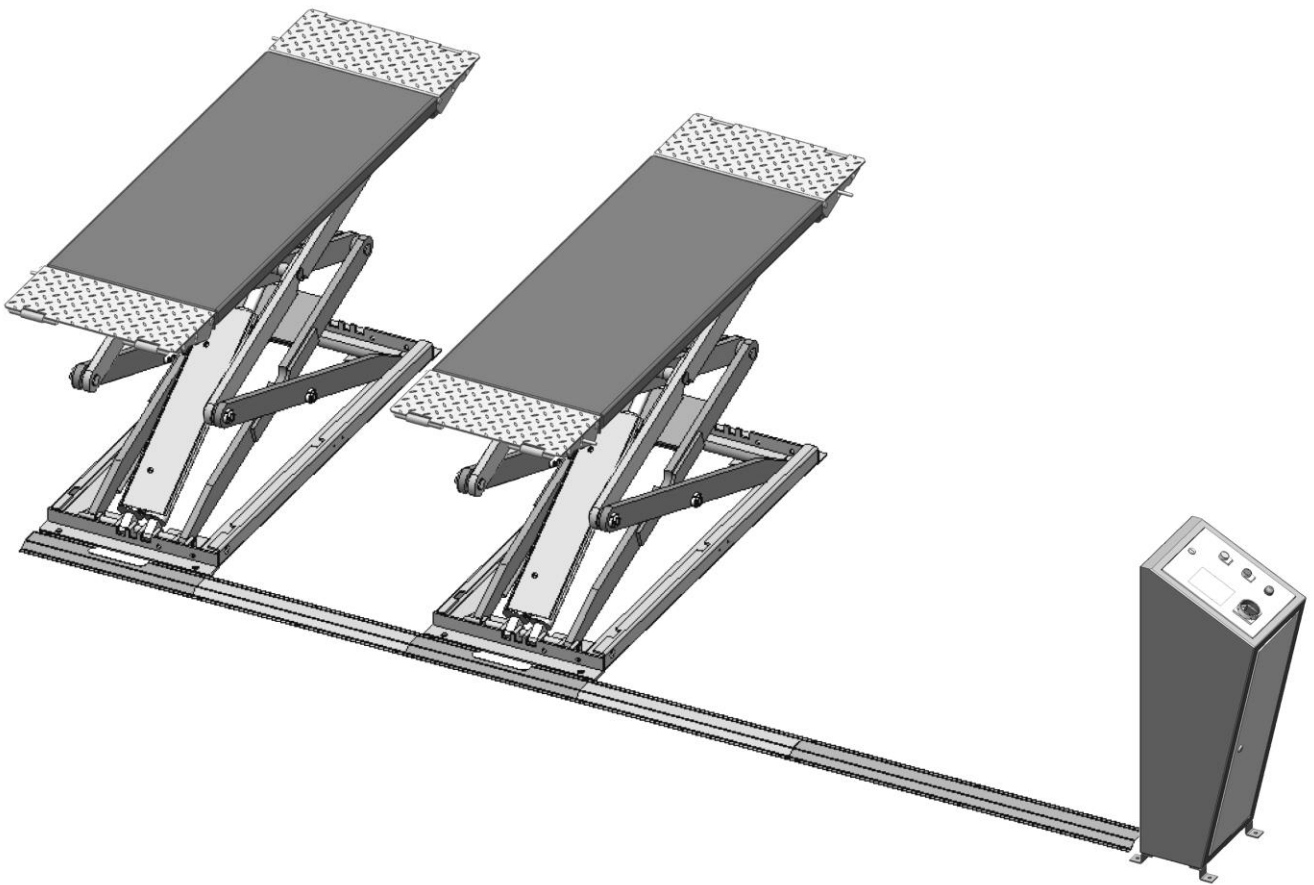




# **INDYPRO**

## **LIFTS & EQUIPMENT**



### **SCISSORS LIFT**

Model: TX7

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**I. PRODUCT FEATURES AND SPECIFICATIONS  
ON SURFACE SCISSORS LIFT MODEL TX7**

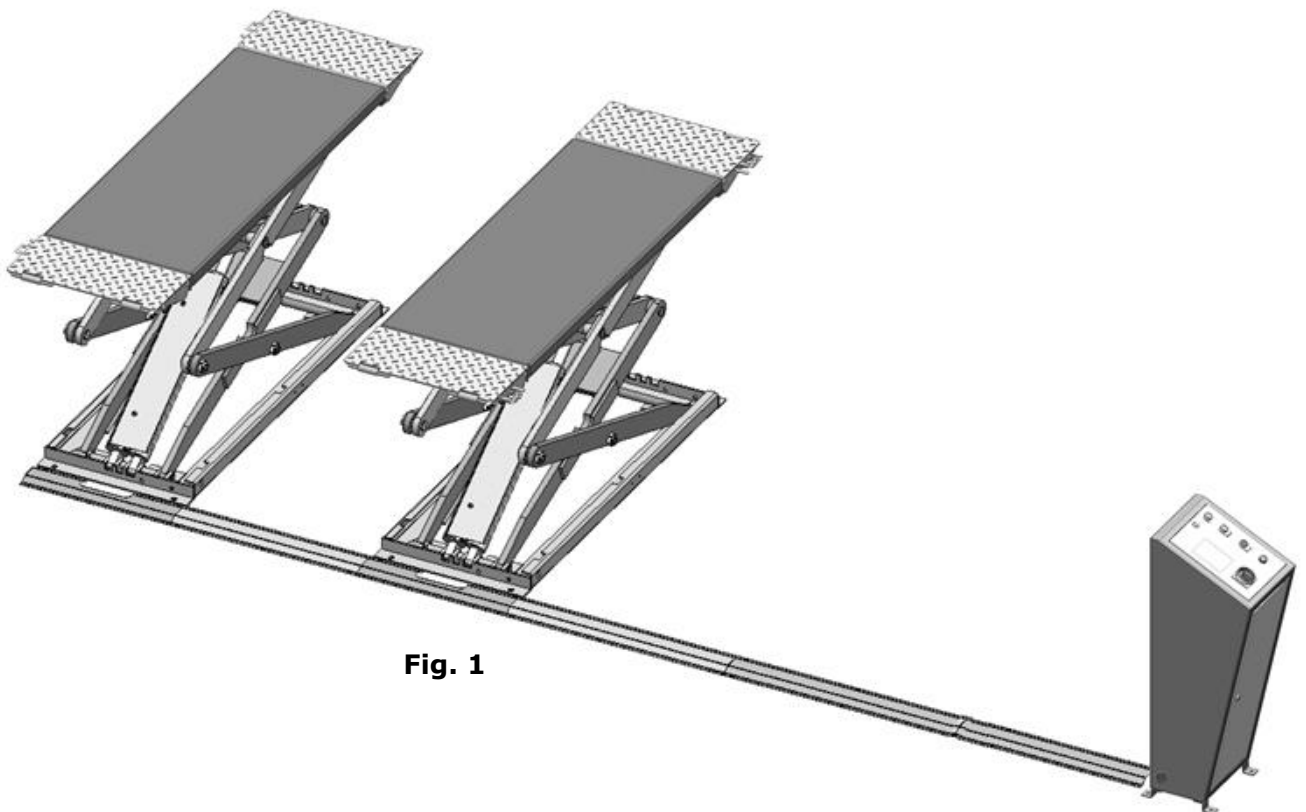
- Electric/Hydraulic power system
- Hose burst check valve and hydraulic self-lock system
- 2-Dual synchronous cylinders are applied to assure the lifting level on both platforms
- Flow control valve to ensure the stable down speed
- Movable drive-thru ramps and extended platforms accommodate varying wheelbase vehicles

**MODEL TX7 SPECIFICATIONS**

Model	Lifting Capacity	Lifting Time	Lifting Height	Min. Height	Overall Length (Inc. ramps)	Runway Length	Runway Width	Width Between Runways	Gross Weight	Motor
TX7	3.0T 7000Lbs	40S	2000mm 78 3/4"	115mm 4 1/2"	2055mm 80 7/8"	1608mm 63 3/8"	600mm 23 5/8"	750mm 29 1/2"	875Kg 1925Lbs	2.0/3.0HP

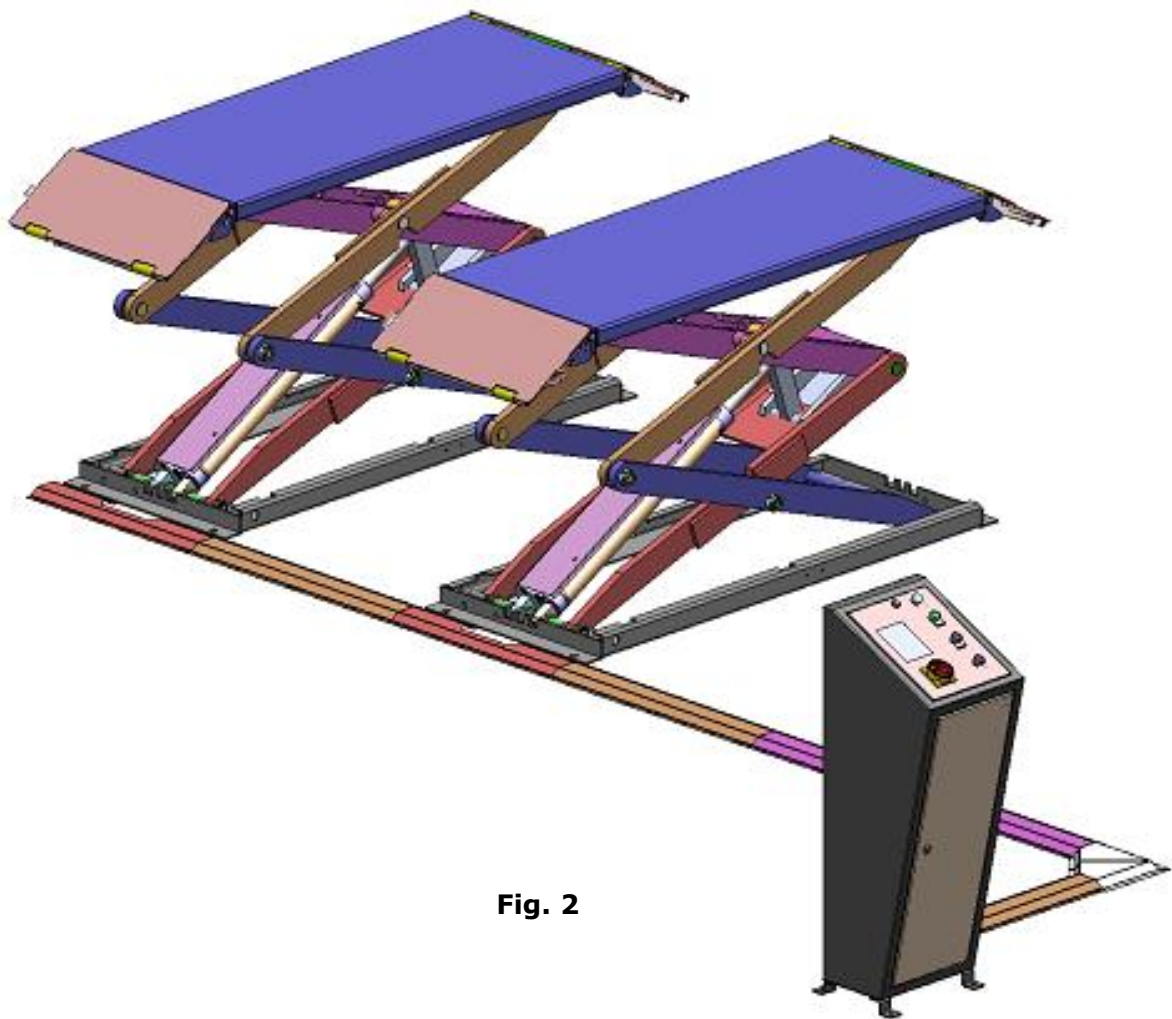
**Illustration of control cabinet installed in different way.**

**View A**



**Fig. 1**

**View B**



**Fig. 2**

## II. INSTALLATION REQUIREMENT

### A. TOOLS REQUIRED

✓ Rotary Hammer Drill ( $\Phi 19$ ,  $\Phi 10$ ,  $\Phi 4$ )



✓ Hammer



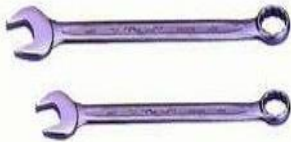
✓ Level Bar



✓ English Spanner (12")



✓ Wrench set (8#, 17#)



✓ Grease Gun



✓ Carpenter's Chalk



✓ Screw Sets



✓ Tape Measure (7.5m)



✓ Pliers



✓ Lock Wrench



✓ Ratchet Spanner With Socket (28#)



Fig. 2

## B. POWER SUPPLY

The electrical source must be 2.2KW 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. Check the parts before assembly

1. Packaged lift, Parts box, Control cabinet and tubing cover plate (See Fig. 4).

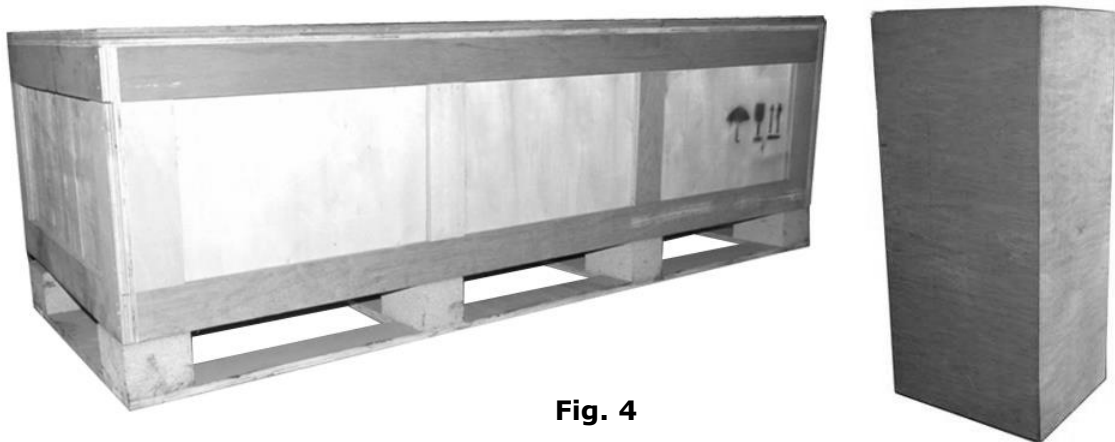


Fig. 4

2. Move aside the parts, open the outer packing and check the parts according to the shipment parts list (See Fig. 5).

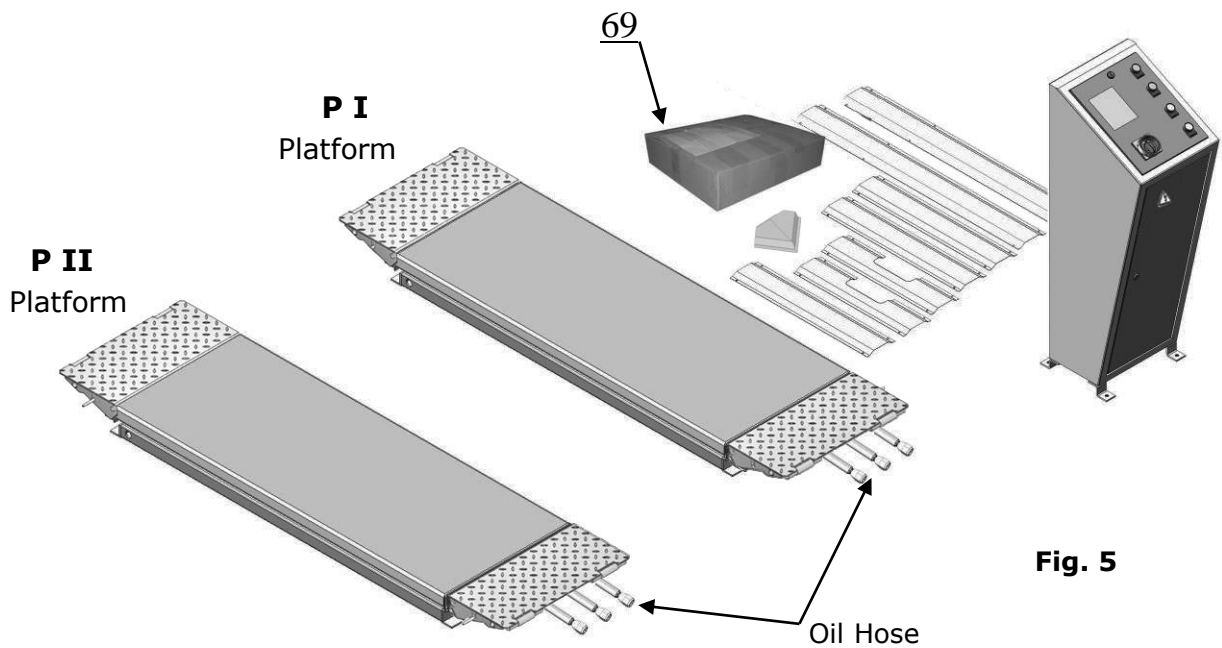


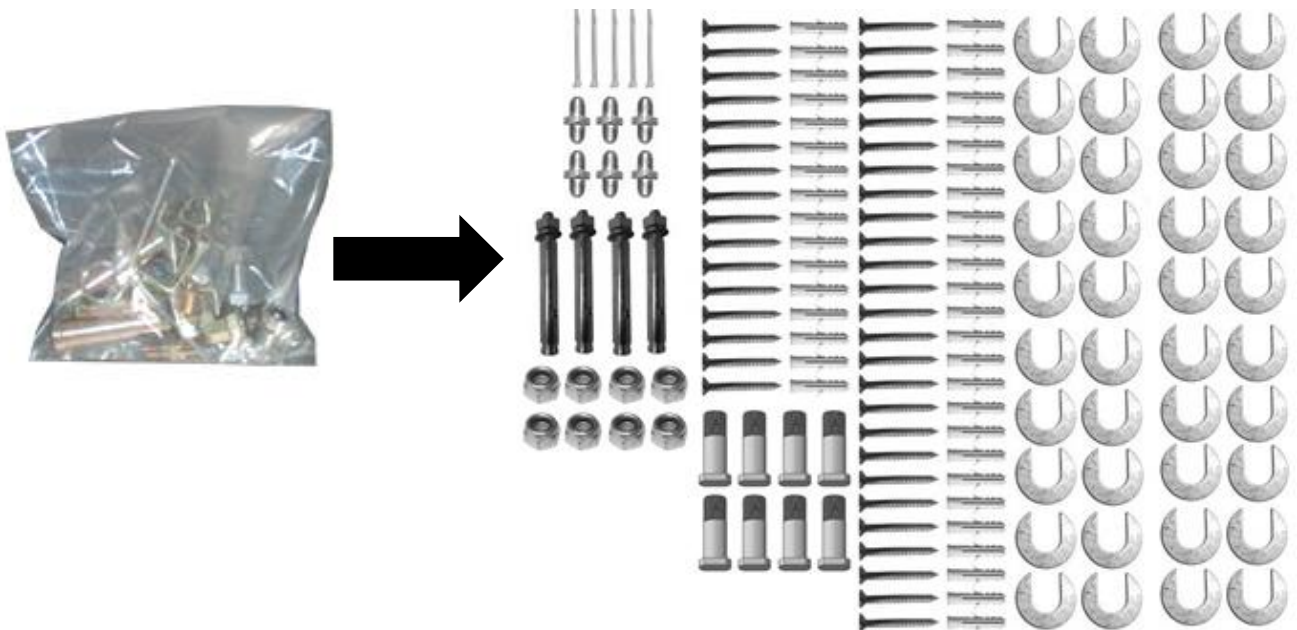
Fig. 5

3. Open the parts box, check the parts according to the part list (**See Fig. 6**).



**Fig. 6**

4. Check the parts of the parts bag according to the parts bag list (**See Fig. 7**).

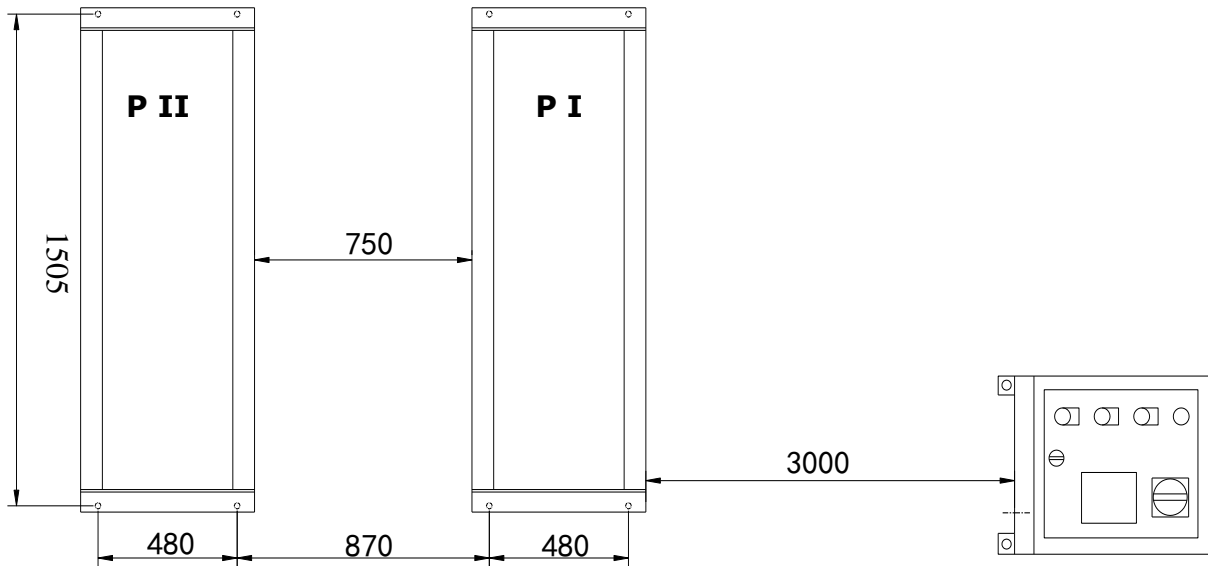


**Fig. 7**

## B. Location of installation

1. Concrete must be thickness 100mm 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 3000psi (210kg/cm<sup>2</sup>) minimum.

Review the layout as shown below (**Fig. 7**) and select a location that is best suited for your application.

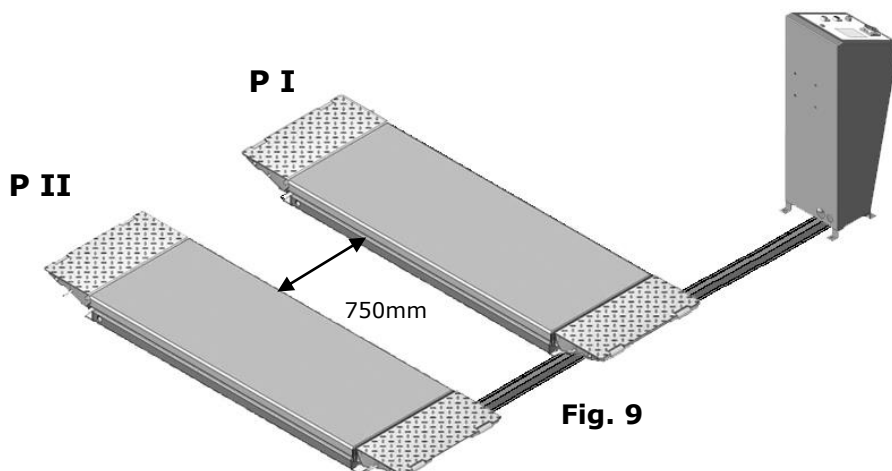


**Fig. 8**

## C. Equipment layout and oil hose installation

Layout the equipment on the selected location according to **Fig 9**, and connect the oil hose according to **Fig.10**.

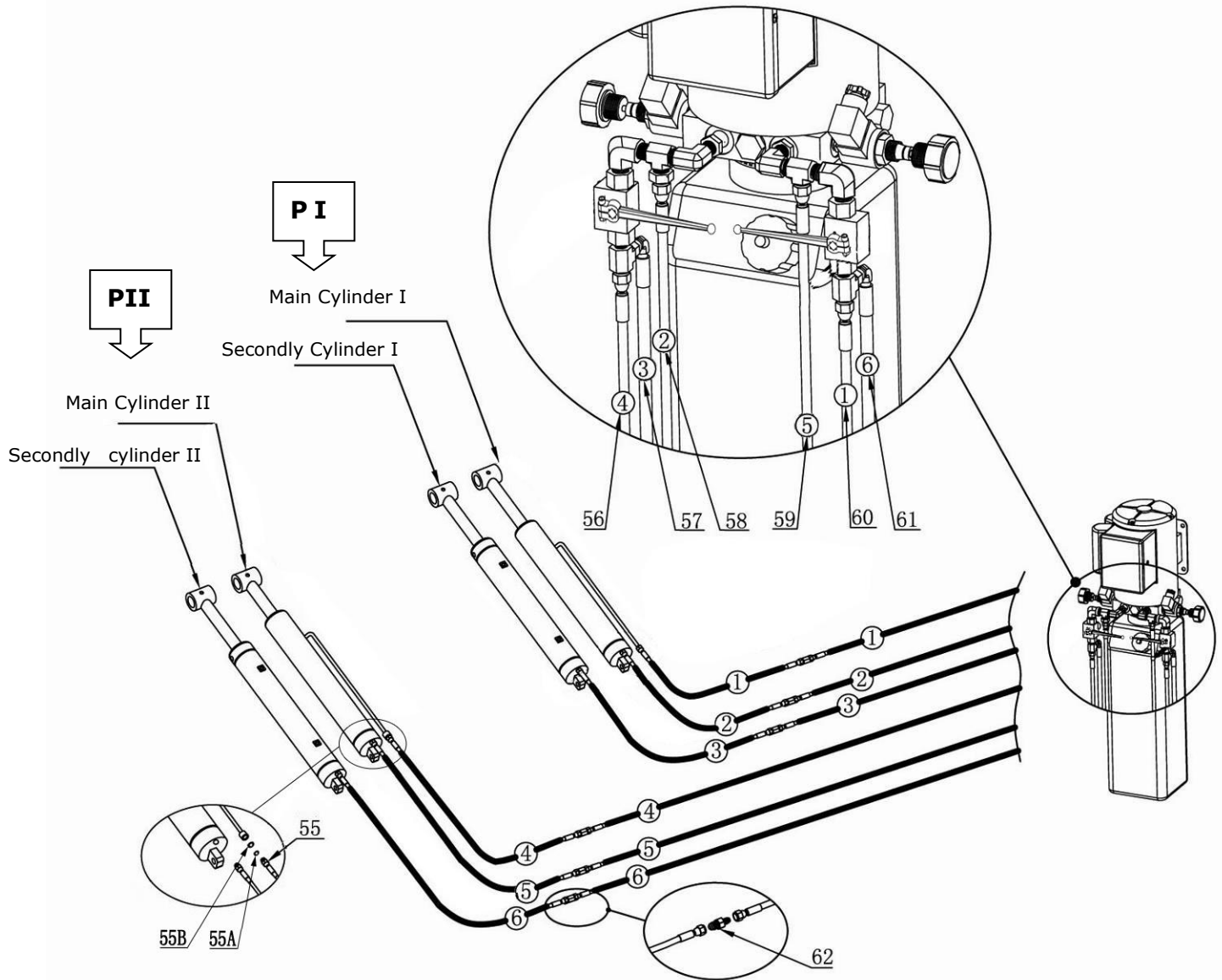
Note: Shutoff valves should be at the working condition (**Fig. 30**)



**Fig. 9**



# Oil hose installation



① 1/4\*3720mm

② 1/4\*3570mm

③ 1/4\*3480mm

④ 1/4\*4730mm

⑤ 1/4\*4920mm

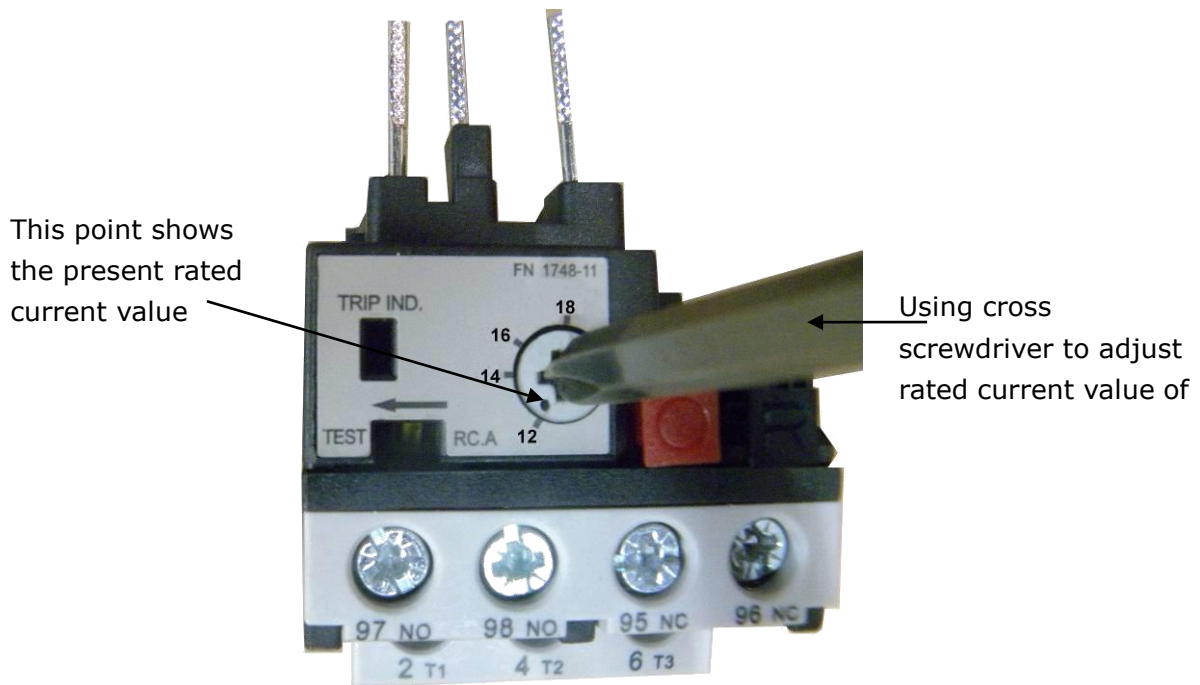
⑥ 1/4\*4980mm

**Fig. 10**

## D. Install electric system

1. Adjusting the current rating of thermal relay in control box according to the different configurations of hydraulic power unit. In general, the electric current of thermal relay should equal or larger than that of motor. The following table shows rated current regulation of thermal relay in case of different hydraulic power unit.

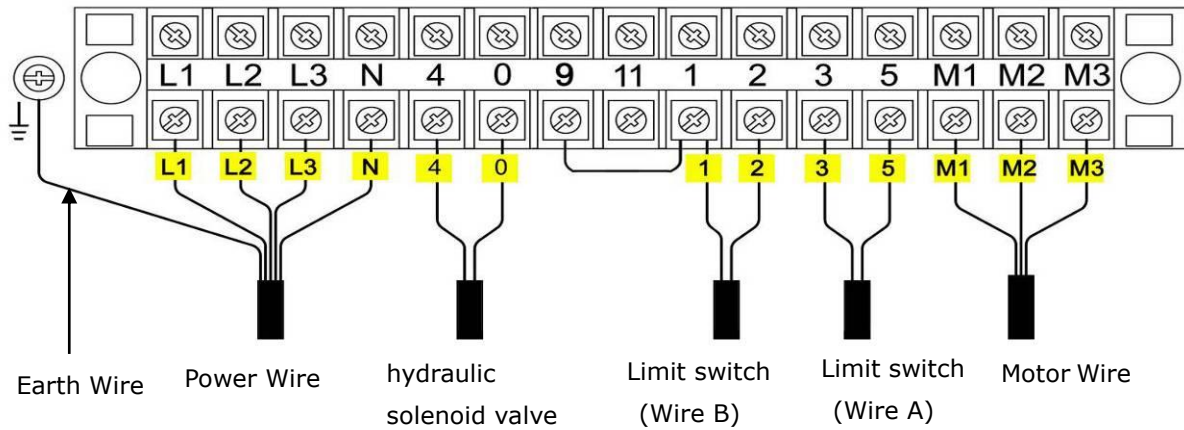
Hydraulic power unit	Single phase	Three phase
Rated current of thermal relay	18A	12A



**Fig. 11**

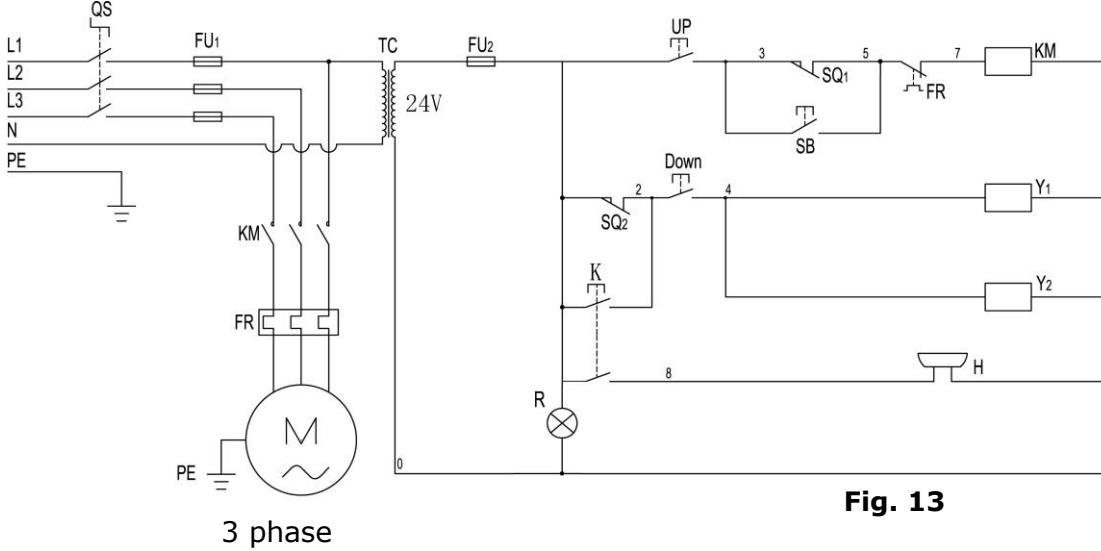
2. Wire connection for hydraulic power unit **(for 3 phase)**

2.1 Connect the power wire and limit switch wire according to the wiring diagram (See Fig. 12).



**Fig. 12**

2.2 Circuit Diagram (See Fig. 13).



**Fig. 13**

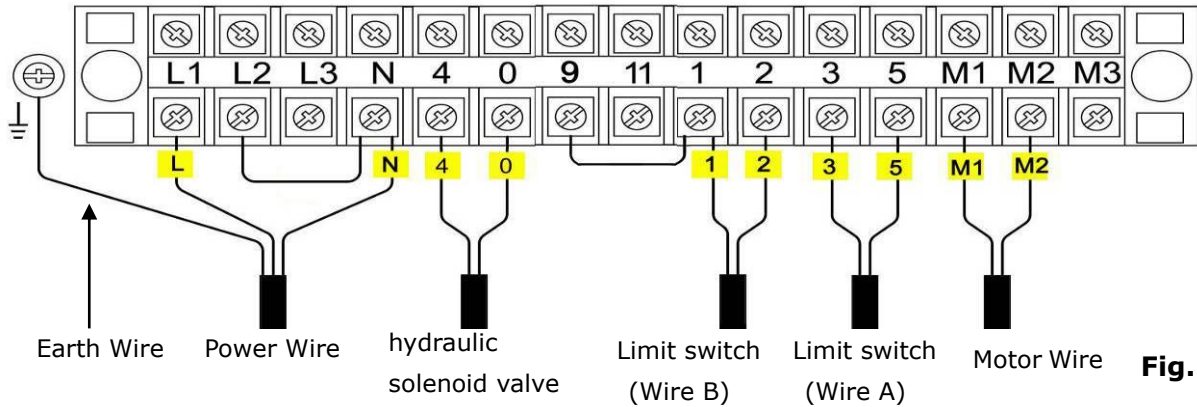
**Electric Component**

Item	Name	Code	Specification	Item	Name	Code	Specification
1	Power switch	QS	380V AC	9	Push button	Down	Single
2	Fuse	FU1	25A		Lower alarm button	K	Duplex
3	Fuse	FU2	3A	10	Motor	M	3 phase
4	AC contactor	KM	24V AC	11	Transformer	TC	24V AC
5	Limit switch	SQ <sub>(1-2)</sub>	10A	12	Thermal relay	FR	12A-18A
6	Hydraulic solenoid valve (Right)	Y2	24V AC	13	Alarm	H	24V AC
7	Hydraulic solenoid valve (Left)	Y1	24V AC	14	Push button	SB	2A
8	Push button	Up	Single	15	Power Indicator	R	24V AC

### 3. Wire connection for hydraulic power unit (for single phase)

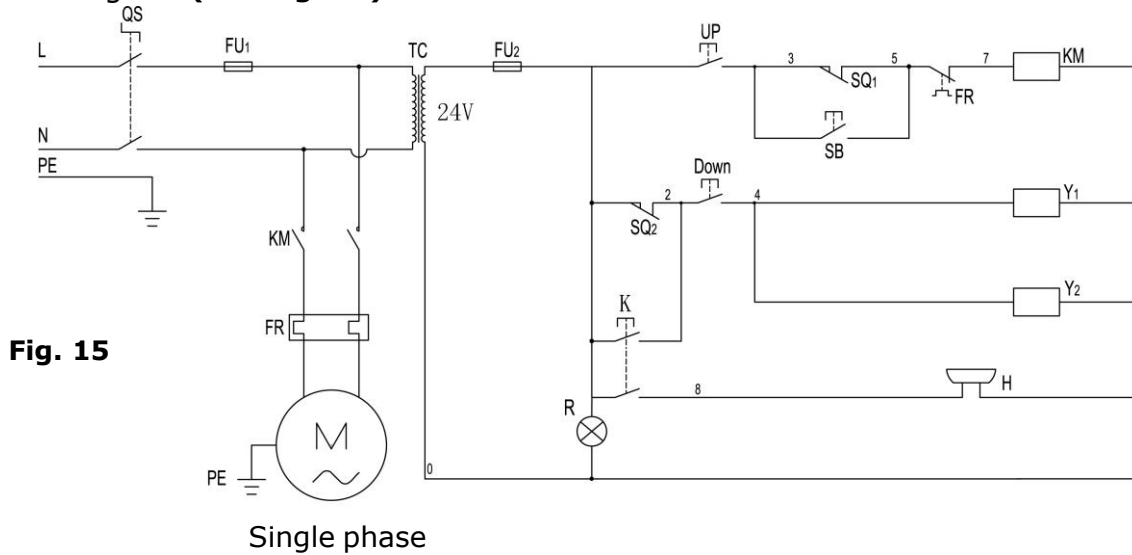
3.1 Connect the power wire and limit switch wire according to the wiring diagram (See

**Fig. 14).**



**Fig. 14**

### 3.2 Circuit Diagram (See Fig. 15).



**Fig. 15**

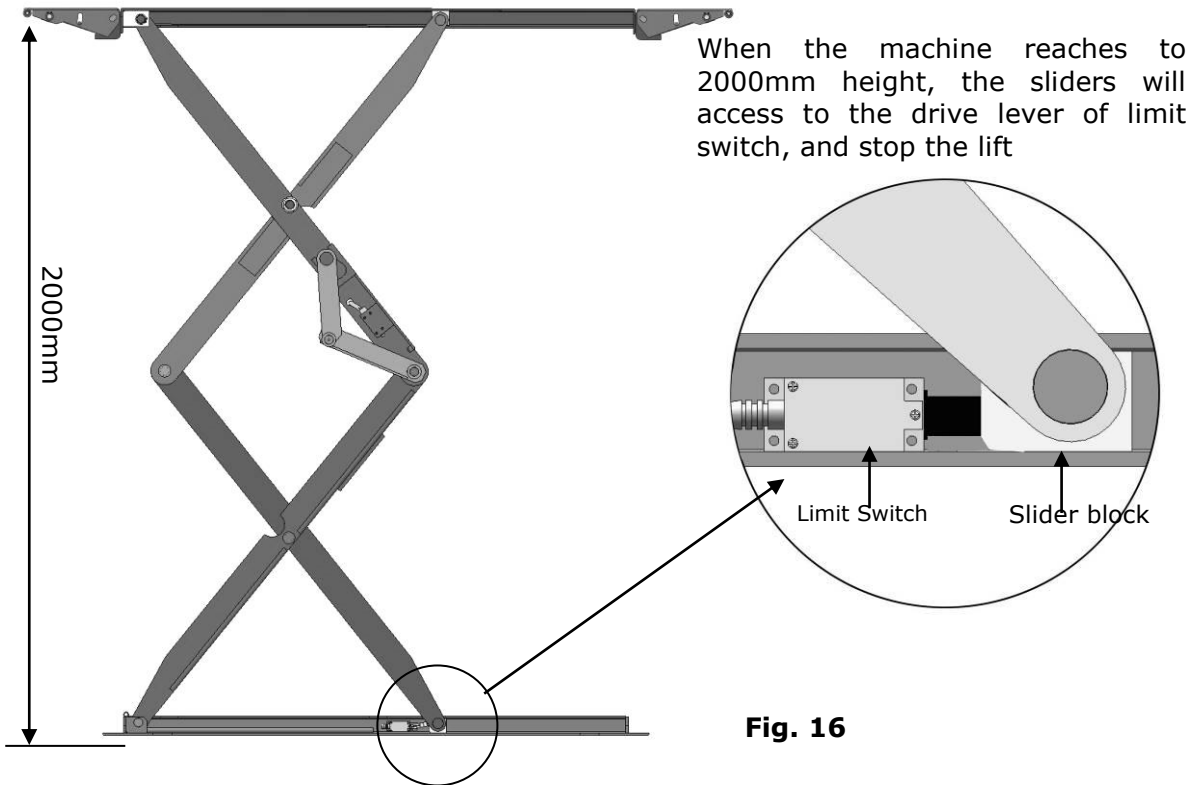
Single phase

### Electric Component

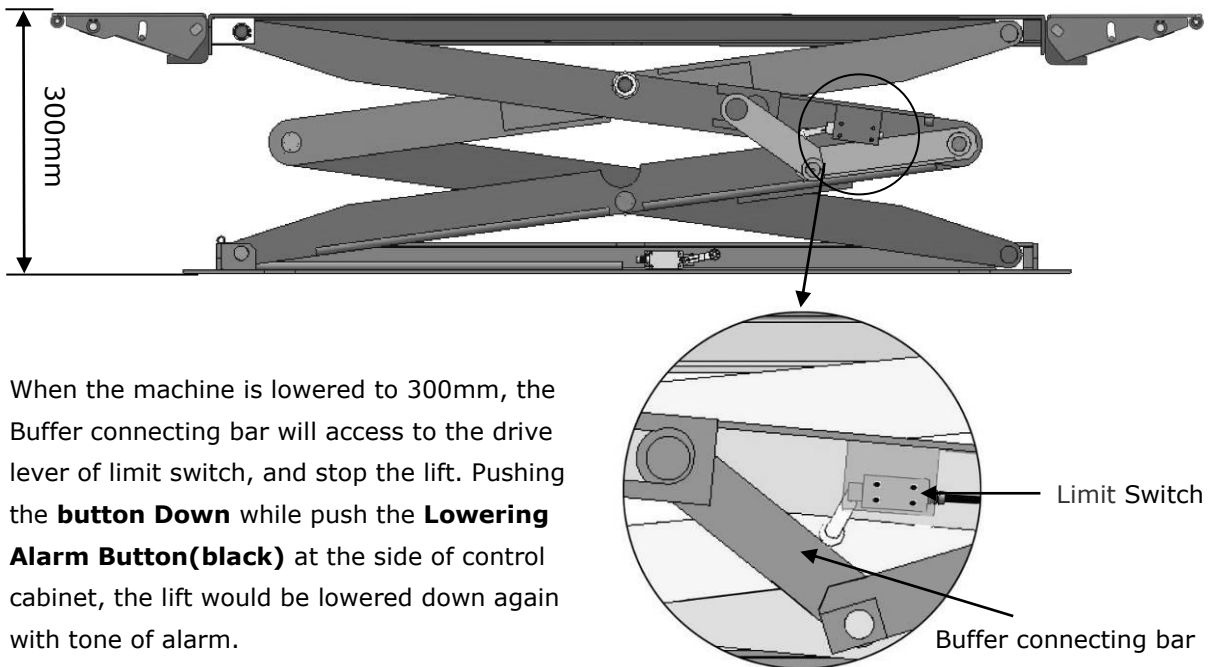
Item	Name	Code	Specification	Item	Name	Code	Specification
1	Power switch	QS	380V AC	9	Push button	Down	Single
2	Fuse	FU1	25A		Lower alarm button	K	Duplex
3	Fuse	FU2	3A	10	Motor	M	Single phase
4	AC contactor	KM	24V AC	11	Transformer	TC	24V AC
5	Limit switch	SQ <sub>(1-2)</sub>	10A	12	Thermal relay	FR	12A-18A
6	Hydraulic solenoid valve (Right)	Y2	24V AC	13	Alarm	H	24V AC
7	Hydraulic solenoid valve (Left)	Y1	24V AC	14	Push button	SB	2A
8	Push button	Up	Single	15	Power Indicator	R	24V AC

#### 4. Limit switch installation instruction

##### 4.1 High limit switch instruction (See Fig. 16)

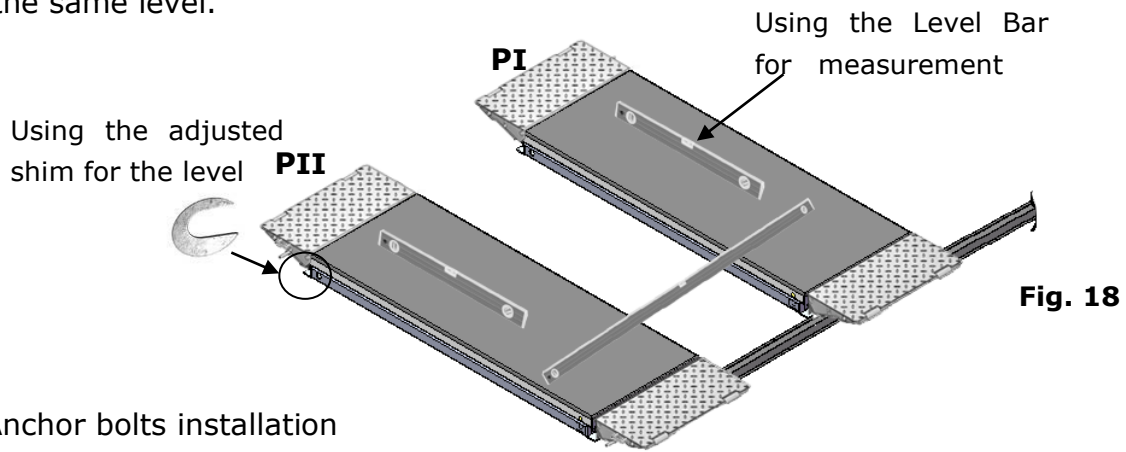


##### 4.2 Lower alarm device instruction (See Fig.16)



**E. Level two platforms and install anchor bolts**

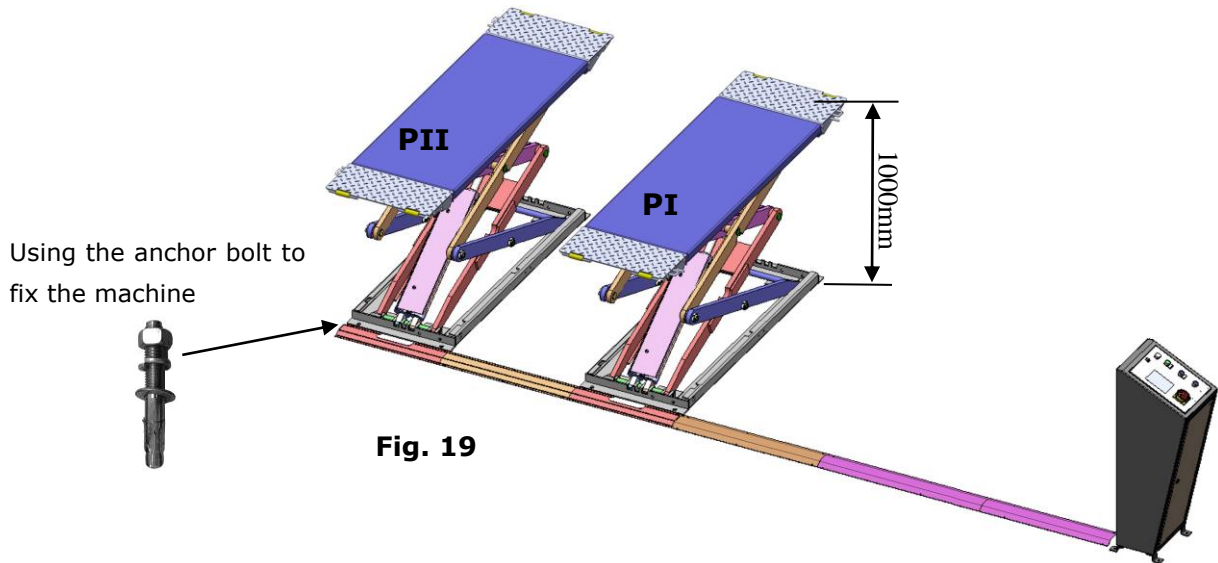
1. Check by level bar and use the shim to adjust the platforms until two platforms are in the same level.



**Fig. 18**

2. Anchor bolts installation

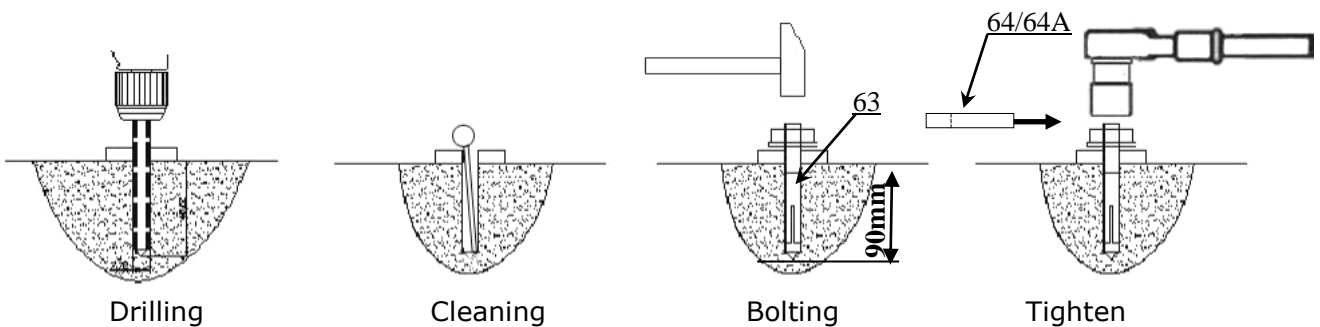
2.1 Lift the machine to 1000mm for the anchor bolt installation.



**Fig. 19**

2.2 Drilling the hole for the anchor bolt with the rotary hammer drill, type the anchor bolt into the ground, and then fasten it with Ratchet spanner.

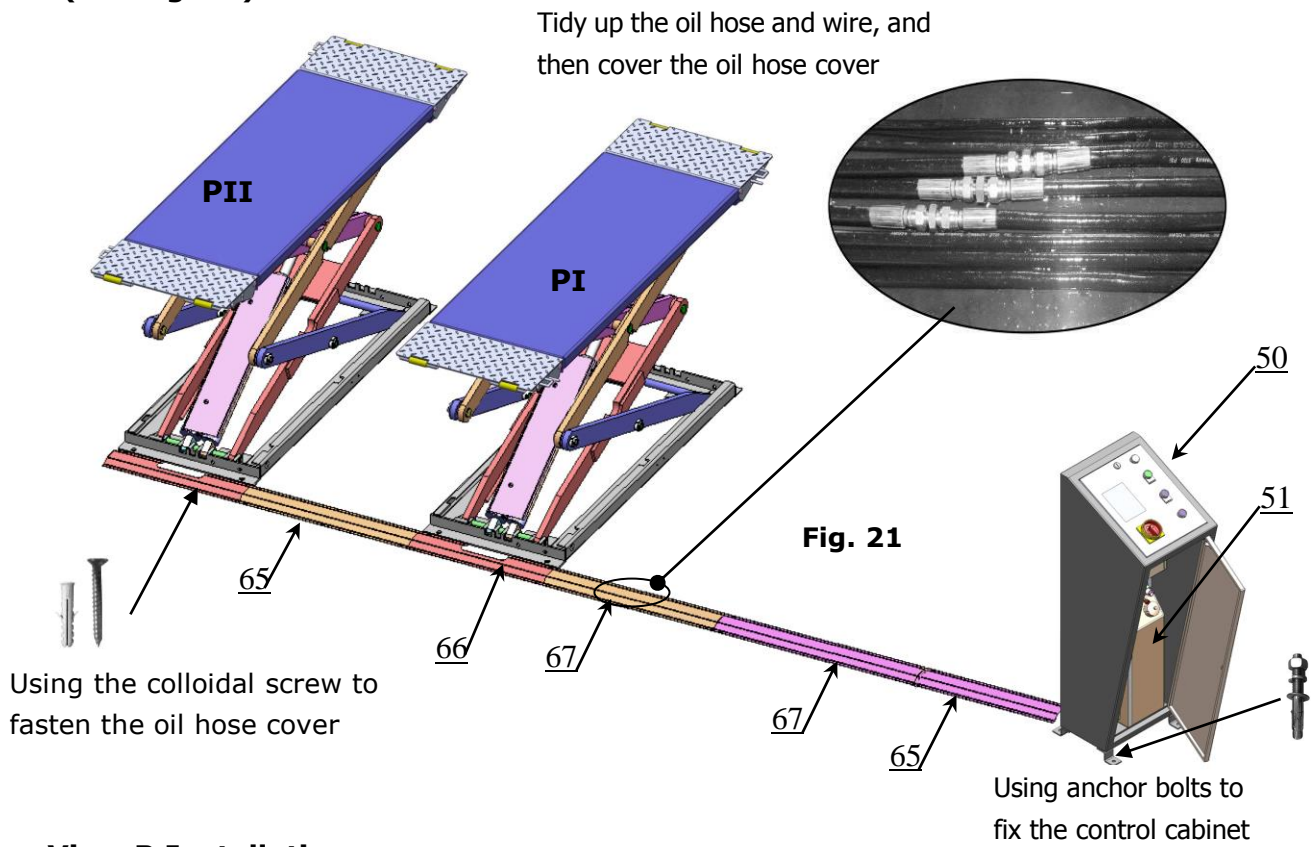
**Note: The Torque of anchor bolt is 150 N.m, the length inside ground of anchor bolt must be over 90mm.**



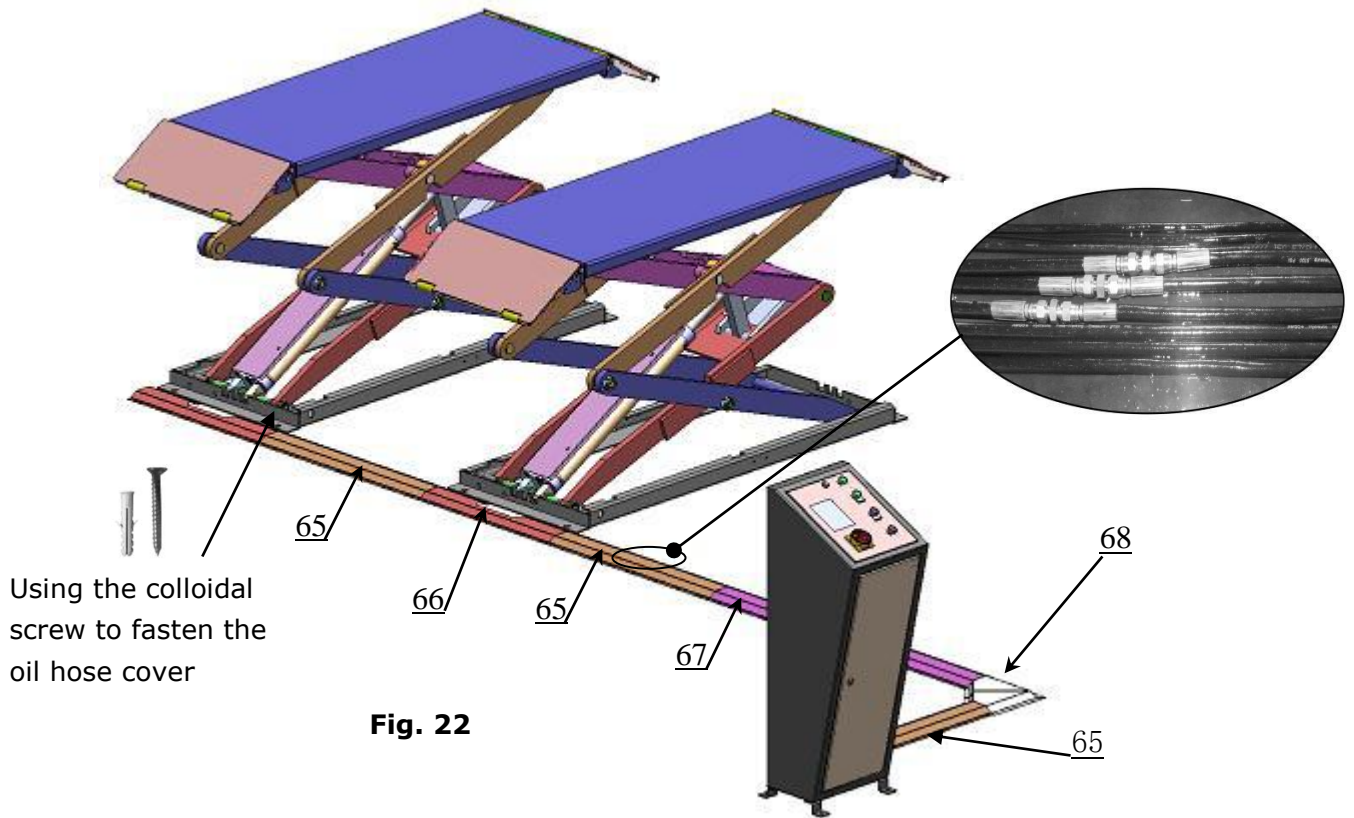
**Fig. 20**

## F. Install oil hose cover and anchor the control cabinet

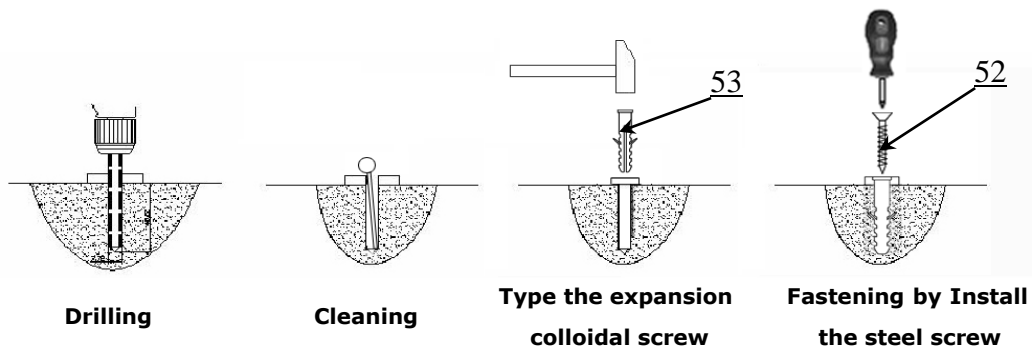
1. Tidy up the oil hose and wire, cover the oil hose cover and layout the control cabinet.  
(See Fig. 20)



### View B Installation

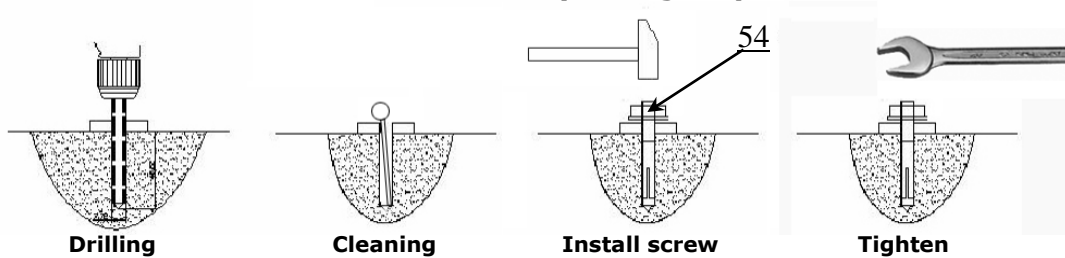


2. Install the colloidal screw of oil hose cover (See Fig. 23).



**Fig. 23**

3. Install the control cabinet anchor bolt (See Fig. 24)



**Fig. 24**



# IV. EXPLODED VIEW

## MODEL TX7

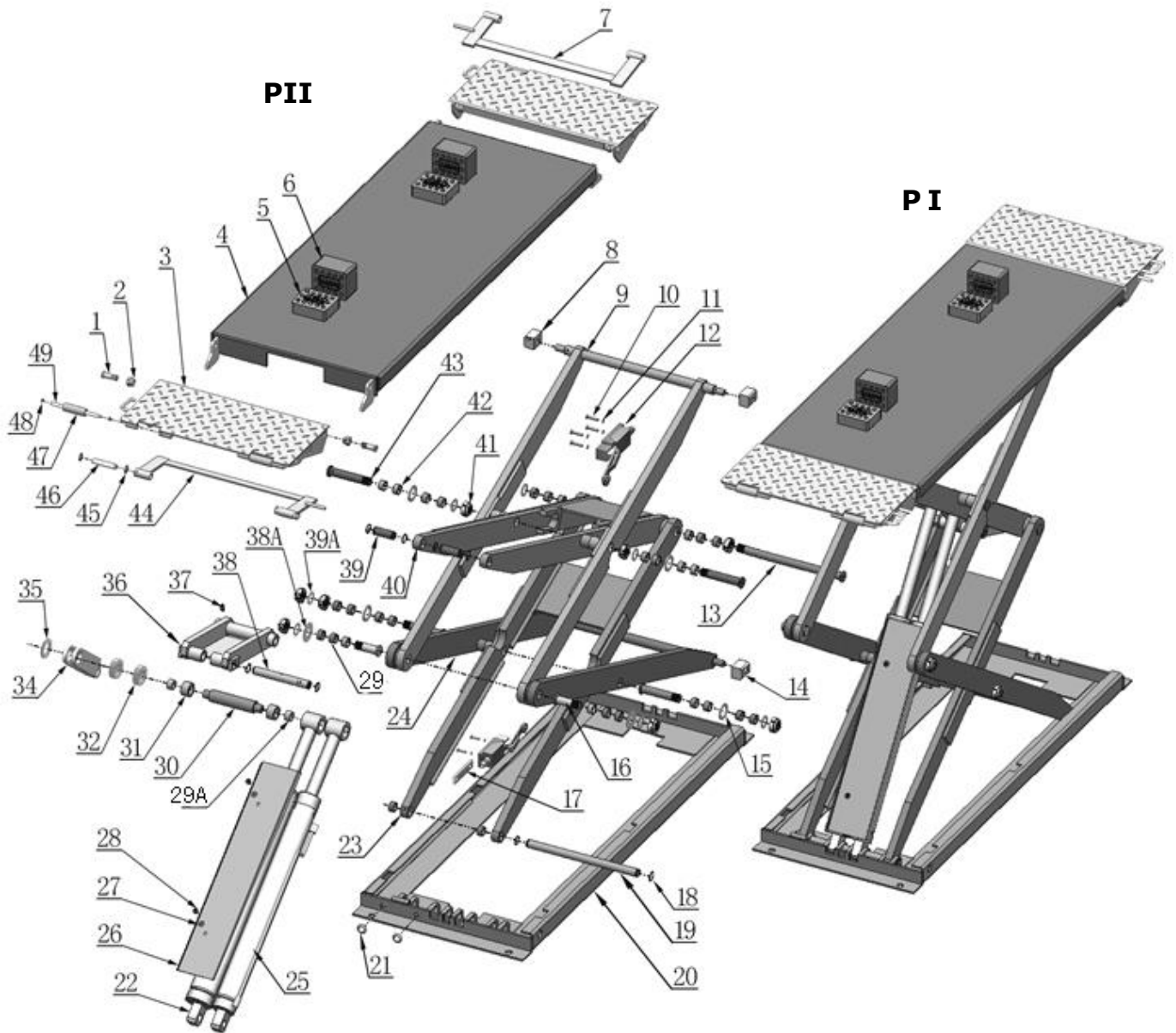
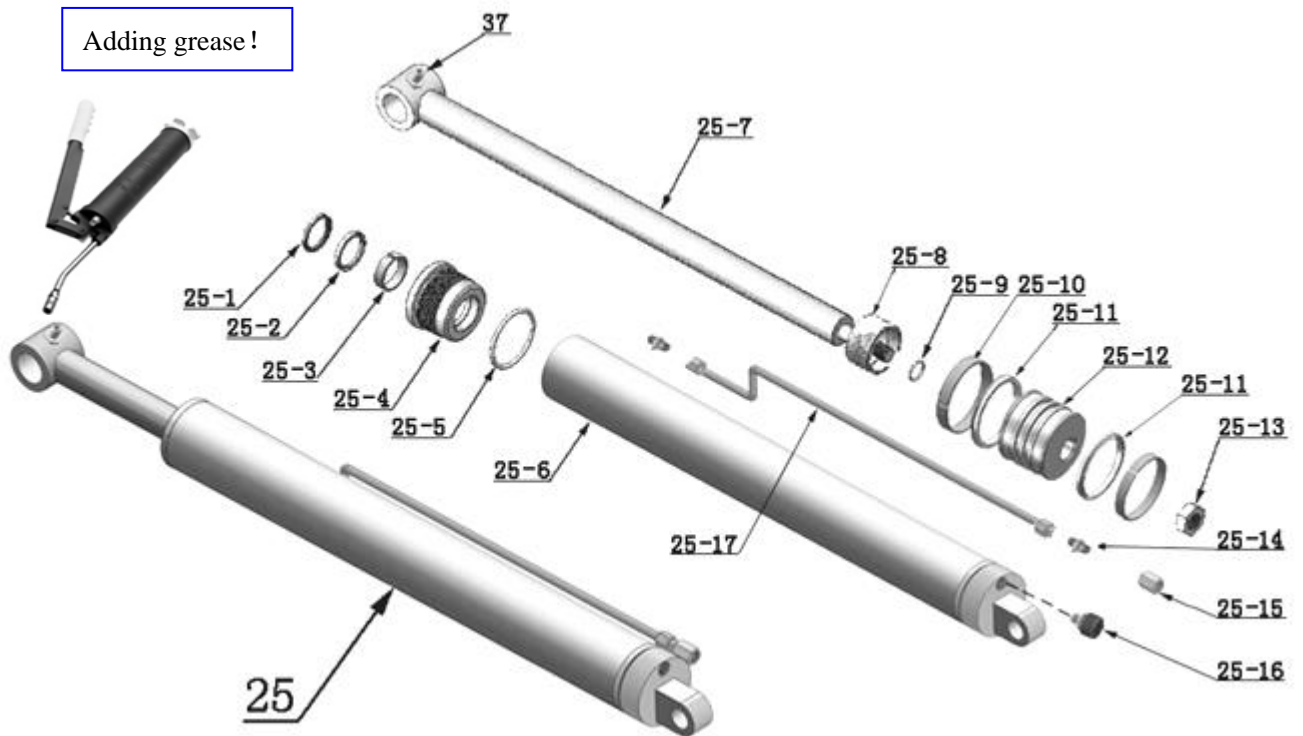


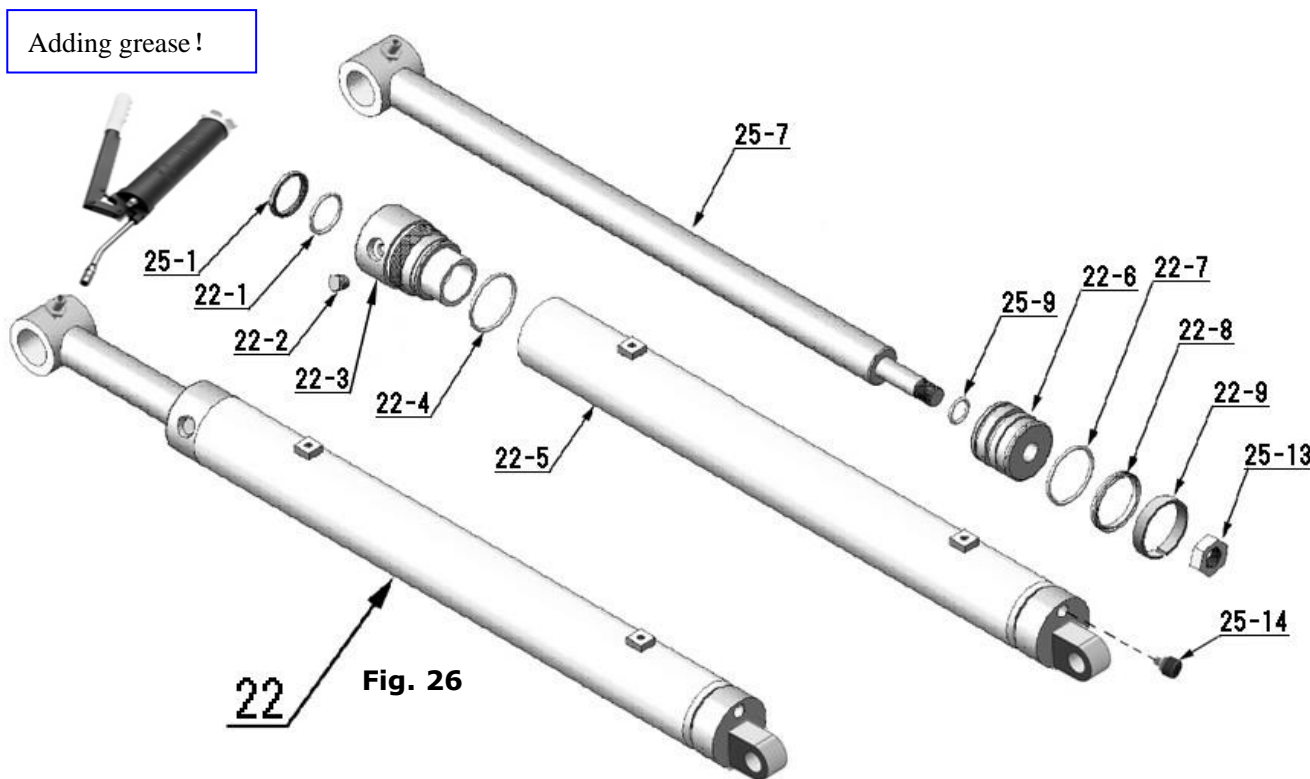
Fig. 25

# CYLINDERS

## 1. Main Cylinders



## 2. Secondly Cylinders



# CONTROL CABINET

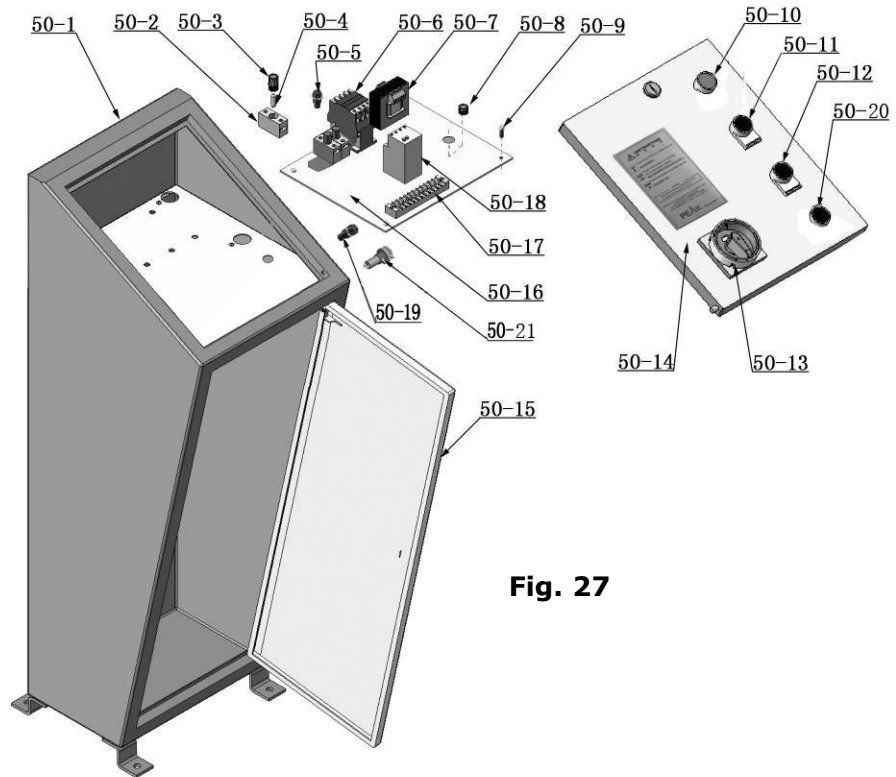


Fig. 27

# SPX ELECTRIC POWER UNIT

220V/50HZ/1 Phase

380V/50HZ/3 Phase

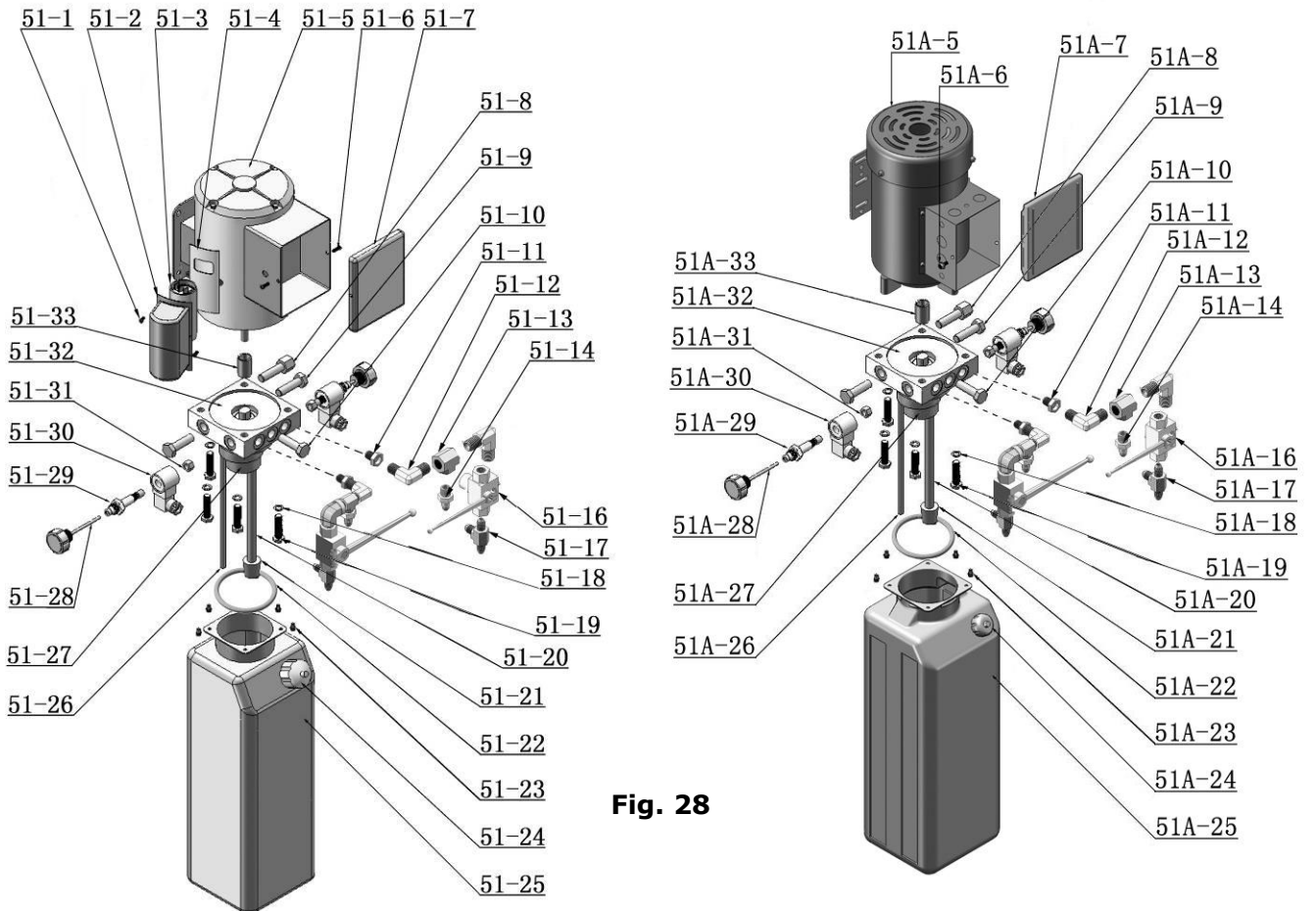
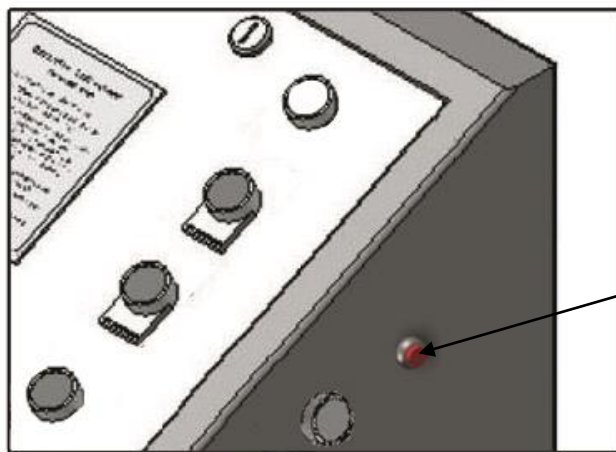


Fig. 28

## V. TEST RUN

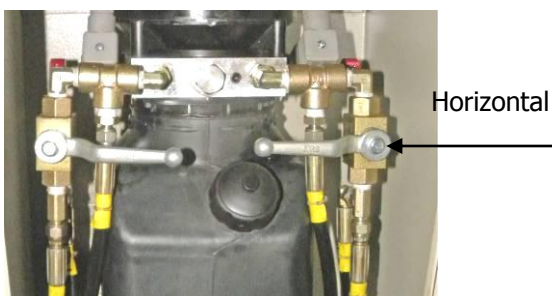
1. Turn on the power after connecting oil system correctly. Push the **UP** button, and check the rotated direction of the Motor (This is right if lift is upward, otherwise, it is wrong direction of the Motor). Shut off power and exchange the phase connection if the direction is wrong.
2. Fill the reservoir with hydraulic oil. In consideration of hydraulic power unit's durability and keep the equipment running in the perfect condition, **please use Hydraulic Oil 46#.**
3. Synchronous adjustment
  - a. Turning the handles of shutoff valves to the position as **Fig.30** (normal working position) before adjustment. Push the button **UP↑** until the both platforms lift up to the position that the high limit switch stop the lifting. And then push the button **UP↑** and the red button **(SB)** on the side way of control cabinet show as **Fig. 29** to raise the both platforms to the highest position.



Red button (SB)

Fig. 29

- b. Turning the handle of the both shutoff valves to the oil filling position show as **Fig.31**



Normal Working Position

Fig. 30



Oil Filling Position

Fig. 31

- c. Push the button **UP↑** and the red button (**Fig. 29**) to fill the oil into secondly cylinders until it is full.
- d. Turning the both handle of valves to the position as **Fig.30** (normal working position). Push the button **Down**, the lift start to lower (If the lift can't lower down, turning the handle lever of one valve to oil filling position shown as **Fig.31**, then quickly turning the handle lever to normal working position, and adjusting another valve with the same way), the lift will be stopped at about 300mm height from the ground. Pushing button **Down** while push the **Lowering Alarm Button(black)** at the side of control cabinet, the lift is lowered to ground with alarm tone.
- e. If the both platforms are still un even, repeat the above procedure **a** to **d** more times, then the lift would be synchronous worked.

## VI. OPERATION INSTRUCTIONS

### To lift vehicle

1. Keep clean of site near the lift, and down the lift to the lowest position;
2. Drive vehicle to the platform and put on the brake;
3. Turn on the power and push the button **UP**, raise the lift to the working position;  
**Note: make sure the vehicle is steady when the lift is raised**
4. Make sure the platforms are in the same level before working then turn off the power switch

### To lower vehicle

1. Cleaning the obstacles around or under the lift, and make sure no people around under the lift.
2. Turn on the power switch, push the down button **Down** to lower the lift, the lift is lowered continually and stopped at the height 300mm from ground. Keep feet clear off lift, push button **DOWN** while push the **Lowering Alarm Button(black)** at the side of control cabinet, the lift will be lowered to ground with alarm tone;
3. Driving away the car.

4. Turn off the power switch.

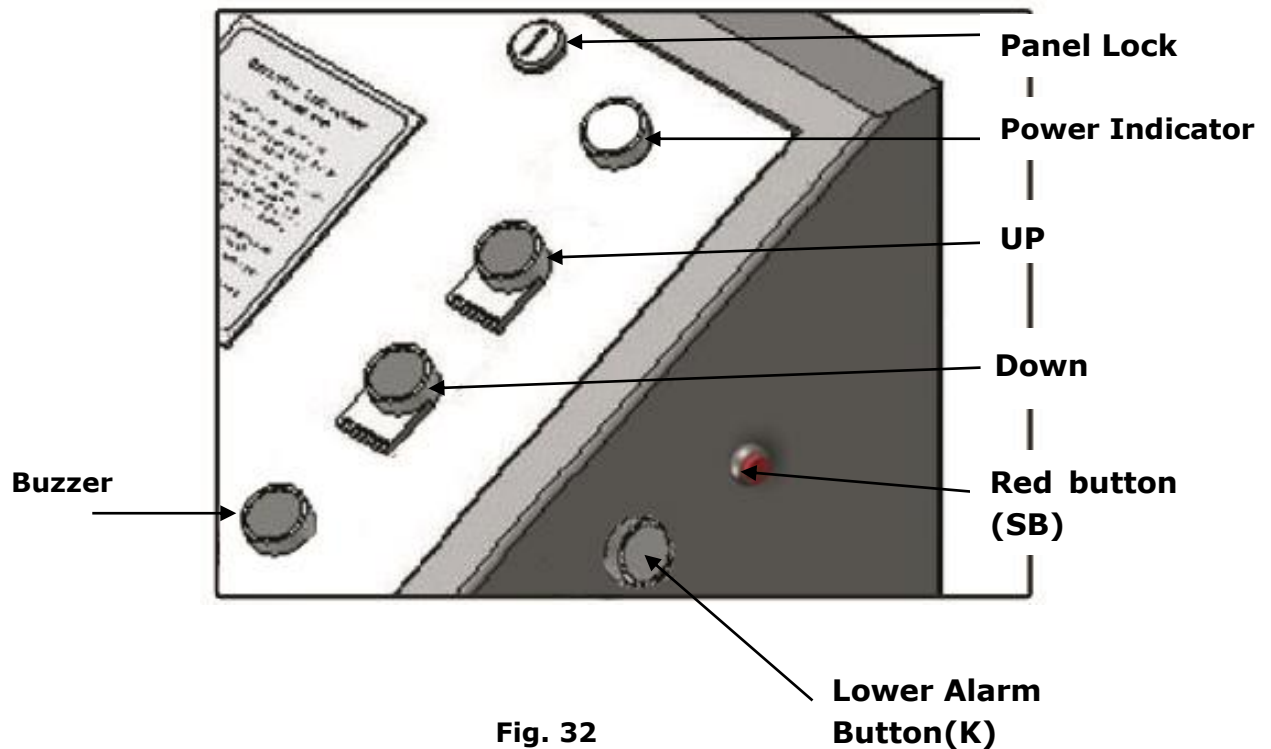


Fig. 32

## VII. MAINTENANCE SCHEDULE

### Monthly:

1. Re-torque the anchor bolts to 150Nm.
2. Lubricate all moving parts with lubricant.
3. Check all fittings, bolts and pins to insure proper mounting.
4. Make a visual inspection of all hydraulic hoses for possible wear or leakage.
5. Adjusting the lifting level on both platforms.

### Every six months:

1. Make a visual inspection of all moving parts for possible wear, interference or damage.
2. Check and adjust the platform as necessary to insure level lifting.
3. Check all fastener and re-torque.

## 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 or disconnection</li> <li>3. AC contactor in damage</li> <li>4. Motor burned out</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace button</li> <li>2. Repair all wiring connection</li> <li>3. Repair or Replace AC contactor</li> <li>4. Repair or replace motor</li> </ol>
Motor have voice but does not run	<ol style="list-style-type: none"> <li>1. Power lack for one phase</li> <li>2. AC contactor does not contact well</li> </ol>	<ol style="list-style-type: none"> <li>1. Check circuit of Power unit</li> <li>2. 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. Low oil level</li> <li>3. The Gear Pump out of operation</li> <li>4. Relief valve or check valve in damage</li> <li>5. Shaft Coupling in damage</li> </ol>	<ol style="list-style-type: none"> <li>1. Reverse two power wire</li> <li>2. Fill tank</li> <li>3. Repair or replace</li> <li>4. Repair or replace</li> <li>5. Replace Shaft Coupling</li> </ol>
Lift raised slowly	<ol style="list-style-type: none"> <li>1. Oil line is jammed</li> <li>2. Gear Pump leaks</li> <li>3. Overload lifting</li> <li>4. Power Voltage low</li> <li>5. Oil mixed with air</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean the oil line</li> <li>2. Replace Pump</li> <li>3. Check load</li> <li>4. Check electrical system</li> <li>5. Fill tank and bleeding air</li> </ol>
Lift cannot lower	Hydraulic Solenoid valve out of operation	Repair or replace

## IX. PARTS LIST FOR TX7

Item	Part#	Description	QTY.	Note
1	620124	Pin For Drive-thru Ramp	8	
2	650024	Self locking nut	8	
3	620128	Drive-in Ramp	4	
4	620001B	Platform	2	
5	620034	Rubber Pad	4	
6	610070	Rubber Pad	4	
7	620129	Support frame for Drive-in Ramp (Left)	2	
8	620018	Slider Block (white)	4	
9	620026B	Upper Scissor (Out)	2	
10	203018	Socket Bolt	6	
11	420152	Washer	6	
12	206013	Limit Switch	2	
13	620011A	Scissors Pin	2	
14	620061/ 620061A	Slider Block (white)	2/ea.	
15	620117	Washer	8	
16	620030	Scissors Pin	4	
17	620060	Fix Plate For Limit Switch	1	
18	206032	Snap Ring	16	
19	620014A	Base frame Pin	2	
20	620017B	Base frame	2	
21	620059	Protection Ring	3	
22	620013B	Secondly Cylinder	2	
23	620033A	Lower Scissor (In)	2	
24	620031A	Lower Scissor (Out)	2	
25	620012B	Main Cylinder	2	
26	620016A	Cylinder Cover	2	
27	420045	Washer	4	
28	209009	Cup Head Bolt	4	
29	217020	Bronze Bush	16	
29A	620141	Bronze Bush	4	
30	620025A	Cylinder Connecting Pin	2	
31	620024A	Roller	4	
32	620120	Pin Bush	4	
34	620007A	Buffer Connecting bar	2	
35	620119	Pin Bush	2	
36	620010B	Buffer	2	
37	620064	Greasing Fitting	12	



<b>Item</b>	<b>Part#</b>	<b>Description</b>	<b>QTY.</b>	<b>Note</b>
38	620008A	Buffer Connecting Pin	2	
38A	620135	Shim	8	
39	620028A	Connecting Pin For Upper Scissor (In)	4	
39A	640109	Washer	14	
40	620027B	Upper Scissor (In)	2	
41	620022	Self locking Nut	14	
42	203004A	Bronze Bush	48	
43	620019A	Scissors Pin	8	
44	620130	Support frame for Drive-in Ramp(Right)	2	
45	420037	Snap Ring	16	
46	620123	Connecting Shaft for support frame	8	
47	620063	Roller for Drive-in Ramp	8	
48	209010	Snap Ring	16	
49	620043	Roller Pin	8	
50	620067	Control Cabinet	1	
51	620068	Electric Power Unit	1	
52	620069	Screw	42	
53	620070	Colloidal screw	42	
54	620071	Anchor Bolt	4	
55	620072	Oil Hose	6	
55A	620103	O Ring	6	
55B	620102	Seal Ring	6	
56	620152	Oil Hose No.④	1	
57	620153	Oil Hose No.③	1	
58	620154	Oil Hose No.②	1	
59	620155	Oil Hose No.⑤	1	
60	620156	Oil Hose No.①	1	
61	620157	Oil Hose No.⑥	1	
62	620079	Straight Fitting	6	
63	209059	Anchor Bolt	8	
64	620065	Shim	20	
64A	201090	Shim	20	
65	620035A	Oil hose cover (748mm)	3	
66	620066	Oil hose cover (600mm)	2	
67	510037	Oil hose cover (1060mm)	2	
68	620161	Oil hose cover	1	
69	620500A	Parts Box	1	

<b>Item</b>	<b>Part#</b>	<b>Description</b>	<b>QTY.</b>	<b>Note</b>
<b>Parts For Hydraulic Cylinder</b>				
25-1	209078	Dust Ring	4	
25-2	620046	Y- Ring	2	
25-3	620047	Support Ring	2	
25-4	620124	Head Cap (Main)	2	
25-5	620049	O- Ring	2	
25-6	620125	Bore Weldment	2	
25-7	620051	Piston Rod	4	
25-8	620086	Spacer For Cylinder	2	
25-9	206069	O- Ring	4	
25-10	620053	Support Ring	2	
25-11	620054	Y- Ring	4	
25-12	620055	Piston	2	
25-13	206071	Hex Nut	4	
25-14	209064	Straight fitting	4	
25-15	620127	Oil hose fitting	2	
25-16	620057	Burst Valve	4	
25-17	620125A	Oil hose ASSY.	2	
22-1	620058	O- Ring	2	
22-2	201034	Bleeding Plug	2	
22-3	620059A	Head Cap	2	
22-4	201035	O- Ring	2	
22-5	620056	Bore Weldment	2	
22-6	201028	Piston	2	
22-7	201031	O- Ring	2	
22-8	201030	Y- Ring	2	
22-9	201029	Support Ring	2	
<b>Parts For SPX Power Unit 220V/50HZ/1 Phase</b>				
51-1	81400166	Cross Screw	2	
51-2	81400167	Capacitor Cover	1	
51-3	81400029	Capacitor	1	
51-4	81400168	Rubber Gasket	1	
51-5	81400185	Motor	1	
51-6	81400166	Cross Screw	2	
51-7	81400062	Cover of Motor Terminal Box	1	
51-8	81400160	Relief Valve	1	
51-9	81400043	Check Valve	2	
51-10	81400212	Flow Control Valve	1	
51-11	440009	Straight Fitting For Power Unit	2	
51-12	680072	90° Fitting	4	

<b>Item</b>	<b>Part#</b>	<b>Description</b>	<b>QTY.</b>	<b>Note</b>
51-13	61K107	T-Fitting	2	
51-14	209064	Straight Fitting	2	
51-16	61K101	Shutoff Valve	2	
51-17	209062	T-Fitting	2	
51-18	81400161	Lock Washer	4	
51-19	81400162	Socket Bolt	4	
51-20	81400121	Inlet Oil Pipe	1	
51-21	81400164	Filter	1	
51-22	81400163	O-Ring	1	
51-23	81400165	Hex Blot	4	
51-24	81400172	Filter Cap	1	
51-25	81400093	Reservoir	1	
51-26	81400122	Oil Return Pipe	1	
51-27	81400123	Gear Pump	1	
51-28	81400189	Release Adjusting Rod	2	
51-29	81400056	Hydraulic Solenoid Valve Body	2	
51-30	81400188	Hydraulic Solenoid Valve Coil	2	
51-31	81400187	Solenoid Valve Nut	2	
51-32	81400186	Valve Body	1	
51-33	81400063	Motor Connecting Shaft	1	
<b>Parts For SPX Power Unit 380V/50HZ/3 Phase</b>				
51A-5	81400100	Motor	1	
51A-6	81400166	Cross Screw	1	
51A-7	81400062	Cover of Motor Terminal Box	1	
51A-8	81400160	Relief Valve	1	
51A-9	81400043	Check Valve	2	
51A-10	81400212	Flow Control Valve	1	
51A-11	440009	Straight Fitting For Power Unit	2	
51A-12	680072	90° Fitting	4	
51A-13	61K107	T-Fitting	2	
51A-14	209064	Straight Fitting	2	
51A-16	61K101	Shutoff Valve	2	
51A-17	209062	T-Fitting	2	
51A-18	81400161	Lock Washer	4	
51A-19	81400162	Socket Bolt	4	
51A-20	81400121	Inlet Oil Pipe	1	
51A-21	81400164	Filter	1	
51A-22	81400163	O-Ring	1	

<b>Item</b>	<b>Part#</b>	<b>Description</b>	<b>QTY.</b>	<b>Note</b>
51A-23	81400165	Hex Blot	4	
51A-24	81400172	Filter Cap	1	
51A-25	81400093	Reservoir	1	
51A-26	81400122	Oil Return Pipe	1	
51A-27	81400123	Gear Pump	1	
51A-28	81400189	Release Adjusting Rod	2	
51A-29	81400056	Hydraulic Solenoid Valve Body	2	
51A-30	81400188	Hydraulic Solenoid Valve Coil (Y1、Y2)	2	
51A-31	81400187	Solenoid Valve Nut	2	
51A-32	81400186	Valve Body	1	
51A-33	81400063	Motor Connecting Shaft	1	

<b>Parts For Control Cabinet</b>				
50-1	62K001A	Cabinet Body	1	
50-2	420087	Fuse Base	3	
50-3	420085	Fuse Cap	3	
50-4	420086	Fuse (FU1)	3	
50-5	420176	Fuse Protector (FU2)	1	
50-6	420084A	24V AC Contractor (KM)	1	
50-7	420134	24V Transformer (TC)	1	
50-8	620081	Push Button (SB)	1	
50-9	61K052	Cup Head Bolt	4	
50-10	201094	Power Indicator	1	
50-11	209099A	Button (UP)	1	
50-12	209099A	Button (Down)	1	
50-13	420074	Power Switch (QS)	1	
50-14	62K007	Control Panel	1	
50-15	62K012	Cabinet Door	1	
50-16	620099	Panel for Installing Element	1	
50-17	620082	Terminal Group	1	
50-18	420140	Thermal Relay (FR)	1	
50-19	650017	Red Button(SB)	1	
50-20	420143	Buzzer	1	
50-21	420142	Lowering Alarm Button(black)	1	



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