

Original

Installation And Service Manual

FOUR POST LIFT

Model: PRO-40, PRO-40E

Cargo Claims

If there is any missing or damaged product during transportation, the buyer must notate on the shipping paperwork or refuse the shipment.

NOTATE ALL DAMAGE OR REFUSE DAMAGED SHIPMENT!

↑ DANGER

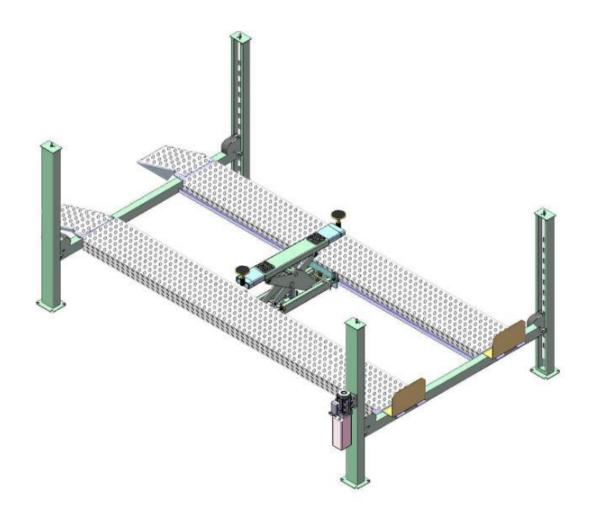
Read the entire contents of this manual before using this product. Failure to follow instructions and safety precautions could result in serious injury or even death. Make sure all other operators also read this manual. Keep this manual near the machine so that it can be seen by all users. By proceeding with installation and operation, you agree that you are fully understand the contents of this manual and take full responsibility for the use of the product.

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I. PRODUCT FEATURES AND SPECIFICATIONS

- Manual control system
- Mechanical self-lock and pneumatic safety release
- Manual hydraulic power system, cable-drived.
- Strengthen and Non-skid diamond platforms.
- Adjustable platform and adjustable safety lock ladders.
- Optional Jack: With Pneumatic hydraulic pump.



Model: PRO-40(E) Fig .1

MODEL SPECIFICATIONS

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Length (Inc. Ramps)	Overall Width	Width Between Columns	Motor
PRO-40	40000lbs	74 2/4"	176S	366 1/8"	161 3/8"	143 7/8"	2.0HP
PRO-40E	40000008	74 3/4"	1703	425 1/8"	101 3/0	143 7/6	2.000

II. INSTALLATION REQUIREMEN A TOOLS REQUIRED

✓ Rotary Hammer Drill (Ф3/4)



✓ Hammer



√ Level Bar



✓ English Spanner (12")



✓ Wrench Set:

 $(10^{#}, 12^{#}, 13^{#}, 14^{#}, 17^{#}, 19^{#}, 24^{#}, 30^{#})$



✓ Ratchet Spanner With Socket (28#)



✓ Carpenter's Ink Marker



√ Screw Sets



√ Tape Measure (295-1/4")



✓ Pliers



✓ Lock Wrench



 \checkmark Socket Head Wrench (3*, 5*, 6*)



Fig. 2

B. SPECIFICATIONS OF CONCRETE (See Fig. 4)

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 5" minimum and without reinforcing steel bars, and must be dried completely before the installation.
- 2. Concrete must be in good condition and must be of test strength 3,000 psi minimum.
- 3. Floors must be level and no cracks.

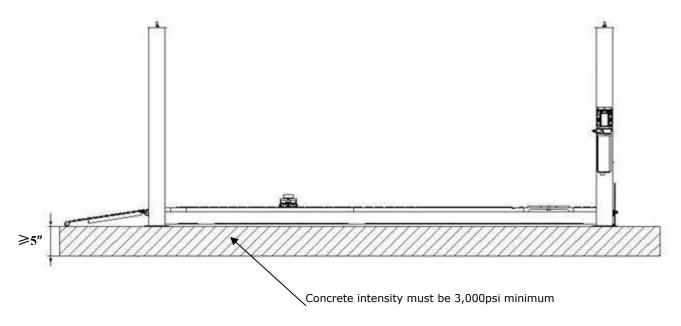


Fig. 4

C. AIR SUPPLY

Air pressure requirement: 0.8Mpa, Air line size Φ8 *Φ6.

D. POWER SUPPLY

The electrical source must be 3.0HP minimum. The source cable size must be 12AWG 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

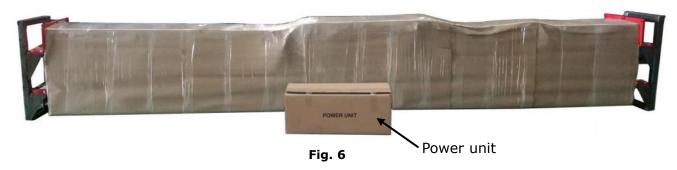
1. The equipment should be unload and transfer by forklift. (See Fig. 5)





Fig. 5

2. Received lift with hydraulic power unit (See Fig. 6).



3. Open the outer packing ,check all the parts according to the parts list (See Fig. 7).

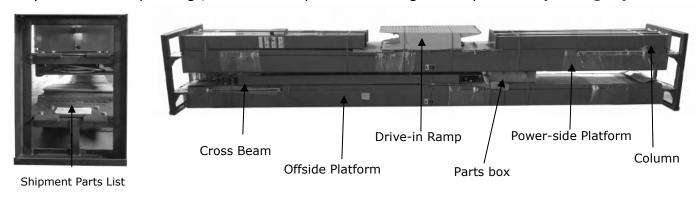


Fig.7

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



Fig. 8

- 5. Loose the screws of the upper package stand \Rightarrow take off the offside platform \Rightarrow take out the parts inside the power side platform \Rightarrow then remove the package stand.
- 6. Move aside the parts and check the parts according to the shipment parts list (See Fig. 9).

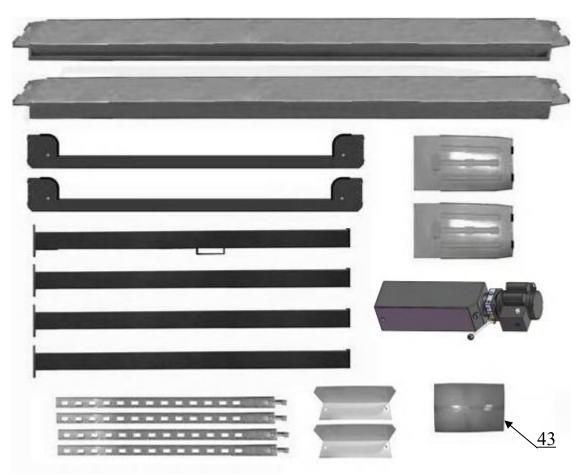


Fig.9

7. Open the parts box and check the parts according to the parts box list (**See Fig. 10**).



Fig. 10

8. Check the Parts bag according to the parts bag list (See Fig. 11).

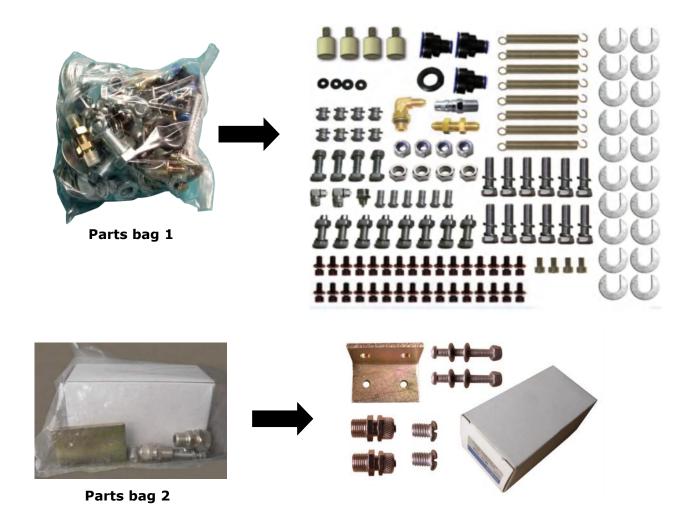


Fig.11

C. Use a carpenter's chalk line to establish installation layout , make sure the size is right and base is flat (see Fig. 12).

Note: Reserve space before and behind the installation site.

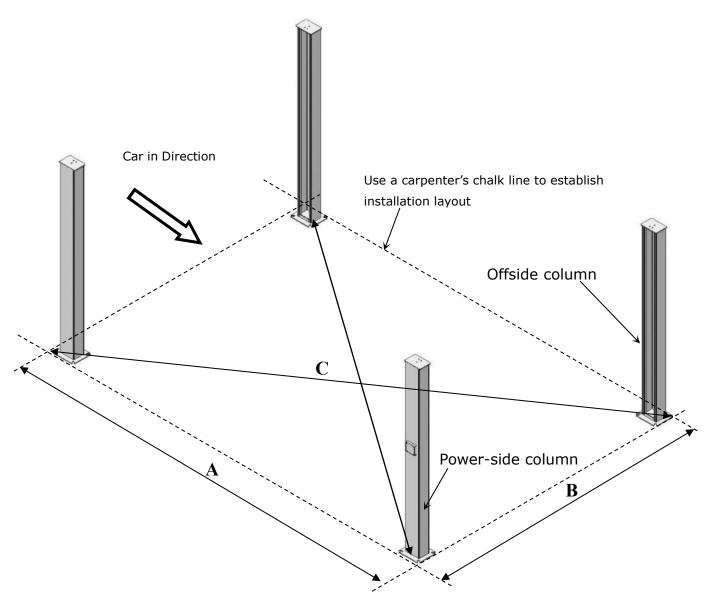
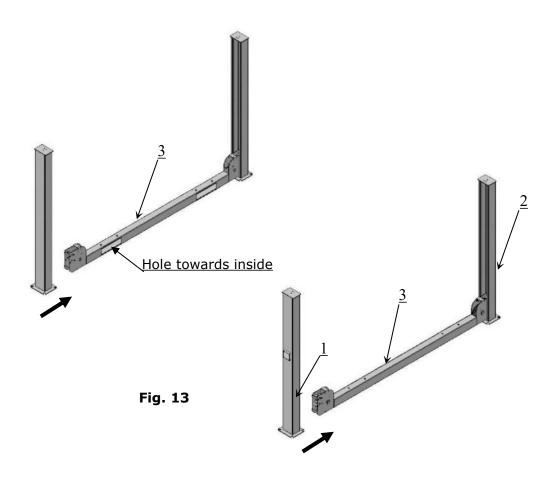


Fig. 12

Model	А	В	С
PRO-40	315 1/2"	161 3/8″	354 1/2"
PRO-40E	374 1/2"	161 3/8"	407 7/8"

D. Install cross beams (See Fig. 13).



E. Fix the anchor bolts



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. 15).

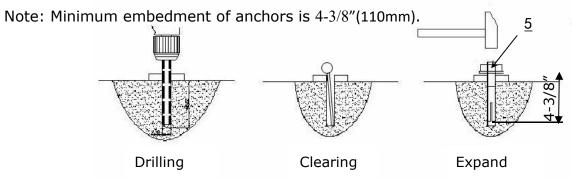
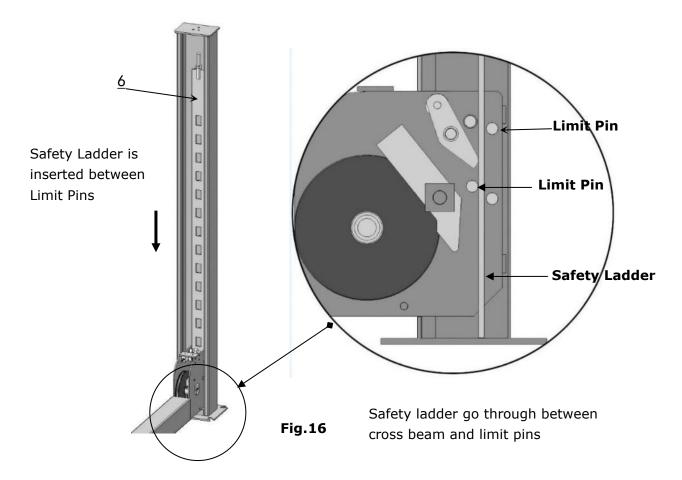


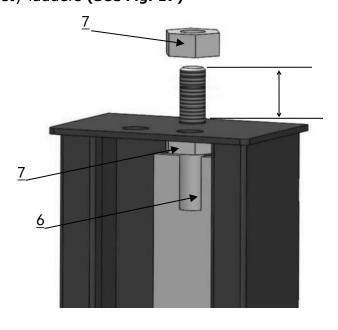
Fig. 15

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, then install the safety ladders(See Fig. 16).



2. Install safety ladders (See Fig. 17)



This height should be same for four safety ladders

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

Fig. 17

G. Put the Cross Beams at the same height (See Fig. 18).

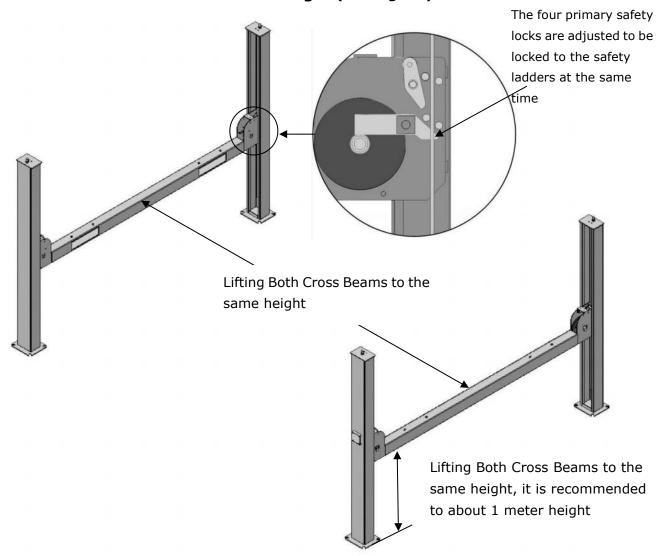
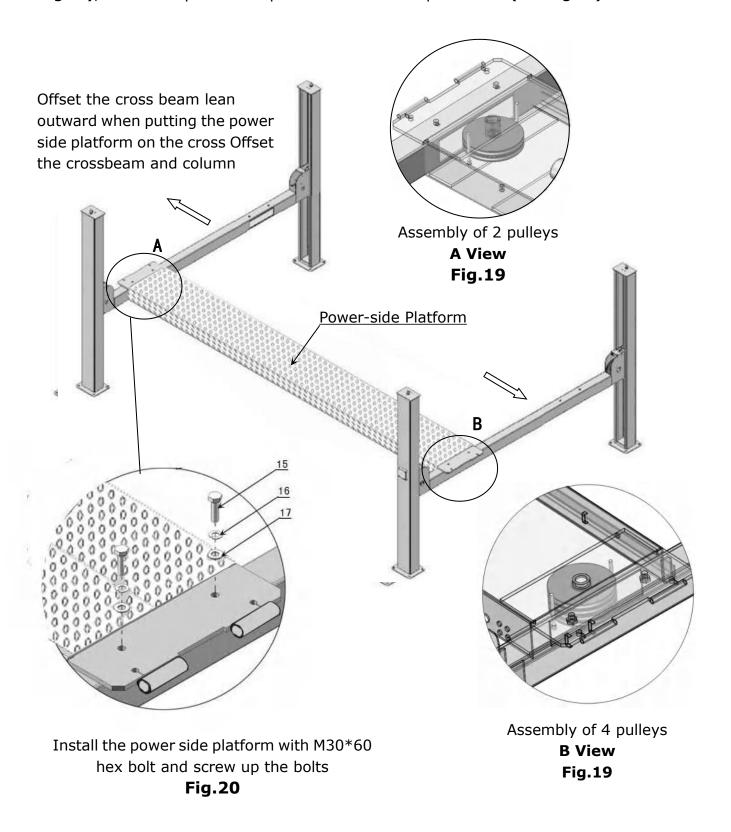


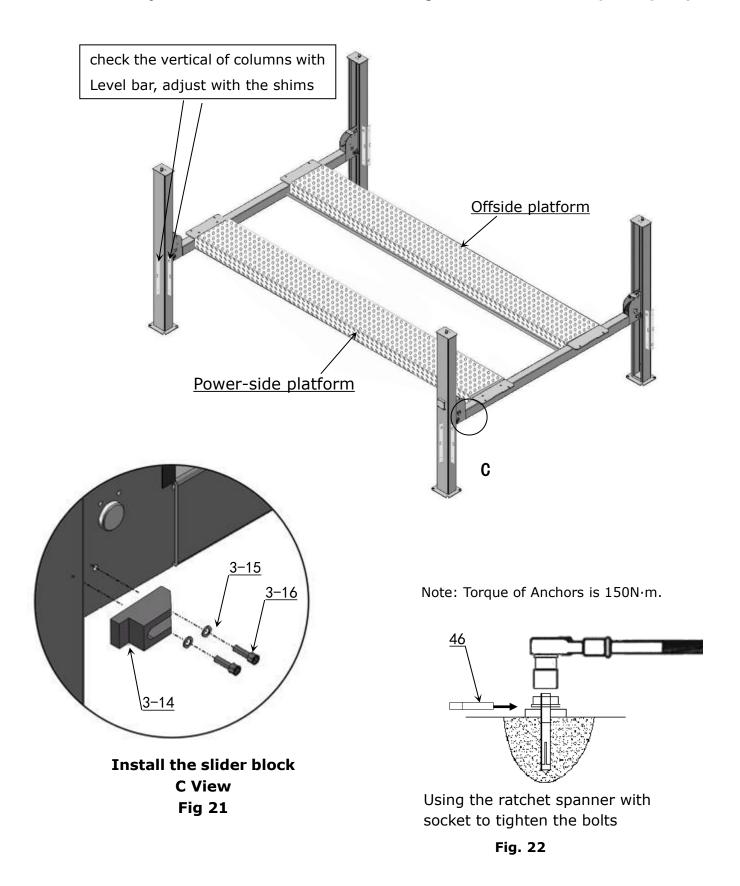
Fig. 18

H. Install power side platform.

1. Put the power-side platform upon the cross beams by fork lift or manual, offset the cross beams to the outside till the pulleys of both platforms can set up into the cross beam (See Fig.19), Install the power side platform and screw up the bolts (See Fig.20)

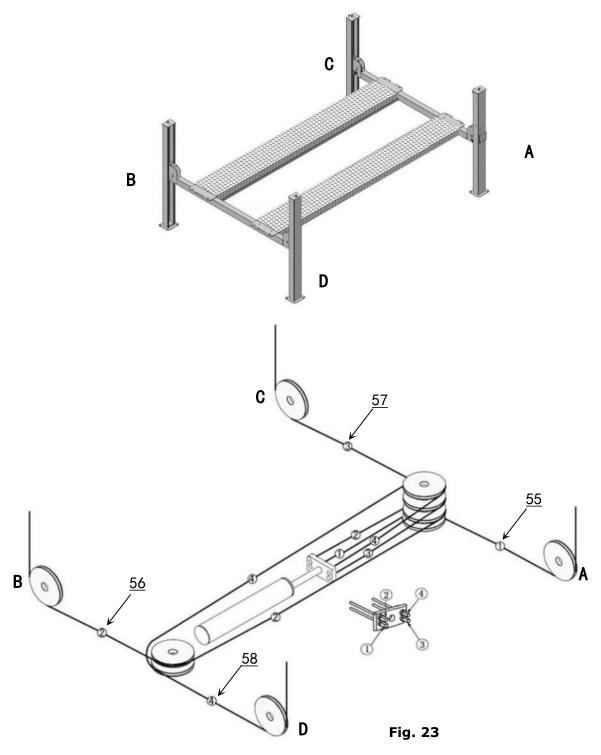


I. Assemble offside platform and slider block. (see Fig.21), check the vertical of columns with Level bar, adjust with the shims if not, and then tighten the anchor bolts (See Fig. 22)



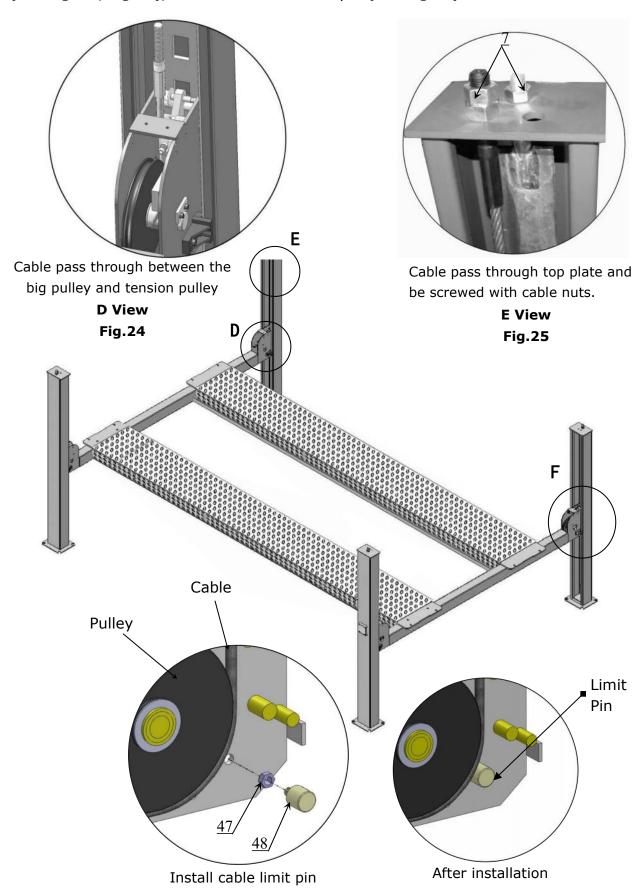
J. Install cables (See Fig. 23)

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



No. Cable	1)	2	3	4
PRO-40	193 1/2"	583 7/8"	280 1/8"	497 7/8"
PRO-40E	252 1/8"	699 3/4"	339"	613 3/8"

2. The cable pass through the cross beam to top plate of columns and be screwed with cable nuts (See Fig. 24, Fig.25), then install cable limit pin (See Fig.26)



F View Fig. 26

3. Illustration for platform cables (See Fig. 27, Fig.28, Fig.29)

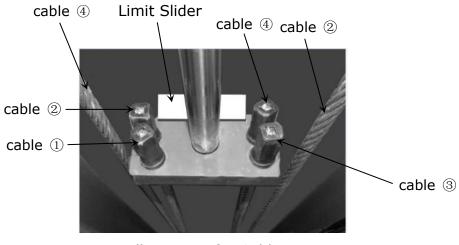
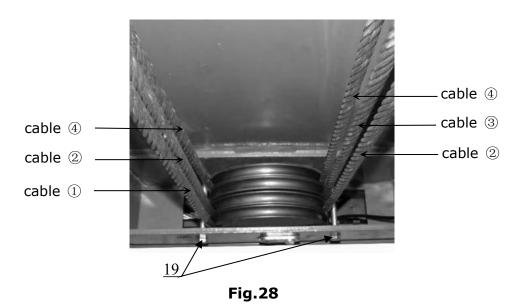


Illustration for Cable connection plate

Fig.27



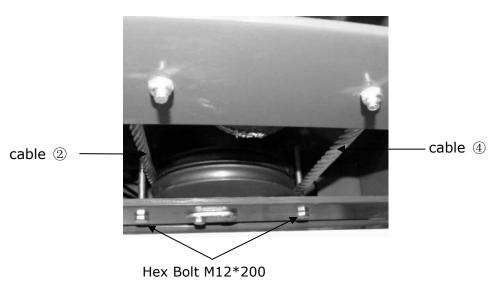
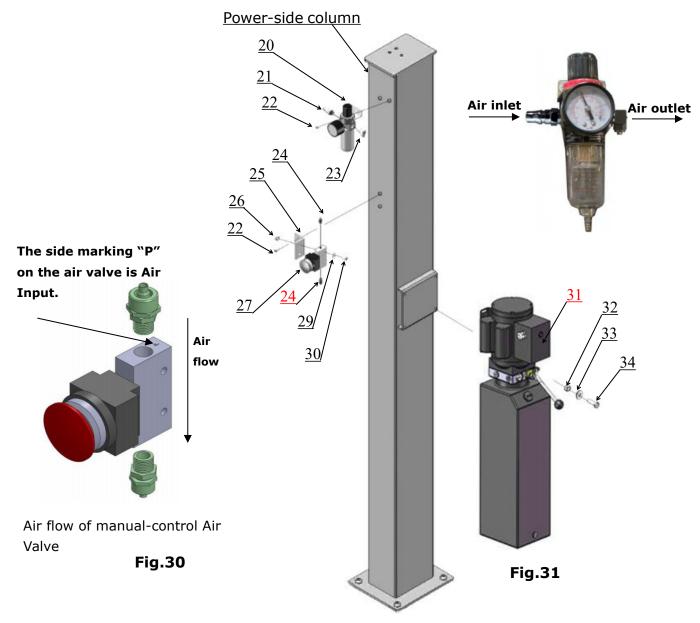


Fig.29

K. Install oil-water separator, manual control air valve and power unit (See Fig. 30, Fig.31)

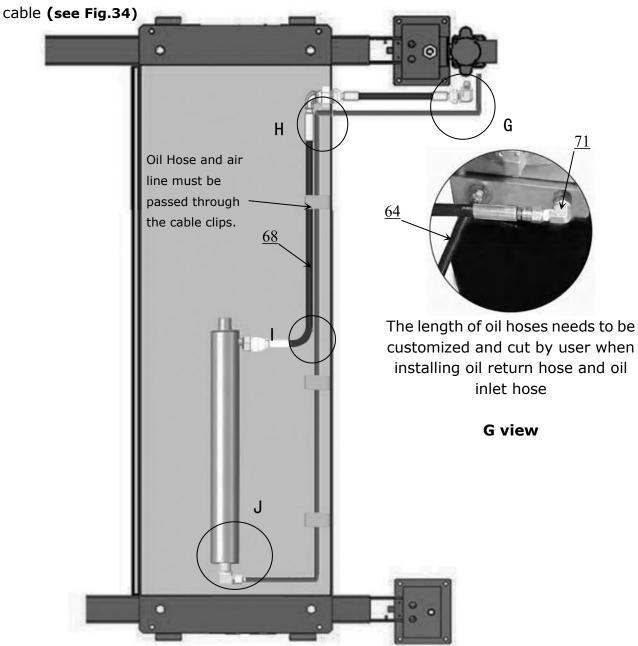


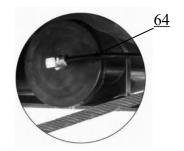
Item	Part#	Description	QTY
20	10420145	Oil/water separator AFR-2000	1
21	1004334013	Straight fitting for air line	1
22	10209009	Cap head bolt M6*8	12
23	10420076	90° fitting for air line 6*8 screw thread	1
24	10420159	Straight fitting for air line 6*8 crew thread	2
25	11420160	Fixing plate of Manual control valve	1
26	10420161	Self locking nut M4	2
27	10420162	Manual control air valve	1
29	10420148	Washer φ4	4
30	10420164	Cap head bolt M4*30	2
31	071102	Manual hydraulic power unit	1
32	10209005	Self locking nut M8	6

33	10209004	Rubber ring φ8*20*3	4
34	10209003	Hex bolt M8*25	4

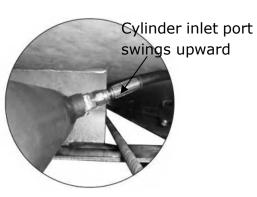
L. Install hydraulic system (See Fig. 32, Fig.33, Fig.34)

Note: Oil hoses and oil return pipe connected to oil cylinder must be passed above the cable, cylinder inlet port must swing upward to avoid the oil hose and oil return pipe scratched by





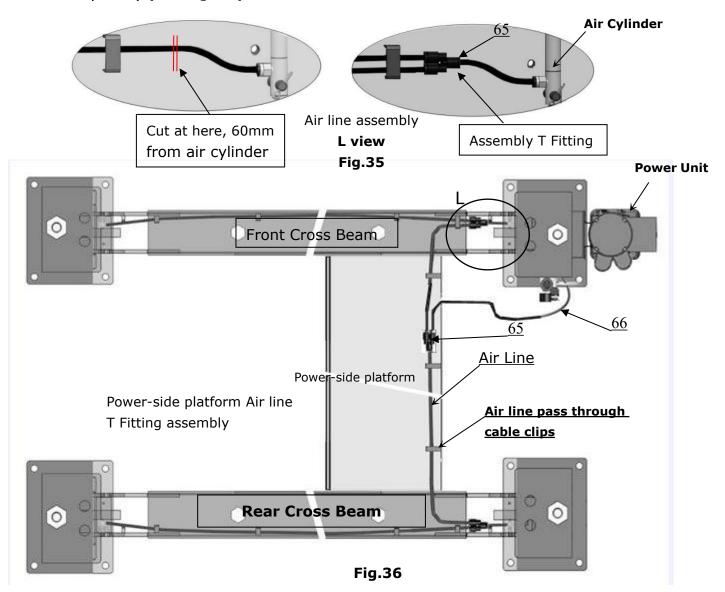
Assembly of oil return pipe
J View
Fig.34



I View Fig.33

M. Install air-line system

- 1. Cut $\phi 8*\phi 6$ black air line on the front and rear cross beam (cut the air line at the position about 60mm from air cylinder), and then connect to T-fitting.(**See Fig.35**)
- 2. Connecting front and rear cross beam cylinders by using $\phi 8*\phi 6$ black air line (the actual length of air line can be cut by user) (**See Fig.36**)
- 3. Connecting air solenoid valve using $\phi 8*\phi 6$ black air line (the actual length of air line can be cut by user) (See Fig. 37)



Connecting air solenoid valve using

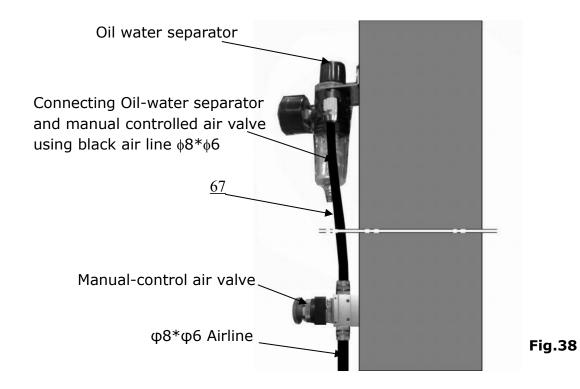
 $\phi 8*\phi 6$ black air line



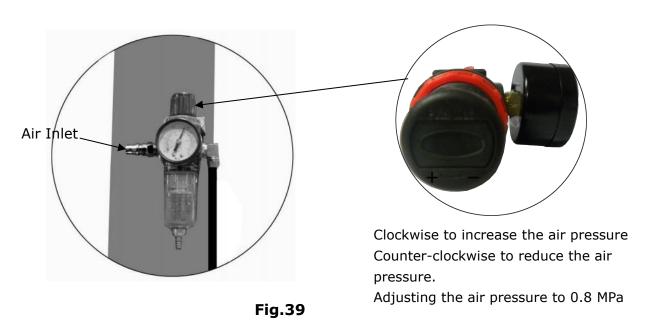
Fig 37

Item	Part#	Description	PRO-40	PRO-40E
65	85090120	Y- Fitting for Air hose	3	3
	10481065	Air Line φ8*φ6*11600mm (black)	1	0
66	10481027	Air Line φ8*φ6*13100mm (black)	0	1
67	10420167A	Air Line φ8*φ6*460mm (black)	1	1

4. Connect Airline with oil-water separator and manual control air valve. (See Fig.38)



5. Connecting air inlet (Air supply pressure 8 kg/cm²), adjusting the air pressure of Oil-water separator to 0.8 MPa (**See Fig.39**)



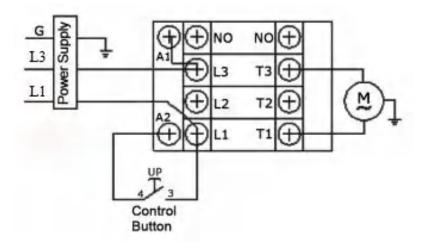
N. Install Electrical System

Connect the power source on the data plate of Motor.

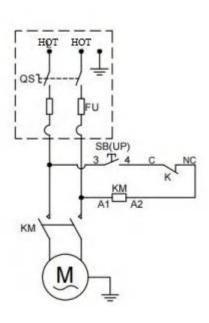
Single phase motor (See Fig. 40)

Connecting the two power supply wires (active wire **L1** and wire **L3**) to terminals of AC contactor marked L1, L3 respectively. Earth wire(yellow and green wire) is connected with the earth wire terminal of the motor

Motor wiring diagram of single phase power unit



Circuit diagram



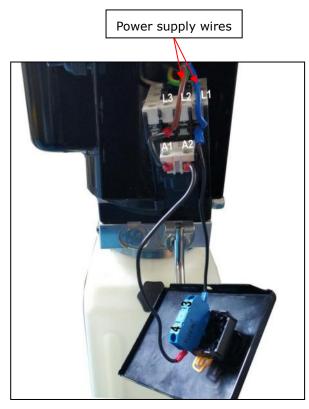
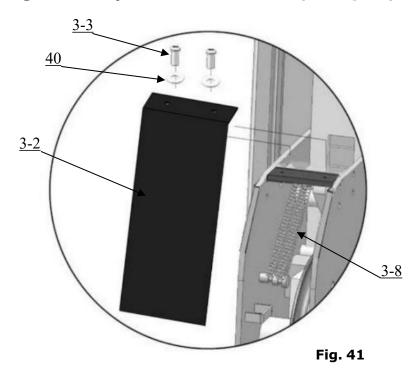


Fig. 40

O. Install spring and safety cover of cross beam (See Fig. 41)



P. Install Drive-in ramp, Tire stop plate. (See Fig. 42, Fig. 43)

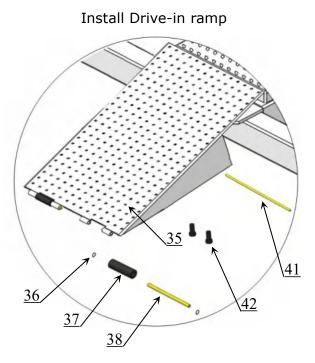


Fig.42

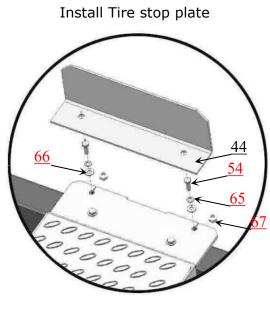


Fig. 43

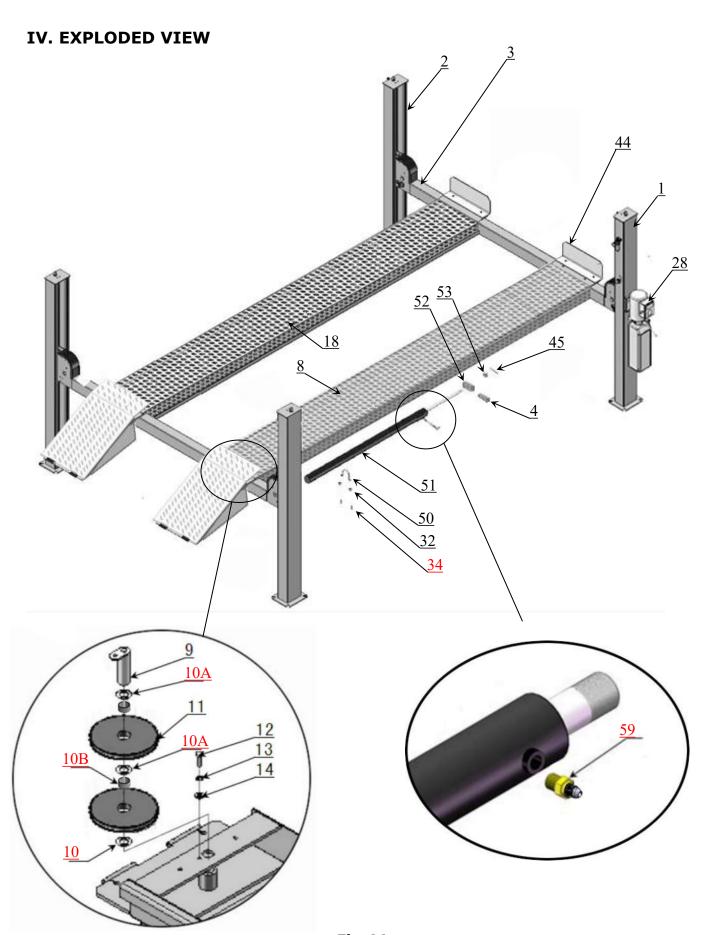


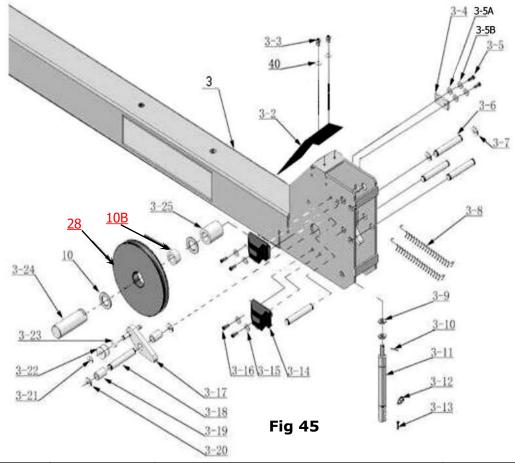
Fig 44

Parts list for PRO-40 PRO-40E

arts list	for PRO-40	PRO-40E		
Item	Part#	Description	PRO-40	PRO-40E
1	11481640	Power side Column	1	1
2	11481641	Offside Column	3	3
3	1104352002	Cross Beam Assy.	2	2
4	10481023	Slider block (HK018) 59*55*190	1	1
5	10201140	Anchor Bolt 3/4*6-1/2	16 sets	16 sets
6	11481036	Safety Ladder	4	4
7	10481018	Hex Nut M33*3.5	16	16
0	11400001	Davier aide Diatforms	1	0
8	11400029	Power-side Platform	0	1
9	11481035	Pulley shaft	2	2
10	10481069	Pulley washerφ115*φ76*2.5	10	10
10A	10481021-01	Pulley washerφ120*φ76*8 (HK017)	4	4
10B	10481025	Bronze Bush φ85*φ75*30	10	10
11	11481639	Pulley φ310*32	6	6
12	10206017	Hex bolt M10*20	2	2
13	10209039	φ10 Spring Washer	2	2
14	10209022	φ10*1.5 Washer	2	2
15	10481078	Hex bolt M24*60	8	8
16	10481003	Φ24 Spring Washer	8	8
17	10481002	Φ24 Washer	8	8
	11400002		1	0
18	11400030	Offside platform	0	1
19	10481017	Hex bolt M12*200	4	4
20	10420145	Oil-water separator AFR-2000	1	1
21	10420146	Straight fitting for air line	1	1
22	10209009	Cap head bolt M6*8	12	12
23	10420076	90° fitting for air line 6*8	1	1
24	10420159	Straight fitting for air line 6*8	2	2
25	11420160	Fixing plate of Manual control air valve	1	1
26	10420161	Self locking nut M4	2	2
27	10420162	Manual control air valve	1	1
28	11481617	Pulley φ204*32	4	4
29	10420148	φ4 Washer	4	4
30	10420164	Cap head bolt M4*30	2	2
31	071107	Manual hydraulic power unit	1	1
32	10209005	Self locking nut M8	6	6
33	10209004	Rubber ring φ8*20*3	4	4
34	10209003	Hex Bolt M8*25	6	6
35	11400004	Drive-in ramp	2	2
36	11610667	Drive-in ramp pulley φ26*76	4	4
37	11620043	Drive-in ramp pulley pin φ10*172	4	4
38	10209010	φ10 Snap ring	12	12
39	10420156	Protecting ring φ24	1	1
40	10420045	φ6 Washer	20	20

41	11481016	Pin for Drive-in ramp	2	2
Item	Part#	Description	PRO-40	PRO-40E
42	10420005	Fixing bolt M5*8	4	4
43	10481500	Parts box	1	1
44	11481638	Tire stop plate	2	2
45	10481020	Split pin φ5*60	1	1
46	10620065	Shim (2mm)	20	20
40	10201090	Shim (1mm)	20	20
47	10206023	Self locking nut M12	4	4
48	11481046	Cable limit pin	4	4
49	10420016B	Platform lock plate φ40*2*1500mm	1	1
50	11400011	Fixed ring for cylinder	1	1
51	10400017	Cylinder φ140*1650	1	1
52	11400611	Cylinder connecting plate	1	1
53	1004356001	Hex nut M42*4.5	1	1
54	10481001	Hex screw M24	4	4
54A	10481002	φ24 Spring Washer	4	4
54B	10481003	φ24 Washer	4	4
	10400005-01	① Cable φ19*193 1/2"	1	0
55	10400022-01	① Cable φ19*252 1/8"	0	1
56	10400008-01	② Cable φ19*583 7/8"	1	0
56	10400025-01	② Cable φ19*699 3/4"	0	1
57	10400006-01	③ Cable φ19*280 1/8"	1	0
5/	10400023-01	③ Cable φ19*339"	0	1
58	10400007-01	④ Cable φ19*497 7/8"	1	0
56	10400024-01	④ Cable φ19*613 3/8"	0	1
59	10420119	Fitting 1/4JIC(M)*3/8NPT(M)	1	1
60	10201114	Spring Washer φ20	1	1
61	10209128	Washer φ20	1	1
62	10420175A	Hex screw M20	1	1
63	10420166	90° Fitting screw thread	1	1
64	10481013	Oil Return pipe (black) φ6*φ4*287 3/8"	1	0
04	10481066	Oil Return pipe (black)φ6*φ4*347 1/2"	0	1
65	85090120	Y fitting for air hose	3	3
66	10481065	Air hose φ6*φ8*456 3/4" (black)	1	0
00	10400027	Air hose φ6*φ8* <mark>515 3/4</mark> " (black)	0	1
67	10420167A	Air hose φ8*φ6*18 1/8" (black)	1	1
60	10481083-03	Oil hose 5/16"*135 1/4"	1	0
68	10400026-02	Oil hose 5/16"*193 7/8"	0	1
69	10420120	Extended straight fitting with nut	1	1
70	10460038	Oil Hose 5/16"*59"	1	1
71	10209060	90° Fitting for power unit	1	1
72	1104354001	Backing plate φ54*20	4	4

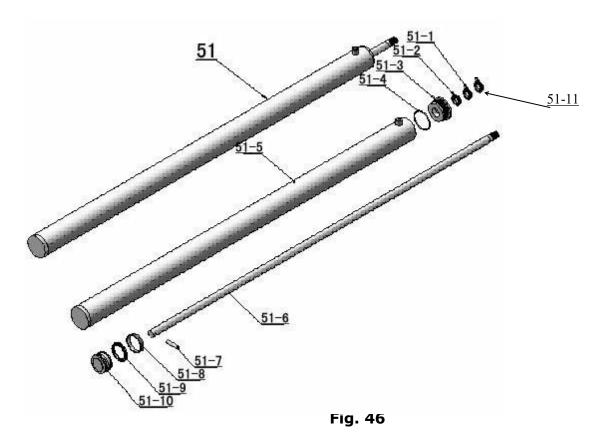
4.1 Cross beam (1104352002) Exploded View



Item	Part#	Description	QTY
3-1	11400003	Cross Beam Assy.	2
3-2	11481618	Cross Beam Cover	4
3-3	10209009	Cap Head Bolt M6*8	8
3-4	1104332001-01	Limit Plate	4
3-5	10101029	Socket Bolt M12*20	8
3-5A	10420026	Spring Washer φ12	8
3-5B	10206006	Washer φ12	8
3-6	11481029	φ16 Pin	12
3-7	10420037	φ16 Snap Ring	24
3-8	10420033	Spring	8
3-9	10209021	Hex Nut M10	8
3-10	10420049	Split Pin φ2*16	4
3-11	10400020	Air Cylinder	4
3-12	10481073	Fitting for Air Cylinder	4
3-13	10420046	Split Pin φ4*30	4
3-14	10481070	Slider Block (HK020)	16
3-15	10209033	φ8 Washer	40
3-16	10420043	Socket Bolt M8*20	32
3-17	11481642	Slack-cable safety lock (Left)	1
3-1/	11481643	Slack-cable safety lock (Right)	1
3-18	11481028	φ30 Pin	8

3-19	11481032	Pin Bush For Slack-cable Safety Lock	8
3-20	10610008	φ30 Snap Ring	16
3-21	10209010	φ10 Snap Ring	4
3-22	10481027	Tension Pulley	4
3-23	11420174	Spacer	4
3-24	11481030-01	Pulley shaft	4
3-25	11481031	Pulley Bush	4

4.2 Cylinder (10400017) Exploded View



Item Part# **Description** QTY Dust Ring $\phi 45*\phi 53*(5\sim 6.5)$ 51-1 10217078 Y- Ring IDI φ45*φ55*8 51-2 1004356003 1 51-3 11400035 Head Cap 1 51-4 O- Ring φ140*5.3 1 1004356002 51-5 11400033 Bore Weldment 1 51-6 11400031 Piston Rod $\phi 45*1919$ 1 51-7 11400015 Pin 1 51-8 10400014 Support Ring φ134*φ140*20 51-9 10400012 Y- Ring OSI φ125*φ140*9 1 51-10 11400036 Piston 1 Support Ring $\phi 45*\phi 51*15*3$ 51-11 1004356004 1

4.3 Power Unit (071107) Exploded View

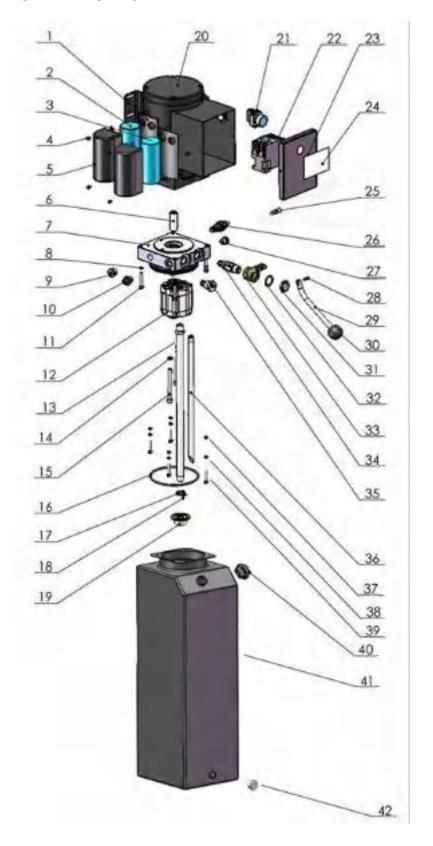


Fig.47 220V/60Hz Single Phase Manual Power Unit Exploded View

Part lift for 220V/60Hz Single Phase Manual Power Unit

Item	Part#	Description	QTY
1	81400180	Rubber pad	2
2	81400250	Start capacitor	1
3	81400200	Run capacitor	1
4	10420148	Cap head bolt	6
5	81400066	Capacitor cap	2
6	81400363	Motor Connecting Shaft	1
7	81400369	Manifold block	1
8	10209149	Spring washer	4
9	81400276	Iron plug	1
10	81400259	Red rubber plug	1
11	85090142	Socket bolt	4
12	81400292	Gear Pump	1
13	81400589	Oil suction pipe	1
14	10209034	Spring washer	2
15	81400295	Socket bolt	2
16	81400365	O Ring	1
17	10209152	Ties	1
18	85090167	Magnet	1
19	81400290	Filter net	1
20	81400413	Motor	1
21	10420070	Push button	1
22	41030055	AC contactor	1
23	81400287	Cover of Motor Terminal Box	1
24	71111168	Sticker for AMGO Power unit	1
25	81400560	Throttle valve	1
26	81400266	Relief valve	1
27	81400284	Iron plug	1
28	10720118	Elastic pin	1
29	81400451	Handle of Release Valve	1
30	10209020	Plastic ball for release handle	1
31	81400125	Release valve nut	1
32	81400422	Self-locking washer	1
33	81400449	Valve seat (low)	1
34	81400567	Release valve (low)	1
35	81400566	Check valve	1
36	81400367	Oil return pipe	1
37	10420152	Washer	4
38	10209143	Spring washer	4
39	81400438	Hex bolt	4
40	81400263	Oil tank cap	1
41	81400536	Oil tank	1
42	81400276	Iron plug	1

Illustration of Hydraulic Valve for power unit (See Fig.48)

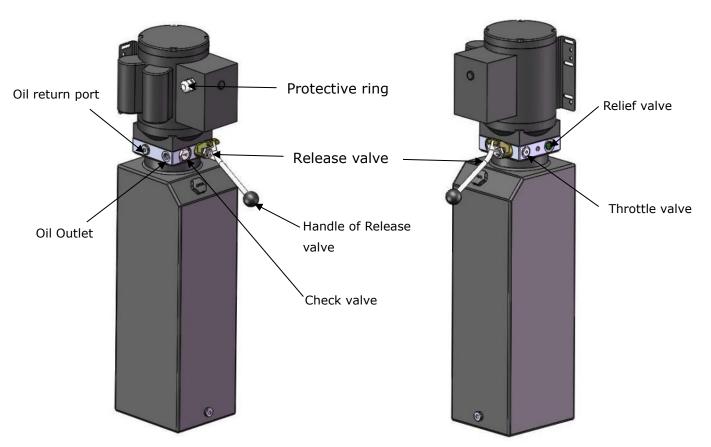


Fig.48

V. TEST RUN

- 1. Fill the reservoir with approximately 26L Hydraulic Oil (**Note**: In consideration of Power Unit's durability, please use **Hydraulic Oil 46#**).
- 2. Press the button on the power unit, the Cables will be strained. Check whether the Cables match the Pulley. Make sure the Cables are not across.
- 3. Press the release handle of the power unit 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. Lift up and down for several times, meanwhile do the synchronous adjustment till the four Safety Devices can be locked and released 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, testing the lift with load. Lift the Platforms in low position first, make sure the Platforms can be up and down synchronously and the Safety Device can be locked and released synchronously. And then raise the lift to the top completely. If there are anything improper, repeat the above adjustment.

Circuit Diagram of Hydraulic System

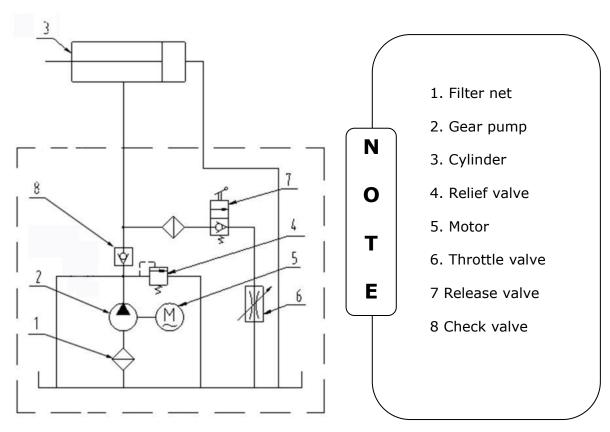


Fig.49

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;
- 3. Turn on the power and press the button, 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, 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 N·m;
- 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 the vertical of columns.

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.
- 2. 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
Motor does not run	1. Start Button does not work	1.Press start button.
	2.Wiring connections are not in good	2.Repair all wiring connections
	condition	
	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
Motor runs but the lift is not raised	1.Motor runs in reverse rotation	1.Reverse two power wire
	2. Release valve in damage	2.Repair or replace
	3. Gear pump in damage4.Relief valve or check valve in damage	Repair or replace Repair or replace
	5.Low oil level	5.Fill tank
	J.LOW OII level	3.1 III Carix
	1. 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.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
Lift cannot lower	1. Safety device are in activated	1. Release the safeties
	2. Release valve damaged	2. Replace or repair
	3. Air Cylinder damaged	3.Replace the cylinder
	4. Air line leaks	4. Check the air line

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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