

ATLAS 414A 14,000 lb. Capacity Four-Post Alignment Lift

INSTALLATION & OPERATION MANUAL



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I. PRODUCT FEATURES AND SPECIFICATIONS

ALIGNMENT MODEL FEATURES

- · Manual control air-operated system.
- · Mechanical self-lock and air-driven safety release.
- · Manual hydraulic power system, cable-assist.
- · Skid proof diamond plate platforms.
- · Two adjustable turntable positions.
- · Adjustable platform and adjustable safety lock ladders.
- · Optional Rolling Jack: With Air-operated hydraulic pump.
- . Steel Ball Bearing Assist Turn Plates

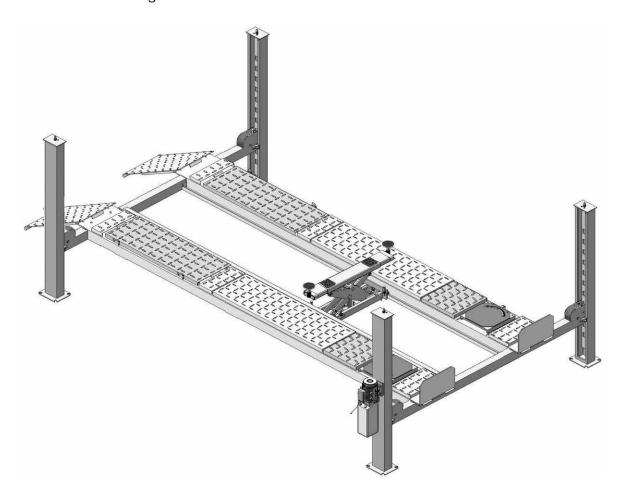


Fig. 1

ALIGNMENT MODEL SPECIFICATIONS

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Length (Inc. Ramps)	Overall Width	Width Between Post	Gross Weight	Motor
414A	14,000 lbs	76 1/4"	60 S	256 1/2"	130 1/2"	116″	3470 lbs	4.0 HP 220V 1PHASE

II. INSTALLATION REQUIREMEN

A. TOOLS REQUIRED

✓ Rotary Hammer Drill (3/4 Dill Bit)



✓ Dead Hammer



√ Level Bar



✓ Crescent Spanner (12")



✓ Wrench Set (Metric)(10[#], 12[#], 13[#], 14[#], 17[#], 19[#], 24[#], 30[#])



✓ Ratchet Spanner Socket (28^{mm})



√ Carpenter's Chalk



✓ Screw Driver Set



✓ Tape Measure (25FT)



✓ Pliers



√ Vise Grips



✓ Allen Head Wrench (Metric 3[#], 5[#], 6[#])



B. CONCRETE SPECIFICATIONS (See Fig. 3)

Specification Of Concrete Must Be Adhered To. Failure To Do So May Result In Personal INJURY, Lift And /Or Vehicle Falling.

- 1. Concrete must have a thickness 6 inches minimum and without reinforcing steel bars. Concrete must be cured before the installation.
- 2. Concrete must be in good condition and have a of test strength 3,000 psi (220kg/cm²) minimum.

3. Floors must be level and no cracks.

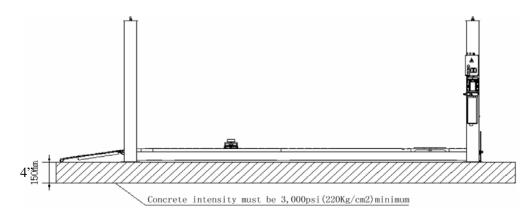


Fig. 3

C. AIR SUPPLY

Air pressure requirement: 75-120 psi, Air line size 8mm×6mm and 6mm×4mm.

D. POWER SUPPLY

The electric power unit must be greater than 2 horse power. Electrical wire must be a minimum of 10 gauge.

III. STEPS OF INSTALLATION

A. Location of Installation

Check 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).

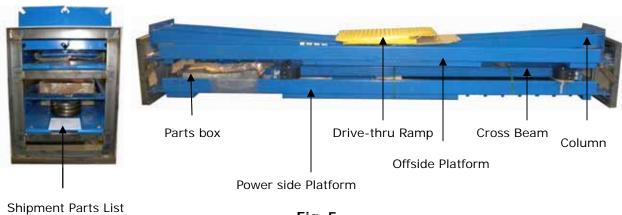


Fig. 5

3. Remove the Drive-thru Ramps and Columns (See Fig. 6).



Fig. 6

- 4. Loosen the screws on 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. 7).

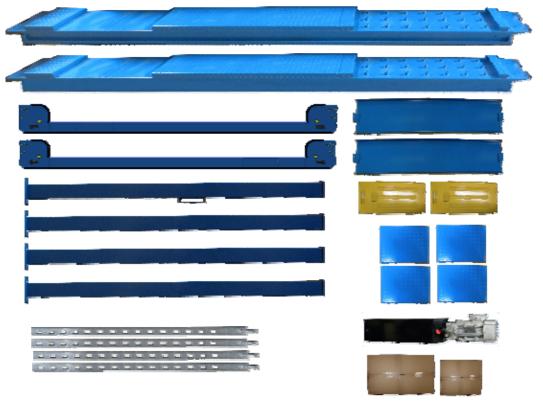


Fig. 7

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



Fig. 8

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



Fig. 9

C. Use a carpenter's chalk line to establish the installation layout per Table 1. Make sure the size is right and base is flat (see Fig. 10).

Note: Reserve space in front and behind the installation site.

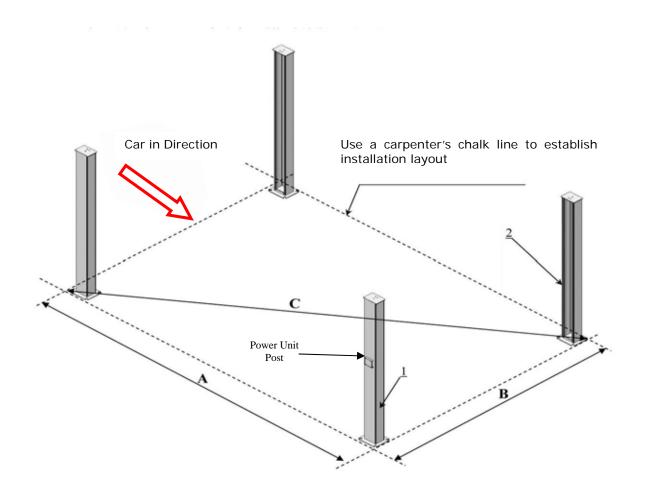
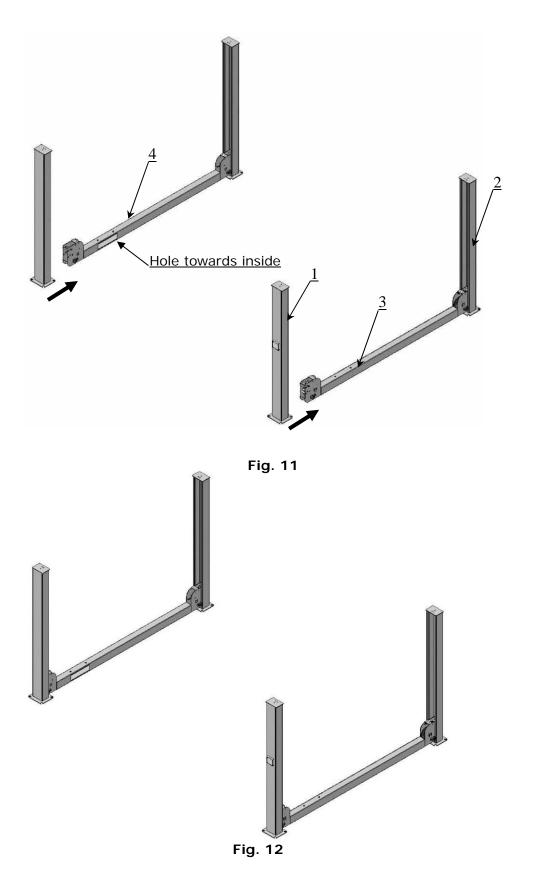


Fig. 10

Model	Α	В	С
414A	216 1/2"	130 7/8"	253″

Table 1

D. Install Cross Beams (See Fig. 11, Fig. 12). Note: Install the runway platforms on the cross beams prior to drilling the anchor holes. This will help if measurements are incorrect. Do not fully tighten platform bolts.



E. Fix the Anchor Bolts

1. Prepare the Anchor Bolts (See Fig. 13).

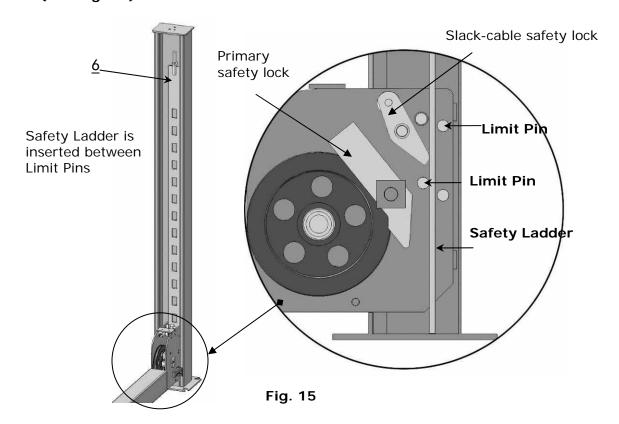
Spring washer
Nut
Nut
Fig. 13

2. Use a the rotary hammer drill with a ¾ inch masonry bit and drill all the anchor holes and install the anchor bolts (See Fig. 14).

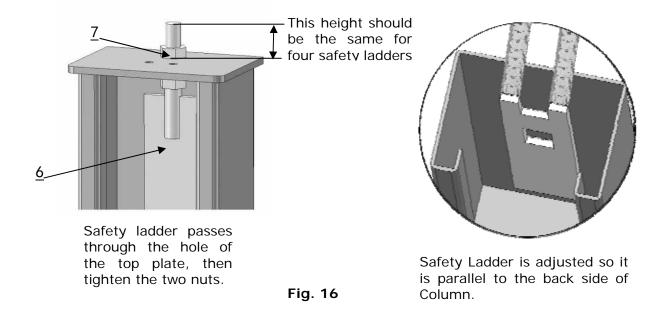


F. Install the Safety Lock Ladders

1. Take off the pulley safety cover and unscrew the four upper nuts on the Safety Ladders, and then adjust the four lower nuts so they are at the same level. Pull back on the cable safety lock on the Cross-beam to insert the Safety Lock Ladder in, raise the Safety Ladder, and thread the upper nuts (See Fig. 15).



2. Install Safety Ladders (See Fig. 16).



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

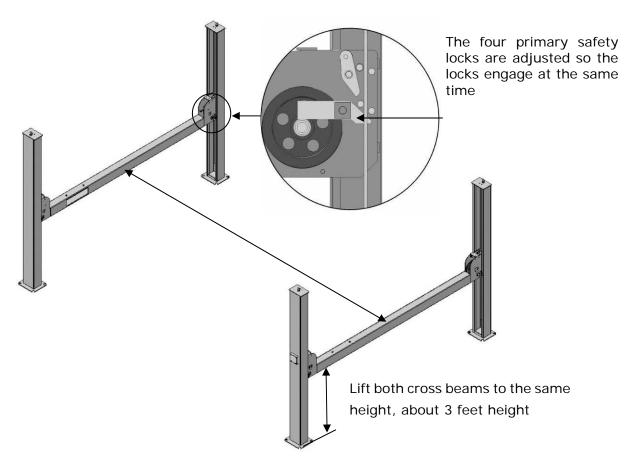


Fig. 17

H. Install power side (cylinder) platform.

1. Loosen one side of the pulley (See Fig. 18).

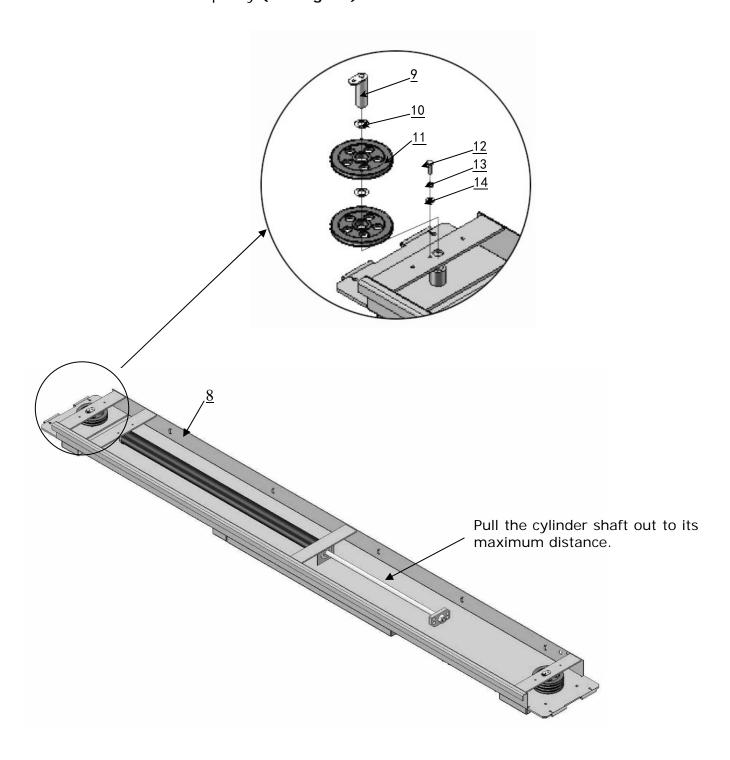


Fig. 18

2. Install the platform to Cross Beam with a forklift or other lifting device (See Fig. 19).

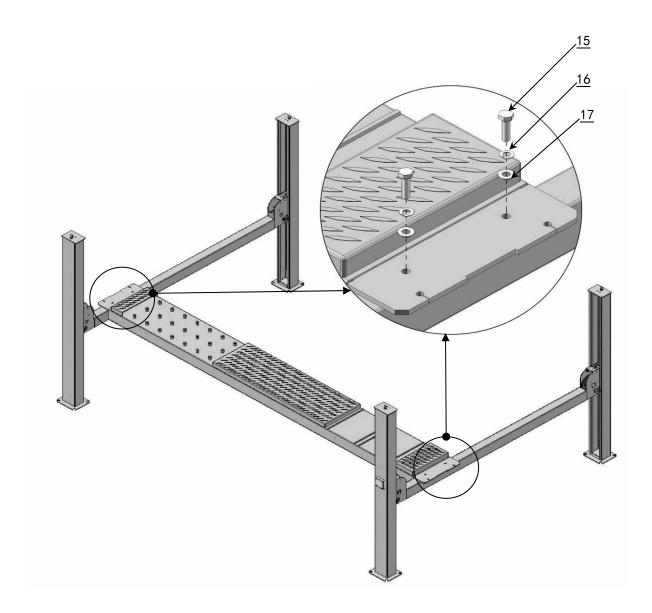


Fig. 19

I. Assemble the pulleys back to the power side platform. Install the offside platform on the cross beams and check the plumb of columns with a level, adjust with the shims and tighten the Anchor Bolts (See Fig. 20).

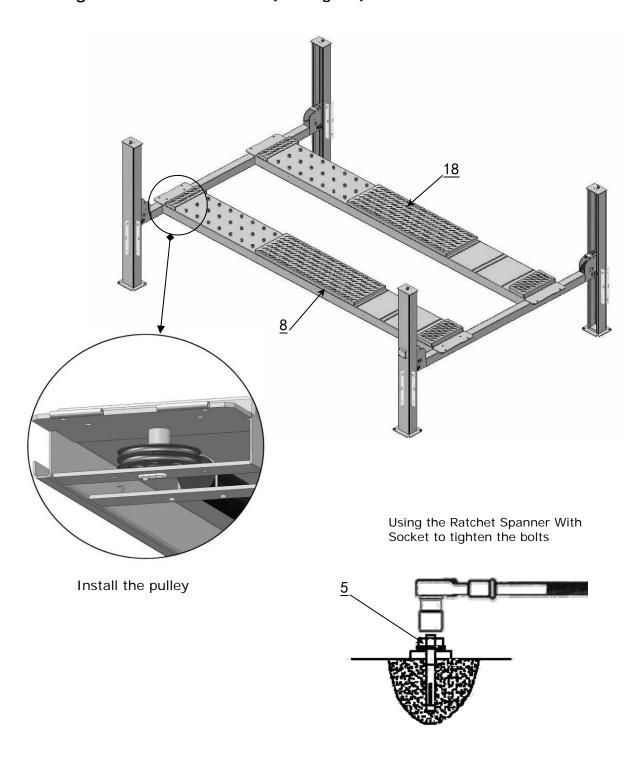
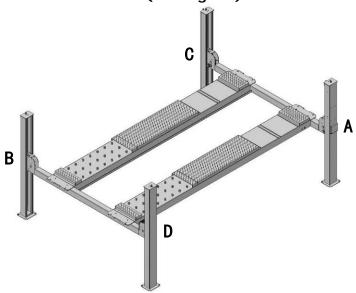


Fig. 20

J. Install the Steel Wire Cables (See Fig. 21).



No. Cable	1	2	3	4
Length	4104 mm	11058 mm	5810 mm	9354 mm
(inc. connecting fitting)	161 5/8"	435 3/8"	228 3/4"	368 1/4"

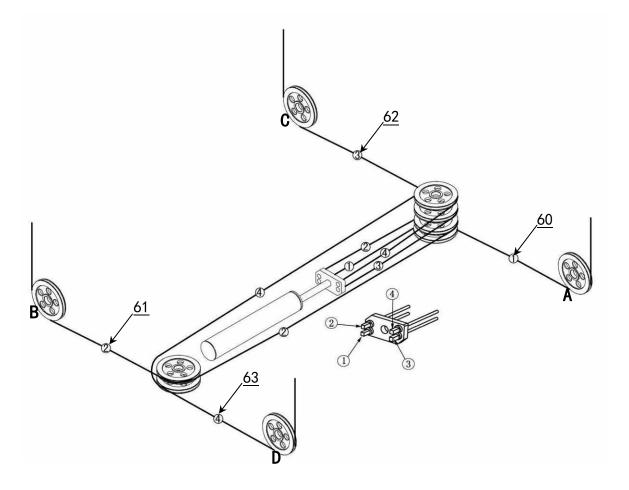


Fig. 21

1. After routing the cables through the pulleys, attach the cables to the connecting plate (See Fig. 22).

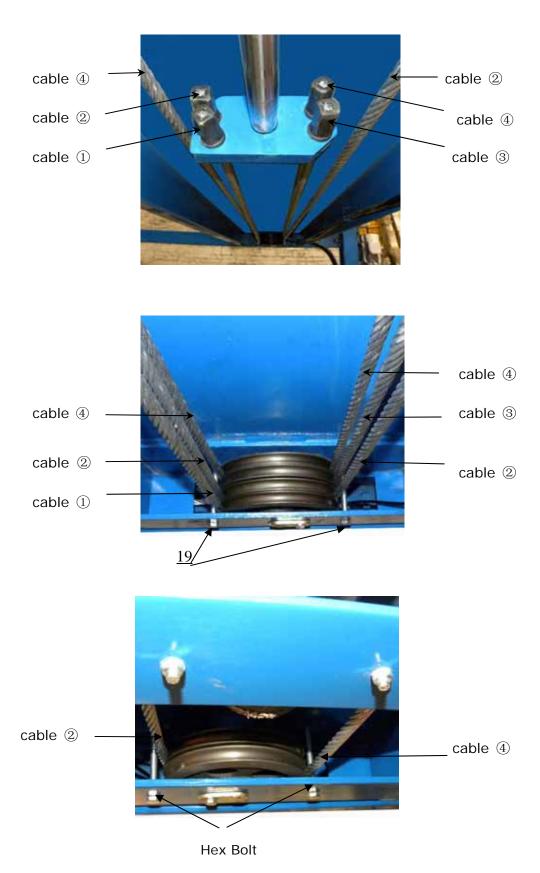


Fig. 22

2. The cable passes through Cross Beam and top plate on the column. Install the cable nuts **(See Fig. 23)**.

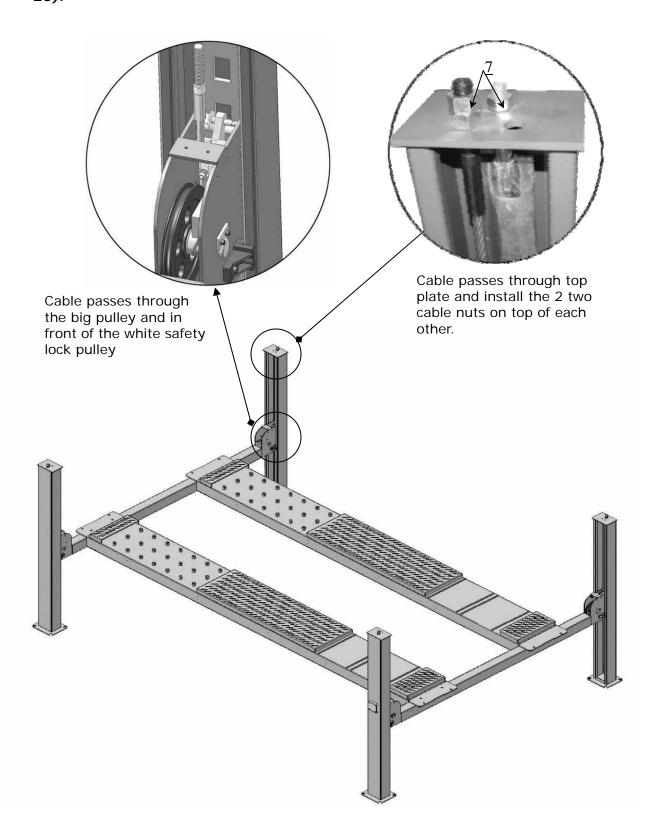


Fig. 23

K. Install the water separator, Manual control air valve and Power unit (See Fig. 24). Note: After connecting the air valve to an air supply and air constantly leaks from the valve the air valve is installed upside down. Remove air fittings and invert the air valve. Re-install air fittings.

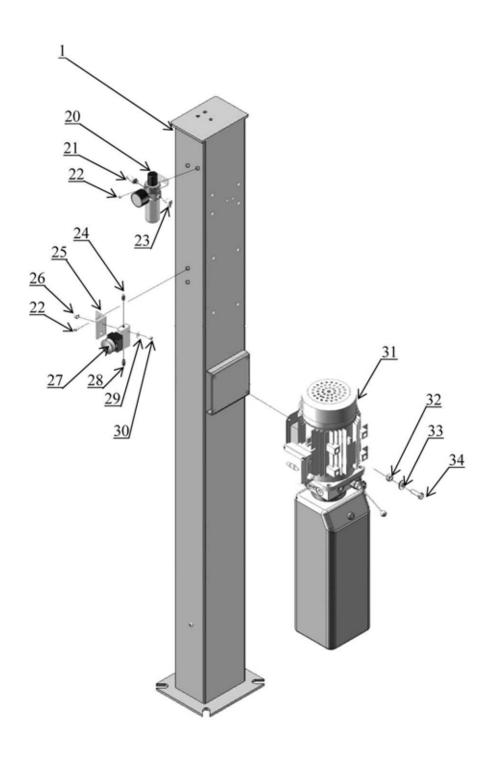


Fig. 24

L. Install Hydraulic System (See Fig. 25).

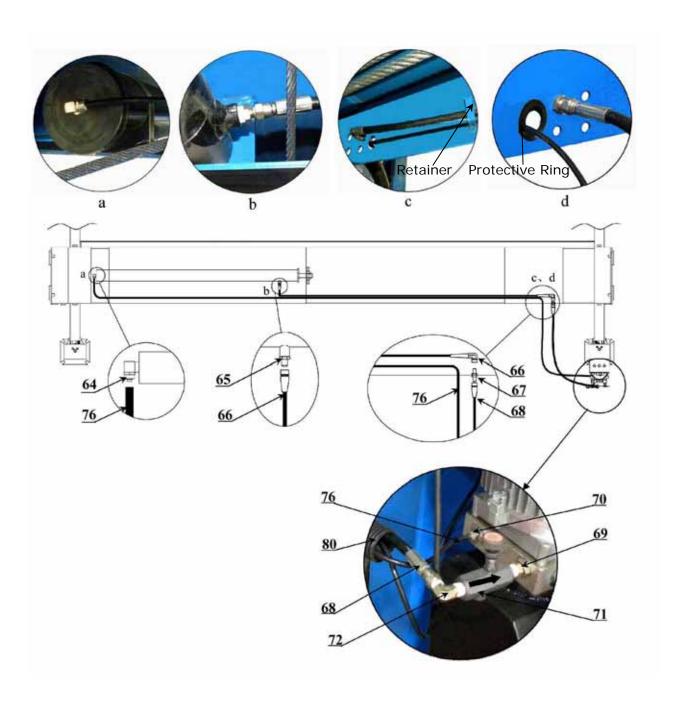
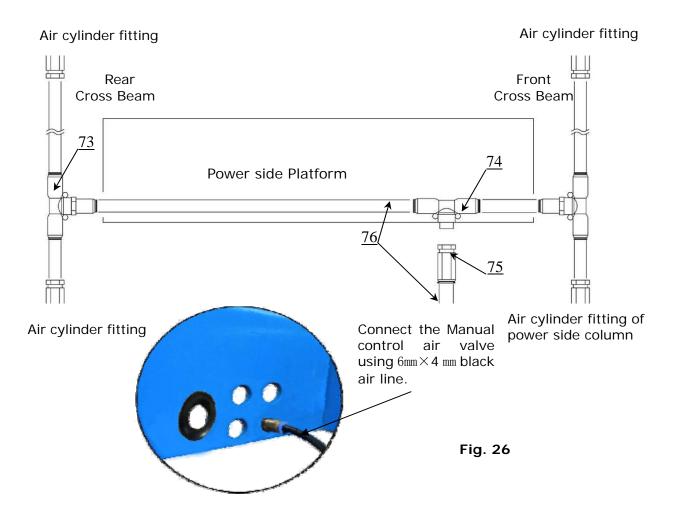


Fig. 25

M. Install Air-line System

- 1. Connect the front and rear Cross Beam air lock cylinders by using 6mm×4mm black air line (See Fig. 26).
- 2. Connect manual air control valve using 6mm×4mm black air line (See Fig. 26).



3. Connect the oil hose and air lines (See Fig. 27).

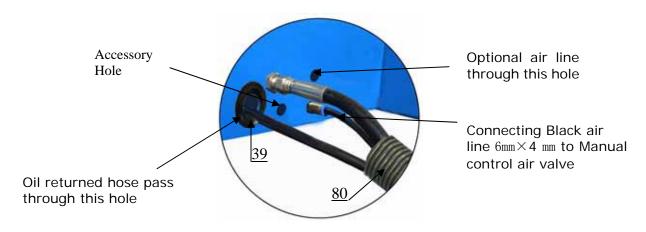


Fig. 27

4. Connect the water separator and manual control air valve using air line 8mm×6mm (See Fig. 28).

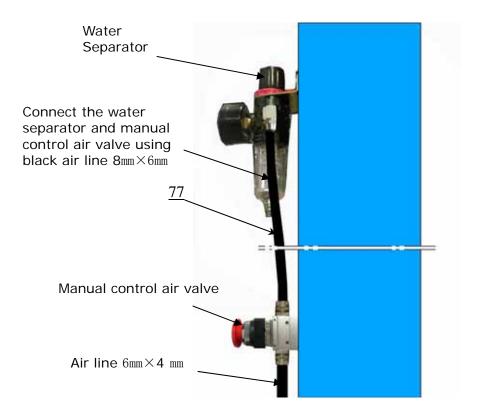


Fig. 28

5. Connect the air 1/4NPT air inlet (not supplied). Adjust the air pressure on the water separator regulator between 75-120 PSI (See Fig. 29).

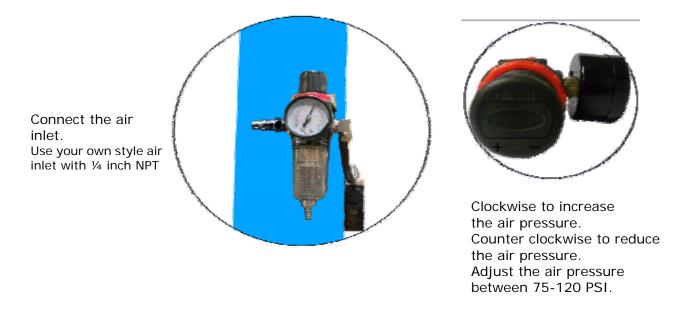


Fig. 29

N. Install Electrical System

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

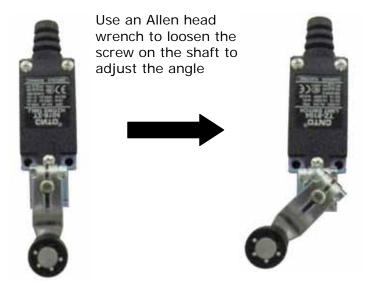


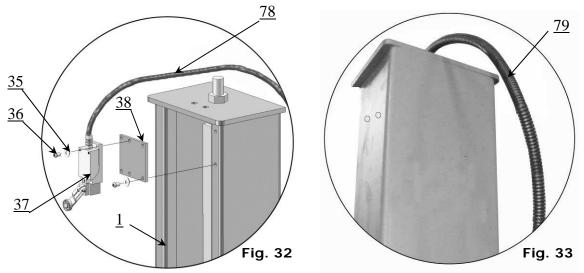
Fig. 30

2. Connect the limit switch with the cable wire. Connect wires to terminals #11 & #12 (See Fig. 31).



Fig. 31

- 3. Install limit switch on the column (See Fig. 32).
- 4. Insert the limit switch cable through the plastic protective sleeve (See Fig. 33).

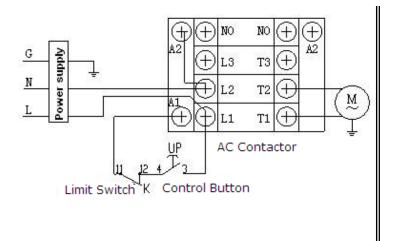


O. Electrical Connections

Note: 1. Safety: Make sure an adequate ground to the motor.

ATLAS Single phase motor (See Fig. 34)

- Connect the two power supply lines (fire wire L and zero wire N) to terminals on the AC contactor marked L2, L3.
- 2. Connect the two motor wires to terminals on the AC contactor marked **T2**, **T3**.
- 3. Connect **A2** to **L3** on the AC contactor. May already be installed (short jumper wire)
- 4. Connecting the Limit Switch: Remove the line of Connecting Terminal 4# on the up button and A1 on the AC contactor (See Fig. 35). Then connect wire12# on the Limit Switch with Terminal 4# on the control button and connect wire 11# with terminals A1 on the AC contactor (See Fig. 36).



Control Button

SB (WP) Limit Switch

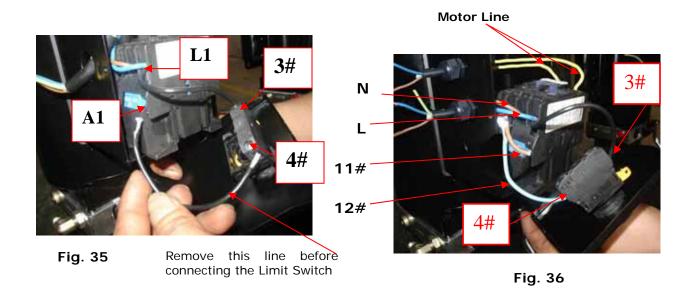
3 T 4 12 11

A2 A1

KM

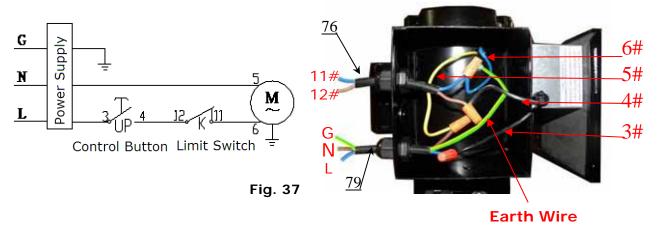
220V

Fig. 34



SPX single phase motor (See Fig. 37)

- 1. Power supply line (zero wire **N**) connected with wire **5**# of motor.
- 2. Wire **11**# on the limit switch connected with wire **6**# on the motor.
- 3. Wire **12**# on the limit switch connected with wire **4**# on the control button.
- 4. Power supply line (fire wire L) connected with wire 3# on the control button.



P. Install Spring and Safety Cover on the Cross Beam (See Fig. 40).

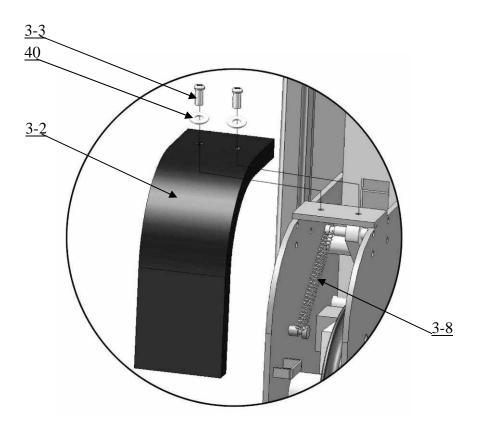
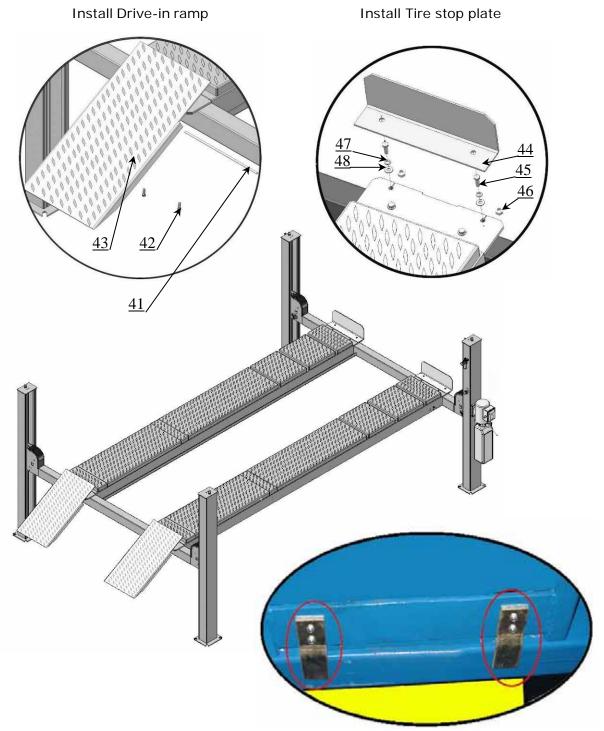


Fig. 40

Q. Install Drive-in ramp, Tire stop plate, Platform lock plates (See Fig. 41).



The lock plates are used to prevent the turning & slipping of offside platform. Use the hex bolts $M8\times20$. Bolt the plates to the front and rear on the platform.

Fig. 41

IV.EXPLODED VIEW

Model 414A

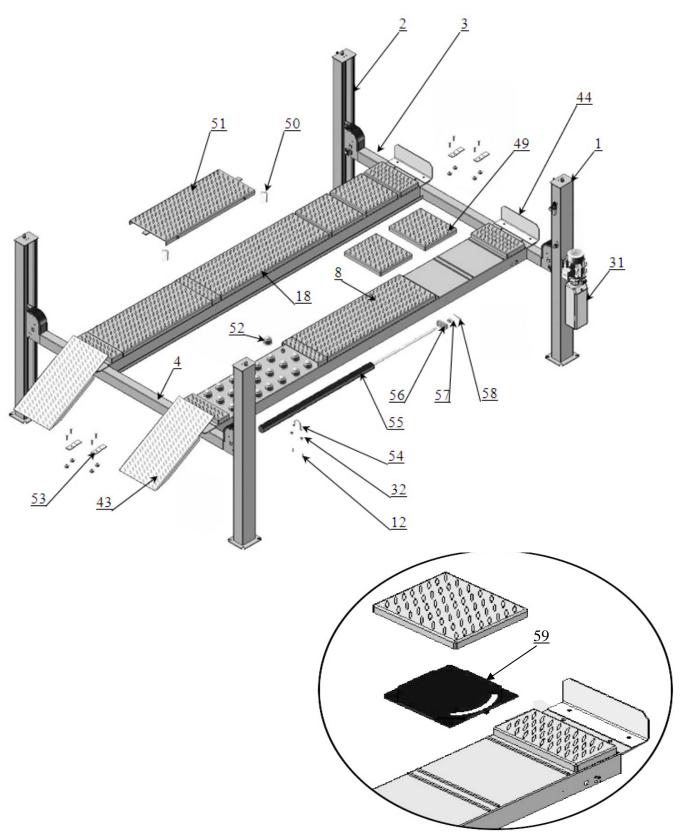


Fig. 42

CROSS BEAM

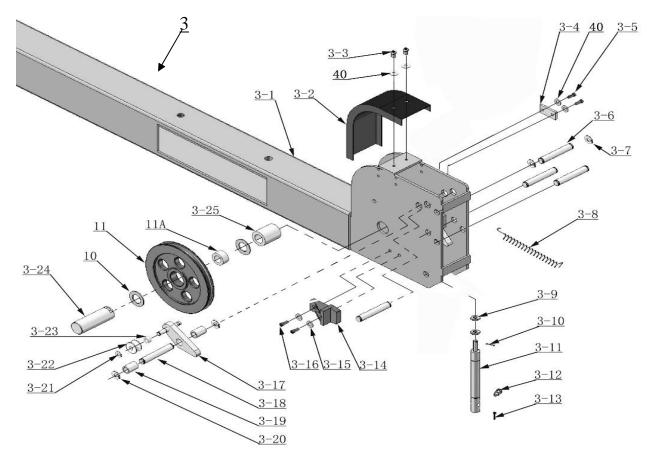
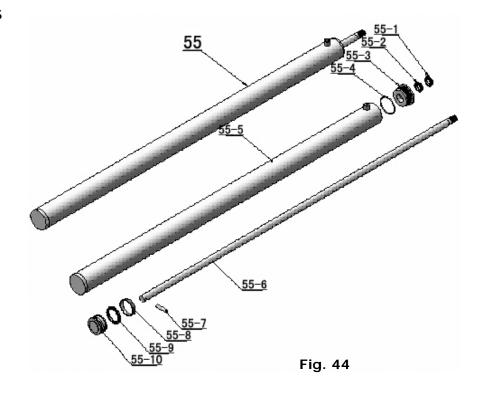


Fig. 43

CYLINDERS



POWER UNIT

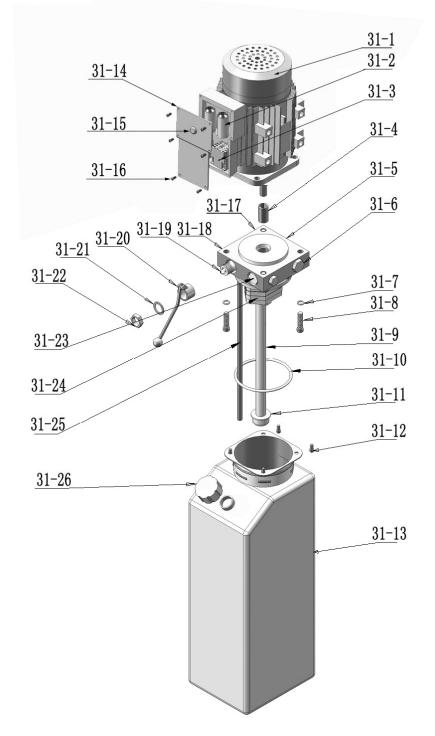
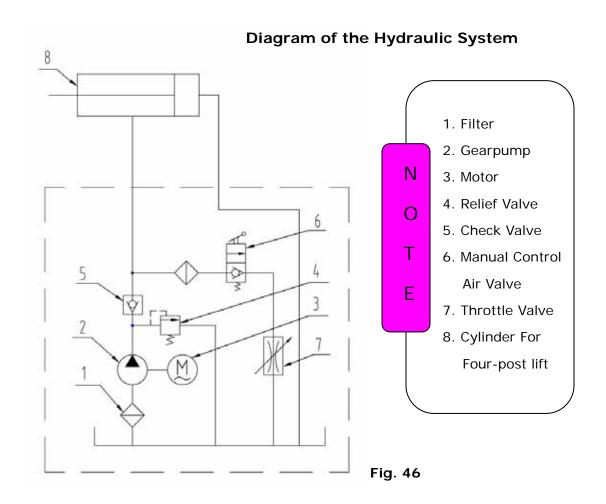


Fig. 45

V. TEST RUN

- 1. Fill the reservoir with approximately 3.75 gallons Hydraulic Oil (**Note**: In consideration of Power Unit's durability, please use **Hydraulic Oil AW46**). For more information on hydraulic oil, follow or type in the link. http://www.gregsmithequipment.com/Whats-The-Best-Oil-For-My-Lift
- Press button UP ↑ , the Cables will tighten up.
 Make sure the Cables are in the pulley grooves.
- 3. Press the Handle on the release valve to lock the Cross-beam to the safety ladders, and then adjust the platforms level by adjusting the nuts of Safety Ladders.
- 4. Adjust the cable fitting Hex nuts so the platforms and four safety locks click at the same time. Run the lift up and down several times while listening for the safety locks to click at the time.
- 5. Adjust the clearance between the post and the plastic slider of Cross-beam to about 2mm, and then tighten the fixing nut on the slider.
- 6. After finishing the above adjustment, test run the lift with a load. Run the lift with the platforms in low position first, make sure the platforms move up and down at the same time and the safety devices can lock and release at the same time. Test run the lift completely to the top. Repeat steps if necessary.



VI. OPERATION INSTRUCTIONS

To lift a vehicle

- 1. Keep the work area clean and free of clutter
- 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. Push the Handle on the release valve to rest the lift on the safety locks. Make sure the Safety device is locked at the same height.

To lower vehicle

- 1.Be sure there are no people or objects under the lift, only leaving operator in lift area;
- 2. Press the button **UP until the lift has cleared the locks**, press and hold the manual-controlled air valve to release the safety device. Push the handle on the lowering valve with the other hand. The lift will lower automatically.
- 3. Drive away the vehicle when the lift is lowered to the lowest position.
- 4. Turn off the power.

VII. MAINTENANCE SCHEDULE

Monthly:

- 1. Re-torque the anchor bolts to 850-100 Foot Pounds.
- 2. Lubricate cable with lubricant.
- 3. Check all cable connections, bolts and pins.
- 4. Make a visual inspection of all hydraulic hoses/lines for possible wear or leaks.
- 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 do not tighten, 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 ensure level lifting.
- 3. Check columns for plumb.

VIII. TROUBLE SHOOTING

TROUBLE	CAUSE	REMEDY
	1. Button does not work	1.Replace button
	2. Wiring connections are not in good	2.Repair all wiring connections
Motor doos	condition	
Motor does	3. Motor burned out	3.Repair or replace motor
not run	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	3. Gear pump in damage	3.Repair or replace
not raised	4.Relief valve or check valve in damage	4.Repair or replace
	5.Low oil level	5.Fill tank
	Release valve out of work	
Lift does not	2 Relief valve or check valve leakage.	Repair or replace
stay up	3.Cylinder or fittings leaks	
	1.0il line is jammed	1.Clean the oil line
	2.Motor running on low voltage	2.Check electrical system
Lift raises	3. Oil mixed with Air	3. Fill tank
too slow	4.Pump leaks	4.Replace Pump
	5.Overload lifting	5.Check load
	Safety device are in activated	1. Release the safeties
Lift cannot	2. Release valve damaged	2. Replace or repair
lower	3. Air Cylinder damaged	3.Replace the cylinder
IOMEI	4. Oil system is jammed	4. Clean the oil system

For more detail on motor trouble shooting visit our website link.

http://www.gregsmithequipment.com/Lift-Motor-Troubleshooting

IX. PARTS LIST

Item	Part No.	Description	QTY.	Note
(See Fig.16, Fig.18-Fig.20,Fig.22, Fig.24,Fig.27, Fig.32,Fig4			g40-Fig.42)	
1	460020	Power Side Column	1	
2	460021	Offside Column	3	
3	460022	Front Cross Beam	1	
4	460023	Rear Cross Beam	1	
5	209059A	Anchor Bolt	16	
6	420028B	Safety Ladder	4	
7	420175A	Hex Nut	16	
8	470001	Power Side Platform	1	
9	460025	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	470002	Offside Platform	1	
19	460027	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	90° Fitting for Air Line	1	
24	420159	Straight Fitting For Air Line	1	
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	470003	Drive-in Ramp	2	
44	420031	Tire Stop Plate	2	

Item	Part No.	Description	QTY.	Note
45	420136	Hex Bolt	4	
46	206023A	Hex Nut	4	
47	420026	Spring Washer	4	
48	206006	Washer	4	
49	430004	Plate for Adjustable Turn Plate	4	
50	430006	Pin For Slip Plate	4	
51	450003	Slip Plate	2	
52	420157	Steel Ball Set	60	
53	420007	Platform Lock Plate	4	
54	460029	Fixing Ring For Oil Cylinder	1	
55	460030	Oil Cylinder	1	
56	420013	Cylinder Connecting Plate	1	
57	420014	Hex Nut	1	
58	420015	Split Pin	<u>·</u> 1	
	l Parts (See Fig		<u>'</u>	
59	420158	Turn Plate	2	
Parts Fo	r Cable (See Fi			
60	460031	No.① Cable	1	
61	460032	No.2 Cable	1	
62	460033	No.3 Cable	1	
63	460034	No.4 Cable	1	
	1	stem (See Fig.25)		<u> </u>
64	420166	90° Fitting	1	
65	460035	Straight Fitting For Cylinder	1	
66	440008	Oil Hose	1	
67	460036	Extended Straight Fitting (with Nut)	1	
68	460037	Oil Hose	1	
69	440009	Straight Fitting For Hydraulic Power Unit	1	
70	420095	Straight Fitting	1	
71	440011	Needle Valve	1	
72	460038	90° Fitting	1	
		em (See Fig.25-26 & Fig.28)	<u> </u>	l
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	
	L.	n (See Fig.27, Fig.32, Fig.33)	<u> </u>	
78	460053	Wire Cable	1	
79	460054	Protecting Plastic Hose	1	
80	460055	Protecting Plastic Hose	<u>·</u> 1	
	L	(See Fig.40 & Fig.43)	<u>-</u>	1
3-1	460041	Front Cross Beam Assy.	1	
3-2	460042	Pulley Safety Cover	4	
3-3	209009	Cup Head Bolt	<u> </u>	
3-4	420044	Stop Plate	4	
3-5	420138	Socket Bolt	8	

Item	Part No.	Description	QTY.	Note
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	
3-25	420040A	Pulley Bush	4	
Parts Fo	r Cylinder (See	Fig.44)		
55-1	460043	Dust Ring	1	
55-2	460044	Y Ring	1	
55-3	460045	Head Cap	1	
55-4	460046	O Ring	1	
55-5	460047	Bore Weldment	1	
55-6	460048	Piston Rod	1	
55-7	460049	Pin	1	
55-8	460050	Support Ring	1	
55-9	460051	Y Ring	1	
55-10	460052	Piston	1	
Parts Fo	r PEAK Power I	Jnit (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	
31-16	440044	Screw	6	

Item	Part No.	Description	QTY.	Note
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	