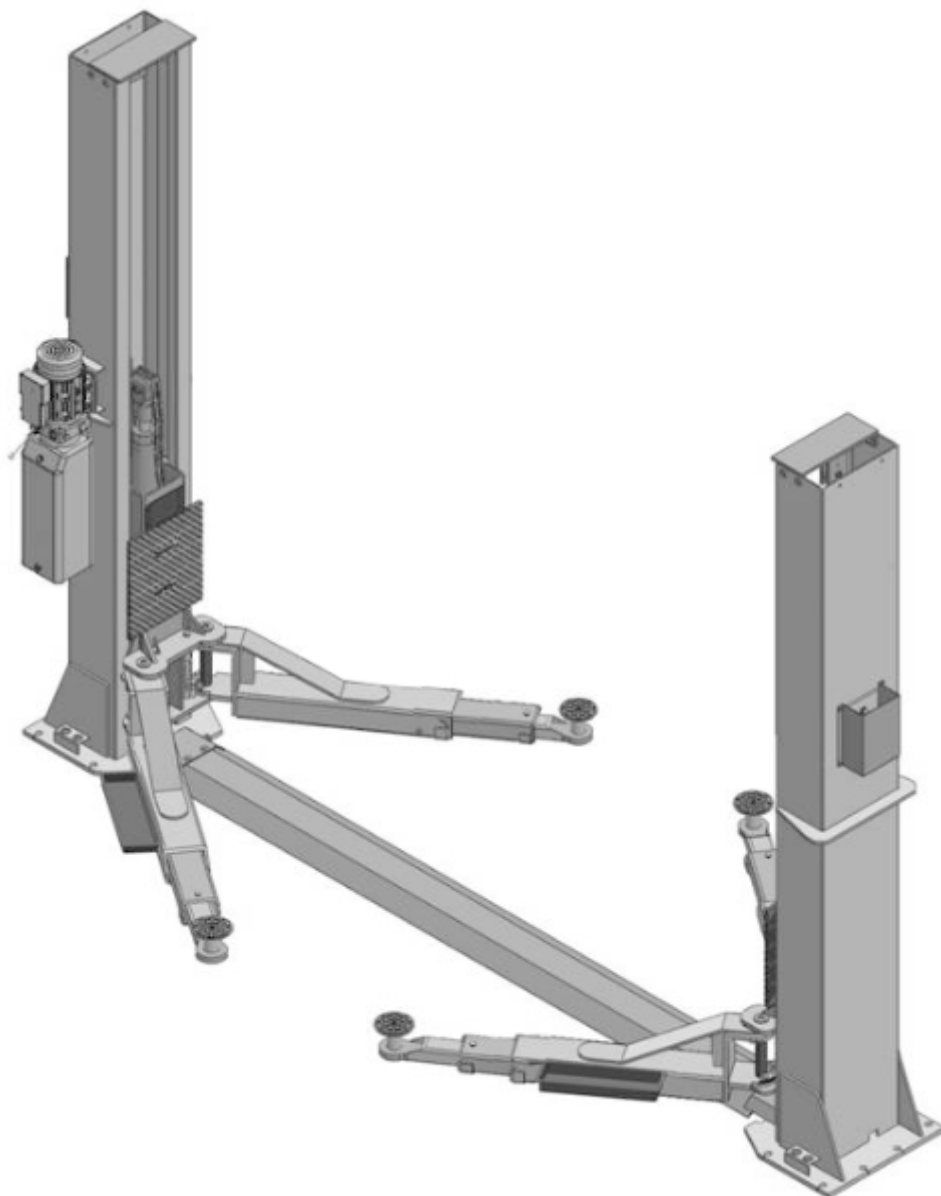




Original

# Installation And Service Manual



**TWO-POST LIFT**  
**Model:212**

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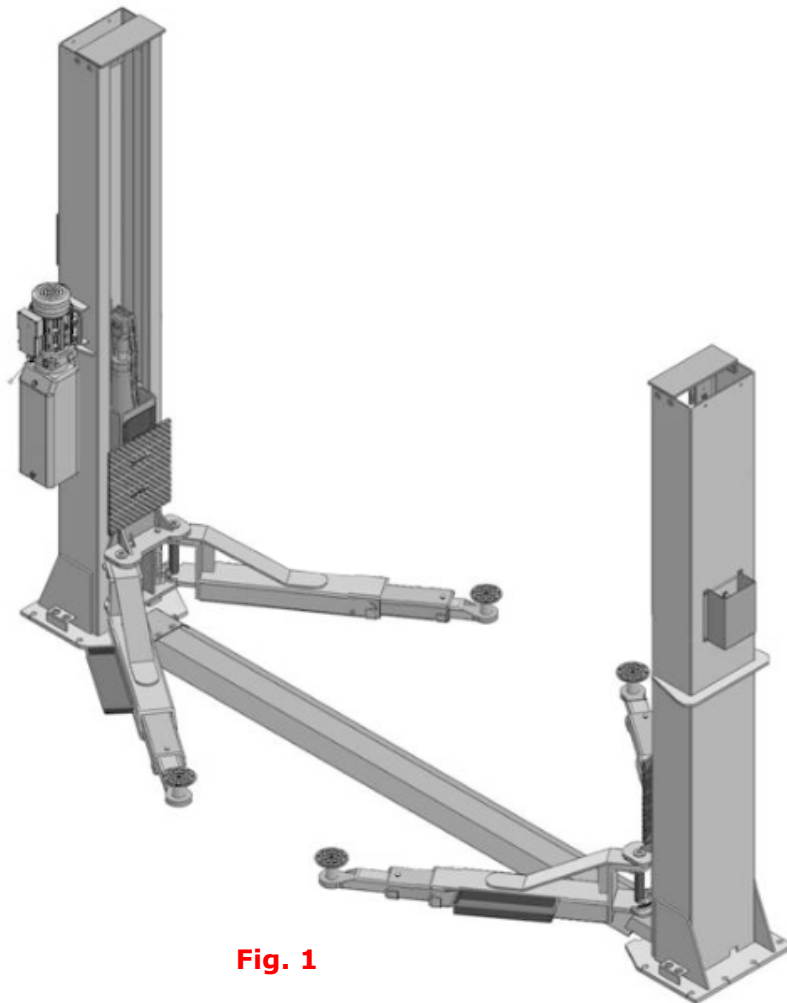


# I. PRODUCT FEATURES AND SPECIFICATIONS

## FLOORPLATE CHAIN-DRIVE MODEL FEATURES

### Model 212 (See Fig. 1)

- Dual hydraulic cylinders, **designed and made on high standards, high quality seals.**
- Self- lubricating UHMW Polyethylene sliders and bronze bush.
- Single-point safety release, and dual safety design.
- Symmetric arms design with 3-stages front and rear arms.
- Convenient width adjustment: Distance between columns 3137mm (123 1/2") and 3000mm (118 1/8").
- Stackable rubber pad with 1.5", 2.5" and 5" extension adaptors.

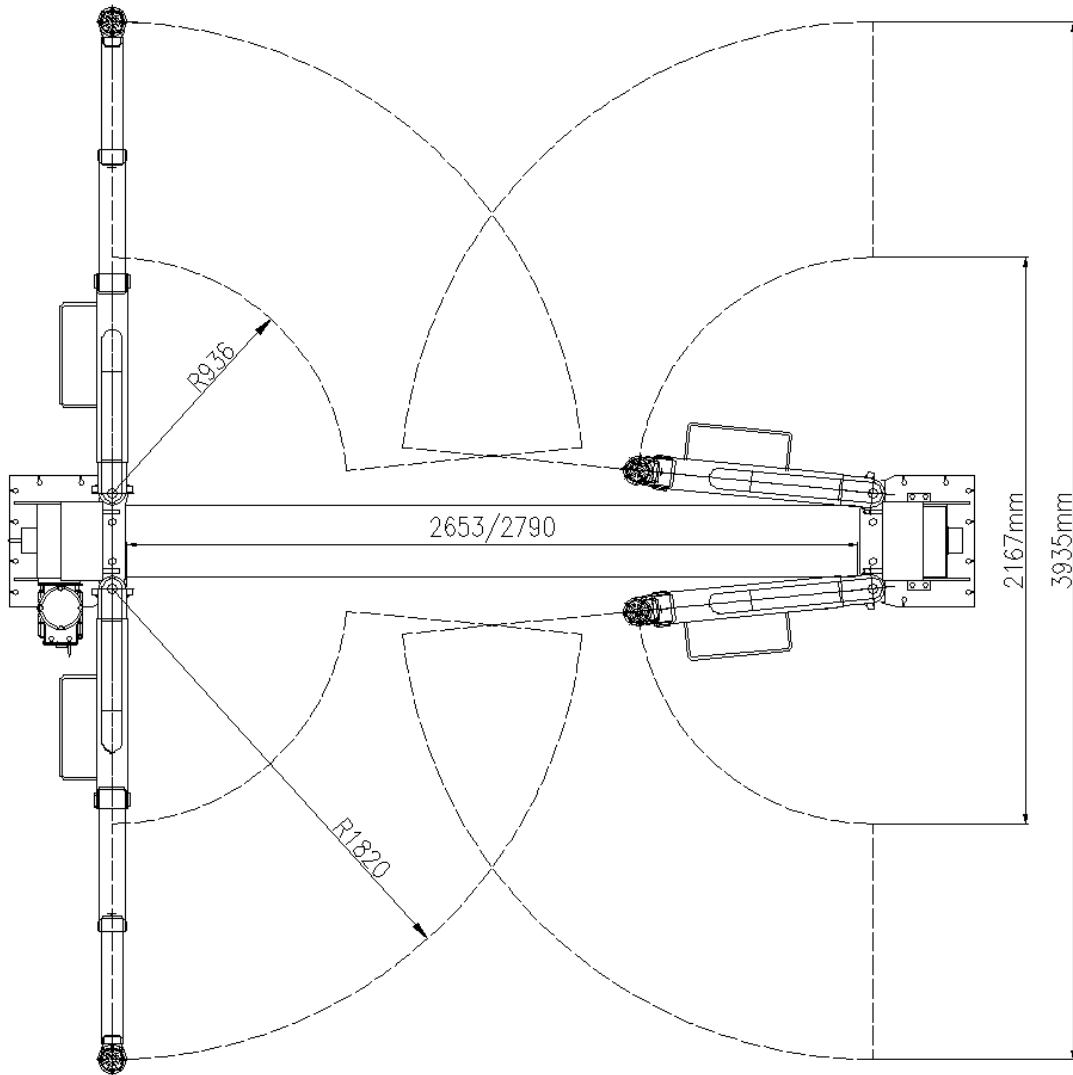


**Fig. 1**

## MODEL 212 SPECIFICATION

Model	Style	Lifting Capacity	Lifting Time	Lifting Height	Overall Height	Overall Width	Width Between Columns	Minimum Pad Height	Gross Weight	Motor
212	Floor-plate Chain-driven	5.5T 12,000lbs	55S	1860mm-2089mm 73 1/8" – 8 1/8"	3110mm 122 1/2"	3692/3829mm 145 3/8"-150 3/4"	3000/3137mm 118 1/8"-123 1/2"	120/349mm 4 3/4"-13 3/4"	980Kg 2,156lbs	4.0 HP

## Arm Swings for Model 212



**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.**

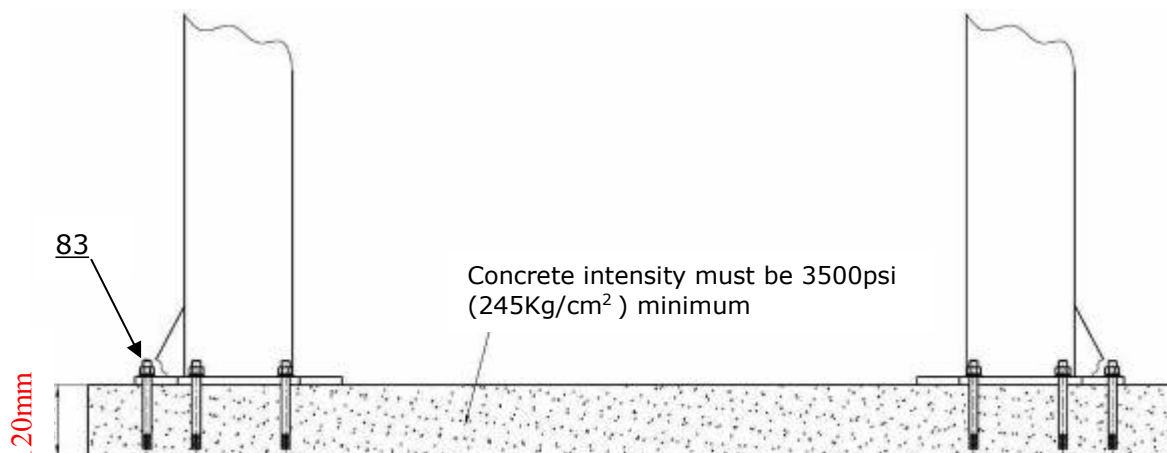


**Fig 4**

**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 **120mm** 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** ( $245\text{kg}/\text{cm}^2$ ) minimum.
3. Floors must be level and no cracks.



**Fig. 5**

## E. POWER SUPPLY

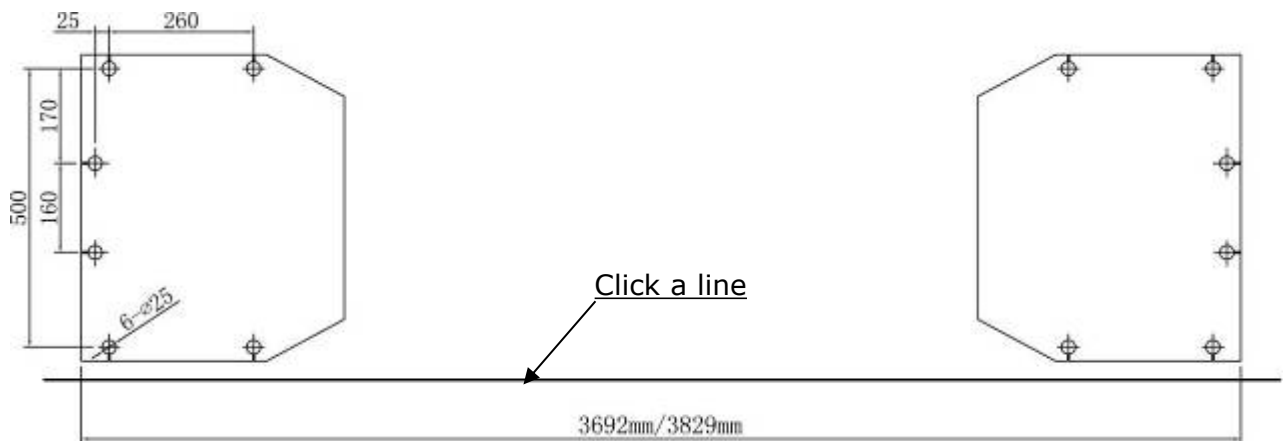
The electrical source must be 3Kw minimum. The source cable size must be 2.5mm<sup>2</sup> and in good condition of contacting with floor.

## 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**

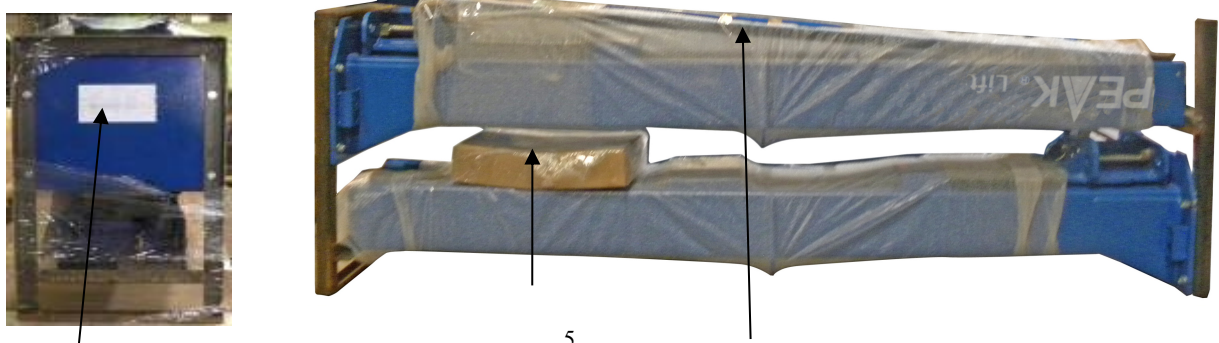
### C. Check the parts before assembly.

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 (See Fig. 8).





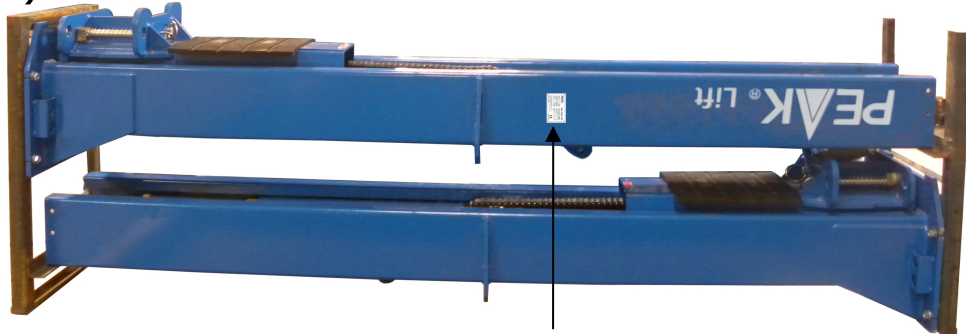
Parts box

Shipment Parts list

Floor cover

**Fig. 8**

3. Take off the parts from upper and inside the column, then take out the parts box (See Fig. 9).



**Fig. 9**

Aluminum serial label

4. Loosen the bolts 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. 10, 11).



Parts in the shipment parts list

**Fig. 10**



Parts in the parts box (84)

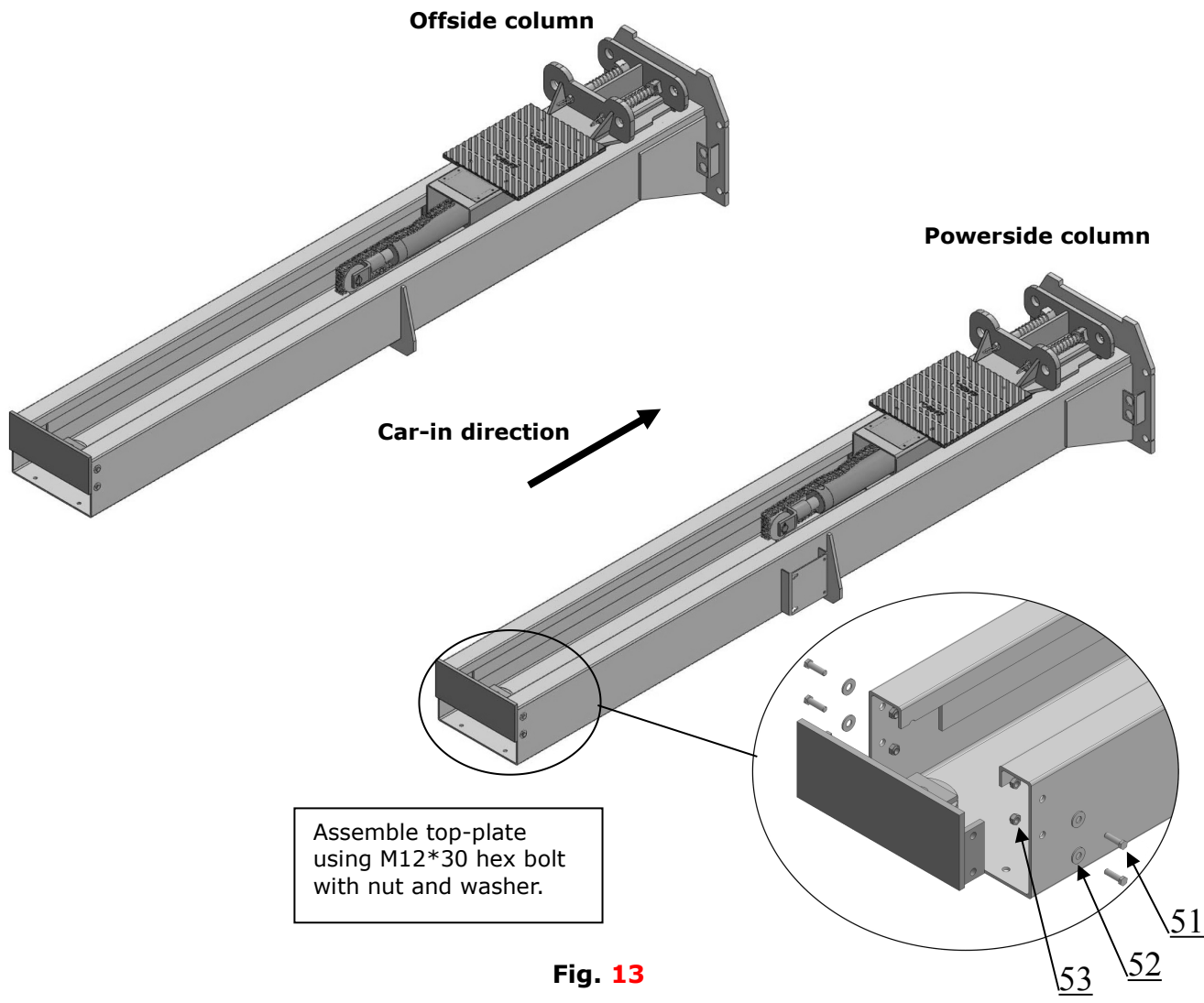
**Fig. 11**

6. Open the parts bag and check the parts according to parts bag list (See Fig. 12).



**Fig. 12**

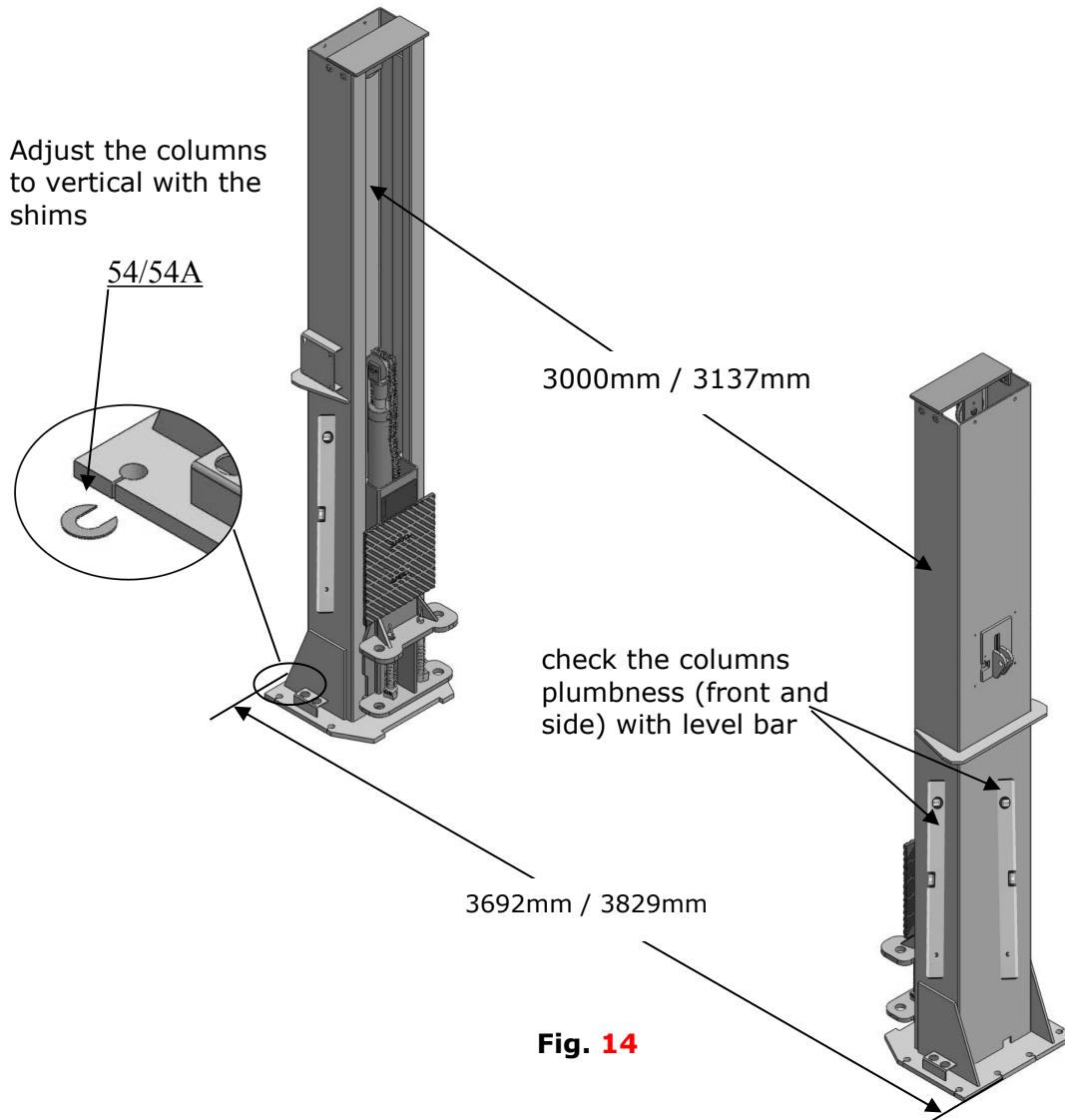
**D.** Lay down two columns on the installation site parallelly, position the powerside column according to the actual installation site. Usually, it is suggested to install powerside column on the front-right side from which vehicles are driven to the lift, then install the top plate (**See Fig.13**).



**Fig. 13**

**E.** Position columns, install anchor bolts, check the columns plumbness with level bar, and adjusting with the shims if the columns are not vertical, Don't tighten the anchor bolts at this time (**See Fig. 14**).

**Note:** Width adjustment design, please set the width according to your need.



## **F. Fix anchor bolts**

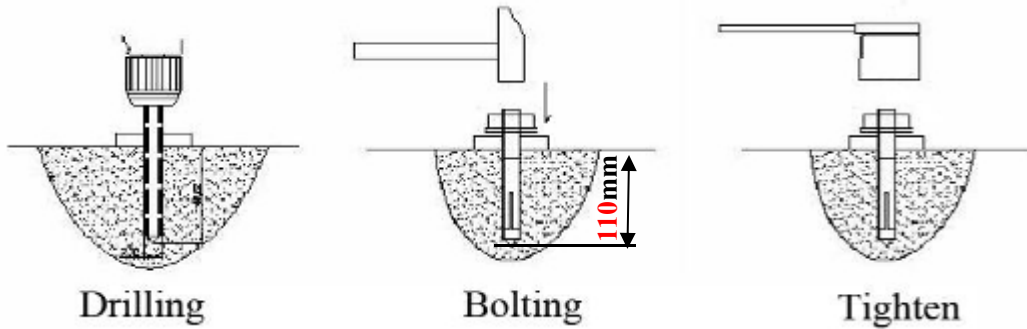
1. Prepare anchor bolts (**See Fig. 15**).



**Fig. 15**

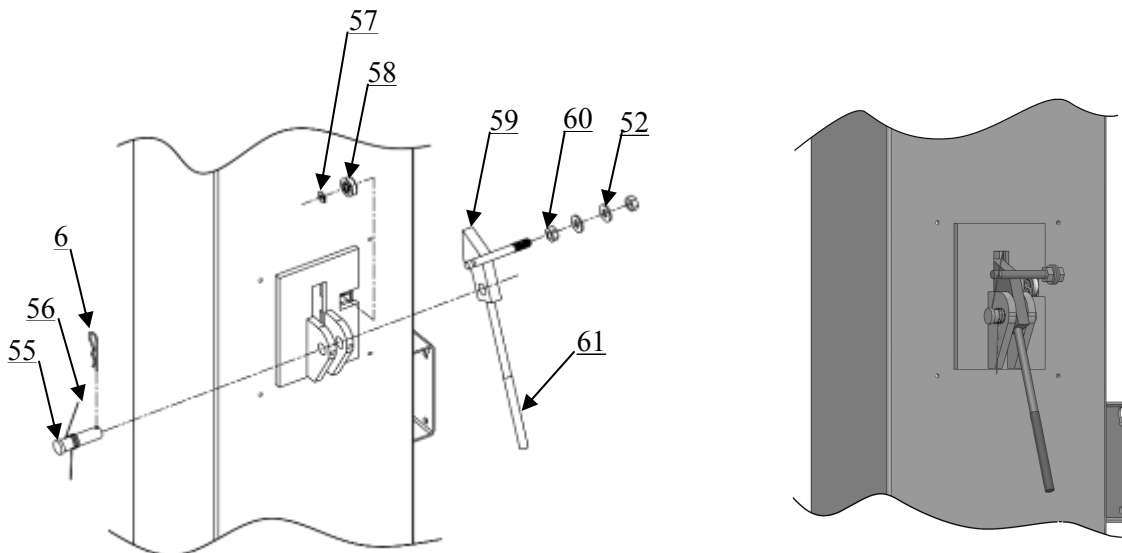
2. Using the prescribed rotary hammer drill, and drill all the anchor holes and install the anchor bolts. Then tighten the anchor bolts (**See Fig. 16**).

Note: Torque of Anchors is 150N.m. Minimum embedment of anchors is 110mm.



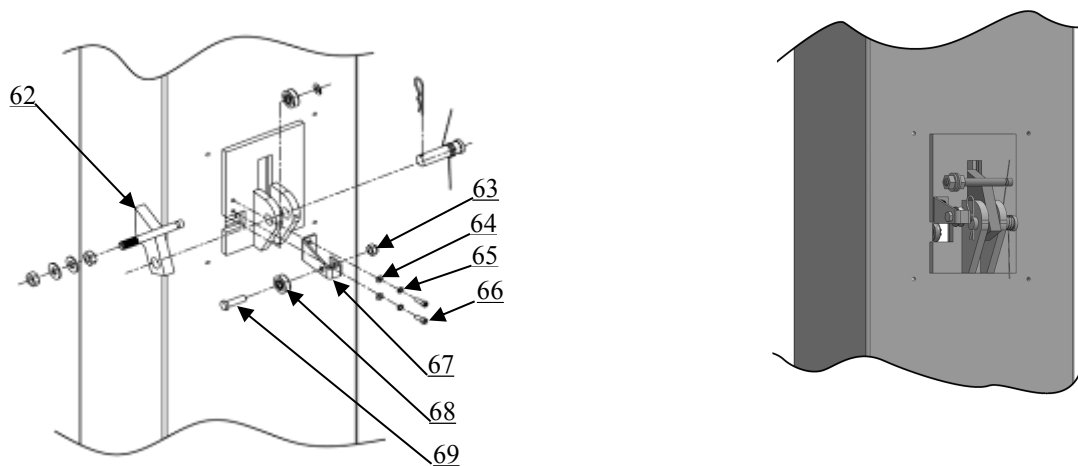
**Fig. 16**

**G. Install safety device (See Fig. 17&18).**



**Power side safety device**

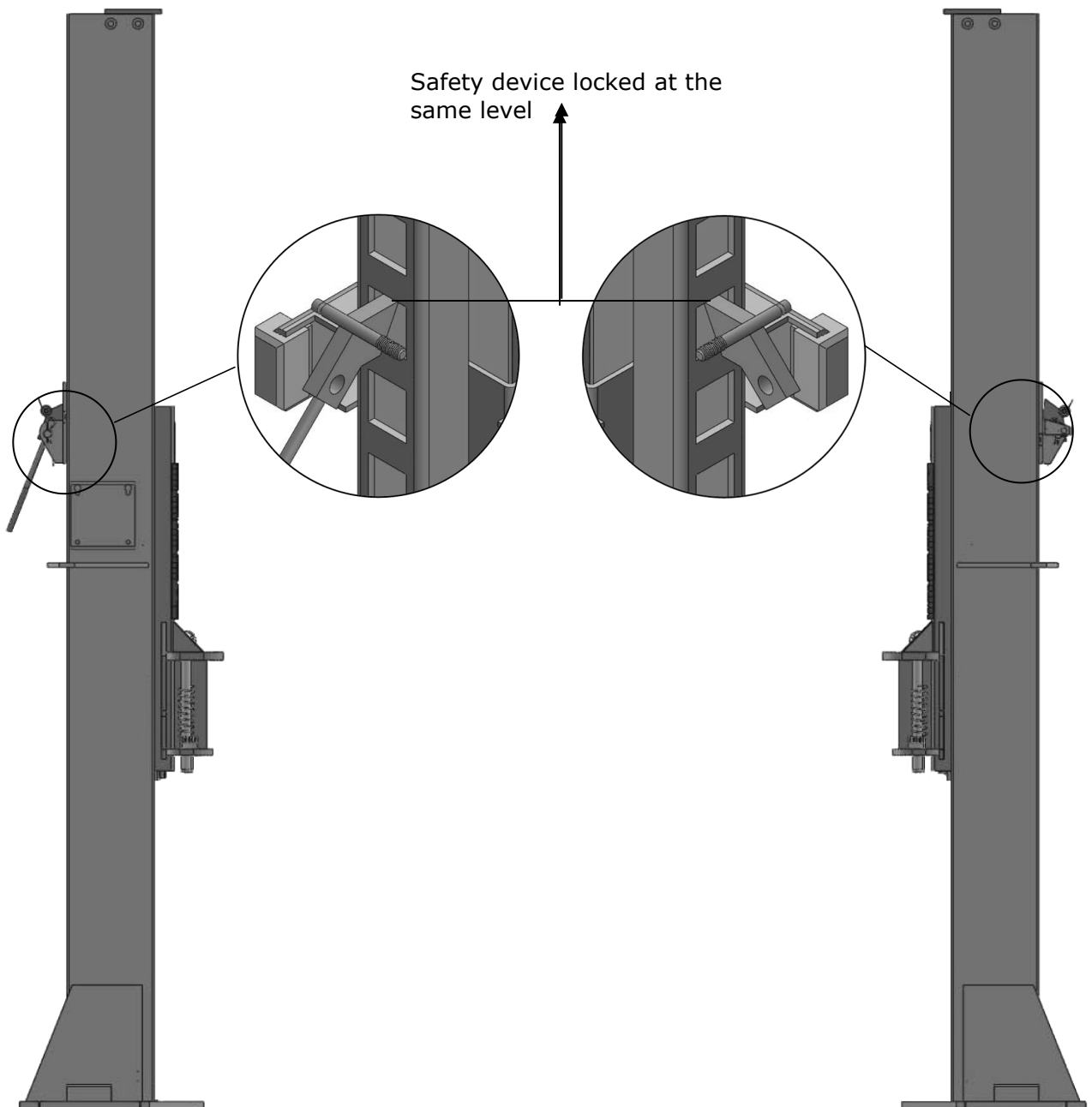
**Fig. 17**



**Offside safety device**

**Fig. 18**

H. Lift the carriages up by hand and make them be locked at the same level  
(See Fig. 19).



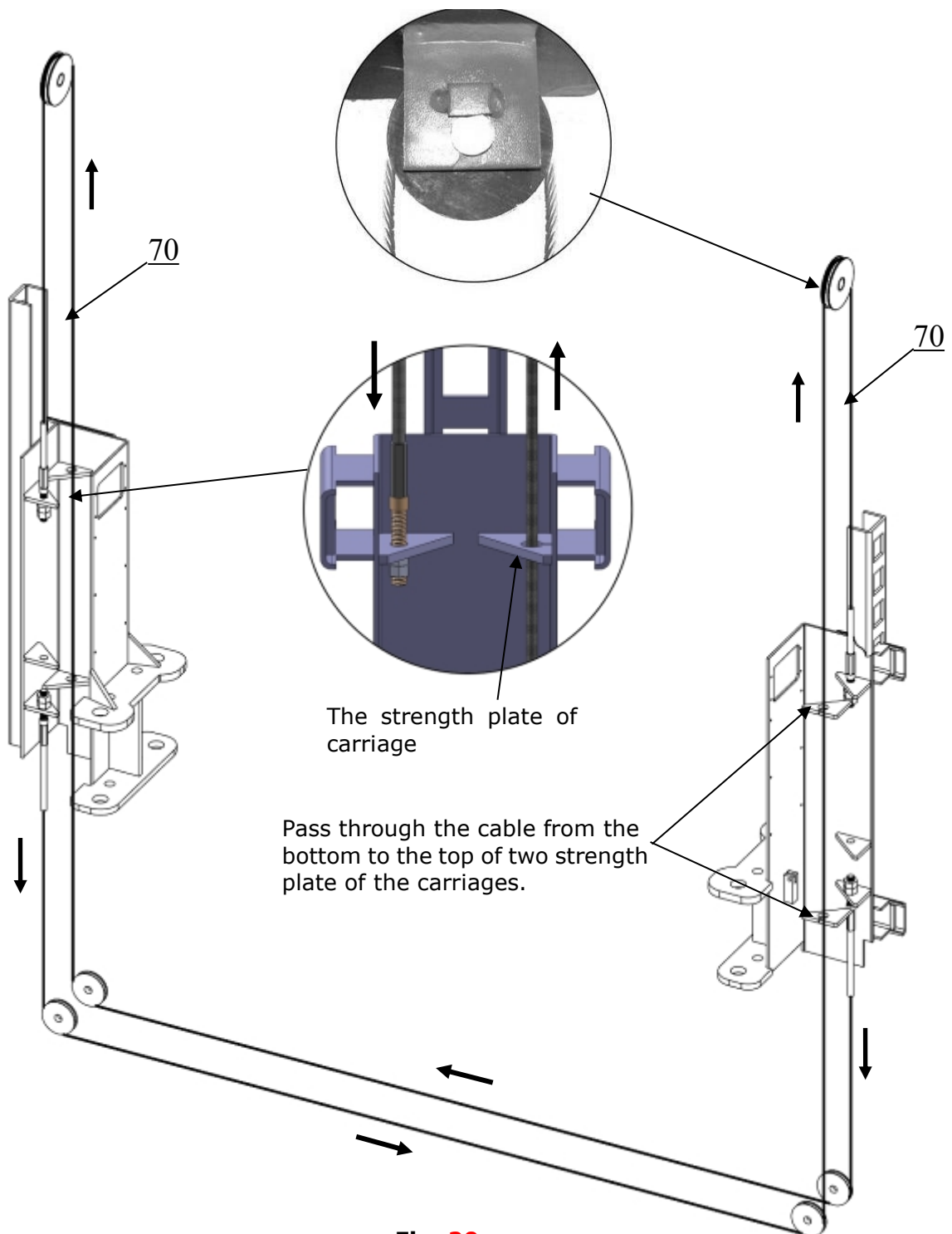
**Fig. 19**

## I. Install cable

According to step **E** to choose the width distance of your lift (**See Fig.14**).

**Note:** Pass through the cable from the hole of the strength plate of one carriage to another carriage.

1. For width distance with 3829mm (**See Fig.20**).

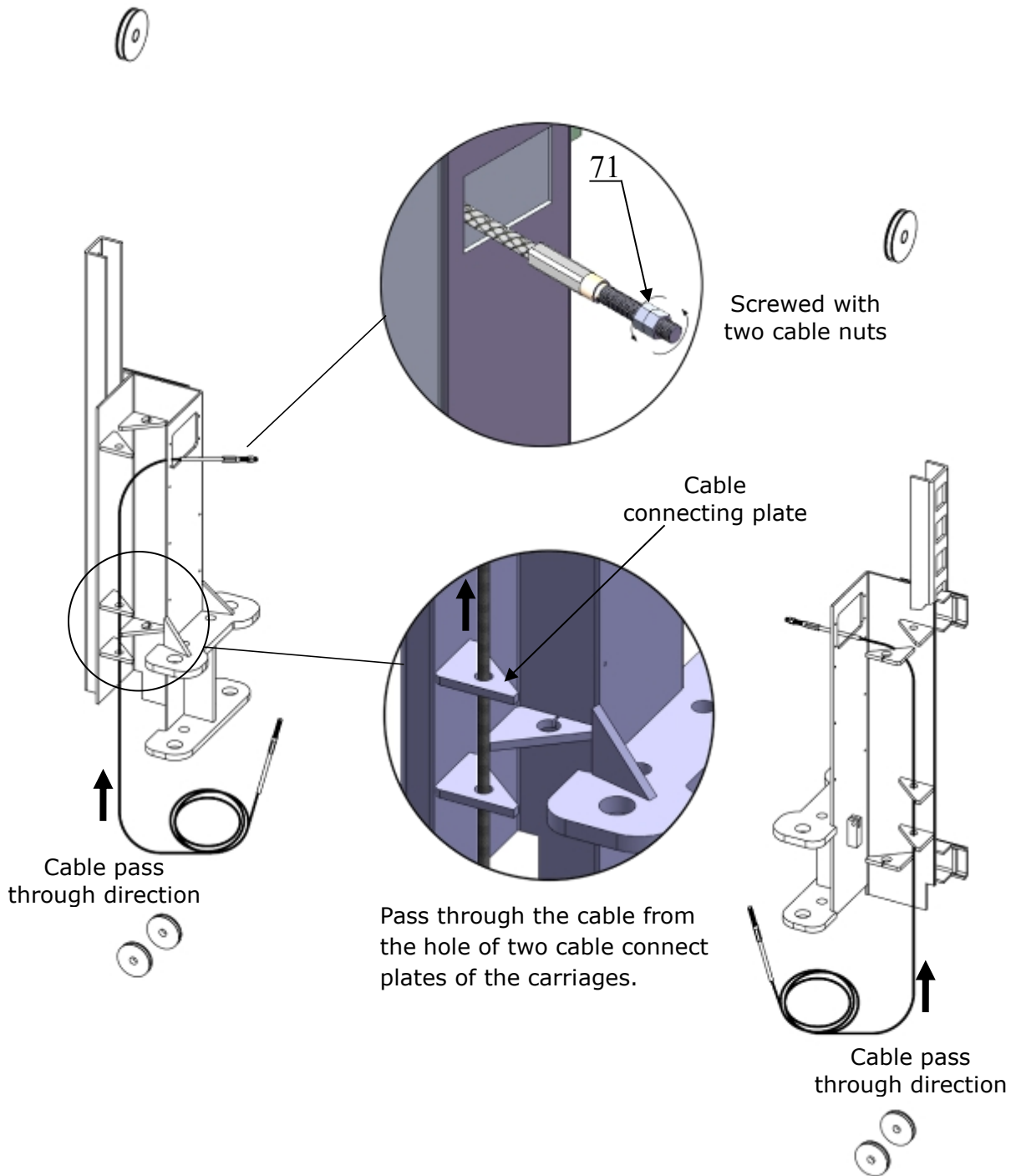


**Fig. 20**

2. For width distance with 3692mm

2.1. Pass through the cable from the bottom to the top of the carriage, the fitting of cable pass through the hole of the carriages and be screwed with two cable nuts.

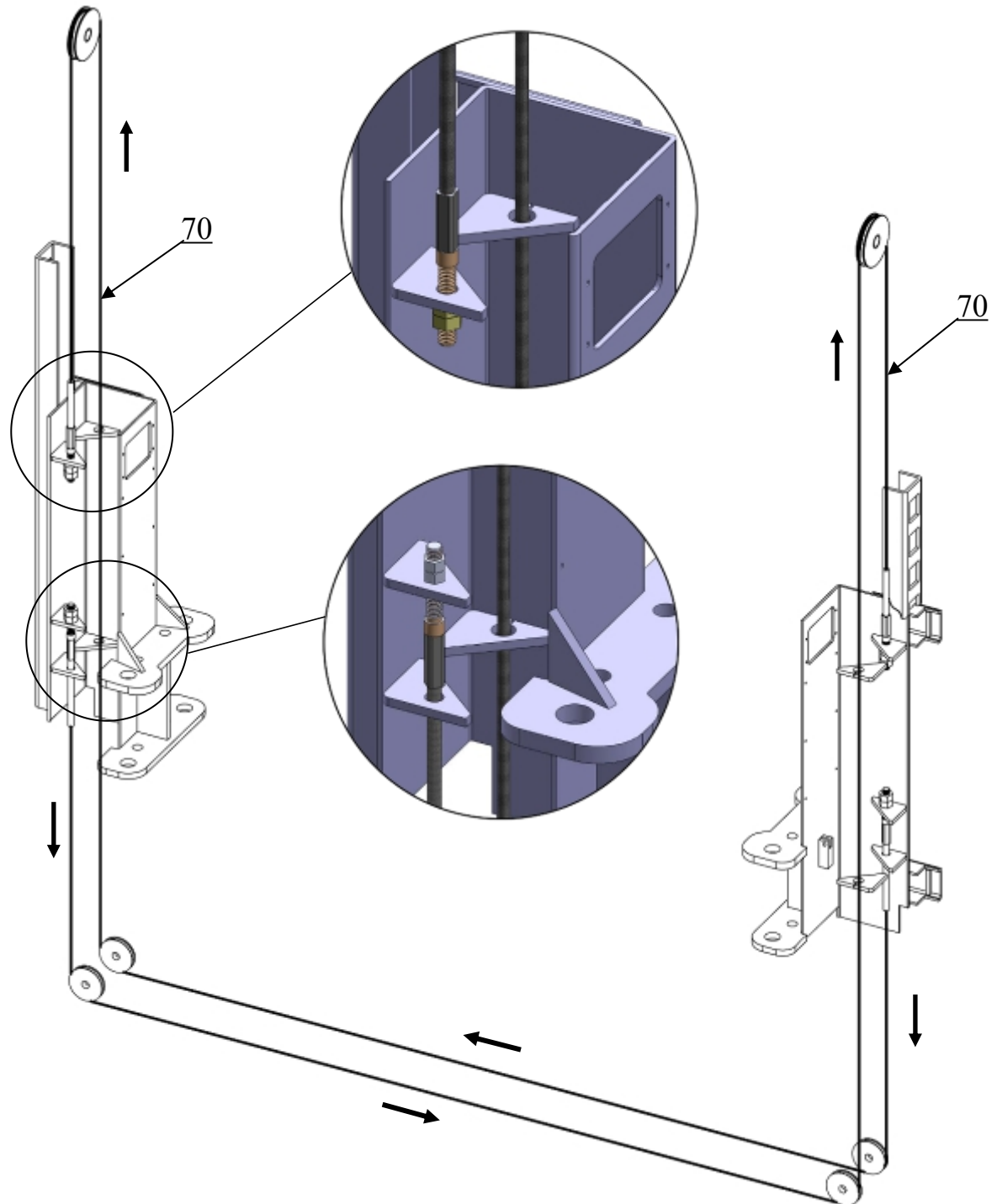
(See Fig. 21,22).



**Fig. 21**



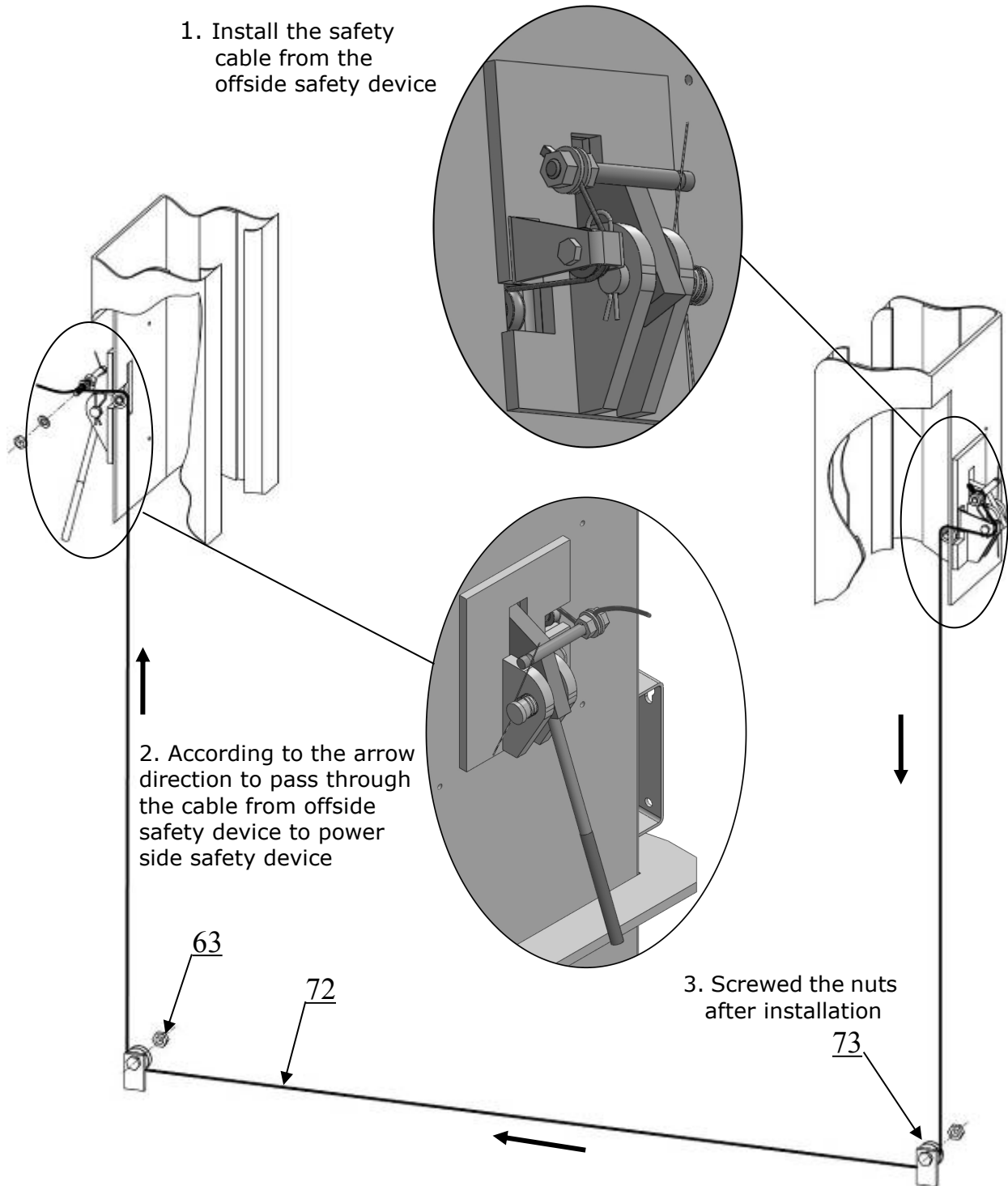
2.2. Pass through the cable as arrow direction (See Fig. 22).



**Fig. 22**

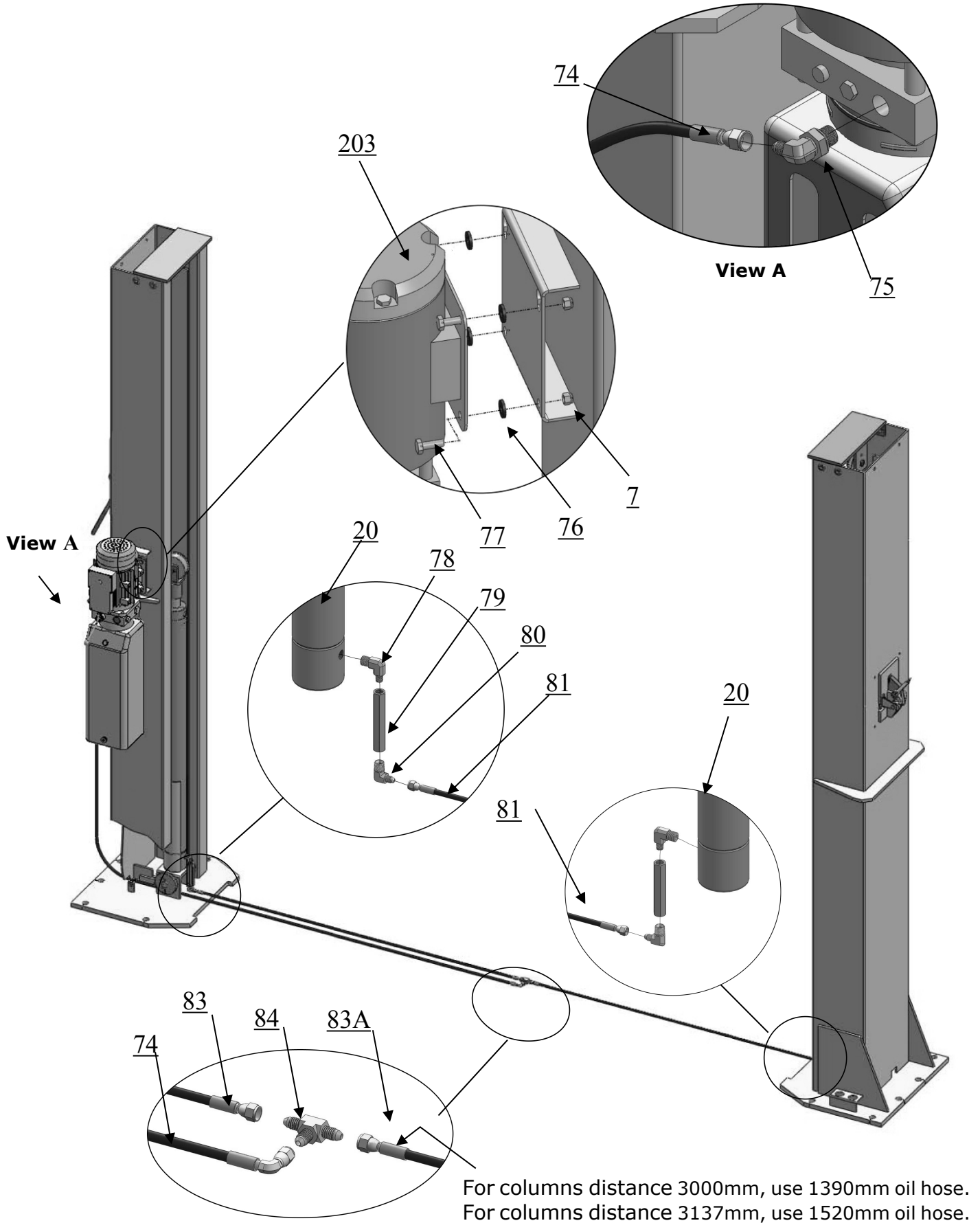
**J. Install cable of safety device (See Fig. 23).**

Note: Install the safety cable from the offside safety device, pay attention to the pass through direction.



**Fig. 23**

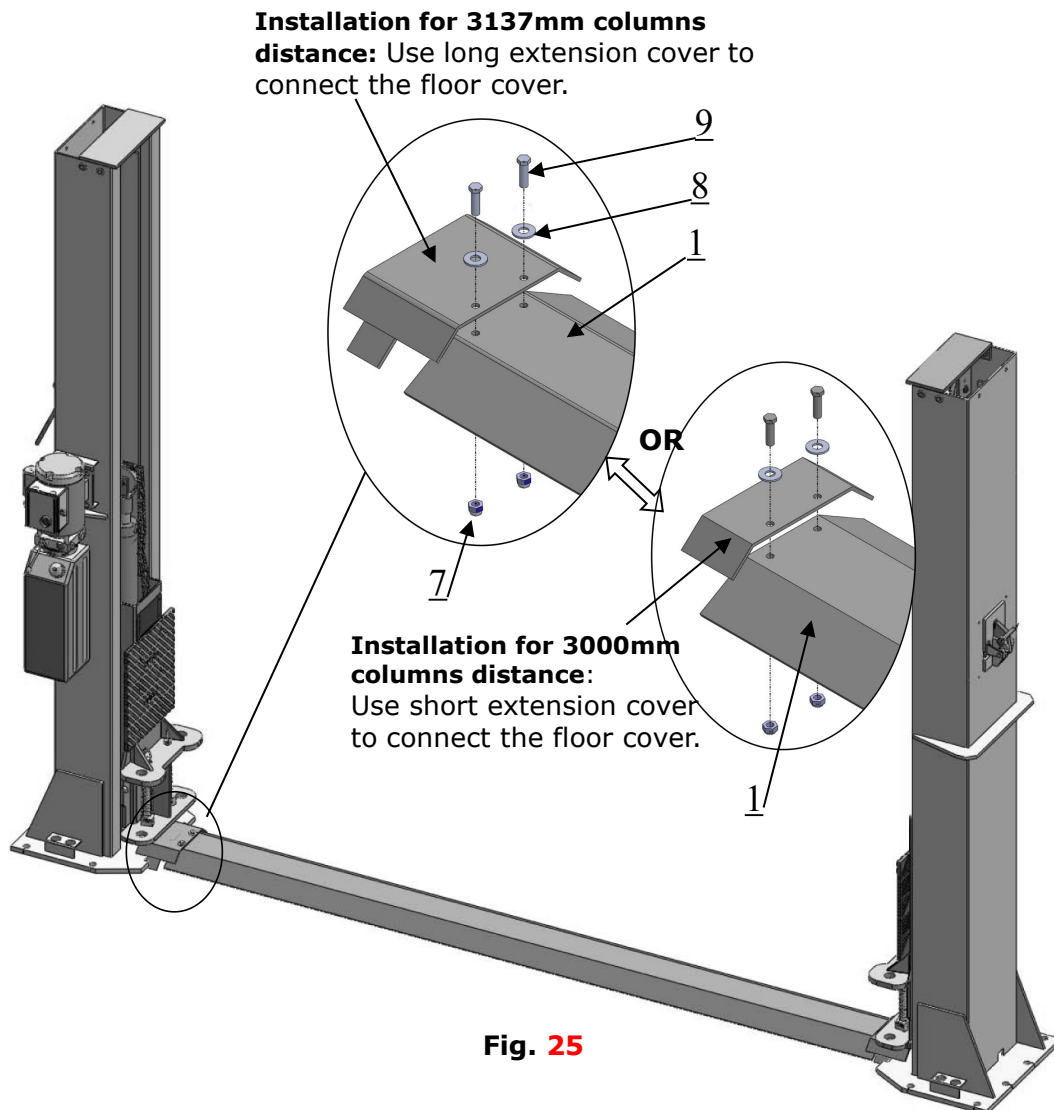
**K. Install hydraulic power unit and oil hose assy. (See Fig. 24).**



**Fig. 24**

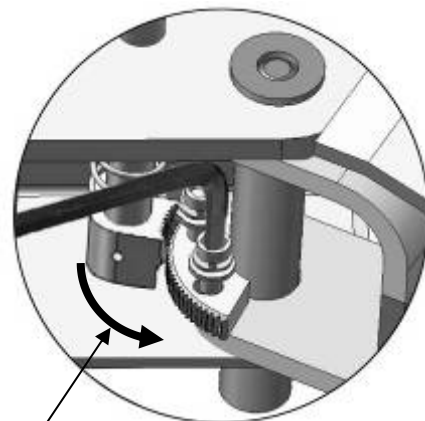
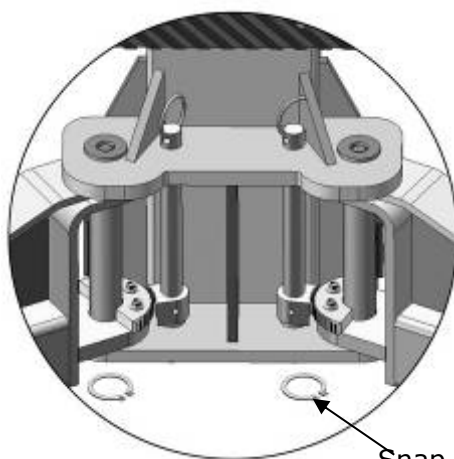
## L. Install floor cover (See Fig. 25).

**NOTE:** Choose different extension cover according to the columns distance.



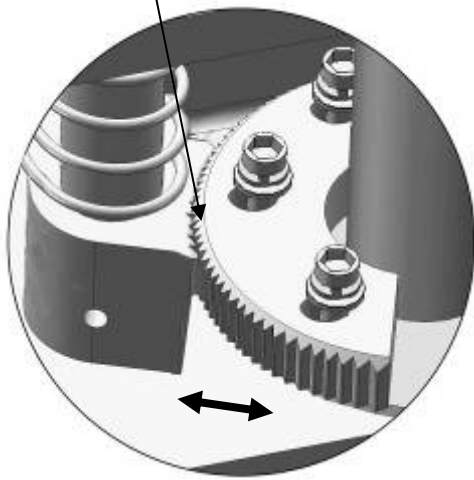
## M. Install lifting arms and adjust the arm locks

1. Install the lifting arms (See Fig. 26). Lowering the carriages down to the lowest position, then use the 8# ratchet spanner to loose the nut of arm lock (See Fig. 27). Adjust the arm lock as arrow direction (See Fig. 28). Adjust the moon gear and arm lock to make it to be meshed, then tighten bolts of arm lock (See Fig. 29).

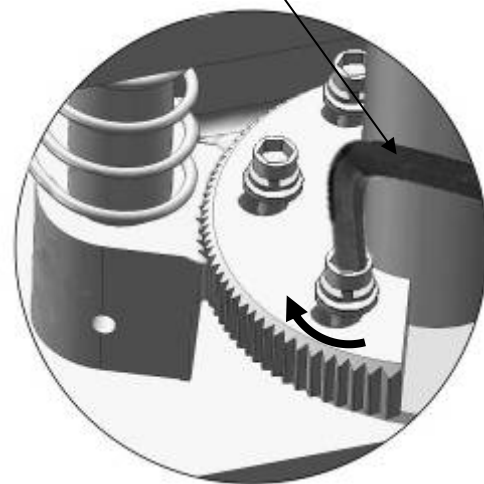


Use the ratchet spanner to loose the nut

Adjust the Moon gear

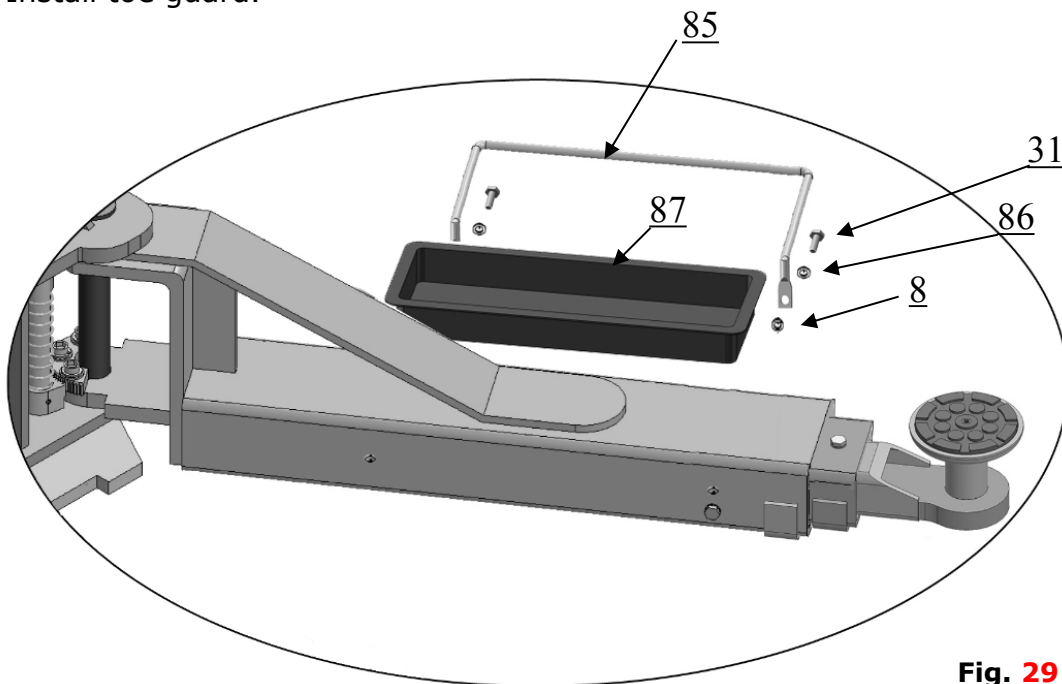


Locking the nuts after the moon gear and arm lock engaged well



**Fig. 28**

2. Install toe guard.



**Fig. 29**

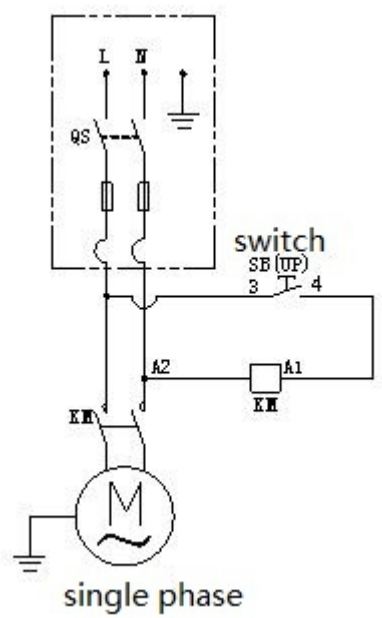
**N. Tighten all the hydraulic fittings, and fill the reservoir with hydraulic oil.**

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

**O . Refer to the circuit schematic diagram and connect the power supply according to the motor nameplate. Note: To ensure the safety of the operator, the lift must be well grounded. When using a three-phase motor, pay attention to the forward and reverse rotation of the motor.**

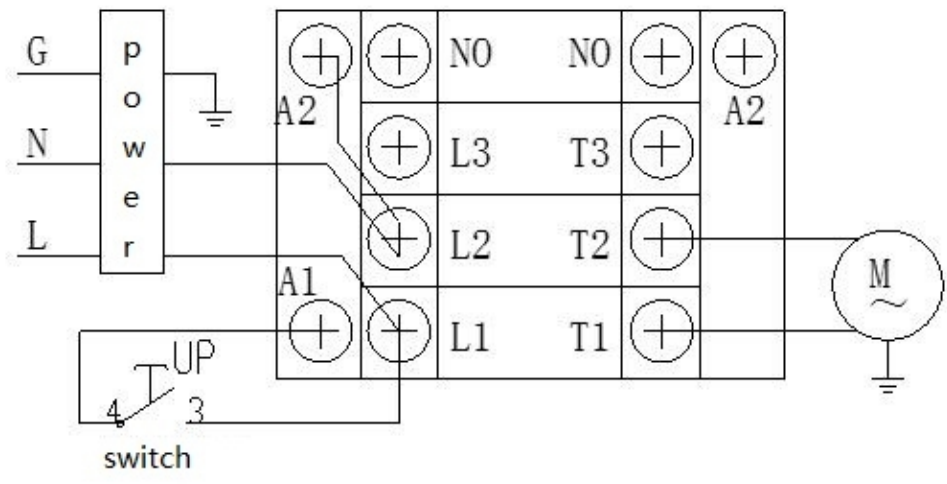
### 1. 220V single-phase motor wiring

1.1 Circuit schematic (Fig 30)



**Fig 30**

1.2 Wiring diagram. Fig 31



**Fig 31**

## 2. 380V three-phase motor wiring

### 2.1、Circuit schematic (Fig 32)

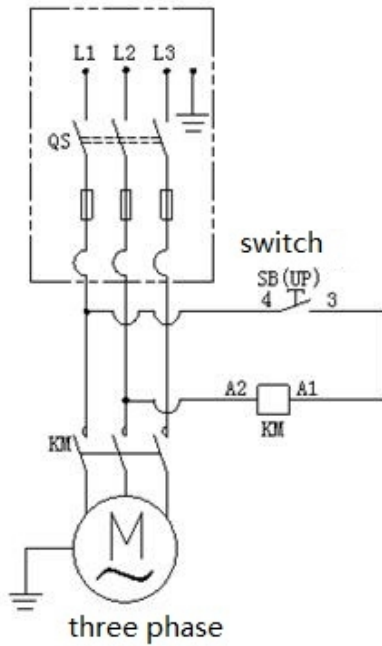


Fig 32

### 2.2 Wiring steps (Fig 33)

- ① The three wires (L1, L2, L3) of the external power supply are connected to the terminals labeled L1, L2, L3 on the AC contactor
- ② The terminal labeled L1 on the AC contactor is connected to the 4 # terminal of the button switch, and the A1 terminal is connected to the 3 # terminal of the button switch.

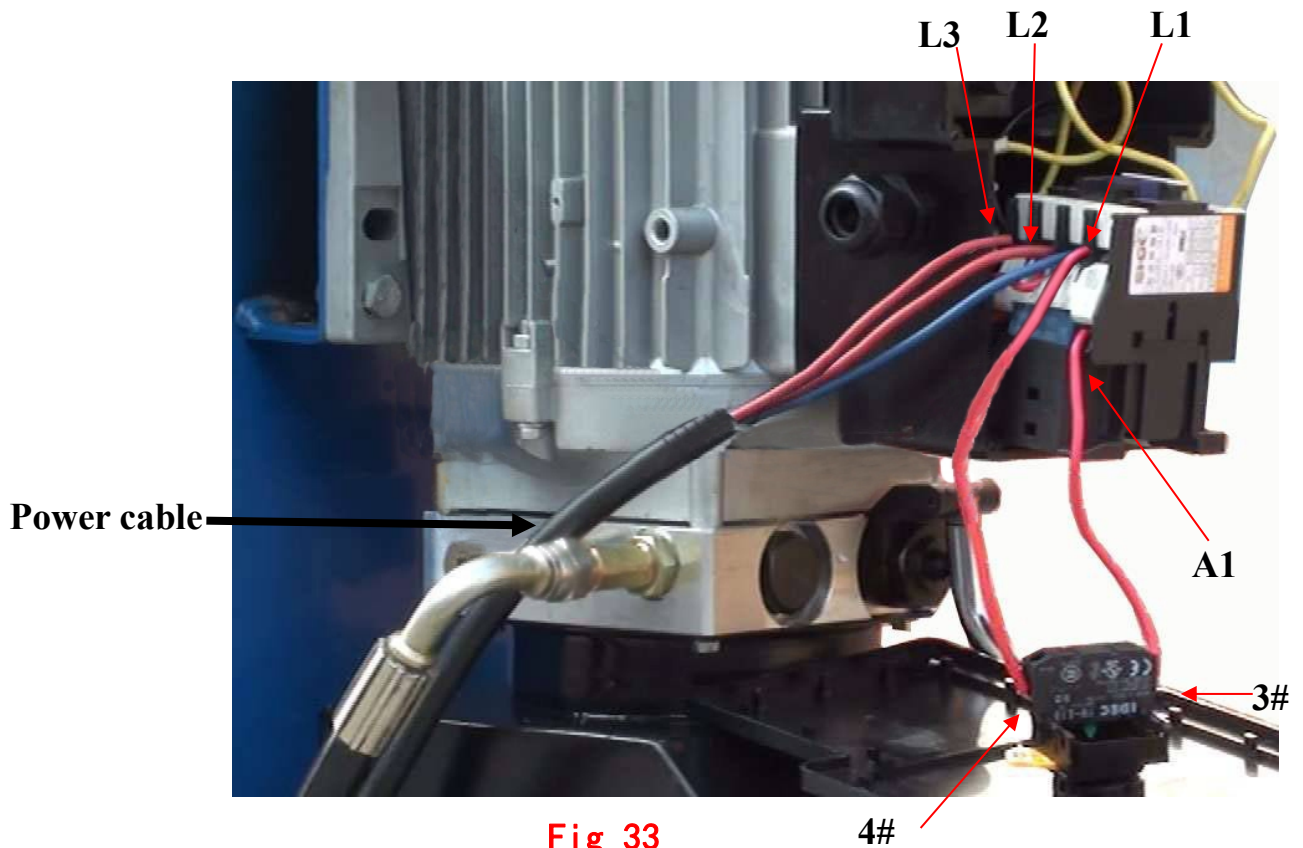


Fig 33

2.3 Wiring diagram. Fig 34

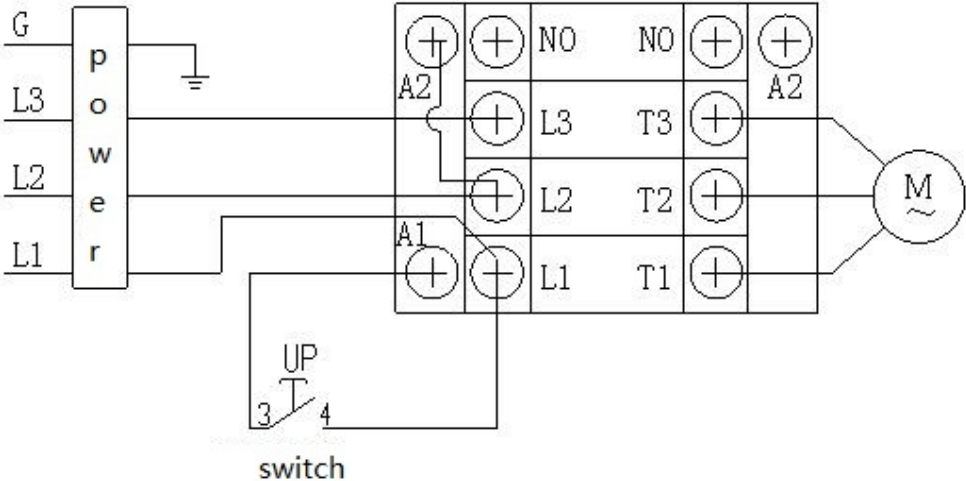


Fig 34



# IV. EXPLODED VIEW

## Model 212

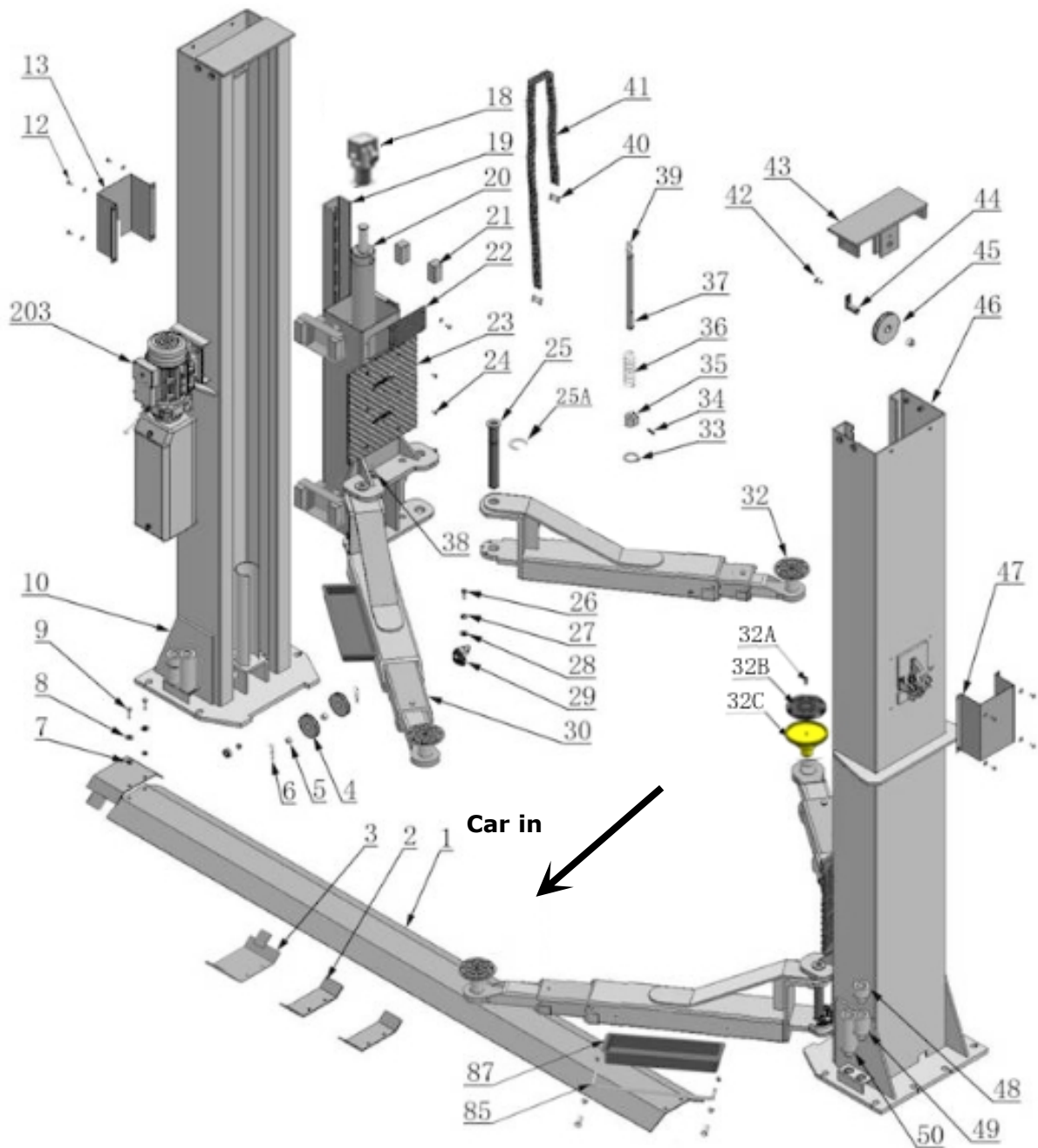
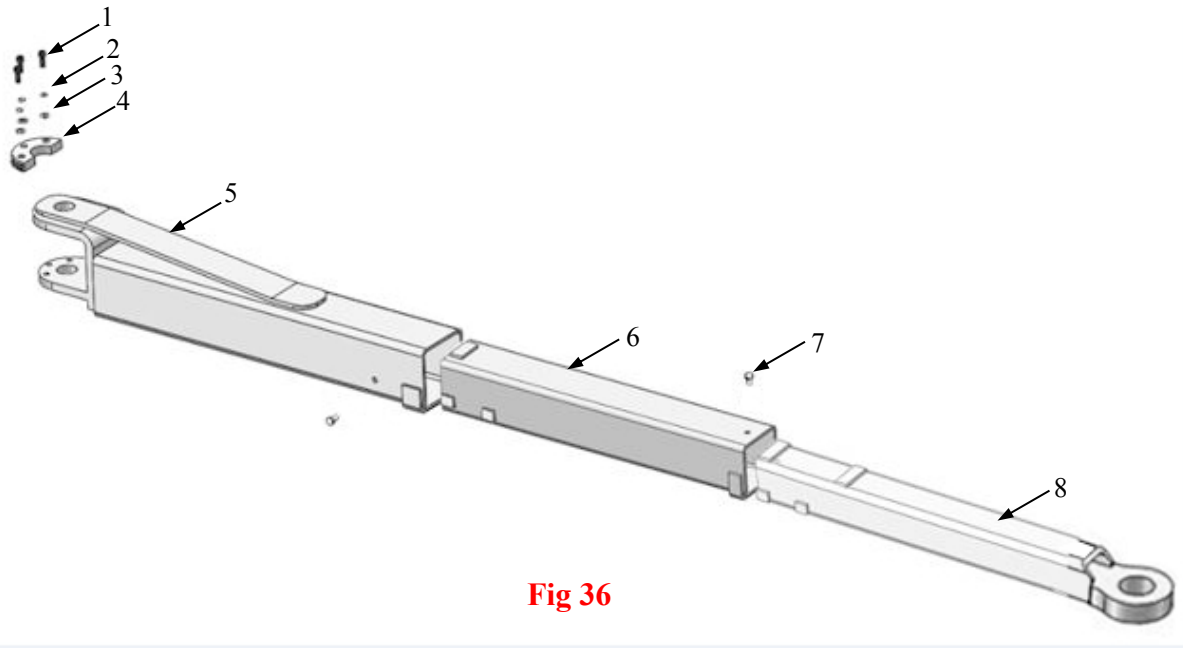


Fig. 35

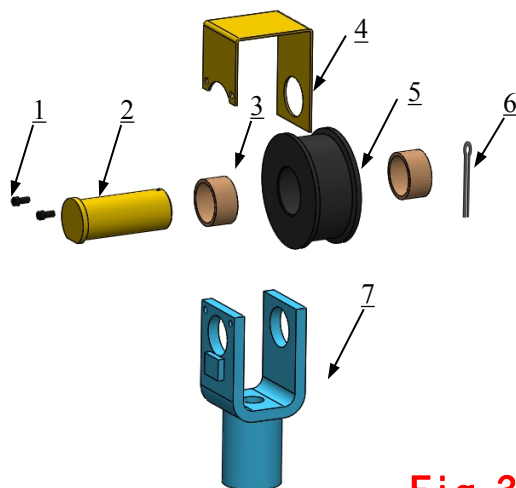
**a. Exploded view of lifting arm assembly (10207062)**



**Fig 36**

Item	Part#	Description	Qty.	Item	Part#	Description	Qty.
1	10206048	M10*30 hex bolt	12	5	11207012A	Outer arm	4
2	10209039	φ 10 washer	12	6	11217337	Middle arm	4
3	10209022	φ 10 washer	12	7	10201149	Screw M8*12	8
4	11206049	Moon gear	4	8	11217836	Inner arm	4

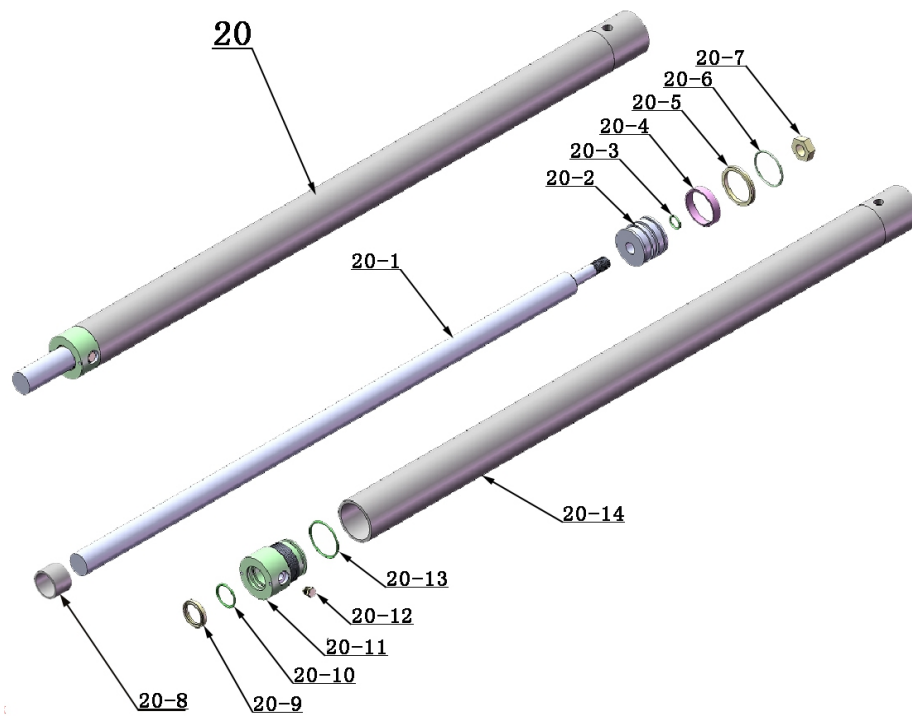
**b. Exploded view of chain pulley bearing assembly (11207681):**



Item	Part#	Description	Qty
1	81400335	Socket bolt M5*10	4
2	11207006	Pin for chain pulley	2
3	10420132	Bronze bush for chain pulley	4
4	11207693	Chain stop plate	2
5	11207007	Chain pulley	2
6	10201005	Split pin ( φ 4*50)	2
7	11207008	Chain pulley seat	2

**Fig 37**

**c. Exploded view of the oil Cylinder (10207010)**

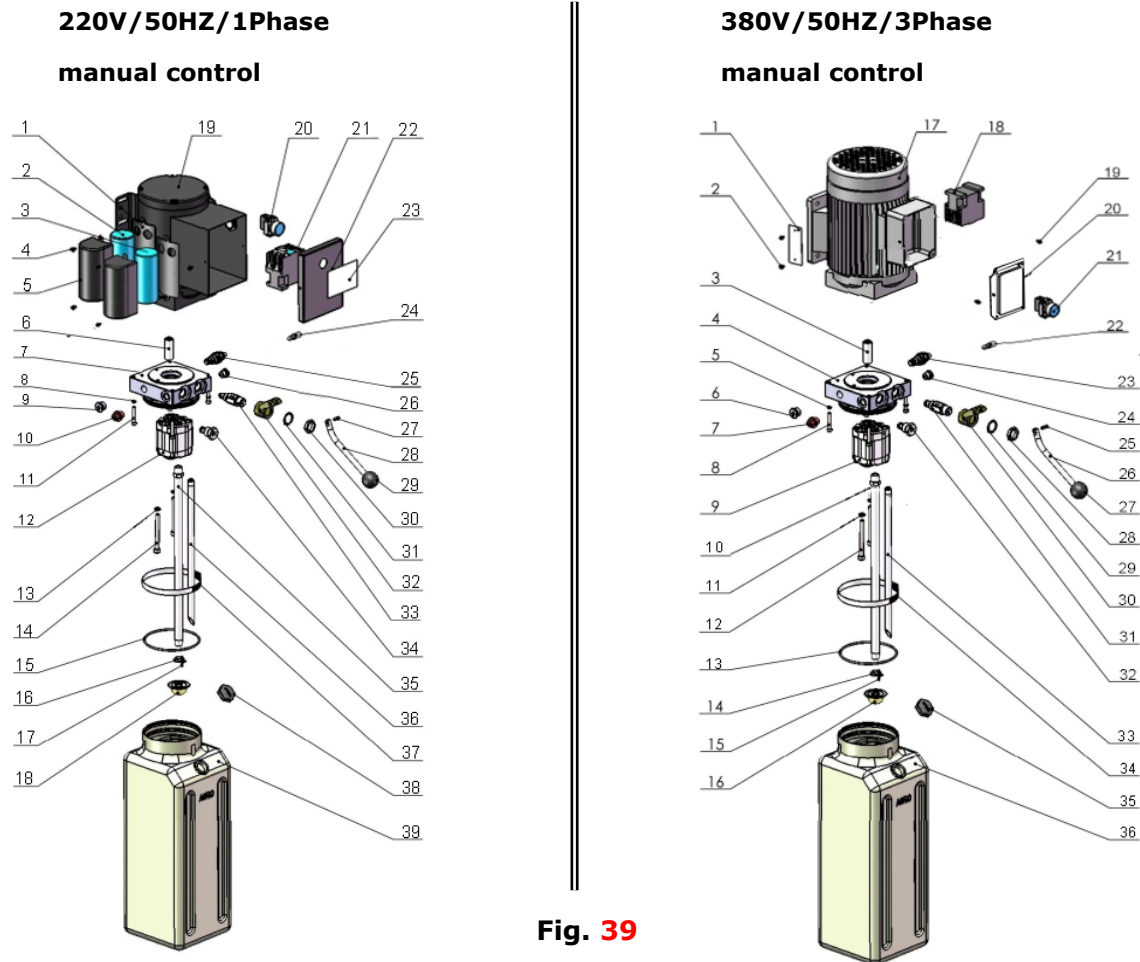


**Fig. 38**

**Cylinder parts list**

Item	Part#	Description	Qty	Item	Part#	Description	Qty
20-1	11207027	Piston Rod	2	20-8	10207029	Adjustment Tube	2
20-2	11207028	Piston	2	20-9	10217078	Dust Ring	2
20-3	10206069	O-Ring	2	20-10	10520058	O-Ring	2
20-4	10620053	Support Ring	2	20-11	11207030	Head Cap	2
20-5	10620054	Y-Ring	2	20-12	10201034	Bleeding Plug	2
20-6	10630027	O-ring	2	20-13	10207031	O-Ring	2
20-7	10206071	Hex Nut	2	20-14	11207032	Cylinder Tube	2

## d. Exploded view of power unit: (81513003/81513004)



**Fig. 39**

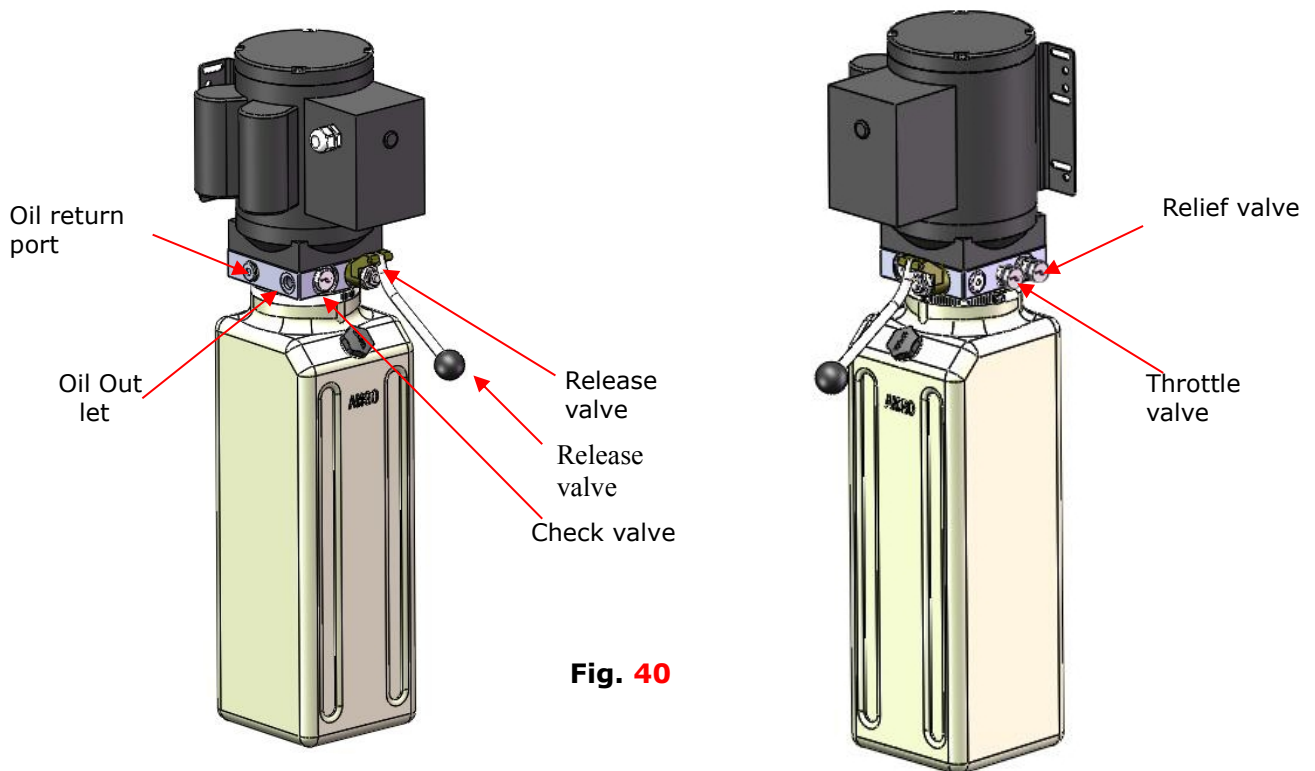
### Single-phase 220V, 50Hz manual power unit parts list

Item	Part#	Description	Qty	Item	Part#	Description	Qty
1	81400180	Rubber pad	2	21	41030055	AC connector	1
2	81400130	Start capacitor	1	22	81400287	Cover of Motor	1
3	81400088	Running capacitor	1	23	71111171	AMGO Sticker	1
4	10420148	Screw, Washer	6	24	81400560	Throttle valve	1
5	81400066	Cover of capacitor	2	25	81400266	Relief valve	1
6	81400363	Motor connecting	1	26	81400284	Plug	1
7	81400362	Manifold block	1	27	10720118	Pin	1
8	10209149	Wash $\phi$ 6	4	28	81400451	Handle for release	1
9	81400276	End plug	1	29	10209020	Plastic ball	1
10	81400259	Red plastic plug	1	30	81400421	Nut for release	1
11	85090142	Hex Bolt	4	31	81400422	Shim for release	1
12	81400280	Gear pump	1	32	81400449	Valve seat	1
13	10209034	Wash $\phi$ 8	2	33	81400567	Release valve	1
14	81400295	Socket bolt	2	34	81400566	Check valve	1
15	81400365	O ring	1	35	81400366	Oil suction pipe	1
16	10209152	Tie	1	36	81400367	Oil return pipe	1
17	85090167	Magnet	1	37	81400364	Clamps	1
18	81400290	Filter	1	38	81400263	Oil tank cap	1
19	81400413	Motor	1	39	81400319	Oil tank	1
20	10420070	Push button	1				

### Three-phase 380V, 50Hz manual power unit Parts list

Item	Part#	Description	Qty	Item	Part#	Description	Qty
1	71150022	AMGO Aluminum	1	19	10420148	screw	2
2	81400300	screw	2	20	80101022	Cover of Motor	1
3	81400363	Motor connecting	1	21	10420070	Push button	1
4	81400362	Manifold block	1	22	81400560	Throttle valve	1
5	10209149	Wash $\phi$ 6	4	23	81400266	Relief valve	1
6	81400276	End plug	1	24	81400284	Plug	1
7	81400259	Red plastic plug	1	25	81400452	Pin	1
8	85090142	Hex Bolt	4	26	81400451	Handle for release	1
9	81400292	Gear pump	1	27	10209020	Plastic ball	1
10	81400366	Wash $\phi$ 8	1	28	81400421	Nut for release	1
11	10209034	Socket bolt	2	29	81400422	Shim for release	1
12	81400295	O ring	2	30	81400449	Valve seat	1
13	81400365	Tie	1	31	81400567	Release valve	1
14	10209152	Magnet	1	32	81400566	Check valve	1
5	85090167	Filter	1	33	81400367	Oil return pipe	1
16	81400290	Motor	1	34	81400364	Clamps	1
17	81400309	Motor connecting	1	35	81400263	Oil tank cap	1
18	81400348	AC connector	1	36	81400319	Oil tank	1

### e. Illustration of hydraulic valve for hydraulic power unit



**Fig. 40**

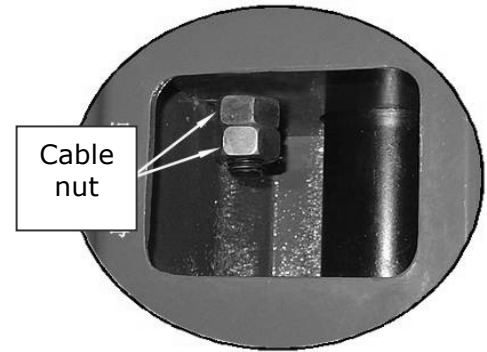
## V. TEST RUN

### 1. Adjust synchronous cable

Use wrench to hold the cable fitting, meanwhile use ratchet spanner to tighten the cable nut. Make sure two cables are with the same tension.

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

**(See Fig. 41)**



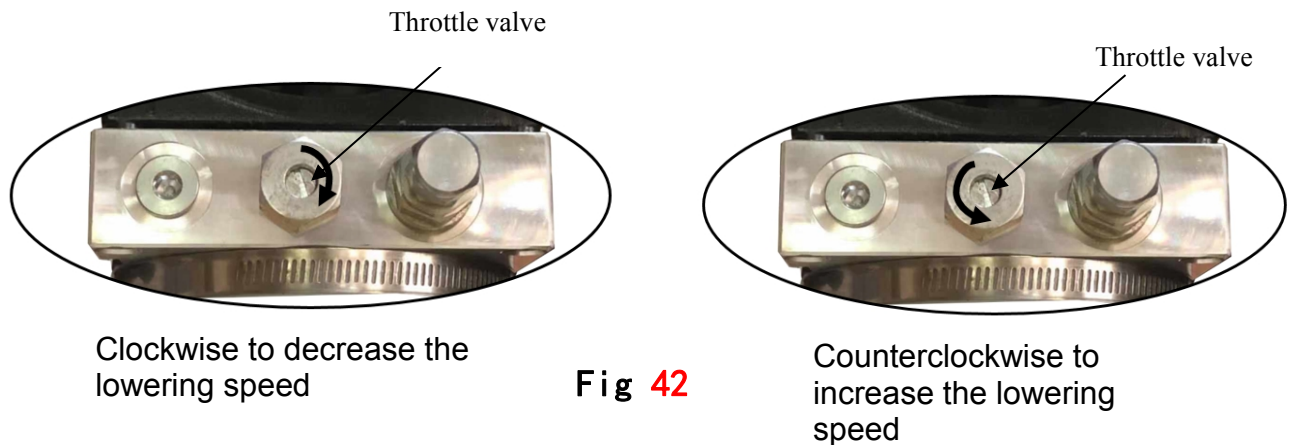
**Fig. 41**

### 2. Adjust safety cable

Lifting the carriage 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.

### 3. Adjust the lowering speed

The lowering speed can be adjusted according to the user's needs. Use a flat-blade screwdriver to adjust the flow valve core clockwise. At this time, the lowering speed becomes slower, and vice versa.



**Fig 42**

#### 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 are 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.**

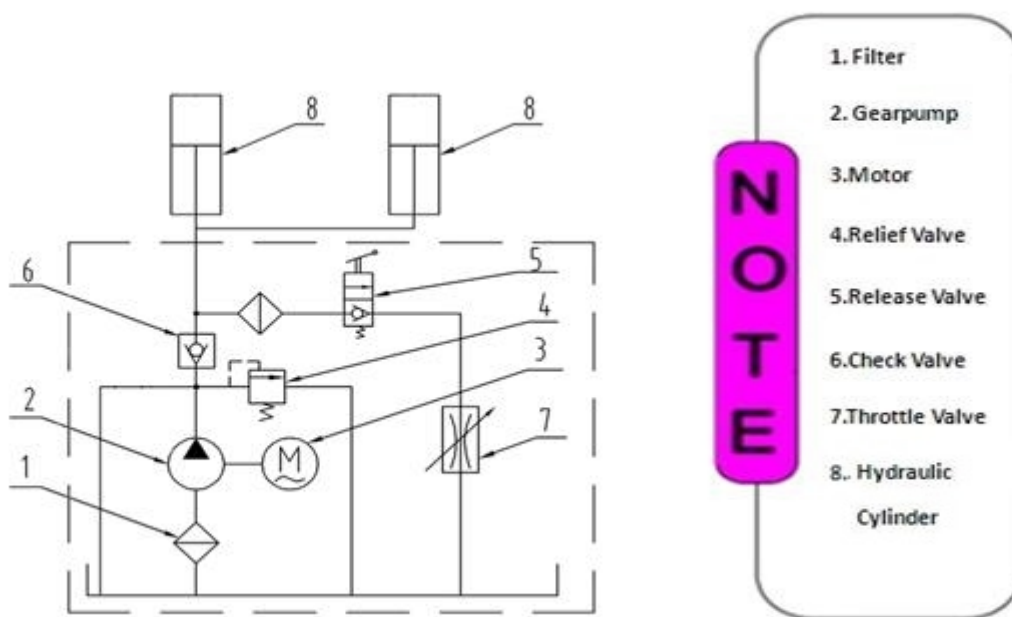


Fig. 42 Hydraulic System

#### 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 button "**DOWN**" 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 the cylinder and seals, raise the lift to top at least once a 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"> <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 in damage</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. Repair or replace</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. Hydraulic System 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 Hydraulic System</li> <li>2. Check electrical system</li> <li>3. Fill tank</li> <li>4. Repair or replace</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.** 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.

### X. PARTS LIST FOR MODEL 212

Item	Part#	Description	Qty.	Note
1	11207001	Floor cover	1	
2	11207002	Short extension cover	2	
3	11207003	Long extension cover	2	
4	11217019	Top pulley	4	
5	10217020	Bronze bush for pulley	6	
6	10209012	Hair pin	6	
7	10209005	Self-locking nut	8	
8	10209033	Washer	16	
9	10209043	Hex bolt	4	
10	11207055	Power side column	1	
203	81513003/ 81513004	Power unit	1	
12	10209009	Cup head bolt	12	
13	11207005	Powerside lock cover	1	
18	11207681	Chain pulley bracket assy.	2	
19	11207009A	Carriage	2	
20	11207010	Cylinder $\phi$ 75*870	2	
21	10217188	Slider block	16	
22	11207047	Carriage plastic cover	2	
23	10217053	Protective Rubber	2	
24	10209019	Screw	12	
25	11217047B	Arm pin	4	
25A	10520023	Spring for shaft $\phi$ 38	4	
26	10206048	Socket bolt	12	
27	10209039	Lock washer	14	
28	10209022	Washer	14	
29	11206049	Moon gear	4	
30	10207062	Lifting arm assy.	4	
31	10201002	Hex bolt M8*16	8	
32	10217114A	Rubber pad assy.	4	
32A	10420138	M6*16 hex screw	4	
32B	10209134	Rubber pad	4	
32C	11680030B	Rubber pad support	4	
33	10206032	Snap Ring	4	

<b>Item</b>	<b>Part#</b>	<b>Description</b>	<b>Qty.</b>	<b>Note</b>
34	10206036	Hair Pin	4	
35	10217044	Arm lock	4	
36	10217045A	Spring	4	
37	11217046B	Left arm lock bar	2	
38	11217046C	Right arm lock bar	2	
39	10209153	Arm lock bar ring	4	
40	10201010A	Chain connector BL646	4	
41	10207015	Chain BL646	2	
42	10209038	Hex bolt	2	
43	11207016	Top plate assy.	2	
44	11217037	Pin for bottom pulley	2	
45	11217036	Big Pulley	2	
46	11207054	Offside column	1	
47	11207018	Offside safety cover	1	
48	11209051B	Extension 1.5"	4	
49	11209052B	Extension 2.5"	4	
50	11209053B	Extension 5"	4	
51	10217069	Hex bolt M12*30	8	
52	10206006	washer	12	
53	10206023	Self-locking nut M12	8	
54	10620065	Leveling pad 2mm	10	
54A	10201090	Leveling pad 1mm	10	
55	11206002	Pin for safety lock	2	
56	10209007A	Safety Spring	2	
57	10209010	Snap ring	2	
58	10209011	Plastic small pulley	2	
59	11207019	Power side safety lock	1	
60	10206023A	Hex nut	4	
61	10206003A	Handle Protective Plastic cushion	2	
62	11207020	Offside safety lock	1	
63	10209056	Self-locking nut	3	
64	10420045	Washer	14	
65	10209149	Lock washer	2	
66	10207021	Socket bolt	1	
67	11217029	Pulley bracket	1	
68	10206009	Plastic small pulley	1	
69	10209046	Hex bolt	1	

Item	Part#	Description	Qty.	Note
70	10207022	Cable	2	
71	10209066	Cable nut	8	
72	10206149	Safety cable L=7450mm	1	
73	10209049	Plastic small pulley	2	
74	10207023	Oil hose 5/16*3210mm	1	
75	10209060	90-degree Fitting for power unit	1	
76	10209004	Rubber ring	4	
77	10209003	Hex bolt	4	
78	10207024	90-degree Fitting	2	
79	11207035	Length fitting L=86mm	2	
80	10420097	90-degree Fitting	2	
81	10207026	Oil hose 1/4*1520mm ( both straight )	2	
81A	10207034	Oil hose 1/4*1390mm ( both straight )	1	
82	10211016	T fitting	1	
83	10201140	Anchor bolt 3/4x6-1/2"	12	
84	10207500A	Parts box	1	
85	11206154	Rear guard	4	
86	10209034	washer $\phi$ 8	8	
87	10206156	Tool tray	2	





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Manual Part NO.: 72222505

Revision Date: **12/2019**