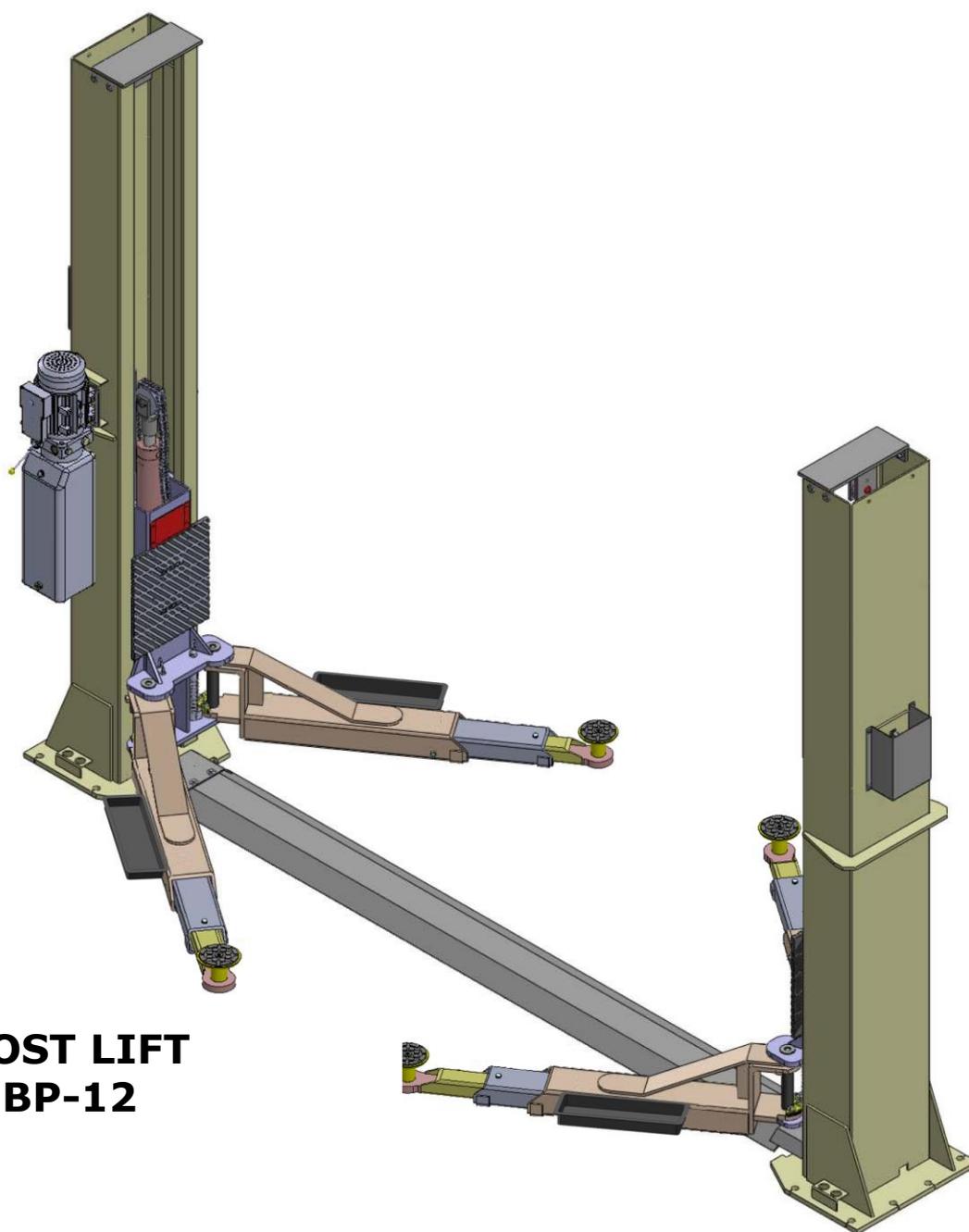


# AMGO ® Hydraulics

## Installation And Service Manual



**TWO POST LIFT**  
**Model: BP-12**

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# I. PRODUCT FEATURES AND SPECIFICATIONS

## FLOORPLATE CHAIN-DRIVED MODEL FEATURES

### MODEL BP-12 (See Fig.1)

- 12000lbs lifting capacity, compact design small footprint.
- Dual hydraulic chain-drive cylinders, designed and made on ANSI standard, utilizing oil seal in cylinder.
- Adjustable column width, two optional column width installation 118 1/8" or 123 1/2"
- Stackable adapters 1.5", 2.5", 5" can adjust the minimum pad height in a short time.
- Self-lubricating UHMW Polyethylene sliders and bronze bush.
- Single-point safety release, and dual safety design.
- Super-symmetric arms design, make lifts easily find the lift point of the car.
- $\varnothing$  9.5 mm cable using for the lift make it more safety and more reliable.

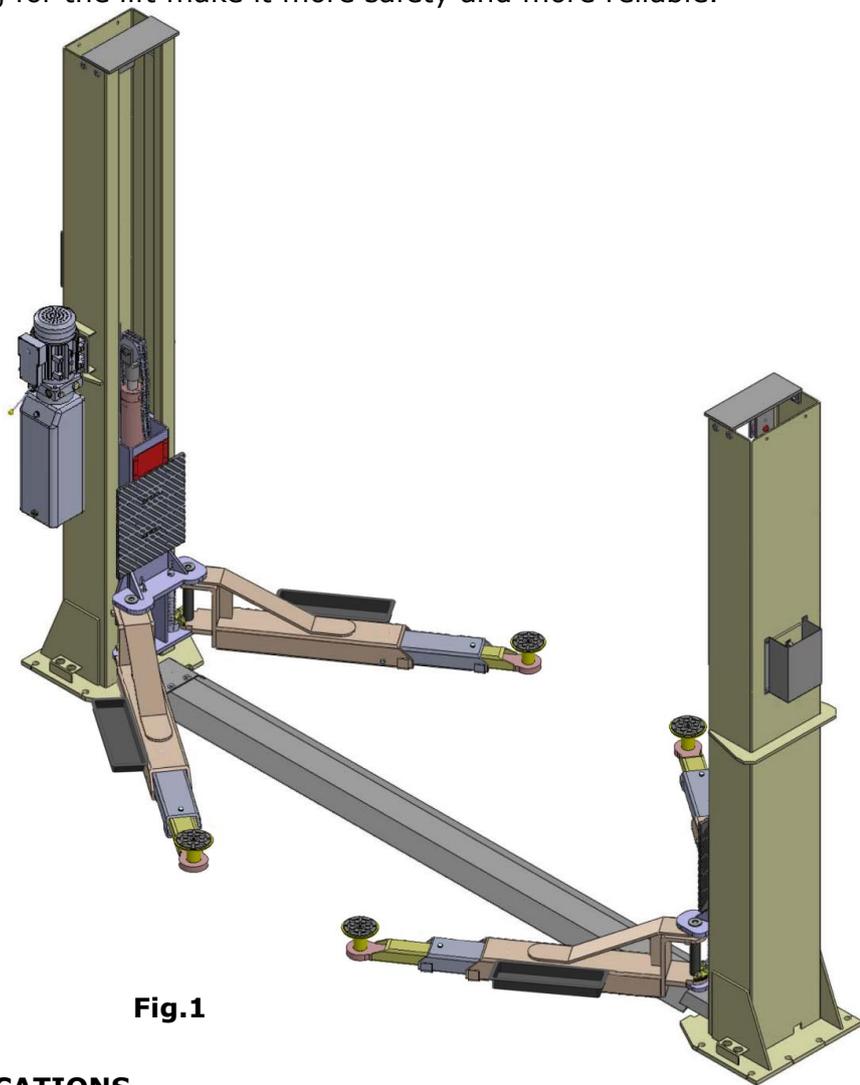
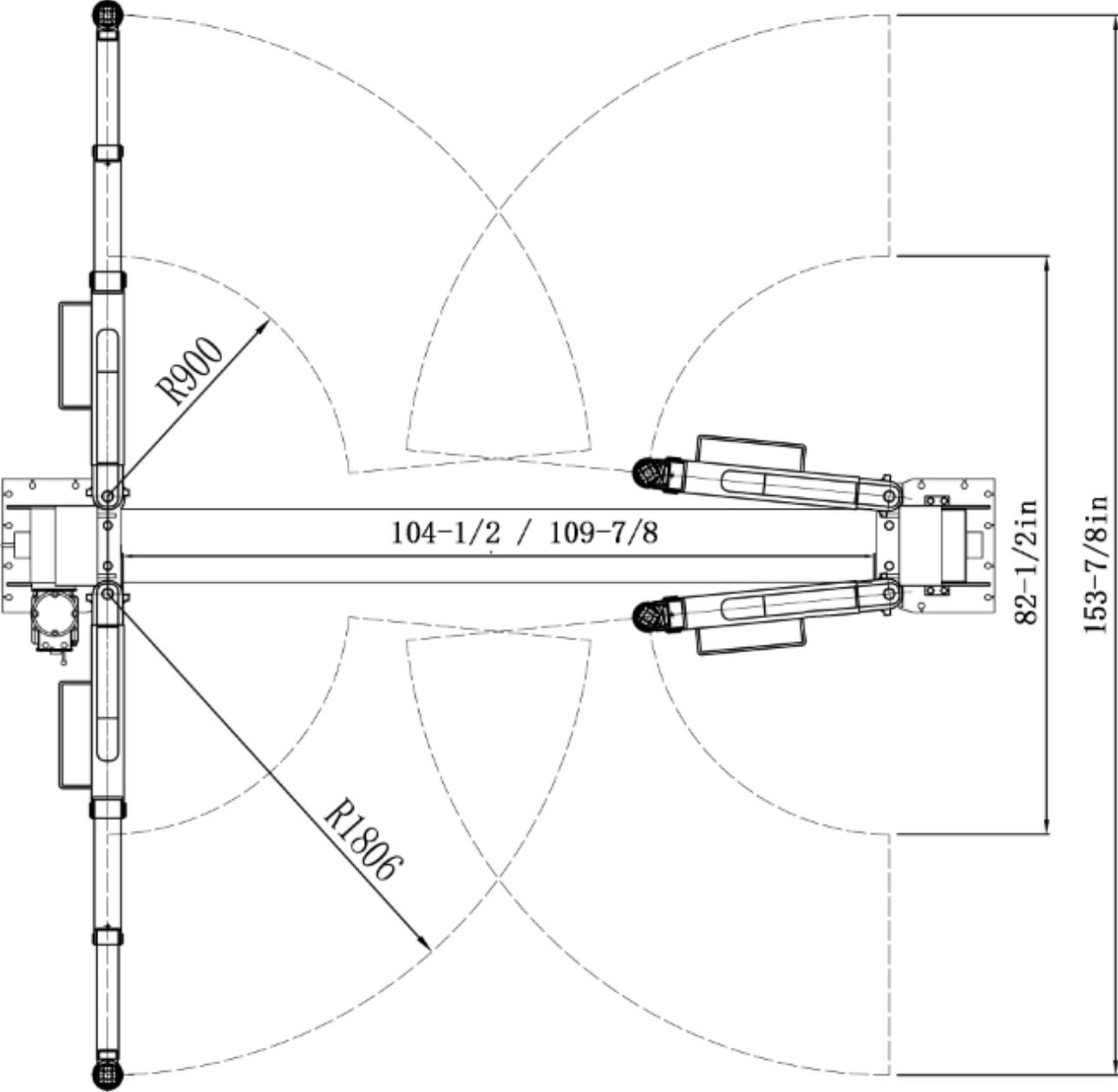


Fig.1

### MODEL BP-12 SPECIFICATIONS

Model	Style	Lifting Capacity	Lifting Time	Lifting Height	Overall Height	Overall Width	Width Between Columns	Minimum Pad Height	Motor
BP-12	Floor-plate Chain-drive	12000lbs	55S	73 1/8"~82 1/4"	122 1/2"	145 3/8" 150 3/4"	118 1/8" 123 1/2"	4 3/4"~13 3/4"	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. SPECIFICATIONS OF CONCRETE (See Fig. 4)

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 6in 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 3,500psi minimum.
3. Floors must be level and no cracks.

## C. POWER SUPPLY

The electrical source must be 2.0HP minimum. The source cable size must be 2.5mm<sup>2</sup> and in good condition of contacting with floor.

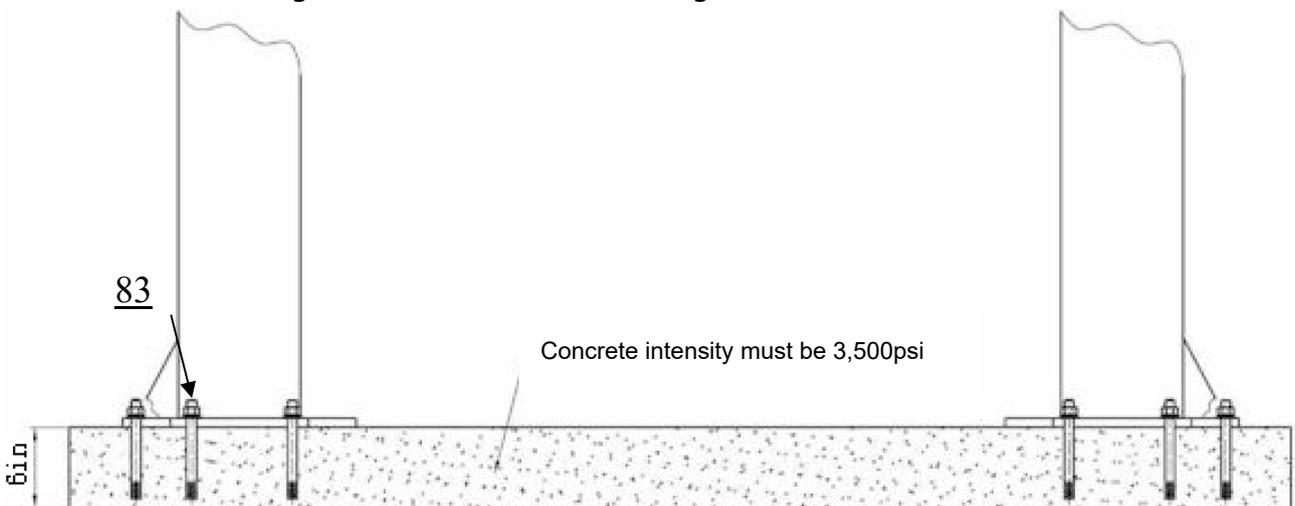


Fig. 4

## 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. 5).

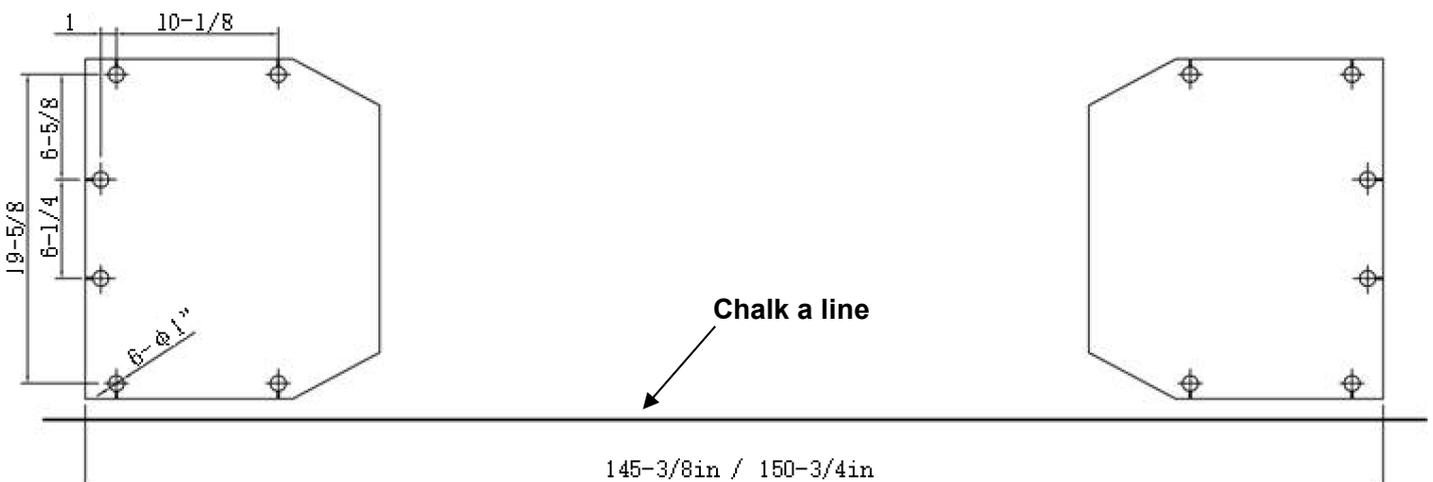


Fig. 5

### C. Check the parts before assembly

1. Packaged lift and hydraulic power unit (See Fig. 6)

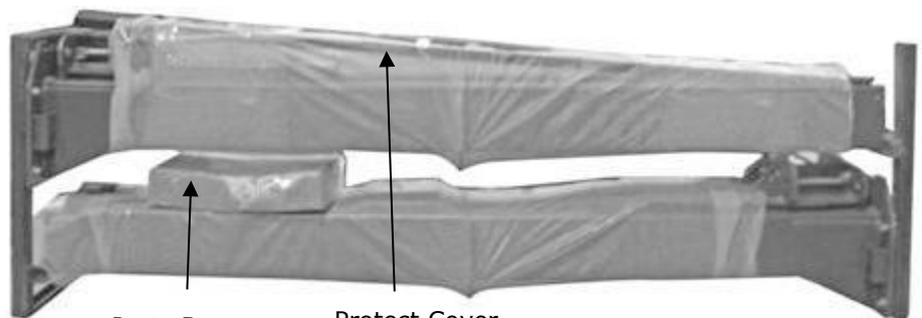


**Fig. 6**

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. 7).



Shipment Parts list

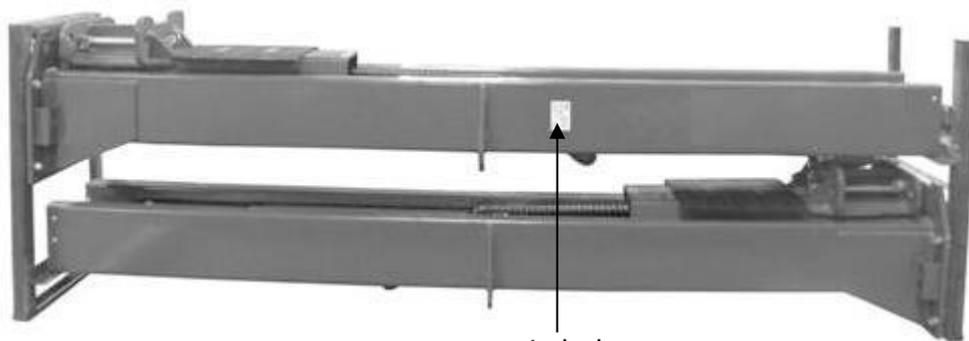


Parts Box

Protect Cover

**Fig. 7**

3. Take out the parts upper and inside the column, move them beside the installation site.

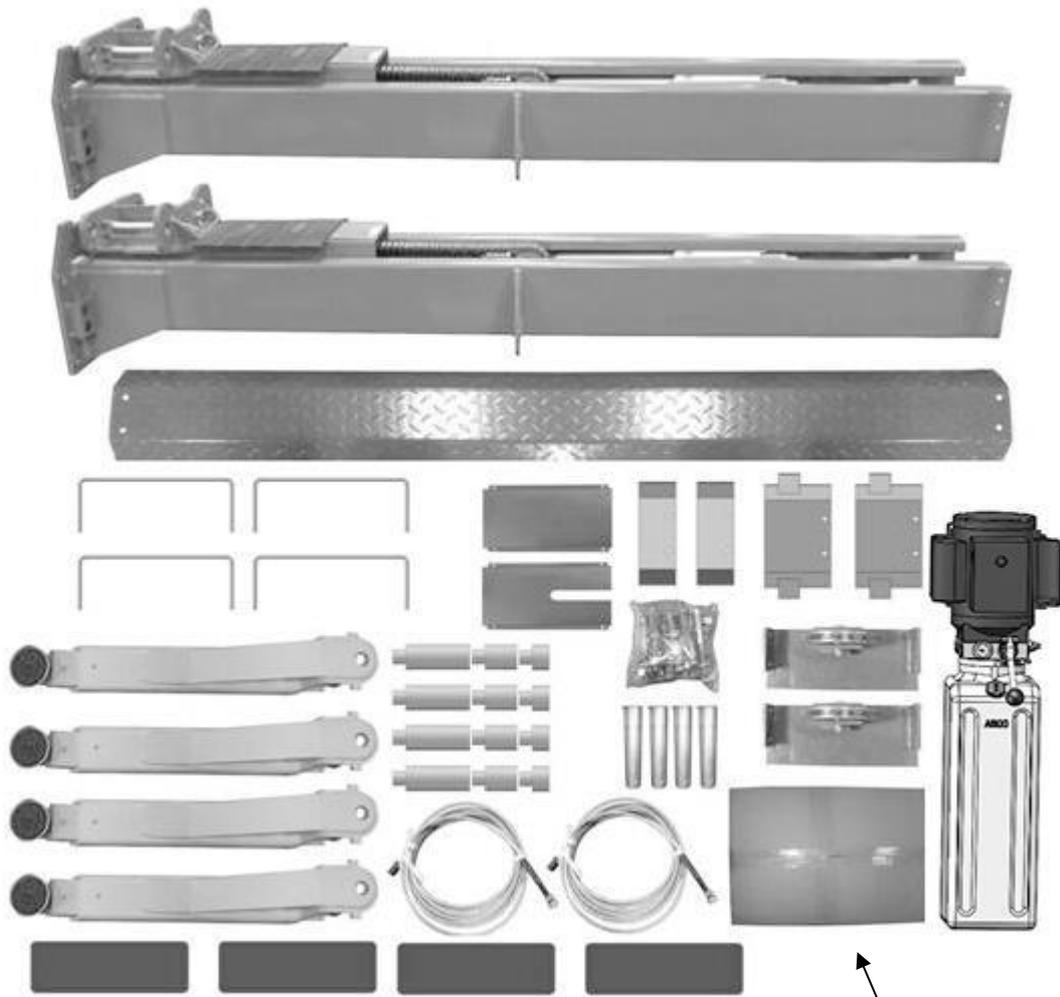


Label

**Fig. 8**

4. Loose the screws of the upper package stand, take off the upper column and remove the package stand.

5. Move aside the parts and check the parts according to the shipment parts list (See Fig. 9, 10).



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Parts in the shipment parts list

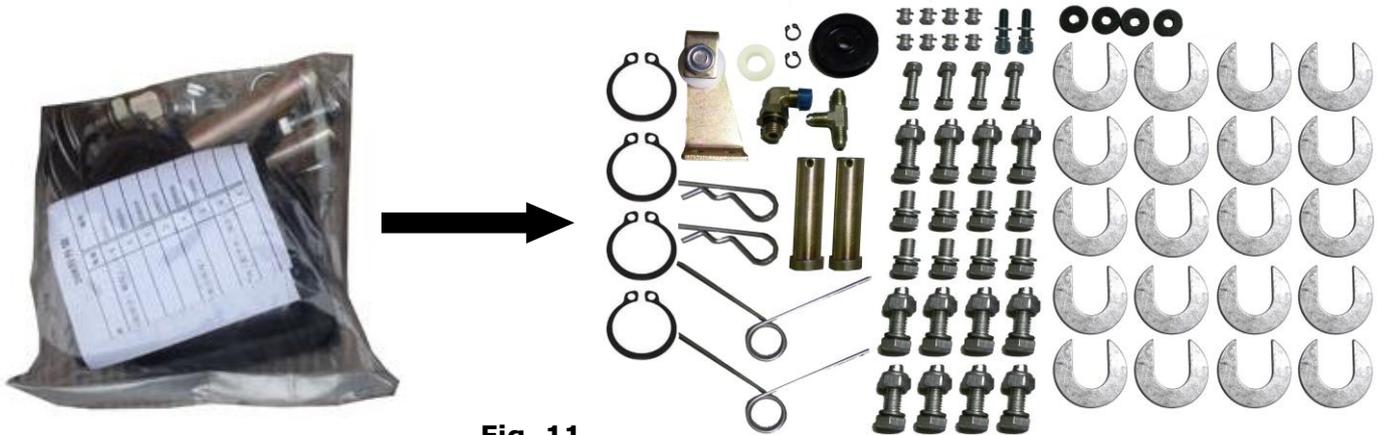
**Fig. 9**



Parts in the parts box

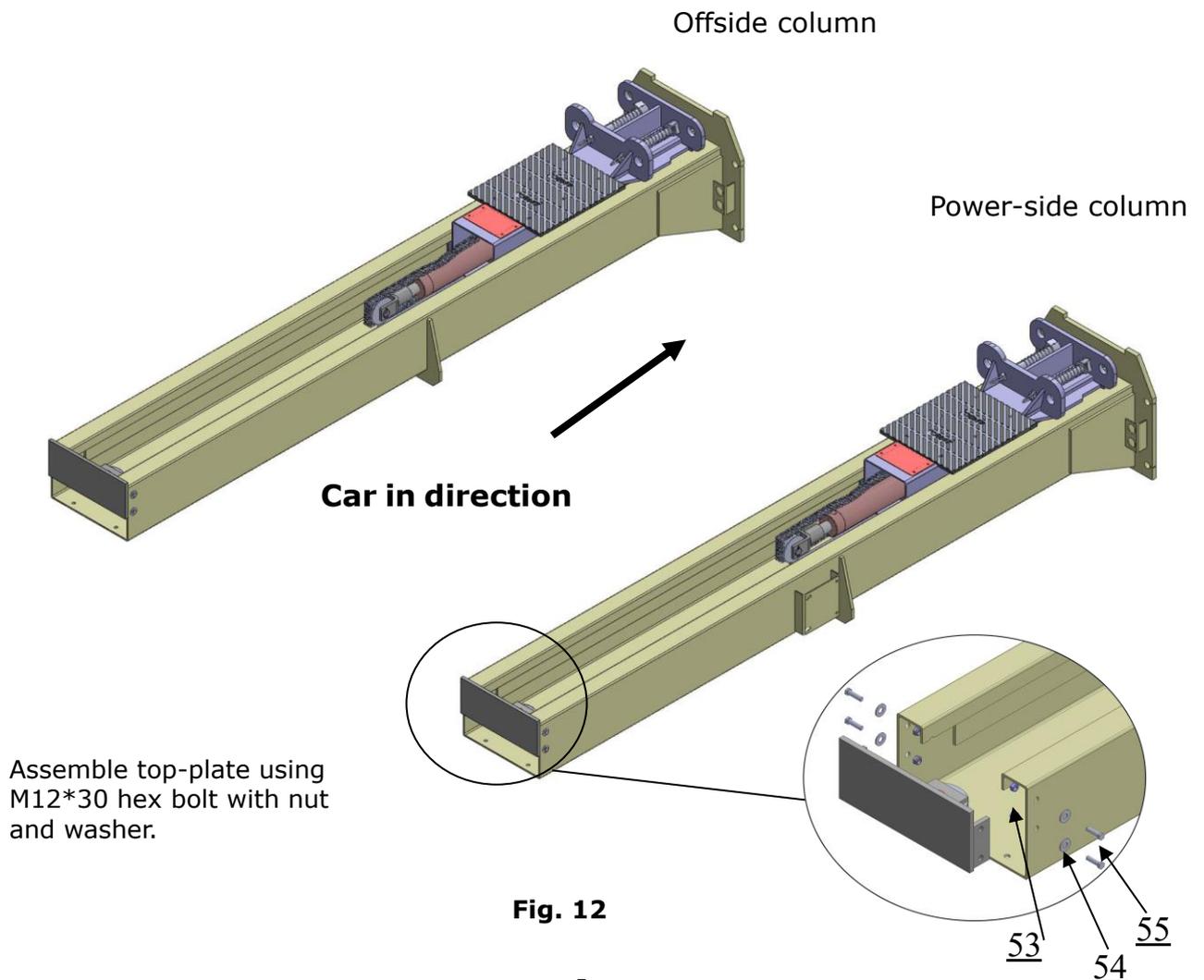
**Fig. 10**

6. Open the parts bag and check the parts according to parts box list (**See Fig. 10**).



**Fig. 11**

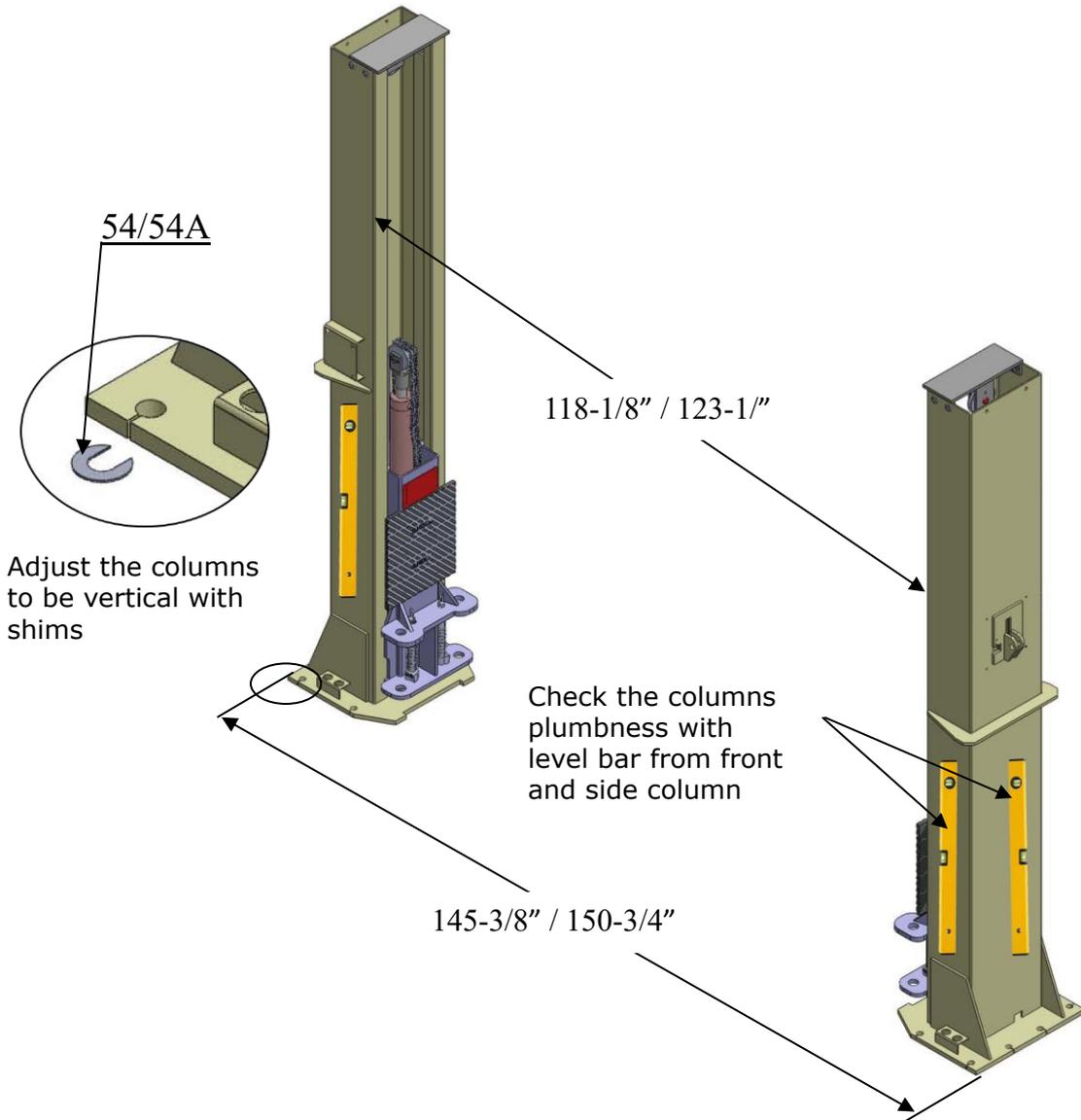
**D.** Lay down two columns on the installation site parallelly, position the power-side column according to the actual installation site. Usually, it is suggested to install Power side column on the front-right side from which vehicles are driven to the lift. Then install the top plate (**See Fig. 11**).



**E. Position columns and install anchor bolts (See Fig. 13)**

Check the columns plumbness with level bar, and adjusting with the shims if the columns are not vertical. Anchor bolts should not be tightened.

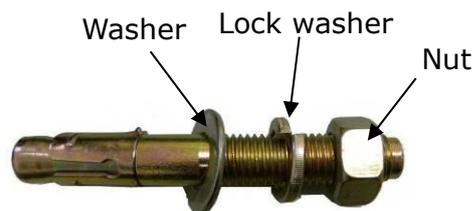
**Note: Lifts are designed to two level width, install according to customer's needs**



**Fig. 13**

**F. Install anchor bolts**

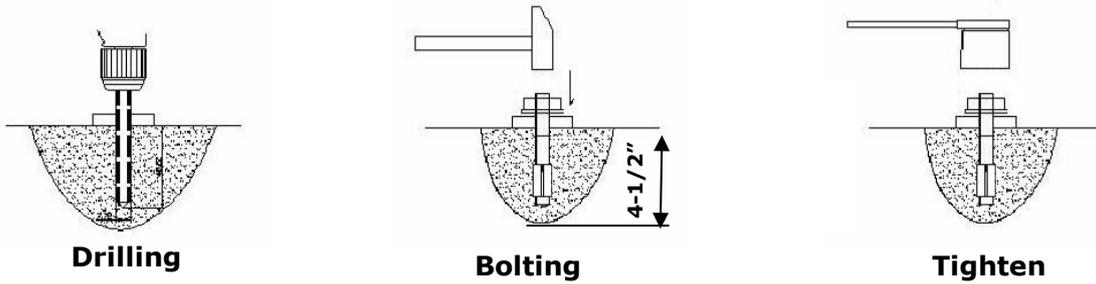
1. Prepare the anchor bolts (See Fig.14)



**Fig. 14**

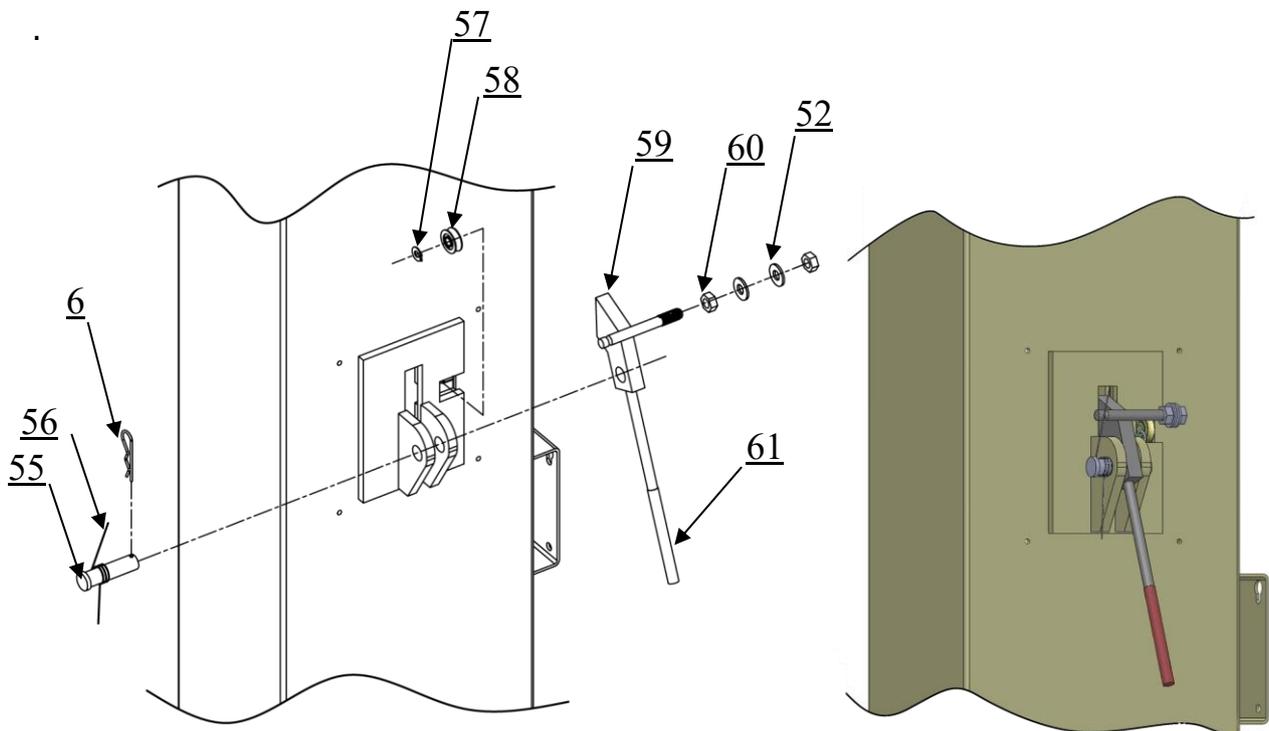
2. Using the prescribed rotary hammer drill, drill all the anchor holes and install the anchor bolts. Then tighten the anchor bolts (**See Fig. 16**).

**Note:** Torque of Anchors is **150N.m**. Minimum embedment of Anchors is **4-1/2"**.



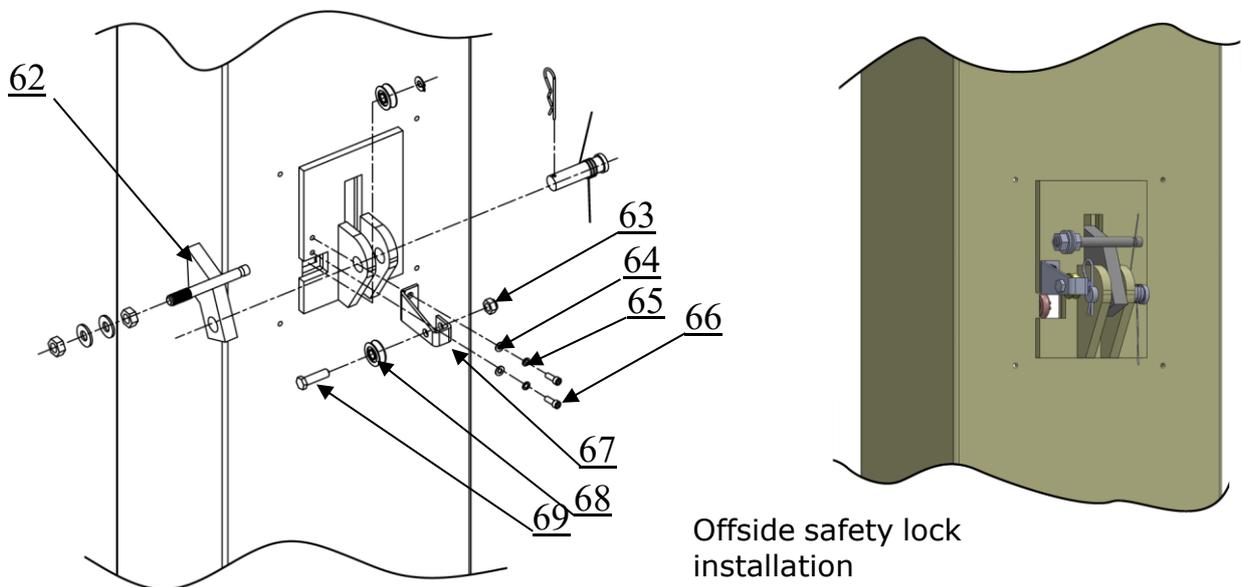
**Fig. 15**

**G. Install safety Lock (See Fig. 16&17)**



Power-side safety lock installation

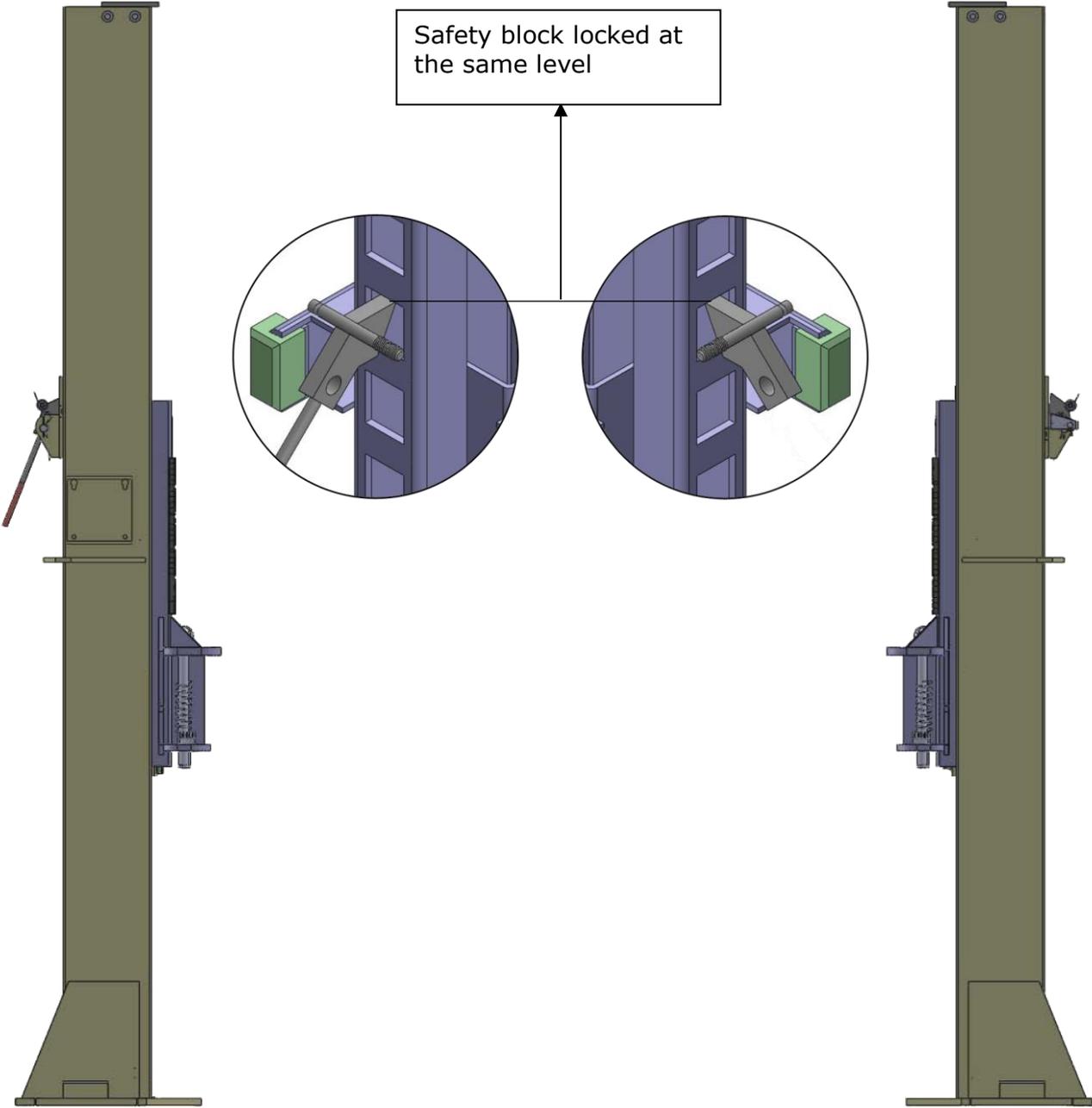
**Fig. 16**



Offside safety lock installation

**Fig. 17**

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

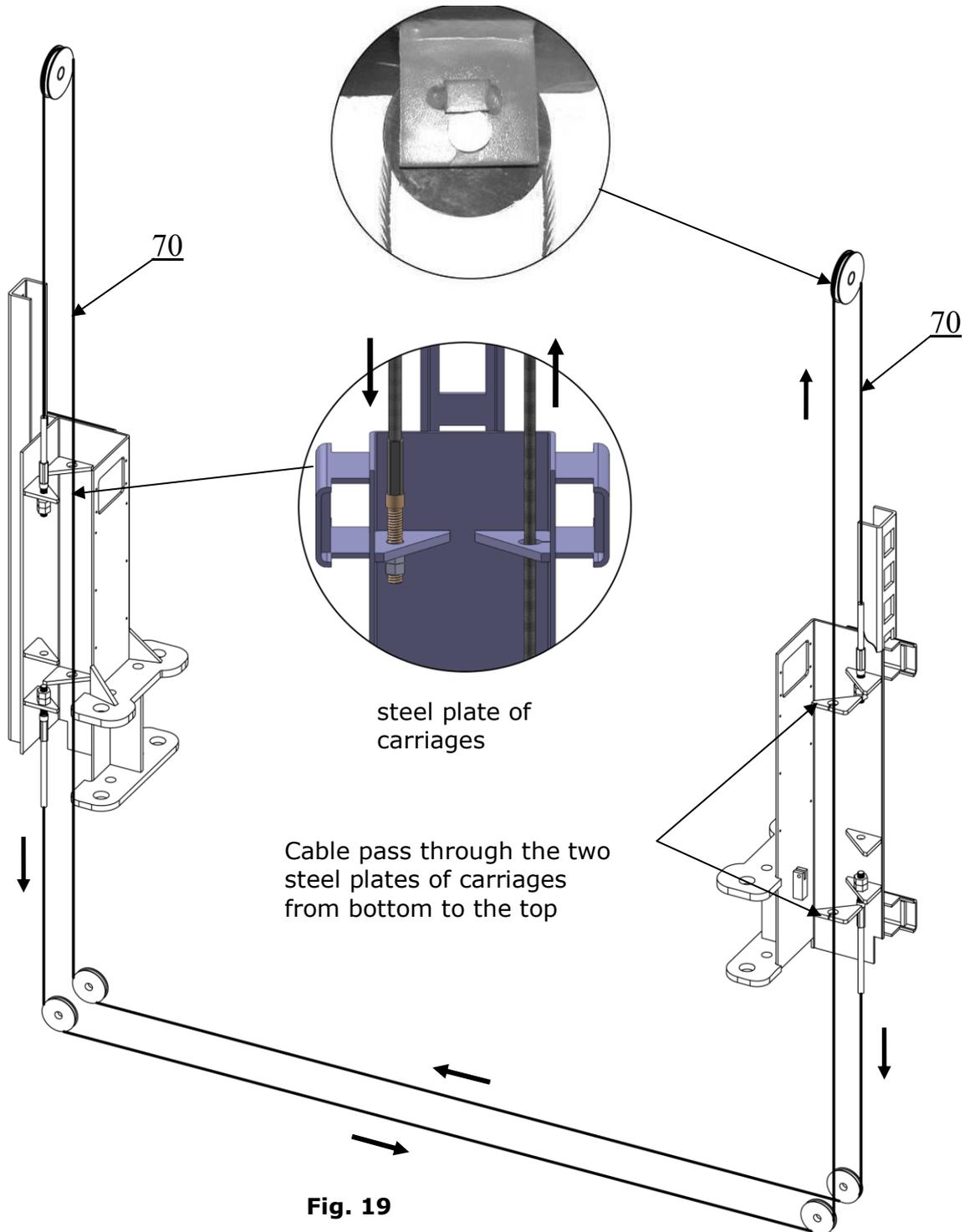


**Fig. 18**

**I. Connecting cables (See Fig. 19)**

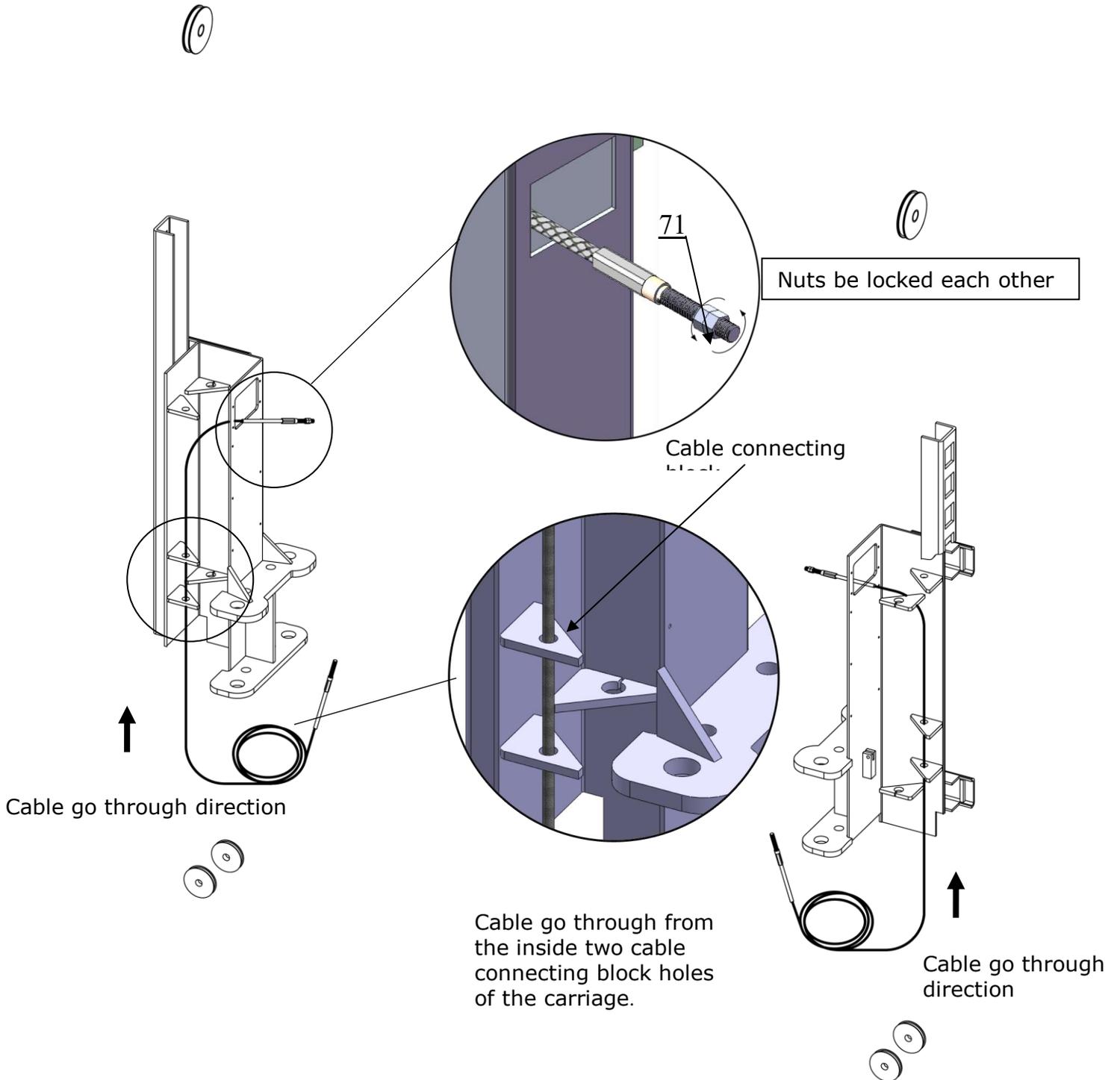
1. Select the width of the foundation according to step E (**Fig.13**) and select the width of the foundation size 145-3/8"to install the cable..

**Note: Cable pass through from one carriage to another must be passed through the hole of the bottom steel plate of carriages**



2. Select the width of the foundation according to step E (**Fig.13**) and select the width of the foundation size 145-3/8"to install the cable.(**Fig.20&Fig21**)

**2.1. Cable go through from bottom to the top, tighten the two cable nuts when it pass through the opening of the carriage. (Fig.20)**



**Fig. 20**

2.2 Foundation size 145-3/8" cable installation diagram.

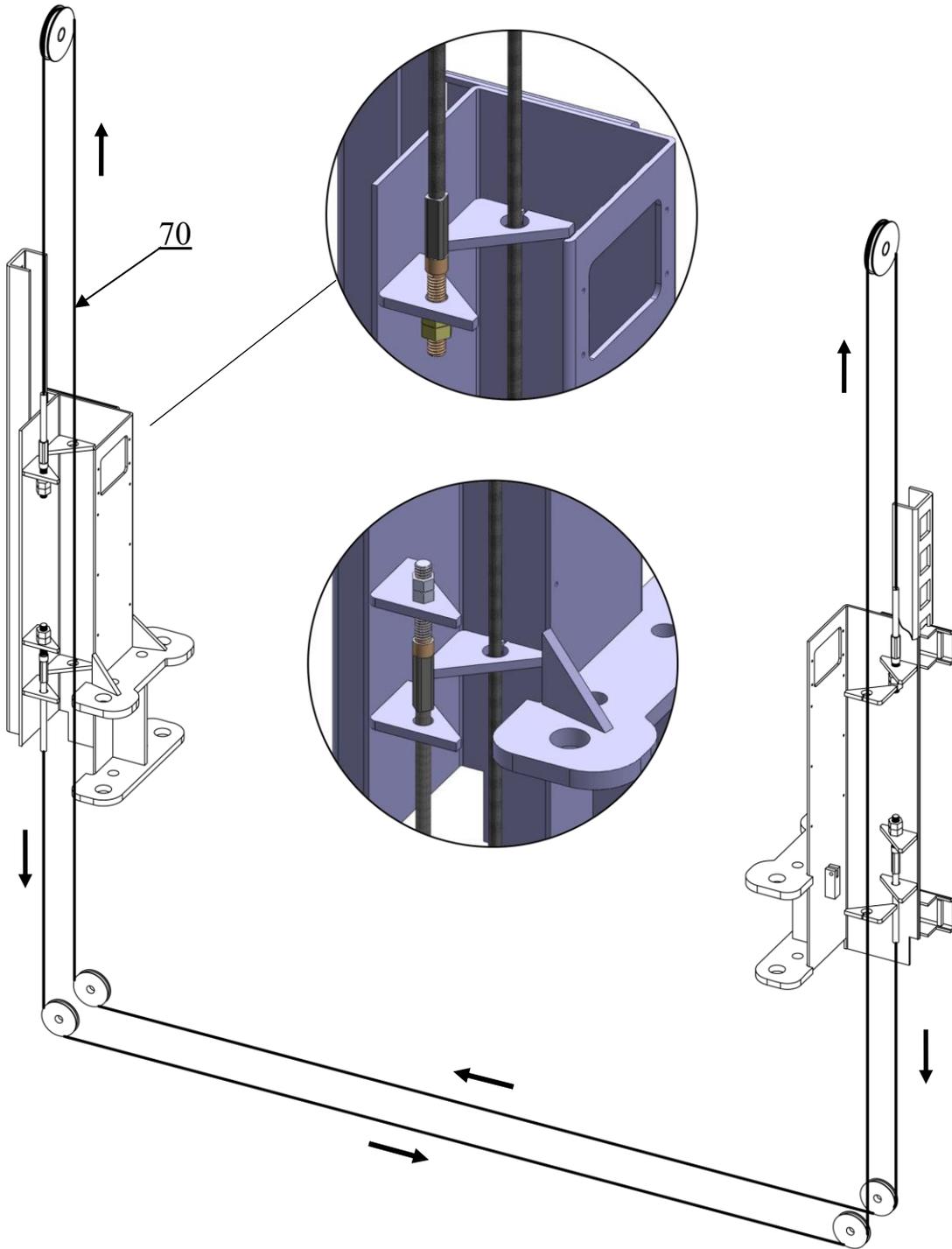


Fig. 21

## J. Install safety cable

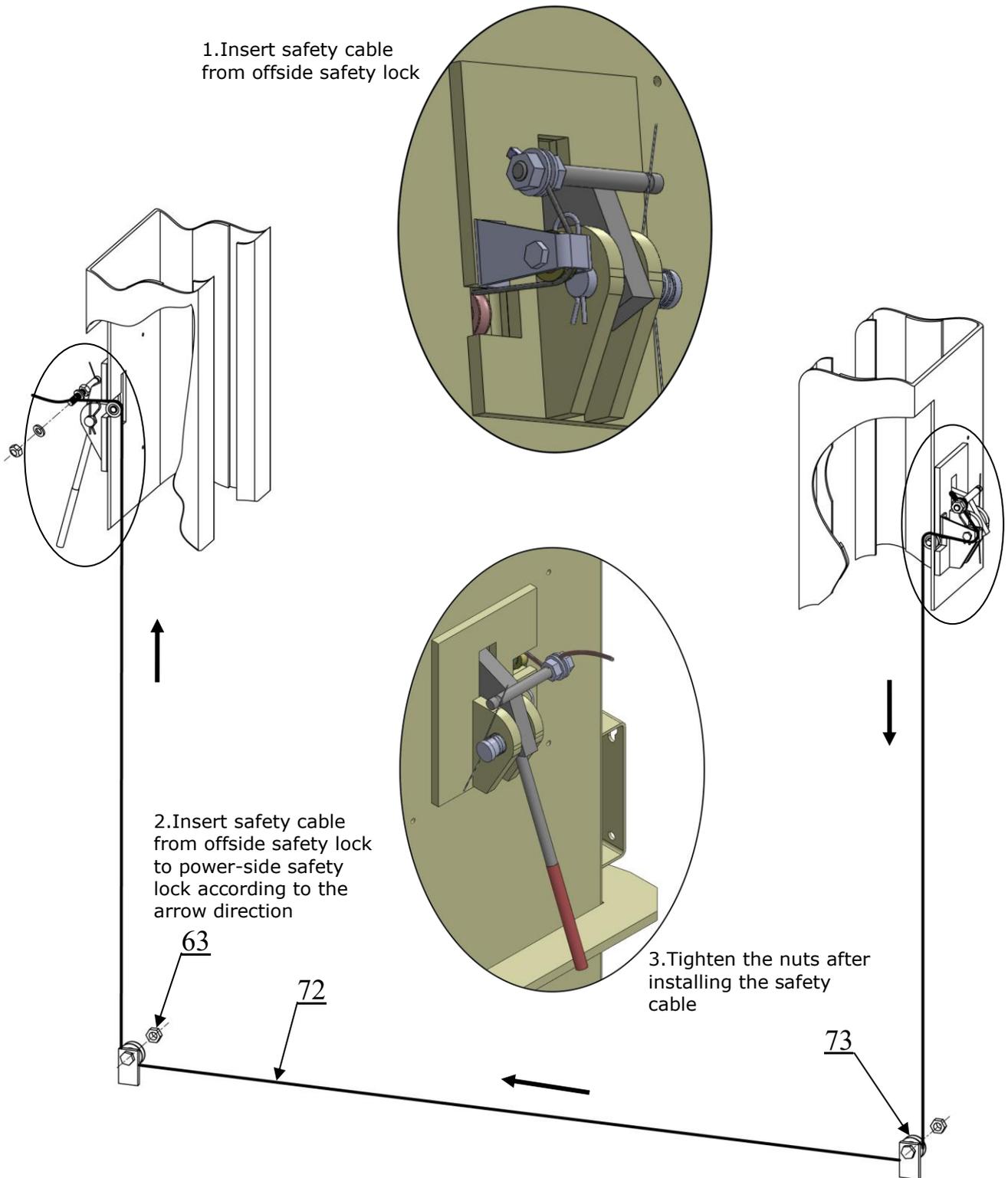
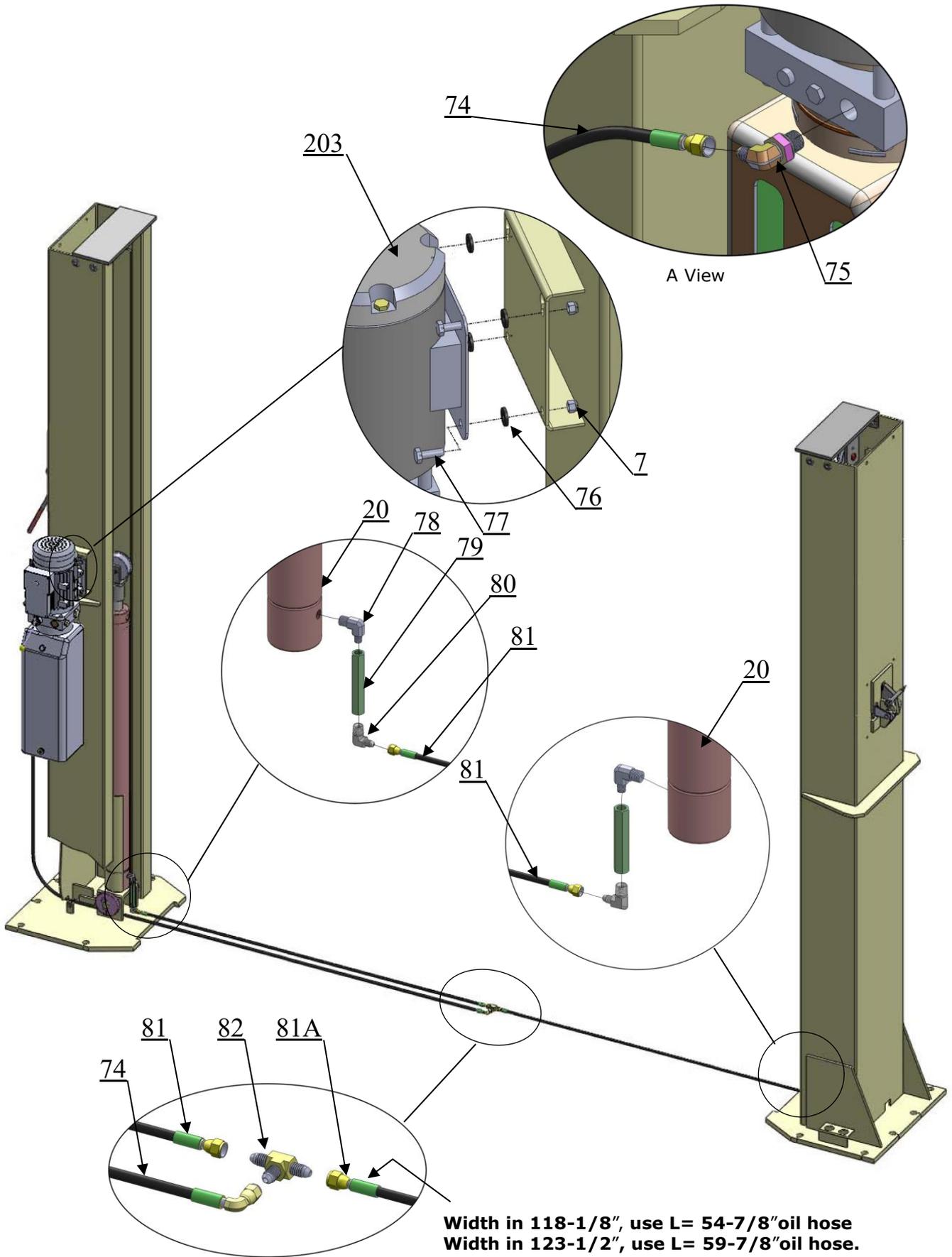


Fig.22

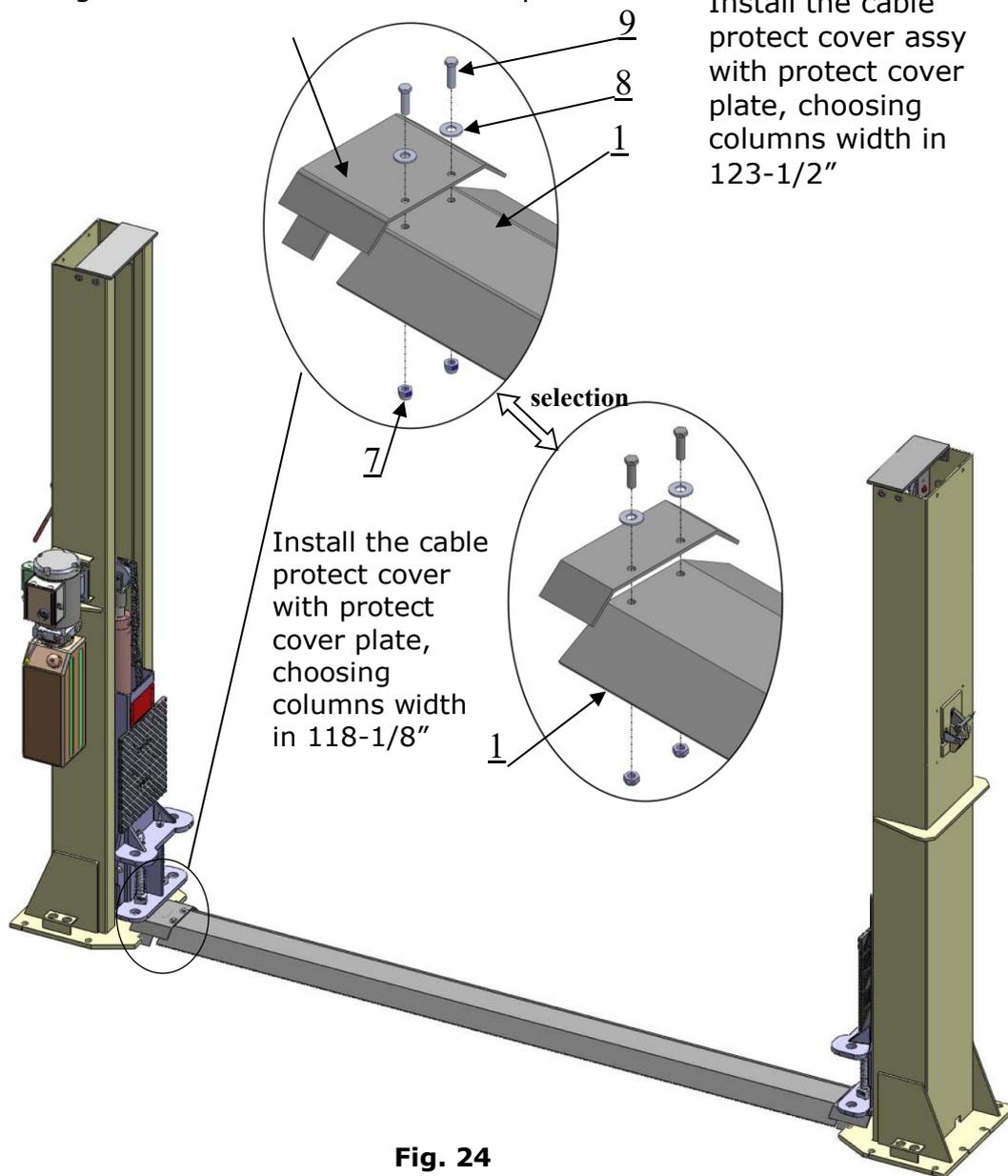
**K. Install power unit and oil hose (See Fig. 23)**



**Fig.23**

## L. Install protect cover (see Fig.24)

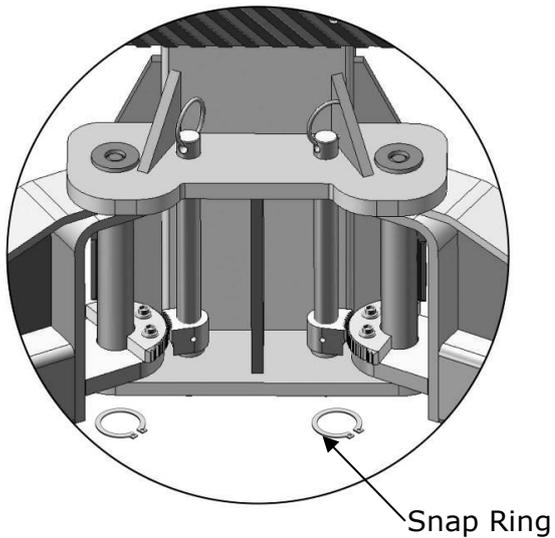
Note: Install cable protect cover or cable protect cover assy with connecting protect cover according to the foundation width of step 5



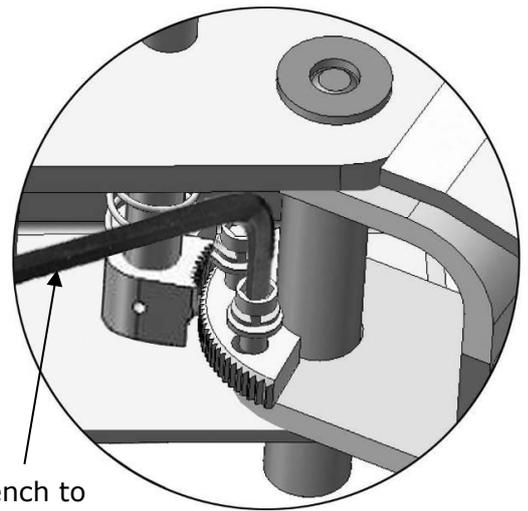
## I. Install lifting arms

1. Install the lifting arms (**See Fig. 25**) Lowering the carriages down to the lowest position, then use the 8# wrench to loosen the nut of the fixed gear (**See Fig. 26**).

Adjust the gear according to the arrow direction, tighten the screws until the gear and rack match in good condition (**see Fig.28**)



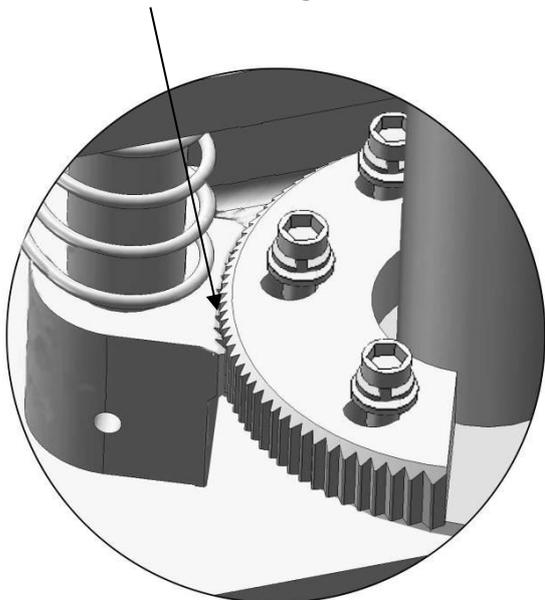
**Fig. 25**



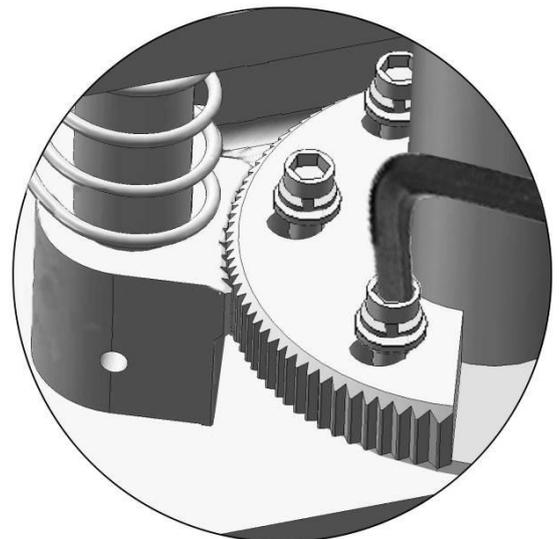
Use wrench to  
loosen the Socket  
bolt

**Fig. 26**

Adjust gear and  
rack meshing.

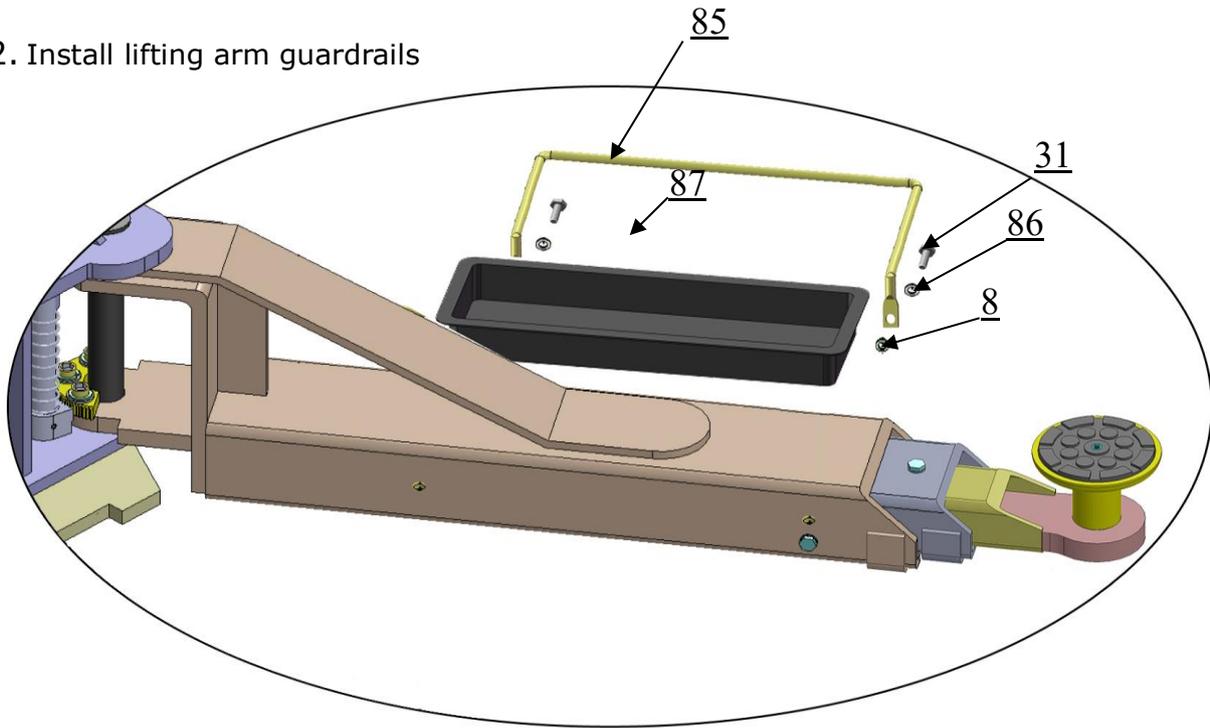


Lock the screws by wrench after the  
gear and rack are in good meshing  
condition



**Fig. 27**

2. Install lifting arm guardrails



**Fig. 28**

**J. 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#.

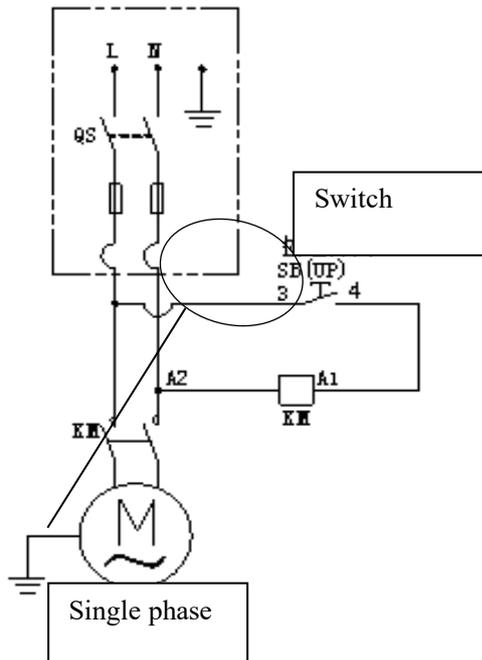
**K. Install Electrical System Connect the power source on the data plate of power unit.**

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.

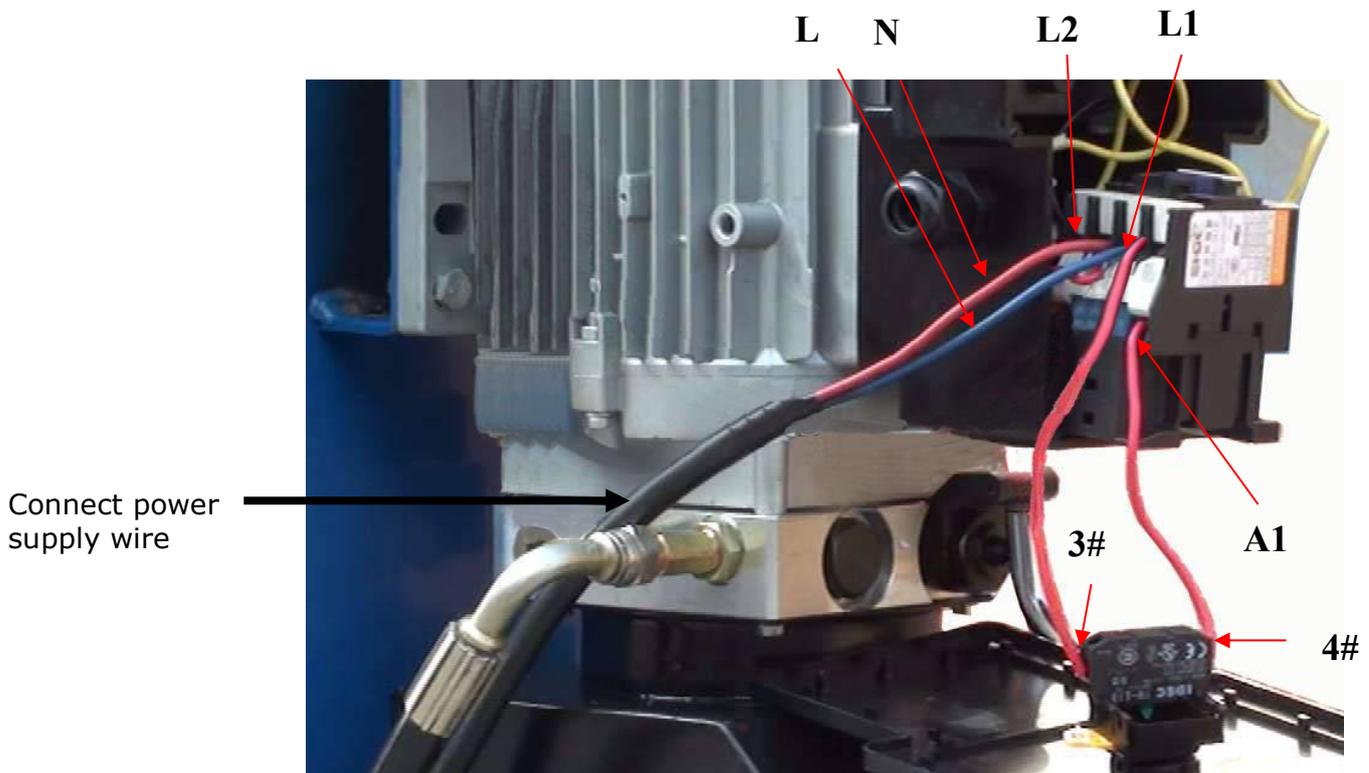
**Single phase motor 220V (See Fig. 29).**

**1.1 circuit diagram**



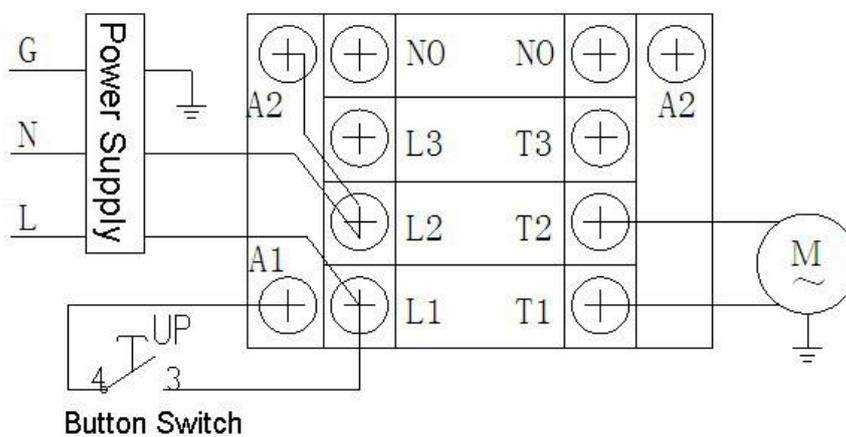
### 1.2 Wire connection steps (see Fig.30)

1. Connecting the two power supply wires (active wire **L** and neutral wire **N**) to terminals of AC contactor marked **L1**, **L2** respectively.
2. Switch (3#) connect with terminals of AC contactor marked **L1**. Terminals A1 connected with terminals of switch 4#



**Fig. 30**

### 1.3 Wire connection diagram (see Fig.31)



**Fig. 31**

# IV. EXPLODED VIEW

## Model BP-12

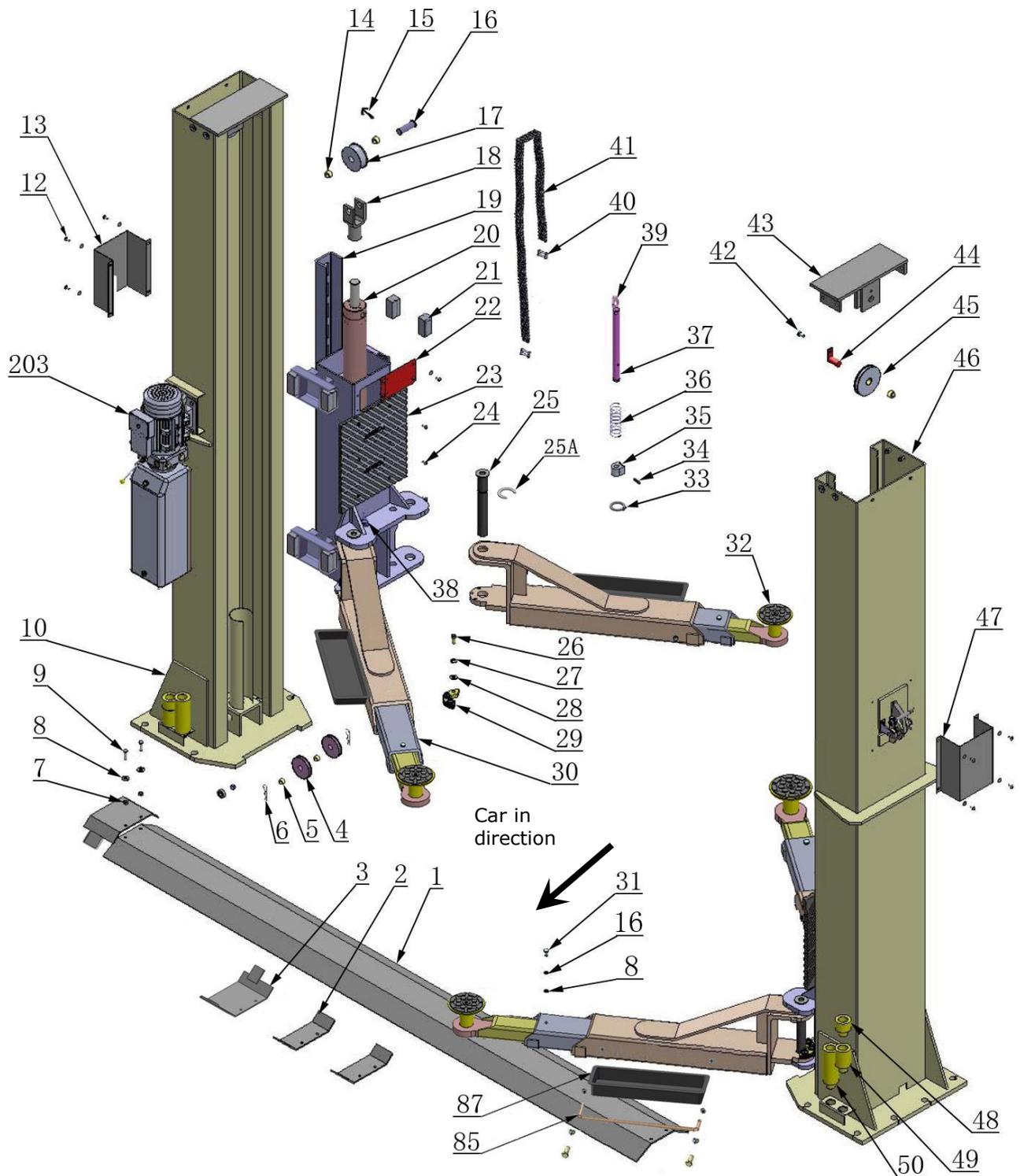
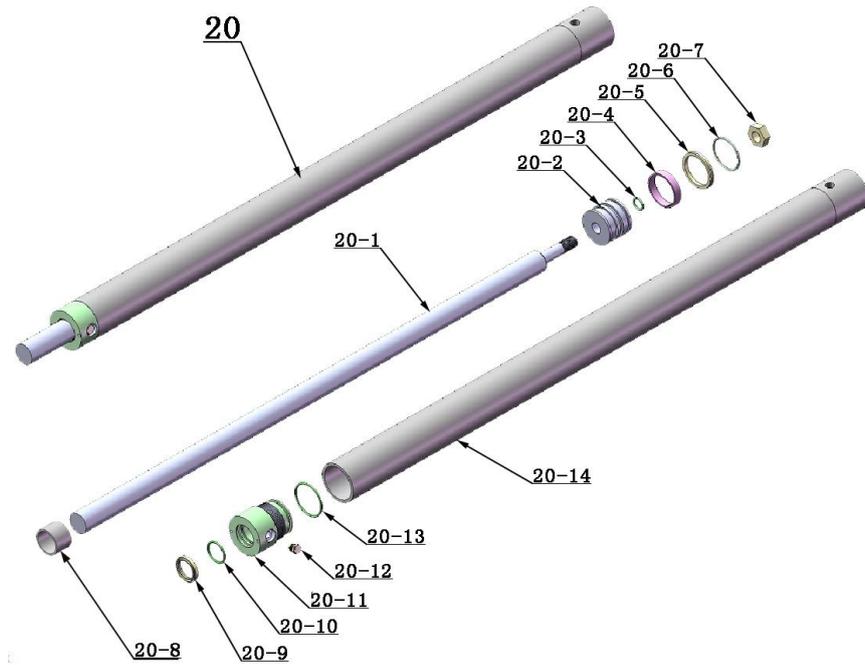


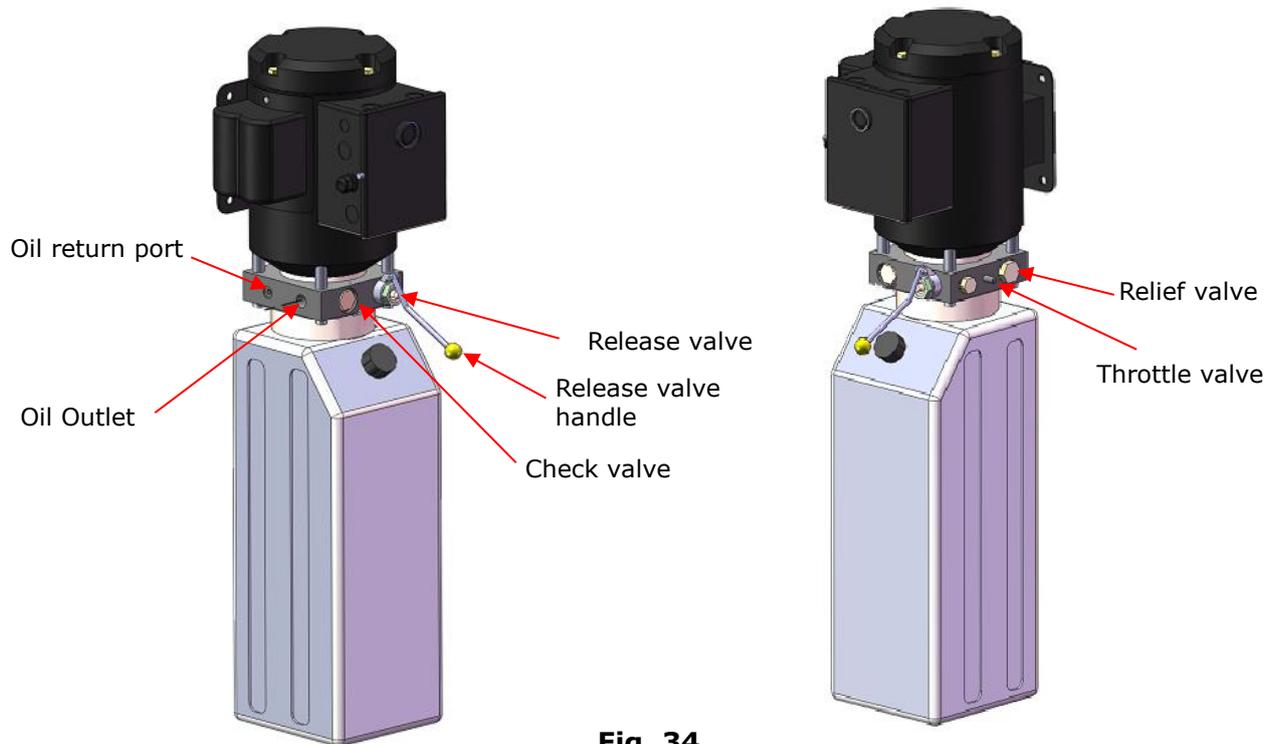
Fig. 32

## Cylinder



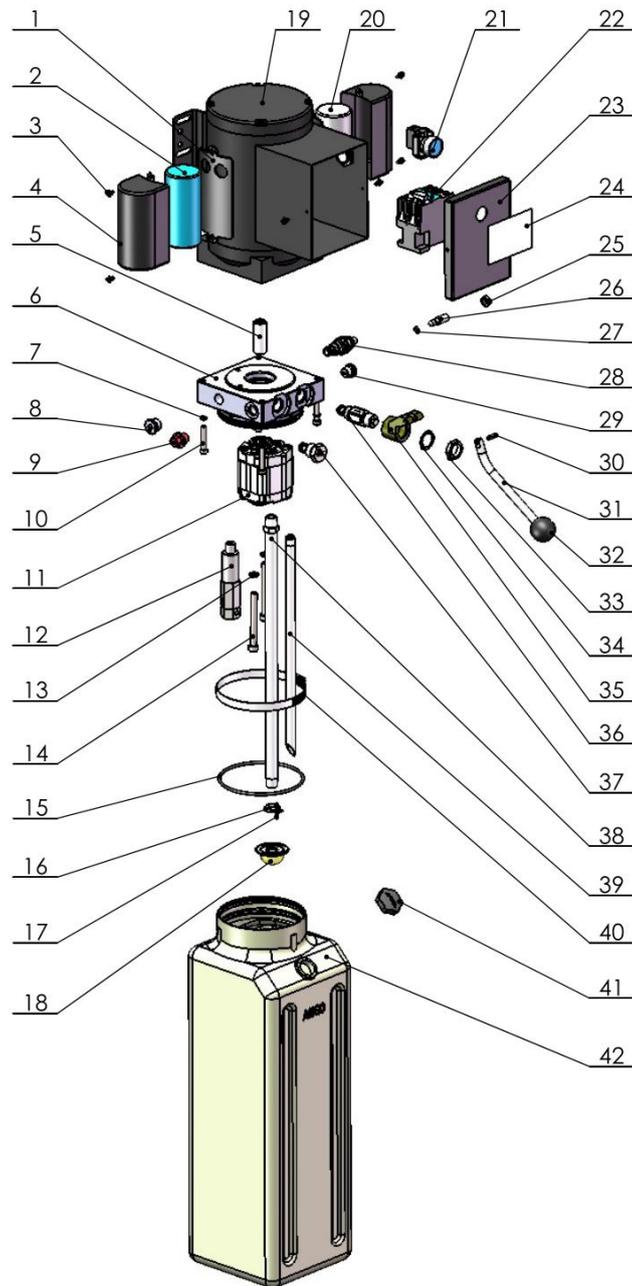
**Fig. 33**

## Manual power unit, 220V/60HZ, Single phase (See Fig. 34)



**Fig. 34**

**POWER UNIT EXPLODED VIEW 220V/60HZ, single phase**

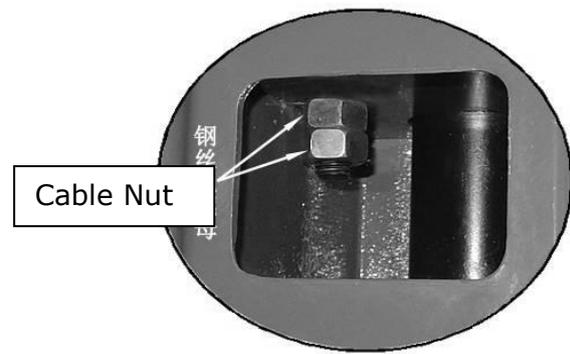


**Fig. 35**

## V. TEST RUN

### 1. Adjust synchronous cable (See Fig. 36)

Press **UP** button to lift the carriage up to the position of the cable nut higher than chain pulley. Use wrench to hold the cable fitting, meanwhile use ratchet spanner to tighten the cable nut. Make sure two cables are in the same tension so that two lifting carriages can work synchronously.



**Fig. 36**

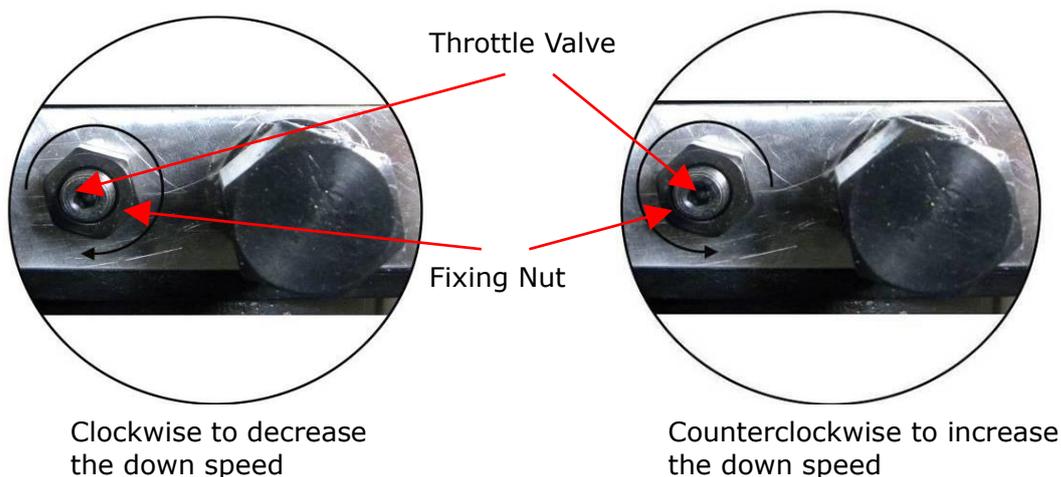
**If the carriage does not Synchronize when lifting, please tighten the cable nut of lower side carriage.**

### 2. Adjust safety cable:

Lifting the carriages and lock at the same height, strain the safety cable and then release a little, and then tighten the cable nuts. Make sure the safety device can always be worked properly. Last assemble the safety device cover.

### 3. Adjust the lower speed:

You can adjust the lower speed of the lift if needing: Loosen the Fixing Nut of the Throttle Valve, and then turn the Throttle Valve clockwise to decrease the lower speed, or counterclockwise to increase the lower speed. Do not forget to tighten the Fixing Nut after the lower speed adjustment has been done.

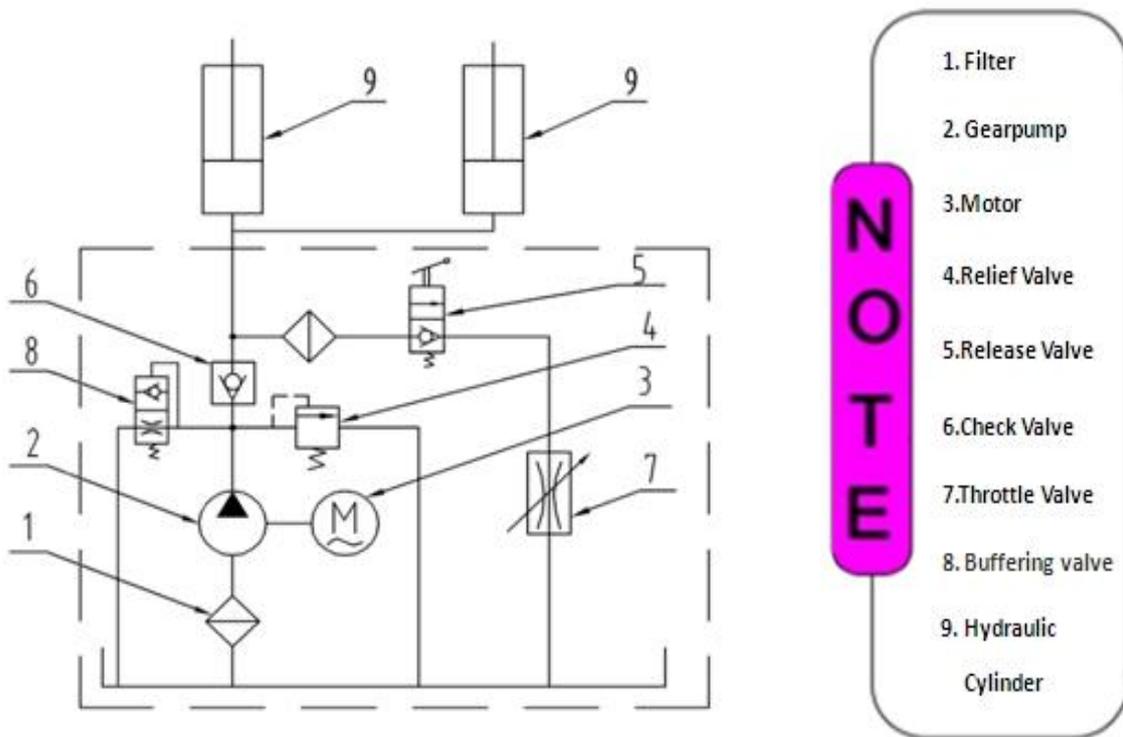


**Fig. 33**

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



**Fig. 38**

## **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 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.

## VIII.TROUBLE SHOOTING

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

## IX. PARTS LIST FOR Model BP-12

Item	Part#	Description	BP-12	Item	Part#	Description	BP-12
			Qty				Qty
1	207001	Protect Cover	1	33	206032	Snap Ring	4
2	207002	Cable Protect Cover	2	34	206036	Hair Pin	4
3	207003	Cable Protect Cover Assy	2	35	217044	Rack	4
4	217019	Top Pulley	4	36	217045A	compressed spring	4
5	217020	Bronze Bush For Pulley	6	37	217046B	Arm Lock bar (left)	2
6	209012	Hair Pin	6	38	217046C	Arm Lock bar (Right)	2
7	209005	Self locking Nut	8	39	209153	Rack Handle ring-pull	4
8	209033	Lock Washer	24	40	201010A	Connector	4
9	209043	Hex Bolt	4	41	207015	transmission chain	2
10	207053	Power-side Column	1	42	209038	Hex Bolt	2
203	440035	Manual Power Unit	1	43	207016	Top Plate Assy	2
12	209009	Cup Head Bolt	12	44	217037	Base pulley pin	2
13	207005	Main Safety Block Cover	1	45	217036	Pulley(big)	2
14	420132A	Bronze Bush For Chain Pulley	4	46	207054	Offside column	1
15	201005	Split Pin	2	47	207018	Offside Safety Lock Cover	1
16	207006	Chain pulley Pin	2	48	209051B	Stackable Adapter(1.5 " )	4
17	207007	Chain Pulley	2	49	209052B	Stackable Adapter(2.5 " )	4
18	207008	Chain Pulley Support Assy	2	50	209053B	Stackable Adapter(5 " )	4
19	207009A	Lifting carriage	2	51	217069	Hex Bolt	8
20	207010	Cylinder	2	52	206006	Lock washer	12
21	217188	Slider Block	16	53	206023	Self locking Nut	8
22	207047	Carriage Plastic Cover	2	54	620065	Shim (2mm)	10
23	217053	Rubber Protect Block	2	54A	201090	Shim (1mm)	10
24	209019	Screw	12	55	206002	Safety Block Pin	2
25	217047B	Lifting Arms Pin	4	56	209007A	Torsional spring	2
25A	520023	Snap Ring	4	57	209010	Snap Ring	2
26	206048	Socket Bolt	12	58	209011	Plastic Small Pulley	2
27	209039	Spring Washer	14	59	207019	Power-side Safety Lock	1
28	209022	Lock washer	14	60	206023A	Hex Nut	4

29	206049	Alignment Gear	4	61	206003A	Handle Gun Cover	2	
30	207011A	Lifting Arm	4	62	207020	Offside Safety Lock	1	
	30 A	207012A	Outer Arm	4	63	209056	Self locking Nut	3
	30 B	207013A	Middle Arm	4	64	420045	Lock washer	14
	30 C	207014A	Inside Arm	4	65	209149	Spring Washer	2
31	201002	Hex Bolt	16	66	207021	Socket Bolt	1	
32	32	217114A	Rubber Pad Assy	4	67	217029	Pulley Support	1
	32 A	420138	Socket Bolt	4	68	206009	Plastic small Pulley	1
	32 B	209134	Rubber Pad	4	69	209046	Hex Bolt	1
	32 C	680030B	Rubber Pad Assy	4	70	207022	Cable L=8400mm	2
71	209066	Cable Nut	8					

Item	Part#	Description	Qty.	Note
<b>Parts For Hydraulic Cylinder (See Fig. 31)</b>				
25-1	201027	Piston Rod	2	
25-2	203079	Piston	2	
25-3	206069	O-Ring	2	
25-4	203080	Support Ring	2	
25-5	410087	Y-Ring	2	
25-6	203082	O-Ring	2	
25-7	206071	Hex Nut	2	
25-8	201037	Adjustment Tube	2	
25-9	209078	Dust Ring	2	
25-10	201032	O-Ring	2	
25-11	203083	Head Cap	2	
25-12	201034	Bleeding Plug	2	
25-13	203084	O-Ring	2	
25-14	203085	Bore Weldment	2	

<b>Parts for manual power unit 220V/60HZ/1Phase (See Fig. 31)</b>				
Item	Part#	Description	Qty.	Note
1	81400180	Plastic pads	2	
2	81400130	Starting capacitor	1	
3	420148	Washer	6	

4	81400066	Capacitor cover	2	
5	81400363	Motor Connecting Shaft	1	
6	81400362	Manifold block	1	
7	10209149	Lock washer	4	
8	81400276	Inner hex iron plug	1	
9	81400259	Red plastic plug	1	
10	85090142	Innex hex screw	4	
11	81400280	Gear pump	1	
12	81400294	Buffer Valve	1	
13	10209034	Lock washer	2	
14	81400295	Innex hex screw	2	
15	81400365	O-Ring	1	
16	10209152	Zip tie	1	
17	85090167	Magnet	1	
18	81400290	Filter	1	
19	81400287	Motor	1	
20	81400088	Running capacitor	1	
21	10420070	Button switch	1	
22	41030055	AC contactor	1	
23	81400287	Motor terminal box cover	1	
24	71111065	Power unit label	1	
25	81400296	Nut	1	
26	81400459	Throttle valve element	1	
27	10209069	O-Ring	1	
28	81400266	Relief valve	1	
29	81400284	Inner hex iron plug	1	
30	81400452	Elastic Latch	1	
31	81400451	Release valve handle	1	
32	10209020	Black plastic ball	1	
33	81400125	Release valve nut	1	
34	81400124	Release Valve washer	1	
35	81400450	Release valve handle seat	1	
36	81400443	Release valve	1	
37	81400267	Check valve	1	
38	81400288	Oil suction pipe	1	
39	81400289	Oil return pipe	1	
40	81400364	Clamp	1	
41	81400263	Oil tank cap	1	
42	81400275	Oil tank	1	



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