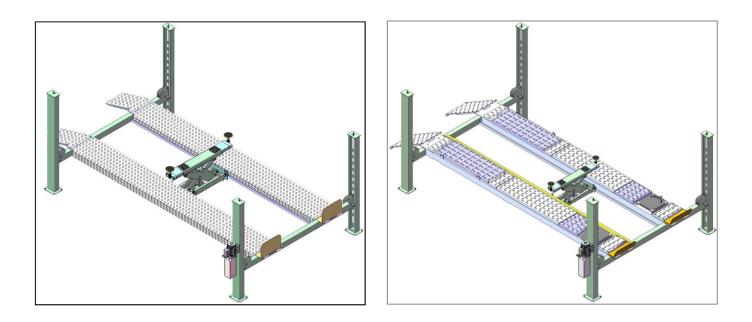


Original

# Installation And Service Manual



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4-post Lift
Model:PRO-12, PRO-12A, PRO-12AX
```

## CONTENTS

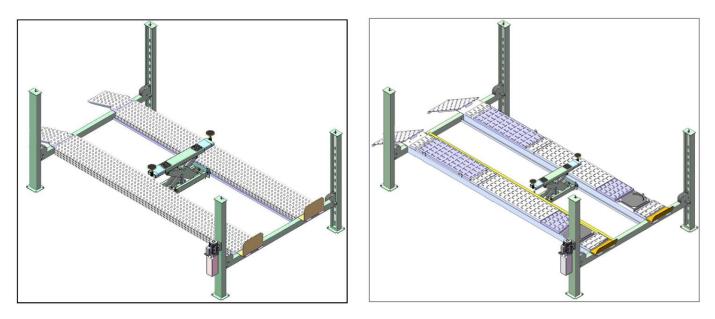
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Installation Requirement 2
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Operation Instruction
Maintenance
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Lift Disposal

# I. PRODUCT FEATURES AND SPECIFICATIONS FEATURES

- · Manual control air-operated system.
- $\cdot$  Mechanical self-lock and air-drived safety release.
- · Manual hydraulic power system, cable-drived.
- $\cdot$  Strengthen and Non-skid diamond platforms.
- · Adjustable platform and adjustable safety lock ladders.

· Optional Jack: With hand pump/Air-operated hydraulic pump/Controlled by power unit.

. Optional Turnplate: Alignment model only



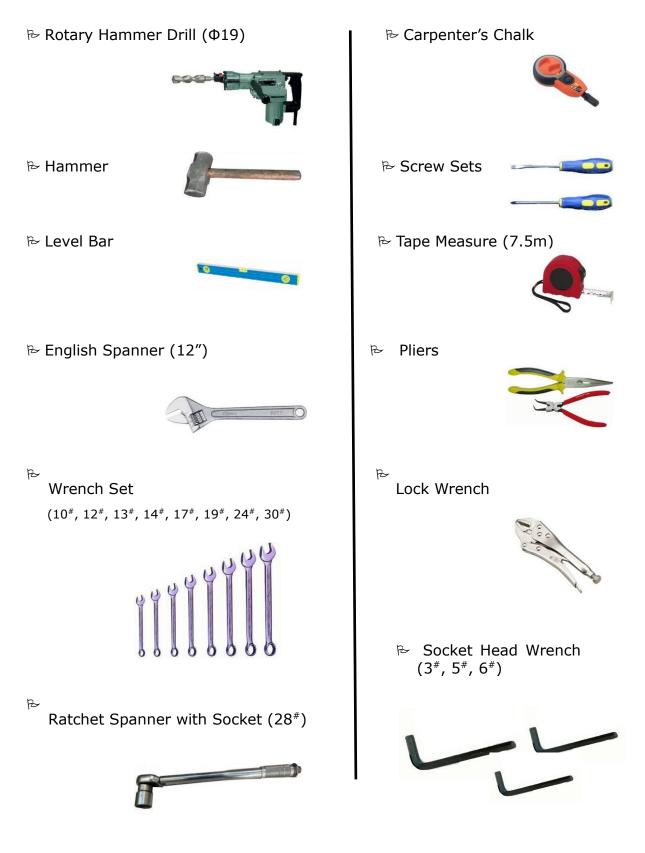
PRO-12 Fig.1

PRO-12A,PRO-12AX Fig.2

#### **ALIGNMENT MODEL SPECIFICATIONS**

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Length (W/ Ramps)	Overall Width	Width Between Columns	Motor
PRO-12	12000lbs	73-1/2″	62S	236-3/4″	126-3/8″	112-3/8″	2.0HP
PRO-12A	12000lbs	75-3/8″	62S	236-3/4″	126-3/8″	112-3/8″	2.0HP
PRO-12AX	12000lbs	75-3/8″	62S	236-3/4″	132-1/8″	118-1/8″	2.0HP

# II. INSTALLATION REQUIREMEN A. TOOLS REQUIRED





**B.** Equipment storage and installation requirements.

The equipment should be stored or installed in a shady, normal temperature, ventilated and dry place.

C. The equipment should be unload and transfer by forklift.







## D. SPECIFICATIONS OF CONCRETE (See Fig. 5)

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 completely before the installation.
- Concrete must be in good condition and must be of test strength 3,000 psi (210kg/cm<sup>2</sup>) minimum.
- 3. Floors must be level and no cracks.

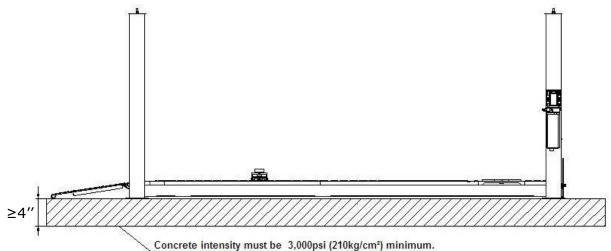


Fig. 5

## E. AIR SUPPLY

## F. POWER SUPPLY

The electrical source must be 2.0HP 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. Location of installation

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

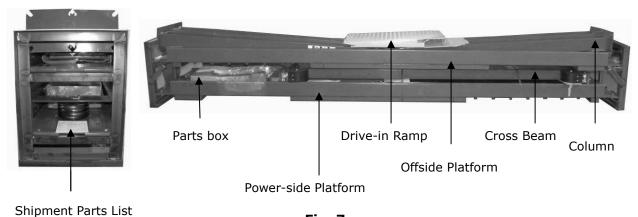
## B. Check the parts before assembly

1. Packaged lift and hydraulic power unit (See Fig. 6).





2. Open the outer packing carefully (See Fig. 7).





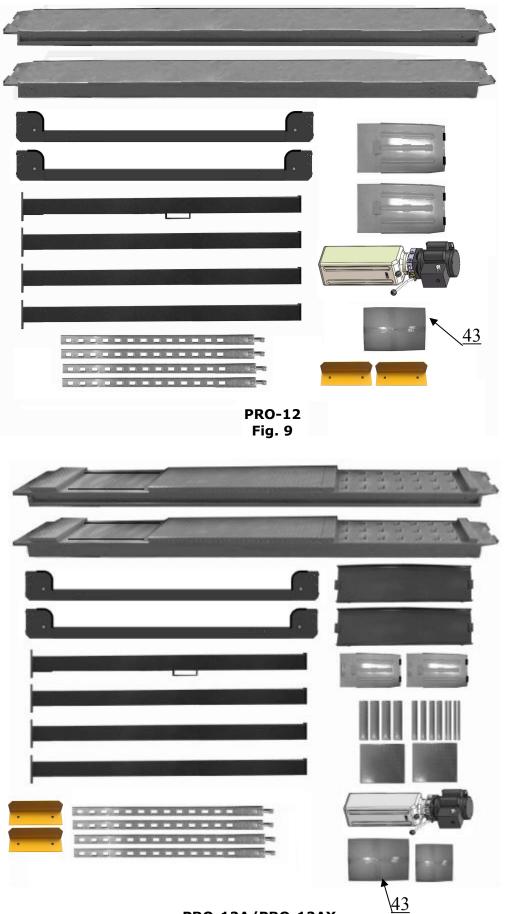
3. Take off the Drive-in Ramps and Columns (See Fig. 8).



Fig. 8

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

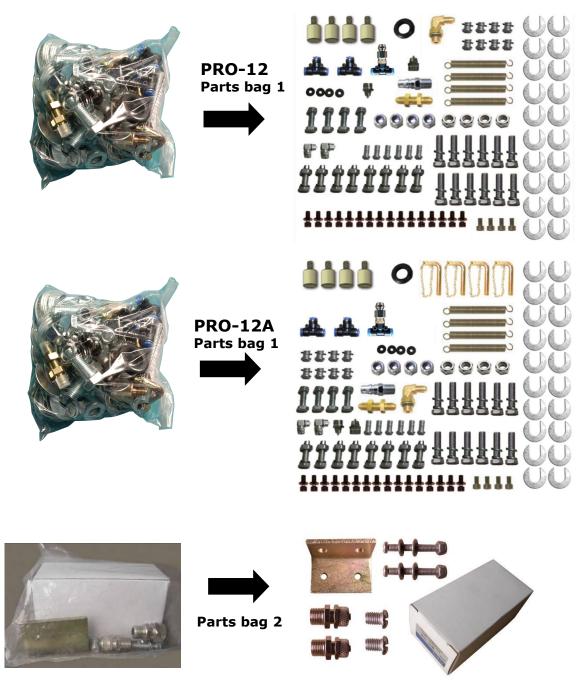
5. Move aside the parts and check the parts according to the shipment parts list **(See Fig. 9).** 



PRO-12A/PRO-12AX Fig. 10 6. Open the carton of parts and check the parts according to the parts box list (**See Fig. 11**).



7. Check the parts of the parts bag according to the parts bag list (See Fig. 12).



C. Use a carpenter's chalk line to establish installation layout make sure the size is right and base is flat (see Fig. 13). Note: Reserve space before and behind the installation site.

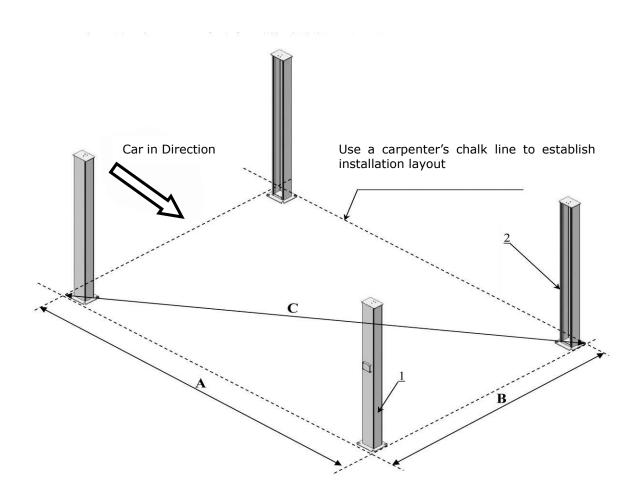
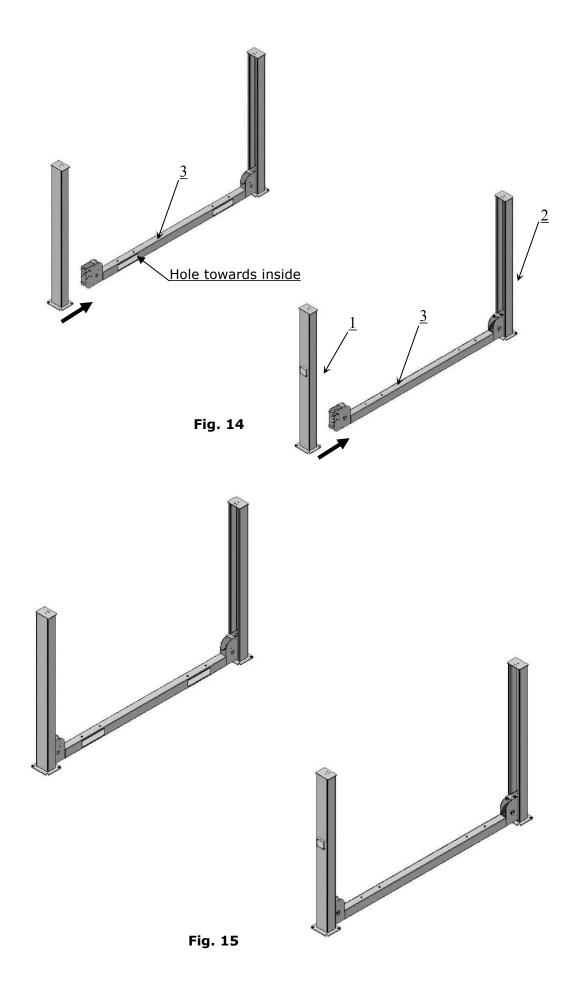


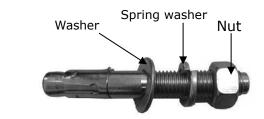
Fig. 13

Model	А	В	С
PRO-12	200-3/4″	126-1/4″	237-1/4″
PRO-12A	200-3/4″	126-1/4″	237-1/4″
PRO-12AX	200-3/4″	132-1/8″	240-3/8″



#### E. Fix the anchor bolts

1. Prepare the anchor bolts (See Fig. 16).



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. 17).



Note: Minimum embedment of anchors is 3-1/2"(90mm).

Fig. 16

Fig. 17

## F. Install the safety ladders

 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. 18.)

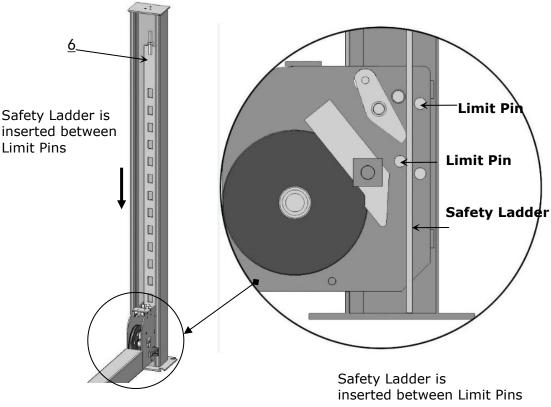
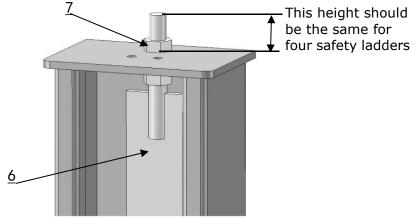


Fig. 18

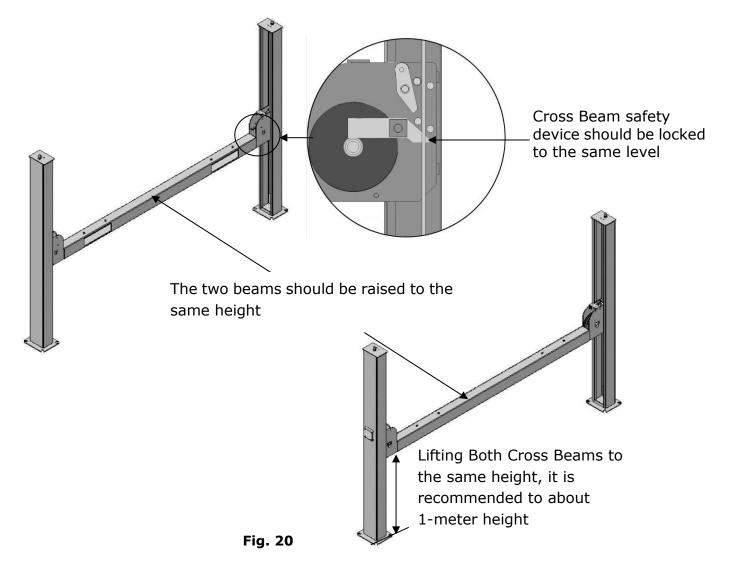
#### 2. Install safety ladder



Safety ladder pass through the hole of the top plate, then tighten the two nuts

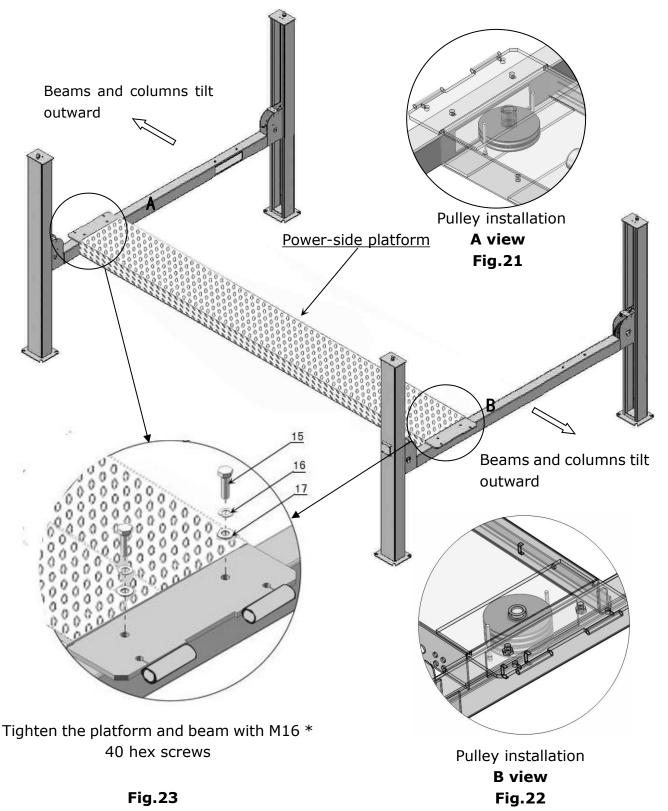


## G. Put the Cross Beams at the same height (See Fig. 20)



#### H. Install power-side platform.

1. Put the power-side platform upon the cross beams by forklift or manual, offset the cross beams to the outside till the pulleys of both platforms can set up into the cross beam (See Fig.21,22), Install the power-side platform and screw up the bolts (See Fig.23).



I. Assembly offside platform and slider block, (See Fig. 24) check the plumbness of columns with level, adjusting with the shims if not, and then tighten the anchor bolts (See Fig. 25).

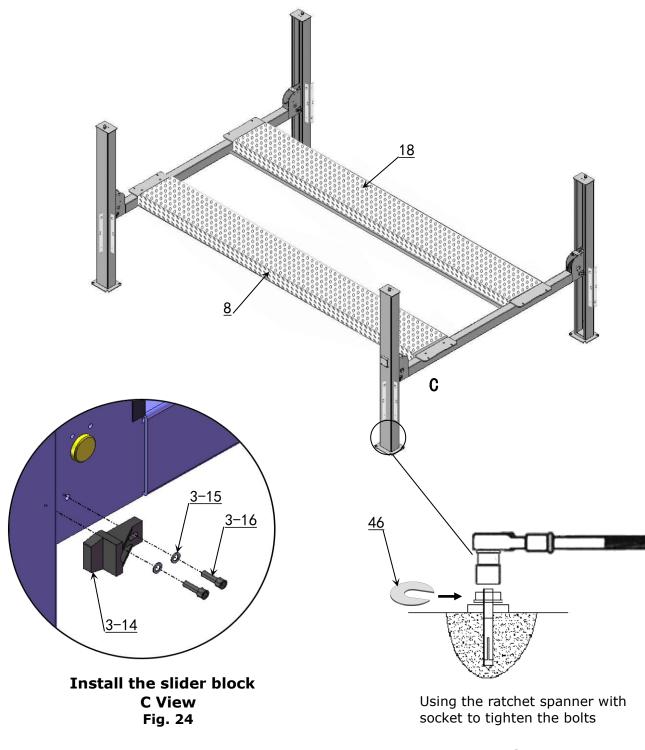
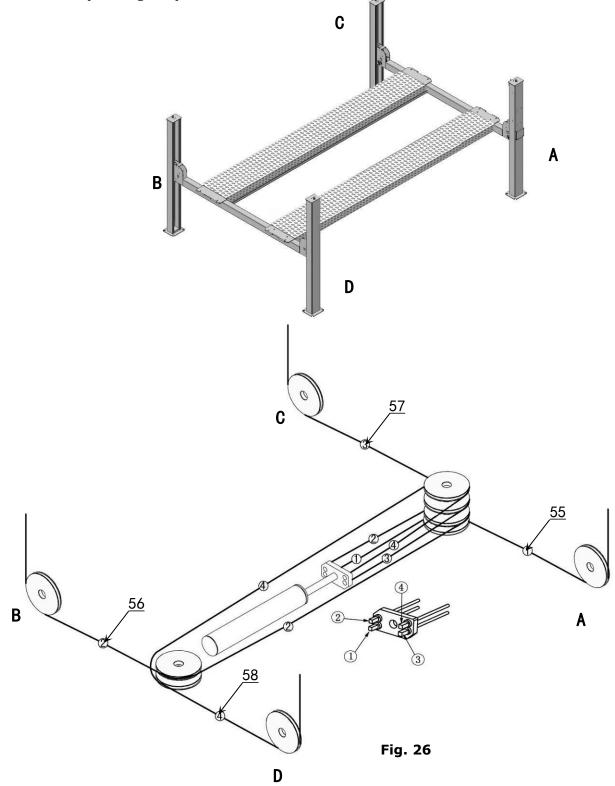


Fig. 25

Note: Torque of Anchors is 150N.m.

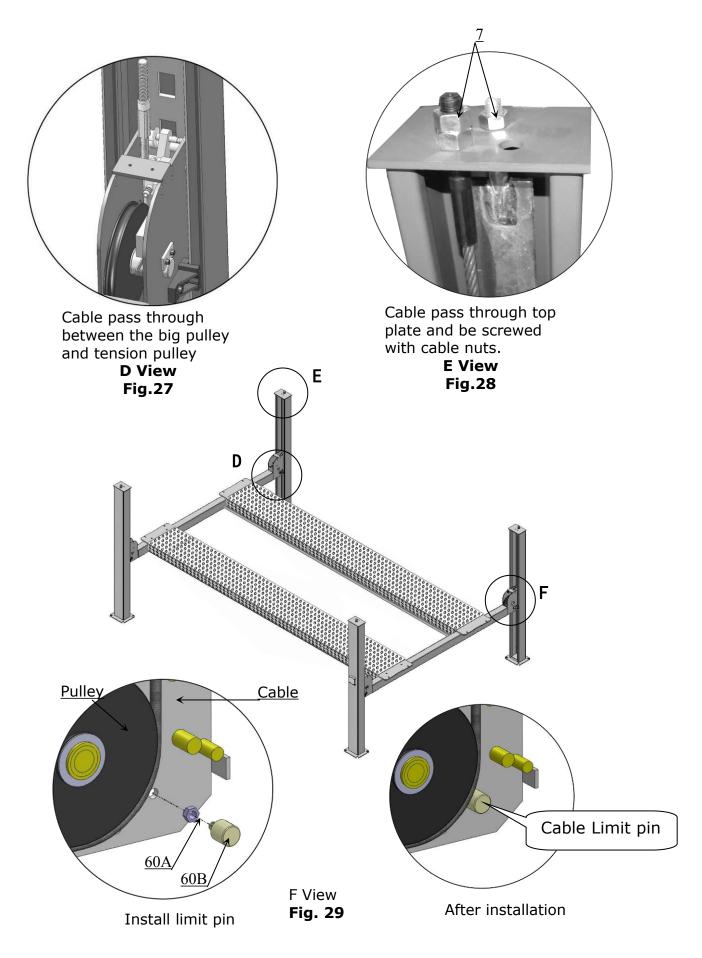
## J. Install cables

1. Pass through the cables from the platform to the columns according to the number of the cables (See Fig. 26).



No. Cable	1)	2	3	4	Model
Length	148-5/8″	406-1/2″	211-3/4″	343″	PRO-12 PRO-12A
(w/ fitting)	151-1/2″	409-1/2″	214-3/4″	345-7/8″	PRO-12AX

2. The cable pass through the cross beam to top plate of columns and be screwed with cable nuts (See Fig. 27, 28), then install the cable limit pin. (See Fig. 29)



3. Illustration for platform cables (See Fig. 30, 31, 32).

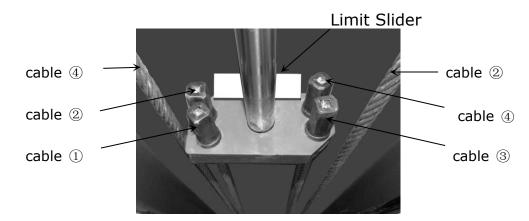
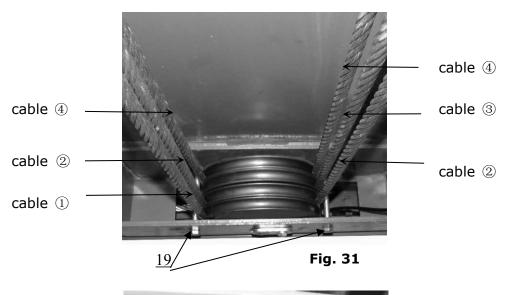


Fig. 30



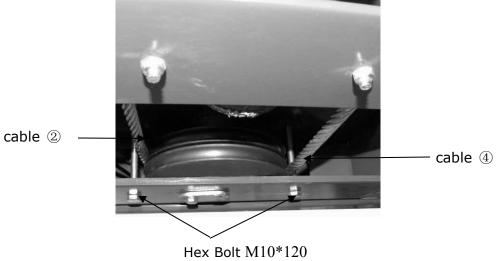
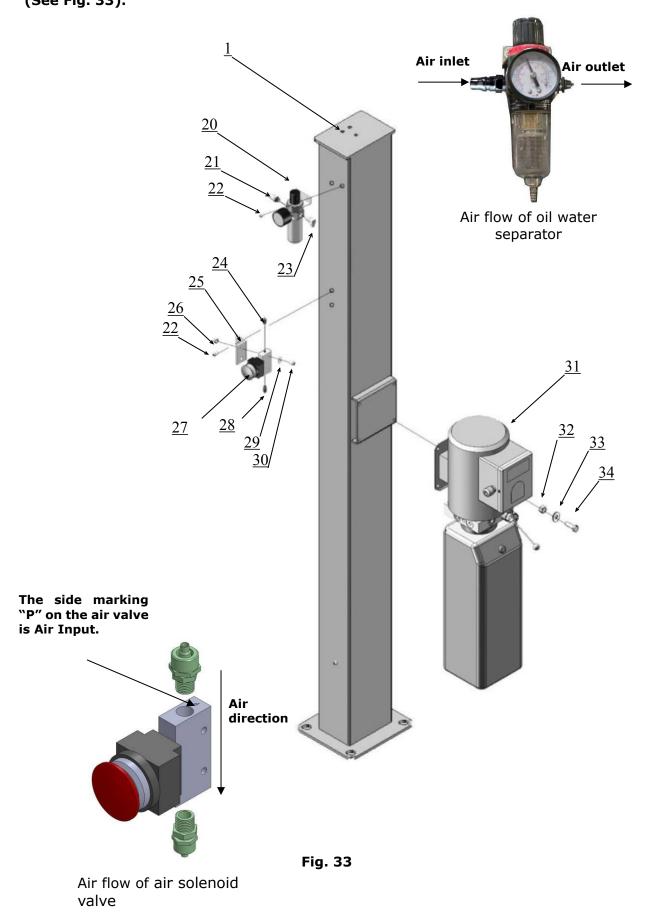


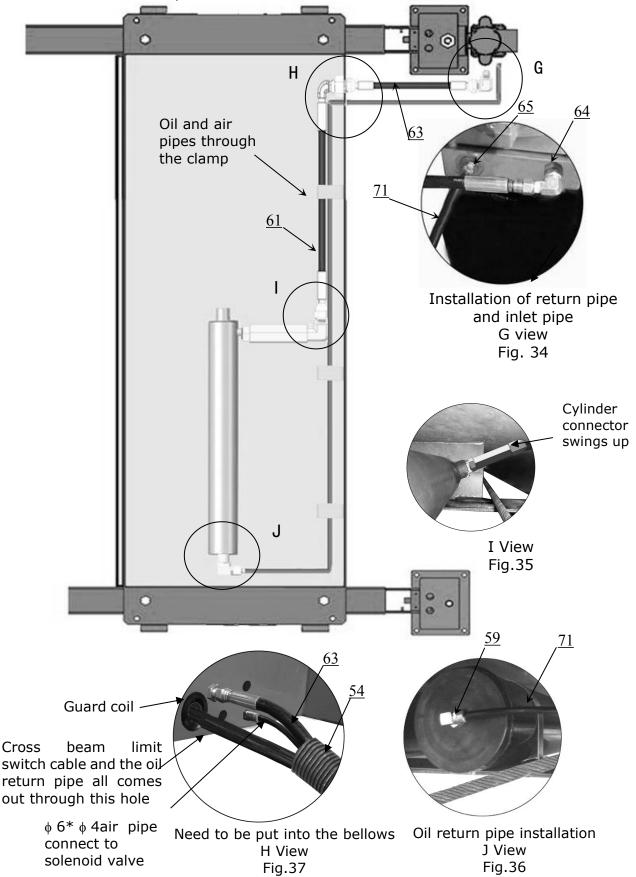
Fig. 32

K. Install oil-water separator, manual control air valve and power unit (See Fig. 33).



## 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 cylinders by using 6\*4 black air pipe. (the actual length of air line can be cut by user) **(See Fig.38)**
- Cut the 6\*4 black air pipe by scissor between two retainers, then connect the air line with T fitting. (See Fig. 39).
- Connecting the solenoid valve using 6\*4 black air pipe (the actual length of air line can be cut by user) (See Fig. 40).

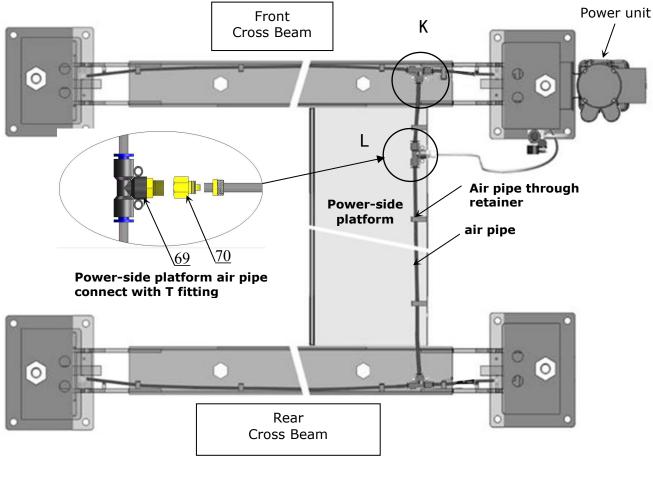
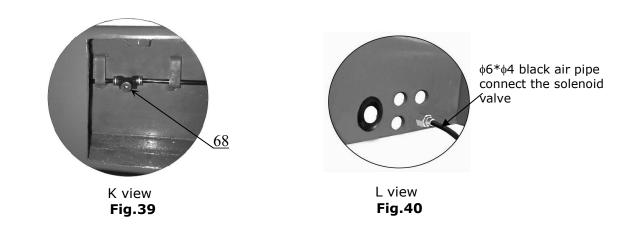


Fig.38



4. Connecting Oil-water separator and Manual control air valve using air line (See Fig. 41).

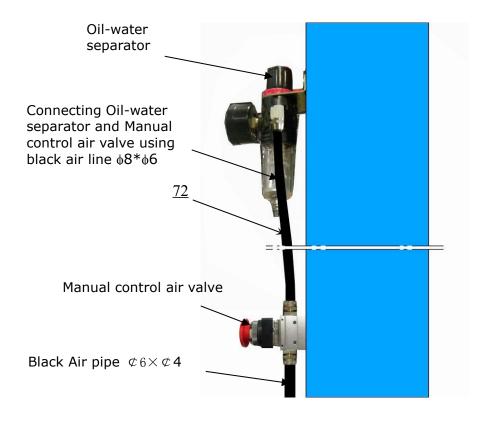


Fig. 41

5. Connecting air inlet (Air supply pressure 5-8kg/cm<sup>2</sup>), adjusting the air pressure of Oil-water separator to 0.8 MPa (See Fig. 42).

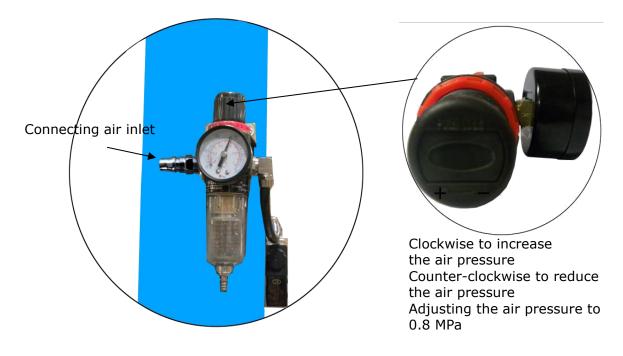


Fig. 42

#### **N. Install Electrical System**

Connect the power source on the data plate of Motor.

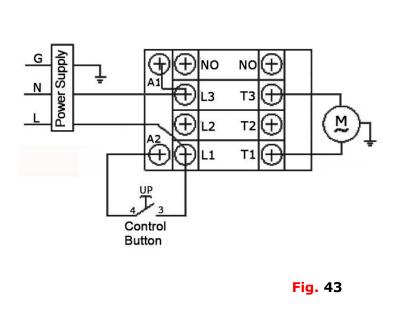
#### Note: For the safety of operators, the power wiring must contact the floor well.

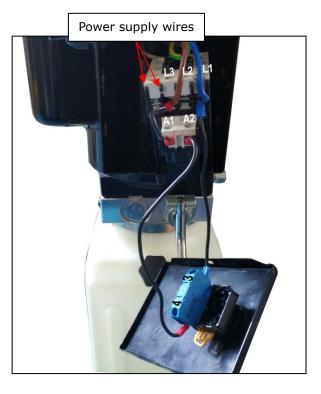
#### Single phase motor (See Fig. 43)

1. Connecting the power supply wires (active wire **L**) to terminals of AC contactor marked L1, and connecting neutral wire **N** to terminals of AC contactor marked L3.

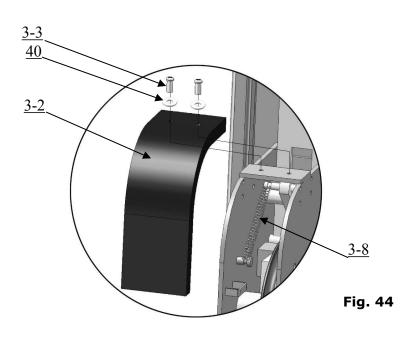
2. If the power supply wire both active wire **L**, then connect two wires to terminals of AC contractor marked L1, L3.

3. Earth wire( yellow and green wire) is connected with the earth wire terminal of the motor.

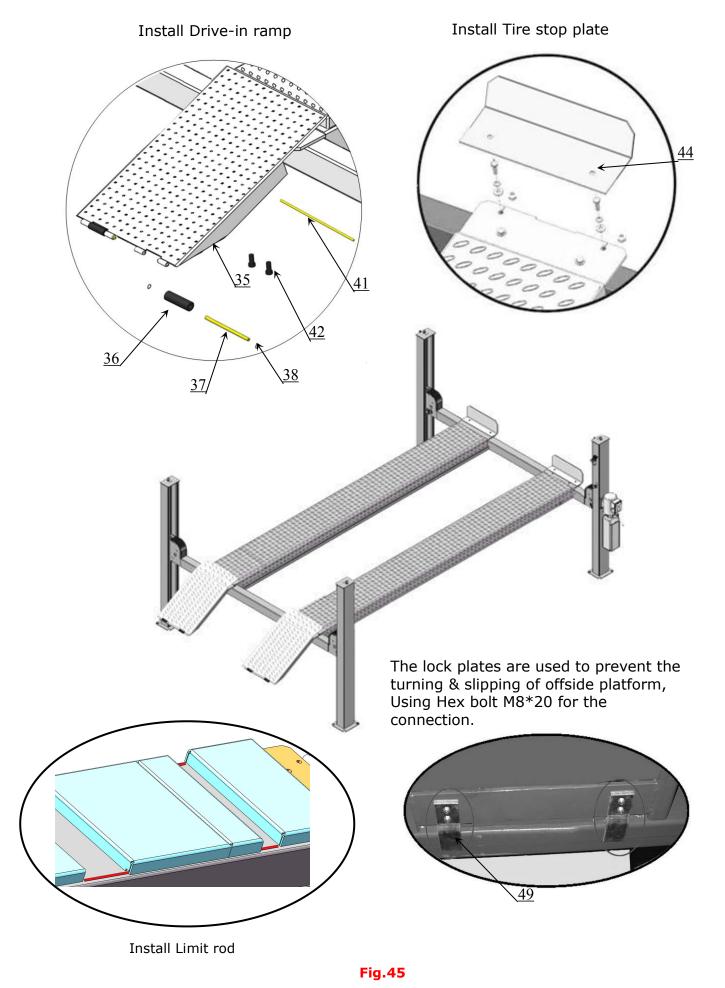




O. Install spring and safety cover of cross beam (See Fig. 44).

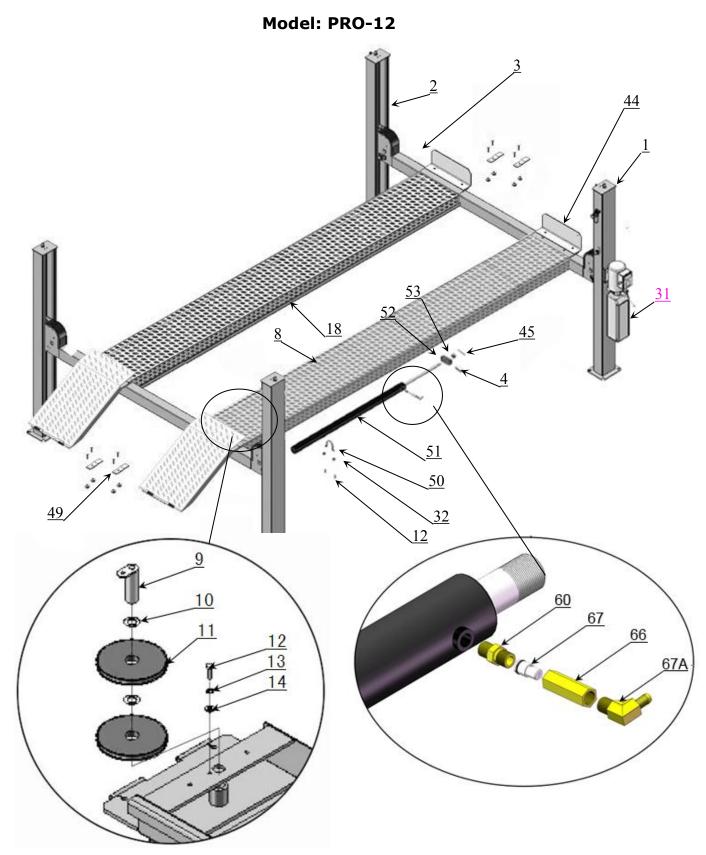


## P. Install drive-in ramp, tire stop plate, platform lock plates, Limit rod (See Fig. 45)

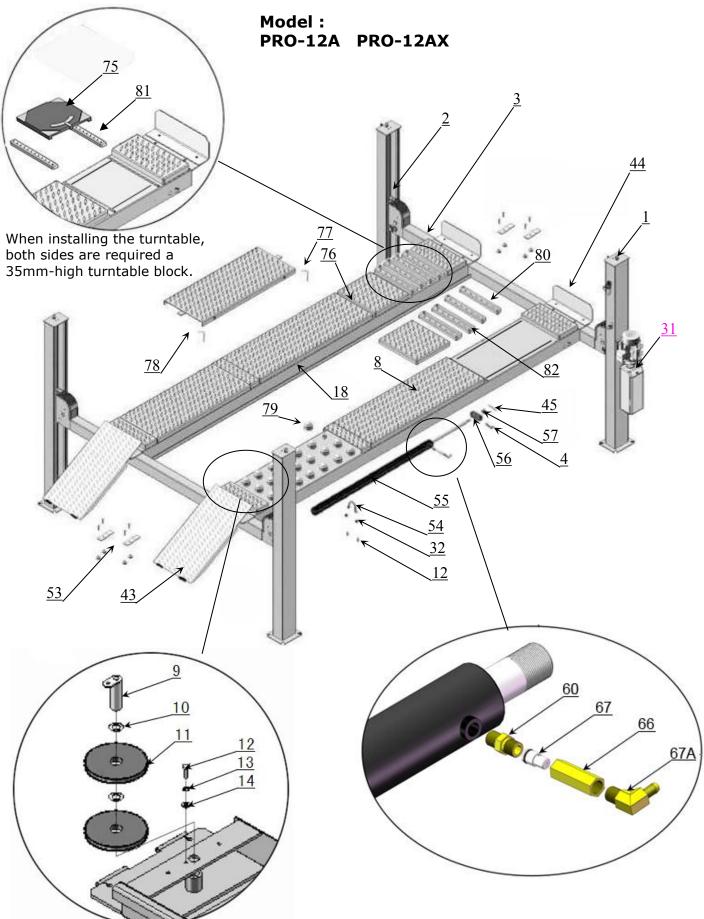


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## **IV. EXPLODED VIEW**









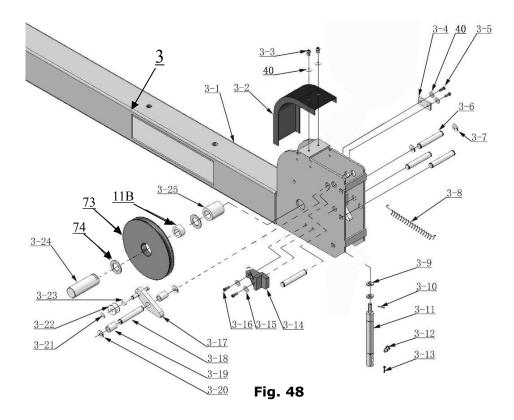
# PARTS LIST FOR PRO-12, PRO-12A, PRO-12AX

Item	Part#	Description	PRO-12	PRO-12A	PRO-12AX
1	11420011A	Power-side Column	1	1	1
2	11420002	Offside Column	3	3	3
3	10420253	Cross Beam Assy.	2	2	0
5	10480040	Cross Beam Assy.	0	0	2
4	10440041	Slider block	1	1	1
5	10209059	Anchor Bolt 3/4*5-1/2	16	16	16
6	11410022	Safety Ladder	4	4	4
7	10420175A	Hex Nut M20	16	16	16
8	11440038-01	- Power-side Platform	1	0	0
0	11440002A-01		0	1	1
9	11440089	Pulley Shaft Weldment	2	2	2
10	10476029	Washer φ100*φ51*5(HK016)	4	4	4
11	11476636	Pulley	6	6	6
11A	10476025	Bronze Bush for Pulley φ60*φ50*20	6	6	6
11B	10420132A	Bronze Bush φ41.3*φ35.1*20	4	4	4
12	10209043	Hex Bolt M8*20	12	12	12
13	10209034	Lock Washer φ8	2	2	2
14	10420144	Washer φ8*φ25*3	2	2	2
15	10420030	Hex Bolt M16*40	12	12	12
16	10420137	Lock Washer φ16	12	12	12
17	10420029	Washer φ16	12	12	12
10	11440039-01		1	0	0
18	11440001-01	Offside Platform	0	1	1
19	10600015	Hex Bolt M10*120	4	4	4
20	10420145	Oil-water Separator AFR-2000	1	1	1
21	10420146	Straight Fitting for Air Line	1	1	1
22	10209009	Cap Head Bolt M6*8	4	4	4
23	10420076	90° Fitting for Air Line 6*8	1	1	1
24	10420159	Straight Fitting for Air Line 6*8	1	1	1
25	11420160	Fixing plate of Manual Control Valve	1	1	1
26	10420161	Self-locking Nut M4	2	2	2
27	10420162	Manual Control Air Valve	1	1	1
28	10420163	Straight Fitting for Air Line 6*4	1	1	1
29	10420148	Washer φ4	4	4	4
30	10420164	Cap Head Bolt M4*30	2	2	2
31	071102	Manual Power Unit	1	1	1
32	10209005	Self-locking Nut M8	14	14	14
33	10209004	Rubber Ring φ8*20*3	4	4	4
34	10209003	Hex Bolt M8*25	4	4	4
	11420003		2	0	0
35 —	11430002	Drive-in Ramp assy.	0	2	2

Item	Part#	Description	PRO-12	PRO-12A	PRO-12AX
36	11610667	Drive-in Ramp pulley	4	4	4
37	11610667	Drive-in Ramp pulley pin	4	4	4
38	10209010	Snap ring φ10	8	8	8
39	10420156	Protecting Ring φ24	1	1	1
40	10420045	Washer φ6	20	20	20
41	11420004	Pin for Drive-in Ramp	2	2	2
42	10420005	Fixing Bolt M5*8	4	4	4
42	10440501	Dart hav	1	0	0
43	10450501	- Part box	0	1	1
44	11420031-1	Tire stop plate	2	2	2
45	10201005	Split pin φ4*50	1	1	1
16	10620065	Shim 1mm	20	20	20
46	10201090	Shim 2mm	20	20	20
47	10209056	Self-locking Nut M10	4	4	4
48	11420217	Cable limit pin	4	4	4
49	11420007	Fixing plate against rollover	4	4	4
50	11420012A	Cylinder fixing ring	1	1	1
51	10420012	Cylinder	1	1	1
52	11430622	Cable connecting plate	1	1	1
53	10420014	Hex nut M27	1	1	1
54	10420016B	Protective hose φ40*2*1500mm	1	1	1
	10440078		1	1	0
55	10450005	- No.① Cable	0	0	1
FC	10440081	No. @ Collin	1	1	0
56	10450008	- No. <sup>2</sup> Cable	0	0	1
<b>F7</b>	10440079	No. @ Collin	1	1	0
57	10450006	- No. <sup>3</sup> Cable	0	0	1
50	10440080		1	1	0
58	10450007	- No. 4 Cable	0	0	1
59	10420166	90° Fitting 6*4	1	1	1
60	11420243	Straight Fitting for Cylinder	1	1	1
61	10440042	Oil Hose (straight+90°)	1	1	1
62	10420120	Extended Straight Fitting (with Nut)	1	1	1
63	10207026	Oil Hose L=1520mm (double straight)	1	1	1
64	10209060	90° Fitting	1	1	1
65	10420095	Straight Fitting for Power Unit 6*4	1	1	1
66	10420245	Straight Fitting	1	1	1
67	10420247	Compensation Valve	1	1	1
67A	10201020	90° Fitting	1	1	1
68	10420124	T-Fitting for Air Line	2	2	2
69	10420242	T-Fitting for Air Line	1	1	1

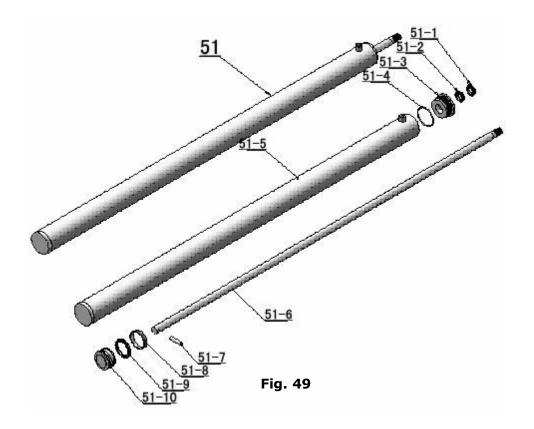
Item	Part#	Description	PRO-12	PRO-12A	PRO-12AX
70	10420241	Straight Fitting for Air Line	1	1	1
71	10420195A	Oil Return Hose φ6*φ4*6200mm black	1	1	1
/1	10610114	Oil Return Hose φ6*φ4*6300mm black	0	0	1
71A	10420131B	Black Air Line φ6*φ4*φ7820	1	1	1
/1A	10450009	Black Air Line φ6*φ4*φ7900	0	0	1
72	10420167A	Black Air Line <sub>0</sub> 8* <sub>0</sub> 6* <sub>0</sub> 460mm	1	1	1
73	11476635	Pulley	4	4	4
74	10476024	Pulley washer φ90*φ51*2	8	8	8
75	1040101	Turnplate	0	2	2
76	11430004-01	Cover for Turnplate	0	2	2
77	11520037	Pin	0	4	4
78	11450003	Side slide plate	0	2	2
79	10420157	Positioning ball set	0	60	60
80	11480033-01	Turntable adjustment block 483*76*50	0	4	4
81	11480045-01	Turntable adjustment block 483*35*35	0	4	4
82	11480082-01	Turntable adjustment block 483*141*50	0	4	4

## 1. CROSS BEAM (10420253)

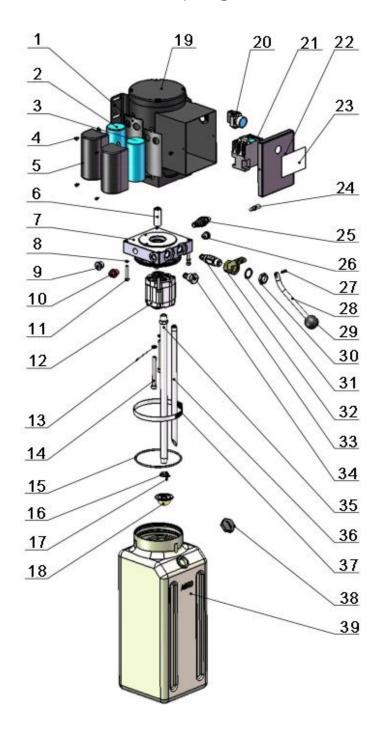


Item	Part#	Description	Qty	Note
2.1	11420254	Cross Beam for PRO-12(A)	2	
3-1	11480023	Cross Beam for PRO-12AX	2	
3-2	10420051B	Pulley Safety Cover	4	
3-3	10209009	Cap Head Bolt M6*8	8	
3-4	11420044	Limit Plate	4	
3-5	10420138	Socket Bolt M6*16	8	
3-6	11420038	Pin φ16	12	
3-7	10420037	Snap Ring φ16	24	
3-8	10420022	Spring(only PRO-12 PRO-12A)	4	
3-8	10420033	Spring(only PRO-12AX)	8	
3-9	10209021	Hex Nut M10	8	
3-10	10420049	Split Pin φ2*16	4	
3-11	10420048	Air Cylinder	4	
3-12	10420047	Fitting for Air Cylinder	4	
3-13	10420046	Split Pin φ4*30	8	
3-14	10420042	Slider block	8	
3-15	10209033	Washer φ8	24	
3-16	10420043	Socket Bolt M8*20	16	
3-17	11420175	Slack-cable safety lock (left & right)	2/2	
3-18	11420171	Pin φ19	8	
3-19	11420172	Pin Bush for Slack-cable safety lock	8	
3-20	10206019	Snap Ring φ19	16	
3-21	10209010	Snap Ring φ10	4	
3-22	10420035	Tension Pulley	4	
3-23	11420174	Spacer	4	
3-24	11420041A	Pulley Pin	4	
3-25	11420040A	Pulley Bush	4	

## 2. CYLINDERS (10420012)



Parts list for Cylinder					
Item	Part#	Description	Qty	Note	
51-1	10420059	Dust Ring	1		
51-2	10420060	Y- Ring IDI	1		
51-3	11420061	Head Cap	1		
51-4	10420062	O- Ring	1		
51-5	11420063	Bore Weldment	1		
51-6	11420064	Piston Rod	1		
51-7	11420065	Pin	1		
51-8	10420066	Support Ring	1		
51-9	10420067	Y- Ring OSI	1		
51-10	11420068	Piston	1		



220V/60HZ, Single Phase

Fig.50

## Parts list for 220V/60Hz, Single Phase

Item	Part#	Description	Qty
1	81400180	Rubber Pad	2
2	81400250	Starting capacitor	1
3	81400200	Running capacitor	1
4	10420148	Cap Head Bolt with washer	4
5	81400066	Cover of Motor Terminal Box	2
6	81400363	Motor Connecting Shaft	1
7	80101013	Manifold block	1
8	10209149	Washer	4
9	81400276	Iron plug	1
10	81400259	Red rubber plug	1
11	85090142	Socket bolt	4
12	81400280	Gear pump	1
13	10209034	Washer	2
14	81400295	Socket bolt	2
15	81400365	O ring	1
16	10209152	Ties	1
17	85090167	Magnet	1
18	81400290	Filter net	1
19	81400413	Steel Motor	1
20	10420070	Push button	1
21	41030055	AC connector	1
22	81400287	Motor terminal box cover	1
23	71111216	AMGO power unit label	1
24	81400560	Throttle valve	1
25	81400266	Relief valve	1
26	81400284	Inner hex iron plug	1
27	10720118	Hair pin	1
28	81400451	Release valve handle	1
29	10209020	Plastic ball for release handle	1
30	81400421	Release valve nut	1
31	81400422	Shim	1
32	81400449	Valve Seat(Low)	1
33	81400567	Release Valve	1
34	81400566	Check Valve	1
35	81400366	Oil suction pipe	1
36	81400289	Oil return pipe	1
37	81400364	Clamp(stainless steel)	1
38	81400319	Oil tank cap	1
39	81400275	Oil tank	1

## 4. Illustration of hydraulic valve for power unit

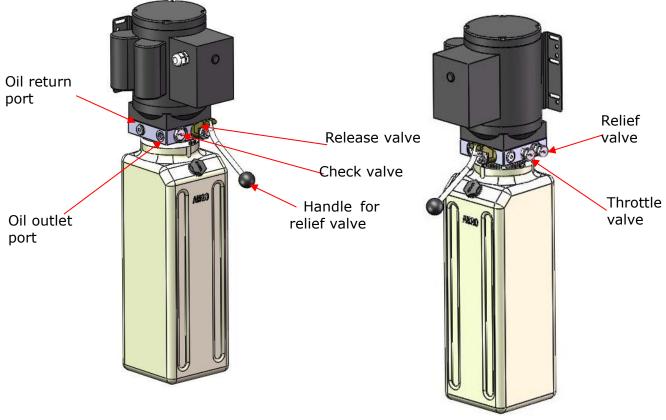
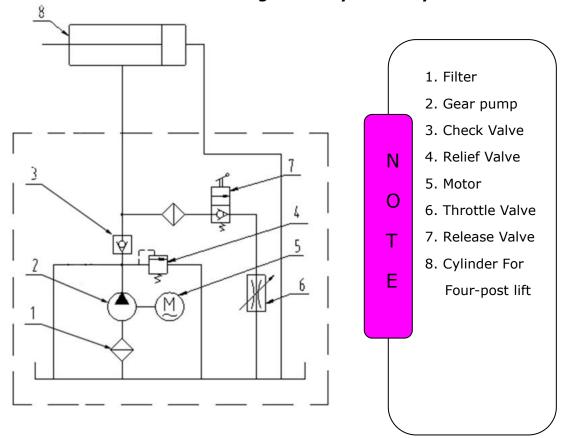


Fig.51

## **V. TEST RUN**

- Fill the reservoir with approximately 14L 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 and remove from the pulley.
- 3. Press the handle of release valve 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.
- 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**



## **VI. OPERATION INSTRUCTIONS**

## To lift vehicle

- 1. Keep clean of environment near the lift;
- 2. Drive vehicle to the Platform and put on the brake;
- 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;
- Press the button UP 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.

## **VII. MAINTENANCE SCHEDULE**

## Monthly:

- 1. Re-torque the anchor bolts to 150 Nm;
- 2. Lubricate cable with lubricant;
- 3. Check all cable connection, bolts and pins to insure proper mounting;
- 4. Make a visual inspection of all hydraulic hoses/lines for possible wear or leakage;
- 5. Lubricate all Rollers, Safety devices with 90wt. gear oil or equivalent.

# Note: All anchor bolts should take full torque. If any of the bolts does not function for any reason, DO NOT use the lift until the bolt has been replaced.

## **Every six months:**

- 1. Make a visual inspection of all moving parts for possible wear, interference or damage.
- 2. Check and adjust as necessary, equalizer tension to insure level lifting.
- 3. Check columns for plumbness.

## Oil cylinder maintenance:

In order to extend the service life of the oil cylinder, please operate according to the following requirements.

- 1. Recommend to use N46 anti-wear hydraulic oil.
- The hydraulic oil of the lifts should be replaced regularly during using. Replace the hydraulic oil 3 months after the first installation, Replace the hydraulic oil once a year afterwards.
- 3. Make at least one full trip raising and lowering per day. For exhausting the air from the system, which could effectively avoid the corrosion of the cylinder and damage to the seals caused by presence of air or water in the system.
- 4. Protect the outer surface of the oil cylinder's piston rod from bumping and scratching, and timely clean up the debris on the oil cylinder dust-ring and the piston rod.

## **VIII. TROUBLE SHOOTING**

TROUBLE	CAUSE	REMEDY
	1. Start Button does not work	1.Replace Start button
	2.Wiring connections are not in good	2.Repair all wiring connections
Motor does	condition	3.Repair or replace motor
	3. Motor burned out	4.Replace AC contactor
not run	4. AC contactor burned out	5.Replace
	5. Height limit switch is damaged	
	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
not raised	5.Low oil level	5.Fill tank
	1. Release valve out of work	Repair or replace
Lift does not	2 Relief valve or check valve leakage.	
stay up	3.Cylinder or fittings leaks	
	1.Oil 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
	1. Safety device are in activated	1. Release the safeties
	2. Release valve damaged	2. Replace or repair
Lift cannot	3. Air Cylinder damaged	3.Replace the cylinder
lower	4. Oil system is jammed	4. Clean the oil system

## IX. LIFT DISPOSAL:

When the car lift cannot meet the requirements for normal use and needs to be disposed, it should follow local laws and regulations.



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