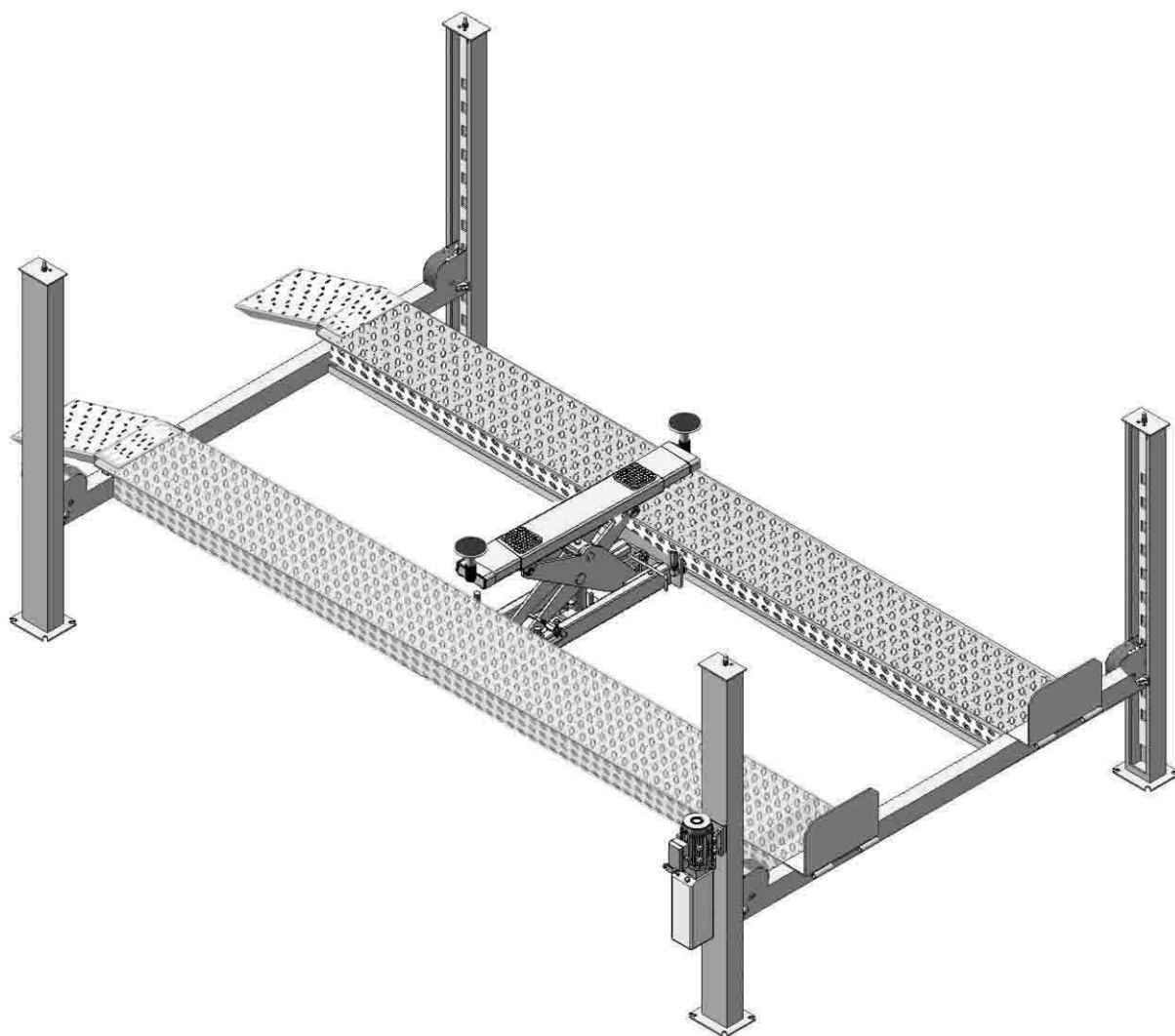


AMGO  [®] **Hydraulics**

Installation And Service Manual



FOUR POST LIFT

Model: PRO-18

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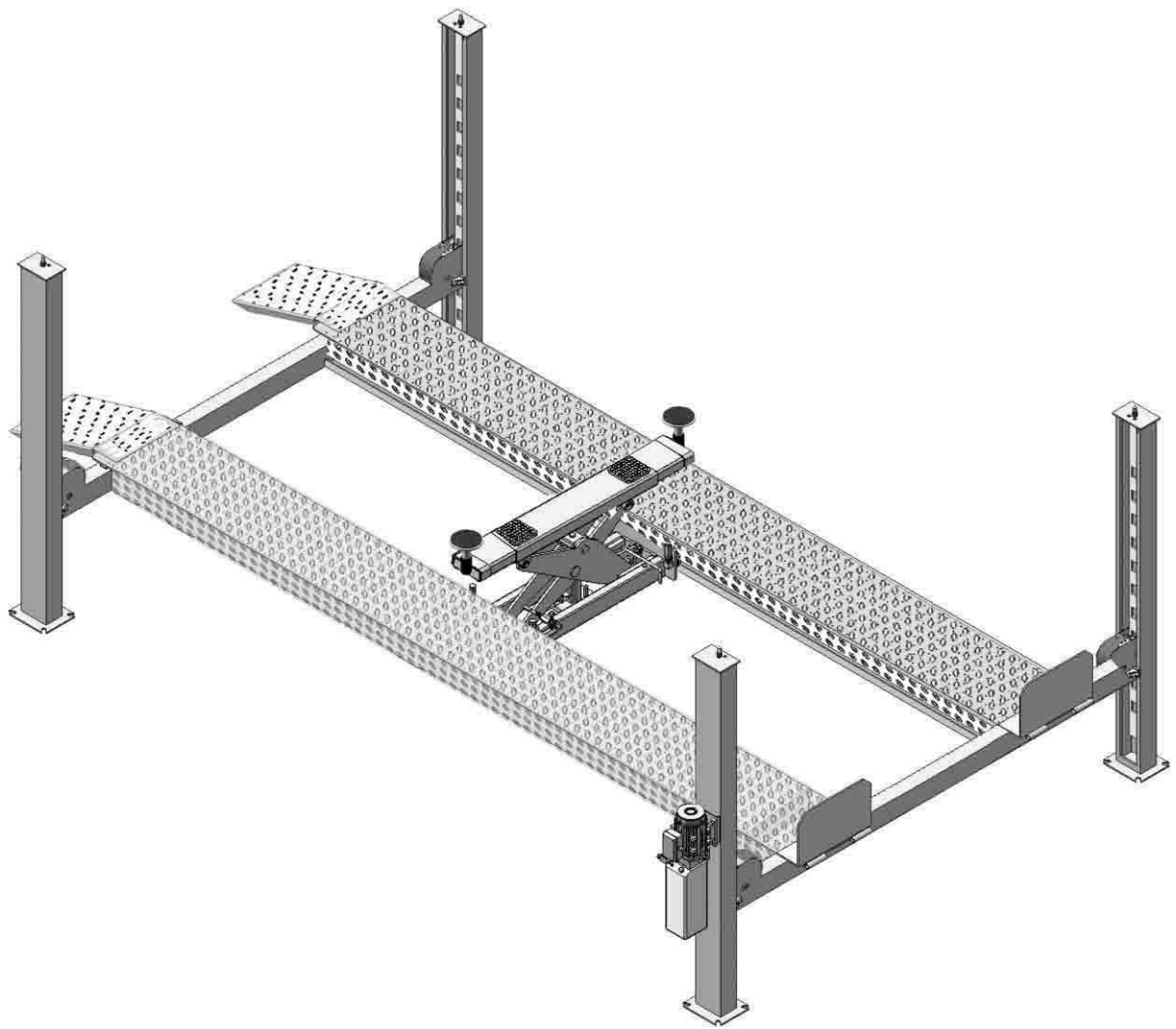


Fig.1

I. PRODUCT FEATURES AND SPECIFICATIONS

NON-ALIGNMENT MODEL PRO-18 FEATURES

- Manual control air-operated system
- Mechanical self-lock and air-driven safety release
- Manual hydraulic power system, cable-driven.
- 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.

NON-ALIGNMENT MODEL SPECIFICATIONS

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Length (Inc. Ramps)	Overall Width	Width Between Columns	Gross Weight	Motor
PRO-18	18000lbs	73-3/8"	60S	270-3/8"	137"	122-1/4"	3050lbs	2.0HP

II. INSTALLATION REQUIREMEN A TOOLS REQUIRED

- ✓ Rotary Hammer Drill ($\Phi 19$)



- ✓ Hammer



- ✓ Level Bar



- ✓ English Spanner (12")



- ✓ Wrench Set:

(10#, 12#, 13#, 14#, 17#, 19#, 24#, 30#)



- ✓ Ratchet Spanner With Socket (28#)



- ✓ Carpenter's Chalk



- ✓ Screw Sets



- ✓ Tape Measure (7.5m)



- ✓ Pliers



- ✓ Lock Wrench



- ✓ Socket Head Wrench
(3#, 5#, 6#)



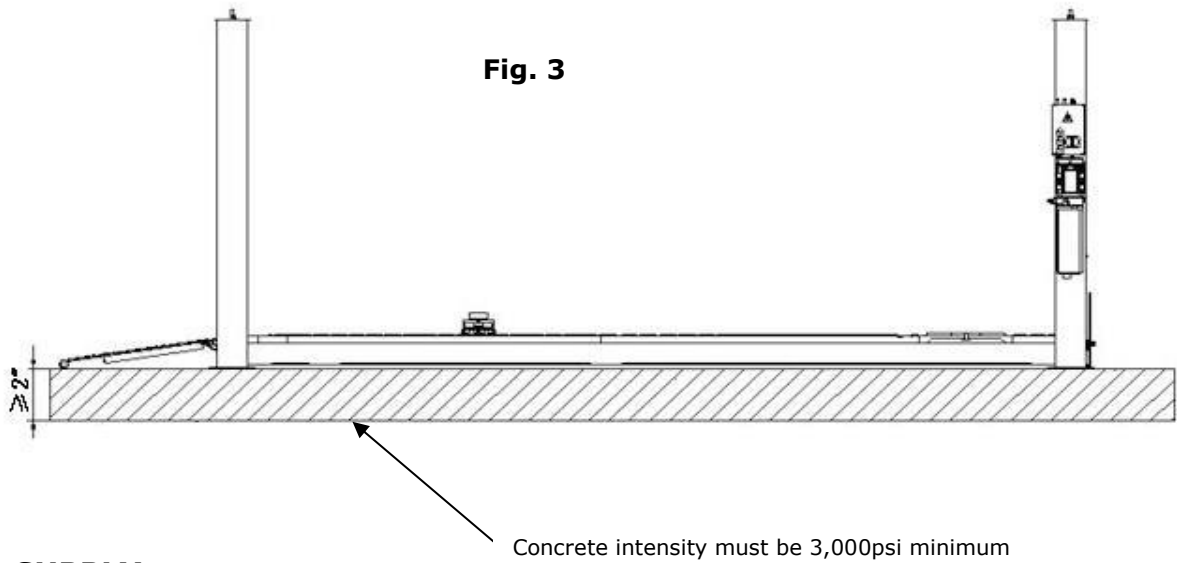
Fig. 2

B. SPECIFICATIONS OF CONCRETE (See Fig. 3)

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.
2. Concrete must be in good condition and must be of test strength 3,000 psi (210kg/cm²) minimum.
3. Floors must be level and no cracks.



C. AIR SUPPLY

Air pressure requirement: 0.5Mpa~0.8Mpa, Air line size $\phi 8 \times \phi 6$ and $\phi 6 \times \phi 4$.

D. POWER SUPPLY

The electrical source must be 2HP minimum. The source cable size must be 2.5mm² 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. 4).



Fig. 4

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

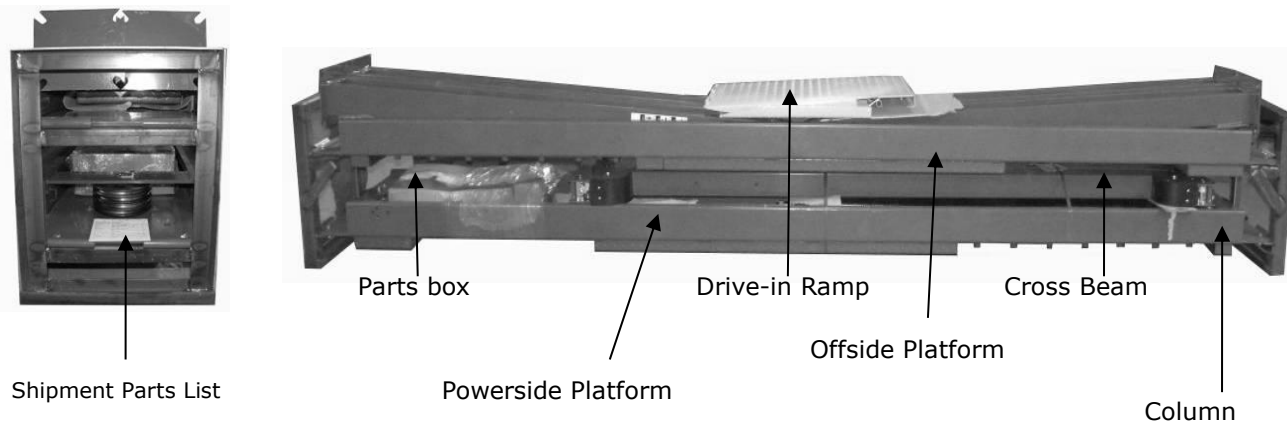


Fig. 5

3. Take off the Drive-in 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).

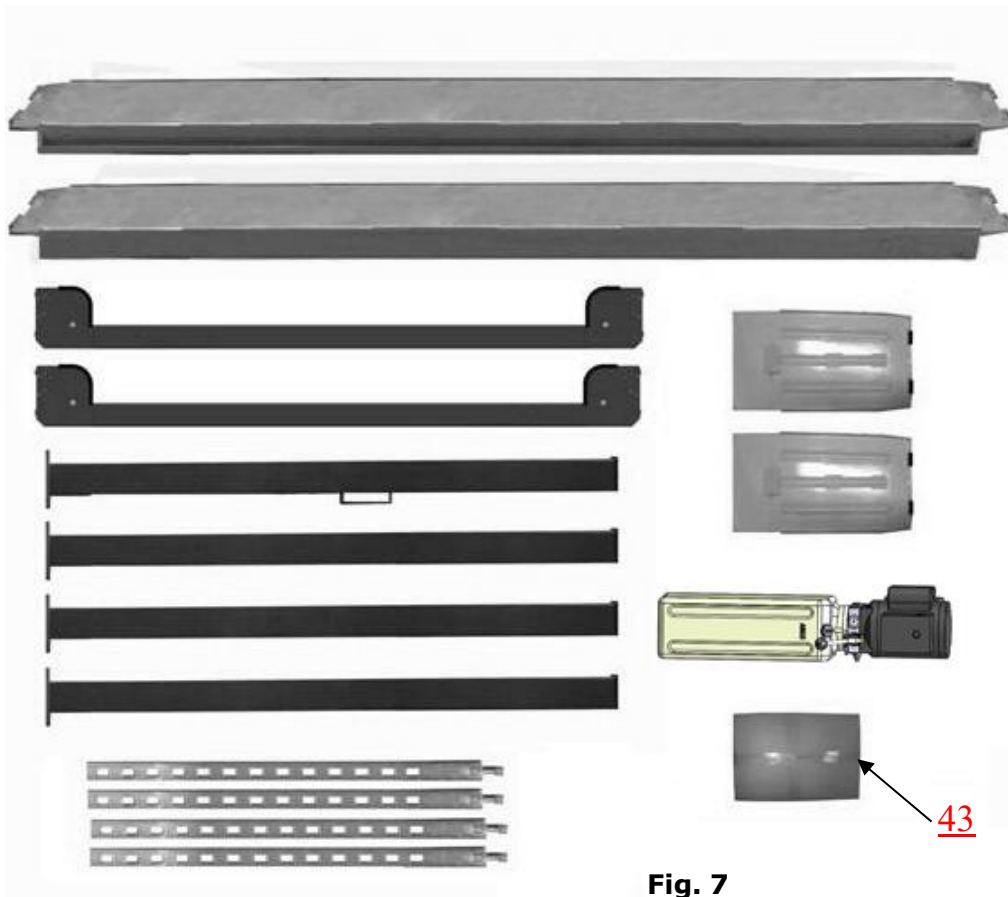


Fig. 7

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

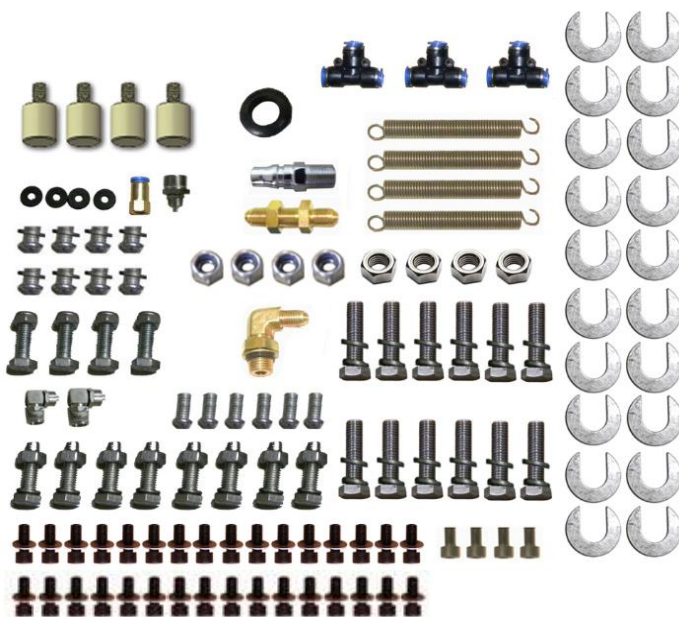


Fig. 8

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



Parts bag 1



Parts bag 2

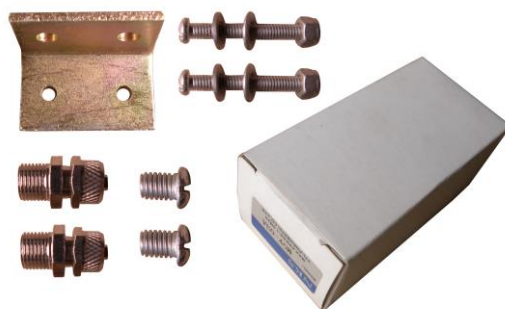


Fig. 9

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 before and behind the installation site.

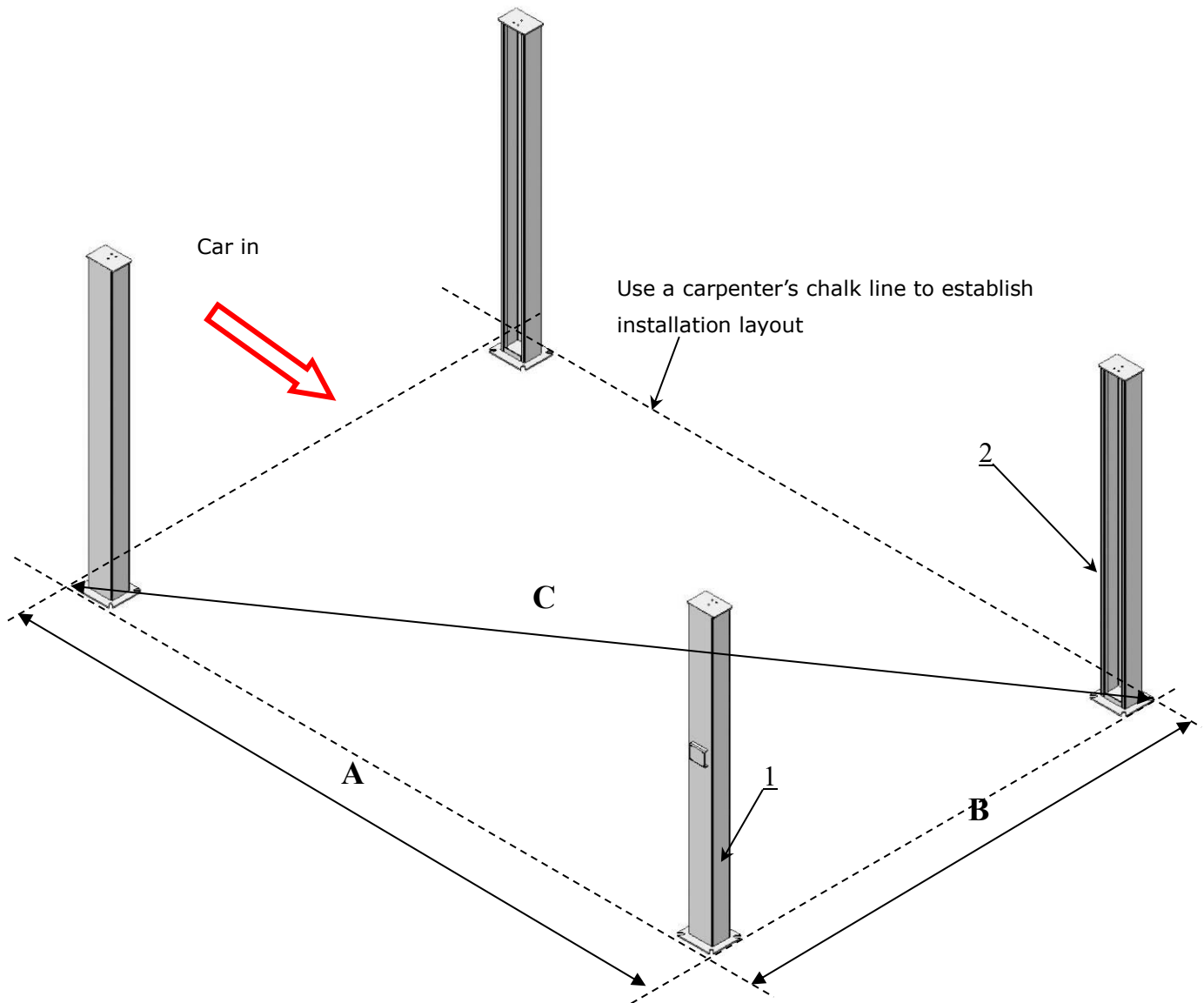


Fig. 10

Model	A	B	C
PRO-18	229-1/2"	137"	267-1/4"

D. Install cross beams (See Fig. 11, Fig. 12).

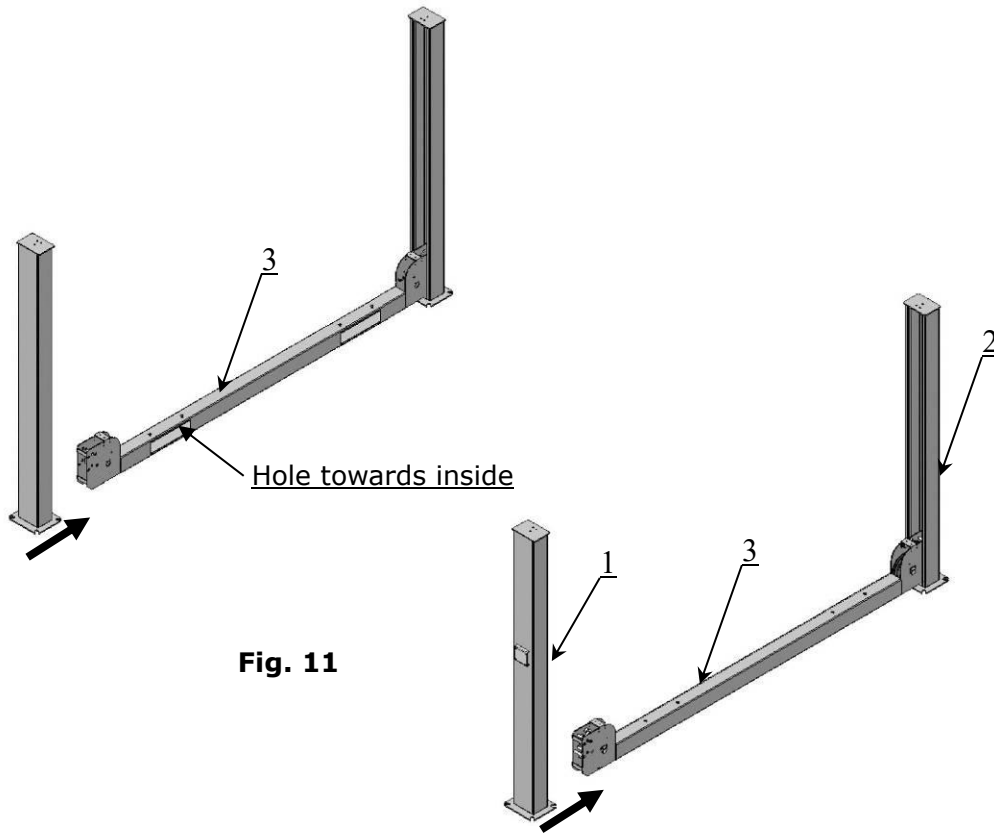
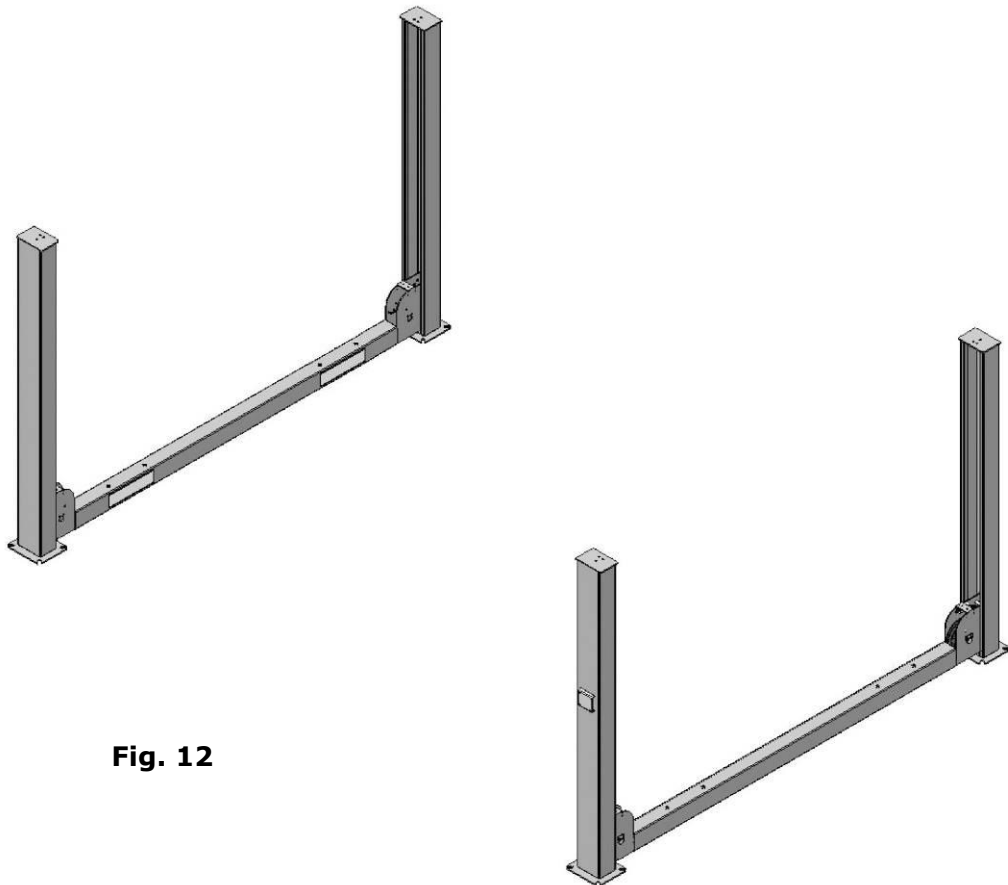


Fig. 11



E. Fix the anchor bolts

1. Prepare the anchor bolts (See Fig. 13).

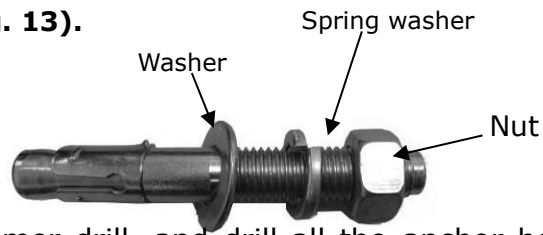


Fig. 13

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: Minimum embedment of anchors is 3-1/2".

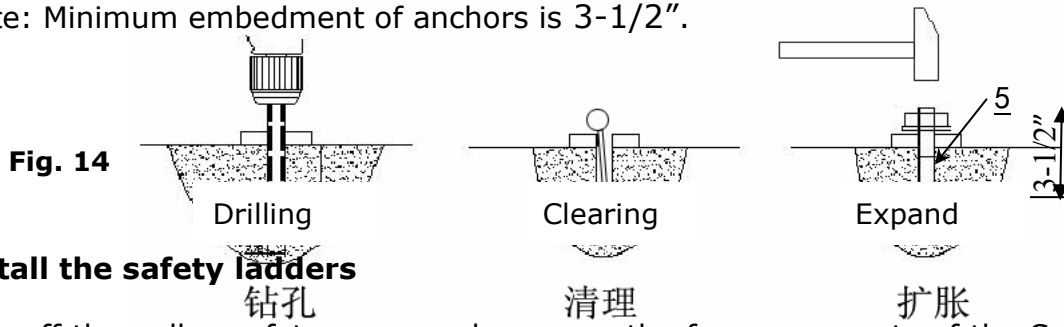


Fig. 14

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, then install the safety ladders (See Fig. 15).

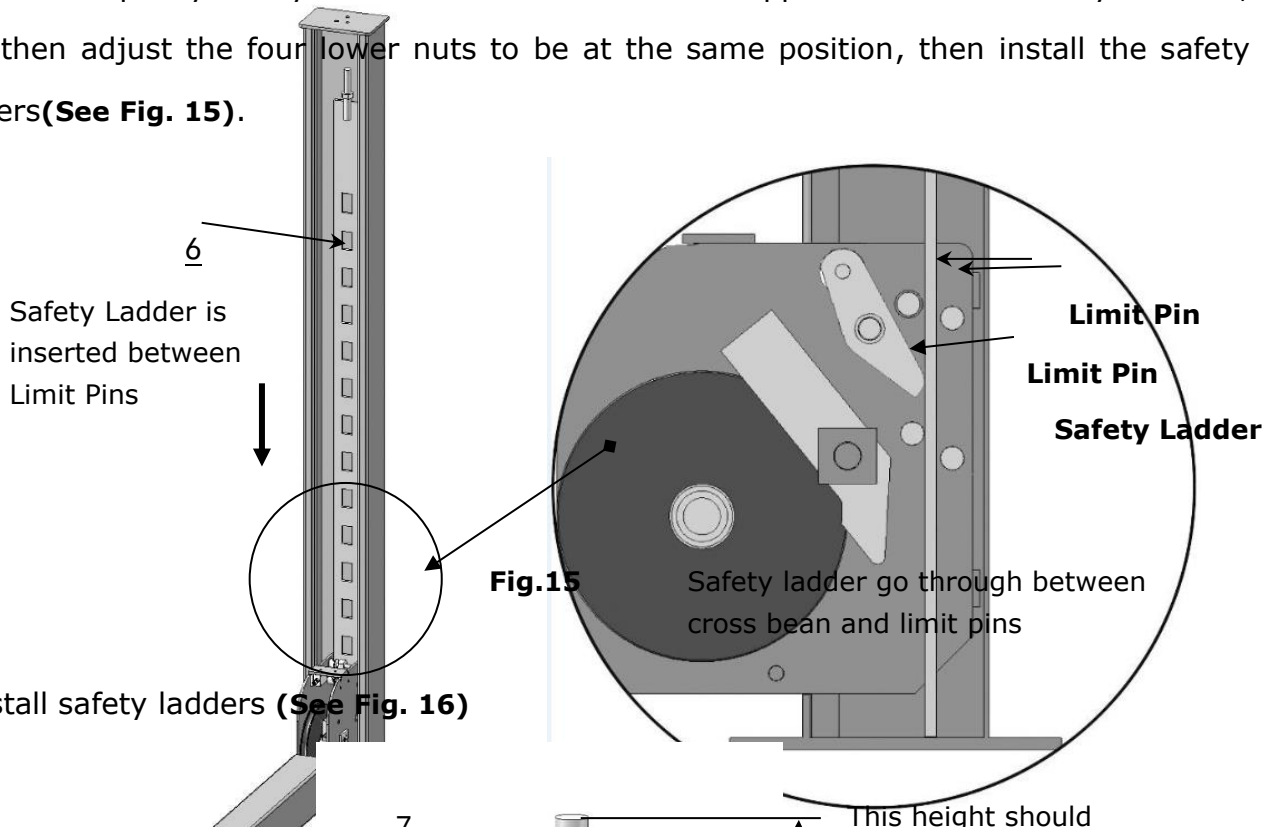


Fig.15

2. Install safety ladders (See Fig. 16)

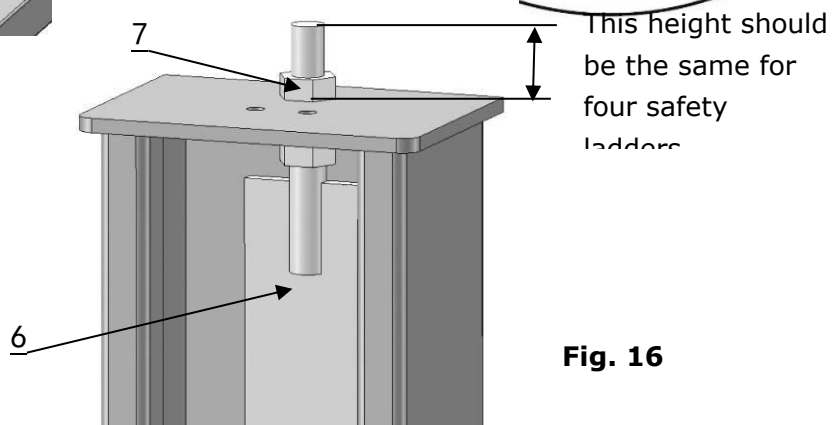


Fig. 16

Safety ladder pass through the hole of the top plate,

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

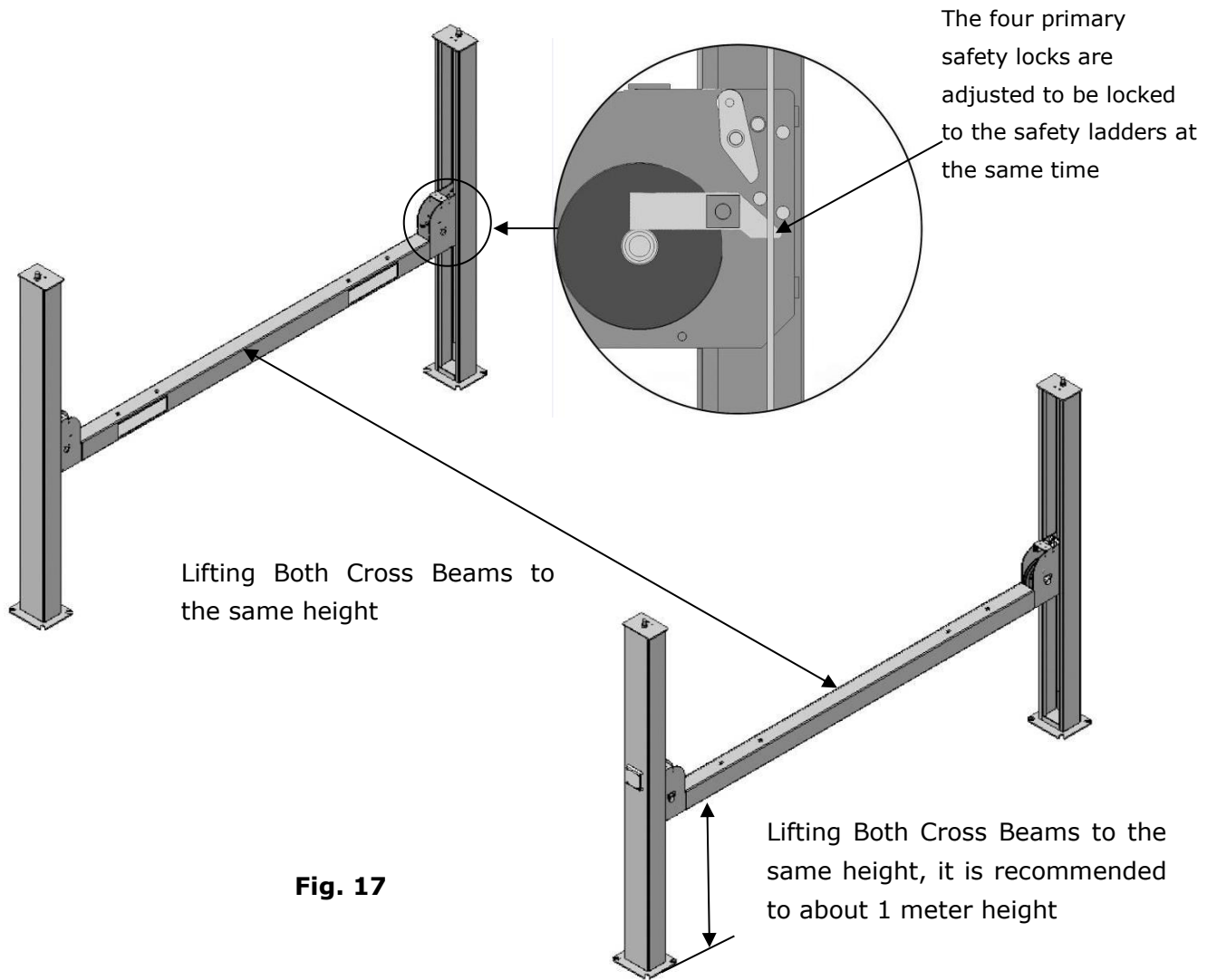
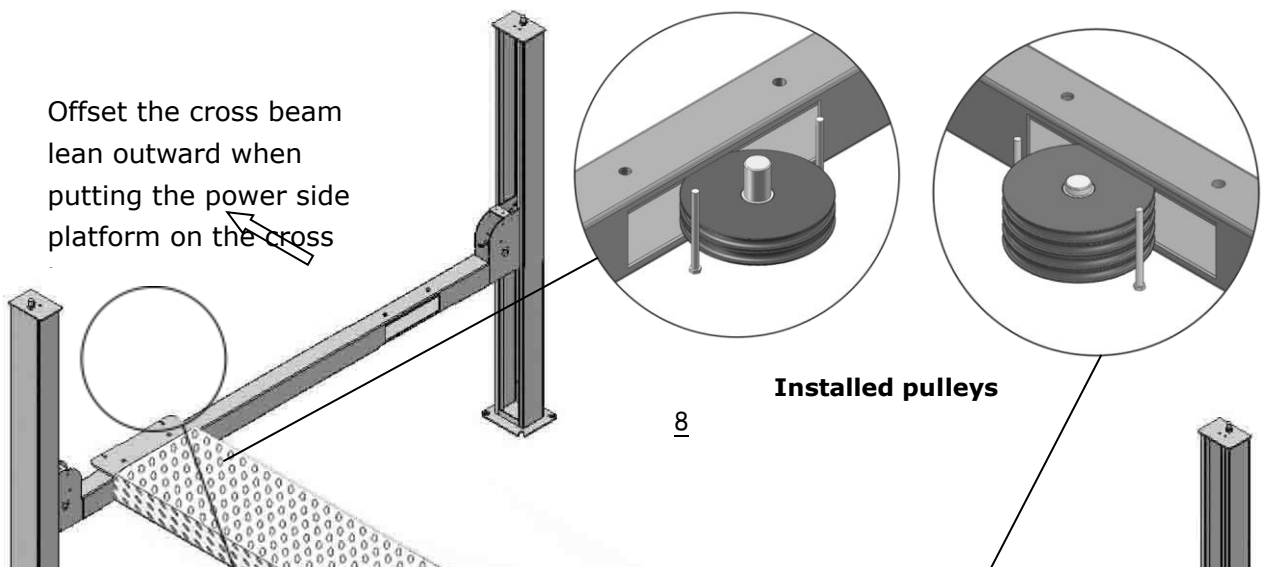
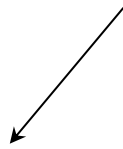


Fig. 17

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.18**), Install the power side platform and screw up the bolts (**See Fig.19**)





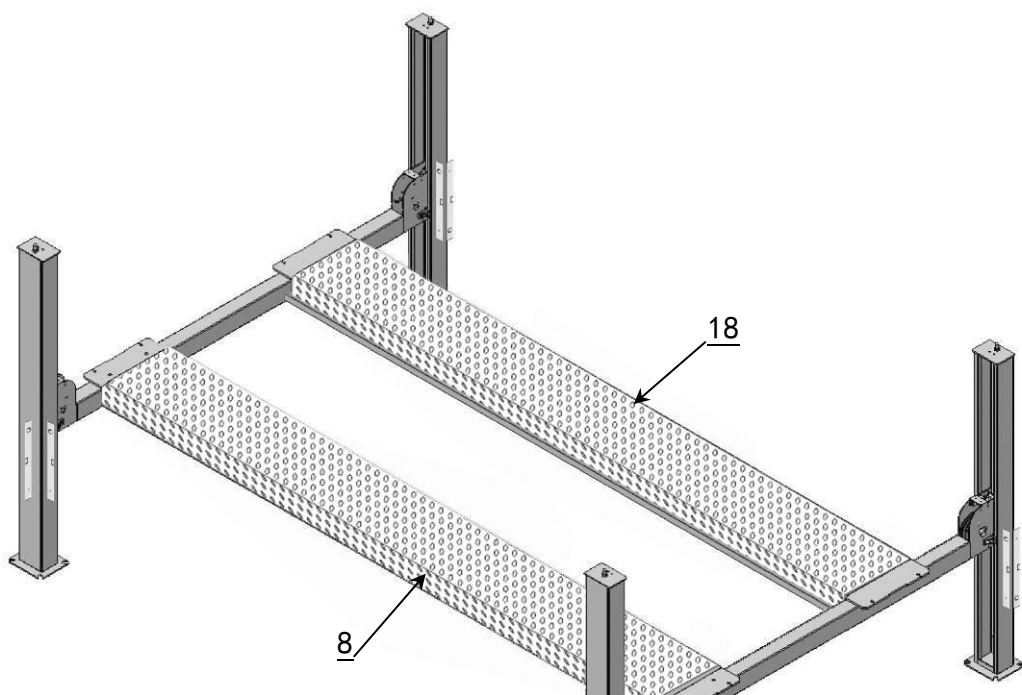
Offset the cross beam
lean outward when
putting the power side
platform on the cross

Fig.18

Install the power side platform with M20*40 hex
nut and screw up the bolts

Fig.19

I. Assemble offside platform and slider block, check the vertical of columns with
Level bar, adjusting with the shims if not, and then tighten the anchor bolts (**See Fig. 20**)



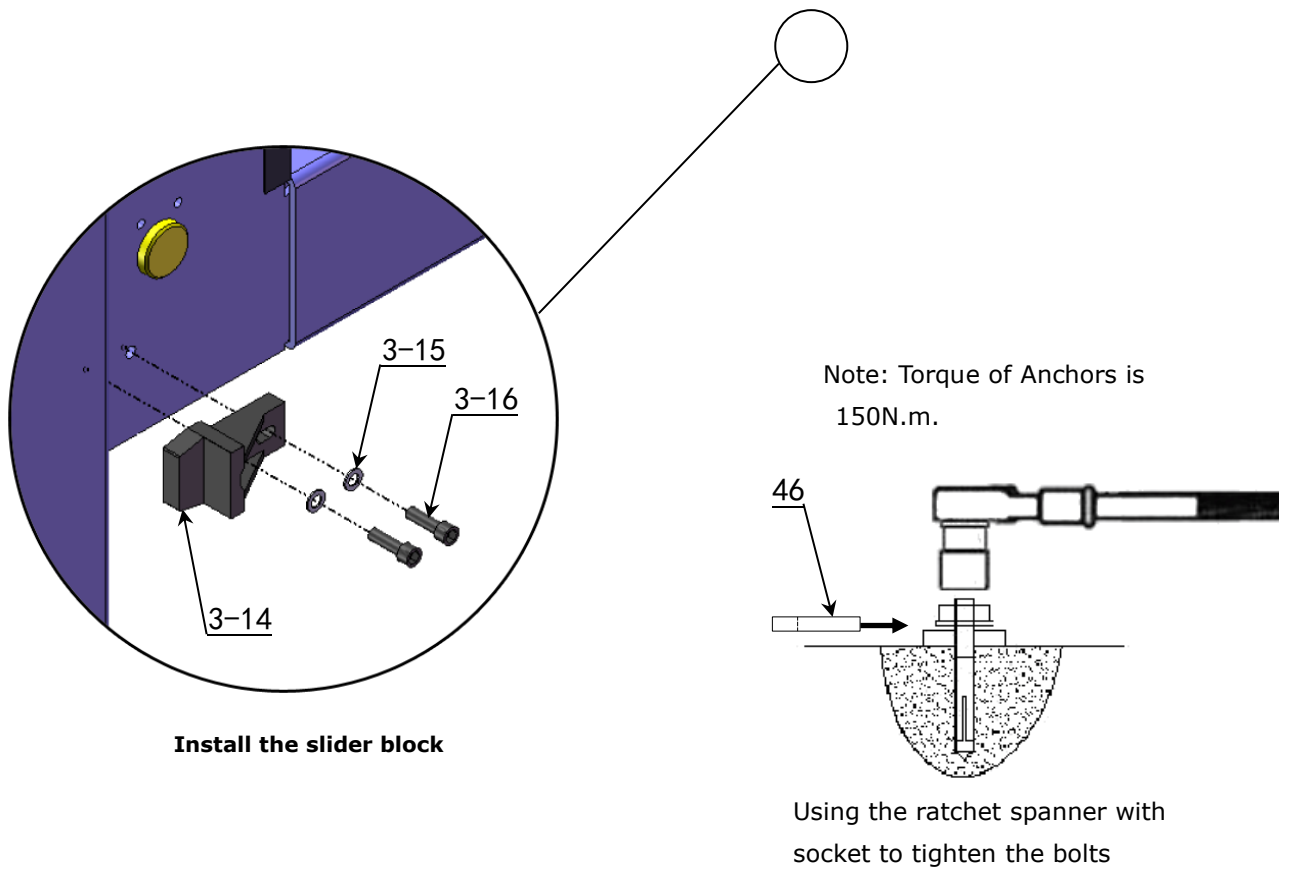


Fig. 20

J. Install cables (See Fig. 21)

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

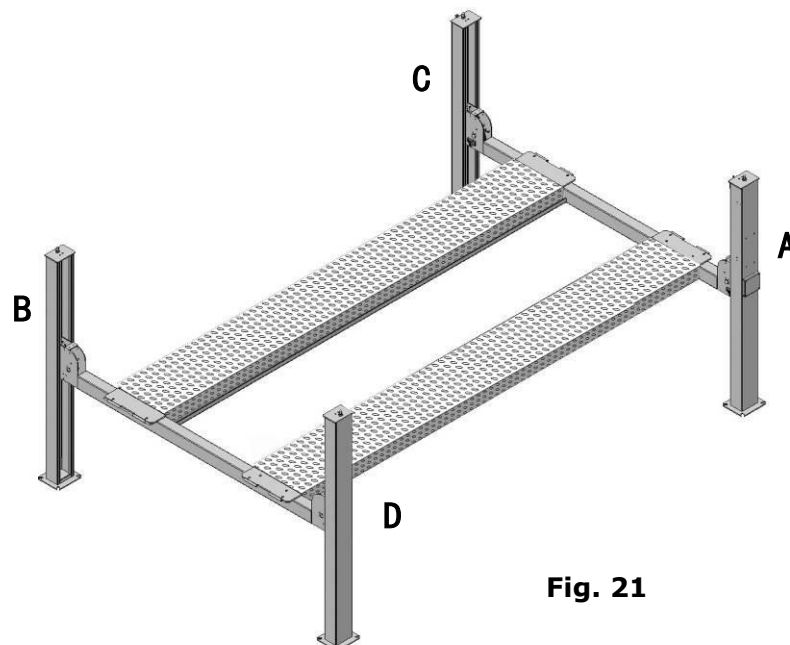
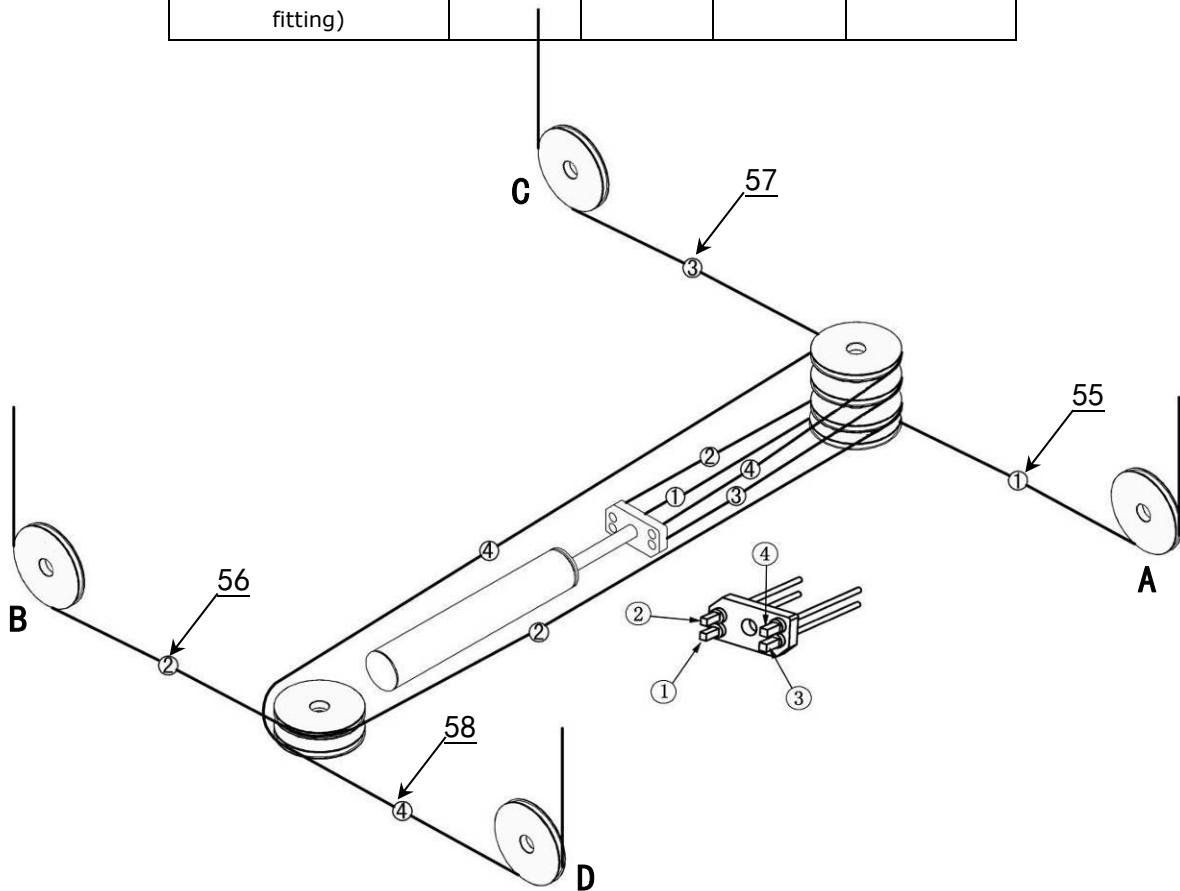
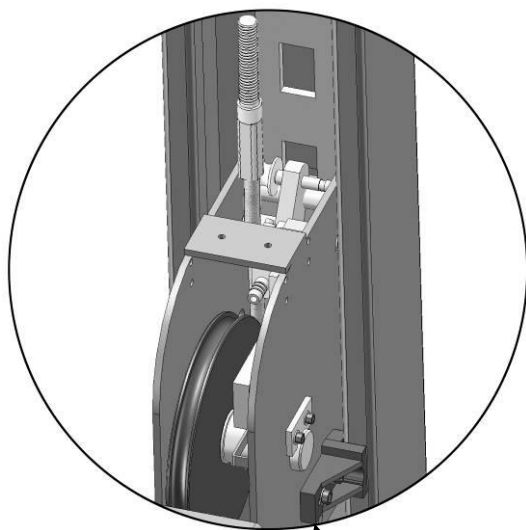


Fig. 21

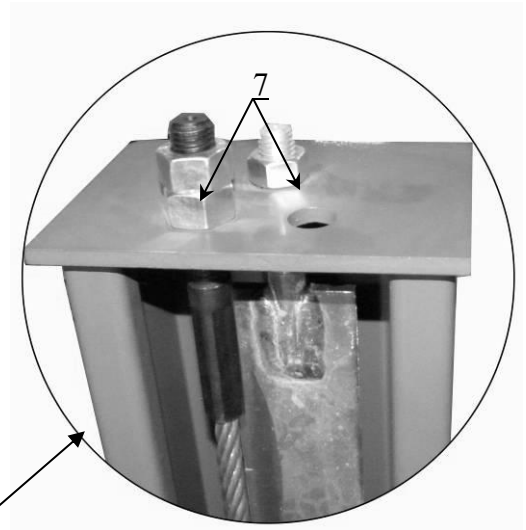
Cable No.	ϕ	∅	∅	∅
Length (inc. connecting fitting)	177-1/8"	471-5/8"	249-3/4"	398-1/4"



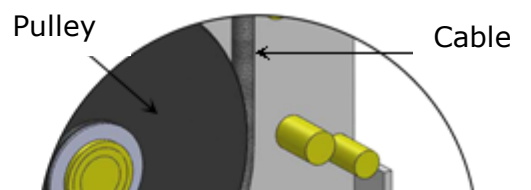
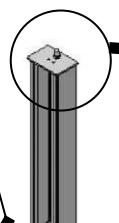
2. The cable pass through the cross beam to top plate of columns and be screwed with cable nuts (**See Fig. 22**)

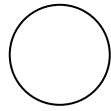


Cable pass through between the big pulley and tension pulley

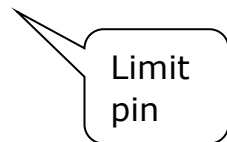


Cable pass through top plate and be screwed with cable

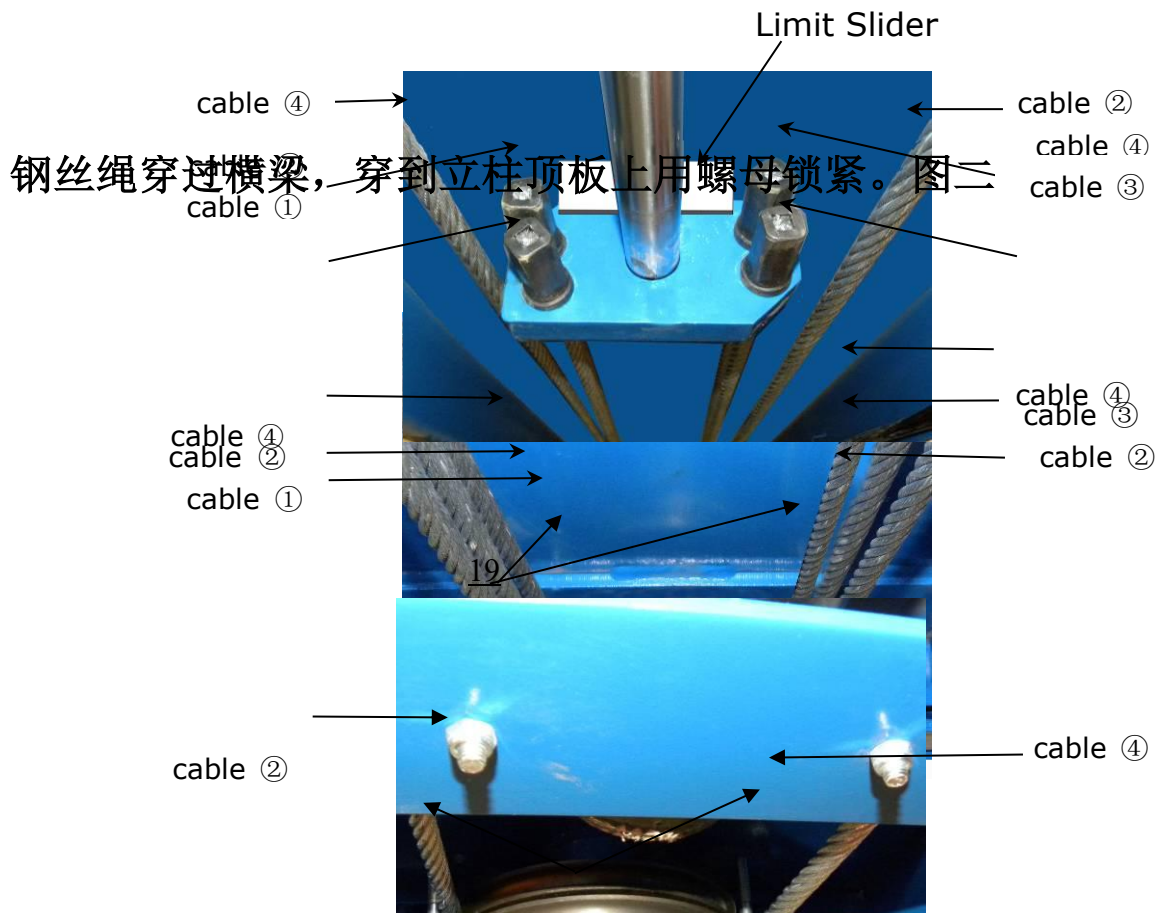




Install limit pin



3. Illustration for platform cables (See Fig. 23)



Hex Bolt M10*150

Fig. 23

J. Install oil-water separator, manual control air valve and power unit

(See Fig. 24)

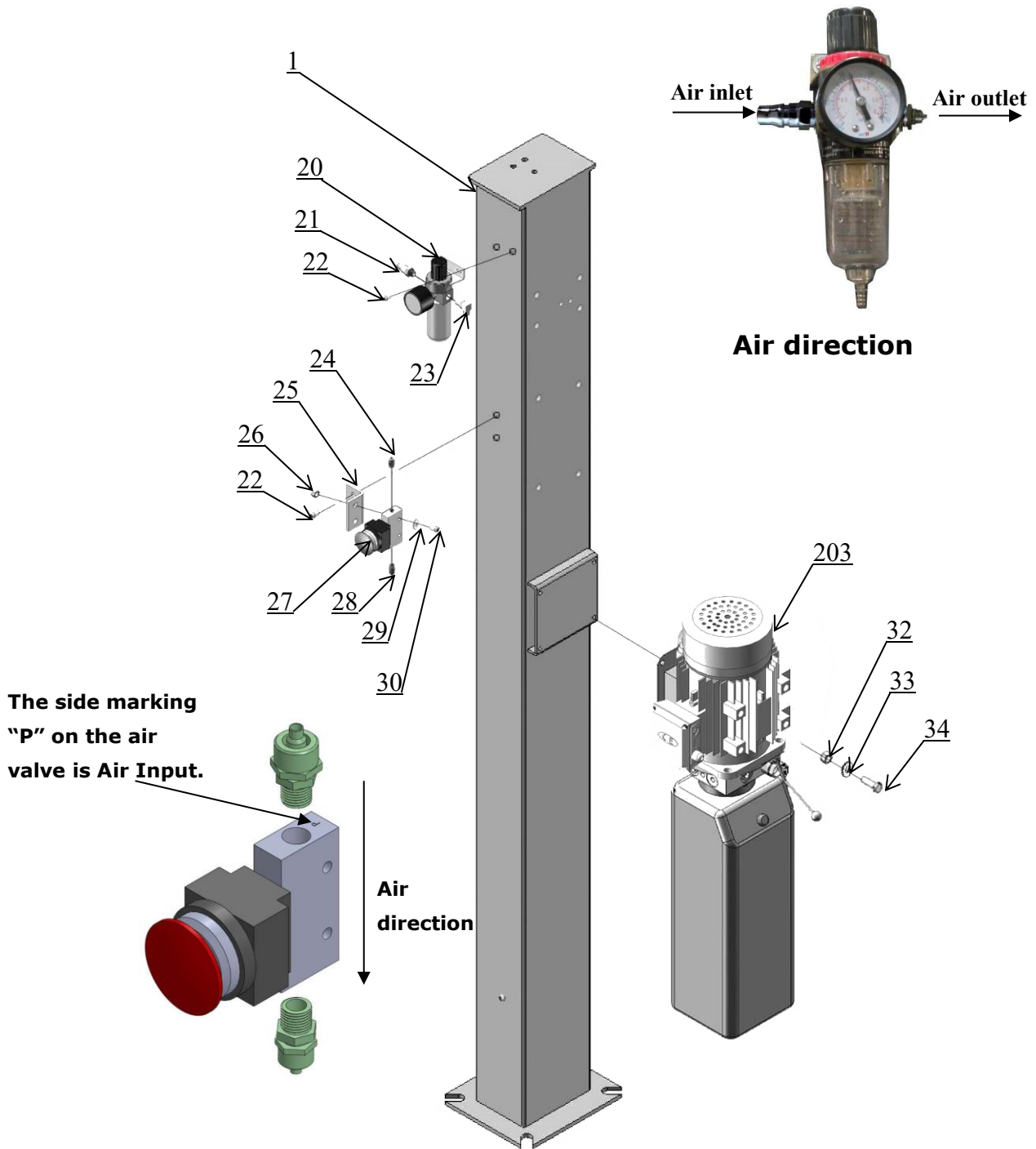


Fig. 24

L. Install hydraulic system (See Fig. 25)

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

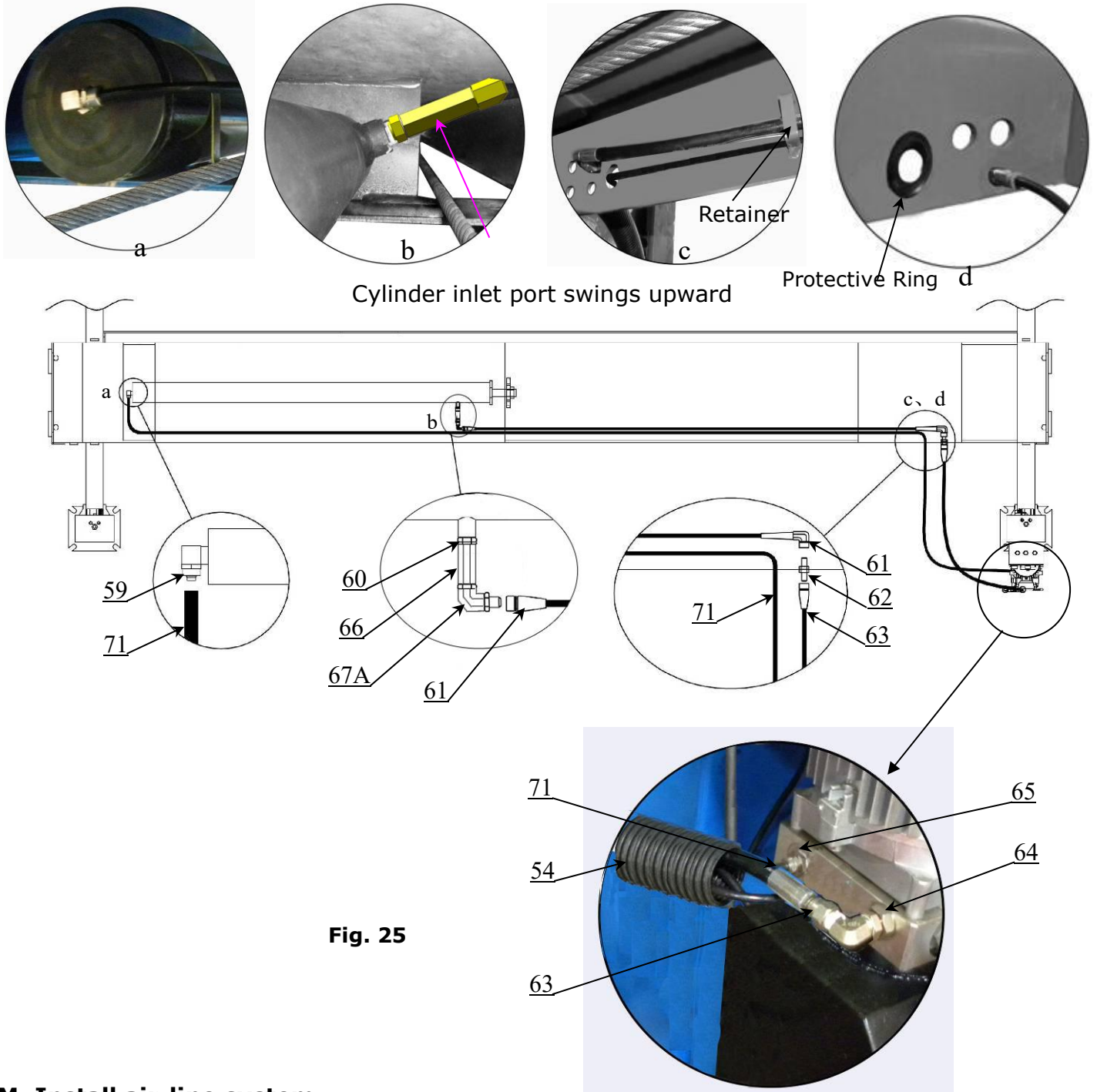


Fig. 25

M. Install air-line system

1. Cut $\phi 6 \times \phi 4$ black air line between two retainers, and then connect to T-fitting. (See Fig.26)

(See Fig.26)

2. Connecting front and rear cross beam cylinders by using $\phi 6 \times \phi 4$ black air line

(See Fig.27)

3. Connecting air solenoid valve using $\phi 6 \times \phi 4$ black air line (See Fig. 27)

4. Connecting Oil hose and Air lines (See Fig. 28)

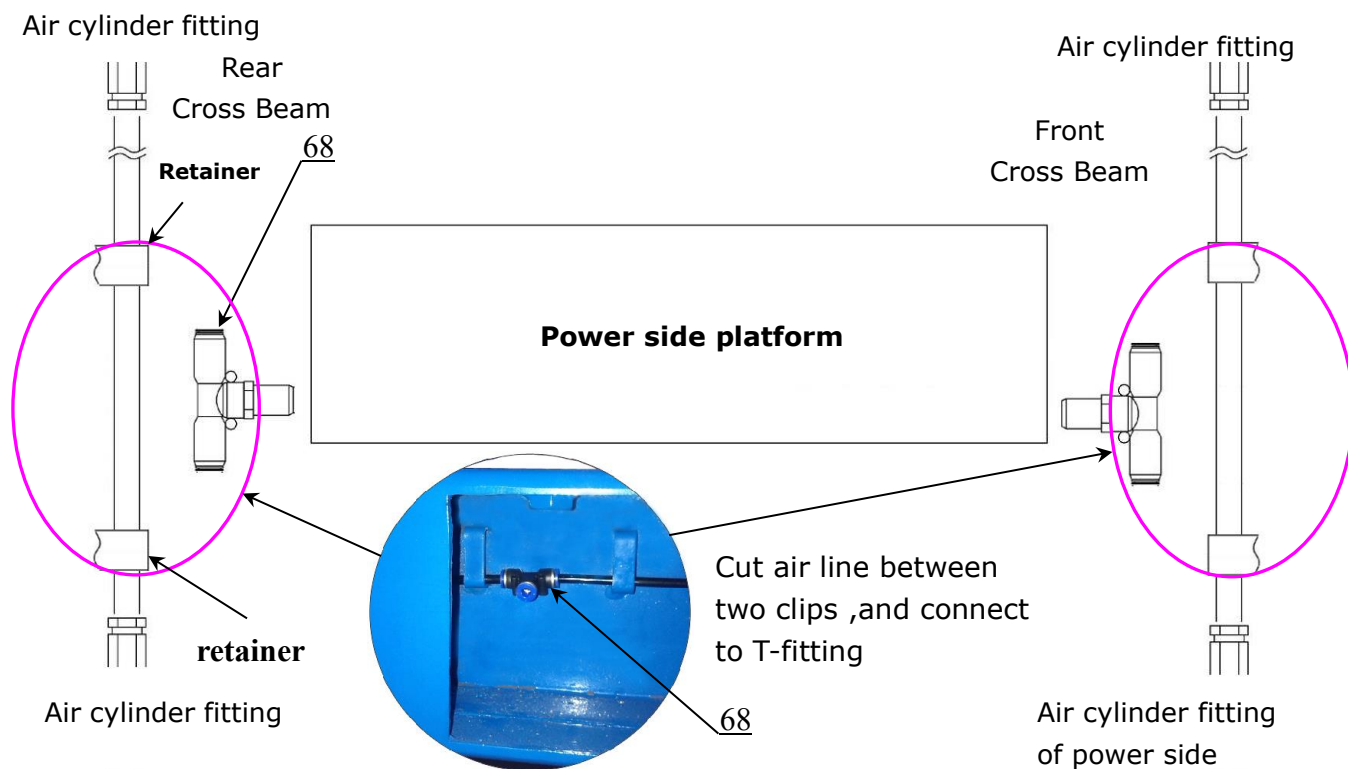


Fig.26

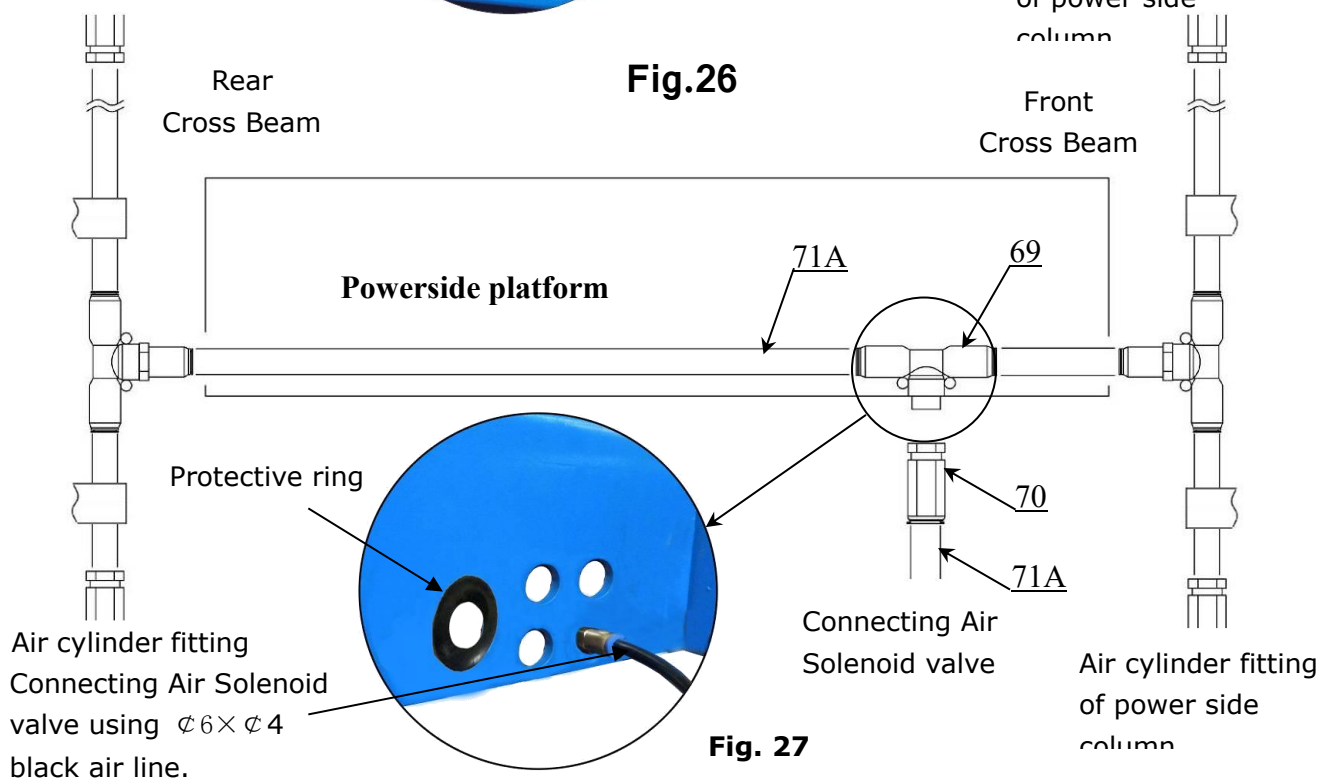


Fig. 27

Oil hose of optional Jack pass through this hole

Optional air line through this hole

Oil returned hose pass through this hole

Connecting Black air line $\phi 6 \times \phi 4$ to Manual control air valve

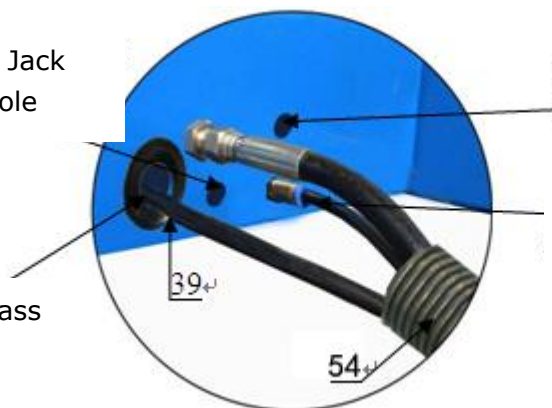


Fig. 28

5. Connecting Oil-water separator and Manual control air Valve using air line

(See Fig. 29)

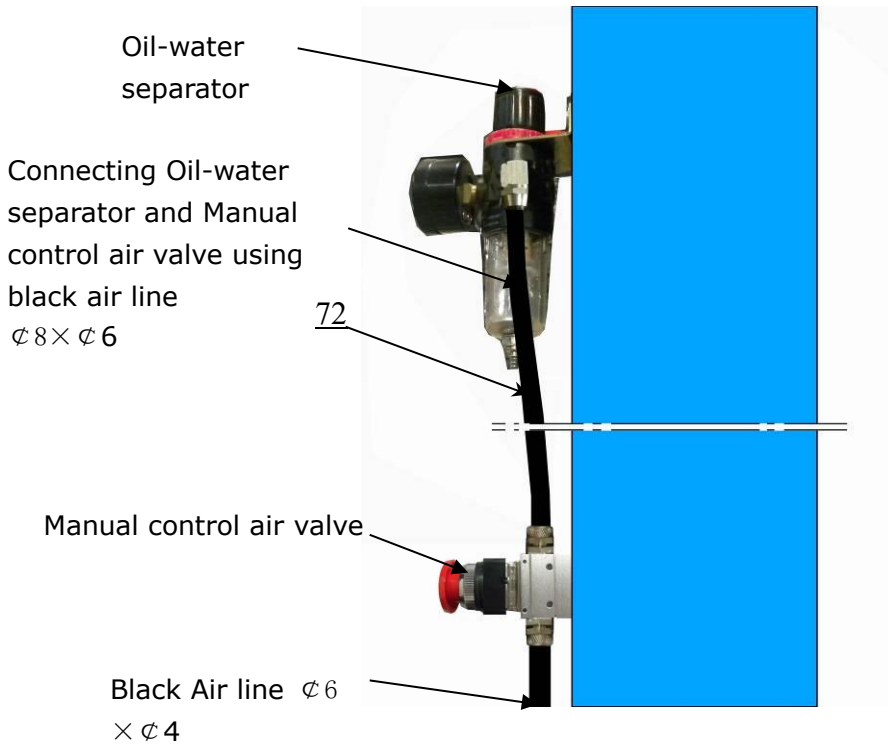
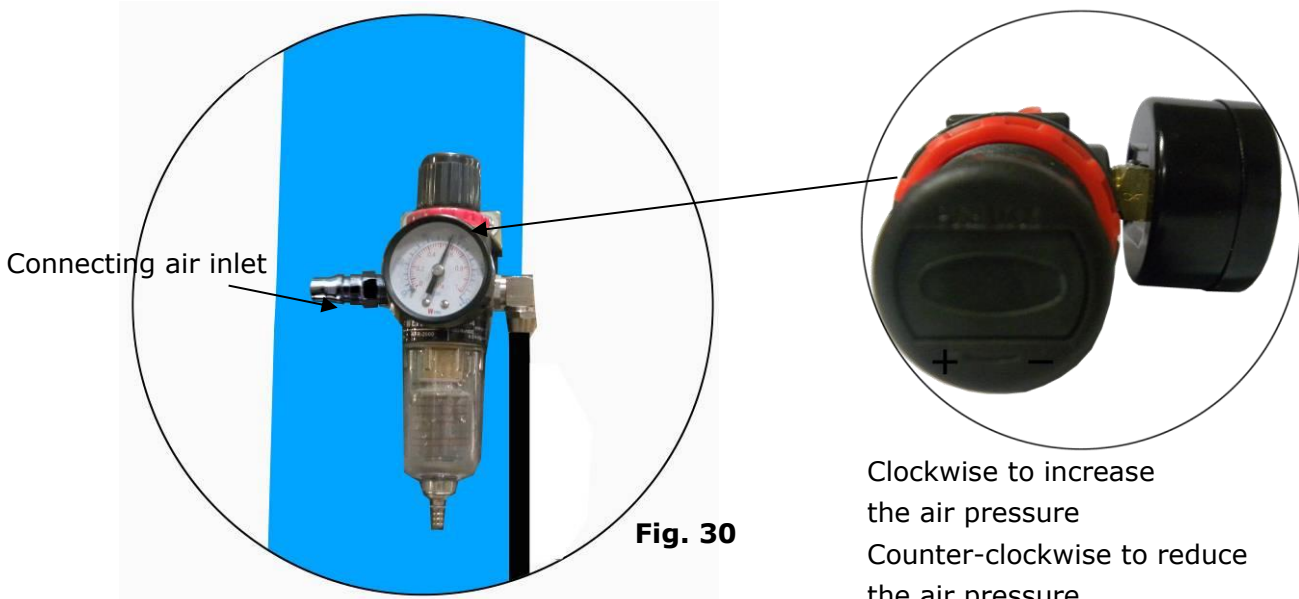


Fig. 29

6. Connecting air inlet (Air supply pressure $5 \text{ kg/cm}^2 - 8 \text{ kg/cm}^2$), adjusting the air pressure of Oil-water separator to $0.4 - 0.6 \text{ MPa}$ (See Fig. 30)

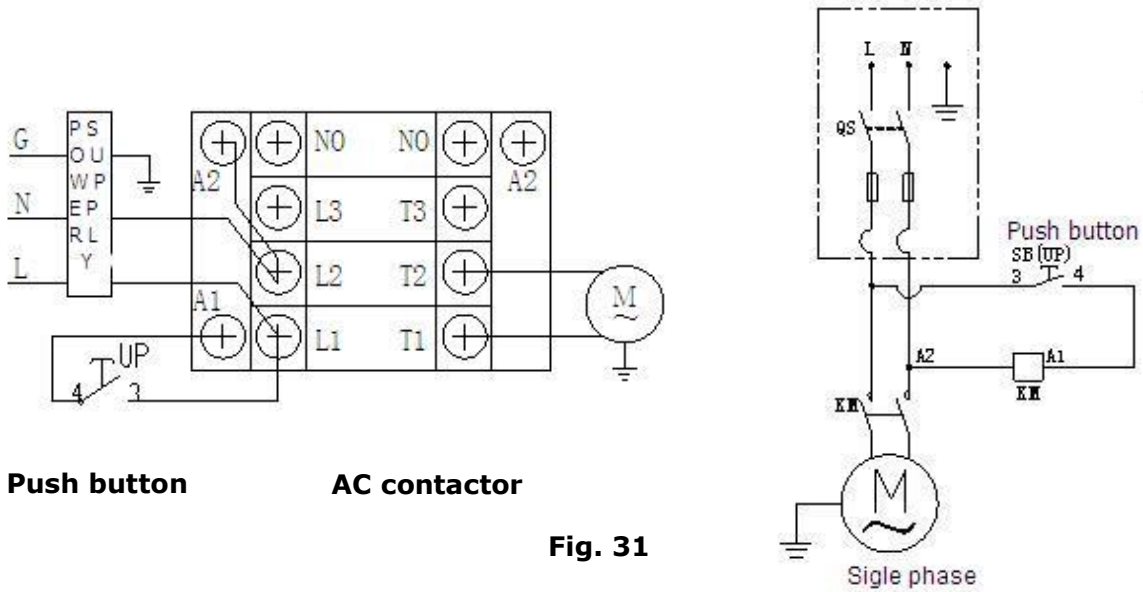


N. Install Electrical System

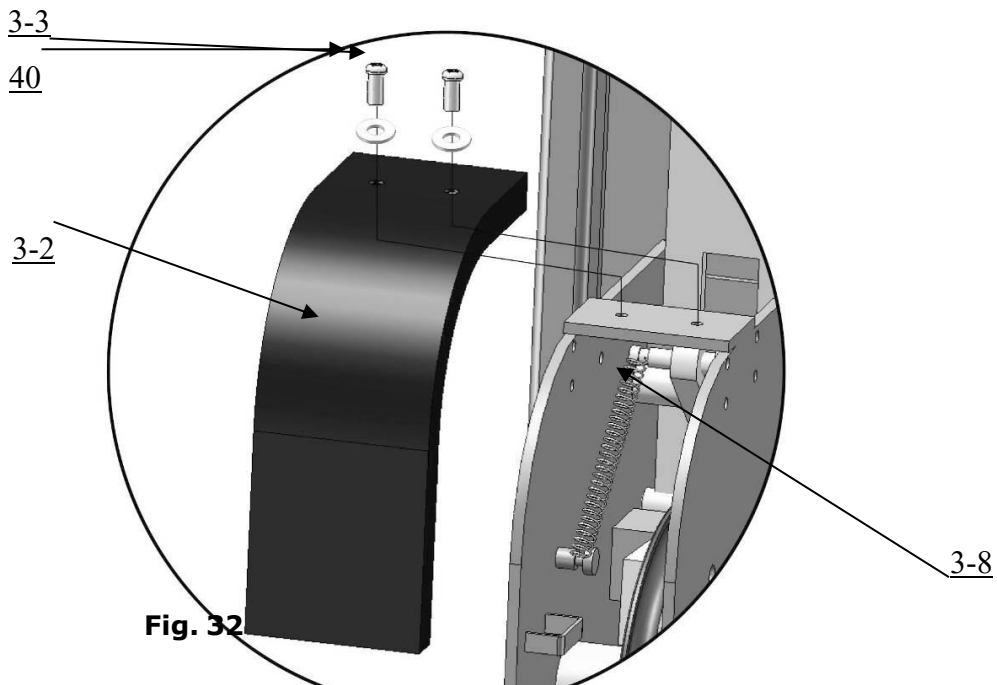
Connect the power source on the data plate of Motor.

Note: For the safety of operators, the power wiring must connect the floor well. Single phase motor (See Fig. 31).

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** of AC contactor to **L2**.
4. Connect the two push button wires to the terminals of AC contactor marked A1,L1



O. Install spring and safety cover of cross beam (See Fig. 32)



Q. Install Drive-in ramp, Tire stop plate. (See Fig. 33)

Install Drive-in ramp

Install Tire stop plate

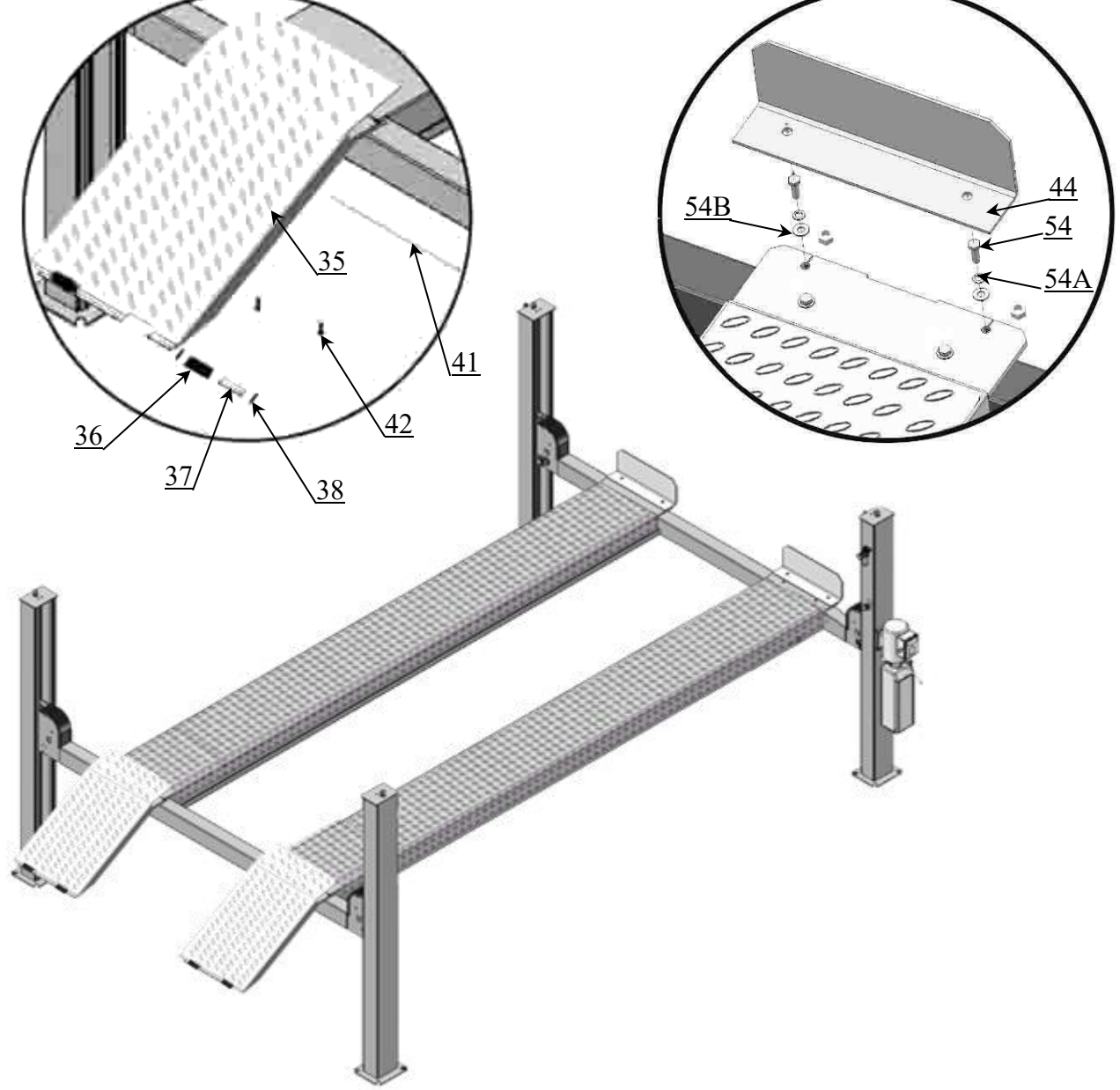
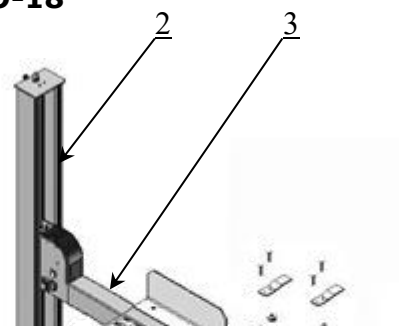


Fig. 33

IV. EXPLODED VIEW

Model: PRO-18



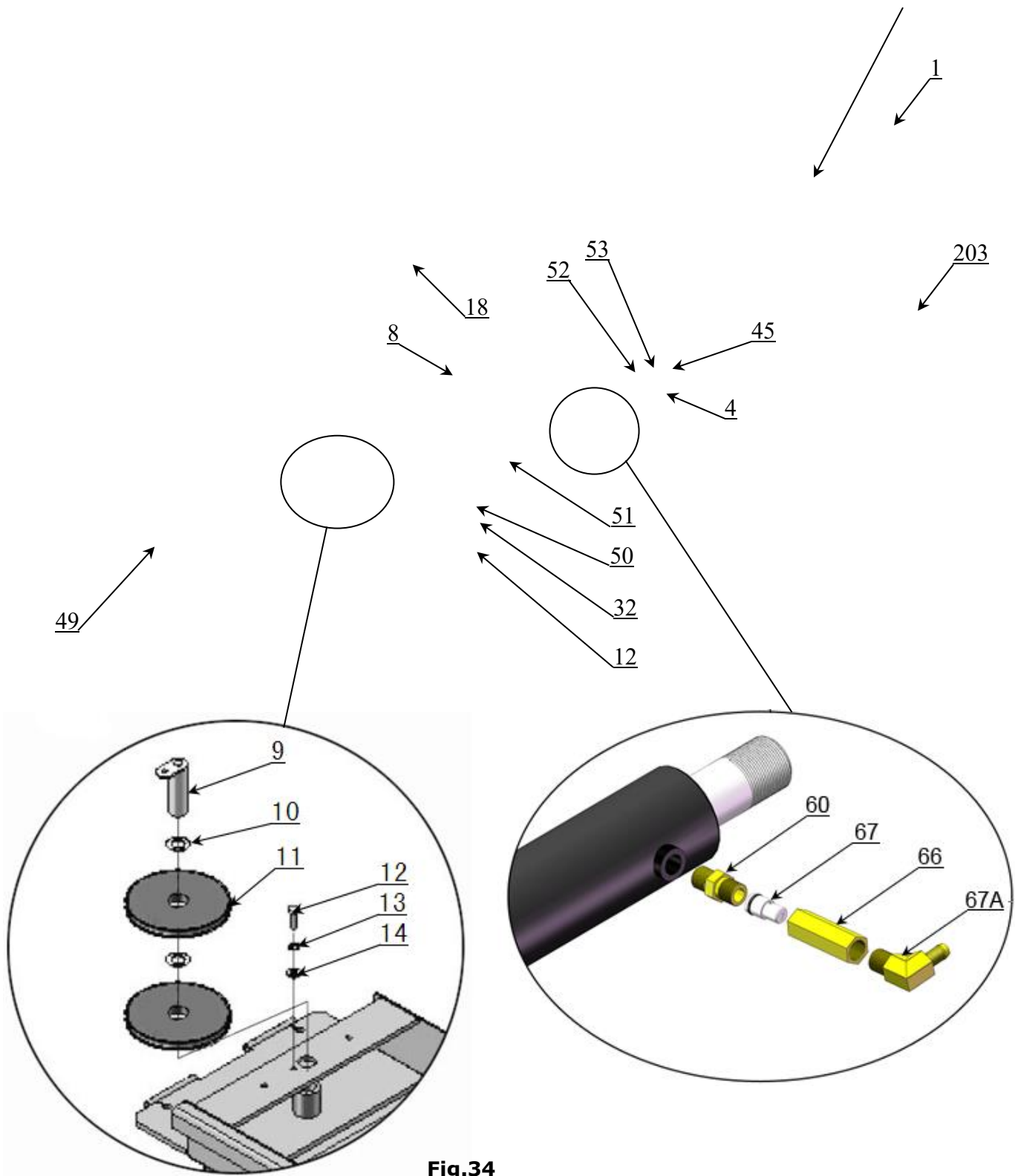


Fig.34

CROSS BEAM

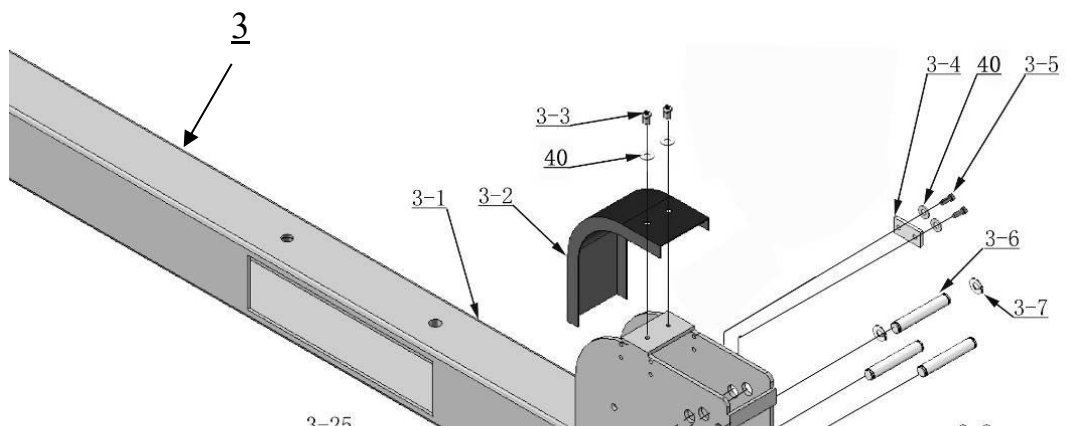


Fig.35

Cylinder

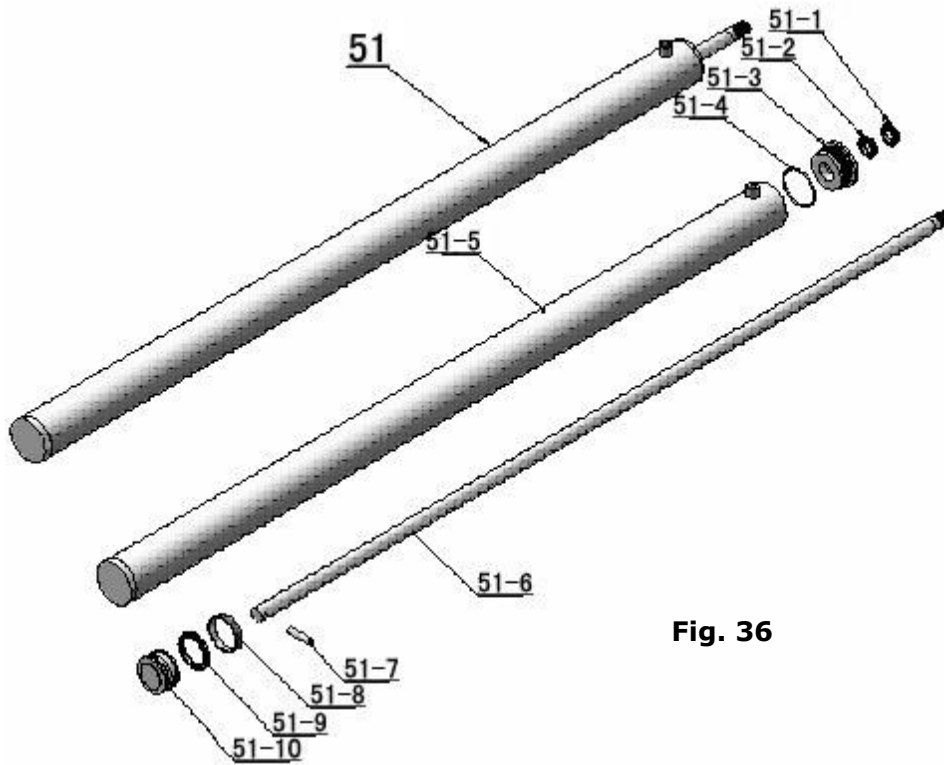
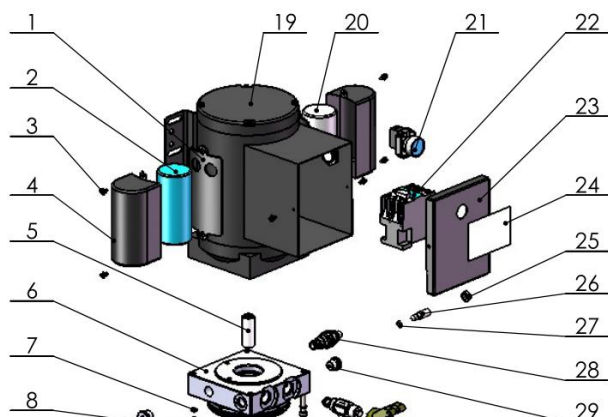


Fig. 36

Power unit



Manual 220V 60Hz 1PH

图十 图四十五

一

**Illustration of Hydraulic Valve for power unit
220V,60Hz,Single phase manual power unit(See Fig.38)**

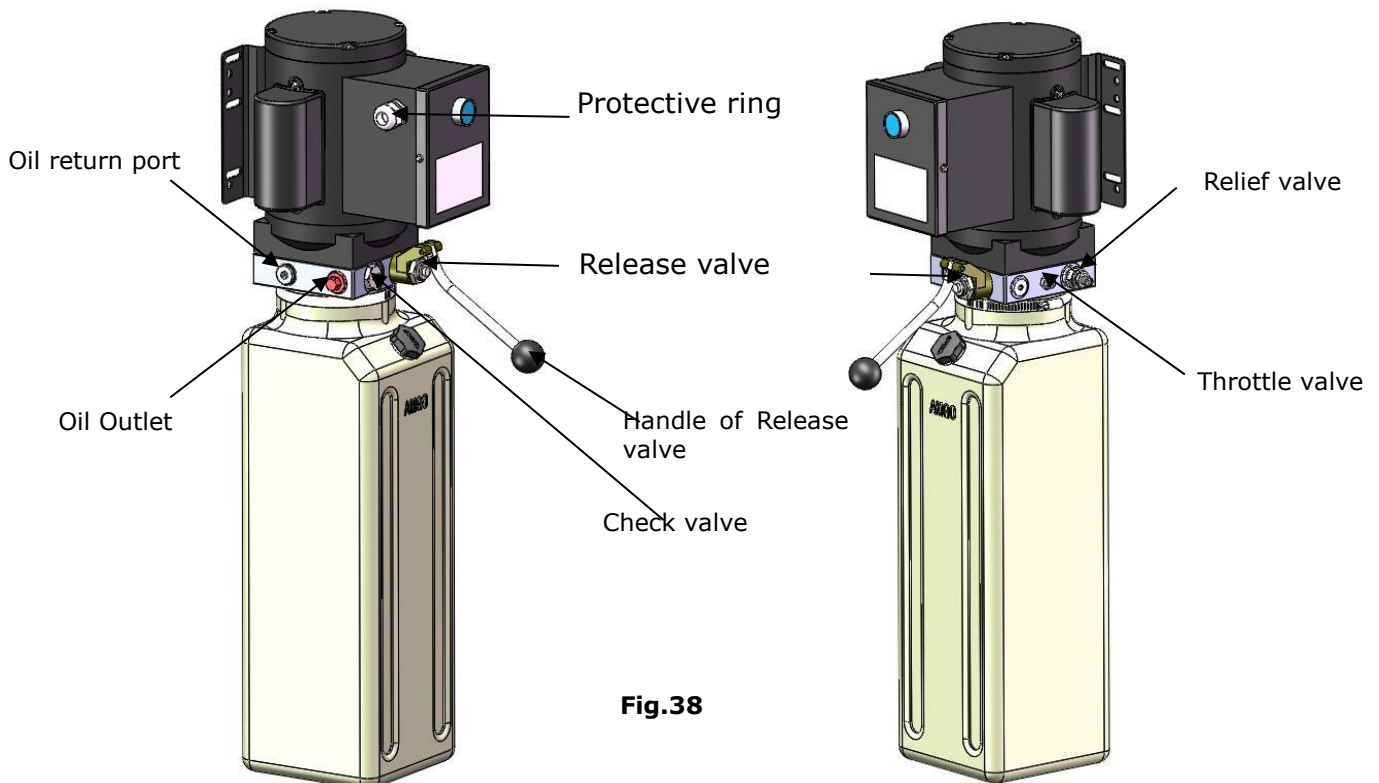
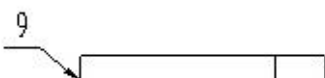


Fig.38

V. TEST RUN

1. Fill the reservoir with approximately 14L 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



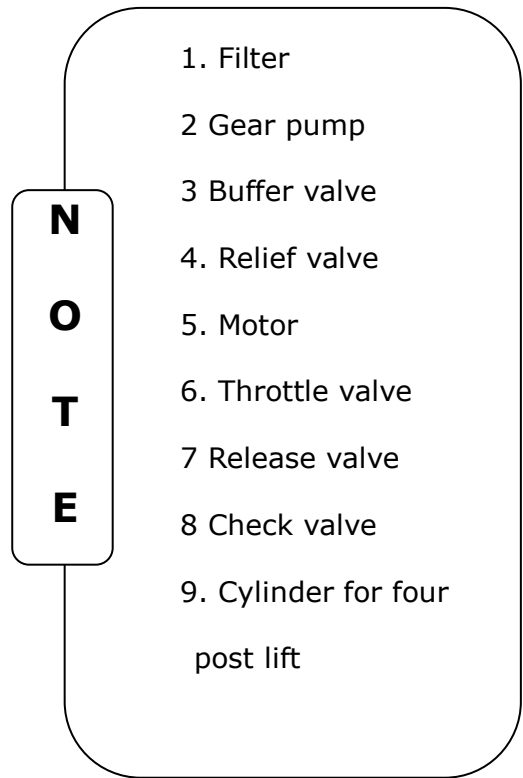


Fig.39

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 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 the vertical of columns.

TROUBLE	CAUSE	REMEDY
---------	-------	--------

Motor does not run	<ol style="list-style-type: none"> 1. Button does not work 2. Wiring connections are not in good condition 3. Motor burned out 4. AC contactor burned out 5. Height limit switch is damaged 	<ol style="list-style-type: none"> 1. Replace button 2. Repair all wiring connections 3. Repair or replace motor 4. Replace AC contactor 5. Replace
Motor runs but the lift is not raised	<ol style="list-style-type: none"> 1. Motor runs in reverse rotation 2. Release valve in damage 3. Gear pump in damage 4. Relief valve or check valve in damage 5. Low oil level 	<ol style="list-style-type: none"> 1. Reverse two power wire 2. Repair or replace 3. Repair or replace 4. Repair or replace 5. Fill tank
Lift does not stay up	<ol style="list-style-type: none"> 1. Release valve out of work 2. Relief valve or check valve leakage. 3. Cylinder or fittings leaks 	Repair or replace
Lift raises too slow	<ol style="list-style-type: none"> 1. Oil line is jammed 2. Motor running on low voltage 3. Oil mixed with Air 4. Pump leaks 5. Overload lifting 	<ol style="list-style-type: none"> 1. Clean the oil line 2. Check electrical system 3. Fill tank 4. Replace Pump 5. Check load
Lift cannot lower	<ol style="list-style-type: none"> 1. Safety device are in activated 2. Release valve damaged 3. Air Cylinder damaged 4. Oil system is jammed 	<ol style="list-style-type: none"> 1. Release the safeties 2. Replace or repair 3. Replace the cylinder 4. Clean the oil system

VIII. TROUBLE SHOOTING

IX. PARTS LIST FOR PRO-18

Parts For Cross Beam

Item.	Part#	Description	QTY.	Item	Part#	Description	QTY.
3-1	420254	Cross Beam	2	3-14	420042	Plastic Slider	16
3-2	420051B	Pulley Safety Cover	4	3-15	209033	Washer	40
3-3	209009	Cup Head Bolt	8	3-16	420043	Socket Bolt	32
3-4	420044	Limit Plate	4	3-17	420175	Slack-cable safety lock	2 each
3-5	420138	Socket Bolt	8	3-18	420171	Pin	8
3-6	420038	Pin	12	3-19	460077	Pin Bush For Slack-cable Safety Lock	8
3-7	420037	Snap Ring	24	3-20	206019	Snap Ring	16
3-8	420033	Spring	4	3-21	209010	Snap Ring	4
3-9	209021	Hex Nut	8	3-22	420035	Tension Pulley	4
3-10	420049	Split Pin	4	3-23	420174	Spacer	4
3-11	420048	Air Cylinder	4	3-24	476026	Pulley Pin	4
3-12	420047	Fitting for Air Cylinder	4	3-25	460076	Pulley Bush	4
3-13	420046	Split Pin	8				

Parts for Cylinder

Item	Part #	Description	QTY.	Item	Part #	Description	QTY.
51-1	420059	Dust Ring	1	51-6	420064	Piston Rod	1
51-2	420060	Y- Ring	1	51-7	460050	Pin	1
51-3	460046	Head Cap	1	51-8	460051	Support Ring	1
51-4	460047	O- Ring	1	51-9	460052	Y- Ring	1
51-5	460048	Bore Weldment	1	51-10	460053	Piston	1

Parts for power unit 220V 60Hz 1PH

Ite	Part#	Description	QTY.	Item	Part#	Description	QT
1	81400180	Rubber pad	2	22	41030055	AC connector	1
2	81400130	Start Capacitor	1	23	81400287	Cover of Motor Terminal Box	1
3	81400088	Run Capacitor	1	24	71111105	AMGO Name plate	1
4	420148	Cup head nut with washer	6	25	81400296	Nut	1
5	81400066	Capacitor cap	2	26	81400459	Throttle valve body	1
6	81400363	Motor Connecting Shaft	1	27	10209069	O ring	1
7	81400362	Manifold block	1	28	81400266	Relief valve	1
8	10209149	Spring Washer	4	29	81400284	Iron plug	1
9	81400276	Iron plug	1	30	10720118	Elastic Latch	1
10	81400259	Red rubber plug	1	31	10720121	Release valve handle	1
11	85090142	Socket bolt	4	32	10209020	Plastic ball	1
12	81400280	Gear pump	1	33	81400125	Release valve nut	1
13	81400294	Buffer Valve	1	34	81400124	Release valve washer	1
14	10209034	Spring Washer	2	35	81400449	Valve seat	1
15	81400295	Socket bolt	2	36	070001	Release valve	1
16	81400365	O ring	1	37	070002	Check valve	1
17	10209152	Ties	1	38	81400288	Oil suction pipe	1
18	85090167	Magnet	1	39	81400289	Oil return pipe	1
19	81400290	Filter	1	40	81400364	Hose clamp	1
20	81400413	Motor	1	41	81400263	Oil tank cap	1
21	10420070	Push button	1	42	81400319	Oil tank	1



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