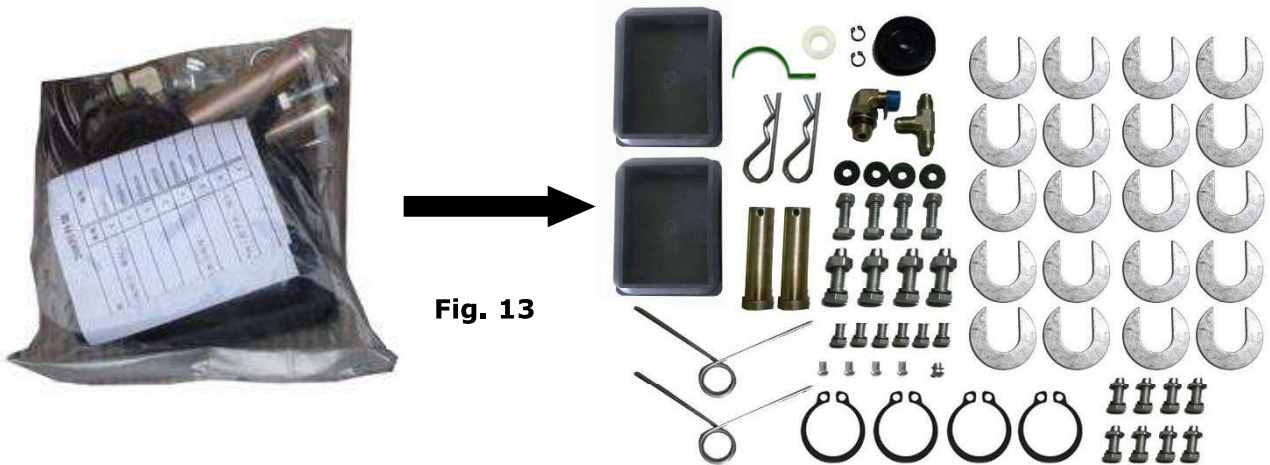
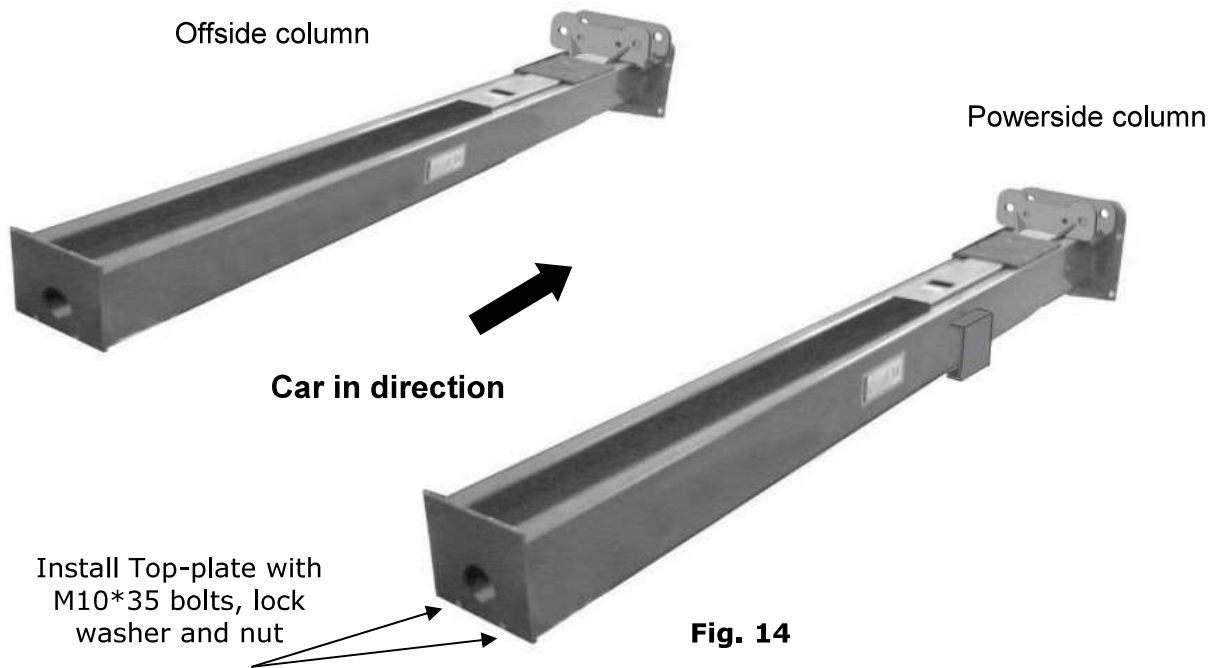


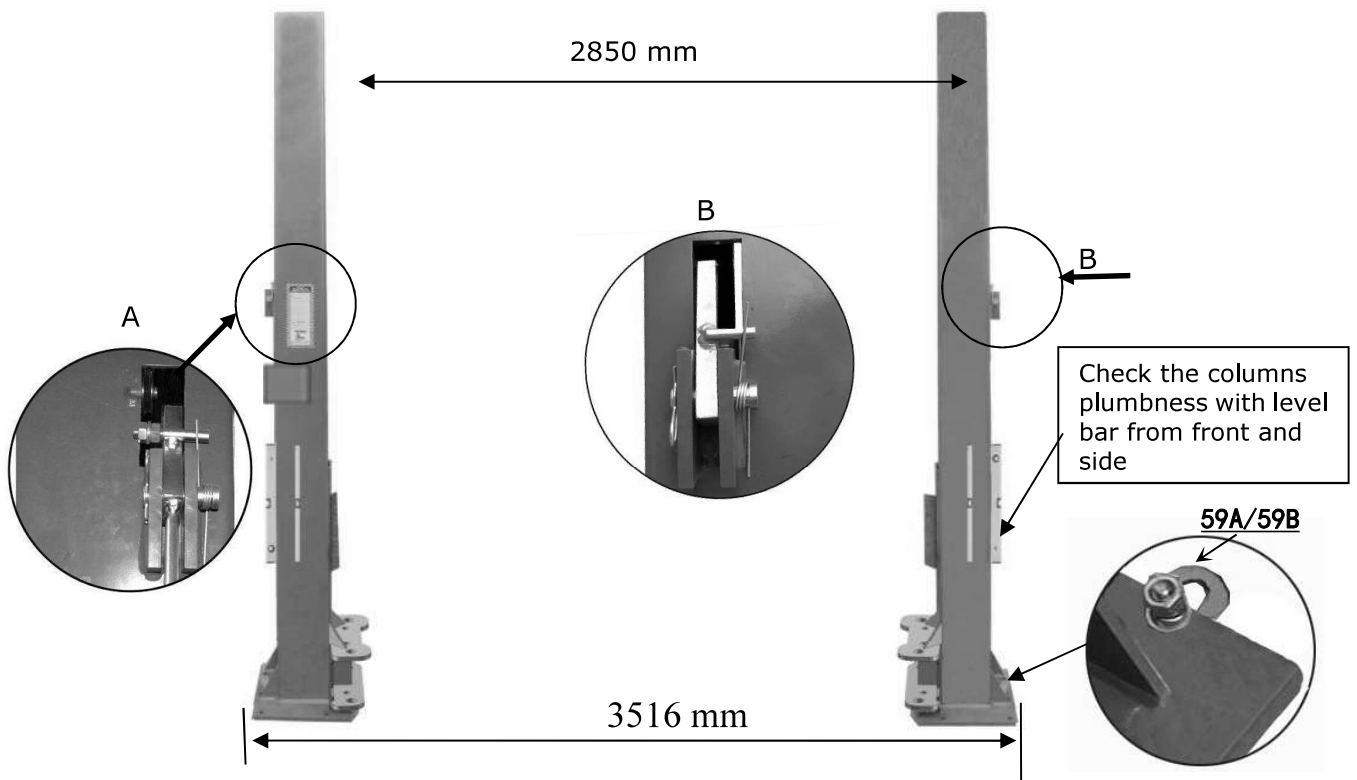
Fig. 13

D. Lay down two columns on the installation site parallelly, position the powerside column according to the actual installation site. Usually, it is suggested to install powerside column on the front-right side from which vehicles are driven to the lift. Then install the topplate (**See Fig. 14**).



E. Position columns (See Fig. 15)

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



F. Fix anchor bolts

1. Prepare anchor bolts (See Fig. 16).

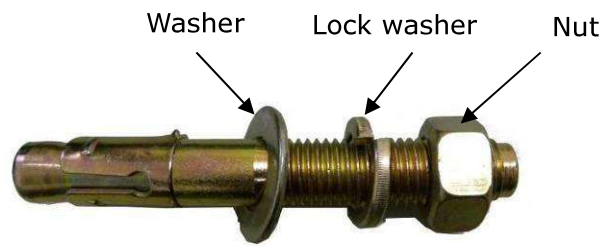


Fig.16

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. 17).

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

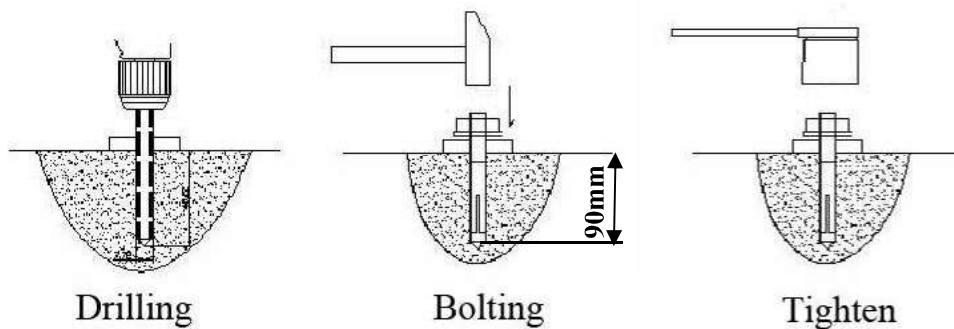


Fig.17

G. Lift the carriages up by hand and make them be locked at the same level (See Fig. 18).

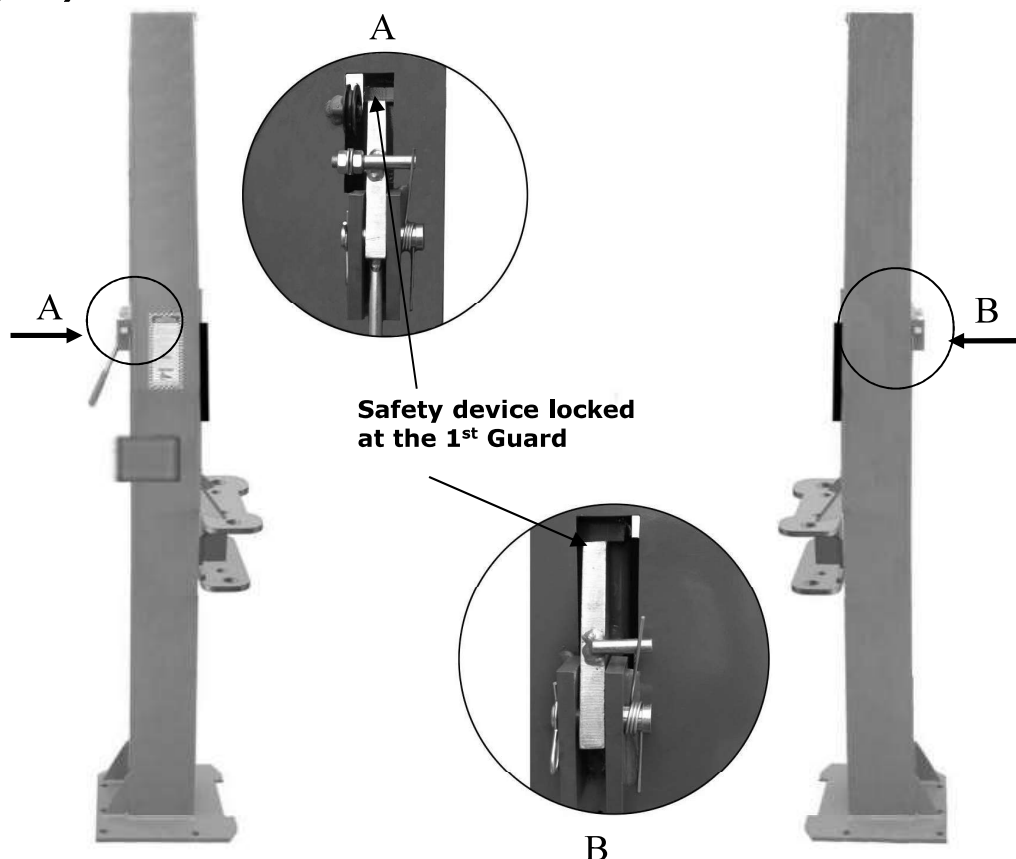
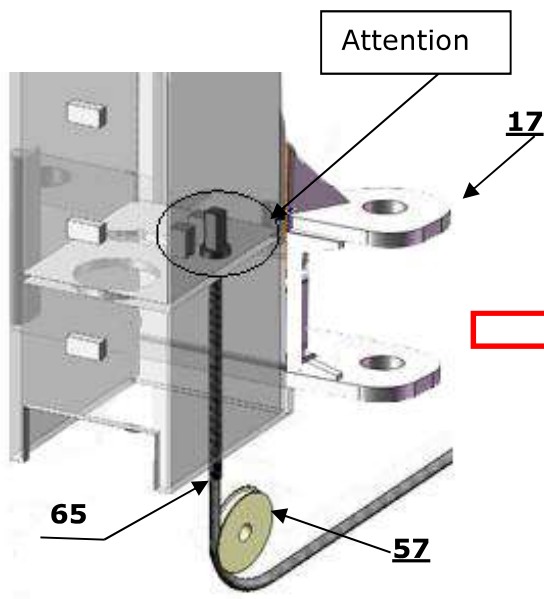


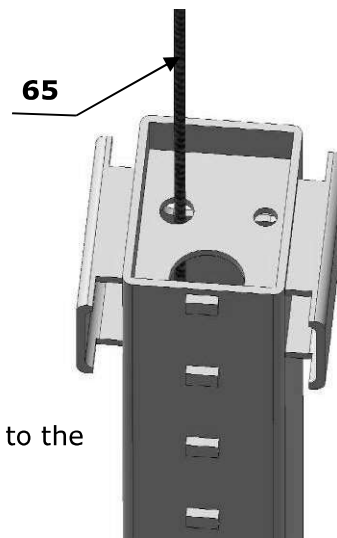
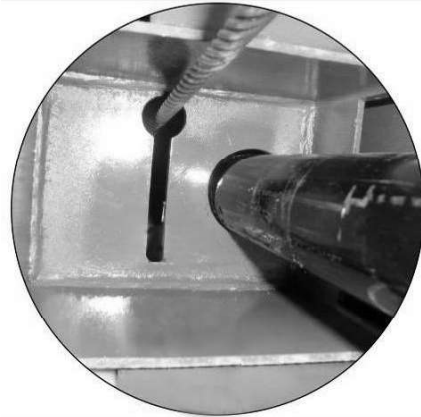
Fig.18

H. Connecting cables (See Fig. 14)



Cable pass through from the bottom of the carriages

Pass the other side of the cable through the bottom of the other carriage.



Cable pass through to the top of the carriages

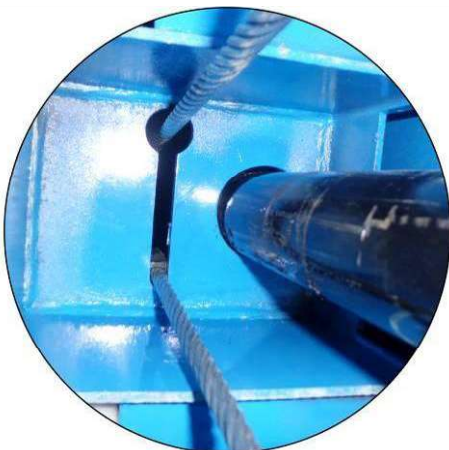
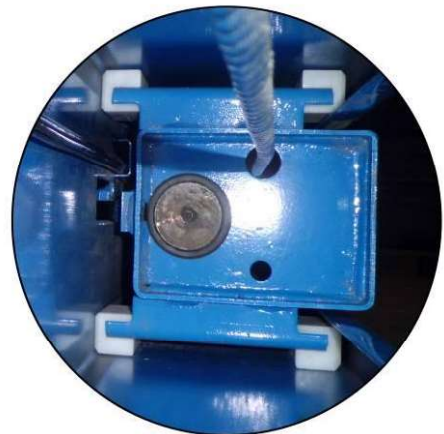


Fig. 19

Final View



I. Install cables (See Fig. 20)

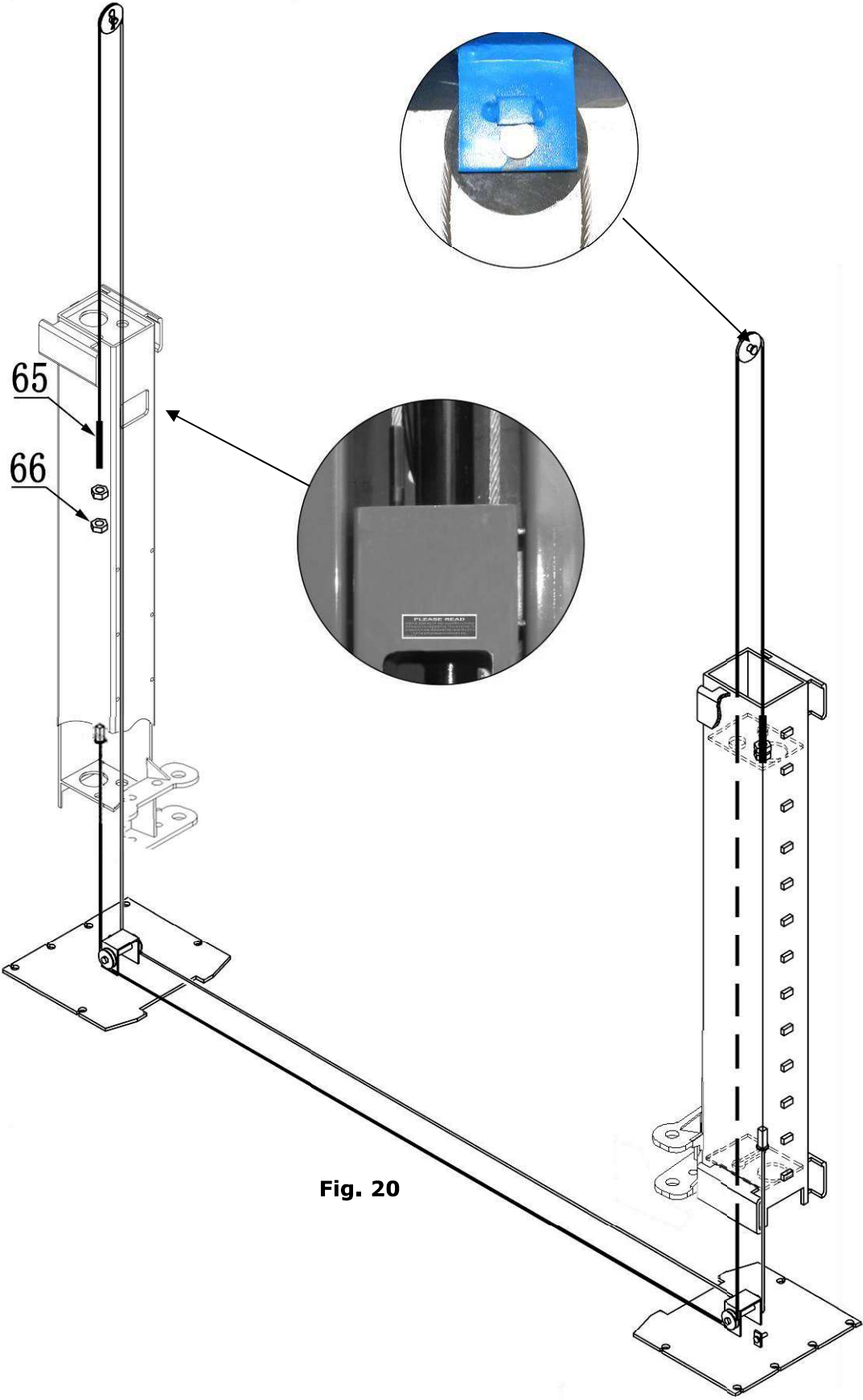


Fig. 20

J. Assembly oil hose assy. (See Fig. 21)

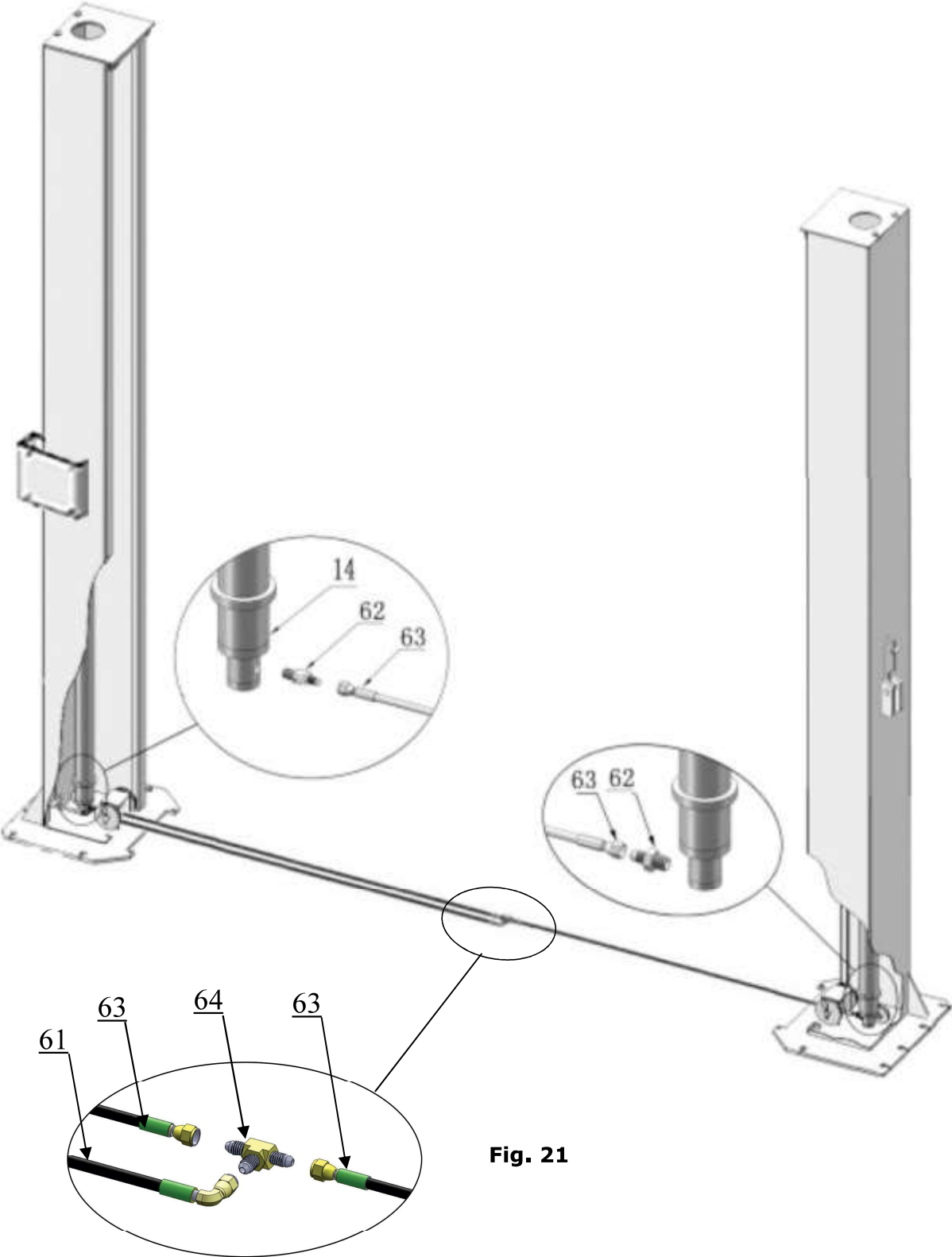


Fig. 21

K. Install power unit and oil hose (See Fig. 22)

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

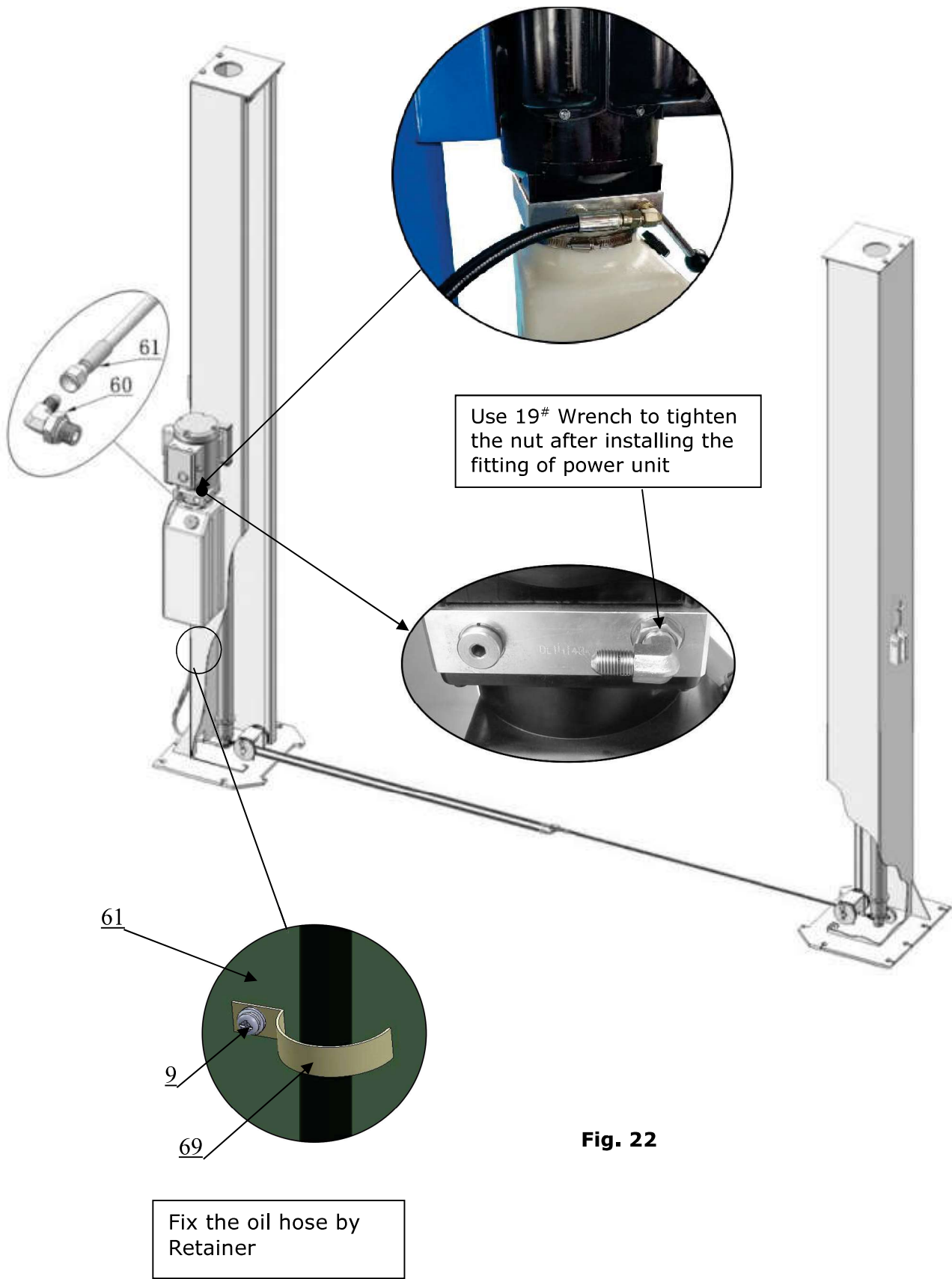


Fig. 22

L. Install safety cable

Install safety cable from offside safety lock to powerside safety lock (See Fig. 23).

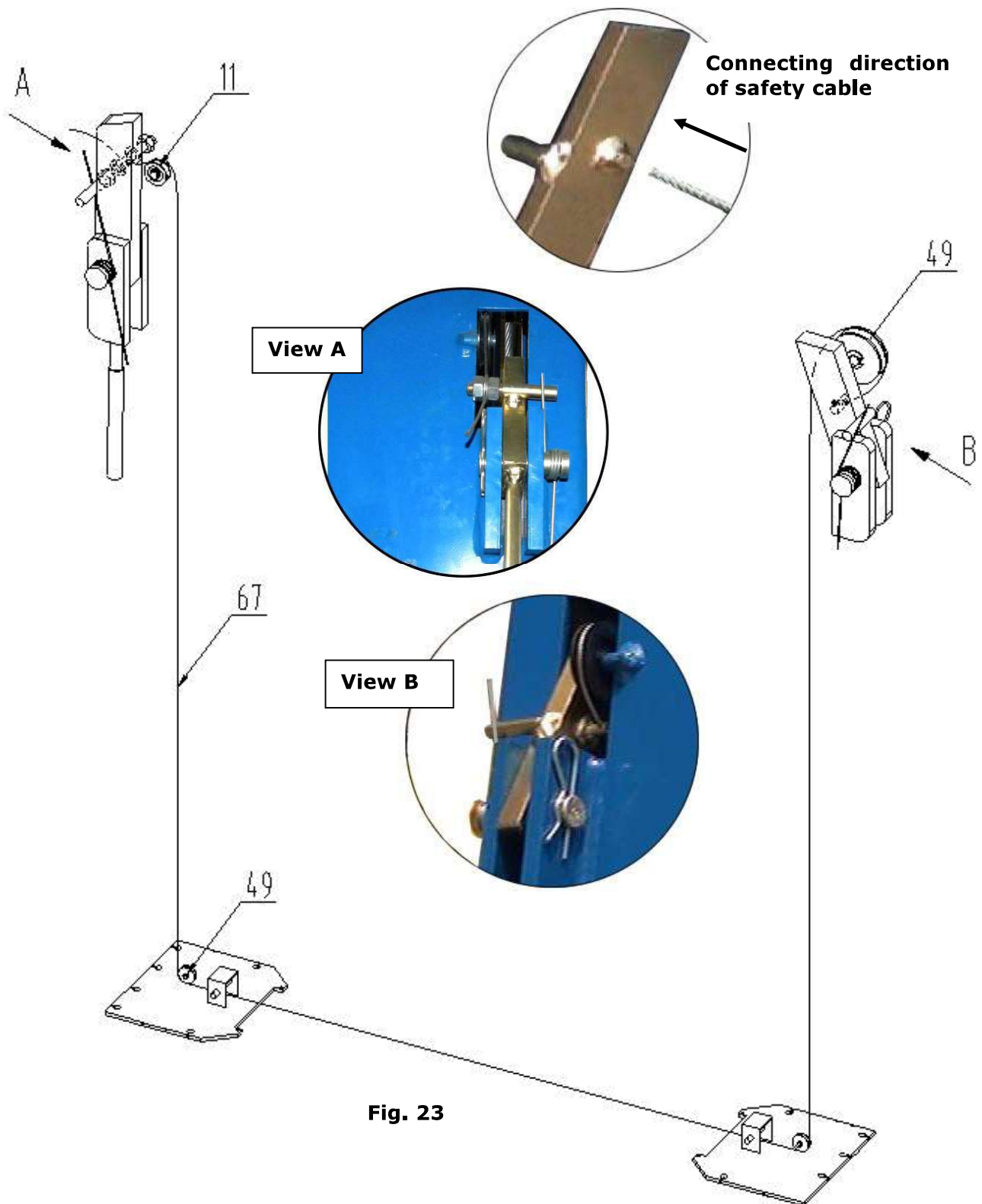


Fig. 23

M. Install floor cover and protective rubber sets (See Fig. 24).

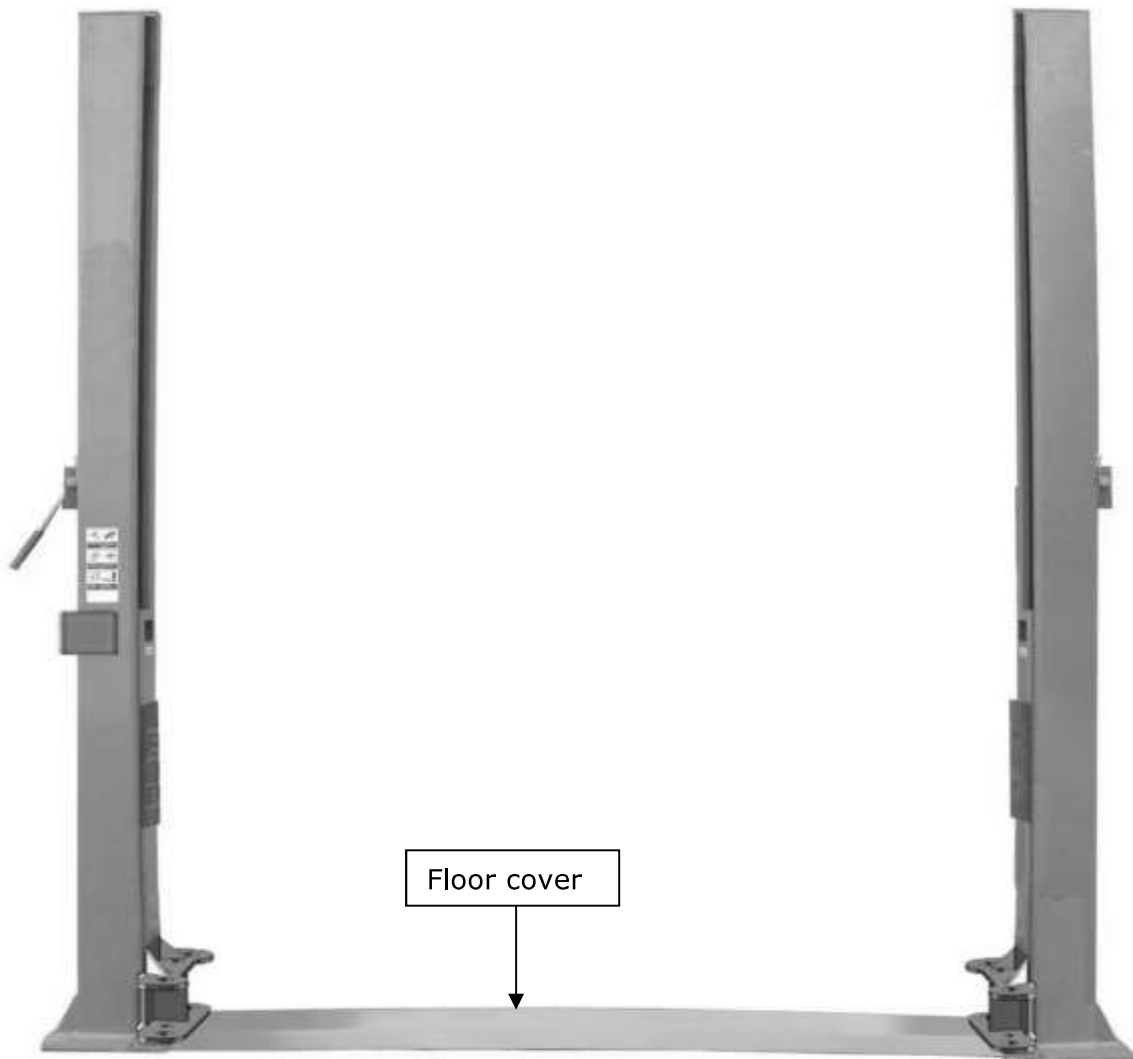


Fig. 24

N. Install lifting arms and adjust the arm locks.

1. Install the lifting arms (See Fig. 25)

2. Lowering the carriages down to the lowest position, then use the 8# socket head wrench to loosen the socket bolt (See Fig. 26)

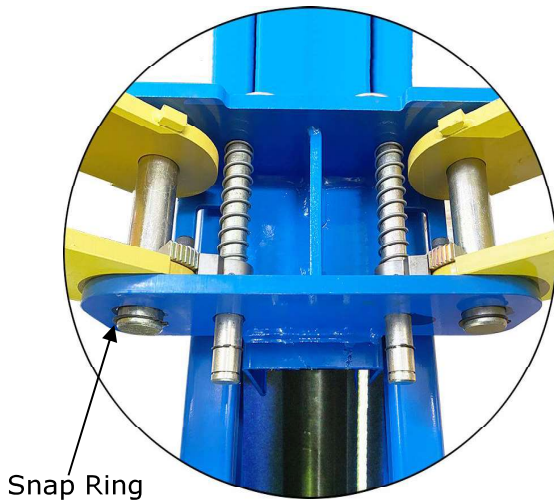


Fig. 25

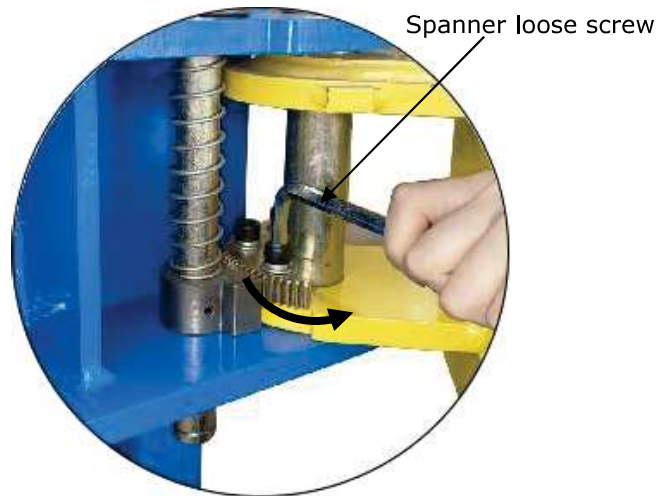


Fig. 26

3. Adjust the moon gear as arrow direction (See Fig. 27).

4. Adjust the moon gear and arm lock to make it to be meshed, then tighten bolts of arm lock (See Fig. 28).

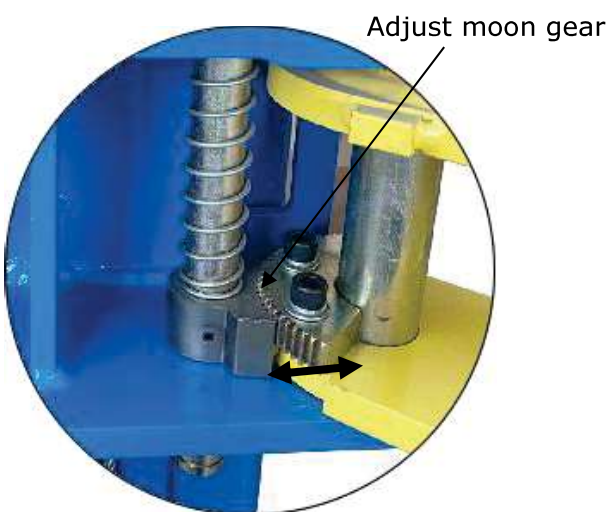


Fig. 27

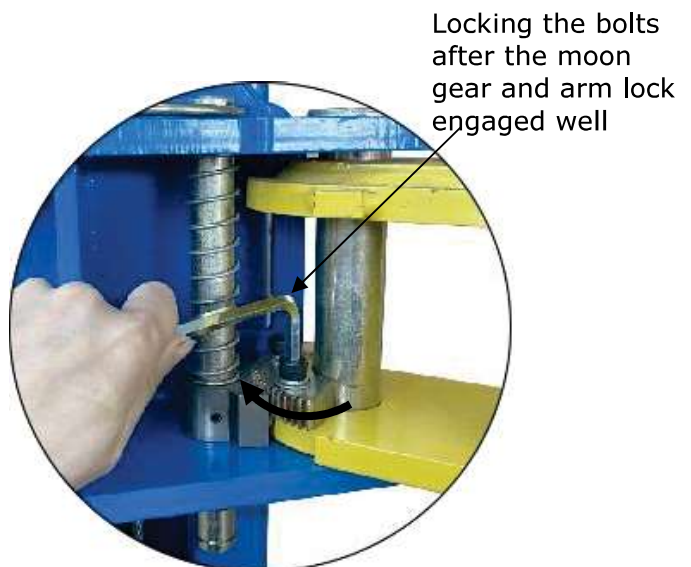


Fig. 28

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

2. Pay attention to the direction of rotations when using three phase motors.

Single phase motor

1. Circuit diagram (See Fig. 29)

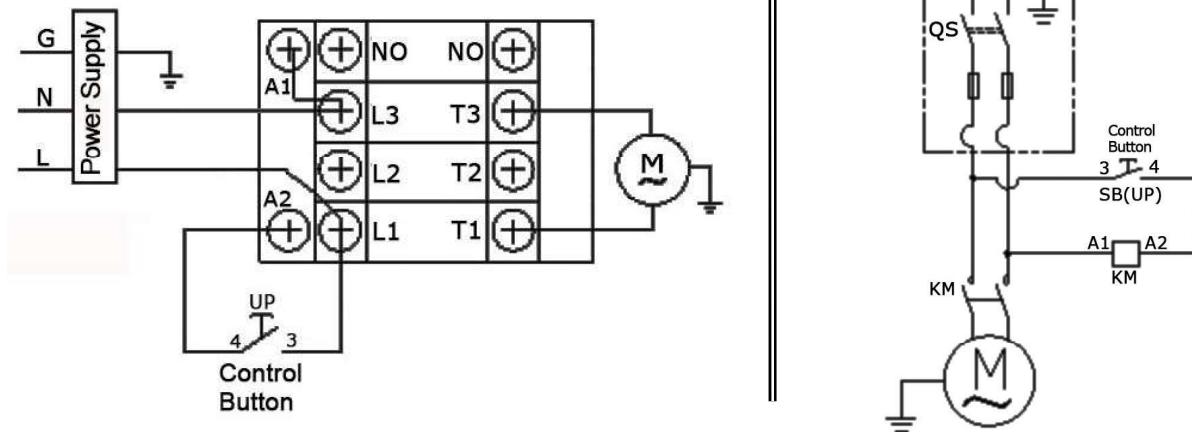


Fig. 29

2. Connection step (See Fig. 30)

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

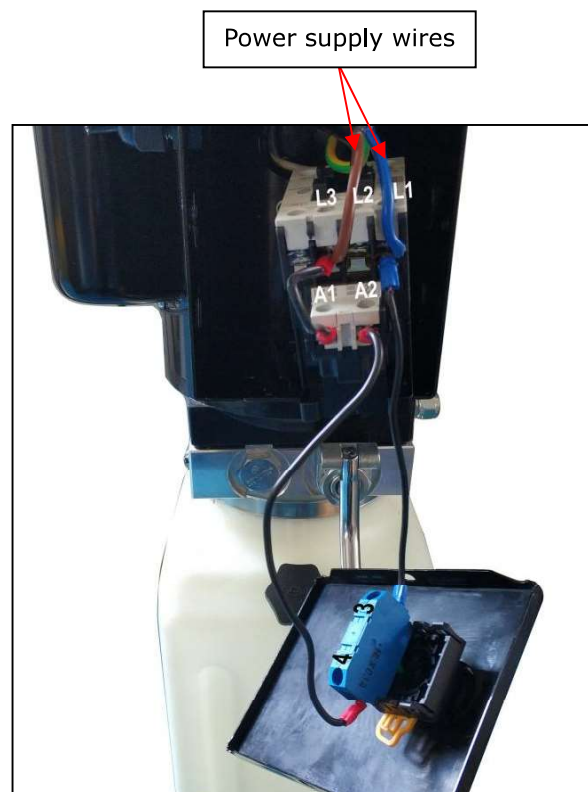


Fig. 30

Three phase motor

1. Circuit diagram (See Fig. 31)

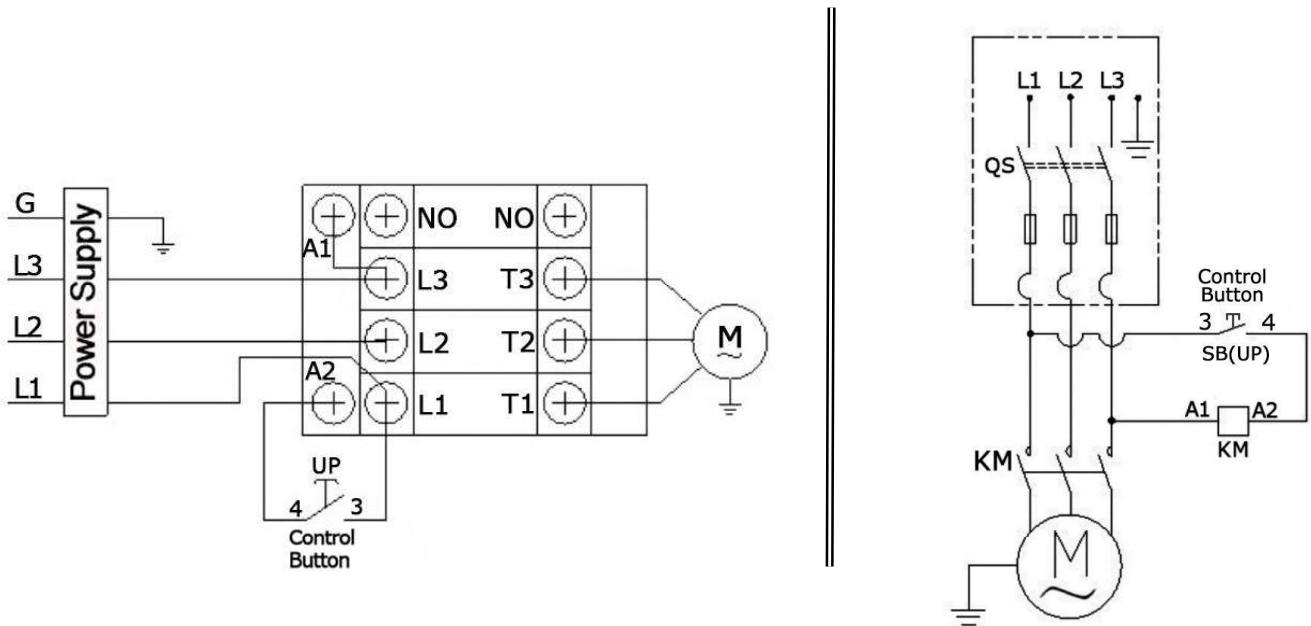


Fig. 31

2. Connection step (See Fig. 32)

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.

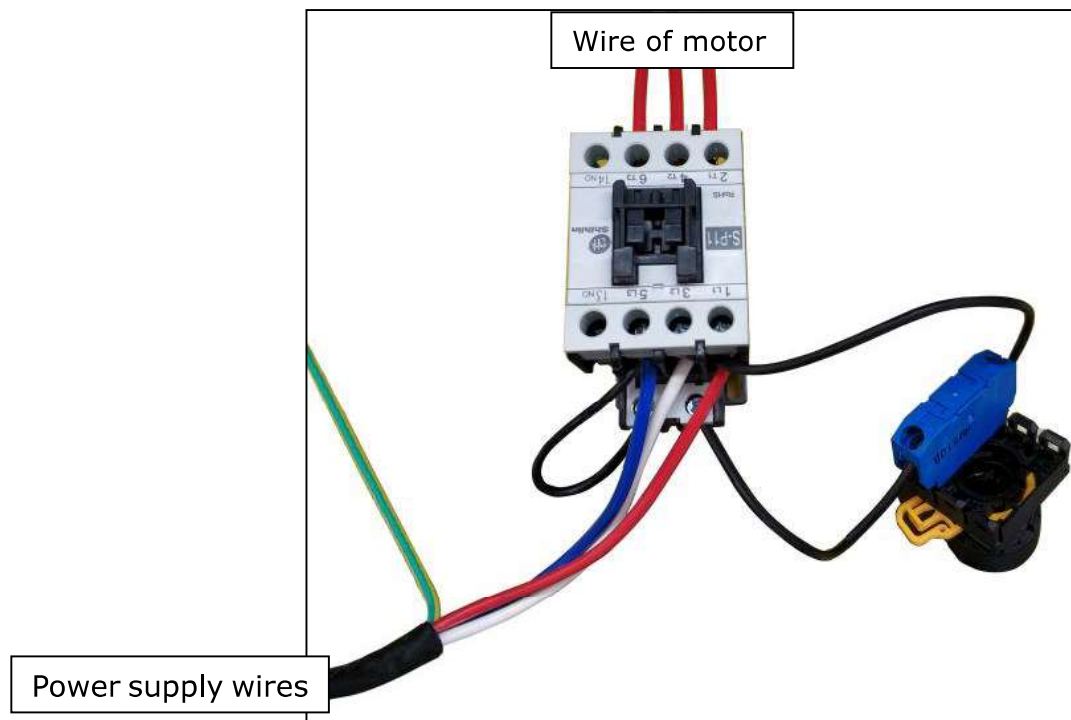


Fig.32

IV. EXPLODED VIEW

Model BP4500

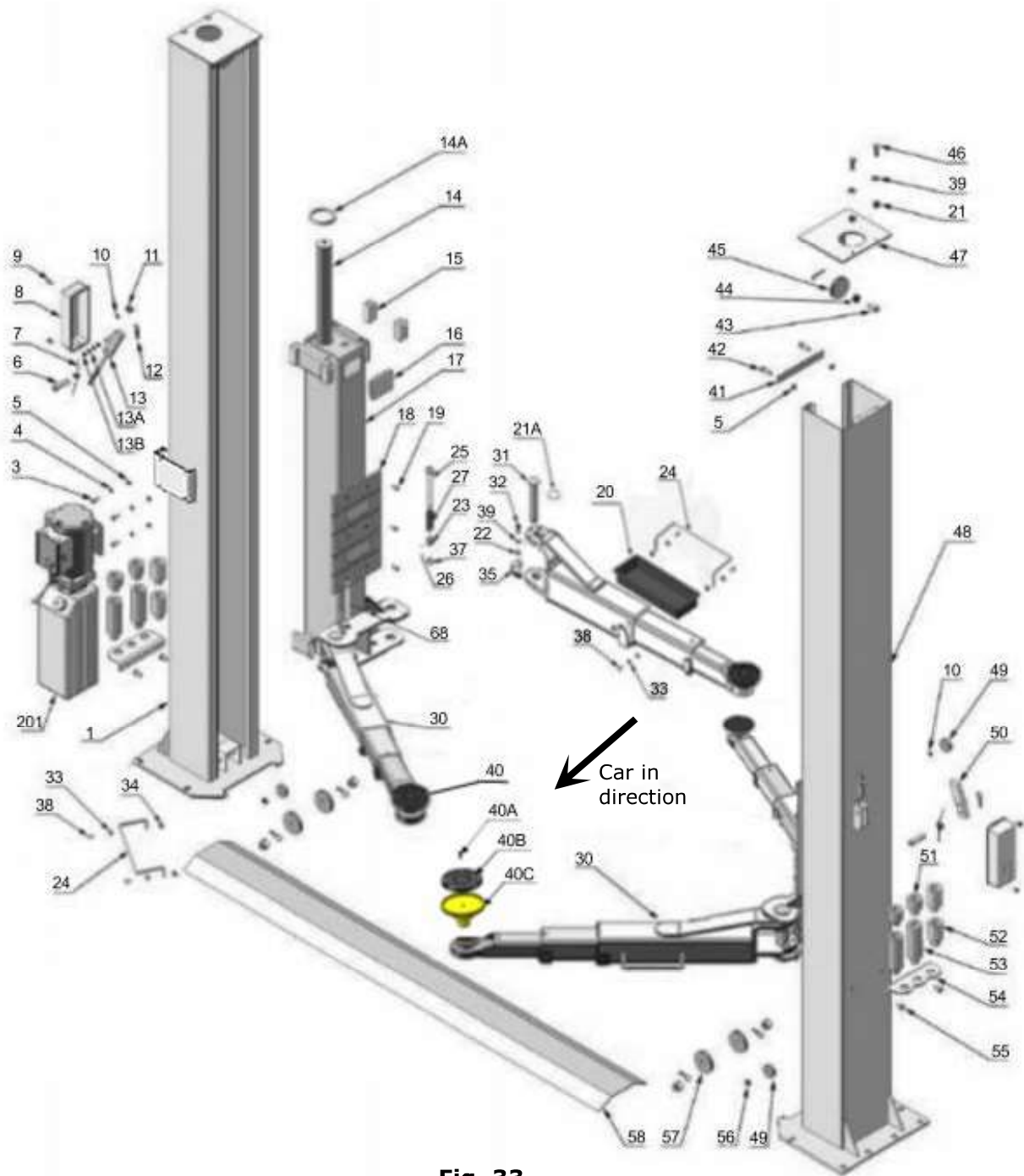


Fig. 33

PARTS LIST

Item	Part#	Description	Qty.	Note
1	11209200	Powerside Column	1	
201	81513001	Power Unit 220V/50Hz/1Phase	1/1	
	81513002	Power Unit 380V/50Hz/3Phase		
3	10209003	Hex Bolt	4	
4	10209004	Rubber Ring	4	
5	10209005	Self locking Nut	8	
6	11206002	Safety Pin	2	
7	10209007	Safety Spring	2	
8	10209008	Safety Cover	2	
9	10209009	Cup Head Bolt	5	
10	10209010	Snap Ring	2	
11	10209011	Safety Pulley	1	
12	10209012	Hair Pin	8	
13	11209013	Powerside Safety Lock	1	
13A	10206006	Washer	2	
13B	10206023A	Hex Nut	2	
14	11209014-02	Cylinder	2	
14A	10209111	Protective Ring for Cylinder	2	
15	10209015	Slider block	16	
16	10209016	Carriage Plastic Cover	2	
17	11209202	Carriage	2	
18	10209018	Protective Rubber	2	
19	10209019	Screw	12	
20	10206190	Tool tray (short)	2	
21	10209021	Hex Nut	8	
22	10209022	Washer	12	
23	10217044-01	Arm Lock	4	
24	11206191	Toe guard	4	
25	11217046A	Arm Lock Bar (left)	2	
26	10206036	Hair Pin	4	
27	10217045	Spring	4	
28	11217048	Retainer	1	
29	10209500B	Parts box	1	
30	10203156	Lifting Arm Assy.	4	
31	11217168	Arm Pin	4	
31A	10520023	Snap Spring	4	
32	10206048	Socket Bolt	12	
33	10209034	Lock Washer	18	

Item	Part#	Description	Qty.	Note
34	10209033	Washer	18	
35	11206049	Moon Gear	4	
36	10209153	Pull tab for arm lock bar	4	
37	10206032	Snap ring	4	
38	10201002	Hex Bolt	14	
39	10209039	Lock Washer	12	
40	10217114A	Rubber Pad Assy.	4	
40A	10420138	Socket bolt	4	
40B	10209134	Rubber Pad	4	
40C	11680030B	Rubber Pad Frame	4	
41	11209042	Connecting Bar	2	
42	10209043	Hex Bolt	4	
43	11209044	Pin For Pulley	2	
44	10209057A	Bronze Bush	6	
45	11209045	Big Pulley	2	
46	10209046	Hex Bolt	4	
47	11209047	Top Plate	2	
48	11209201	Offside Column	1	
49	10209049	Plastic Small Pulley	3	
50	11209050	Offside Safety Lock	1	
51	11209051B	Stackable Adapter (1.5")	4	
52	11209052B	Stackable Adapter (2.5")	4	
53	11209053B	Stackable Adapter (5")	4	
54	11209054A	Stackable Adapters Bracket	2	
55	10680003	Hex Bolt	4	
56	10209056	Self locking Nut	2	
57	11206020	Small Pulley	4	
58	11209203	Floor Cover	1	
59	10209059	Anchor Bolt	12	
59A	10620065	Shim	10	
59B	10201090	Shim	10	
60	10209060	Fitting for power unit	1	
61	10209059-01	Oil Hose 1/4*2980mm	1	
62	10209064	Straight Fitting	2	
63	10207026	Oil Hose 1/4*1520mm	2	
64	10211016	T Fitting	1	
65	10209065	Cable	2	
66	10209066	Hex Nut	4	
67	10209068	Safty Cable	1	
68	11217046	Arm Lock bar (right)	2	

4.1 Lifting Arm Assy. (10203156) Exploded View:

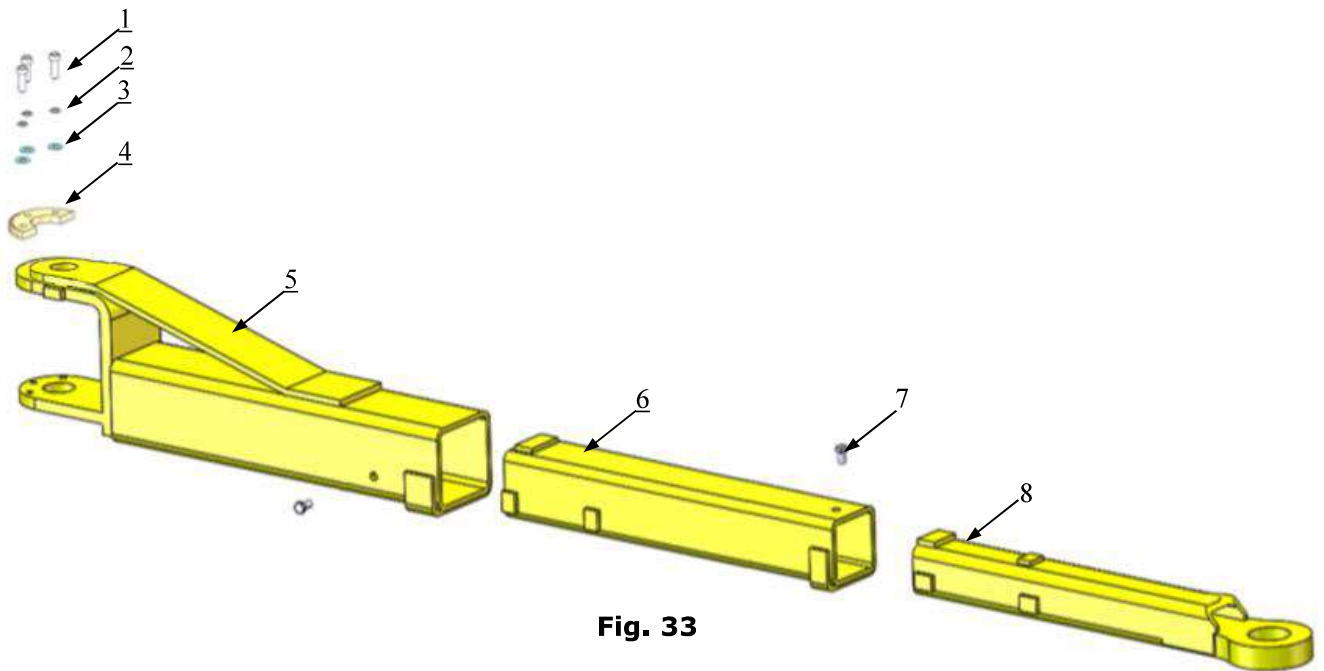


Fig. 33

Item	Part#	Description	Qty.	Item	Part#	Description	Qty.
1	10206048	Socket bolt	12	5	11203146	Outer arm	4
2	10209039	Lock washer	12	6	11203147	Middle arm	4
3	10209022	Washer	12	7	10201149	Screw	8
4	11206049	Moon gear	4	8	11203148	Inner arm	4

4.2 Cylinder (10209014-02) Exploded View:

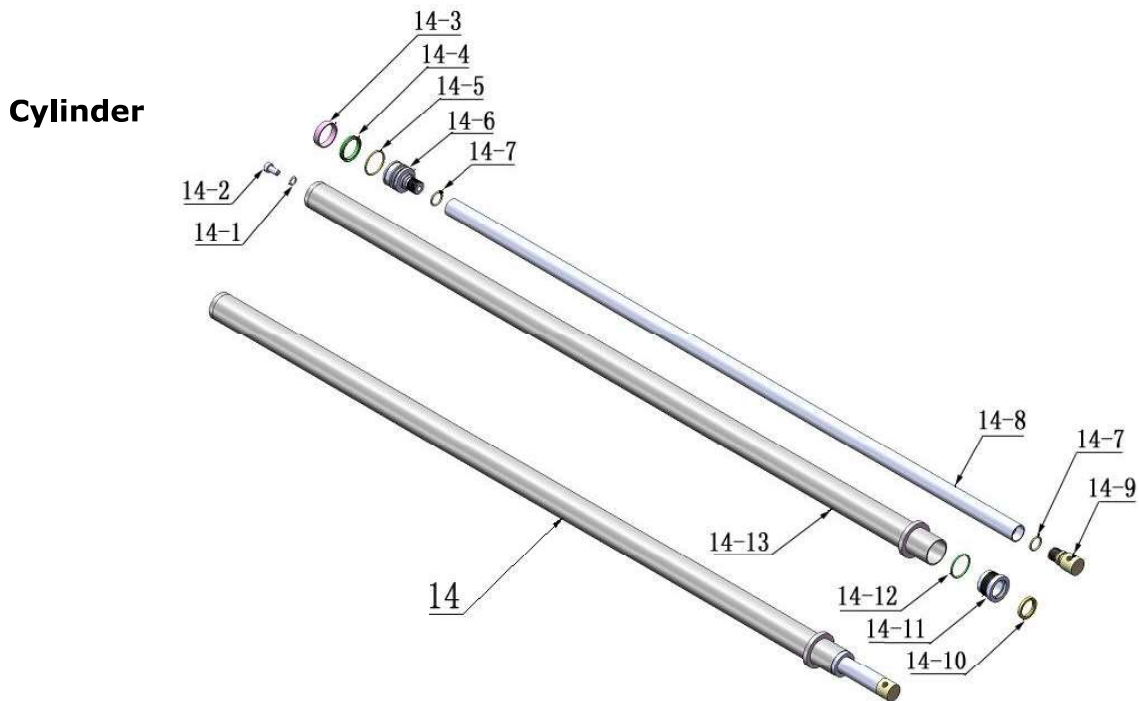


Fig. 34

Item	Part#	Description	Qty.	Item	Part#	Description	Qty.
14-1	10209069	O Ring	2	14-8	11209076-01	Piston rod	2
14-2	10209070	Bleeding Plug	2	14-9	11209077	Piston rod connector	2
14-3	10209071	Support Ring	2	14-10	10209078	Dust Ring	2
14-4	10209072	Y Ring	2	14-11	11209079	End cover	2
14-5	10209073	O Ring	2	14-12	10209080	O Ring	2
14-6	11209074	Poston	2	14-13	11209081-01	Cylinder Weldment	2
14-7	10209075	O Ring	4				

4.3 Power Unit (81513001/81513002) Exploded View:

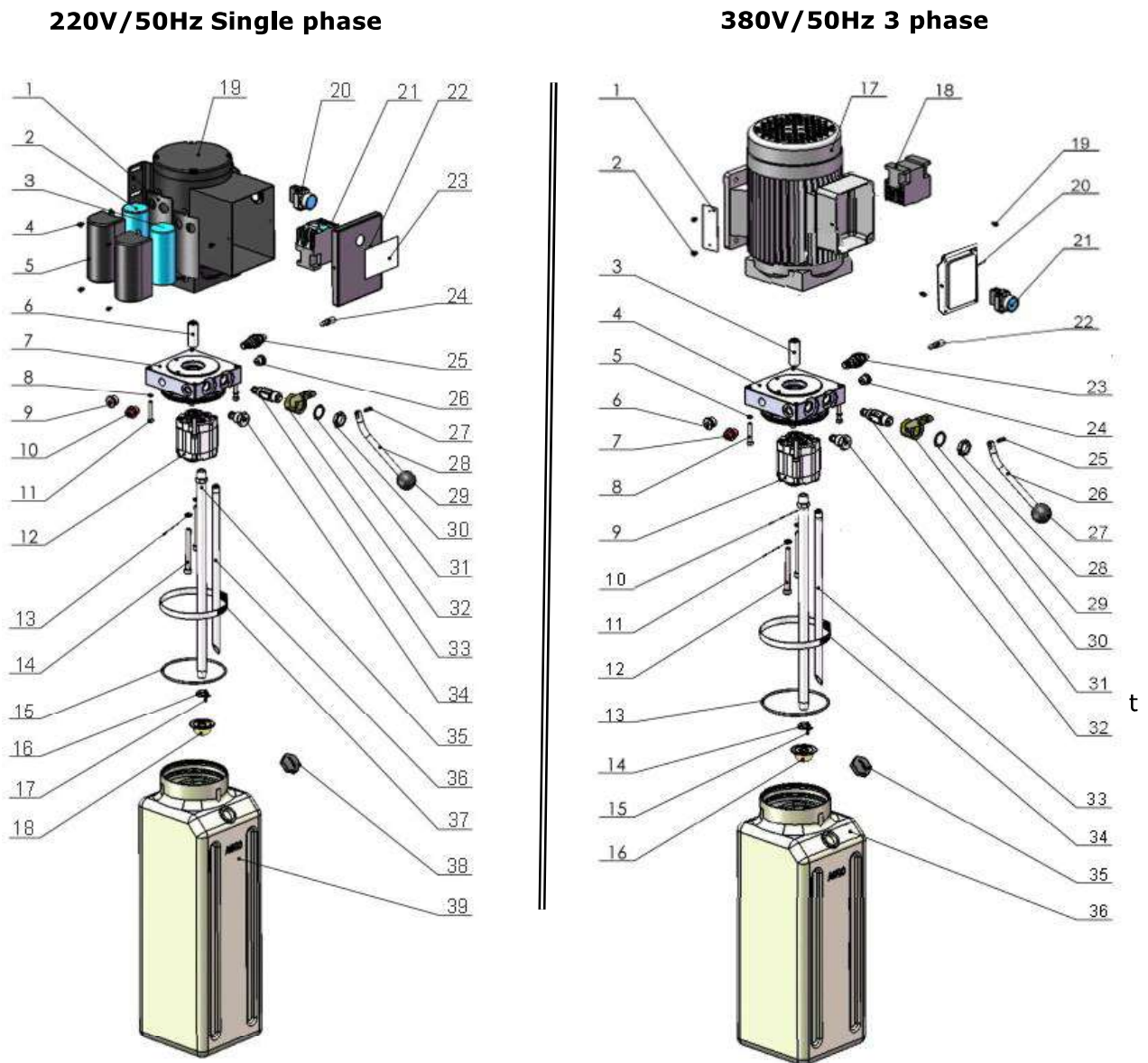


Fig. 35

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	10209149	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	10209034	Lock Washer	2	
14	81400295	Socket bolt	2	
15	81400365	O-ring	1	
16	10209152	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	10209020	Plastic ball	1	
30	81400421	Nut for release valve	1	
31	81400422	Self locking flat pad	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	10209149	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	10209034	Lock washer	2	
12	81400295	Socket bolt	2	
13	81400365	O ring	1	
14	10209152	Ties	1	
15	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	10209020	Plastic Ball	1	
28	81400421	Release Valve Nut	1	
29	81400422	Self Locking 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

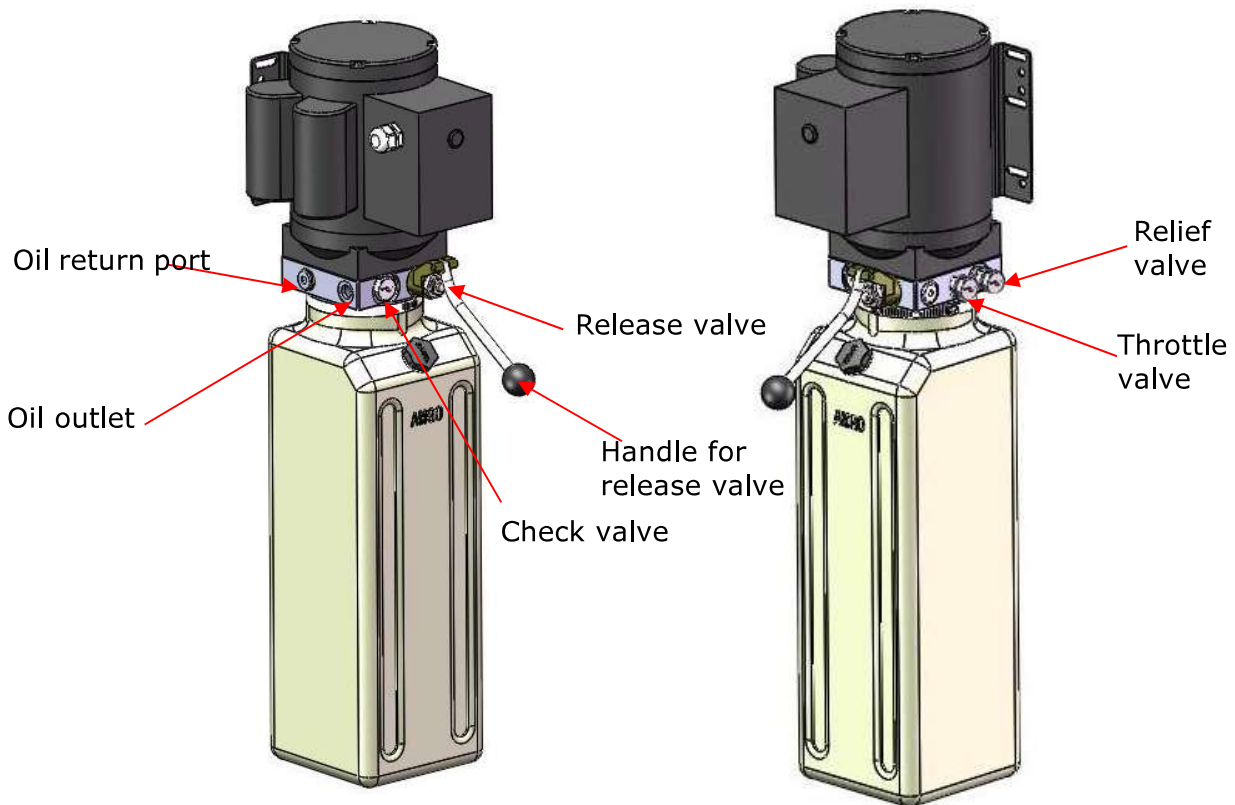


Fig. 36

V. TEST RUN

1. Adjustment of synchronous cable (See Fig. 37)

Use wrench to hold the cable fitting, meanwhile using 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.

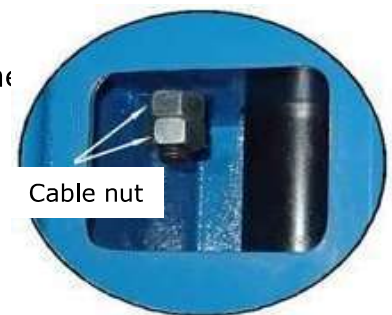


Fig. 37

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.

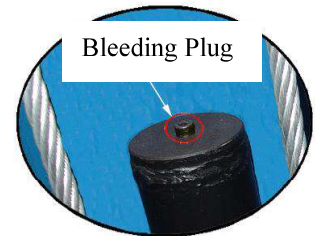


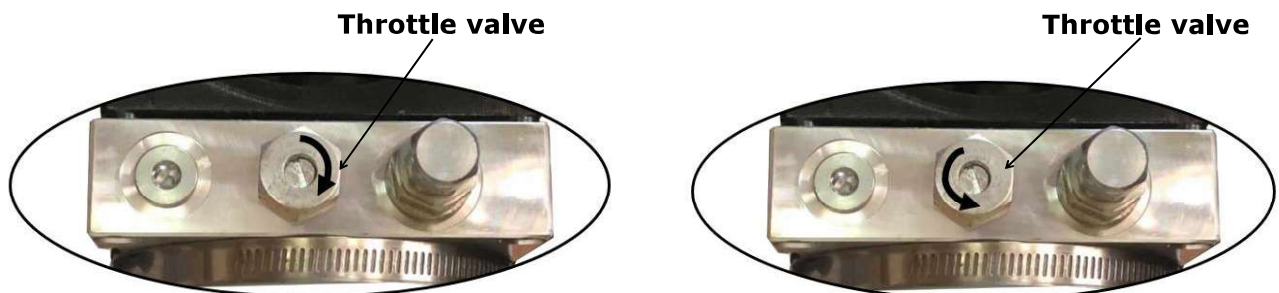
Fig. 38

3. Bleeding air from oil cylinder

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.

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. 39

5. 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, lifting it with load for several times, the air would be bled and the vibration would be disappeared automatically.

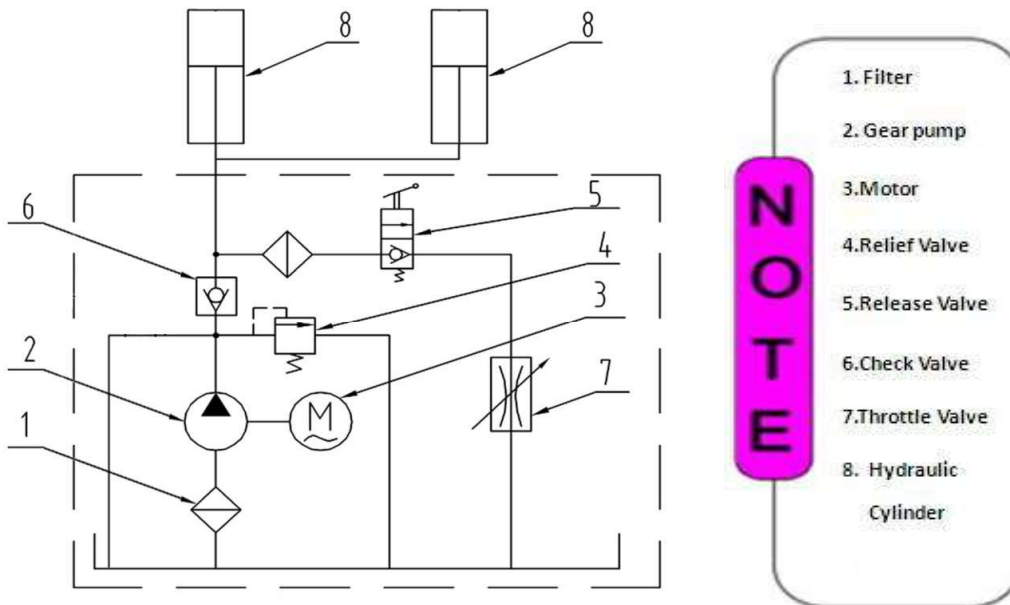


Fig. 40 Hydraulic System

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

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

- C. Open the arms and position them to the shortest length;
- D. Drive away the vehicle.
- E. Turn off the power.

VII. MAINTENANCE SCHEDULE

Monthly:

1. Re-torque the anchor bolts to 150Nm;
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 is damaged 	<ol style="list-style-type: none"> 1. Replace button 2.Repair all wiring connections 3. Repair or replace motor 4. Repair 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.



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