



# ATLAS 412/412A

12,000 lb. Capacity  
Four-Post Lift

## INSTALLATION & OPERATION MANUAL



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## CONTENTS

Product Features and Specifications .....	1
Installation Requirement.....	3
Steps of Installation .....	4
Exploded View .....	11
Test Run .....	14
Operation Instruction .....	15
Maintenance .....	16
Trouble Shooting .....	16
Four-Post Lift Parts List .....	18

# I. PRODUCT FEATURES AND SPECIFICATIONS

## NON-ALIGNMENT MODEL FEATURES

- Mechanical self-lock and air-driven safety release.
- Electrical hydraulic power system, cable-driven.
- Sand resistance platform to avoid skidding.
- Adjustable platform and adjustable safety lock ladders.
- Optional Jack: Hand pump/Air-operated hydraulic pump.

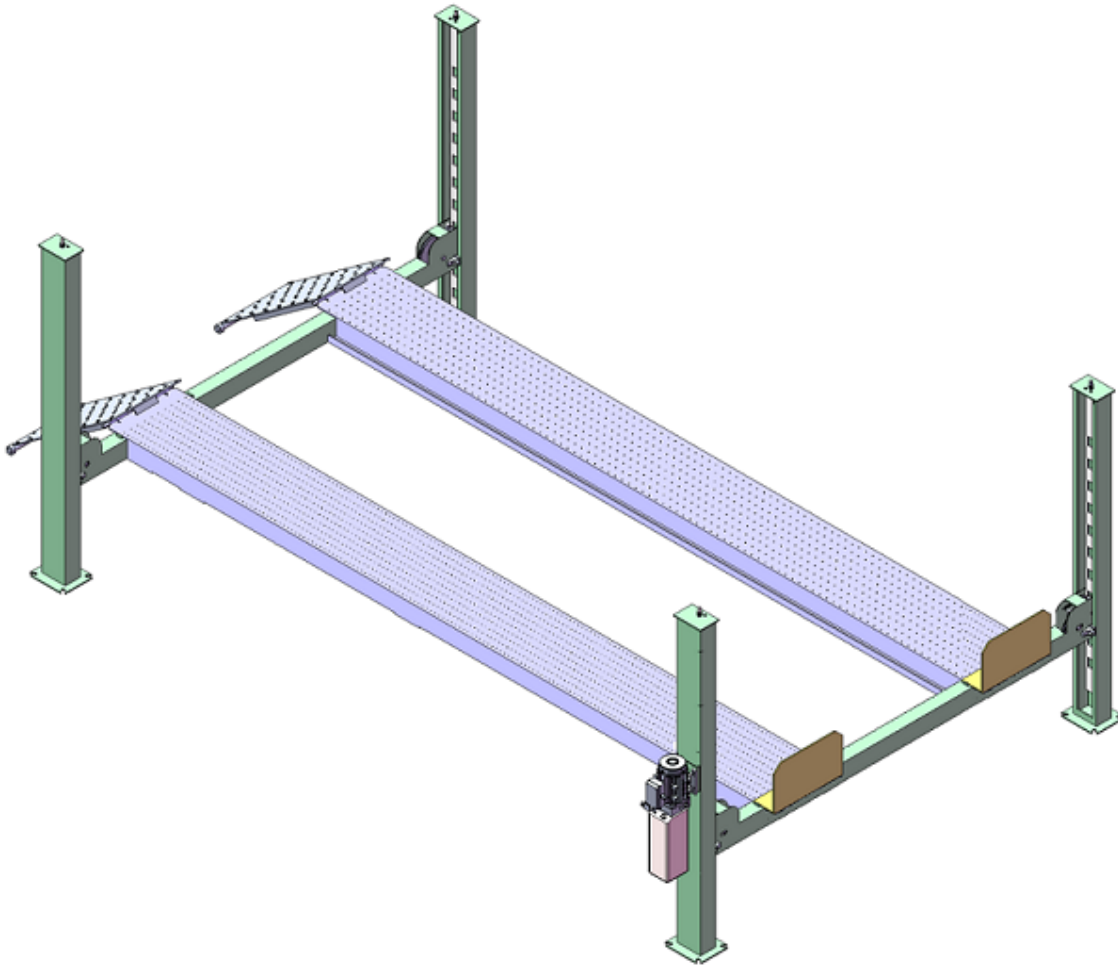


Fig. 1

## NON-ALIGNMENT MODEL SPECIFICATIONS

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Length (Inc. Ramps)	Overall Width	Width Between Posts	Gross Weight	Motor
412	6T	74.75"	60S	230.5"	126.3"	112.25"	2094 lbs.	2.5/3.0HP

## ALIGNMENT MODEL FEATURES

- Mechanical self-lock and air-driven safety release.
- Electrical hydraulic power system, cable-driven.
- Diamond-plate design, skid resistance.
- Two adjustable turntable positions.
- Adjustable platform and adjustable safety lock ladders.
- Optional Jack: Hand pump/Air-operated hydraulic pump/Power unit control.

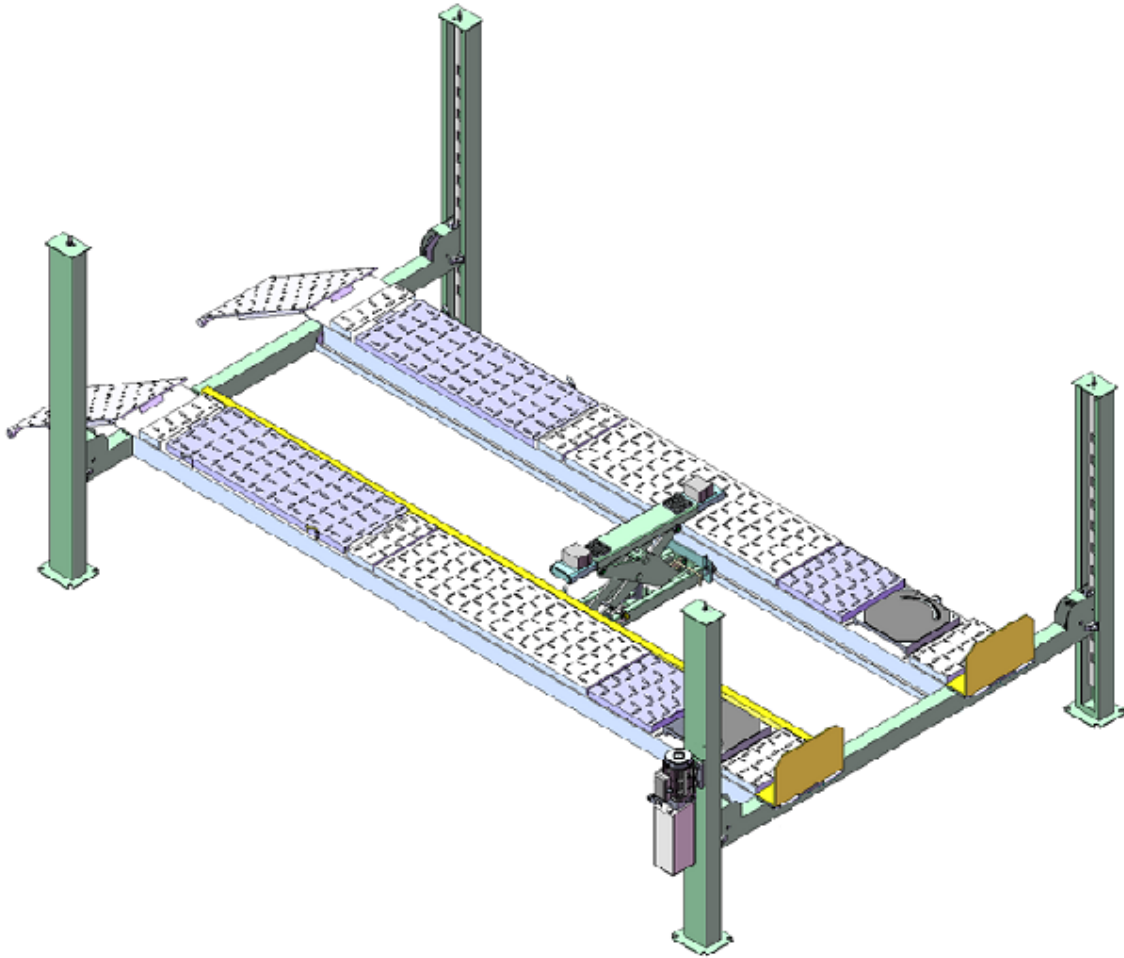


Fig. 2

## ALIGNMENT MODEL SPECIFICATIONS

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Length (Inc. Ramps)	Overall Width	Width Between Posts	Gross Weight	Motor
412A	6T	74.75"	60S	230.5"	126.3"	112.25"	2524 lbs.	2.5/3.0HP

## II . INSTALLATION REQUIREMENT

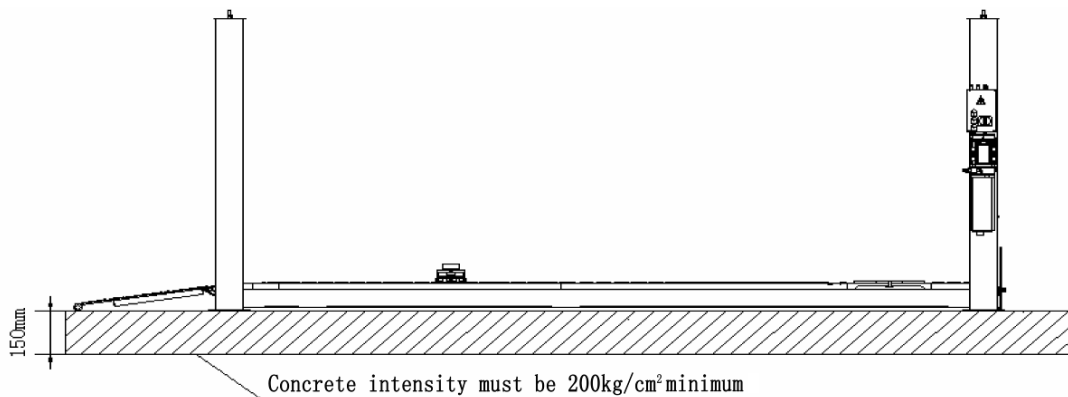
### A. TOOLS REQUIRED

- ✓ Rotary Hammer Drill ( $\Phi 18$ )
- ✓ Hammer
- ✓ Foot Level
- ✓ English spanner (12")
- ✓ Ratchet spanner with socket 10#, 13#, 14#, 15#, 17#, 19#, 24#, 27#, 28#
- ✓ Hex-key/Allen Wrench Set (4#, 6#)
- ✓ Screw Sets
- ✓ Carpenter's chalk
- ✓ Tape Measure (7.5M)
- ✓ Needle Nose Pliers
- ✓ Lock Wrench

### B. SPECIFICATIONS OF CONCRETE (See Fig. 3)

**SPECIFICATIONS OF CONCRETE MUST MATCH THOSE GIVEN BELOW. FAILURE TO DO SO MAY RESULT IN LIFT AND/OR VEHICLE FALLING.**

1. Concrete must be 6" minimum thickness and without reinforcing steel bars, and must be dried totally before the installation.
2. Concrete must be in good condition (3000 psi minimum).
3. Floors must be level and no cracks.



**Fig. 3**

### C. AIR SUPPLY

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

### D. POWER SUPPLY

The capacity of source must be 3HP minimum. The power line must be 10 gauge minimum and in good condition.

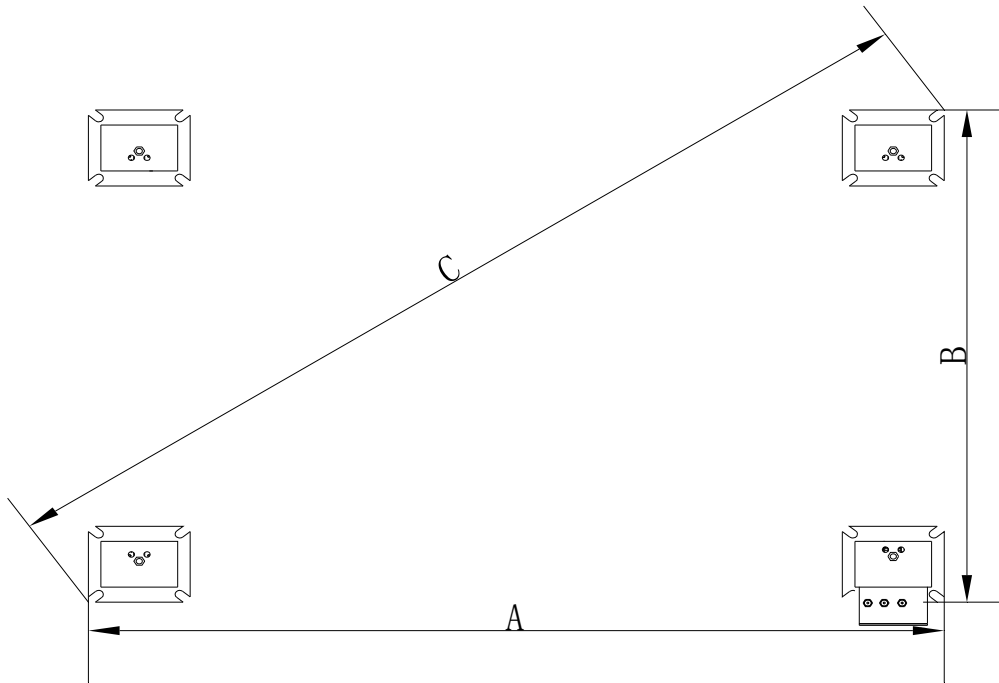
### III. STEPS OF INSTALLATION

#### 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 as per Table1 (see Fig. 4)  
Make sure the size is right and base is flat.

**Note:** Reserve space at the front for fixing Four-wheel Alignment or tool box, reserve space at the rear for Ramps.



**Fig. 4 Posts Installation**

MODEL	A	B	C	REMARK
412	200.78"	126.3"	237.2"	
412A	200.78"	126.3"	237.2"	

**Table 1: Four-Post Lift installing size**

### C. Check Out the Parts Before Assembly

1. Move the lift with forklift or hoist, and open the outer packing carefully. Check the parts according to the shipment parts list (see picture 1)



Picture 1

2. Open the carton of parts and check the parts according to parts box list (see picture 2)
3. Check the parts of the parts bag according to parts bag list (see picture 3)



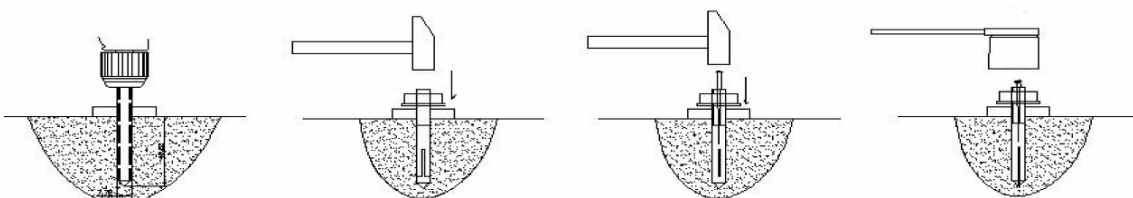
Picture 2: Parts Box list



Picture 3: Parts Bag list

### D. Install Posts and Cross Beams

1. Position the four posts. Usually, it is suggested to install Powerside Post on the front-right side (car-in direction); or install it on the rear-left side (car-in direction).
2. Install the posts. Use the prescribed rotary hammer ( $\Phi 18$ ) drill to drill anchor holes (Assure the plate sides of the posts are in accordance with chalkline). Make the posts level with each other using the shims, and tighten the Anchor Bolts (see Fig. 5).



Drilling

Bolting

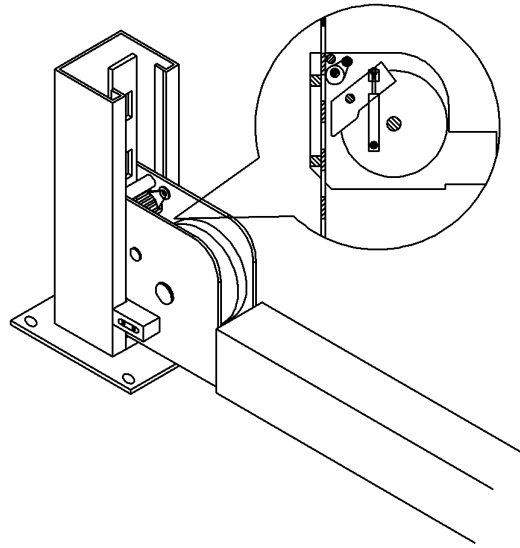
Fig. 5

Expanding

Tighten

3. Loosen the fixing nut for the slider of the Cross beam, and set the Cross beam into the Posts (please note that the front Cross beam is different from the rear Cross beam) (see Fig. 6)





**Fig. 6**

4. Unscrew the four upper nuts of the Safety Ladders, and turn the four lower nuts to be at the same position. Withdraw the Eccentric Cam of the Cross-beam to insert the Safety Ladder in, raise the Safety Ladder, and screw the upper nuts.

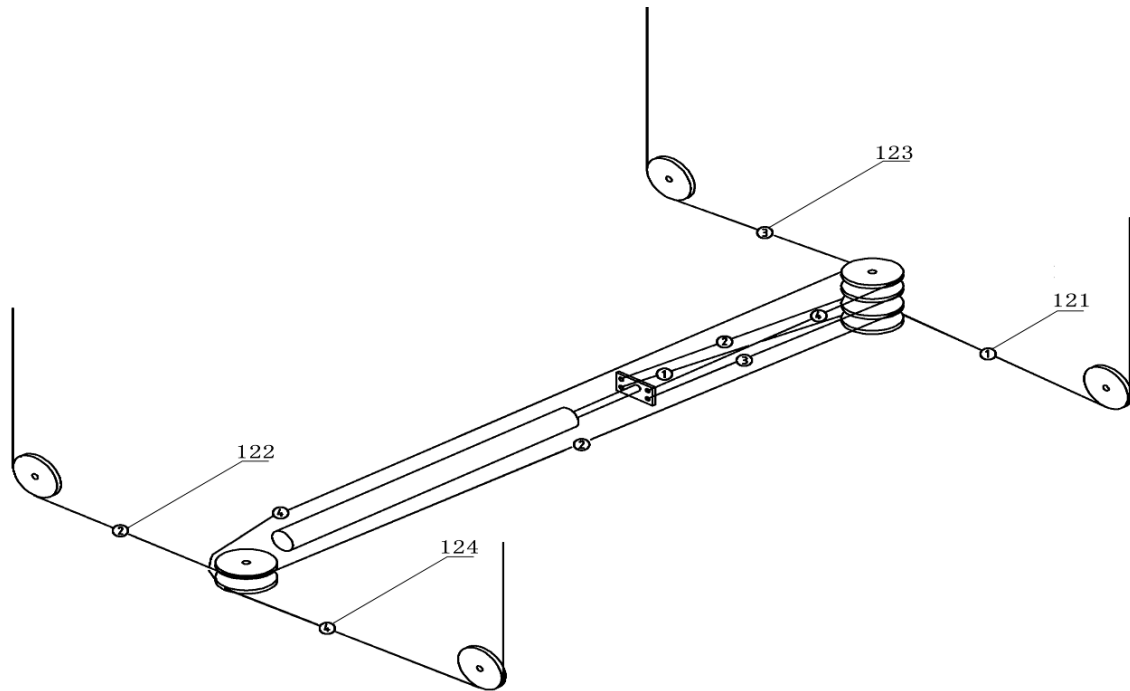
### **E. Install Platforms**

1. Fix both Cross-beams to Safety Ladders at about 3 ft. height
2. Check first if the cross beams are safely set on the safety ladders, and then put the platforms onto the two beams. Pay attention to that the positions of the power side and offside platforms. The distance between two platforms can be adjusted according to customer's requirements.
3. Install other parts of the platforms (Ramps, Slip Plate, Turntable Position Pocket, Tire Bar, Oil Cylinder, etc.).



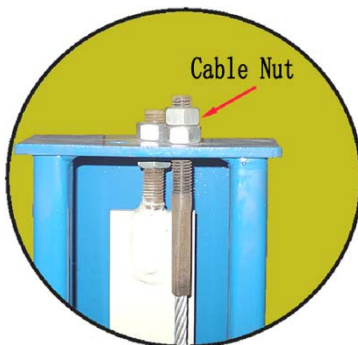
## F. Install Cables

1. The connection of cables and pulleys must follow the steps as shown in **Fig.7**. The two nuts of each cable are to be assembled on the top- plate of post and tightened to each other (**see Picture 6**). Always make sure the Cables are not crossed.



**Fig. 7 Cable installation**

2. Fix the Spring of Tension Pulley (**see Picture 7**)



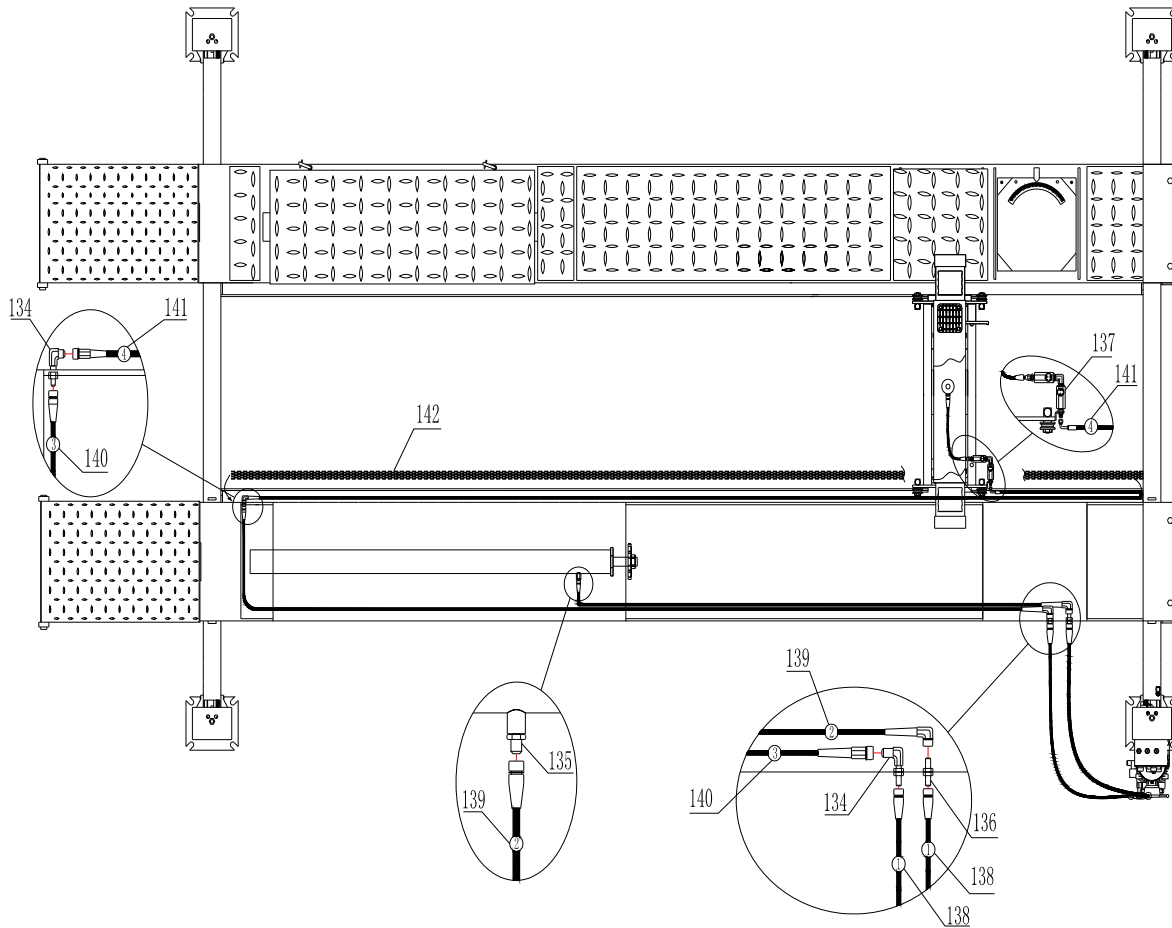
**Picture 6**



**Picture 7**

## G. Install Hydraulic System (See fig. 8)

1. Attach the Power Unit to the mounting bracket using M8×25 Hex Bolts.



**Fig. 8 Hydraulic System**

**NOTE: This figure shows the lifts equipped with the Jack controlled by the power unit. This option is not available for your lift.**

2. Connecting the power unit fitting and the fitting No.138 in platform by hose assy. ① (two straight hose assy. No.138).
3. Connecting the fitting for Platform and the cylinder fitting by hose assy. ② (No.139).
4. The leakage oil of cylinder would be conducted by a returned line No.133.(See Fig.8)

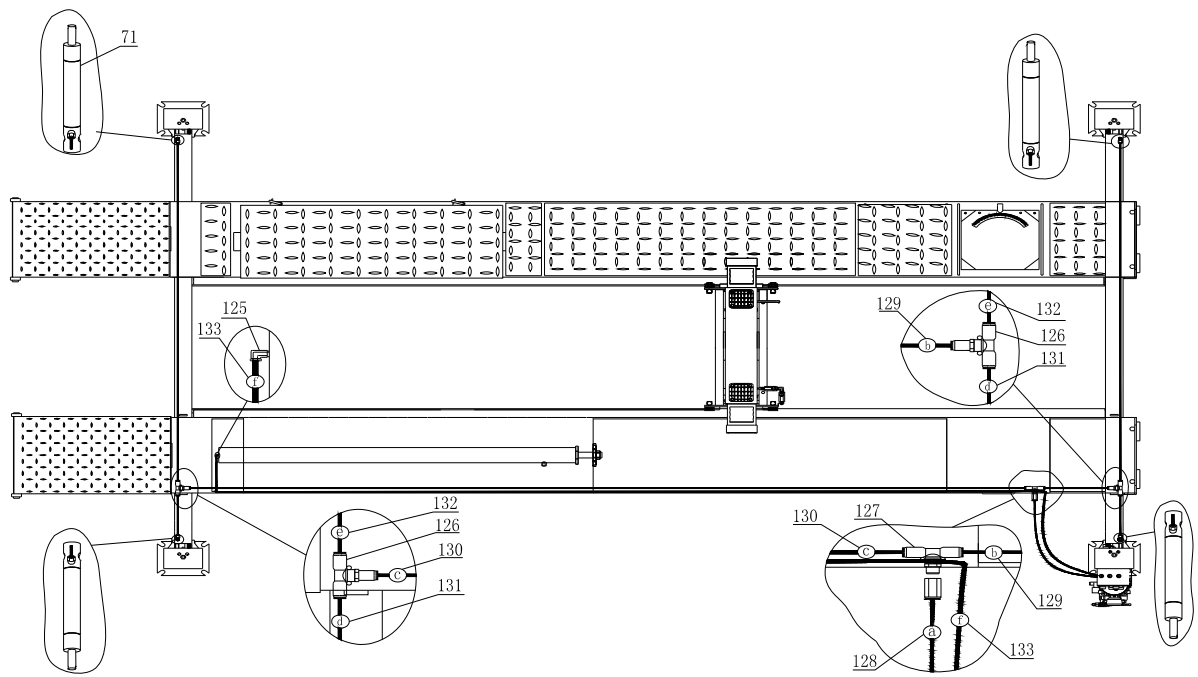
## H. Install Air-line System (See Fig. 9)

**ATTENTION CUSTOMER: THE AIRLINE SHOWN COMING FROM THE END OF THE HYDRAULIC CYLINDER (FIG 9 BELOW) IS AN OPTION THAT IS NOT AVAILABLE FOR YOUR LIFT.**

1. Install the Control Valve to the power unit with the bracket provided (Picture 9).
2. Connect an air inlet line to the top of the control valve (fitting is not provided).

**Air supply pressure 5kg/ cm<sup>2</sup> – 8kg/cm<sup>2</sup>.**

3. Connect the air hose provided to the bottom of the air valve.
4. Run the airline to the T fitting inside the power-side runway and run the airline to the lock release cylinders as shown.



**Fig. 9 Air-line System**



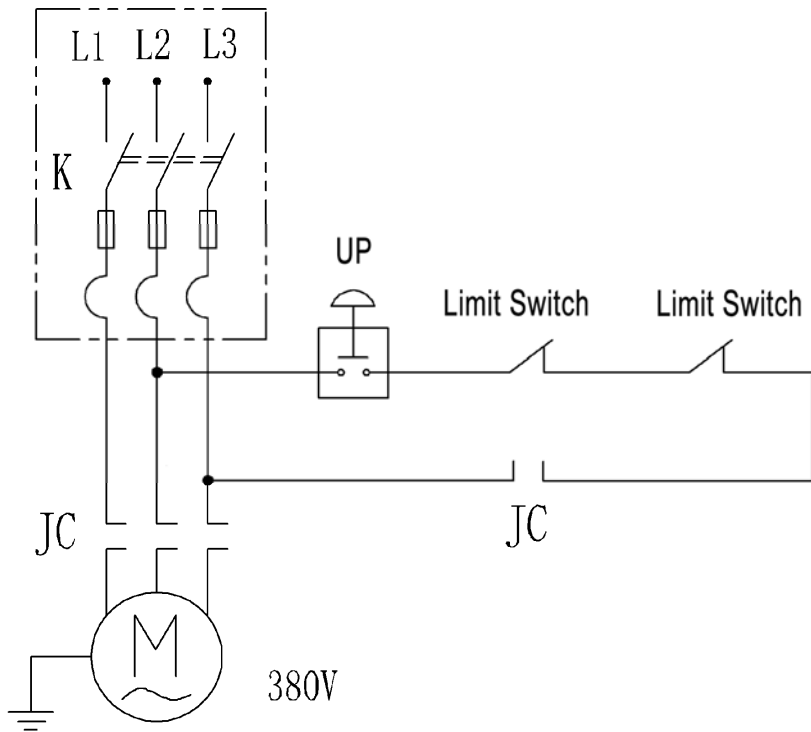
**Picture 9**

## I. Install Electrical System

Electrical connection must be made by qualified electricians

- Install lift limit switch as shown in pictures below

Picture 10



## IV. EXPLODED VIEW

### Non-Alignment Four- Post Lift Model 412

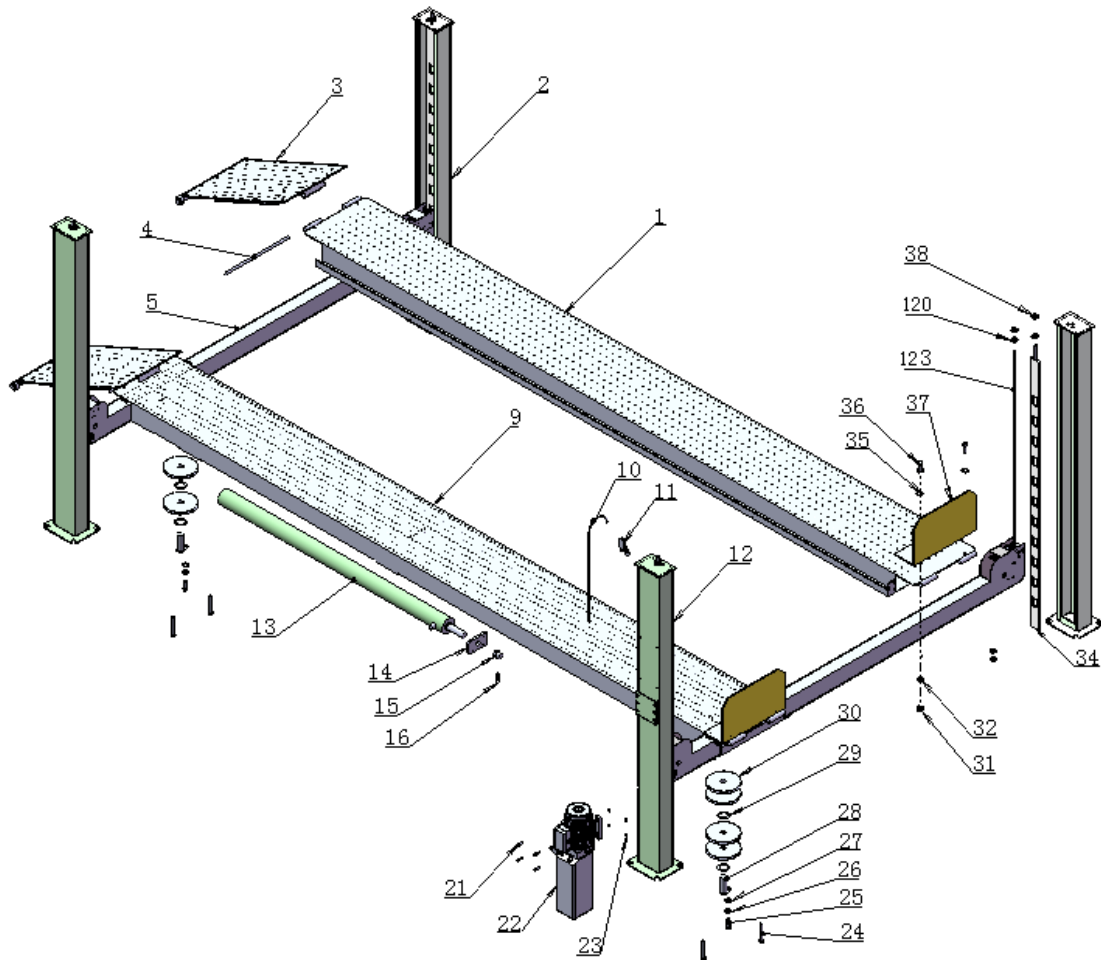


Fig. 11

# Alignment Model Four-post Lift Model 412A

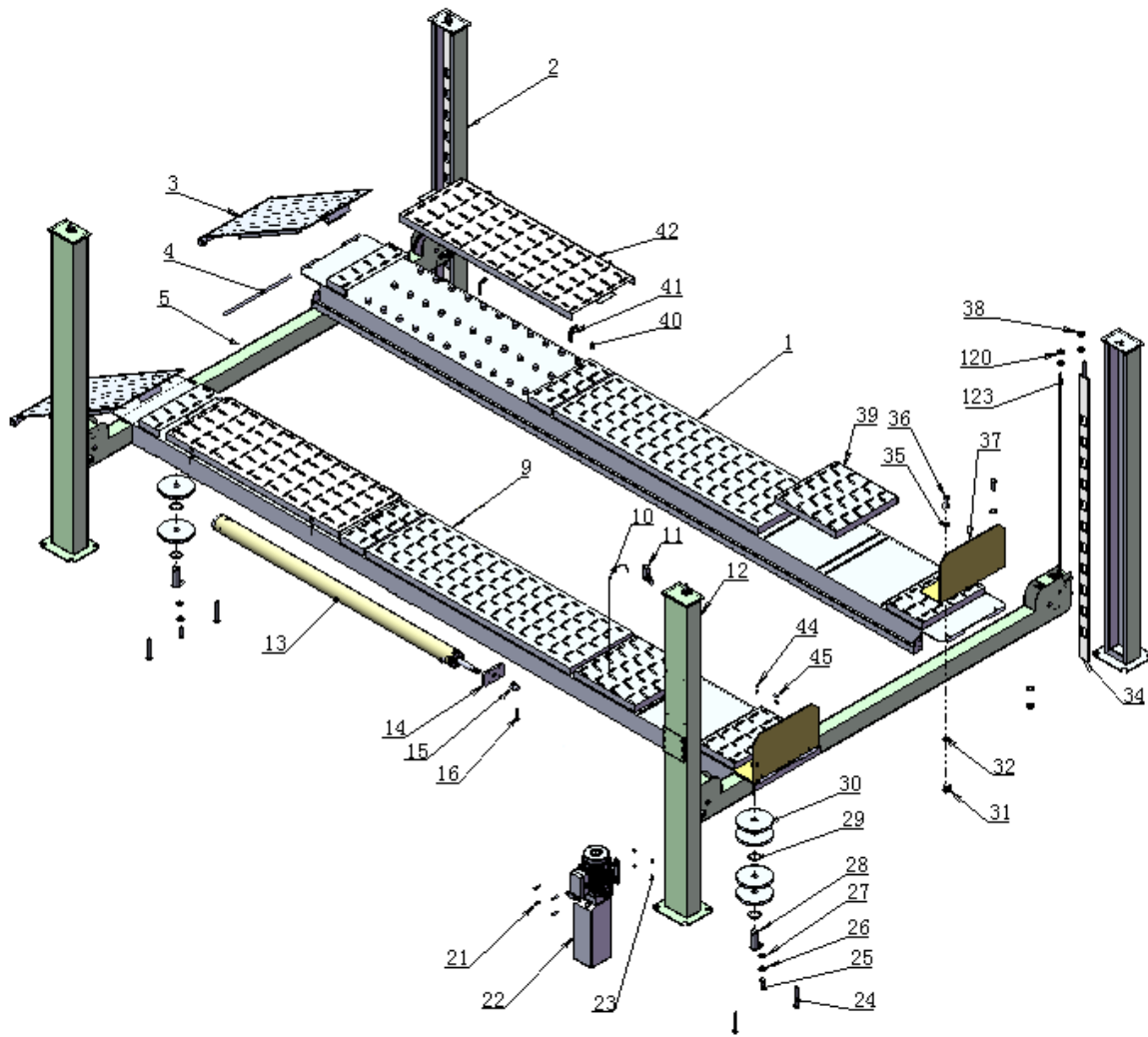


Fig. 12

# Cylinder

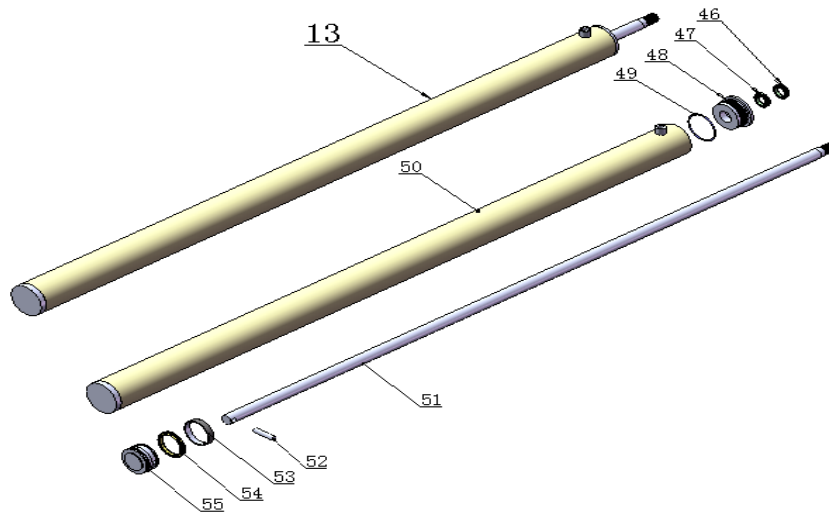


Fig. 13

# Cross Beam

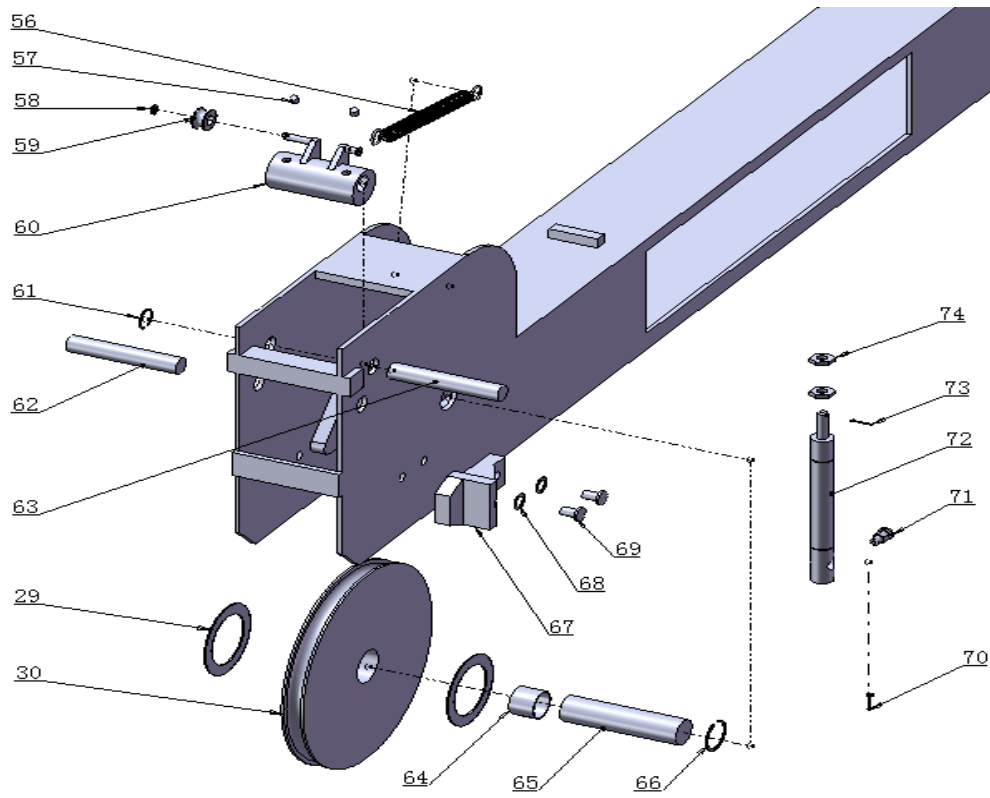


Fig.14



## Hydraulic Power Unit

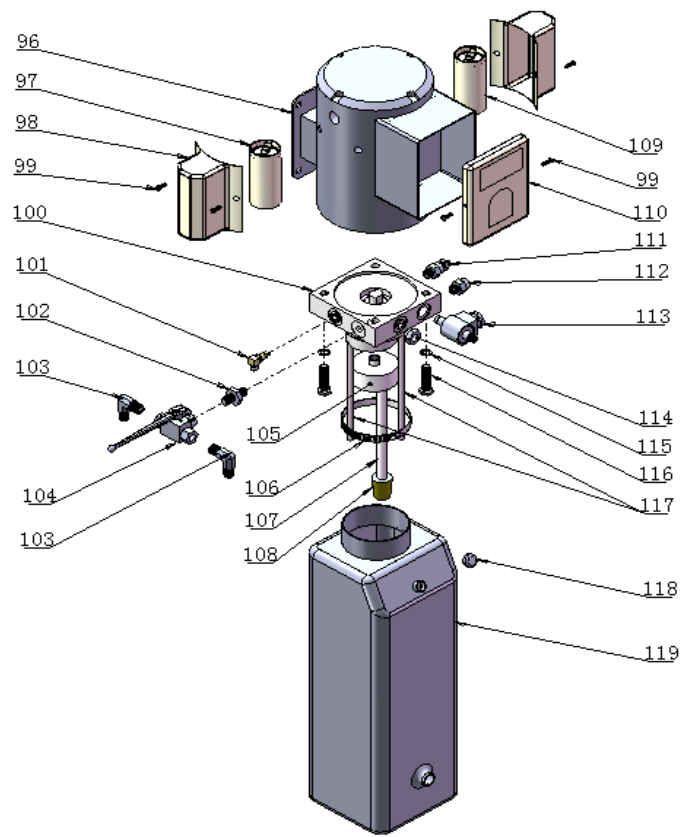
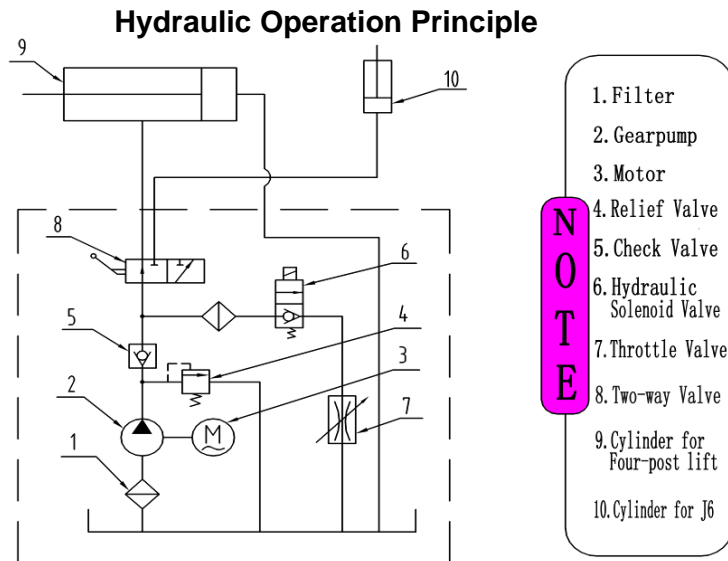


Fig.16

**V. TEST RUN:** Fill reservoir with approximately 3 gal. Hydraulic Oil (**Note: Hydraulic Oil AW32 or AW46 are recommended**).

1. Press up button, the Cables will become taut. Check whether the Cables line-up with the Pulleys. Make sure the Cables are not crossed and are tight on the pulleys.
2. Raise the lift until you hear a click from the safety ladders.
3. Push the dump valve down, the Cross-beams will settle on the safety ladders.
4. Adjust the locknuts of the safety ladders to make the platform level.
5. Adjust the cable fitting Hex nuts to make platforms and four safety locks click simultaneously. You may need to run the lift up and down several times, meanwhile do the adjustment above till the four Safety Devices can lock and release at the same time.
6. Adjust the clearance between the post and the slider of Cross-beam to about 2mm, and then tighten the fixing nut of slider.

- After finishing the above adjustment, test run the lift with a load. Run the lift with Platforms in low position first, make sure the Platforms can rise and lower at the same time and the Safety Device can lock and release synchronously. And then test run the lift to the top completely. If anything is wrong, repeat the above adjustment.



**Fig. 19**

## VI. OPERATION INSTRUCTIONS

### To lift vehicle

- For Safety reasons, keep the area near the lift clean and neat at all times
- Drive vehicle onto the Platform or Runways. The parking brake should be on anytime a vehicle is on the lift.
- Press the up button, raise the lift to the desired working height;  
Note: make sure the vehicle is steady when the lift is rising.
- Press the dump valve handle to lower the lift onto the desired Safety lock position. Make sure the platform is level and all locks are at the same height.

### To lower vehicle

- Make sure the area around and under the lift are clear.
- Press the up button, let the lift raise for 3-5 seconds then stop. Press the air control valve button to release the lock and then the dump valve lowering handle, the vehicle will safely lower to the ground.
- Drive the vehicle off of the lift;

## VII. MAINTENANCE SCHEDULE

### Monthly:

1. Re-torque the anchor bolts to 80-117 Nm;
2. Lubricate chains/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 columns for plumbness.

## VIII. TROUBLE SHOOTING

TROUBLE	CAUSE	REMEDY
Motor does not run	<ol style="list-style-type: none"> <li>1. Button does not work</li> <li>2. Wiring connections are not in good condition</li> <li>3. Motor burned out</li> <li>4. AC contactor burned out</li> <li>5. Height limit switch is damaged</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace button</li> <li>2. Repair all wiring connections</li> <li>3. Repair or replace motor</li> <li>4. Replace AC contactor</li> <li>5. 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. Hydraulic solenoid valve in damage</li> <li>3. Gear pump 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. Solenoid 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 too slow	<ol style="list-style-type: none"> <li>1. Oil line is jammed</li> <li>2. Motor running on low voltage</li> <li>3. Oil mixed with Air</li> <li>4. Pump leaks</li> <li>5. Overload lifting</li> </ol>	<ol style="list-style-type: none"> <li>1. Clean the oil line</li> <li>2. Check electrical system</li> <li>3. Fill tank</li> <li>4. Replace Pump</li> <li>5. Check load</li> </ol>
Lift can not lower	<ol style="list-style-type: none"> <li>1. Air solenoid valve damaged</li> <li>2. Hydraulic solenoid valve damaged</li> <li>3. Air Cylinder damaged</li> <li>4. Air –line leaked</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace or repair</li> <li>2. Replace or repair</li> <li>3. Replace the cylinder</li> <li>4. Check the air-line</li> </ol>

## IX. PARTS LIST

Item	Part No.	Description		
			412	412A
1	420001		0	0
	430001		0	0
	440001	Offside Platform	1	0
	450001	Offside Platform	0	1
2	420002	Offside Post	3	3
3	420003	Drive-in Ramp	2	0
	430002	Drive-in Ramp	0	2
4	420004	Pin for Drive-in Ramp	2	2
5	420005	Fixing Bolt	4	4
6	430006	Cross-Beam	2	2
7	209003	Hex Bolt	4	4
10			0	0
			0	0
	430003	Powerside Platform	1	0
	450002	Powerside Platform	0	1
11	420009	Wire Cable	1	1
12	420010	Limit Switch	1	1
13	420011	Powerside Post	1	1
14	420012	Oil Cylinder	1	1
15	430014	Cable Connecting Plate	1	1
16	430015	Hex Nut	1	1
17	430016	Split Pin	1	1
20	209004	Garment	4	4
21	420018	Nylock Nut	4	4
22	430022	Hydraulic Power Unit	1	1
23	430020	Hex Bolt	4	4
24	430024	Hex Bolt	2	2
25	430025	Lock Washer	2	2
26	430026	Washer	2	2
27	430027	Pulley Shaft Weldment	2	2
28	430028	Shim	12	12
29	430029	Washer	10	10
30	430030	Pulley	4	4
31	430031	Lock Washer	4	4
32	430032	Safety Ladder	4	4
34	430034	Washer	4	4

Item	Part No.	Description		
			412	412A
35	430035	Hex Bolt	4	4
36	430036	Tire Stop Plate	2	2
37	430037	Nut for Safety Ladder	8	8
38	430038	Plate for Adjustable Turnplate	0	2
39	430039	Rolling Ball	0	60
40	430040	Pin For Slip Plate	0	4
41	430041	Slip Plate	0	2
42	430042	Socket Bolt	0	4

<b>Hydraulic Cylinder</b>				
46	430046	Dust Ring	1	1
47	430047	Y-Ring	1	1
48	430048	Head Cap	1	1
49	430049	O-Ring	1	1
50	430050	Bore Weldment	1	1
51	430051	Piston Rod	1	1
52	430052	Pin	1	1
53	430053	Support Ring	1	1
54	430054	Y-Ring	1	1
55	430055	Piston	1	1

<b>Cross-Beam Parts</b>				
29		Shim	8	8
30		Pulley	4	4
56	430056	Spring	4	4
57	430057	Socket Fixing Bolt	8	8
58	430058	Snap Ring	4	4
59	430059	Tension Pulley	4	4
60	430060	Eccentric Cam	4	4
61	430061	Snap Ring	8	8
62	430062	Pin	4	4
63	430063	Pin for Eccentric Cam	4	4
64	430064	Pulley Bush	4	4
65	430065	Pulley Pin	4	4
66	430066	Snap Ring	8	8
67	430067	Slider	8	8
68	430068	Washer	16	16
69	430069	Socket Bolt	16	16
70	430070	Split Pin	1	1
71	430071	Fitting for Air Cylinder	4	4
72	430072	Air Cylinder	4	4

Item	Part No.	Description		
			412	412A
73	430073	Split Pin	4	4
74	430074	Hex Nut	8	8
<b>Hydraulic Power Unit</b>				
96	430096	Motor	1	1
97	430097	Starting Capacitor	1	1
98	430098	Cover of Capacitor	2	2
99	430099	Cup Head Bolt	6	6
100	430100	Valve Body	1	1
101	430101	Return Line Fitting	1	1
102	430102	Straight Fitting	1	1
103	430103	90° Fitting	1	2
104	430104	Two-Way Valve	1	1
105	430105	Gear Pump	1	1
106	430106	Hoop	1	1
107	430107	Inlet Pipe	1	1
108	430108	Filter	1	1
109	430109	Operating Capacitor	1	1
110	430110	Cover of Box	1	1
111	430111	Relief Valve	1	1
112	430112	Throttle Valve	1	1
113	430113	Hydraulic Solenoid Valve	1	1
114	430114	Check Valve	1	1
115	430115	Lock Washer	4	4
116	430116	Hex Bolt	4	4
117	430117	Oil Return Pipe	2	2
118	430118	Filler Cap	1	1
119	430119	Tank	1	1

Item	Part No.	Description		
			412	412A
120	430120	Cable Nut	0	0
	450120	Cable Nut	8	8
121	430121	Cable No.①	0	0
	450121	Cable No.①	1	1
122	430122	Cable No.②	0	0
	450122	Cable No.②	1	1
123	430123	Cable No.③	0	0
	450123	Cable No.③	1	1
124	430124	Cable No.④	0	0
	450124	Cable No.④	1	1
<b>Air Line</b>				
125	430125	90° Fitting For Air Line	1	1
126	430126	Fitting For Air Line	2	2
127	430127	Fitting For Air Line	1	1
128	430128	Air Line No. a - White	1	1
129	430129	Air Line No. b - White	1	1
130	430130	Air Line No. c - White	0	0
	450130	Air Line No. c - White	1	1
131	430131	Air Line No. d - White	2	2
132	430132	Air Line No. e - White	2	2
133	430133	Air Line No. f - Black	0	0
	450133	Air Line No. f – Black	1	1
<b>Oil Hose</b>				
135	430135	Straight Fitting For Cylinder	1	1
136	430136	Extended Straight Fitting With Nut	1	1
139	430139	Oil Hose No.②	0	0
	450139	Oil Hose No.②	1	1