Atlas 412A 12,000 lb. Capacity 4 Post Alignment Lift



Atlas Automotive Equipment www.atlasautoequipment.com (866) 898-2604

Read this entire manual before operation begins.
Record below the following information which is located on the serial number data plate.
Serial No Model No Date of Installation

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Specifications

412A

- Manual control air-operated system.
- Mechanical self-lock and air-drived safety release.
- Manual hydraulic power system, cable-drived.
- Skid proof diamond platform.
- Two adjustable turntable positions.
- Adjustable platform and adjustable safety lock ladders.
- Optional Jack: With hand pump/Air-operated hydraulic pump/Controlled by power unit.
- Turntables included

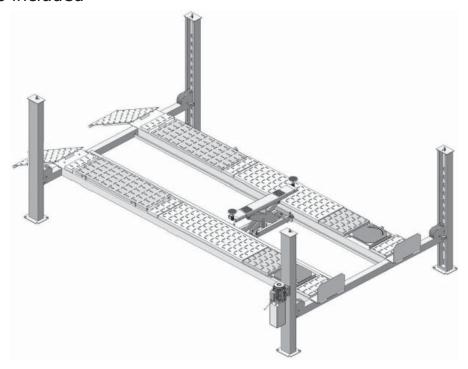


Fig. 1

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Length (Inc. Ramps)	Overall Width	Width Between Post	Gross Weight	Motor
412A	5.5 T 12,000 lbs	1900 mm 75"	55 S	5993 mm 236"	3208 mm 126 1/4"	2852 mm 112 1/4"	1300 Kg 2860 lbs	2.0 HP

Installation Requirement

Tools Required

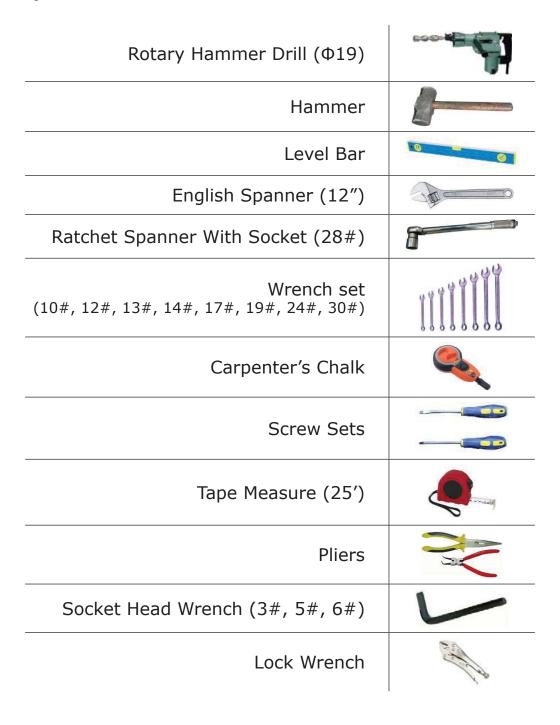


Fig. 2

Concrete Specifications

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 4" minimum and without reinforcing steel bars, and must be dried totally before the installation.
- 2. Concrete must be in good condition and must be of test strength 3,000psi (210kg/cm²) minimum.
- 3. Floors must be level and no cracks.

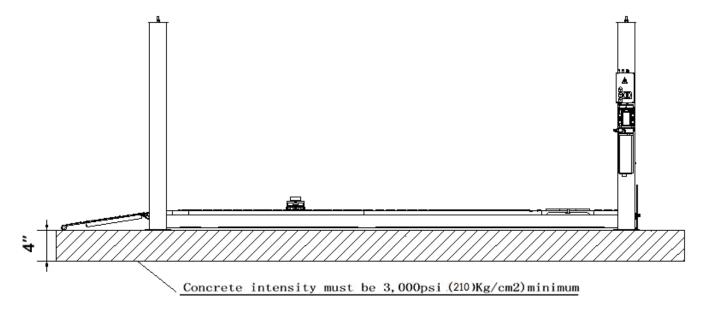


Fig. 3

Air Supply

Air pressure requirement: 0.5Mpa \sim 0.8Mpa, Air line size \emptyset 8 \times \emptyset 6 and \emptyset 6 \times \emptyset 4.

Power Supply

The capacity of power source must be greater than 2HP, The line must be 2.5 mm² minimum and in good condition of contacting with floor.

Steps Of Installation

A. Location Of Installation

Check and insure the installation location (concrete, layout, space size etc.) is suitable for lift installation.

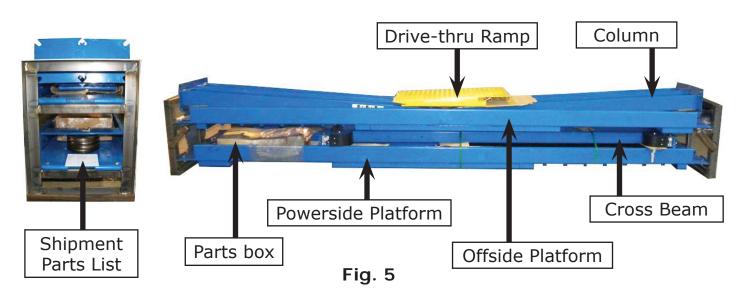
B. Check The Parts Before Assembly

1. Packaged lift and hydraulic power unit (See Fig. 4).



Fig. 4

2. Open the outer packing carefully (See Fig. 5).



3. Take off the drive-thru ramps and columns (See Fig. 6).



Fig. 6

- 4. Loosen the screws of the upper package stand, take off the offside platform, take out the parts inside the powerside platform, then remove the package stand.
- 5. Move aside the parts and check the parts according to the shipment parts list (See Fig. 7).

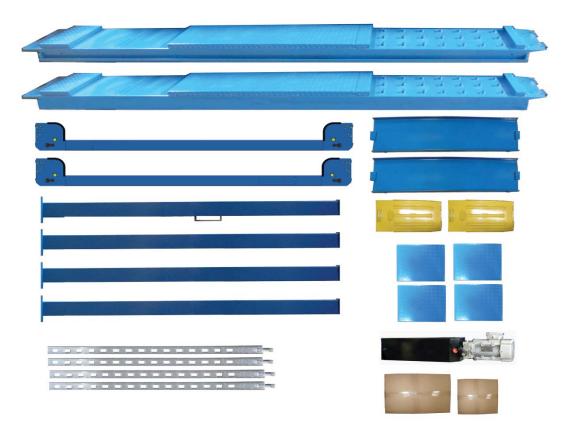


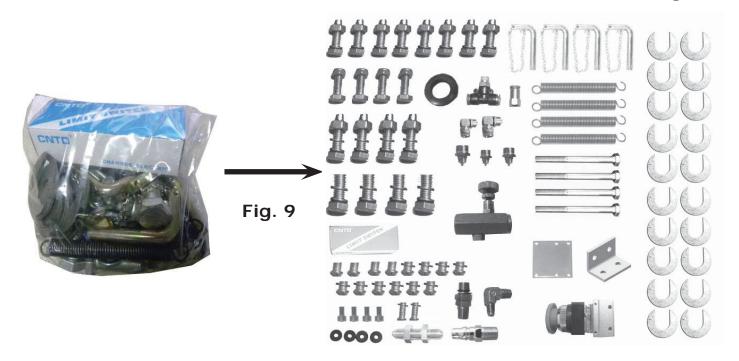
Fig. 7

6. Open the carton of parts and check the parts according to the parts box list (See Fig. 8).



Fig. 8

7. Check the parts of the parts bag according to the parts bag list (See Fig. 9).



C. Use A Carpenter's Chalk Line To Establish Installation Layout As Per Table 1

Make sure the size is right and base is flat (See Fig. 10).

Note: Reserve space front and behind the installation site.

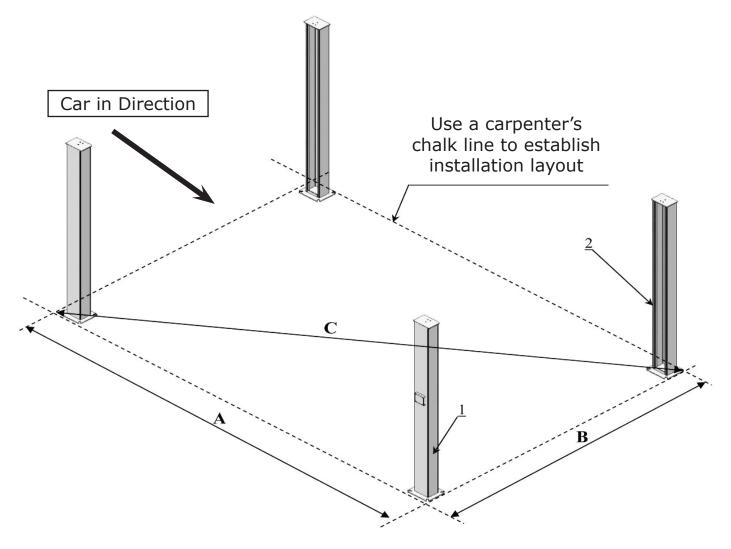


Fig. 10

Α	В	С
5100mm	3208mm	6025mm
200 3/4"	126 1/4"	237 1/4"

Table 1

D. Install Cross Beams

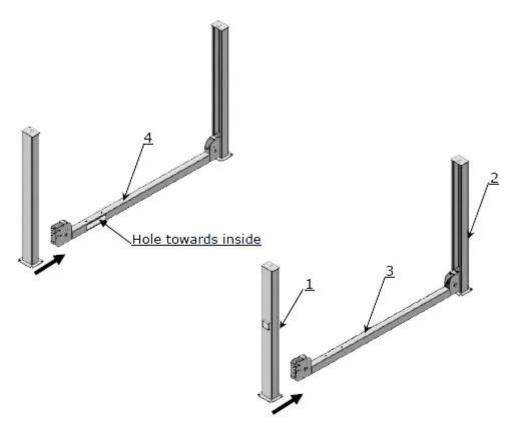


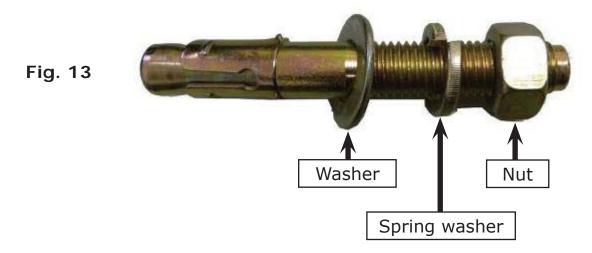
Fig. 11



Fig. 12

E. Fix The Anchor Bolts

1. Prepare the anchor bolts (See 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: Anchor bolts driven into the ground at least 90mm

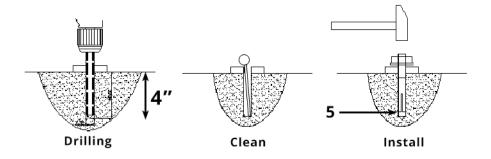
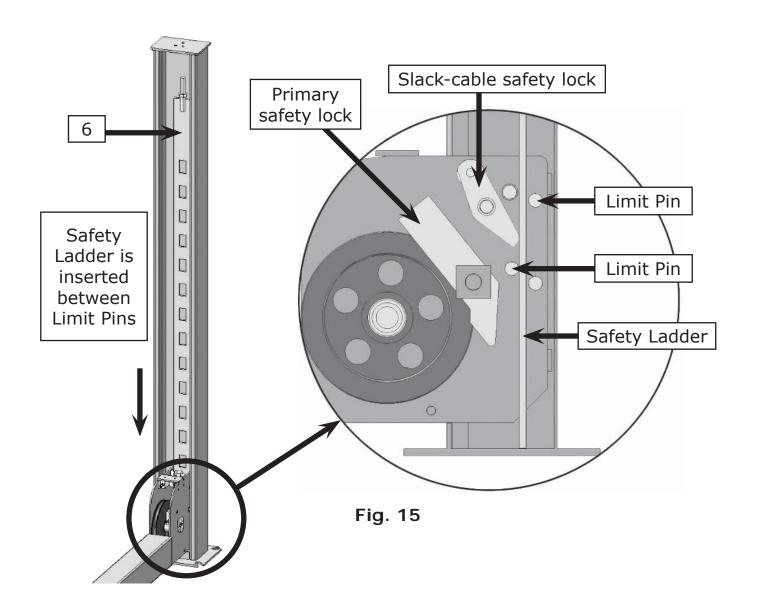


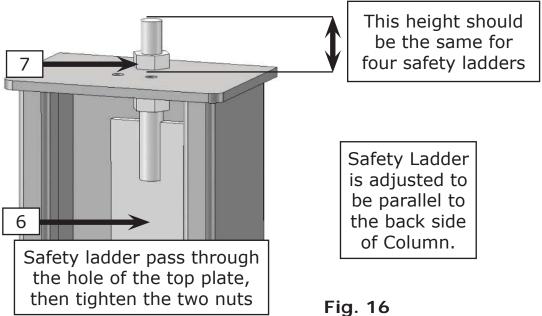
Fig. 14

F. Install The Safety Ladders

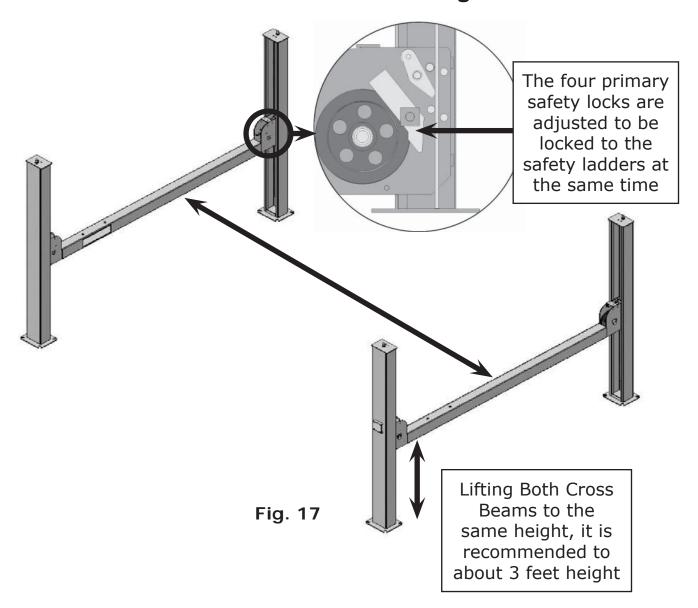
1. Take off the pulley safety cover and unscrew the four upper nuts of the Safety Ladders, and then adjust the four lower nuts to be at the same position. Withdraw the Slack-cable safety lock of the Cross-beam to insert the Safety Ladder in, raise the Safety Ladder, and screw the upper nuts (See Fig. 15).

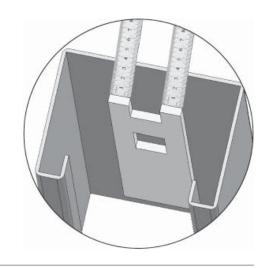


2. Install safety ladders (See Fig. 16).



G. Put The Cross Beams At The Same Height





H. Install powerside platform

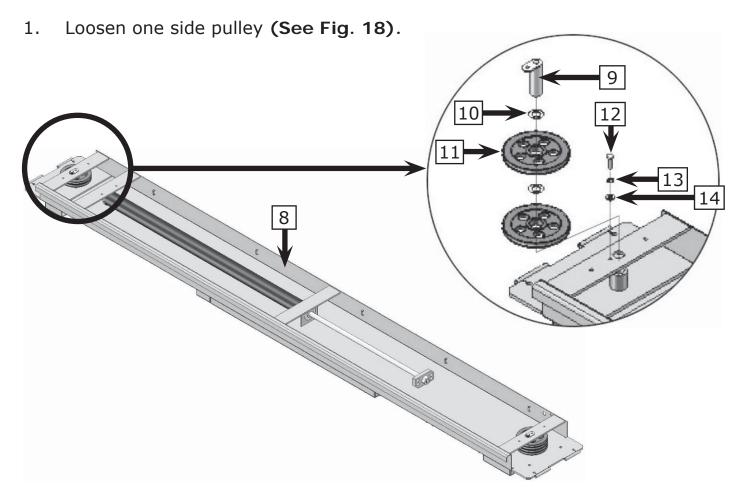


Fig. 18

2. Install the platform to Cross Beam with forklift or by hand (See Fig. 19).

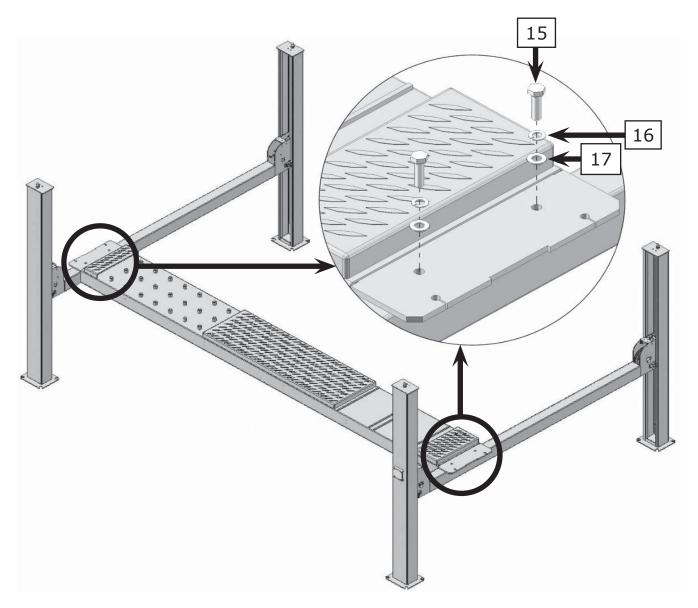
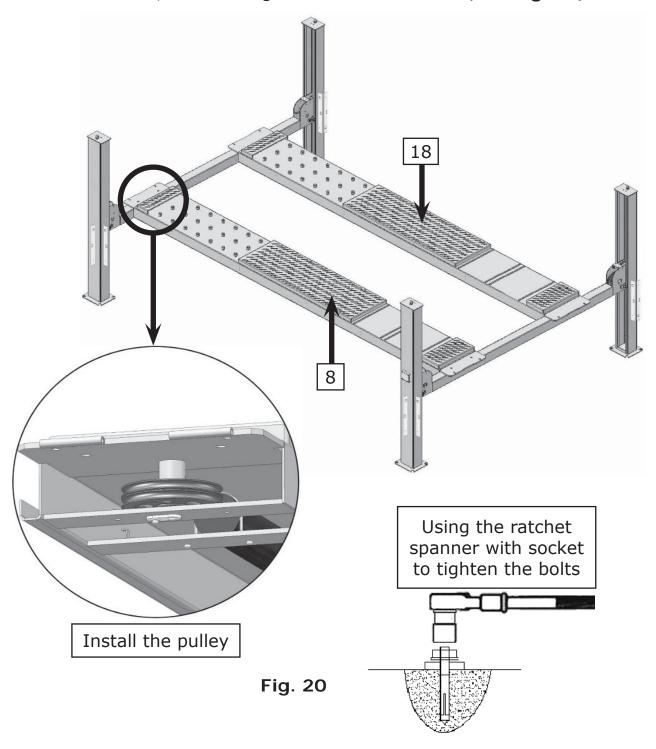


Fig. 19

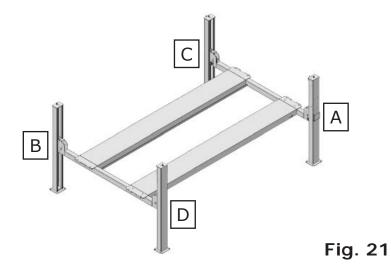
I. Assembly Of Offside Platform

Assemble the pulleys back to the powerside platform, and put the offside platform on the cross beams, then check the plumbness of columns with level, adjusting with the shims if not, and then tighten the Anchor Bolts (See Fig. 20).

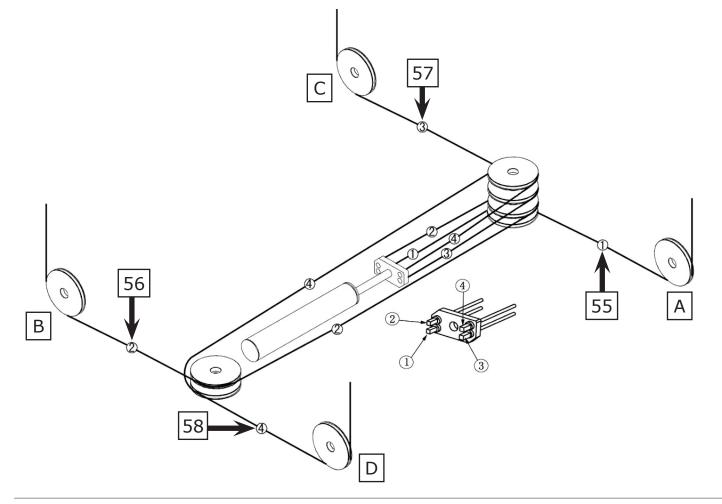


J. Install Cables

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



NO. 2 1 (3) (4) Cable 3749mm 10260mm 5350mm 8654mm Length 210 5/8" 404" (inc. connecting fitting) 147 5/8" 340 3/4"



2. After cables pass through the pulleys under the platform, installing the slack-cable bolts No.19 (See Fig. 22).

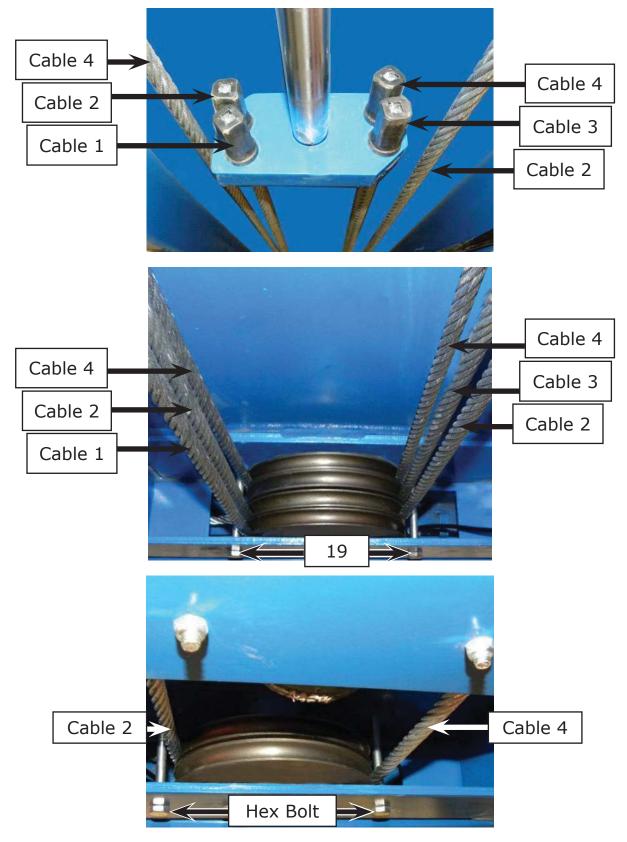


Fig. 22

3. The cable pass through Cross Beam and top plate of column and be screwed with cable nuts (See Fig. 23).

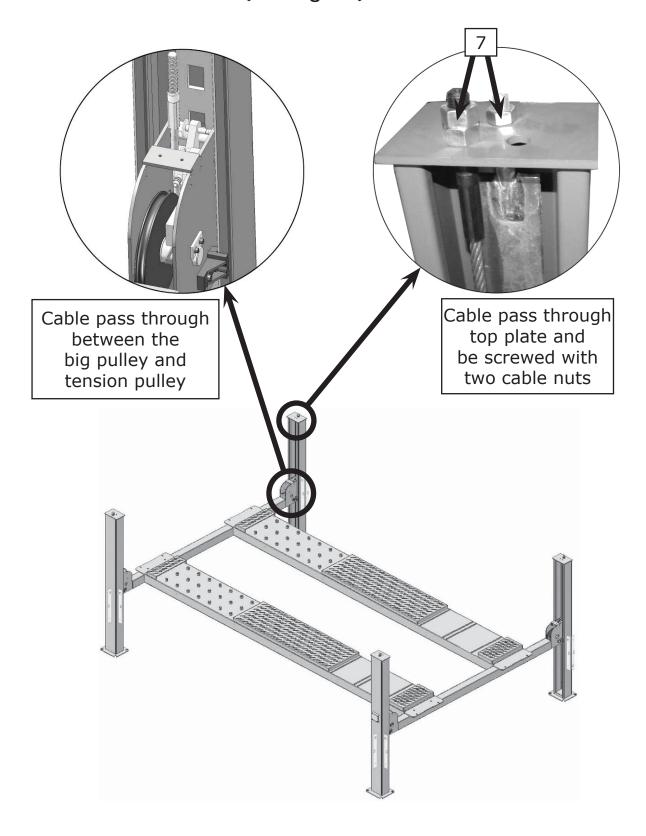


Fig. 22

K. Install Oil-Water Separator, The Manual Control Air Valve, And The Power Unit

Note: If after connecting the air valve to an air supply the air constantly leaks from the valve, then the air valve is installed upside down. Remove the air fittings, invert the air valve, and Re-install the air fittings.

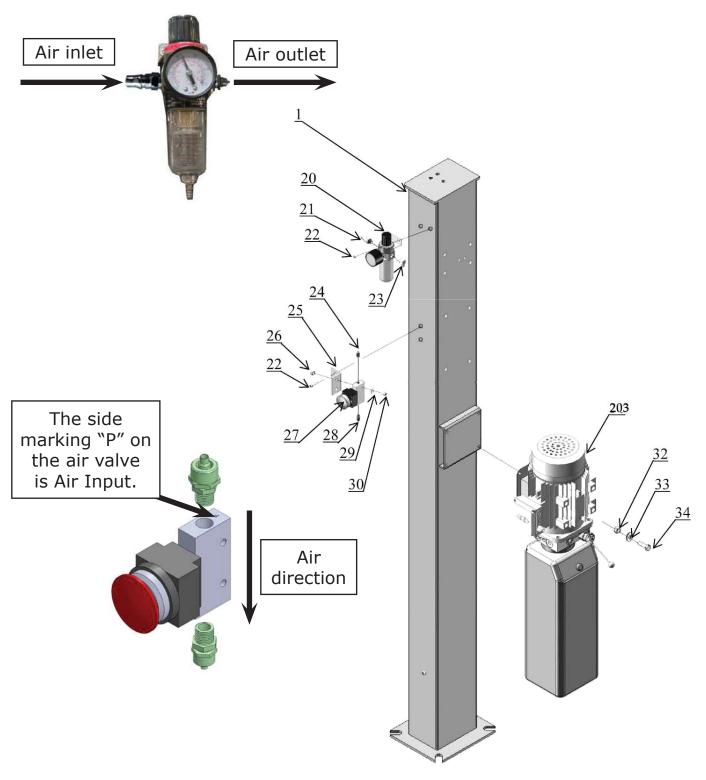
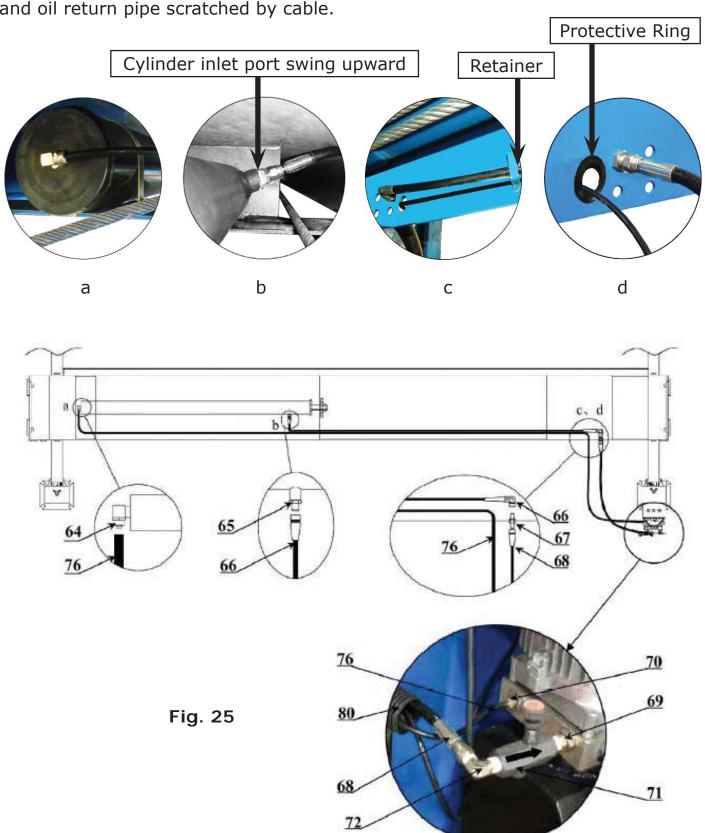


Fig. 24

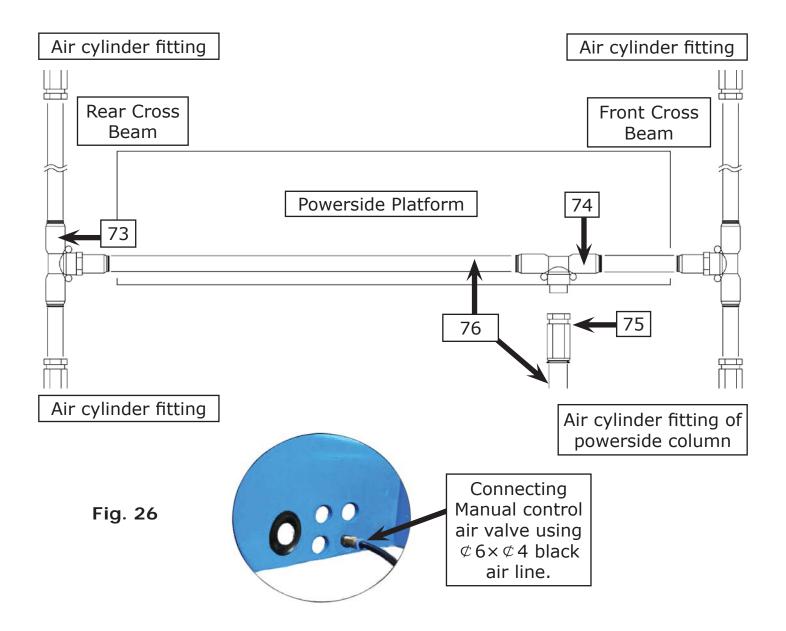
L. Install Hydraulic System

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.

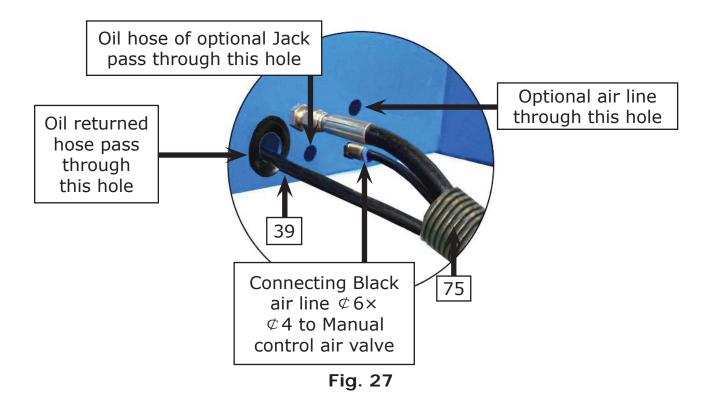


M. Install Air-Line System

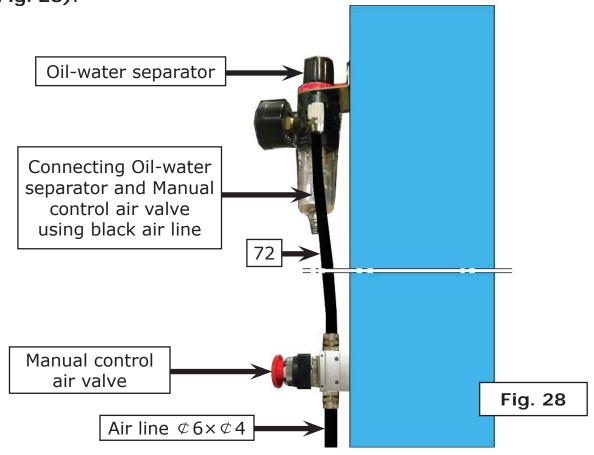
- 1. Connecting front and rear Cross Beam using \emptyset 6× \emptyset 4 black air line (See Fig. 26).
- 2. Connecting Manual control air valve using \emptyset 6× \emptyset 4 black air line (See Fig. 26).



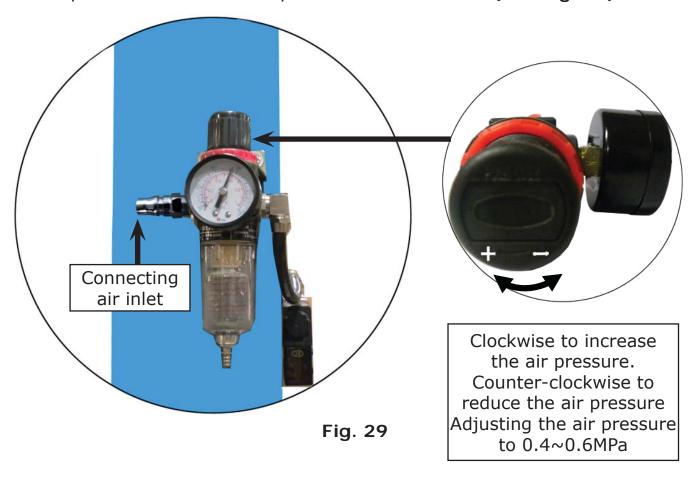
3. Connecting Oil Hoses and Air Lines (See Fig. 27).



4. Connecting oil-water separator and manual control air valve using air line (See Fig. 28).

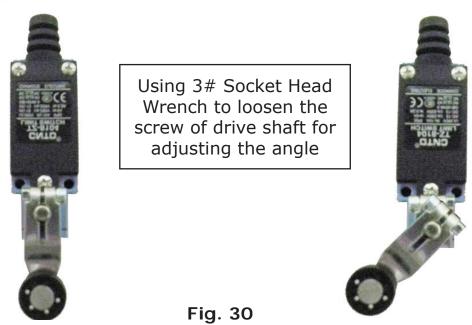


5. Connecting air inlet (Air supply pressure 5kg/cm²- 8kg/cm²), adjusting the air pressure of Oil-water separator to 0.4 - 0.6MPa (See Fig. 29).



N. Install Limit Switch

1. Adjust the angle of drive shaft of limit switch on the powerside column (See Fig. 30).



2. Connecting the limit switch with cable wire (See Fig. 31).



Fig. 31

- 3. Install limit switch (See Fig. 32).
- 4. To introduce the wire of limit switch into the protecting plastic hose then connect to the motor of power unit (See Fig. 33).

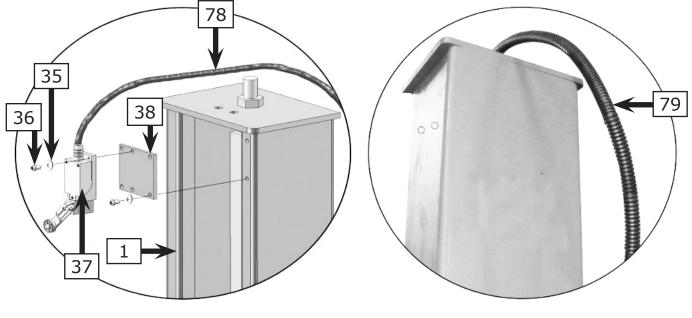


Fig. 32 Fig. 33

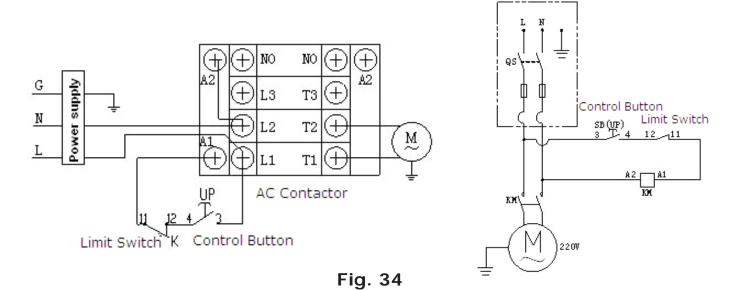
O. Install Electrical System

Connect the power source as the data plate of Motor.

- 1. For the safety of operators, the power wiring must contact the floor well.
- 2. Pay attention to the direction of rotations when using 380V, three phase motors.

Atlas Single phase motor (See Fig. 34).

- 1. Connecting the two power supply lines (fire wire **L** and zero wire **N**) to terminals of AC contactor marked **L1**, **L2** respectively.
- 2. Connecting the two motor wires to terminals of AC contactor marked **T1**, **T2**.
- 3. Connecting A2 to L2 of AC contactor.
- 4. Connect the Limit Switch: Remove the line of Connecting Terminal 4# of control button and A1 of AC contactor firstly (See Fig. 35), then connect wire12# of Limit Switch with Terminal 4# of control button and connect wire 11# with terminals A1 of AC contactor respectively (See Fig. 36).



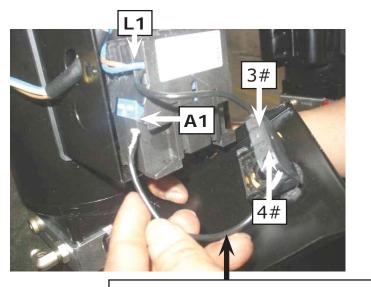


Fig. 35

Remove this line before connecting the Limit Switch

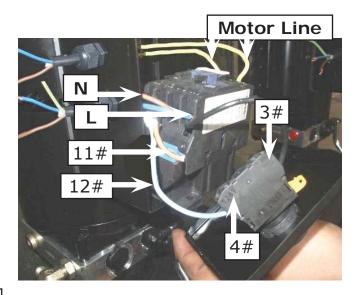


Fig. 36

Three phase motor

1. Circuit diagram (See Fig. 38)

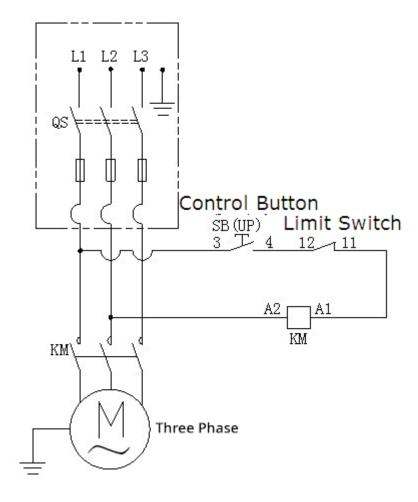
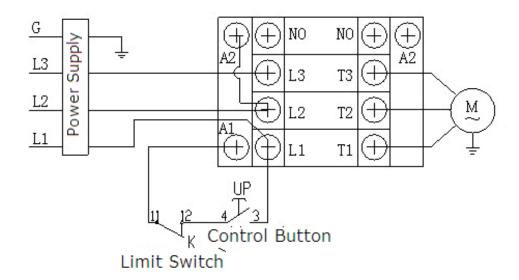


Fig. 38

2. Connection Step (See Fig. 39)

- a. The source wires (L1, L2, L3) connected with terminals of AC contactor marked L1, L2, L3 respectively.
- b. Terminals 4# of control button connected with wire 12# of limit switch; wire 11# connected with A1 terminals of AC contactor.
- c. Terminals 3# of control button connected with L1 terminals of AC contactor.



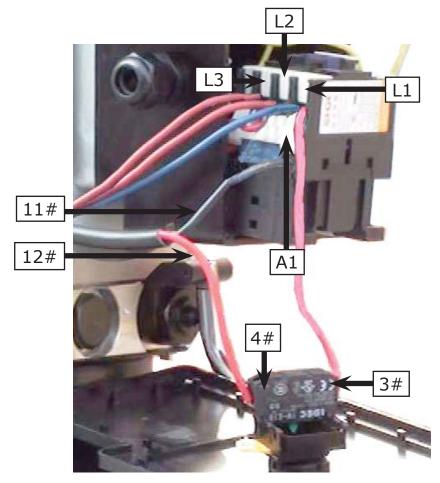


Fig. 39

P. Install Spring And Safety Cover Of Cross Beam

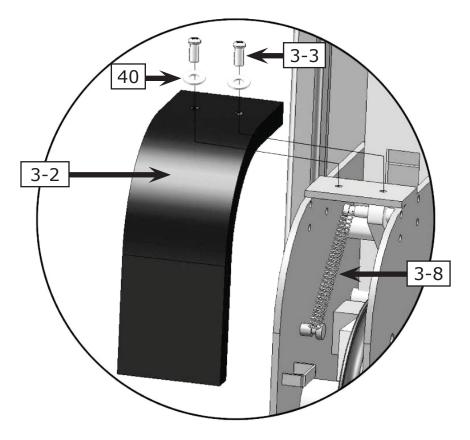
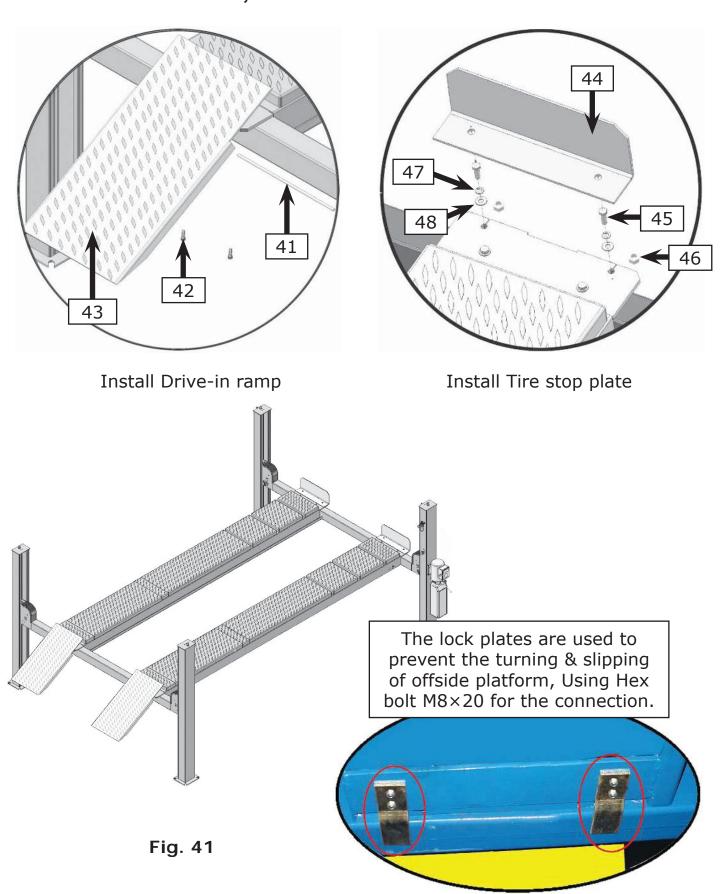
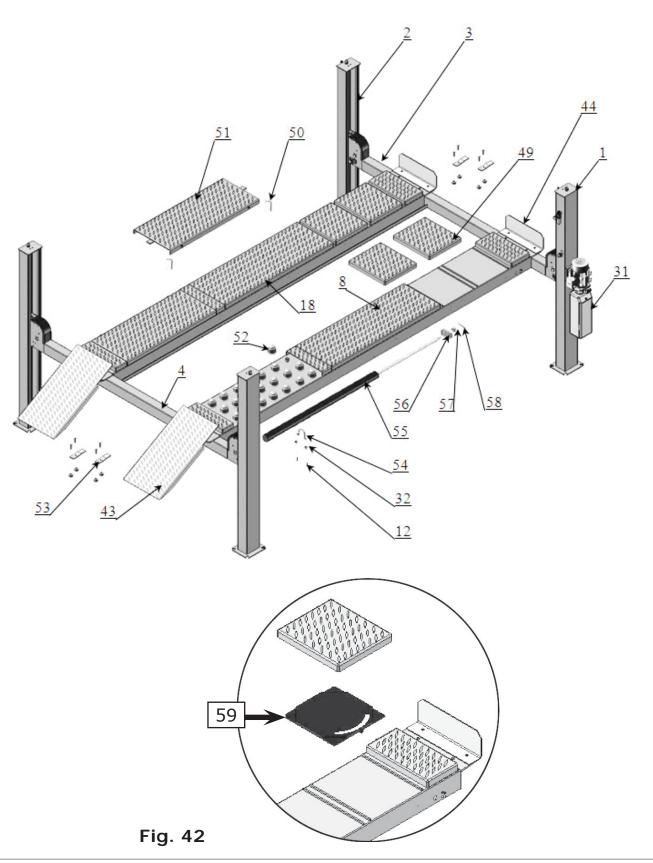


Fig. 40

Q. Install Drive-In Ramp, Tire Stop Plate, Platform Lock Plates, Steel Ball Set



Exploded View



Cross Beam

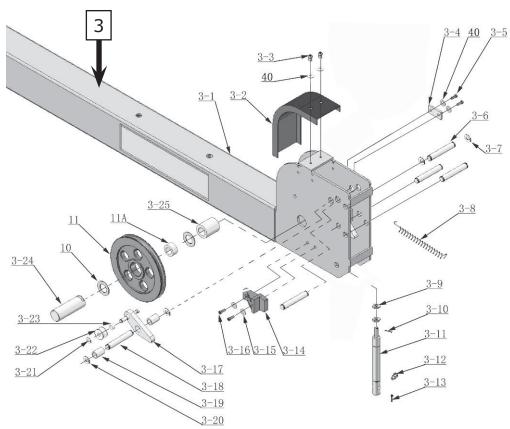


Fig. 43

Cylinders

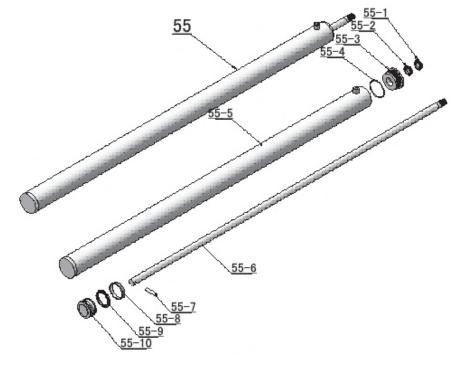


Fig. 44

Power Unit

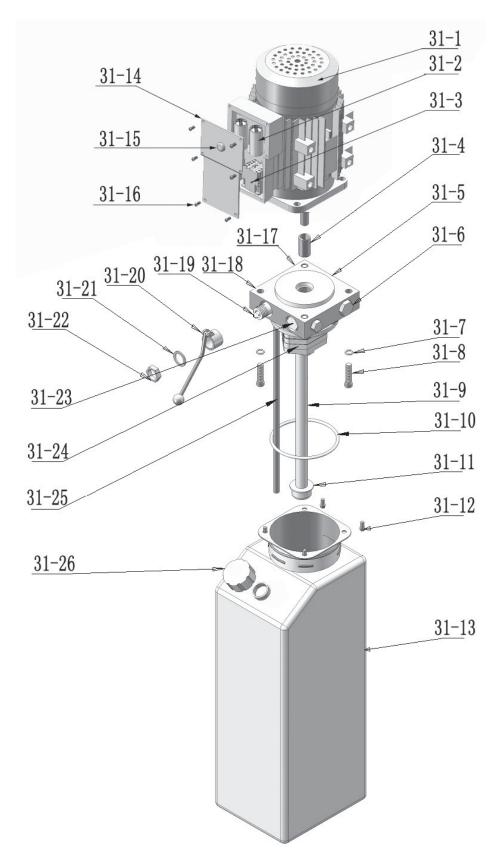
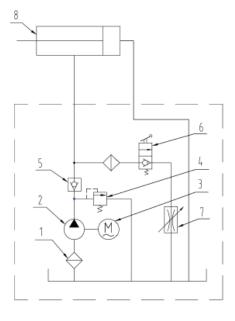


Fig. 45

Test Run

- Fill the reservoir with approximately 12L Hydraulic Oil (Note: In consideration of Power Unit's durability, please use <u>Hydraulic Oil 46#</u>).
- 2. Press button **UP** ↑, the Cables will be strained. Check whether the Cables match the Pulley. Make sure the Cables are not across.
- 3. Press the Handle of release valve to lock the Cross-beam to the safety ladders, and then adjust the platforms to be level by adjusting the nuts of Safety Ladders.
- 4. Adjust the cable fitting Hex nuts to make platforms and four safety locks work synchronously. 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.
- 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. 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



- 1. Filter
- 2. Gear pump
- 3. Motor
- 4. Relief Valve
- 5. Check Valve
- 6. Manual Control Air Valve
- 7. Throttle Valve
- 8. Cylinder For Four-post lift

Fig. 46

Cylinder Bleeding Procedure

(Removing air from the hydraulic system)

PERFORM THIS PROCEDURE IMMEDIATELY AFTER INSTALLATION and BEFORE YOU PUT A VEHICLE ON THE LIFT

 Press the UP Button to raise the runways 2 to 3 inches off of the safety locks. DO NOT RAISE THE RUNWAYS TO THE MAXIMUM HEIGHT.



2. Disengage the safety locks using the Mechanical Lock Release Handle or Air Lock Release Valve (depending on the model of 4 Post Lift you have). While activating the lock release, depress the Lowering Valve handle to lower the lift runways completely to the ground. Once the lift runways are resting on the ground maintain pressure on the lowering valve handle for several seconds more.



Air Lock Release Valve



Mechanical Lock Release Handle



Lowering Valve



Mechanical Lock & Lowering Valve Combination

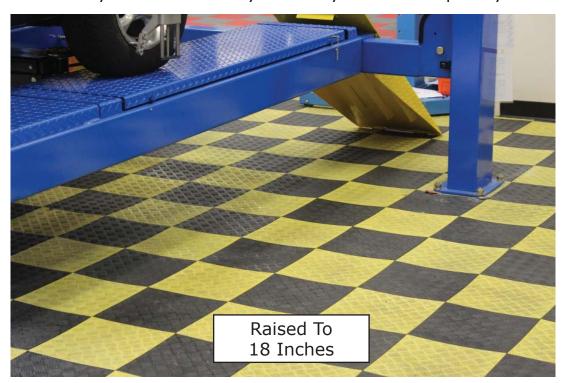


Air Lock Release Valve & Lowering Valve Combination



Resting On The Ground

3. Press the UP Button to raise your lift runways about 18 inches from the floor and repeat STEPS 1 & 2. Do this at least 2 or 3 more times. This will ensure that any air in the lifts hydraulic system is completely removed.



After doing this procedure the lift runways should travel up and down smoothly and at a consistent speed during operation.

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 press the button **UP** ↑, raise the lift to the working position;

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

4. Press the Handle of release valve to 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. Press the button **UP** \uparrow , the lift will be raised for 3-5 seconds, and then press the button of Manual-controlled air valve by hand to make sure the safety device released, press the handle of release valve by the other hand then the lift starts being lowered automatically;
- 3. Drive away the vehicle when the lift is lowered to the lowest position.
- 4. Turn off the power.

Maintenance Schedule

Monthly:

- 1. Re-torque the anchor bolts to 80-117 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 columns for plumbness.

Trouble Shooting

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

Parts List

Item	Part No.	Description	Qty.			
(See Fi	(See Fig.16, Fig.18-Fig.20, Fig.22, Fig.24, Fig.27, Fig.32, Fig40-Fig.42)					
1	420011A	Powerside Platform	1			
2	420002	Offside Platform	3			
3	420006B	Front Cross Beam	1			
4	420006C	Rear Cross Beam	1			
5	209059A	Anchor Bolt	16			
6	420028B	Safety Ladder	4			
7	420175A	Hex Nut	16			
8	450002	Powerside Platform	1			
9	420022A	Pulley Shaft Weldment	2			
10	420023A	Washer	12			
11	420024A	Pulley	10			
11A	420132A	Bronze Bush for Pulley	10			
12	420021	Hex Bolt	12			
13	209039	Lock Washer	2			
14	420144	Washer	2			
15	420030	Hex Bolt	4			
16	420137	Spring Washer	4			
17	420029	Washer	4			
18	450001	Offside Platform	1			
19	420020B	Hex Bolt	4			
20	420145	Oil-water Separator	1			
21	420146	Straight Fitting for Air Line	1			
22	209009	Cup Head Bolt	8			
23	420076	900 Fitting for Air Line	1			
24	420159	Straight Fitting For Air Line	1			

Item	Part No.	Description	Qty.
25	420160	Fixing plate of Manual Control Valve	1
26	420161	Nylok Nut	2
27	420162	Manual Control Air Valve	1
28	420163	Straight Fitting For Air Line	1
29	420148	Washer	4
30	420164	Cup Head Bolt	2
31	440035	Manual Hydraulic Power Unit	1
32	209005	Nylok Nut	14
33	209004	Rubber Ring	4
34	209003	Hex Bolt	4
35	420152	Washer	6
36	206011	Cup Head Bolt	6
37	420010	Limit Switch	1
38	420010A	Fixing Plate For Limit Switch	1
39	420156	Protecting Rubber Ring	1
40	420045	Washer	16
41	420004	Pin for Drive-in Ramp	2
42	420005	Fixing Bolt	4
43	430002	Drive-in Ramp	2
44	420031	Tire Stop Plate	2
45	420136	Hex Bolt	4
46	206023A	Hex Nut	4
47	420026	Spring Washer	4
48	206006	Washer	4
49	430004	Plate for Adjustable Turntable	4
50	430006	Pin For Slip Plate	4
51	430007	Slip Plate	2
52	420157	Steel Ball Set	60
53	420007	Platform Lock Plate	4
54	420012A	Fixing Ring For Oil Cylinder	1

Item	Part No.	Description	Qty.
55	420012	Oil Cylinder	1
56	420013	Cylinder Connecting Plate	1
57	420014	Hex Nut	1
58	420015	Split Pin	1
59	420158	Turntable	2
Parts F	or Cable (Se	e Fig.21)	
60	440005A	No.① Cable	1
61	440006A	No.2 Cable	1
62	440004A	No.③ Cable	1
63	440007A	No.4 Cable	1
			·
Parts F	or Hydraulic	System (See Fig.25)	
64	420166	900 Fitting	1
65	420119	Straight Fitting For Cylinder	1
66	440008	Oil Hose	1
67	420120	Extended Straight Fitting (with Nut)	1
68	420121	Oil Hose	1
69	420096	Straight Fitting For Hydraulic Power Unit	1
70	420095	Straight Fitting	1
71	440011	Needle Valve	1
72	420097	900 Fitting	1
			·
Parts F	or Air Line S	ystem (See Fig.25, Fig.26 & Fig.28)	
73	420124	T-Fitting For Air Line	2
74	420125	T-Fitting For Air Line	1
75	420126A	Straight Fitting For Air Line	1
76	440010	Black Air Line	1
77	420167	Black Air Line	1

Item	Part No.	Description	Qty.
Parts fo	or Circuit Sy	stem (See Fig.27, Fig.32, Fig.33)	
78	440036	Wire Cable	1
79	440037	Protecting Plastic Hose	1
80	440038	Protecting Plastic Hose	1
Parts F	or Cross Bea	ım (See Fig.40 & Fig.43)	
3-1	420169	Front Cross Beam Assy.	1
3-2	420051B	Pulley Safety Cover	4
3-3	209009	Cup Head Bolt	8
3-4	420044	Stop Plate	4
3-5	420138	Socket Bolt	8
3-6	420038	Pin	12
3-7	420037	Snap Ring	24
3-8	420033	Spring	4
3-9	420050	Hex Nut	8
3-10	420049	Split Pin	4
3-11	420048	Air Cylinder	4
3-12	420047	Fitting for Air Cylinder	4
3-13	420046	Split Pin	8
3-14	420042	Plastic Slider	8
3-15	209033	Washer	16
3-16	420043	Socket Bolt	16
3-17	420175	Slack-cable safety lock (left & right)	2/ea.
3-18	420171	Pin	8
3-19	420172	Pin Bush For Slack-cable Safety Lock	8
3-20	420173	Snap Ring	16
3-21	209010	Snap Ring	4
3-22	420035	Tension Pulley	4
3-23	420174	Spacer	4
3-24	420041A	Pulley Pin	4

Item	Part No.	Description	Qty.
3-25	420040A	Pulley Bush	4
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Parts Fo	r Cylinder (See Fig.44)	
55-1	420059	Dust Ring	1
55-2	420060	Y Ring	1
55-3	420061	Head Cap	1
55-4	420062	O Ring	1
55-5	420063	Bore Weldment	1
55-6	420064	Piston Rod	1
55-7	420065	Pin	1
55-8	420066	Support Ring	1
55-9	420067	Y Ring	1
55-10	420068	Piston	1
Parts Fo	r Atlas Pow	er Unit (See Fig.45)	
31-1	440014	Motor	1
31-2	440039	Capacitor	2
31-3	440040	AC Contactor	1
31-4	440015	Motor Connecting Shaft	1
31-5	440041	Valve Body	1
31-6	440017	Relief Valve	1
31-7	440019	Spring Washer	4
31-8	440020	Socket Bolt	4
31-9	440021	Inlet Pipe	1
31-10	440022	O-Ring	1
31-11	440023	Filter	1
31-12	440024	Hex Bolt	4
31-13	440025	Reservoir	1
31-14	440042	Cover of Motor Terminal Box	1
31-15	440043	Control Switch	1

Item	Part No.	Description	Qty.
31-16	440044	Screw	6
31-17	440026	Oil Return Port	1
31-18	440027	Oil Outlet	1
31-19	440045	Release Valve	1
31-20	440046	Handle For Release Valve	1
31-21	440047	Washer	1
31-22	440048	Hex Nut	1
31-23	440028	Check Valve	1
31-24	440030	Gear Pump	1
31-25	440031	Oil Return Pipe	1
31-26	440032	Filter Cap	1

Warranty



This item is warranted for five (5) years on structural components, two (2) years on hydraulic cylinders, and one (1) year on electric or air / hydraulic power units from invoice date. Wear items are covered by a 90 day warranty.

This LIMITED warranty policy does **not include a labor** warranty.

NOTE: ALL WARRANTY CLAIMS MUST BE PRE-APPROVED BY THE MANUFACTURER TO BE VALID.

The Manufacturer shall repair or replace at their option for this period those parts returned to the factory freight prepaid, which prove after inspection to be defective. This warranty will not apply unless the product is installed, used and maintained in accordance with the Manufacturers installation, operation and maintenance instructions.

This warranty applies to the ORIGINAL purchaser only, and is non-transferable. The warranty covers the products to be free of defects in material and workmanship but, does not cover normal maintenance or adjustments, damage or malfunction caused by: improper handling, installation, abuse, misuse, negligence, carelessness of operation or normal wear and tear. In addition, this warranty does not cover equipment when repairs or alterations have been made or attempted to the Manufacturer's products.

THIS WARRANTY IS EXCLUSIVE AND IS LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS FROM A PARTICULAR PURPOSE, AND ALL SUCH IMPLIED WARRANTIES ARE EXPRESSLY EXCLUDED.

THE REMEDIES DESCRIBED ARE EXCLUSIVE AND IN NO EVENT SHALL THE MANUFACTURER, NOR ANY SALES AGENT OR OTHER COMPANY AFFILIATED WITH IT OR THEM, BE LIABLE FOR SPECIAL CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR THE BREACH OF OR DELAY IN PERFORMANCE OF THIS WARRANTY. THIS INCLUDES, BUT IS NOT LIMITED TO, LOSS OF PROFIT, RENTAL OR SUBSTITUTE EQUIPMENT OR OTHER COMMERCIAL LOSS.

PRICES: Prices and specifications are subject to change without notice. All orders will be invoiced at prices prevailing at time of shipment. Prices do not include any local, state or federal taxes.

RETURNS: Products may not be returned without prior written approval from the Manufacturer.

DUE TO THE COMPETITIVENESS OF THE SELLING PRICE OF THESE LIFTS, THIS WARRANTY POLICY WILL BE STRICTLY ADMINISTERED AND ADHERED TO.