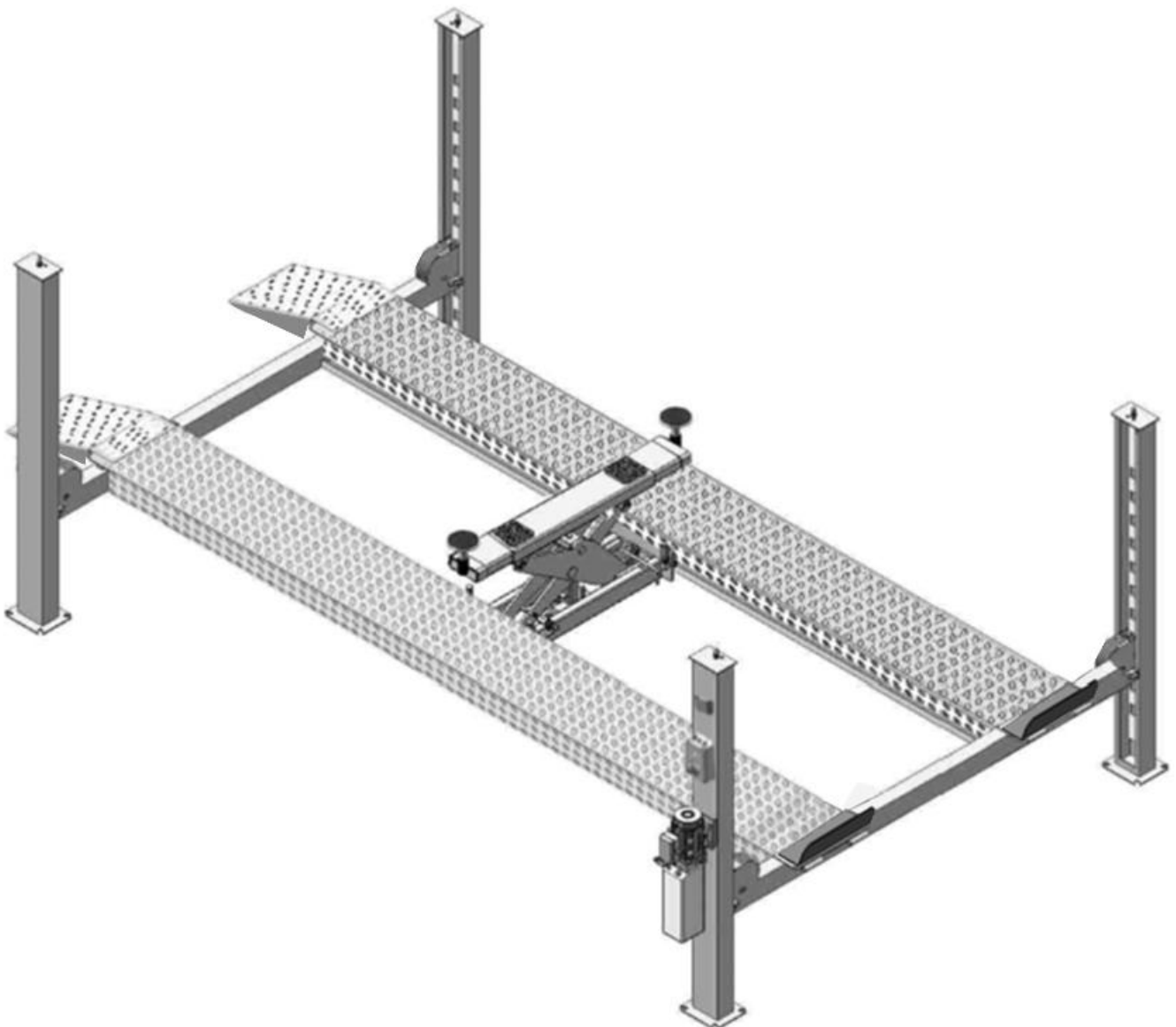




Original

# Installation And Service Manual



**FOUR POST LIFT**

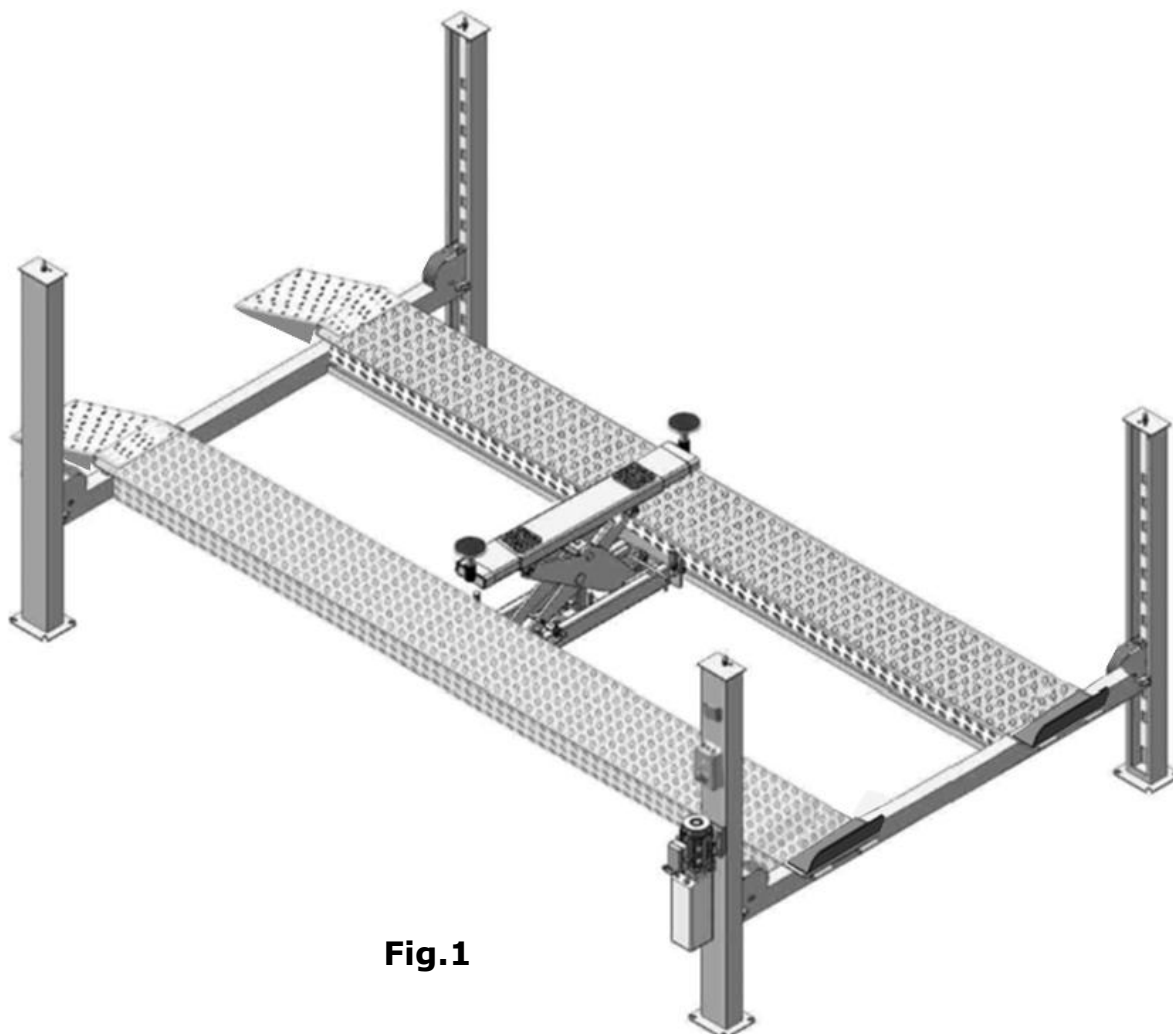
**Model: 440 440E**

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## I. PRODUCT FEATURES AND SPECIFICATIONS

- Electric-air control operation system.
- Mechanical self-lock and pneumatic safety release
- Manual hydraulic power system, cable-driven.
- Strengthen and Non-skid diamond platforms.
- Adjustable platform and adjustable safety lock ladders.
- Optional Jack: With Pneumatic hydraulic pump.



**Fig.1**

### **Model: 440 440E** **MODEL SPECIFICATIONS**

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Length (Inc. Ramps)	Overall Width	Width Between Columns	Motor
440	18000kg	1905mm	176S	9300mm	4100mm	3654mm	2.0HP
430E				10800mm			

## II. INSTALLATION REQUIREMEN

### A. TOOLS REQUIRED

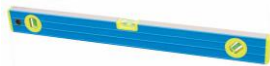
➤ Rotary Hammer Drill ( $\Phi 3/4$ )



➤ Hammer



➤ Level Bar



➤ English Spanner (12")



➤ Wrench Set:

(10#, 12#, 13#, 14#, 17#, 19#, 24#, 30#)



➤ Ratchet Spanner with Socket (28#)



➤ Carpenter's Chalk



➤ Screw Sets



➤ Tape Measure (295-1/4")



➤ Pliers



➤ Lock Wrench



➤ Socket Head Wrench  
(3#, 5#, 6#)



Fig. 2

## 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. 3

## D. 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 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 210kg/cm<sup>2</sup> minimum.
3. Floors must be level and no cracks.

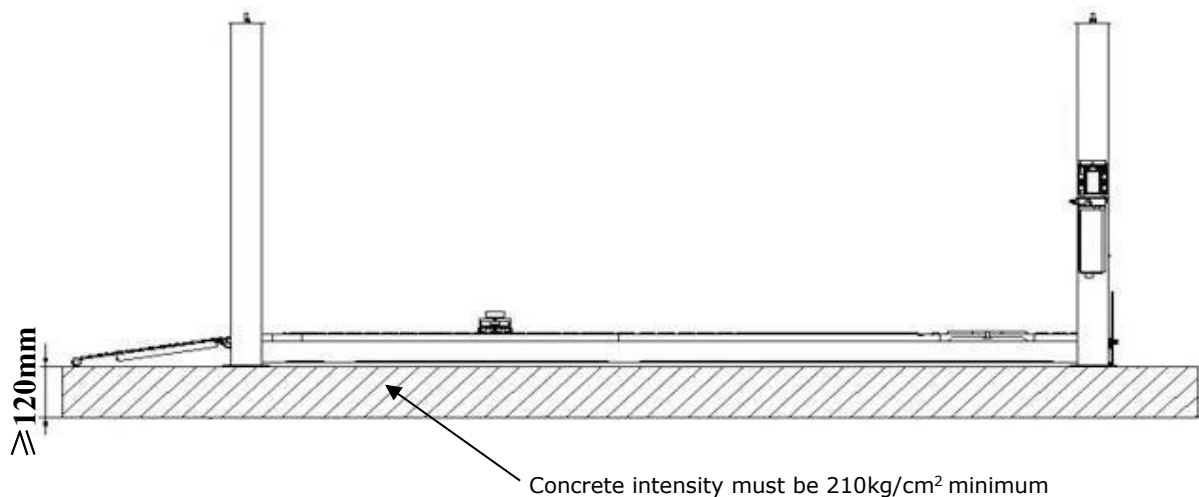


Fig. 4

## D. AIR SUPPLY

Air pressure requirement: 0.5Mpa~0.8Mpa, Air line size  $\Phi 8 * \Phi 6$  .

## E. POWER SUPPLY

The electrical source must be 4HP minimum. The source cable size must be 2.5mm<sup>2</sup> and in good condition of contacting with floor. Single phase power unit connect fire, zero and ground lines (Total 3 wires); 3 phase power unit connect fire, zero and ground lines (Total 5 wires).

### 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. Check the parts before assembly

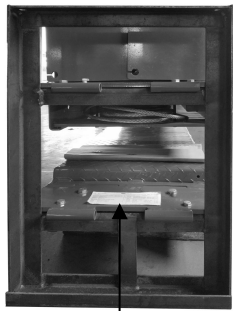
1.Received lift with hydraulic power unit (See Fig. 5).



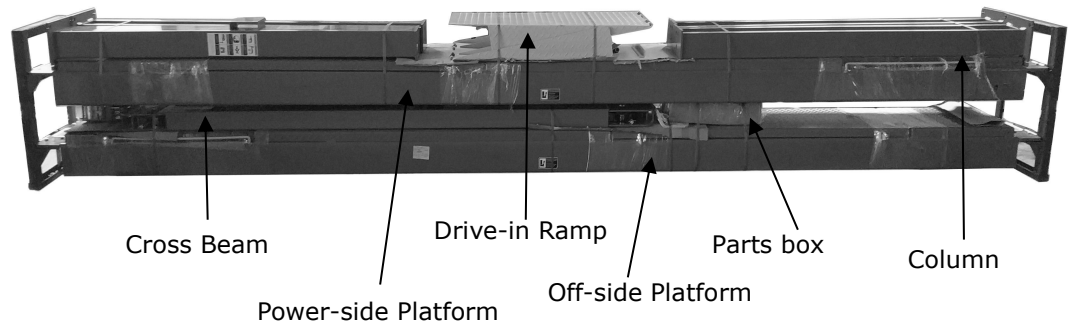
**Fig. 5**

Power unit

2. Open the outer packing, check all the parts according to the parts list (See Fig. 6).



Shipment Parts List



**Fig.6**

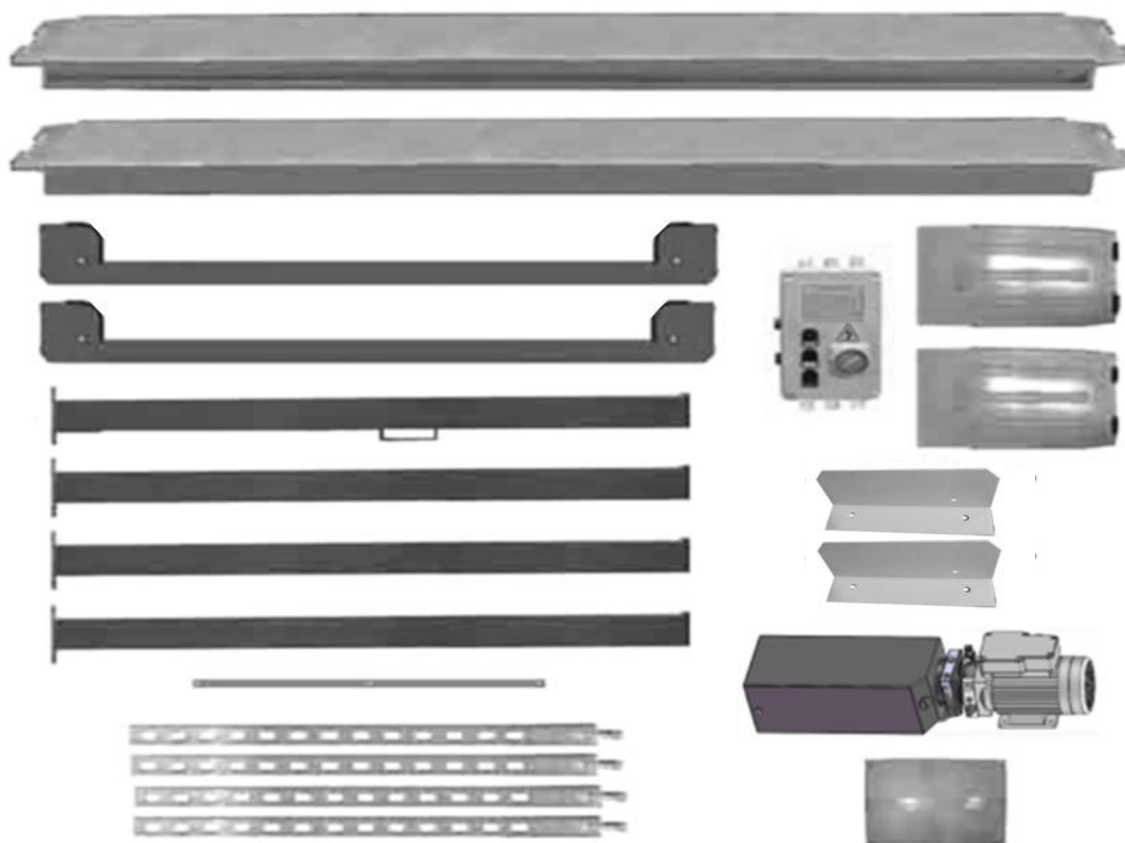
3. Take off the Drive-in Ramps and Columns (See Fig.7).



**Fig. 7**

4. Loose the screws of the upper package stand ⇒ take off the offside platform ⇒ take out the parts inside the power side platform ⇒ then remove the package stand.

5. Move aside the parts and check the parts according to the shipment parts list (**See Fig. 8**).



**Fig.8**

43

6. Open the parts box and check the parts according to the parts box list (**See Fig. 9**).



**Fig. 9**



7. Check the Parts bag according to the parts bag list (**See Fig. 10**).



## Parts bag 1

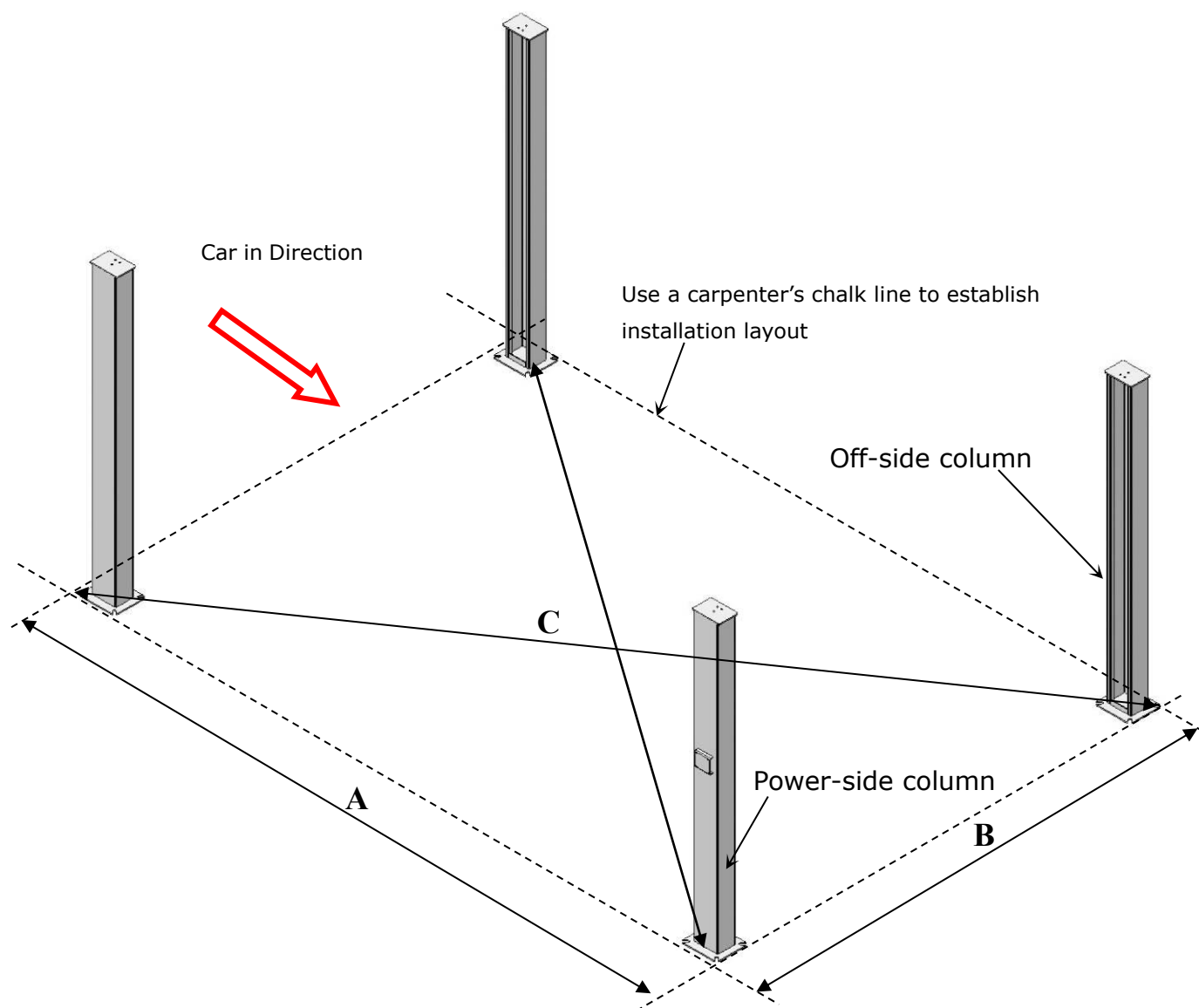


**Fig.10**



**C.** Use a carpenter's chalk line to establish installation layout, make sure the size is right and base is flat (**see Fig. 11**).

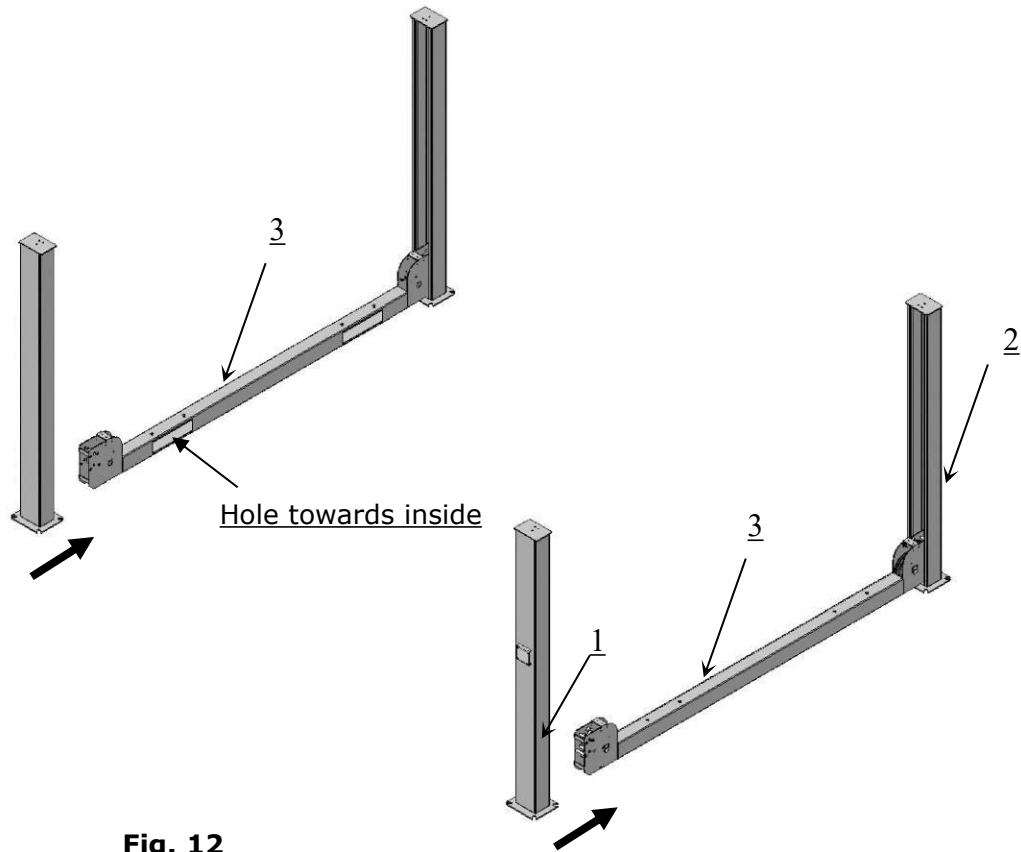
**Note: Reserve space before and behind the installation site.**



**Fig. 11**

Model	A	B	C
440	315 1/2" (8014mm)	161 3/8" (4100mm)	354 1/2" (9002mm)
440E	374 1/2" (9514mm)	161 3/8" (4100mm)	407 7/8" (10360mm)

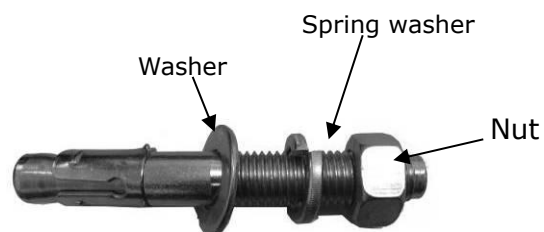
**D. Install cross beams (See Fig. 12).**



**Fig. 12**

**E. Fix the anchor bolts**

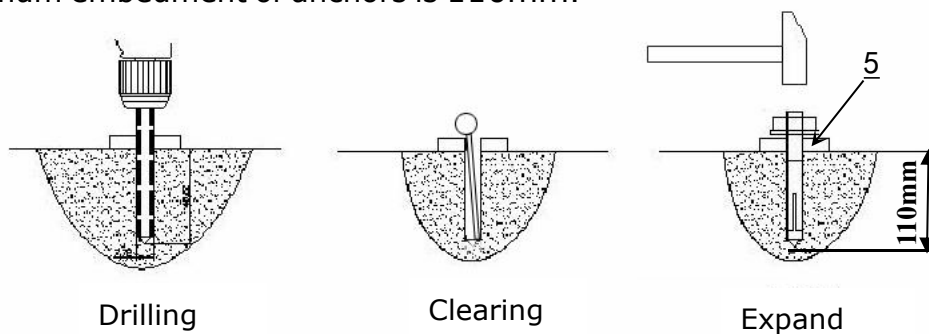
1. Prepare the anchor bolts (See Fig. 13).



**Fig. 13**

2. Using the prescribed rotary hammer drill, and drill all the anchor holes and install the anchor bolts, do not tighten the anchor bolts first (See Fig. 14).

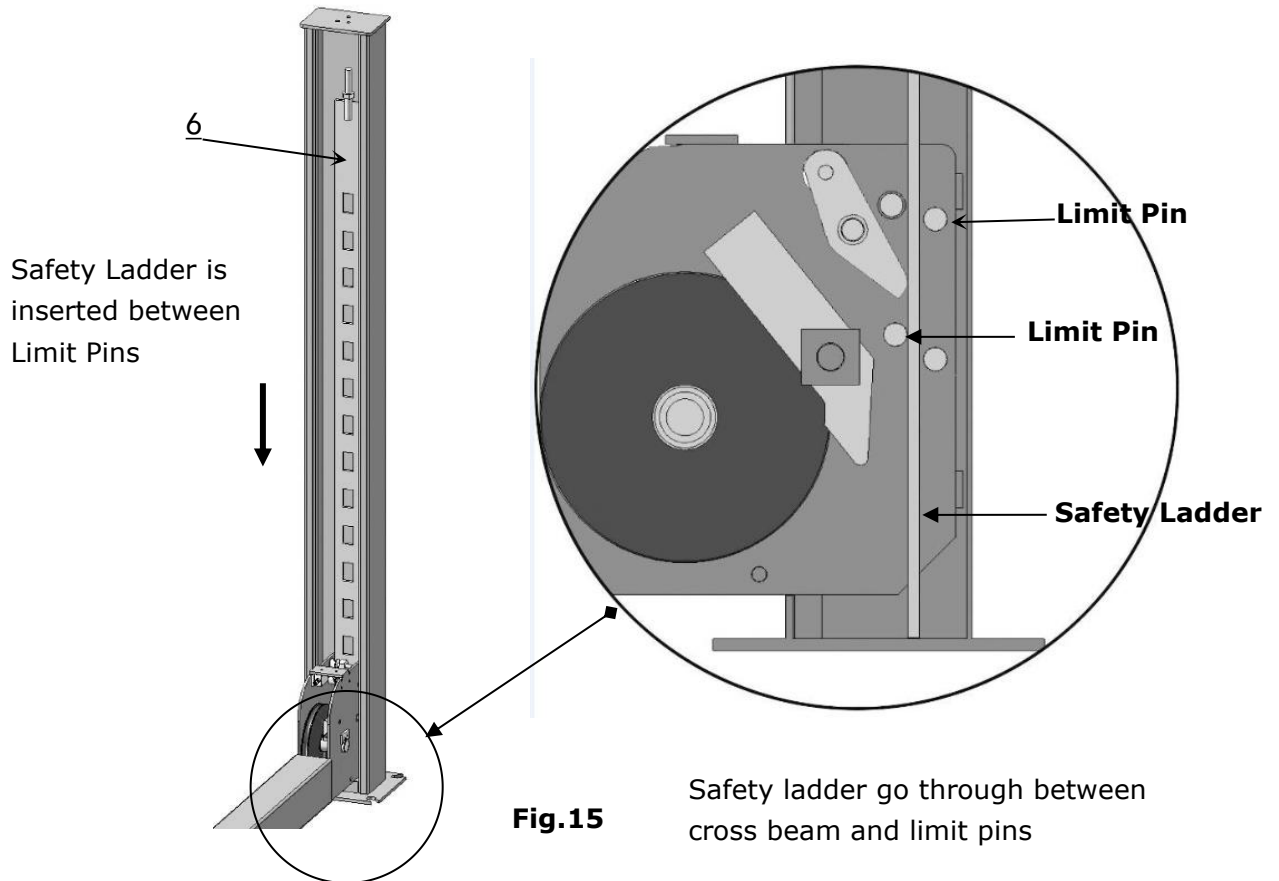
Note: Minimum embedment of anchors is 110mm.



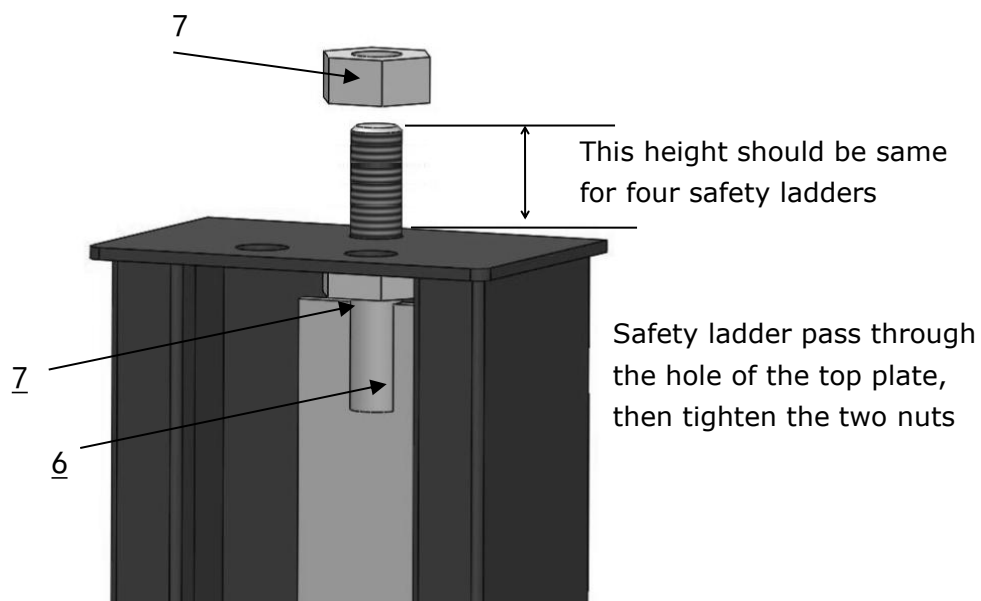
**Fig. 14**

## F. Install the safety ladders

1. Take off the pulley safety cover and unscrew the four upper nuts of the Safety Ladders, and then adjust the four lower nuts to be at the same position, then install the safety ladders (**See Fig. 15**).

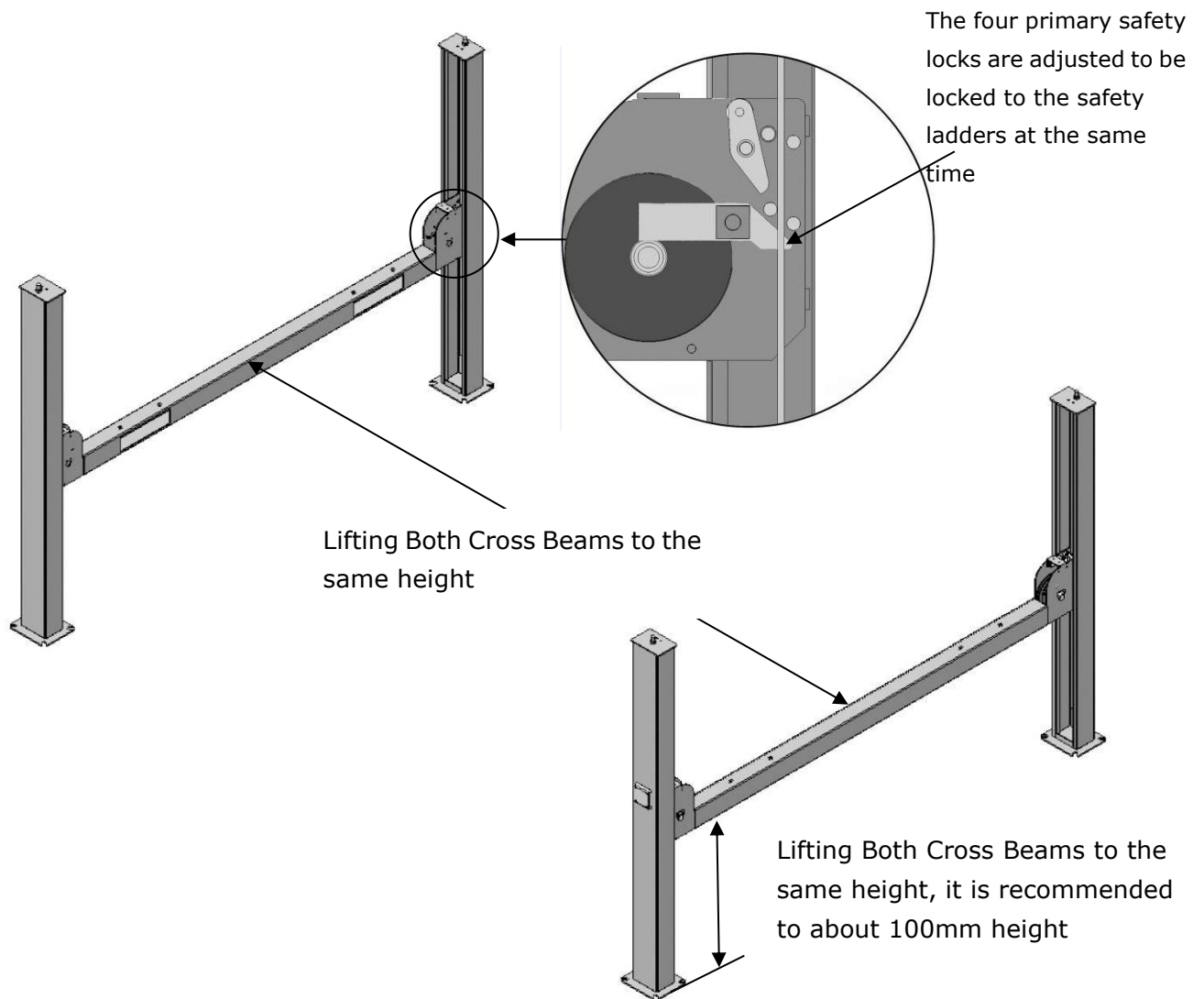


2. Install safety ladders (**See Fig. 16**)



**Fig. 16**

**G. Put the Cross Beams at the same height (See Fig. 17).**

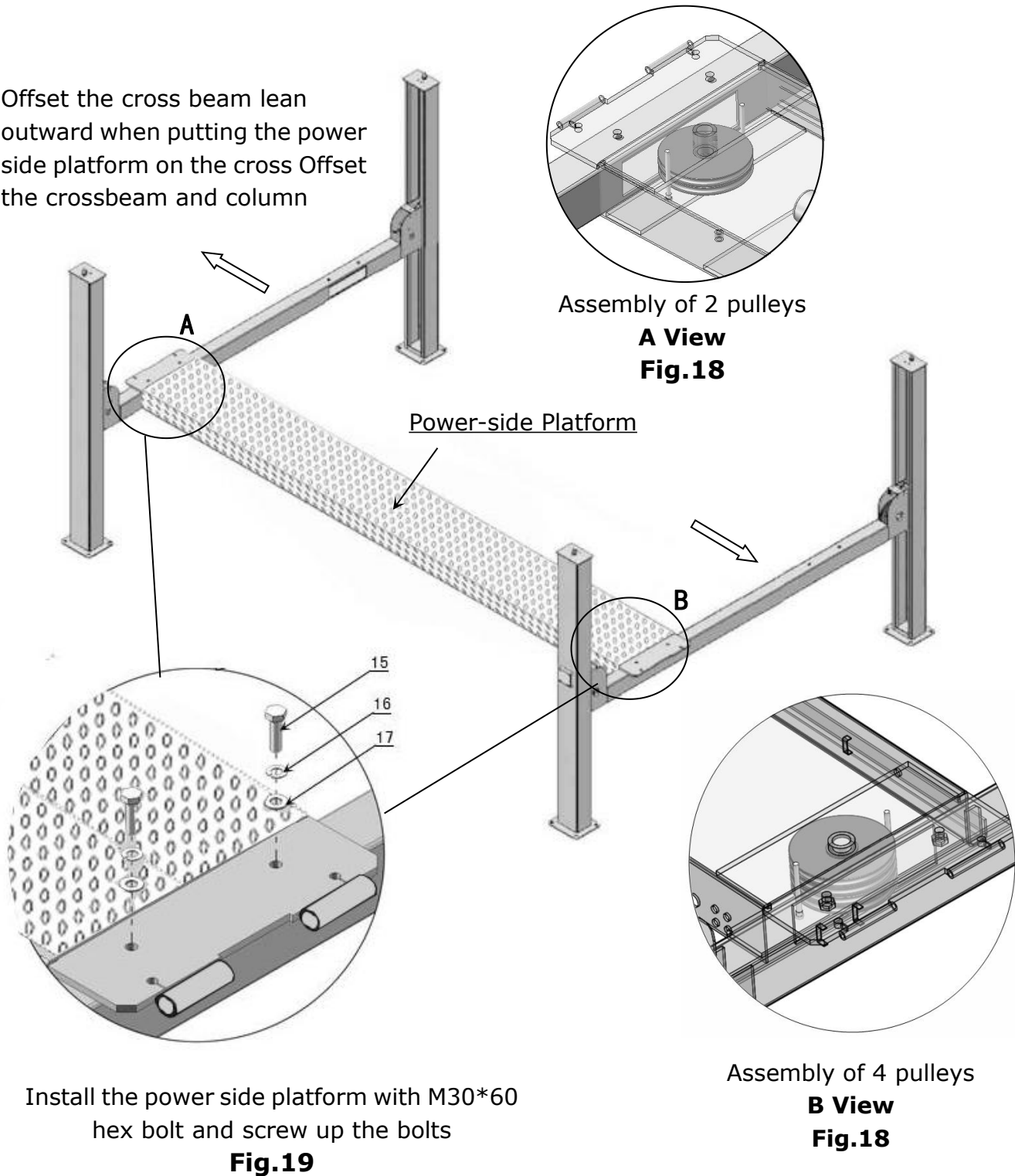


**Fig. 17**

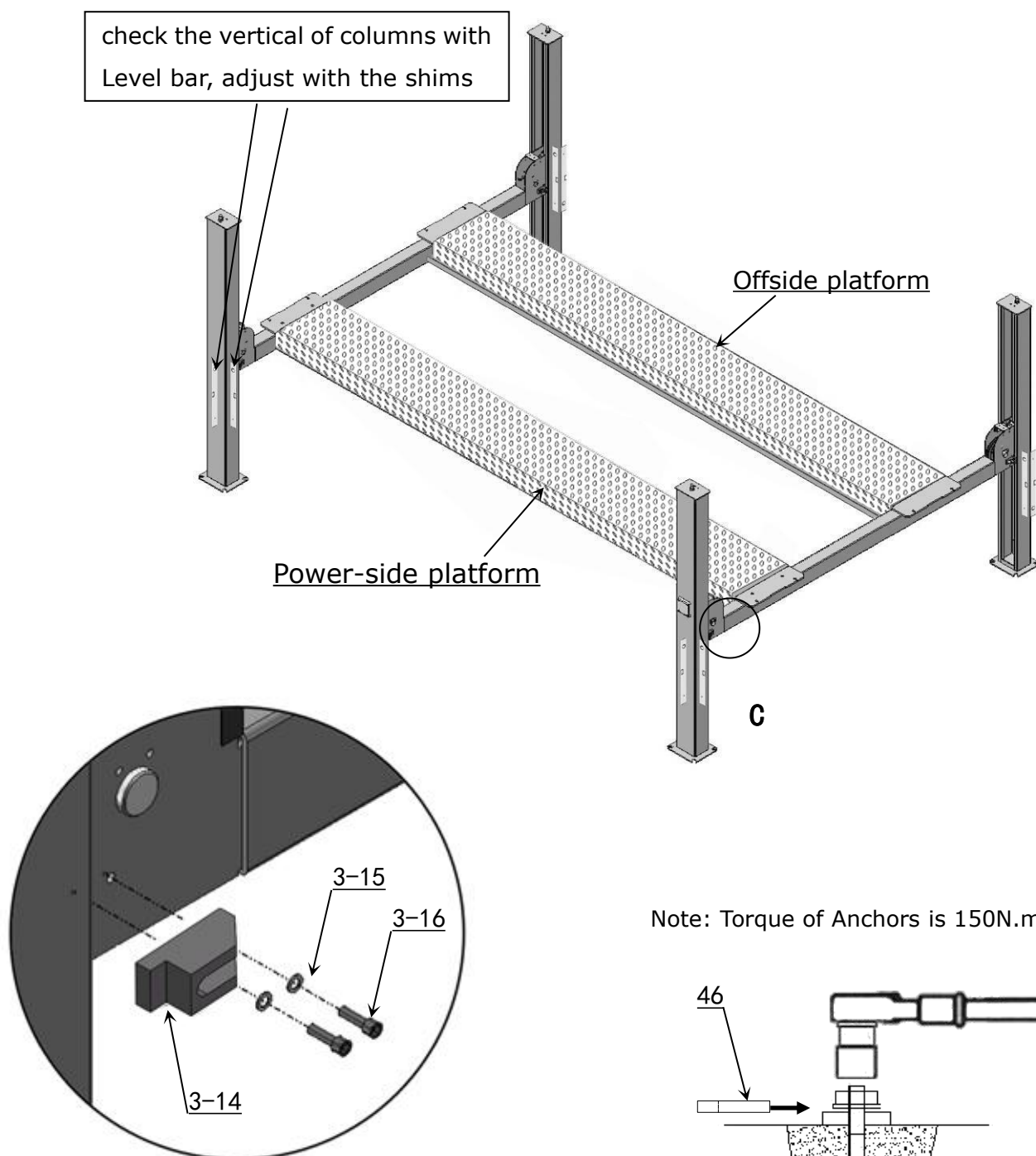
## H. Install power side platform.

1. Put the power-side platform upon the cross beams by fork lift or manual, offset the cross beam to the outside till the pulleys of both platforms can set up into the cross beam (See Fig.18), Install the power-side platform and screw up the bolts (See Fig.19).

Offset the cross beam lean outward when putting the power side platform on the cross Offset the crossbeam and column



**I. Assemble offside platform and slider block. (see Fig.20), check the vertical of columns with Level bar, adjust with the shims if not, and then tighten the anchor bolts (See Fig. 21)**



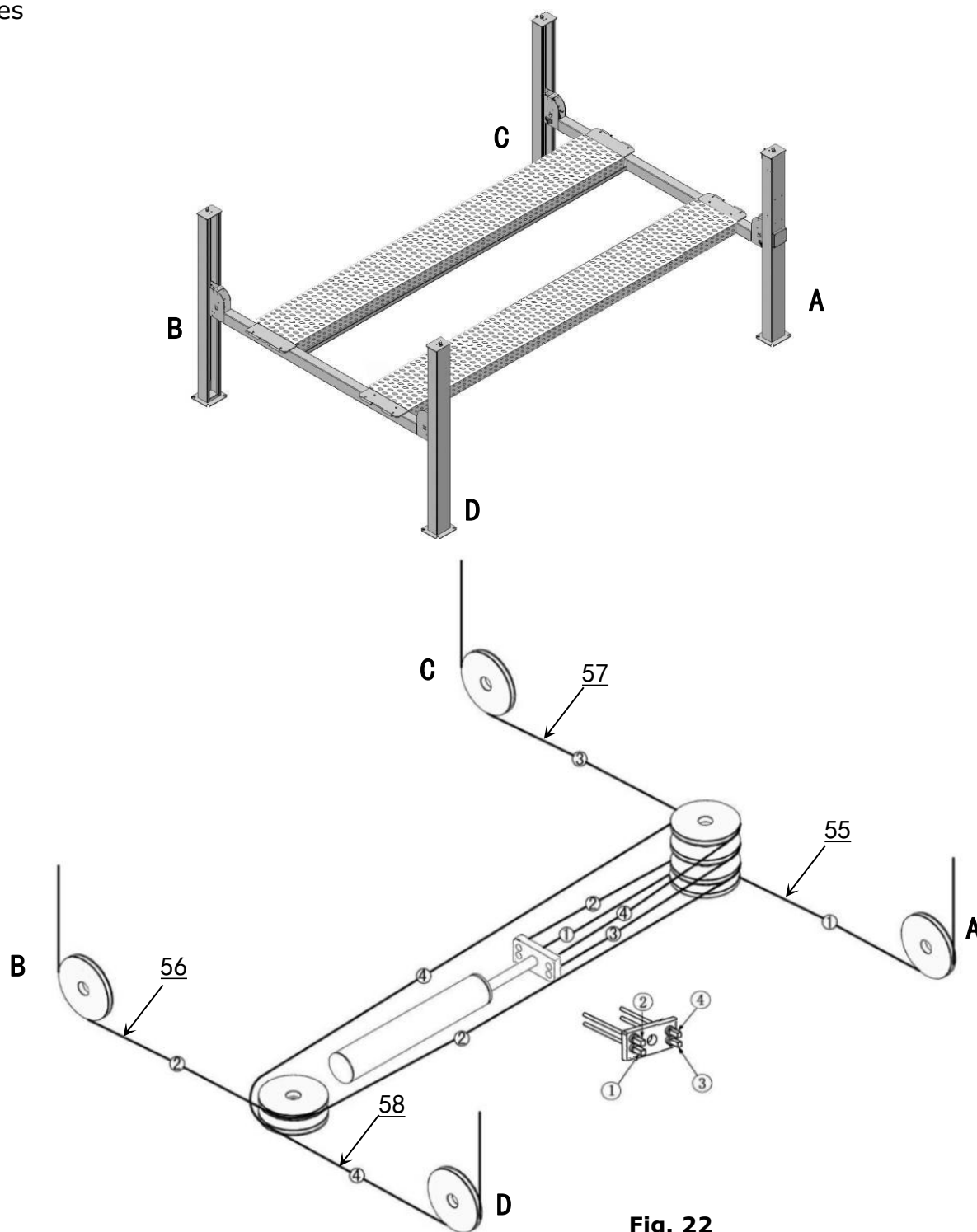
**Install the slider block  
C View  
Fig.20**

**Fig. 21**

Note: Torque of Anchors is 150N·m.

## J. Install cables (See Fig. 22)

1. Pass through the cables from the platform to the columns according to the number of the cables

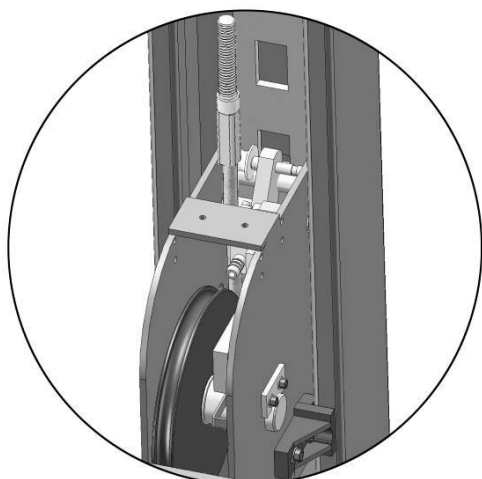


**Fig. 22**

No. \ Cable	①	②	③	④
440 Length (inc. connecting fitting)	4915mm	14830mm	7115mm	12645mm
440E Length (inc. connecting fitting)	6405mm	17775mm	8610mm	15580mm

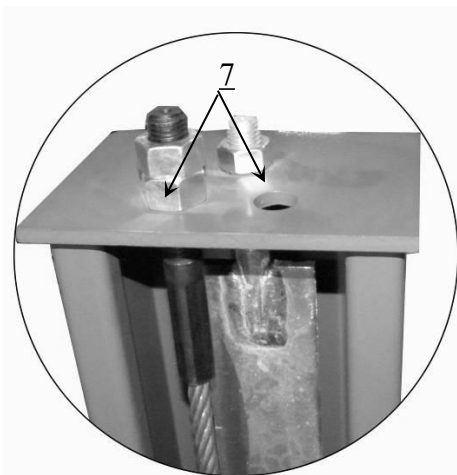


2. The cable pass through the cross beam to top plate of columns and be screwed with cable nuts (See Fig. 23, Fig.24), then install cable limit pin (See Fig.25)



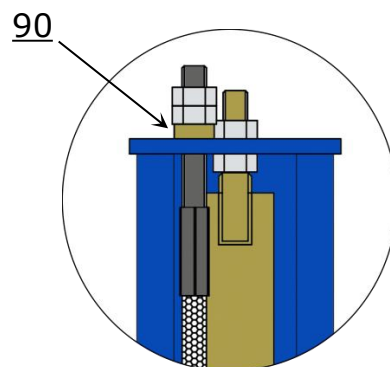
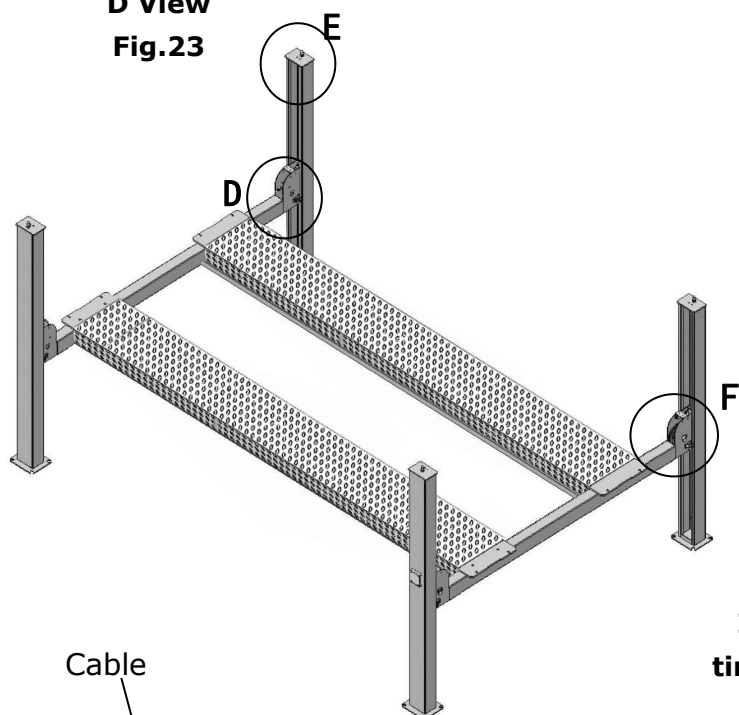
Cable pass through the big pulley and tension pulley

**D View  
Fig.23**

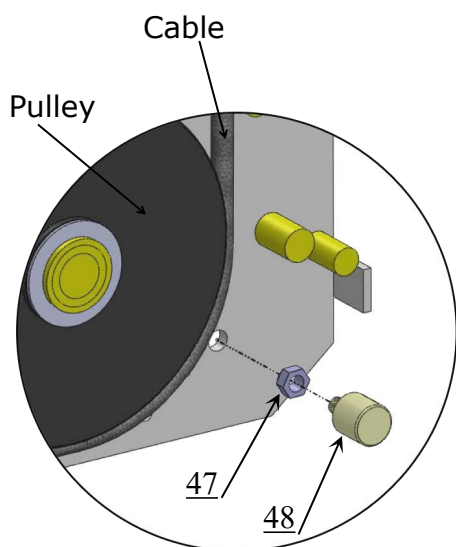


Cable pass through top plate and be screwed with cable nuts.

**E View  
Fig.24**

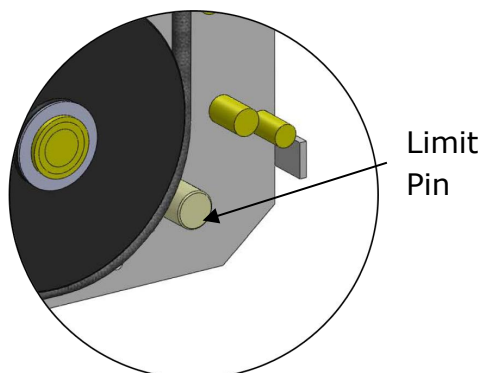


**If the lift is used for a period of time and the cable is extended, the cushion plate can be adjusted under the nut.**



Install cable limit pin

**F View  
Fig. 25**



After installation

3. Illustration for platform cables (See Fig. 26, Fig.27, Fig.28)

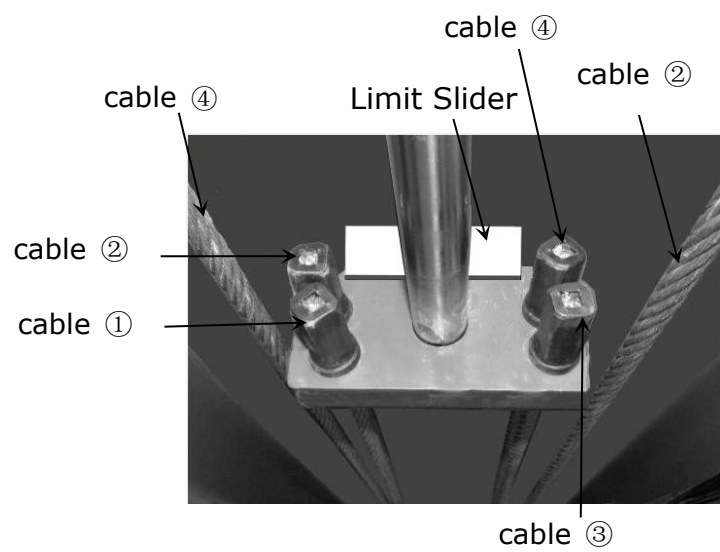


Fig.26

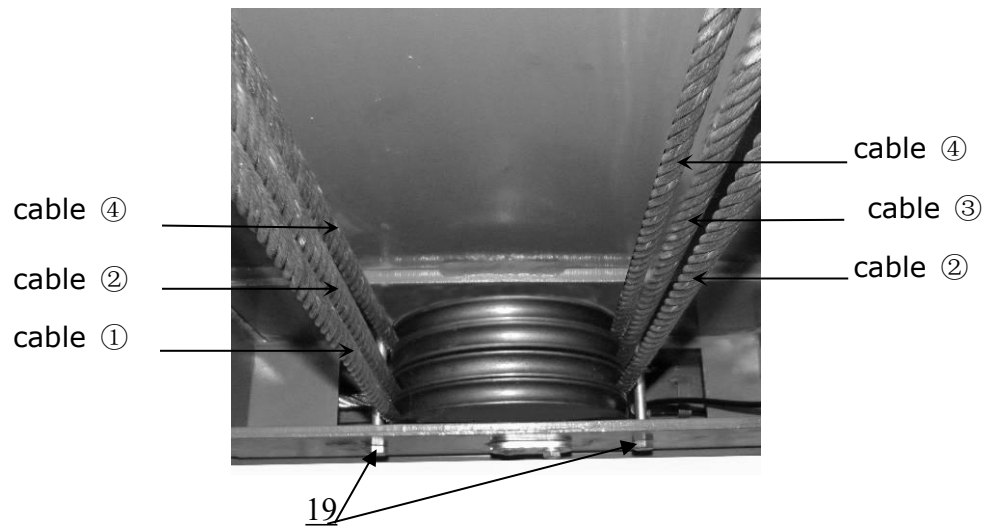


Fig.27

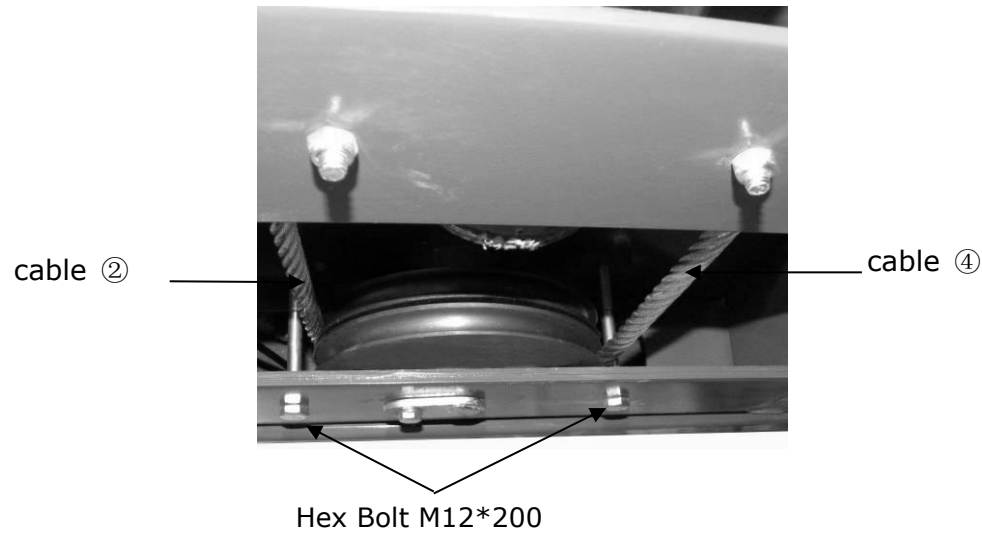
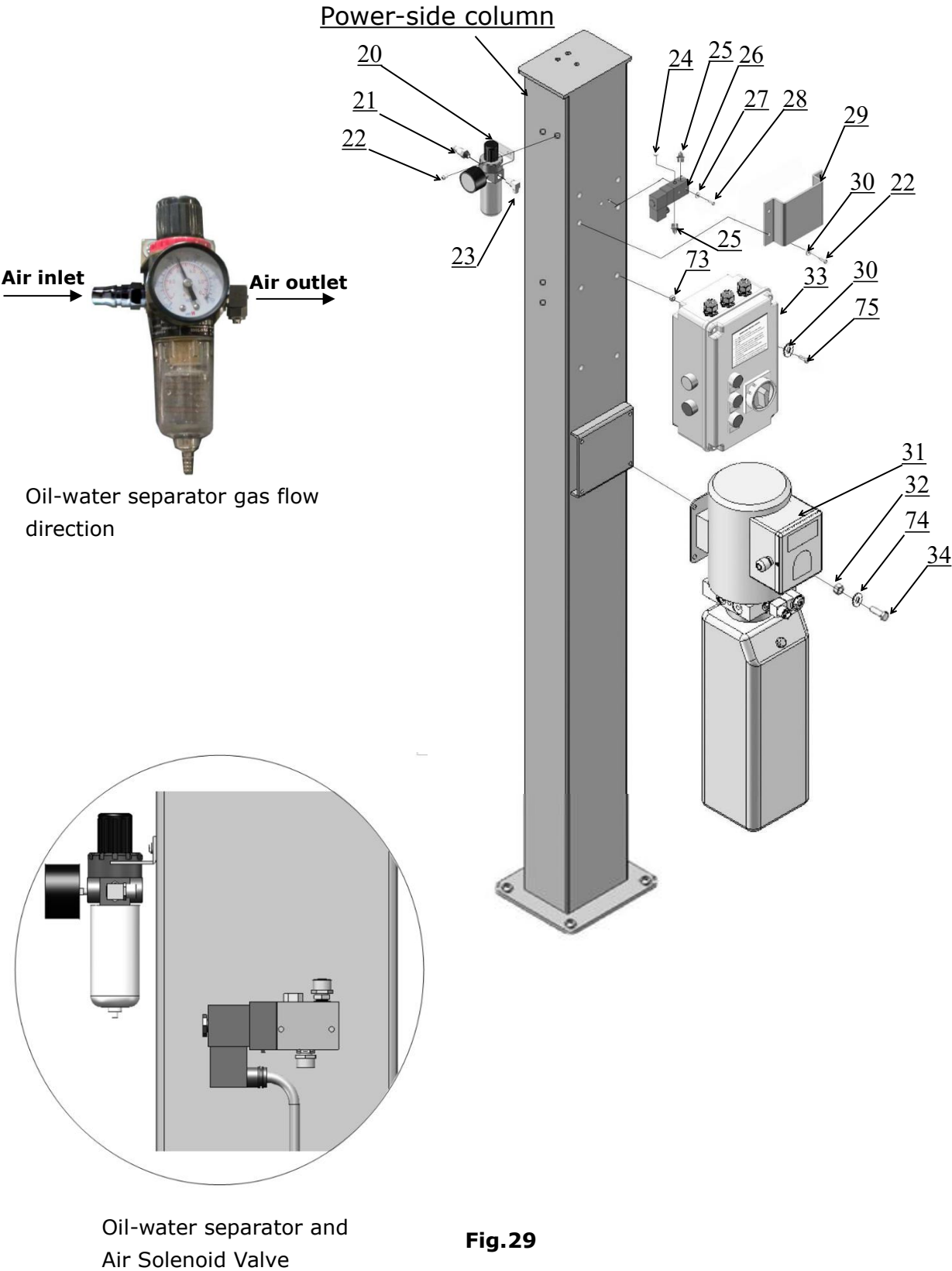


Fig.28

**K. Install oil-water separator, manual control air valve and power unit**  
**(See Fig.29 )**

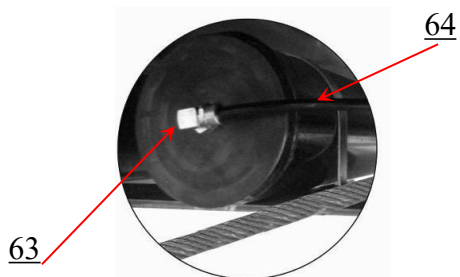
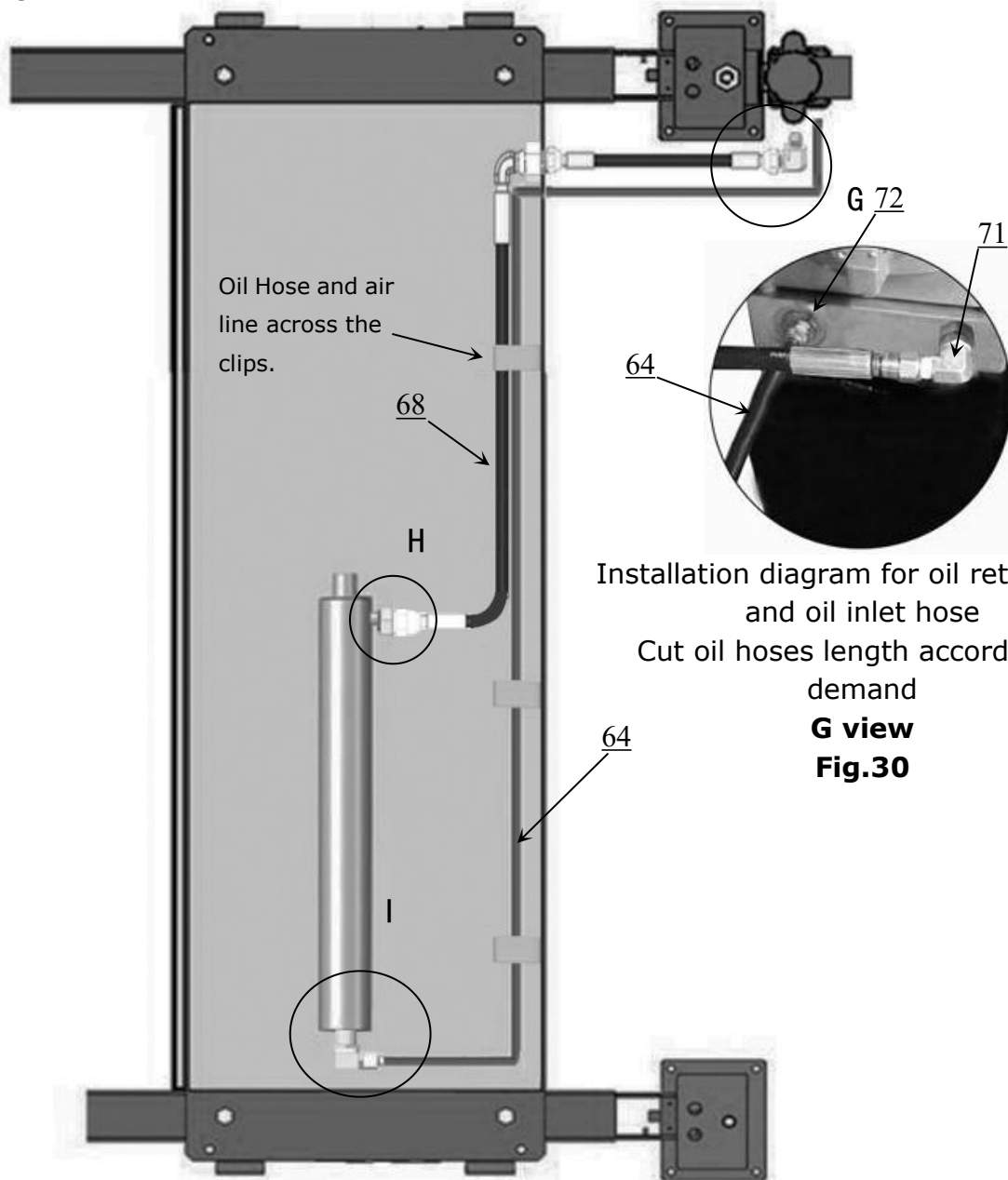


**Fig.29**

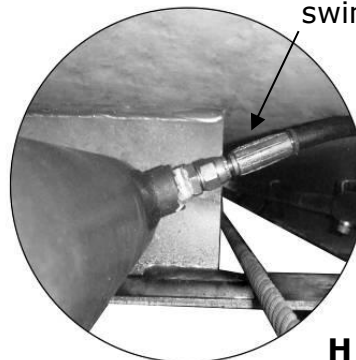
<b>Item</b>	<b>Part#</b>	<b>Description</b>	<b>QTY</b>
20	10420145	Oil-water separator AFR-2000	1
21	10420146	Straight fitting for air line	1
22	10209009	Cup head bolt	6
23	10420076	90° fitting for air line	1
24	10201034	Bleeding Plug	1
25	10420147	Straight Fitting for Air Line	1
26	10420077	Air Solenoid Valve	1
27	10420148	Washer	2
28	10420149	Cup head bolt	2
29	11420150	Cover of Air Solenoid Valve	1
30	10420045	Washer	28
31	81523049	Electric power unit 220V/50HZ	1
	81523050	Electric power unit 380V/50HZ	
32	10209005	Self locking nut	14
33	10420281	Control Box (Single Phase)	1/1
	10420016	Control Box (Three Phase)	
34	10209003	Hex Bolt M8*25	4
73	10420018	Self locking Nut M6	6
74	10209004	Rubber ring φ8*20*3	5
75	10420153	Cup head bolt M6*20	9

## L. Install hydraulic system (See Fig.30, Fig.31, Fig.32)

**Note:** Oil hoses and oil return pipe connected to oil cylinder must be passed above the cable and cylinder inlet port must swing upward to avoid the oil hose and oil return pipe scratched by cable



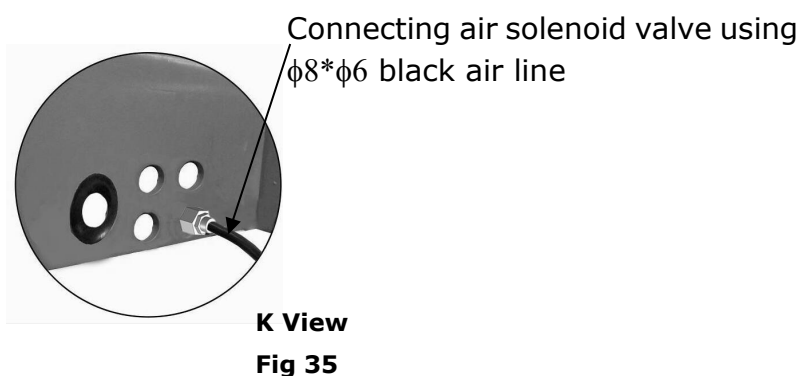
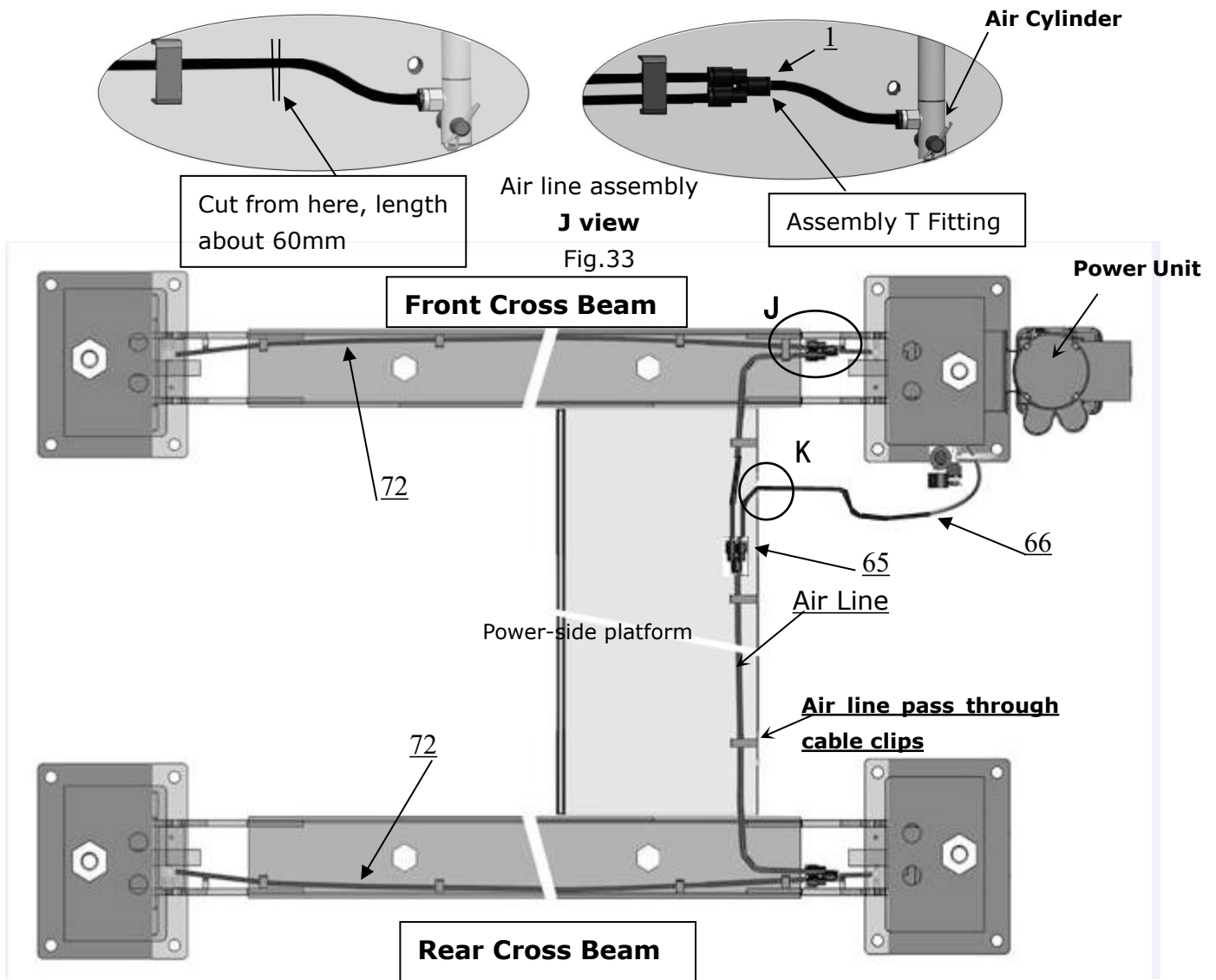
Assembly of oil return pipe  
**I View**  
**Fig.32**



**H View**  
**Fig.31**

## M. Install air-line system

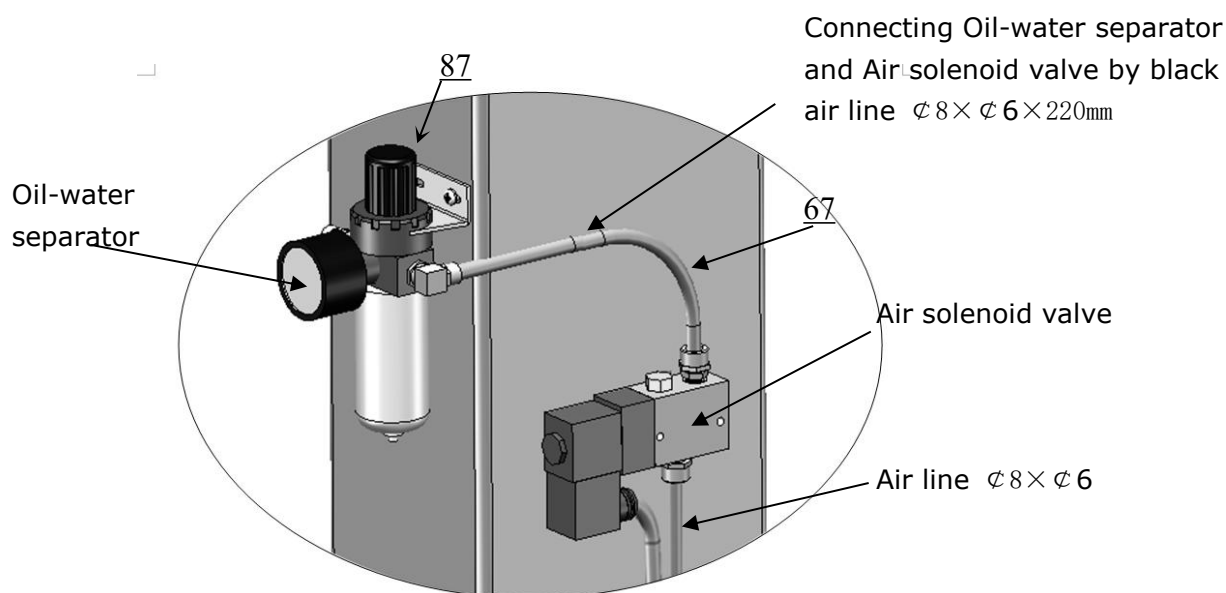
1. Cut  $\phi 8 \times \phi 6$  black air line on the front and rear cross beam (cut the air line at the position about 60mm from air cylinder), and then connect to T-fitting. **(See Fig.33)**
2. Connecting front and rear cross beam cylinders by using  $\phi 8 \times \phi 6$  black air line (the actual length of air line can be cut by user) **(See Fig.34)**
3. Connecting air solenoid valve using  $\phi 8 \times \phi 6$  black air line (the actual length of air line can be cut by user) **(See Fig. 35)**



**Fig.34**

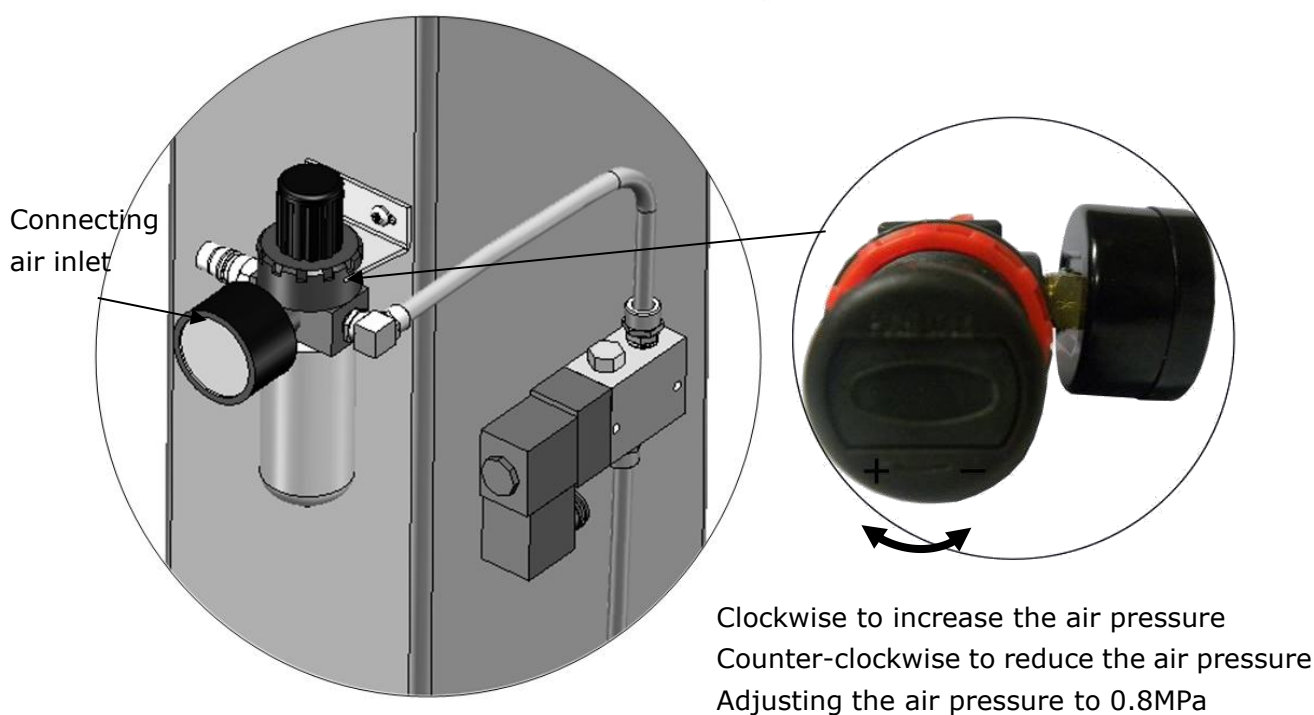
Item	Part#	Description	440	440E
65	85090120	T fitting for air line	3	3
66	10481013	Air line $\phi 6 \times \phi 8 \times 10000\text{mm}$ (Black)	1	0
	10400027	Air line $\phi 6 \times \phi 8 \times 13100\text{mm}$ (Black)	0	1
66A	10400021	Air line $\phi 6 \times \phi 8 \times 7400\text{mm}$ (Black)	1	1
67	10420167B	Air line $\phi 8 \times \phi 6 \times 220\text{mm}$ (Black)	1	1

4. Connecting Oil-water separator and Air solenoid valve by air line (**See Fig. 36**).



**Fig. 36**

5. Connecting air inlet (Air supply pressure 8MPa), adjusting the air pressure of Oil-water separator to 0.8MPa (**See Fig. 37**).

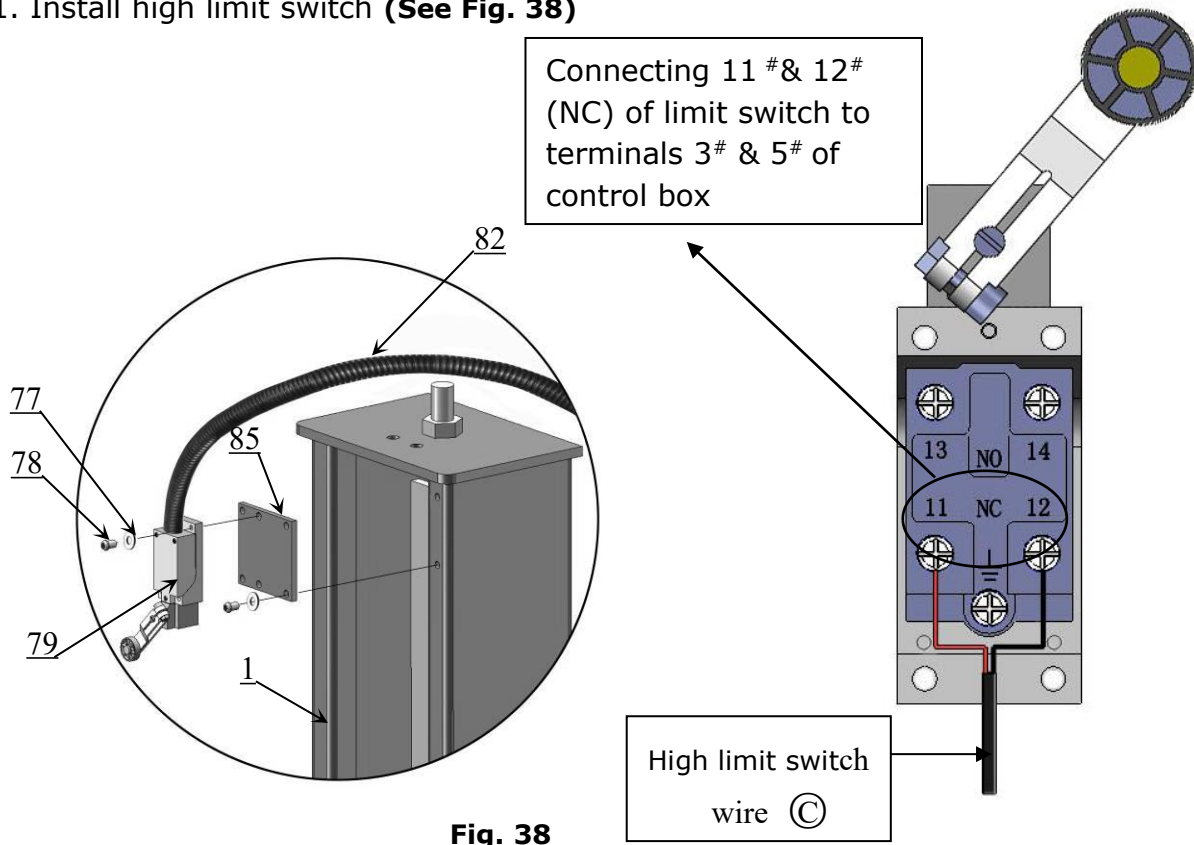


**Fig.37**

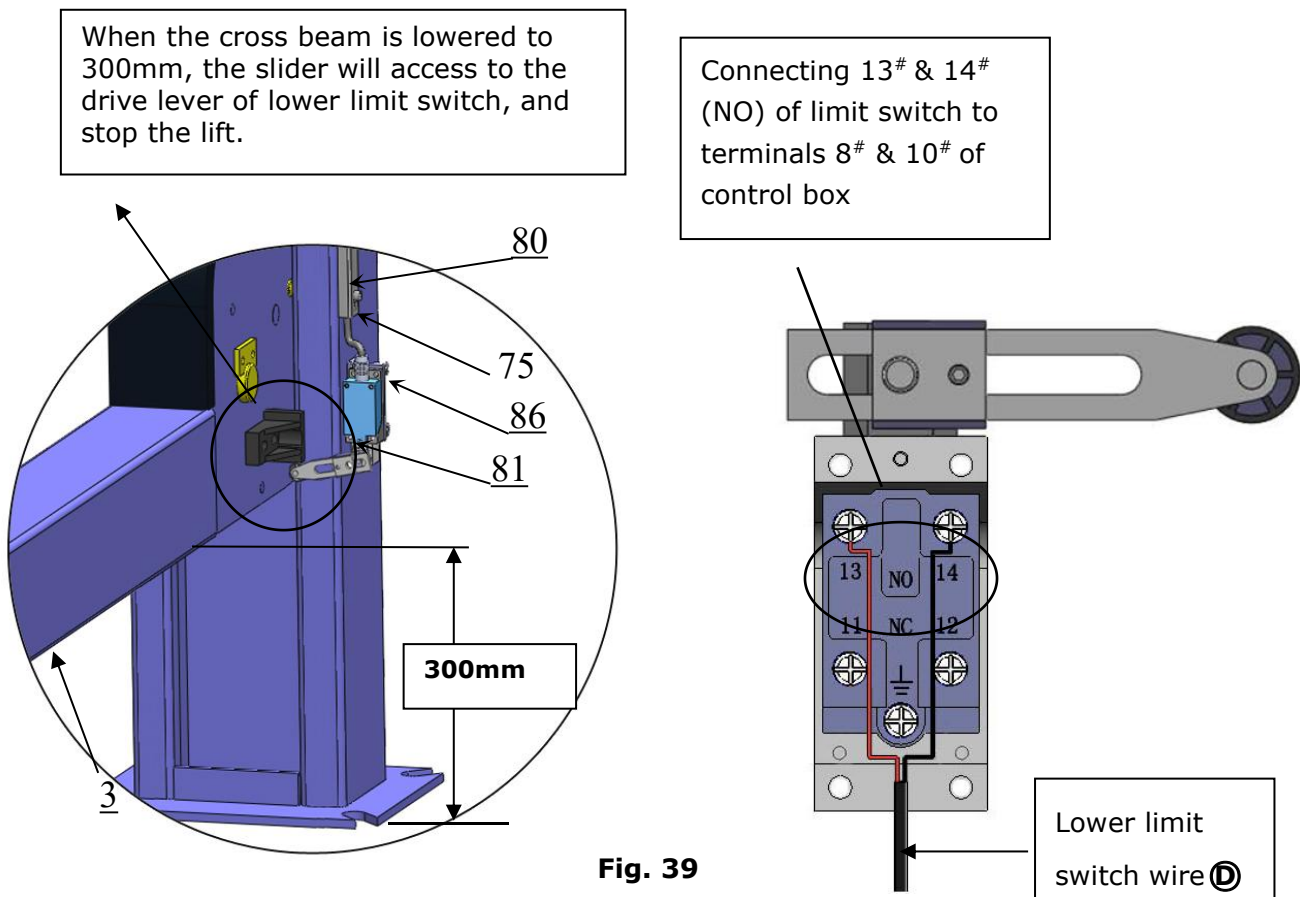


## N. Install electrical system

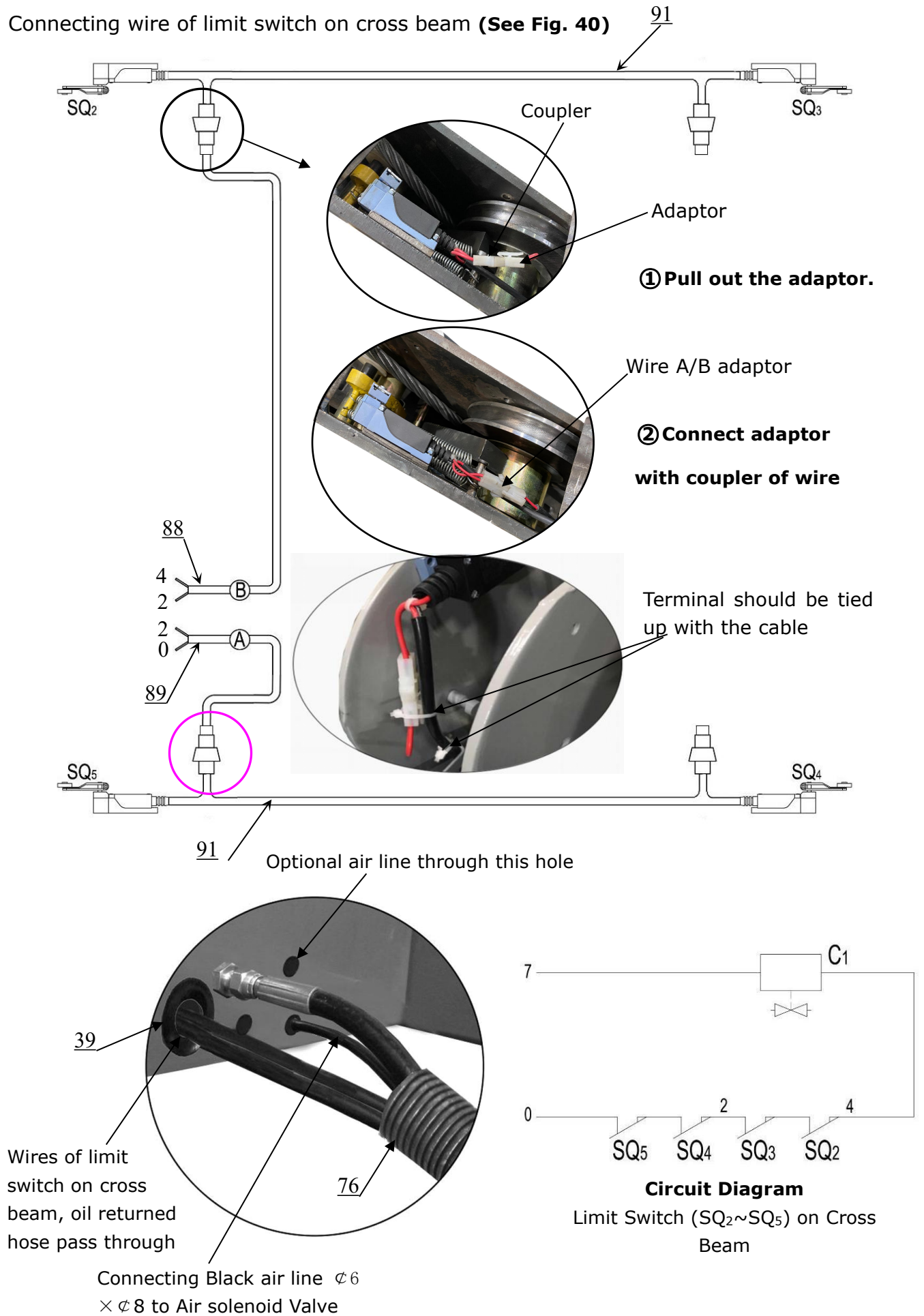
### 1. Install high limit switch (See Fig. 38)



### 2. Install lower alarm limit switch (See Fig. 39)



### 3. Connecting wire of limit switch on cross beam (See Fig. 40)

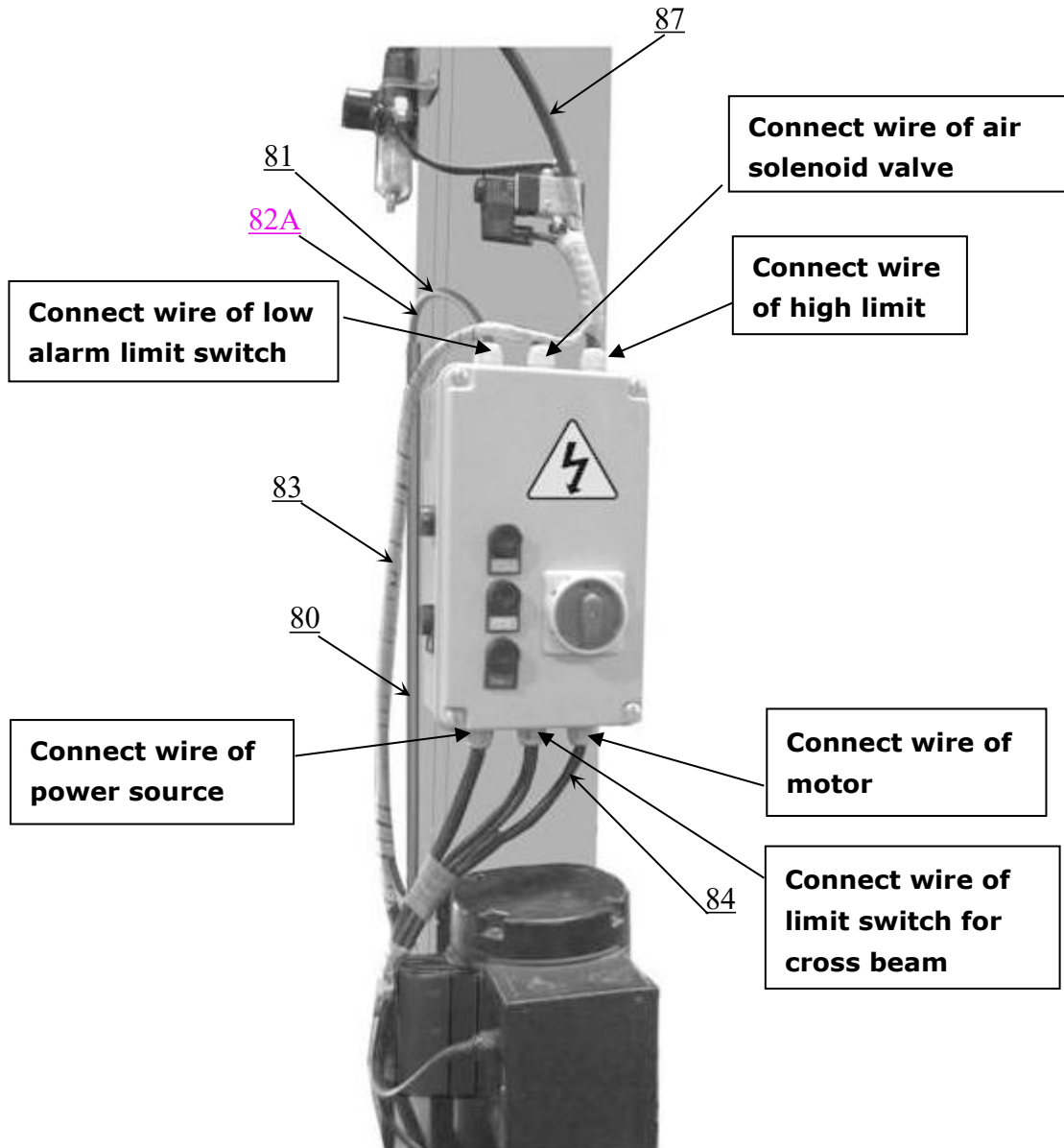


**Fig.40**

4. Connecting wire with control box (See Fig. 41).

**Note: 1) Specification for limit switch and Air solenoid valve of wire are  $2 \times 1\text{mm}^2$ , Power source and motor cables uses cable  $4 \times 2.5\text{mm}^2$ .**

**2) Using white bobbin to wind around wire and air line.**



**Fig. 41**

## 5. 380V Wire connection and circuit diagram

### 5.1 Wire connection diagram in the control box (See Fig.42).

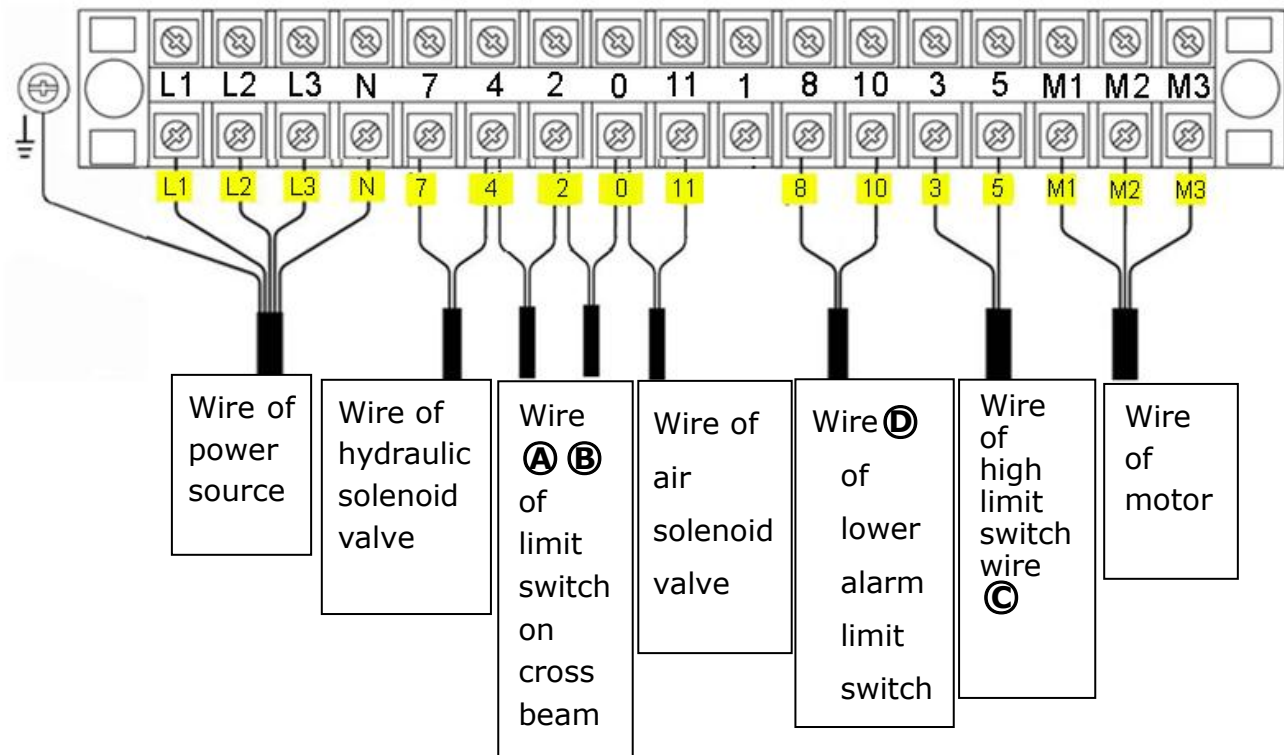


Fig. 42

### 5.2 380V Wire connection diagram of hydraulic motor (See Fig.43).

Motor wire (M1、M2、M3) are connected to the three wires in the motor.

Turn on the power, push button **"UP"**, if motor run but lift is not worked, exchange the wires M1, M2, M3 connection.

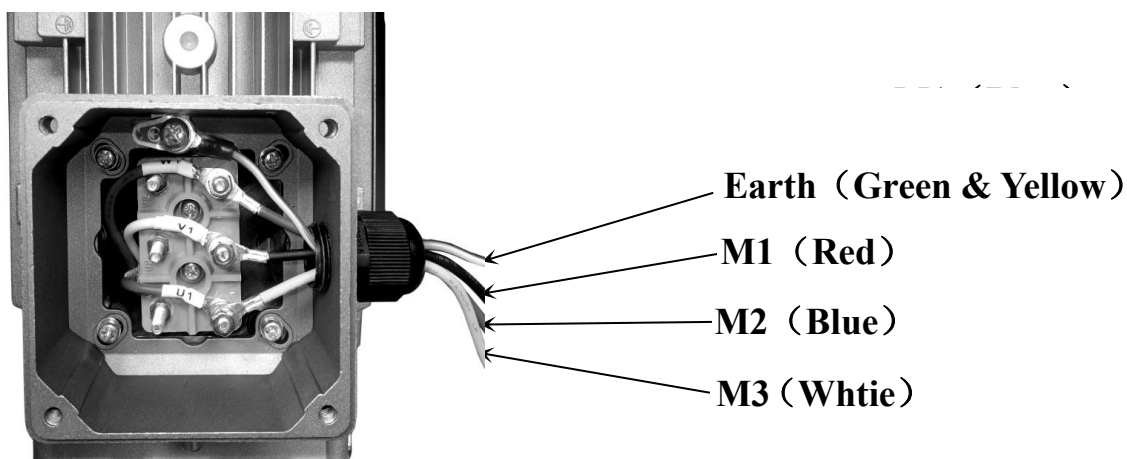
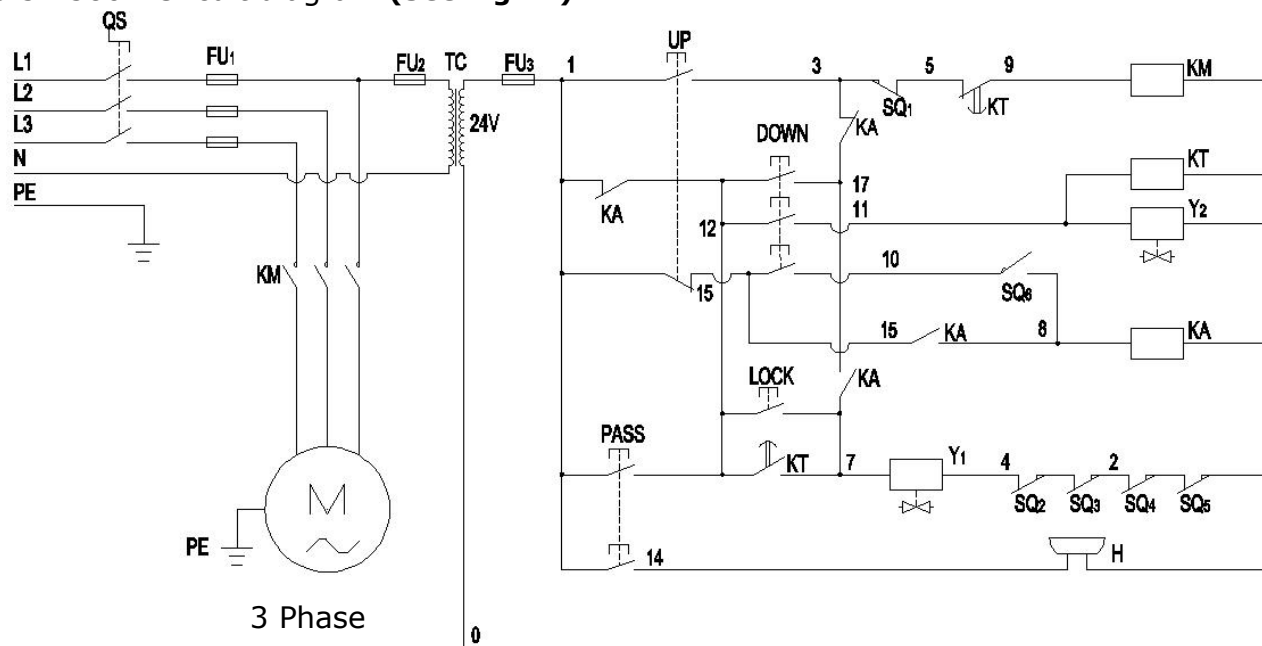


Fig. 43

### 5.3 380V Circuit diagram (See Fig.44).



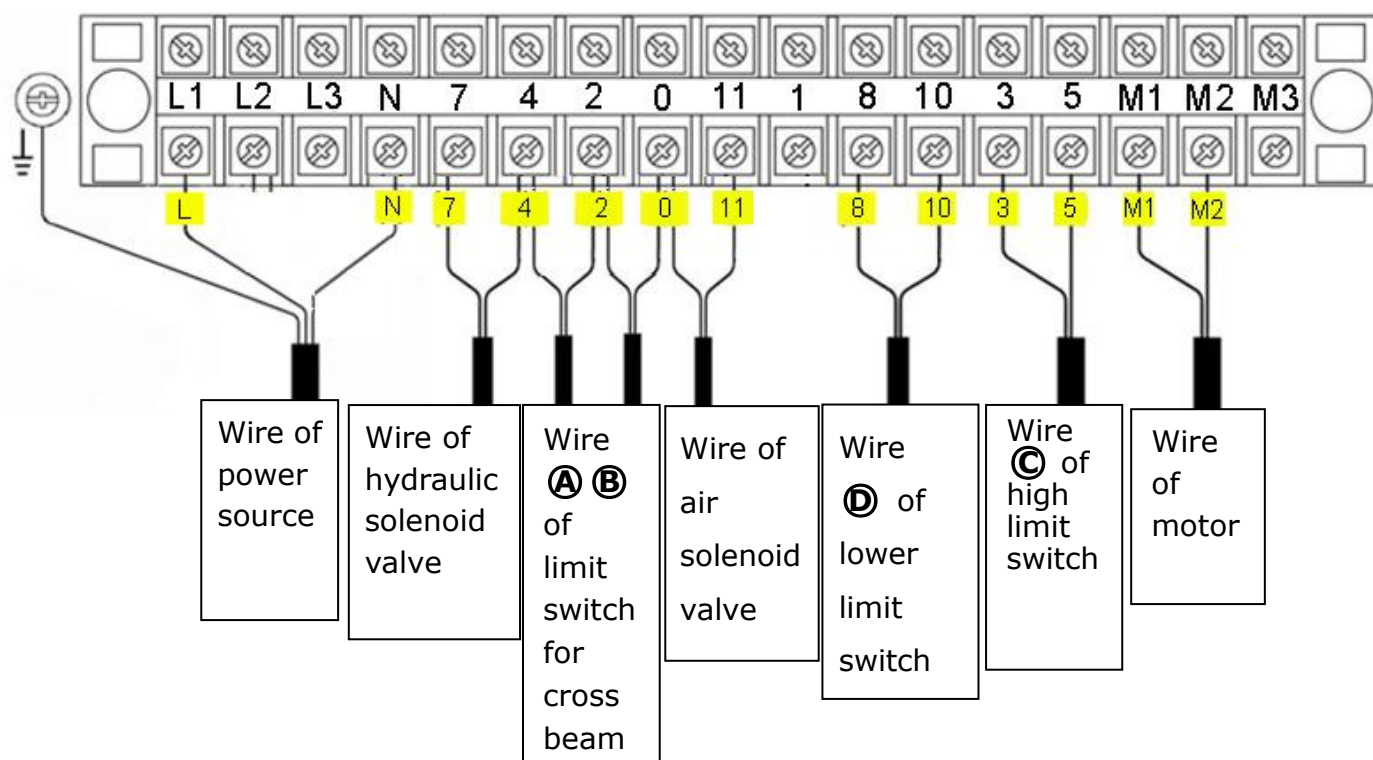
**Fig. 44**

#### Circuit component

Item	Name	Code	Specification	Item	Name	Code	Specification
1	Power switch	QS	380V AC	10	Push button	UP	Duplex
2	Breaker	FU <sub>1</sub>	3P	11	Push button	Down	Triplex
3	Breaker	FU <sub>2</sub>	1P			Pass	Duplex
4	Breaker	FU <sub>3</sub>	1P	12	Push button	Lock	Single
5	AC contactor	KM	24V AC	13	Motor	M	3 Phase
6	Time relay	KT	24V AC	14	Transformer	TC	24V AC
7	Limit switch	SQ <sub>(1~6)</sub>	10A	15	Intermediate relay	KA	24V AC
8	Air solenoid valve	Y2	24V AC	16	Alarm	H	24V AC
9	Hydraulic solenoid valve	Y1	24V AC				

## 6. 220V Wire connection and circuit diagram

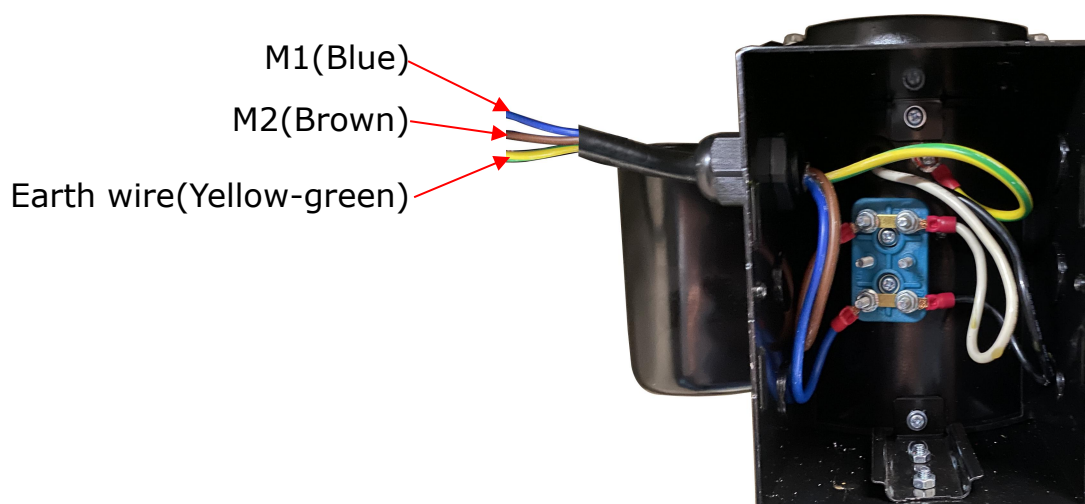
### 6.1 Wire Connection diagram in the control box (See Fig. 45).



**Fig. 45**

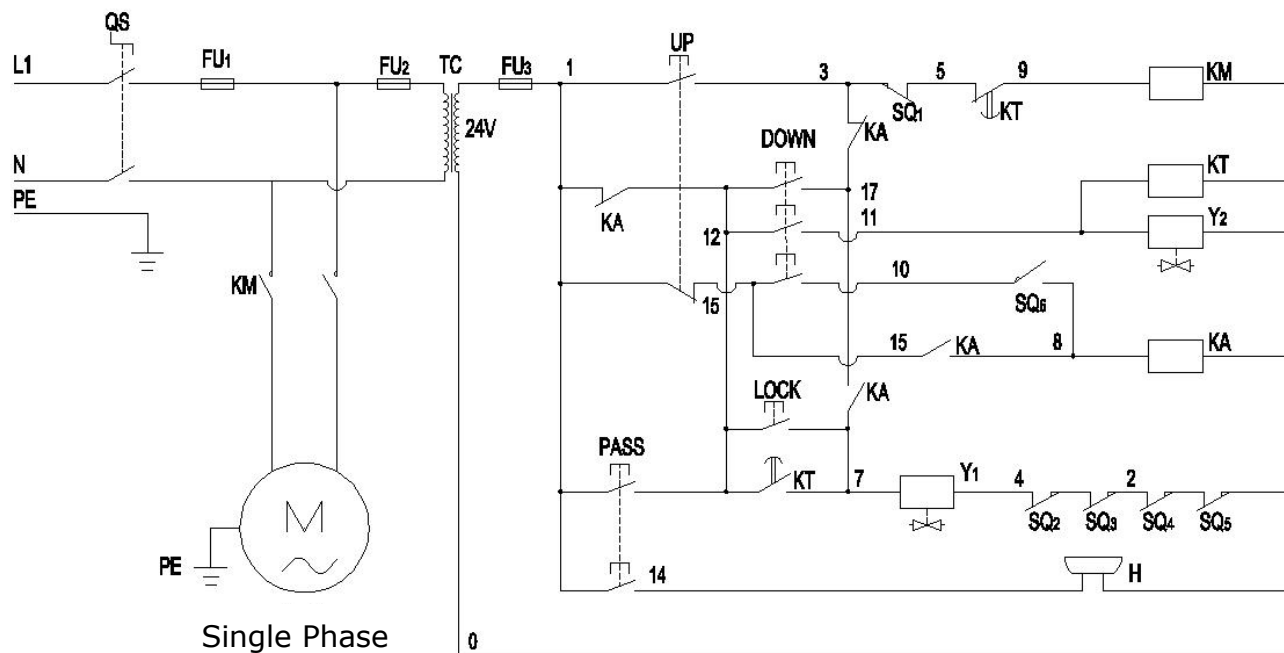
### 6.2 220V Wire connection of hydraulic power unit (See Fig. 46).

Motor wire (M1、M2) separately connected to two wires in the motor



**Fig. 46**

### 6.3、220V Wire connection and circuit diagram. Fig.47



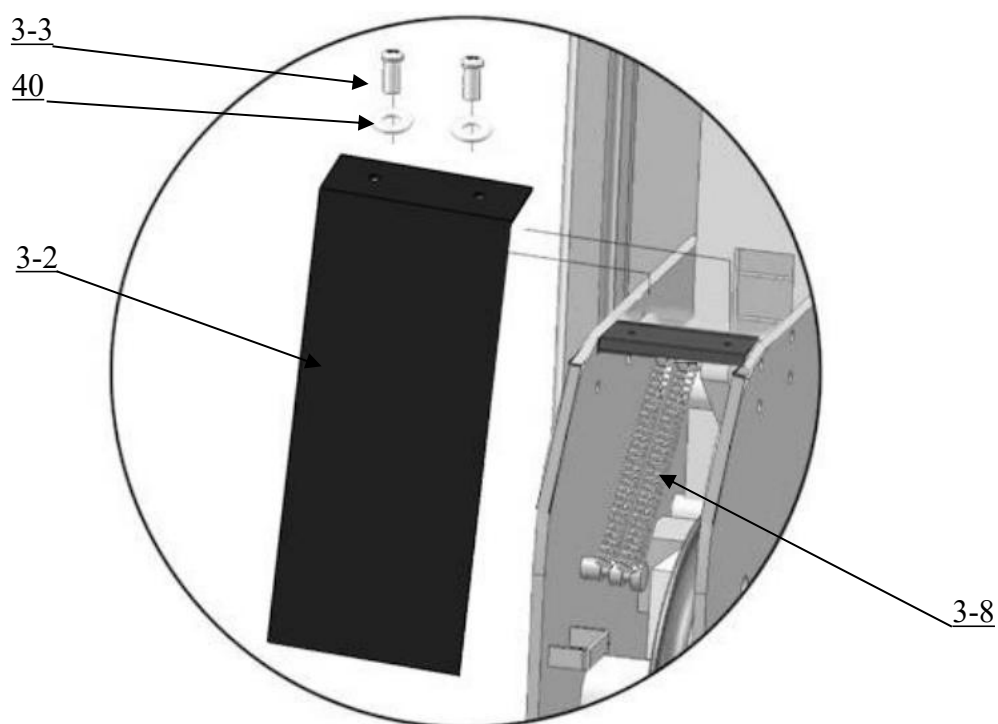
**Fig. 47**

#### Circuit component

Item	Name	Code	Specification	Item	Name	Code	Specification
1	Power switch	QS	220V AC	10	Push button	UP	Duplex
2	Breaker	FU <sub>1</sub>	2P	11	Push button	Down	Triplex
3	Breaker	FU <sub>2</sub>	1P		Push button	PASS	Duplex
4	Breaker	FU <sub>3</sub>	1P	12	Push button	LOCK	Single
5	AC contactor	KM	24V AC	13	Motor	M	Single phase
6	Time relay	KT	24V AC	14	Transformer	TC	24V AC
7	Limit switch	SQ <sub>(1~6)</sub>	10A	15	Intermediate relay	KA	24V AC
8	Air solenoid valve	Y2	24V AC	16	Alarm	H	24V AC
9	Hydraulic solenoid valve	Y1	24V AC				



### O. Install spring and safety cover of cross beam (See Fig. 48)

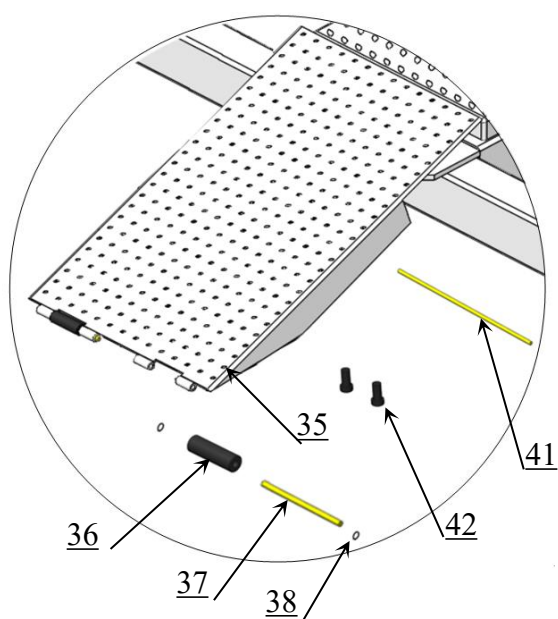


**Fig. 48**

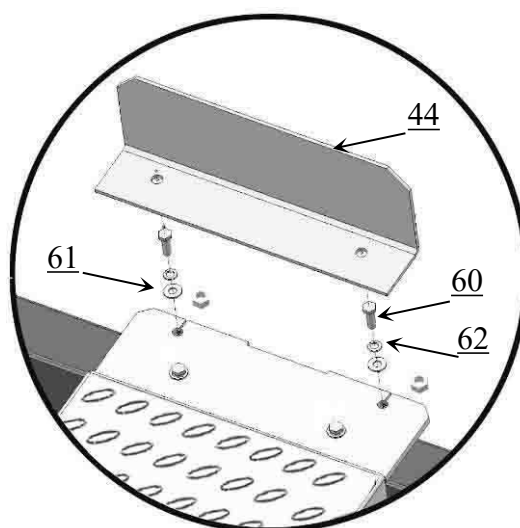
**P. Install Drive-in ramp, Tire stop plate. (See Fig. 49, Fig.50)**

### Install Drive-in ramp

### Install Tire stop plate

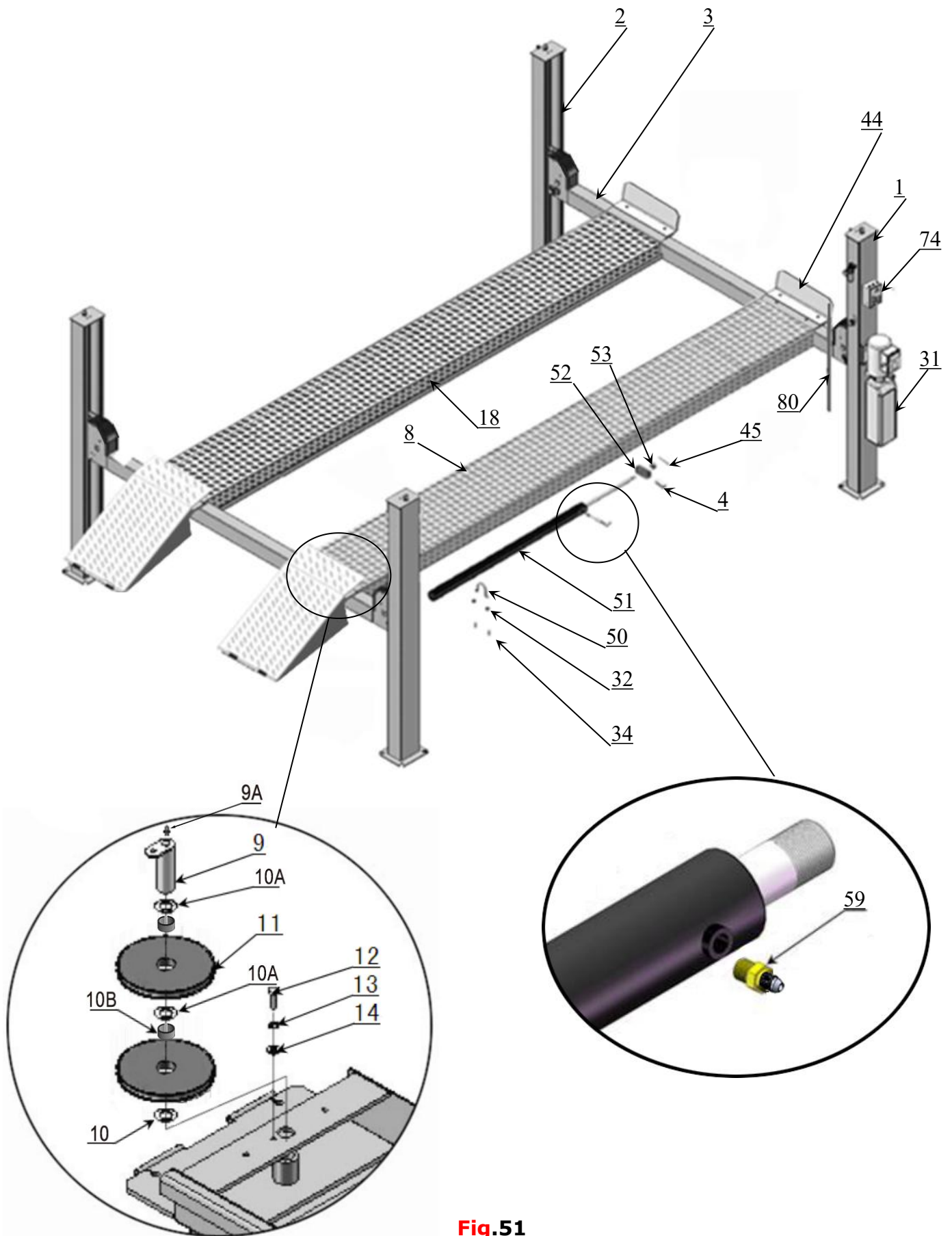


**Fig.49**



**Fig. 50**

#### IV. EXPLODED VIEW



**Fig.51**

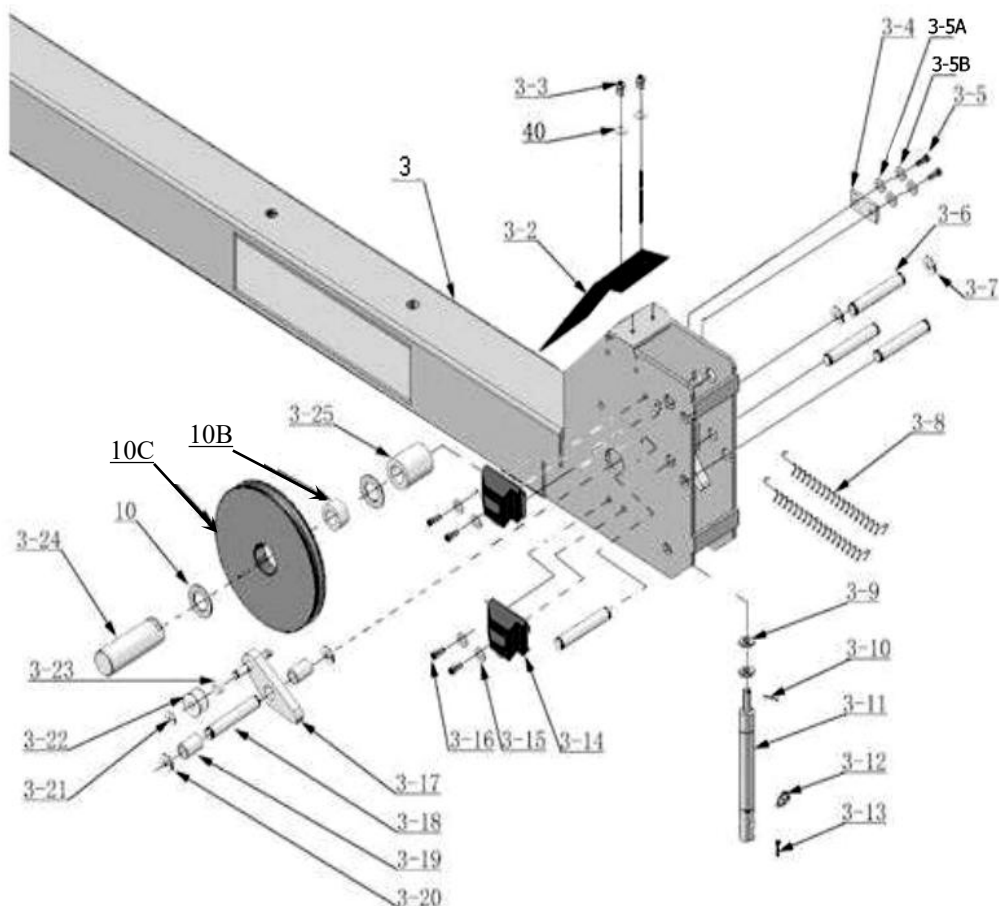
## Parts list

Item	Part#	Description	430	430E
1	1104481002	Power-side Column	1	1
2	11481641	Off-side Column	3	3
3	10481086	Cross Beam	2	2
4	1004354001	Slider block (HK025) 59*65*190	1	1
5	10201140	Anchor Bolt 3/4*6-1/2	16	16
6	11481036	Safety Ladder L=2090	4	4
7	10481018	Hex Nut M33*3.5	16	16
8	11400001	Power-side Platform	1	0
	11481067		0	1
9	1104483001A	Pulley shaft	1	1
	1104483002A		1	1
9A	10620064	Greasing Fitting M6	6	6
10	10481069	Pulley washer $\phi 115 * \phi 76 * 2.5$	10	10
10A	10481021-01	Pulley shim $\phi 120 * \phi 76 * 8$	4	4
10B	10481025	Bronze bush $\phi 85 * \phi 75 * 8$	10	10
10C	11481617	Pulley $\phi 204 * 32$	4	4
11	11481639	Pulley $\phi 310 * 32$	6	6
12	10206017	Hex bolt M10*20	2	2
13	10209039	Lock Washer $\phi 10$	2	2
14	10209022	$\phi 10 * 1.5$ Washer	2	2
15	10481078	Hex bolt M24*60	8	8
16	10481002	Lock Washer $\phi 24$	8	8
17	10481003	Washer $\phi 24$	8	8
18	11400002	Offside platform	1	0
	11481068		0	1
19	10481017	Socket bolt M12*200	4	4
20	10420145	Oil-water separator	1	1
21	10420146	Straight fitting for air line	1	1
22	10209009	Cup head bolt M6*8	14	14
23	10420076	90° fitting for air line	1	1
24	10201034	Muffler	1	1
25	10420147	Straight fitting	1	1
26	10420077	Air solenoid valve	1	1
27	10420148	Washer $\phi 4$	2	2
28	10420149	Cup head bolt	2	2
29	11420150	Cover of solenoid valve	1	1
30	10420045	Washer $\phi 6$	28	28
31	81523049	Electric power unit 220V/50Hz	1or1	1or1
	81523050	Electric power unit 380V/50Hz		
32	10209005	Self locking nut M8	14	14
33	10420281	Control box (single phase)	1or1	1or1
	10420016	Control box (three phase)		
34	10209003	Hex Bolt M8*25	6	6
35	11400004	Drive-in ramp	2	2
36	11610667	Drive-in ramp roller $\phi 26 * 76$	4	4
37	11620043	Drive-in ramp pulley pin $\phi 10 * 172$	4	4

Item	Part#	Description	430	430E
38	10209010	φ10 Snap ring	12	12
39	10420156	Protecting ring φ24	1	1
40	10420045	φ6 Washer	12	12
41	11481016	Pin for Drive-in ramp Φ30*550	2	2
42	10420005	Socket fixing bolt M5*8	4	4
43	10481500	Parts box	1	1
44	11481638	Tire stop plate	2	2
45	10481020	Split pin φ5*60	1	1
46	10620065	Shim (2mm)	20	20
	10201090	Shim (1mm)	20	20
47	10209056	Self locking nut M10	4	4
48	11481046	Cable limit pin φ25*58	4	4
49	10420016B	Wire protective pipe φ40*2*1500mm	1	1
50	11400611	Fixed ring for cylinder	1	1
51	1004356001	Cylinder φ140*1650	1	1
52	11400611	Cylinder connecting plate 265*139*50	1	1
53	1004356001	Hex nut M42*4.5	1	1
54	10481077	Hex bolt M20*60	4	4
55	10400005	① Cable φ19*4915mm	1	0
	10400022-01	① Cable φ19*6405mm	0	1
56	10400008	② Cable φ19*14830mm	1	0
	10400025-01	② Cable φ19*11775mm	0	1
57	10400006-01	③ Cable φ19*7115mm	1	0
	10400023-01	③ Cable φ19*8610mm	0	1
58	10400007-01	④ Cable φ19*12645mm	1	0
	10400024-01	④ Cable φ19*15580mm	0	1
59	10217147	Straight Fitting 3/8JIC(M)*3/8NPT(M)	1	1
60	10201114	Spring Washer φ20	1	1
61	10209128	Washer φ20	1	1
62	10420175A	Hex bolt M20	1	1
63	10420166	90° screw thread fitting 6*4	1	1
64	1004354002	Oil Return pipe (black) φ6*φ4*7120mm	1	0
	10400028	Oil Return pipe (black)φ6*φ4*8620mm	0	1
65	85090120	T fitting for air line	3	3
66	10481065	Air hose φ6*φ8*11600mm (black)	1	0
	10400027	Air hose φ6*φ8*13100mm (black)	0	1
66A	10400021	Air Line φ8*φ6*7400mm (black)	1	1
67	10420167B	Air hose φ8*φ6*460mm (black)	1	1
68	10481083-04	Oil hose 3/8"*3435mm	1	0
69	10400026-02	Oil hose 3/8"*4925mm	0	1
69	10201083	Extended straight fitting with nut 3/8JIC(M)*3/8JIC(M)	1	1
70	10481011	Oil Hose 3/8"*1500mm	1	1
71	10217189	90° Fitting for power unit 3/8SAEO/R(M)*3/8JIC(M)	1	1

Item	Part#	Description	4 0	430E
72	10420095	Screw straight fitting 6*4	1	1
73	10420018	Self locking nut M6	6	6
74	10209004	Rubber ring $\phi 8 \times 20 \times 3$	4	4
75	10420153	Cup head bolt M6*20	9	9
76	10420016B	Pipe $\phi 40 \times 2 \times 1500\text{mm}$	1	1
77	10420152	Washer $\phi 5$	18	18
78	10206011	Cup head bolt M5*12	18	18
79	1004481010	High limit switch assy.(L=1400mm)	1	1
80	11420204	Protective Cover	1	1
81	1004481007	Low limit switch assy.(L=2250mm)	1	1
82	10420009A-01	Pipe $\phi 10 \times 1 \times 750\text{mm}$	1	1
82A	10420009B	Pipe $\phi 10 \times 1 \times 220\text{mm}$	1	1
83	10420468	Pipe $\phi 10 \times 2000\text{mm}$	1	1
84	10420016A	Wire $4 \times 2.5^2 \times 800\text{mm}$	1	1
85	11420010A	Limit switch fixing plate(Hight)	1	1
86	11420203	Limit switch fixing block(Low)	1	1
87	10420009B	Pipe $\phi 10 \times 1 \times 220\text{mm}$	1	1
88	1004491001	Wire B assy.	1	0
	1004524005	Wire B assy.	0	1
89	1004481002	Wire A assy.	1	1
90	1104354001	Plate for cable fitting $\phi 55 \times 20$	4	4
91	1004481005	Limit switch assy. Of cross beam	2	2

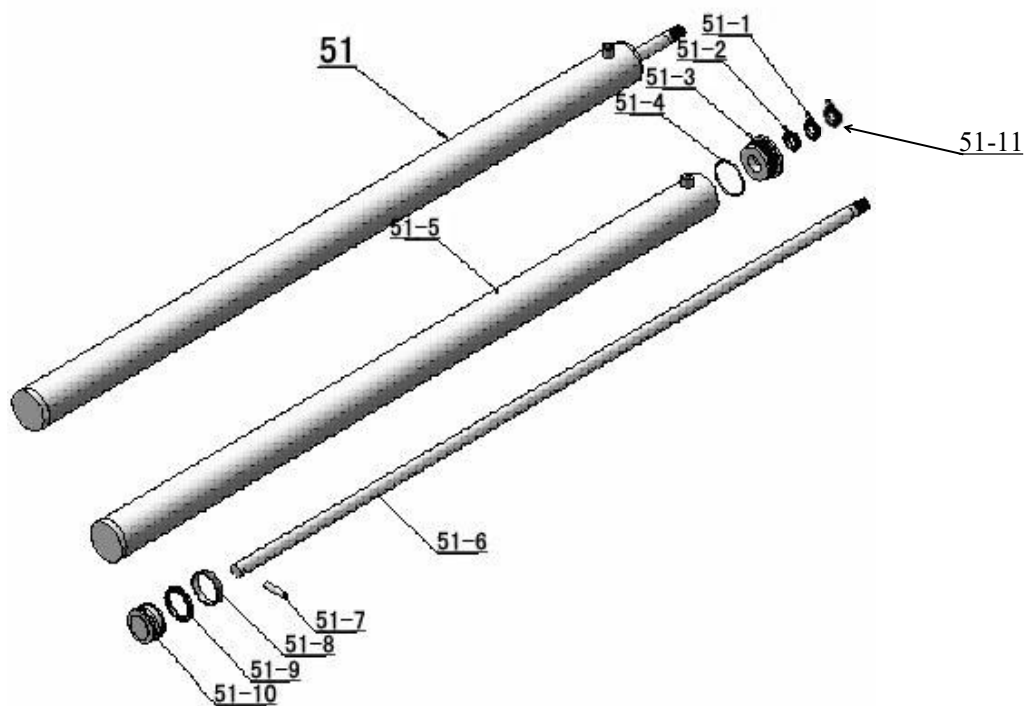
#### 4.1 Crossbeam (11481086) Exploded View



**Fig.52**

Item	Part#	Description	QTY
3-1	11400003	Cross Beam	2
3-2	11481618	Cross Beam Cover	4
3-3	10209009	Cup Head Bolt M6*8	8
3-4	1104332001	Limit Plate 7.75*70*40	4
3-5	10101029	Socket Bolt M12*20	8
3-5A	10420026	Lock washer $\phi$ 12	8
3-5B	10206006	Washer $\phi$ 12	8
3-6	11481029	Pin $\phi$ 16*148	12
3-7	10420037	Snap ring $\phi$ 16	24
3-8	10420033	Spring 14*1.8*100	8
3-9	10209021	Hex Nut M10	8
3-10	10420049	Split Pin $\phi$ 2*16	4
3-11	10400020	Air Cylinder $\phi$ 20*35	4
3-12	10481073	Fitting for Air Cylinder	4
3-13	10420046	Split Pin $\phi$ 4*30	4
3-14	10481070	Slider (HK018) 85*42*35	16
3-15	10209033	$\phi$ 8 Washer	40
3-16	10420043	Socket Bolt M8*20	32
3-17	11481642	Slack-cable safety lock (Left)	2
	11481643	Slack-cable safety lock (right)	2
3-18	11481028	$\phi$ 30*148 Pin	8
3-19	11481032	Pin Bush for Slack-cable Safety Lock	8
3-20	10610008	$\phi$ 30 Snap Ring	16
3-21	10209010	$\phi$ 10 Snap Ring	4
3-22	10481027	Tension Pulley	4
3-23	11420174	Spacer	4
3-24	11481030-01	Pulley shaft $\phi$ 75*154	4
3-25	11481031	Pulley Bush	4

## 4.2 Cylinder (10400017) Exploded View



**Fig. 53**

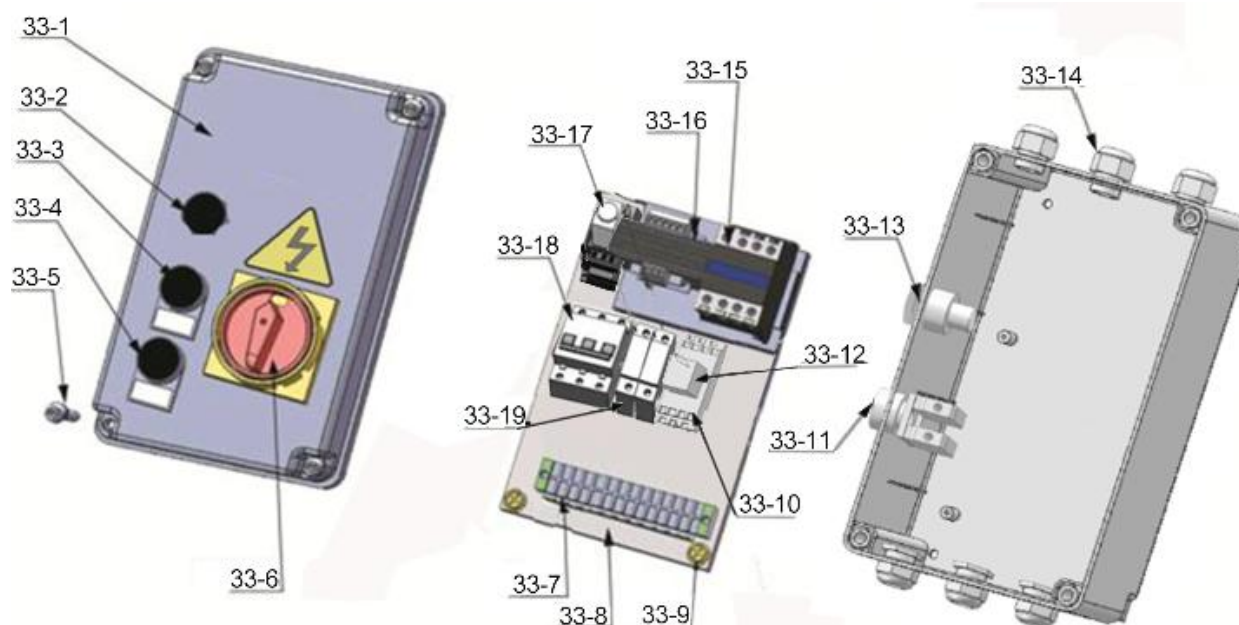
Item	Part#	Description	QTY
51-1	10209078	Dust Ring $\Phi 45*\Phi 53*(5\sim 6.5)$	1
51-2	1004356003	Y- Ring IDI $\phi 45*\phi 55*8$	1
51-3	11481053	Head Cap	1
51-4	1004336002	O- Ring $\phi 120*5.3\ 90^\circ$	1
51-5	11400033	Bore Weldment	1
51-6	11400031	Piston Rod $\Phi 45*1919$	1
51-7	11400015	Pin	1
51-8	10400014	Support Ring $\Phi 134*\Phi 140*20$	1
51-9	10400012	Y- Ring OSI $\Phi 125*\Phi 140*9$	1
51-10	11400036	Piston	1
51-11	1004356004	Support Ring $\phi 45*\phi 51*15*3$	1



### 4.3 CONTROL BOX

**Part No.: 10420016 Three Phase**

**10420281 Single Phase**

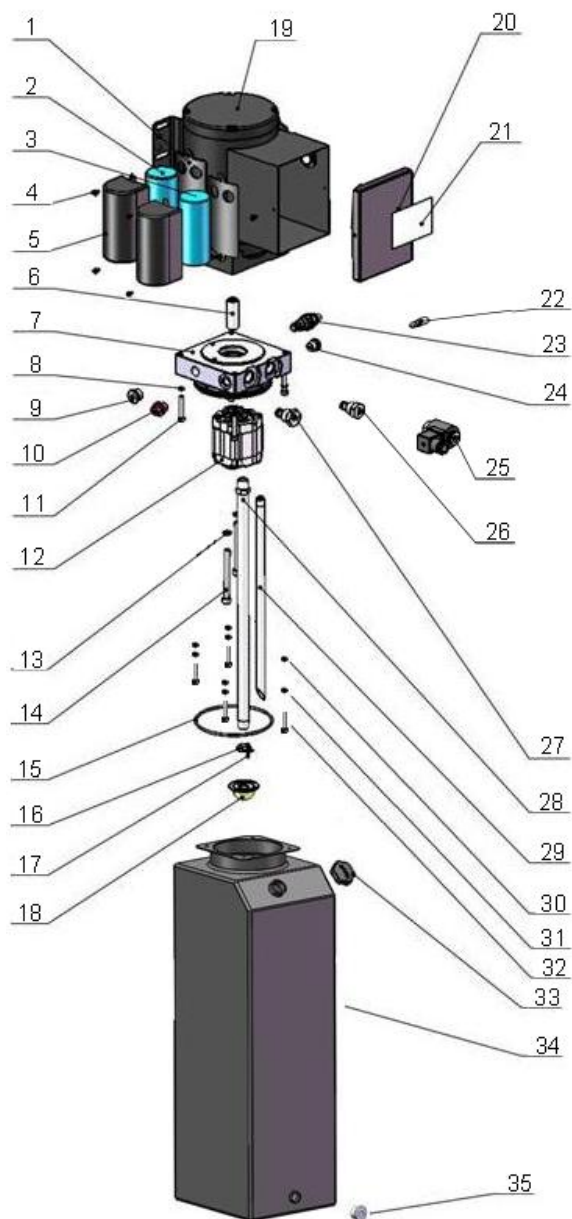


**Fig.54**

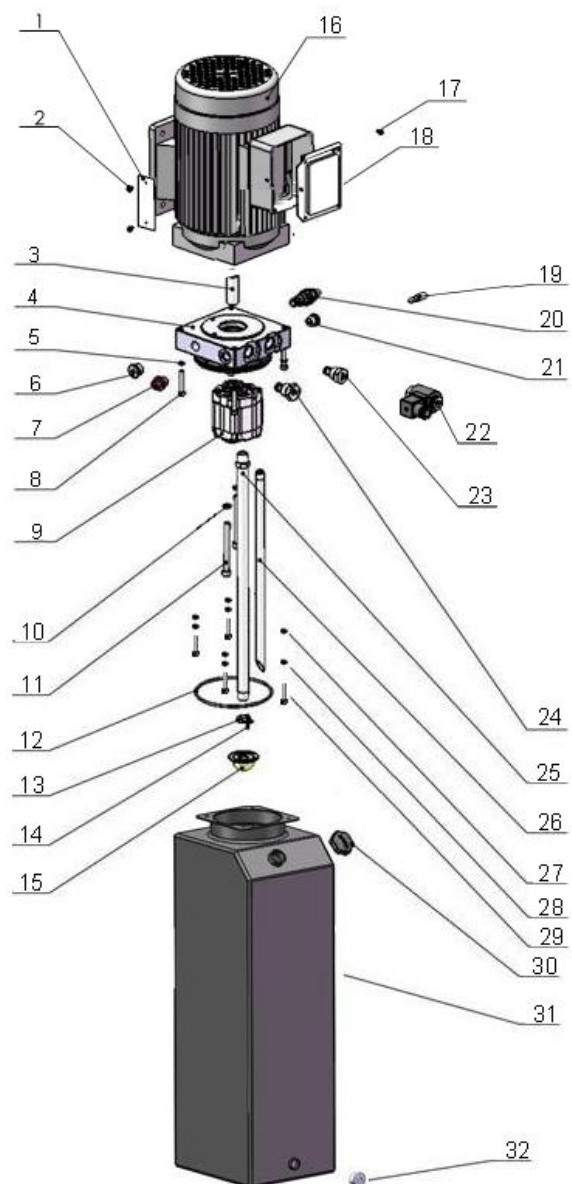
#### Parts for Control Box

Item	Part#	Description	QTY.	Note
33-1	10420069A	Cover of Control Box	1	
33-2	10420071	Push Button	1	
33-3	10420070	Push Button	1	
33-4	10420072	Push Button	1	
33-5	10420139	Screw	4	
33-6	41010217	Power Switch (QS1)	1	
33-7	10420075A	Terminal Group	1	
33-8	10420133A	Panel for Installing Element	1	
33-9	10420073	Cup Head Bolt	4	
33-10	10420135	Thermal Relay Connector	2	
33-11	10420142	Push Button	1	
33-12	10420141	Intermediate Relay (KA)	1	
33-13	10420143	Alarm Lamp	1	
33-14	10420088	Fitting for White Wire	6	
33-15	10420084A	24V AC Contactor (KM)	1	
33-16	10580114	Transformer (TC)	1	
33-17	10420083	Timer Relay (KT)	1	
33-18	10202046	Circuit Breaker 2P Only for Single phase	1	
	10202047	Circuit Breaker 2P Only for Three phase	1	
33-19	10202049	Circuit Breaker 2P	2	

#### 4.4 Power Unit (81523049/81523050) Exploded View



220V/50/60Hz  
Electric Power Unit  
Exploded View



380/415V 50Hz Electric  
Power Unit  
Exploded View

**Fig.45**

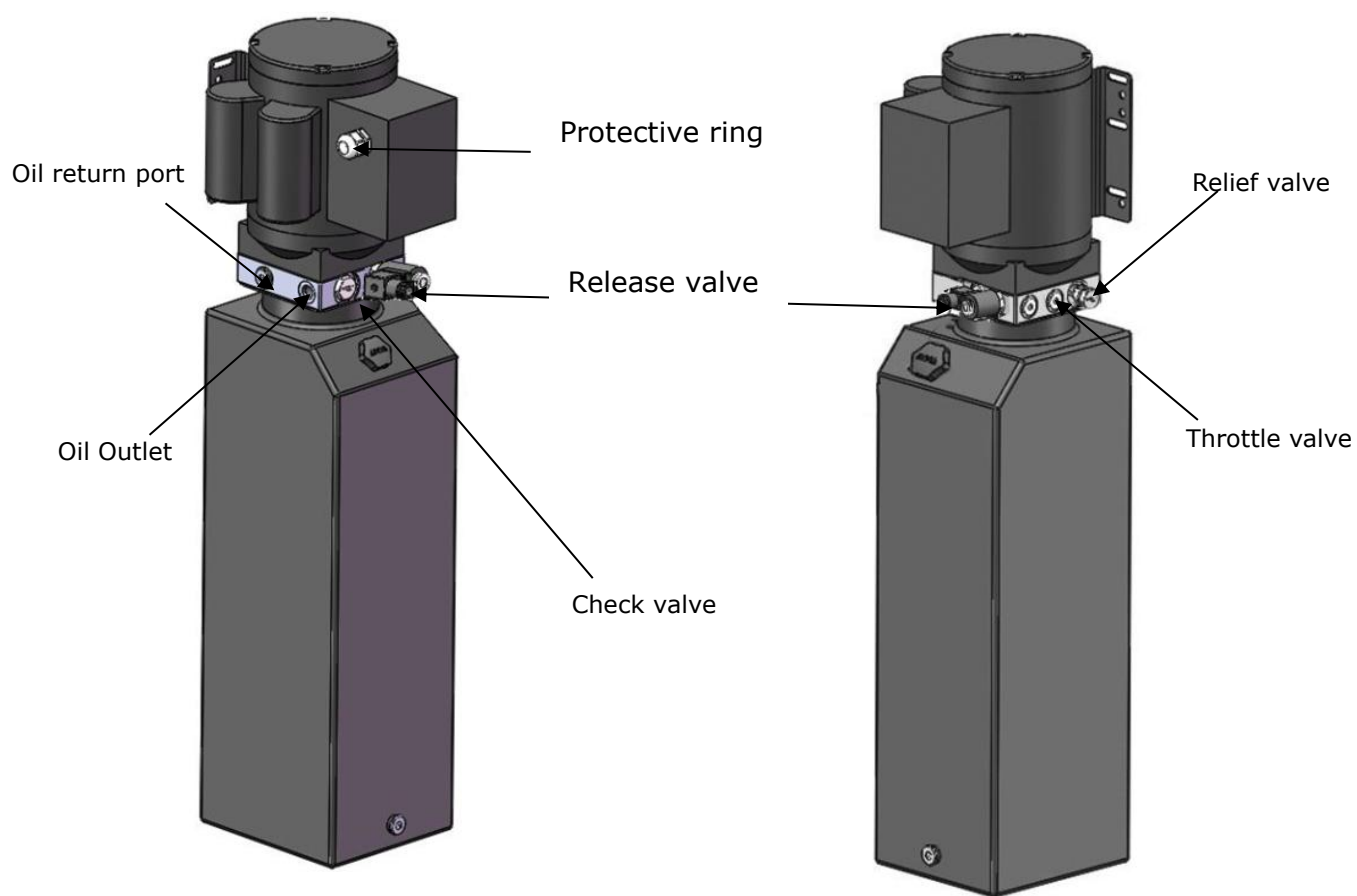
## Parts for Electric Power Unit 220V/50/60HZ

Item	Part#	Description	QTY
1	81400180	Rubber Gasket	2
2	81400250	Start Capacitor	1
3	81400200	Run Capacitor	1
4	10420148	Cup Head Bolt with Washer	6
5	81400066	Cover of Capacitor	2
6	81400363	Motor Connecting Shaft	1
7	81400369	Manifold Block	1
8	10209149	Lock Washer	4
9	81400276	Socket Iron Plug	1
10	81400259	Red Plastic Plug	1
11	85090142	Socket Bolt	4
12	81400292	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	Filter net	1
19	81400590	Steel Motor	1
20	81400528	Cover of Motor Terminal Box	1
21	71111242	AMGO Name Plate	1
22	81400560	Throttle Valve	1
23	81400266	Relief Valve	1
24	81400284	Socket Iron Plug	1
25	81400420	Hydraulic Solenoid Valve Coil	1
26	81400423	Electric Release Valve	1
27	81400267	Check Valve	1
28	81400366	Oil Suction Pipe	1
29	81400367	Oil Return Pipe	1
30	10420152	Washer $\phi 5$	4
31	10209143	Lock Washer $\phi 5$	4
32	81400438	Hex Bolt	4
33	81400263	Oil tank Cap	1
34	81400493	Oil tank	1
35	81400276	Socket Iron Plug	1

**Part list for 380V/415V 50Hz Electric Power Unit**

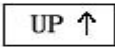
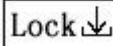

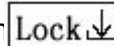
Item	Part#	Description	QTY
1	71150010	AMGO Power Unit name plate	1
2	81400300	Cup Head Bolt	2
3	81400363	Motor Connecting Shaft	1
4	81400369	Manifold Block	1
5	10209149	Lock Washer	4
6	81400276	Socket Iron Plug	1
7	81400259	Red Plastic Plug	1
8	85090142	Socket Bolt	4
9	81400292	Gear Pump	1
10	10209034	Lock Washer	2
11	81400295	Socket Bolt	2
12	81400365	O ring	1
13	10209152	Ties	1
14	85090167	Magnet	1
15	81400290	Filter net	1
16	81400309	Aluminum Motor	1
17	10420148	Cup Head Bolts with Washer	2
18	81400481	Cover of Motor Terminal Box	1
19	81400560	Throttle Valve	1
20	81400266	Relief Valve	1
21	81400284	Socket Iron Plug	1
22	81400420	Solenoid valve coil	1
23	81400423	Electric Release Valve	1
24	81400267	Check Valve	1
25	81400366	Oil Suction Pipe	1
26	81400367	Oil Return Pipe	1
27	10420152	Washer $\phi 5$	4
28	10209143	Lock Washer $\phi 5$	4
29	81400438	Socket Bolt	4
30	81400263	Oil tank Cap	1
31	81400493	Oil tank	1
32	81400276	Socket Iron Plug	1

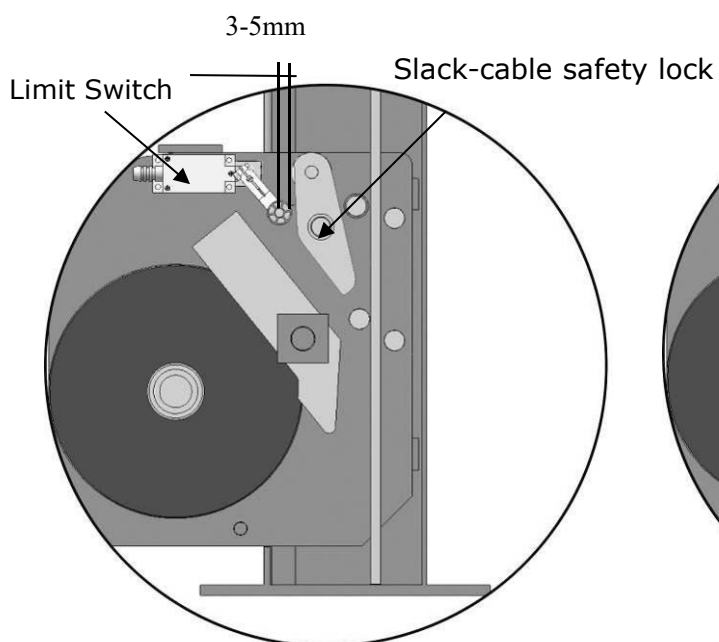
**Illustration of Hydraulic Valve for power unit (See Fig.57)**



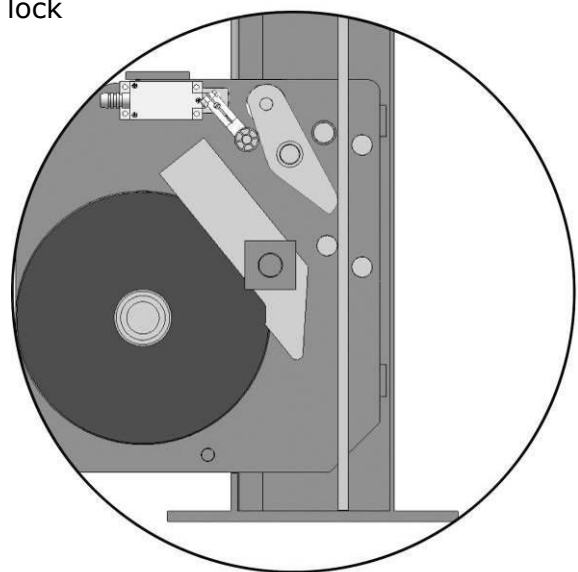
**Fig.57**

## V. TEST RUN

1. Fill the reservoir with approximately 26L Hydraulic Oil (**Note:** In consideration of Power Unit's durability, please use **Hydraulic Oil 46#**).
2. Push button  the Cables will be strained. Check whether the Cables match the Pulley. Make sure the Cables are not across.
3. Push self-lock button , the Cross-beam will be locked to the safety ladders, and then adjust the platforms to be level by adjusting the nuts of Safety Ladders. After the leveler, the upper and lower nuts of the safety support shall be tightened.
4. Adjusting the tension of the cable by cable nuts. You need to run the lift up and down for several times, meanwhile do the synchronous adjustment till the four Safety Devices can lock and release at the same time. Do not forget to fasten the 2pcs cable nut.
5. Adjust the clearance between the post and the plastic slider of cross beam to about 2mm, and then tighten the fixing nut of slider.
6. Adjust Limit Switch on Cross Beam:
  - 6.1 Push button  the Cables will be strained. Check whether the distance between lever of Limit Switch on Cross Beam and the Slack-cable safety lock is 3-5mm. If not, please adjust the distance correctly (**See Fig. 58**).
  - 6.2 Push self-lock button  the cross beam will be locked to the safety ladders, and the cables are released. Check whether lever of Limit Switch on Cross Beam touch the Slack-cable safety lock and whether Limit Switch is open completely. If not be opened, then adjust the lever of limit switch till the Slack-cable safety lock can completely open the switch (**See Fig. 59**).



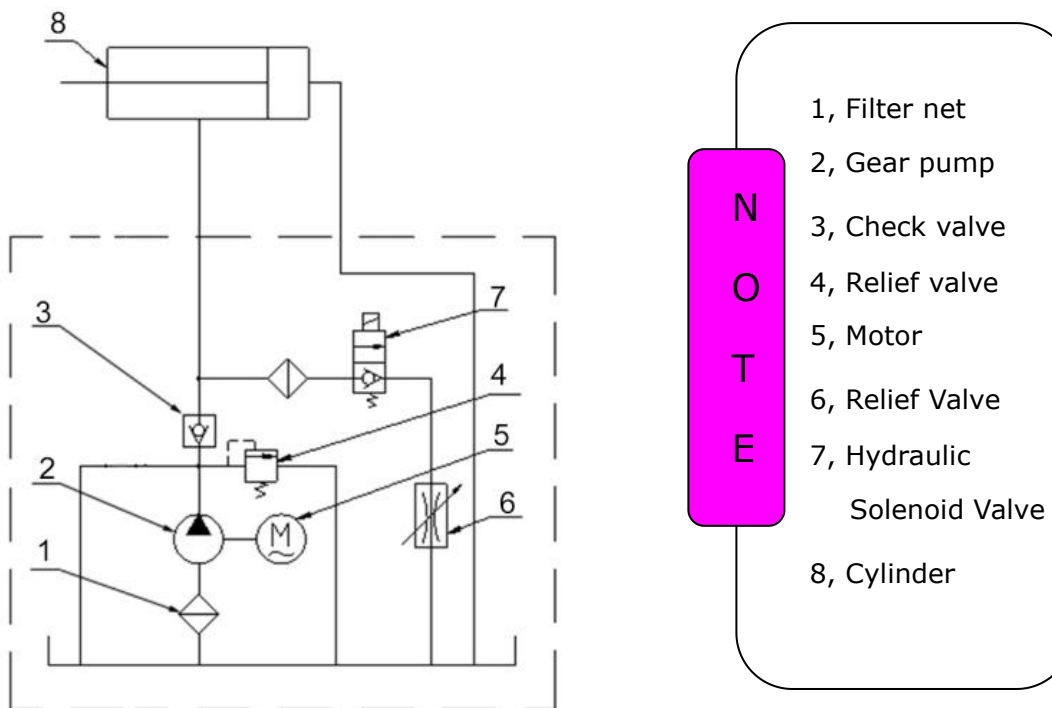
**Tighten cable**  
**Fig. 58**



**Release cable**  
**Fig. 59**

7. After finishing the above adjustment, test running the lift with load. Run the lift with Platforms in low position first, make sure the Platforms can rise and lower synchronously and 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.

### Circuit Diagram of Hydraulic System



**Fig. 60**

## VI. OPERATION INSTRUCTIONS

### To lift vehicle

1. Keep clean of environment near the lift;
2. Drive vehicle to the Platform and put on the brake;
3. Turn on the power and push button **UP** ↑ , raise the lift to the working position;

**Note: make sure the vehicle is steady when the lift is raised.**

4. Push button **LOCK** ↓ , lock the lift in the safety position. Make sure the Safety device is locked at the same height.

### To lower vehicle

1. Be sure the clearance of around and under the lift, only leaving operator in lift area;
2. Push button **DOWN** ↓ , the lift will be raised for 3-5 seconds, and then the safety device would be released and the lift starts being lowered automatically. The lift will be stopped automatically when coming down about 300mm from ground, check around and make sure it is safety and no any obstacle under the lift, then push both **DOWN** buttons (frontal ↓ and beside) at the same time, the lift would be lowered with the tone alarm.
3. Drive away the vehicle when the lift is lowered to the lowest position.
4. Turn off the power.

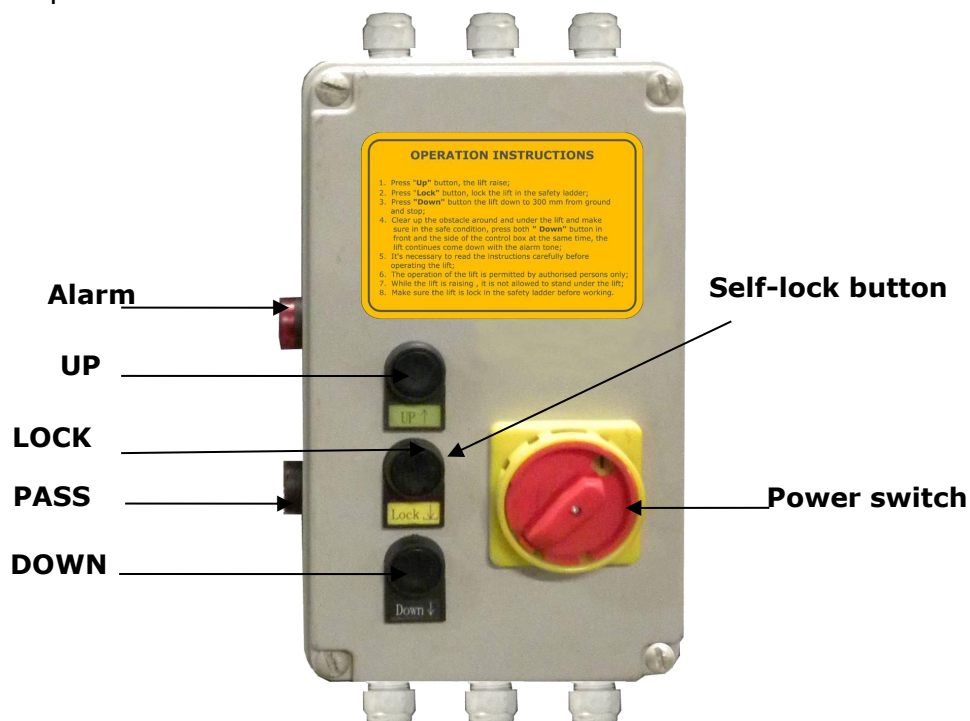


Fig. 61



## **VII. MAINTENANCE SCHEDULE**

### **Monthly:**

1. Re-torque the anchor bolts to 150 Nm;
2. Lubricate cable with lubricant;
3. Check all cable connection, bolts and pins to insure proper mounting;
4. Make a visual inspection of all hydraulic hoses/lines for possible wear or leakage;
5. Lubricate all Rollers, Safety devices 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 to insure level lifting.
3. Check the vertical of columns.

### **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

<b>TROUBLE</b>	<b>CAUSE</b>	<b>REMEDY</b>
Motor does not run	1. Start Button does not work 2. Wiring connections are not in good condition 3. Motor burned out 4. AC contactor burned out 5. Height limit switch is damaged	1. Press start button. 2. Repair all wiring connections  3. Repair or replace motor 4. Replace AC contactor 5. Replace
Motor runs but the lift is not raised	1. Motor runs in reverse rotation 2. Release valve in damage 3. Gear pump in damage 4. Relief valve or check valve in damage 5. Low oil level	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	1. Release valve out of work 2. Relief valve or check valve leakage. 3. Cylinder or fittings leaks	Repair or replace
Lift raises too slow	1. Oil line is jammed 2. Motor running on low voltage 3. Oil mixed with Air 4. Pump leaks 5. Overload lifting	1. Clean the oil line 2. Check electrical system 3. Fill tank 4. Replace Pump 5. Check load
Lift cannot lower	1. Safety device are in activated 2. Release valve damaged 3. Air Cylinder damaged 4. Air line leaks	1. Release the safeties 2. Replace or repair 3. Replace the cylinder 4. Check the air line

## 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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