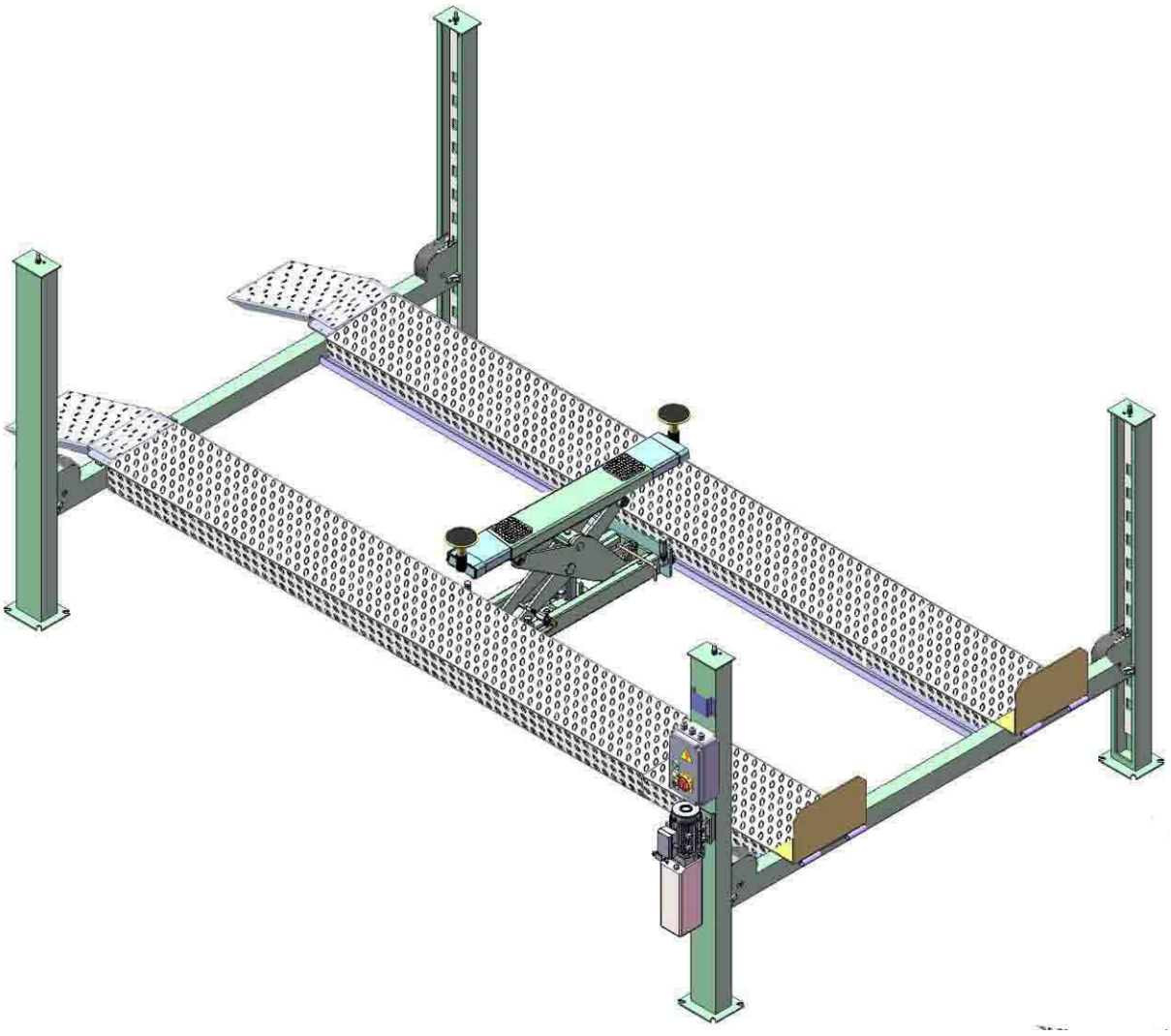
INDYPRO

LIFTS & EQUIPMENT



FOUR POST LIFT

Model: TFP14

CONTENTS

I. PRODUCT FEATURES AND SPECIFICATIONS

4-POST MODEL TFP14 FEATURES

· Electric-air control operation system.

· Mechanical self-lock and air-drived safety release.

· Electrical hydraulic power system, cable-drived.

· Non-skid diamond platforms.

· Adjustable platform and adjustable safety lock ladders.

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

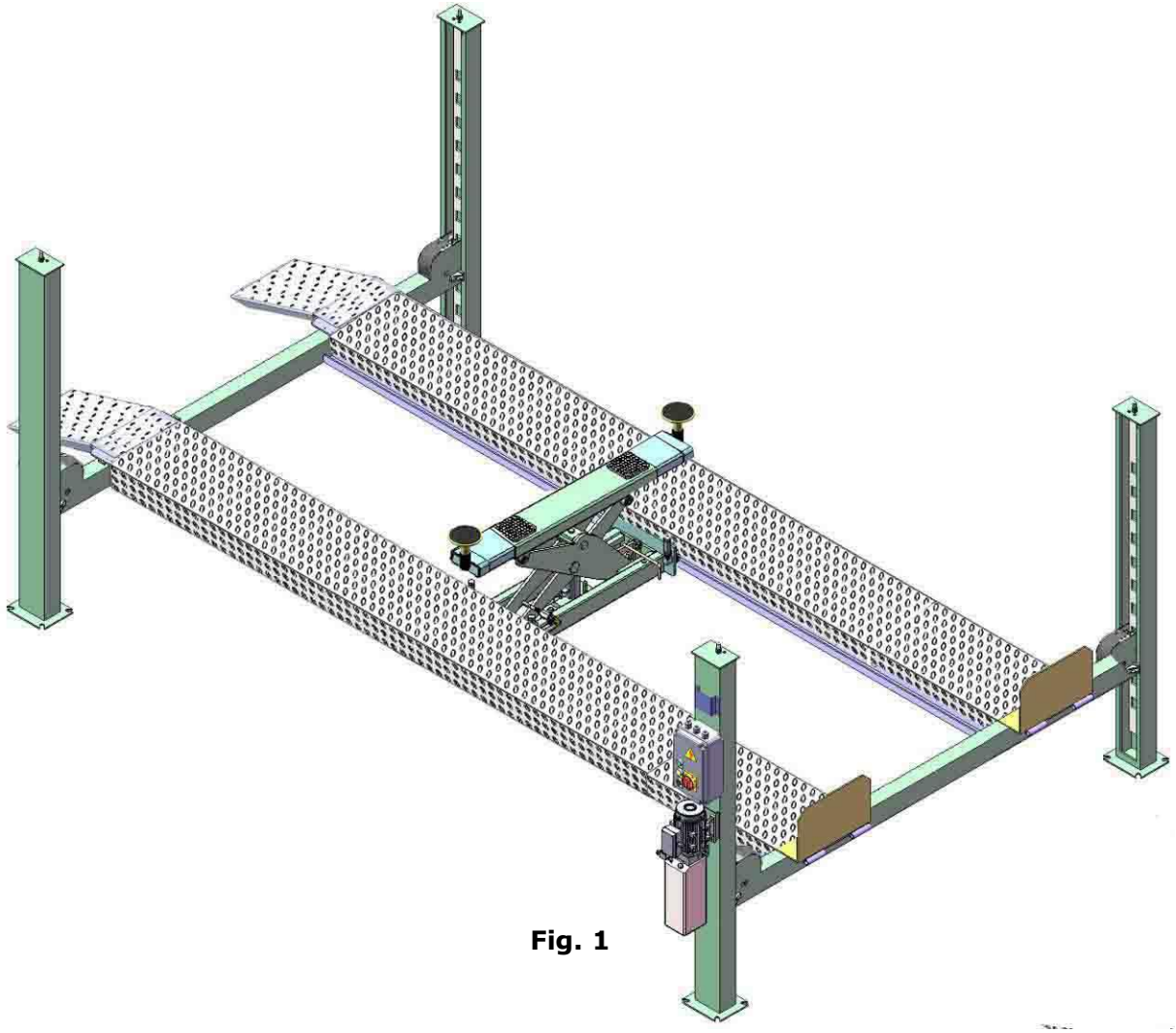


Fig. 1

MODEL TFP14(A650) SPECIFICATIONS

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Length (Inc. Ramps)	Overall Length (No Ramps)	Overall Width	Width Between Columns	Gross Weight	Motor
TFP14	6.5T 14,000 lbs	1865mm 73 1/2”	60S	6541mm 257 1/2”	5500mm 216 1/2”	3324mm 130 7/8”	2946mm 116”	1236 Kg 2724 lbs	4.0HP

II. INSTALLATION REQUIREMENT

A. TOOLS REQUIRED

- ✓ Rotary Hammer Drill (Φ19)

- ✓ Carpenter's Chalk

- ✓ Hammer

- ✓ Screw Sets

- ✓ Level Bar

- ✓ Tape Measure (7.5m)

- ✓ English Spanner (12")

- ✓ Pliers

- ✓ Ratchet Spanner With Socket (28#)

- ✓ Socket Head Wrench (3#, 5#, 6#)

- ✓ Wrench set
  (10#, 12#, 13#, 14#, 17#, 19#, 24#, 30#)

- ✓ Lock Wrench

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 100mm 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 3,000psi (210kg/cm²) minimum.
3. Floors must be level and no cracks.

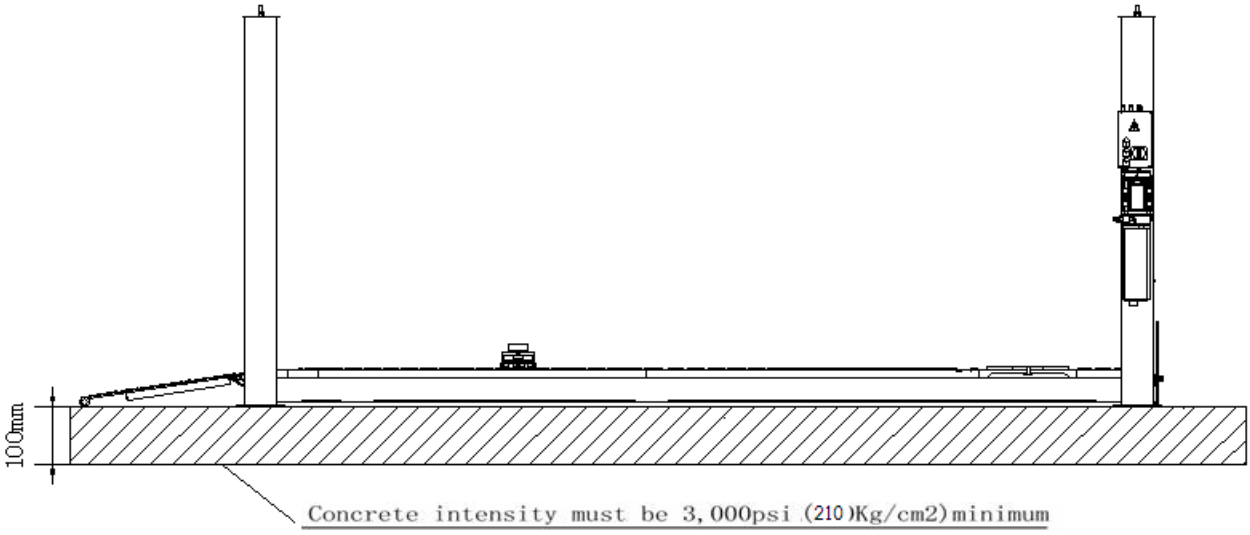


Fig. 3

C. AIR SUPPLY

Air pressure requirement: 0.5Mpa~0.8Mpa, Air line size ¢8×¢6 and ¢6×¢4.

D. POWER SUPPLY

The electrical source must be 3KW 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)**.

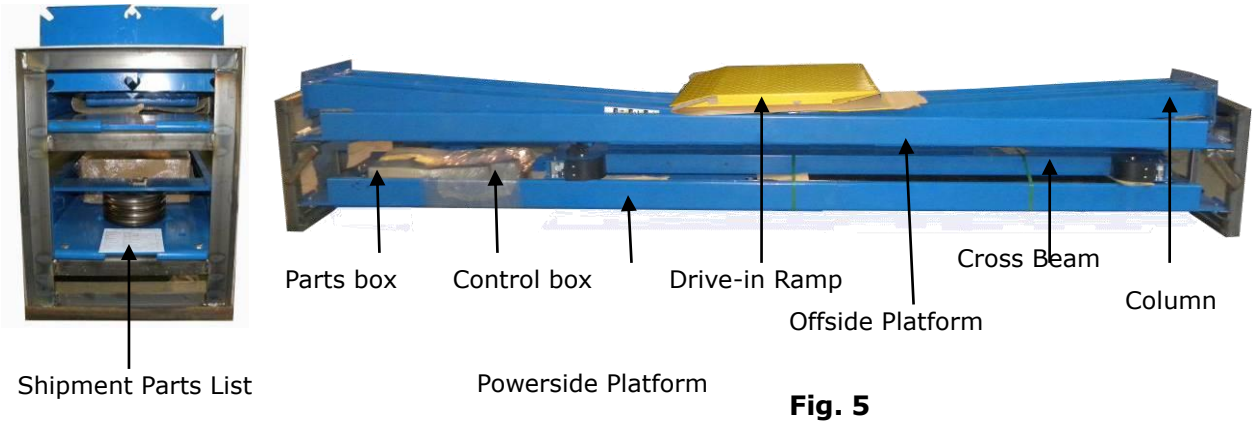


Fig. 5

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

Fig. 6

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

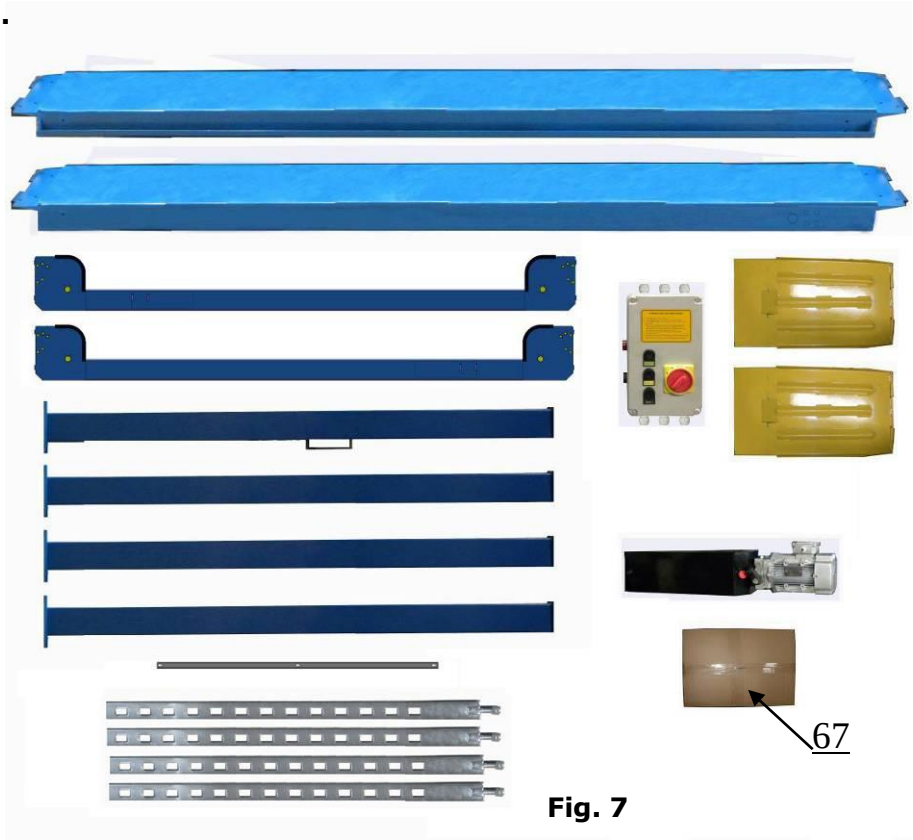


Fig. 7

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)**.

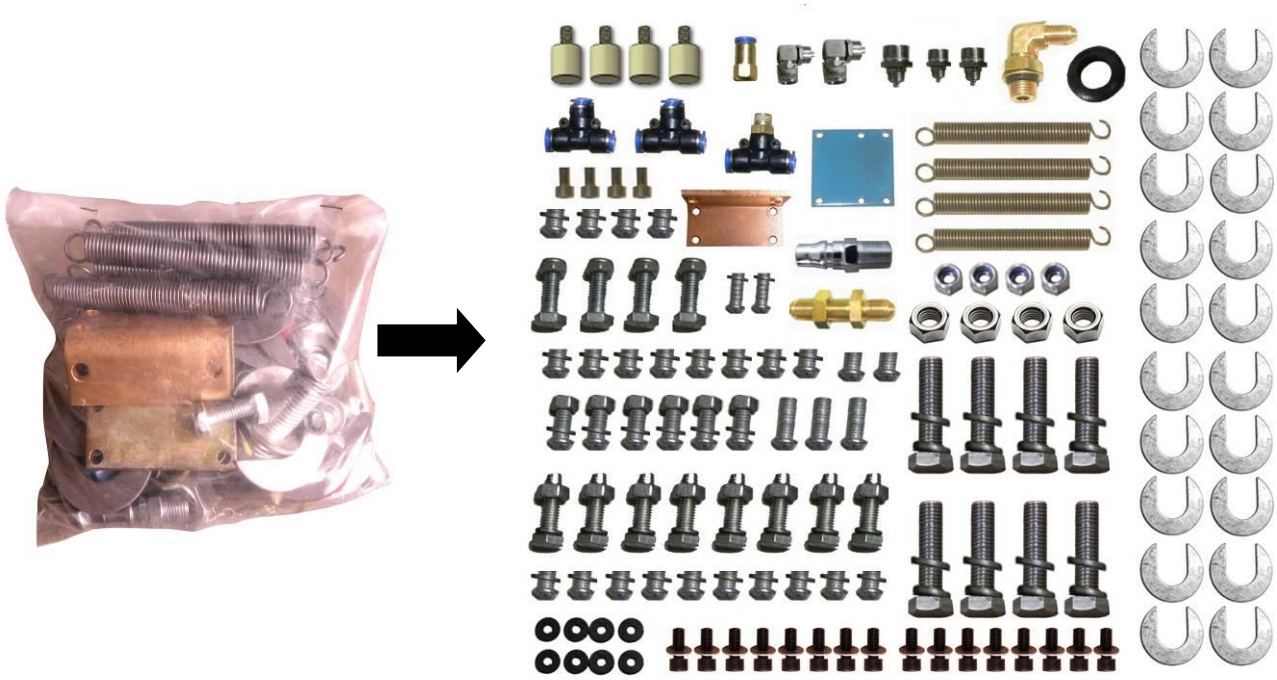


Fig. 9

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

Note: Reserve space front and behind the installation site.

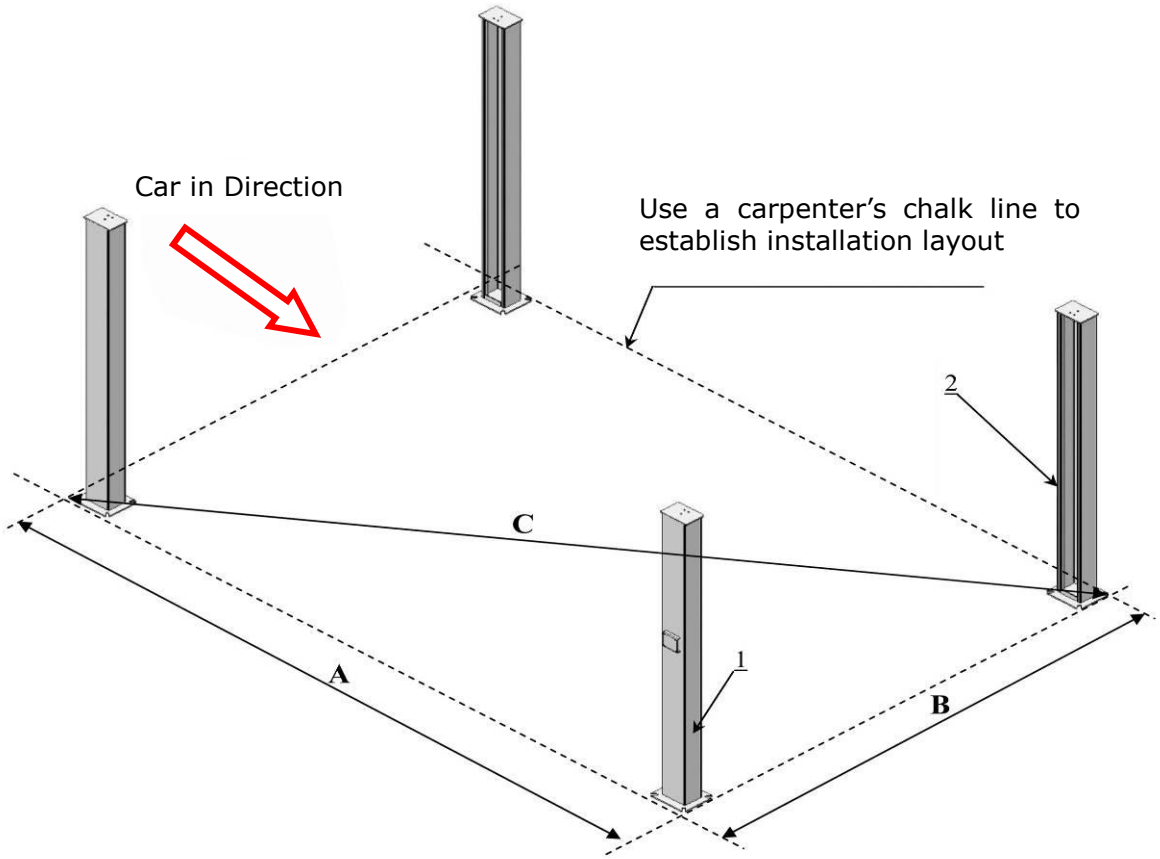


Fig. 10

MODEL	A	B	C
TFP14	5500mm 216 1/2"	3324mm 130 7/8"	6426mm 253"

Table 1

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

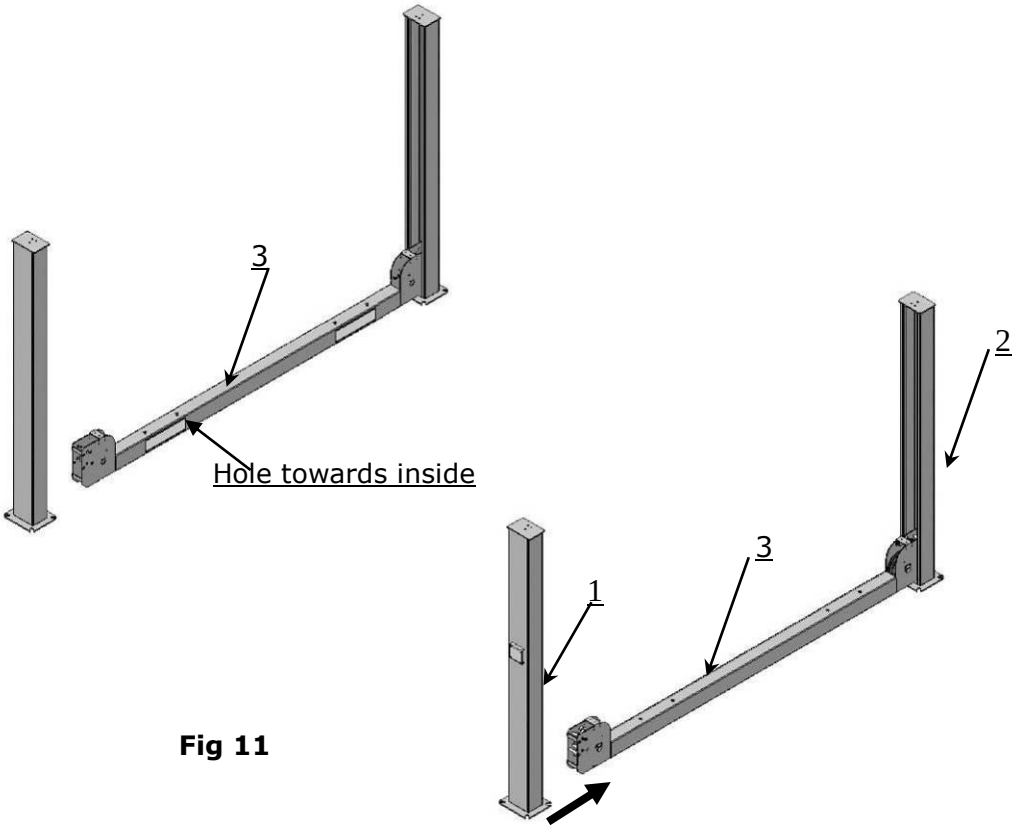


Fig 11

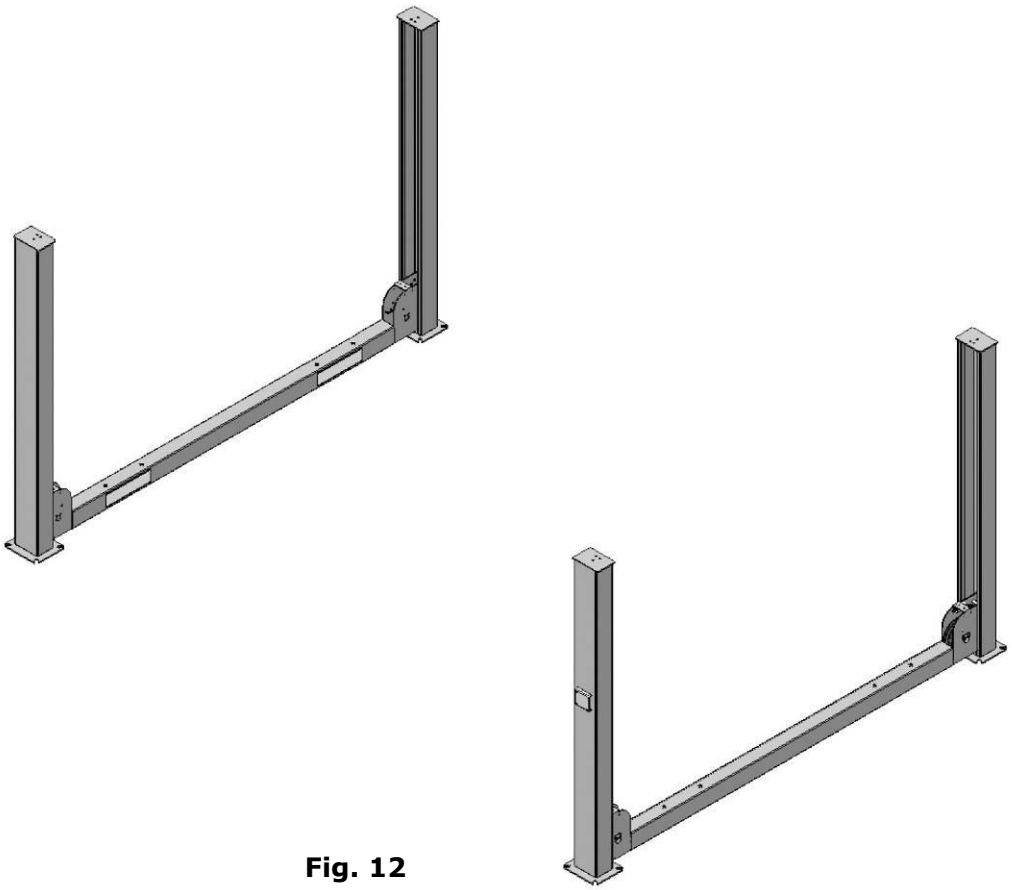


Fig. 12

E. Fix the anchor bolts

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

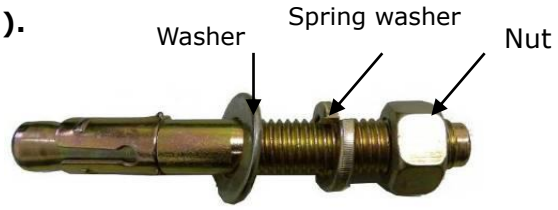


Fig. 13

2. Using the prescribed rotary hammer drill, and drill all the anchor holes and install the anchor bolts. Do not tighten the anchor bolts **(See Fig. 14).**

Note: Minimum embedment of Anchors 90mm

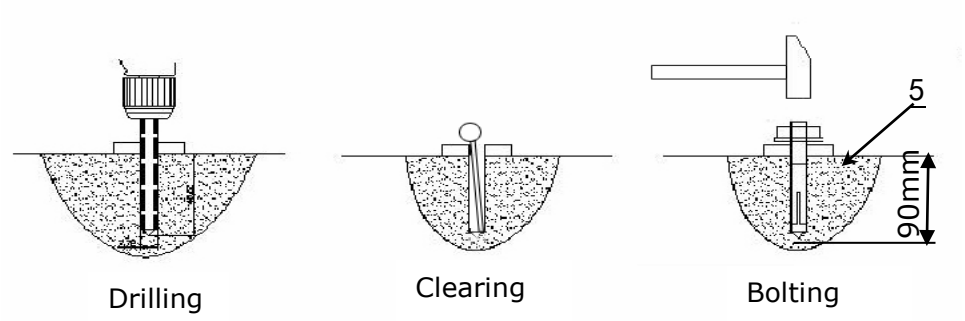


Fig. 14

F. Install the safety ladders

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

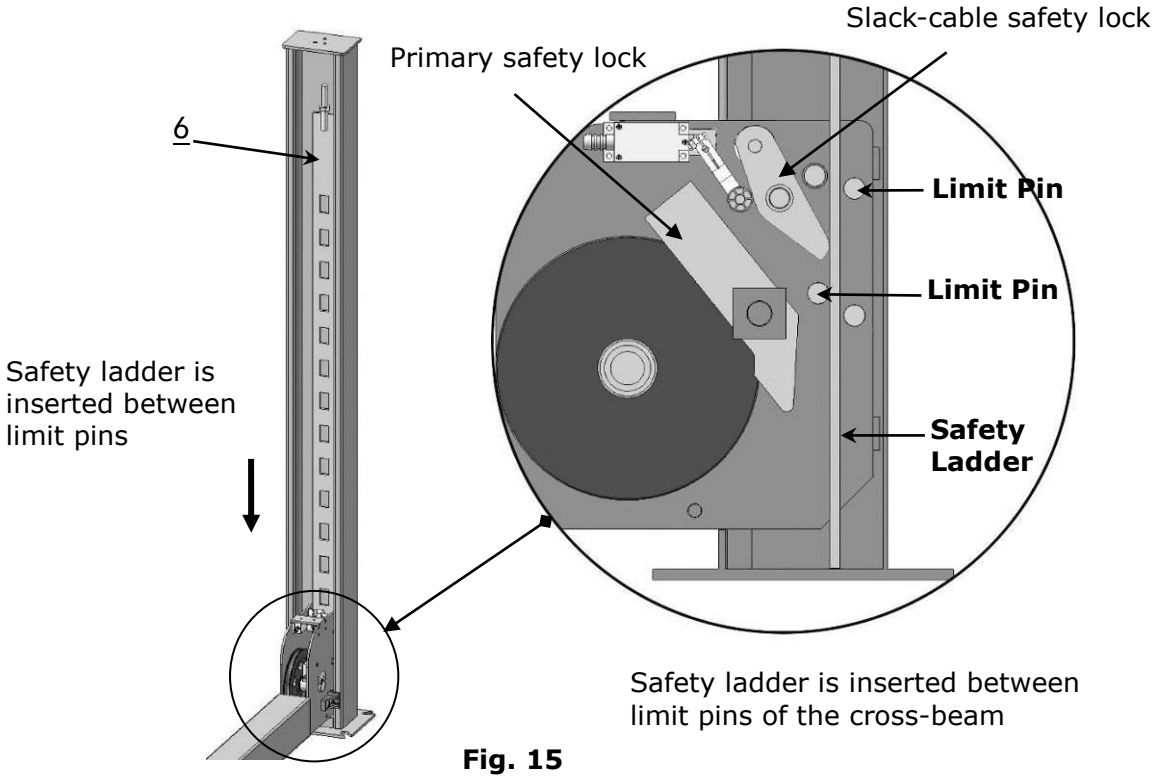


Fig. 15

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

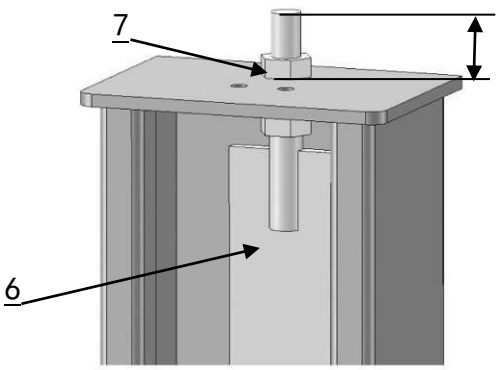


Fig. 16

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. 17).

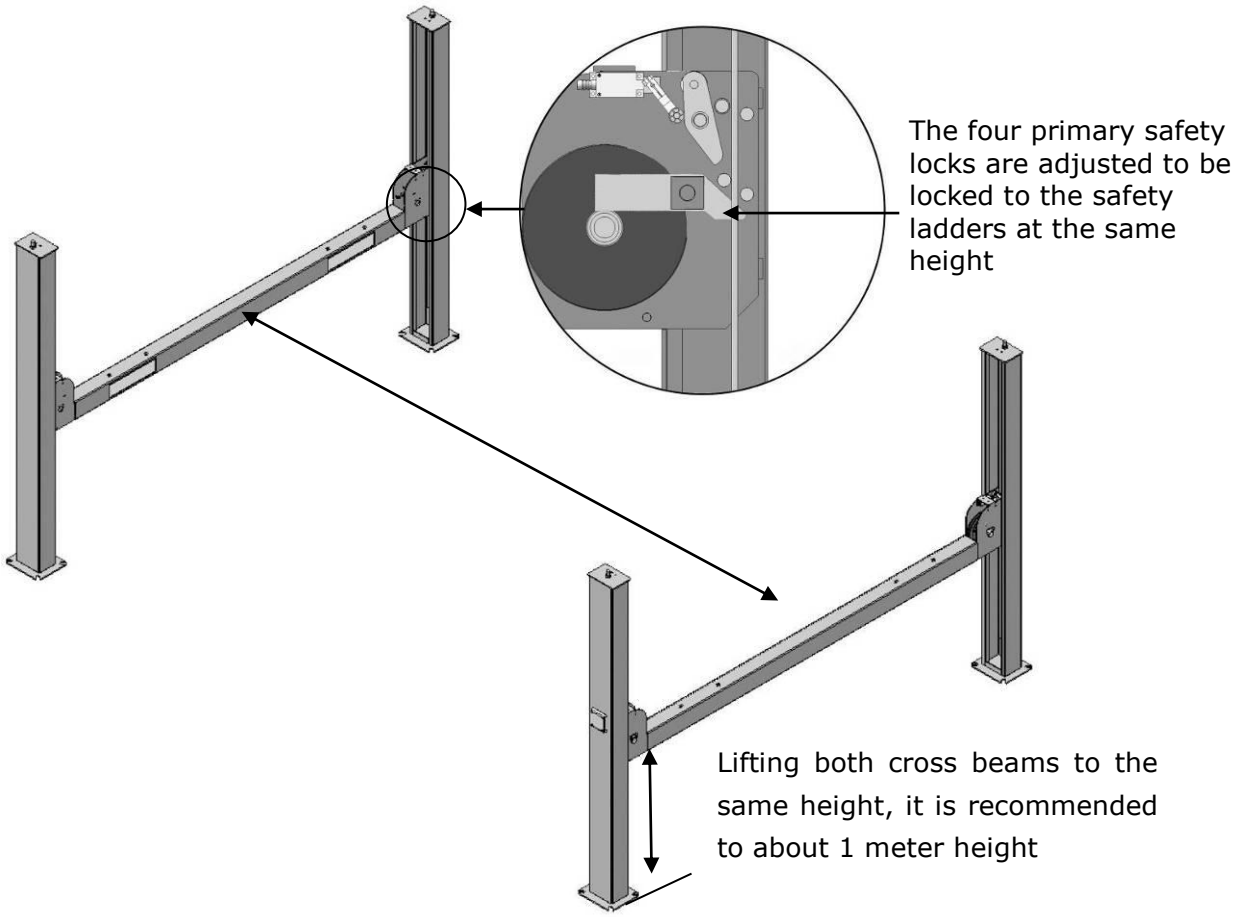


Fig. 17

H. Install powerside platform.

1. Put the powerside platform upon the cross beams by fork lift or manual, offset the cross beams outward till the pulleys of both platforms can set up into the cross beams **(See Fig.18)**, Install the powerside platform and screw up the bolts**(See Fig.19)**.

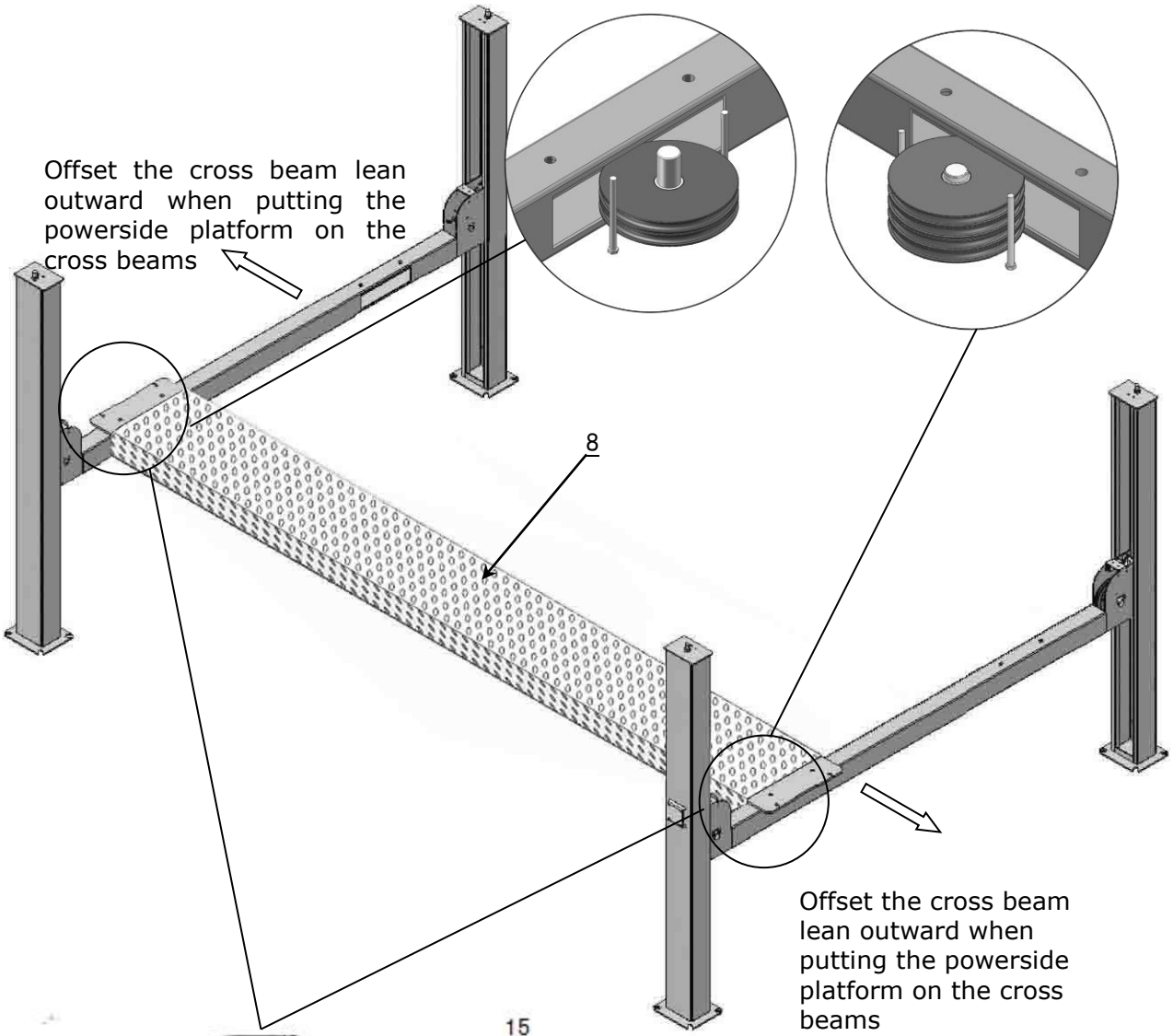
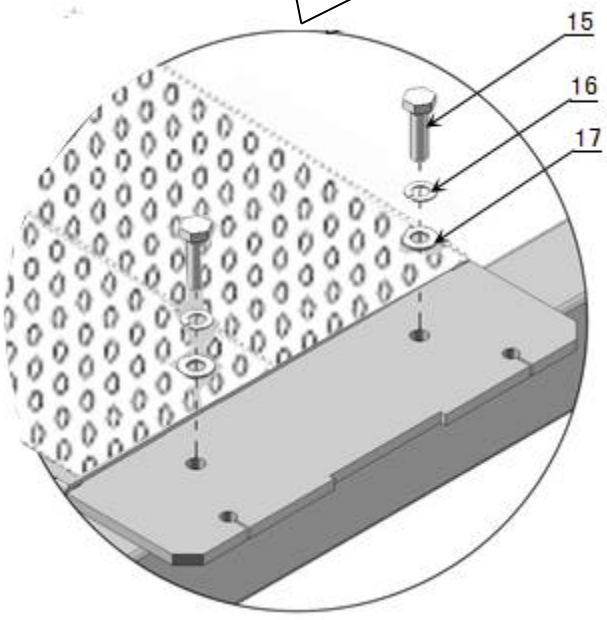


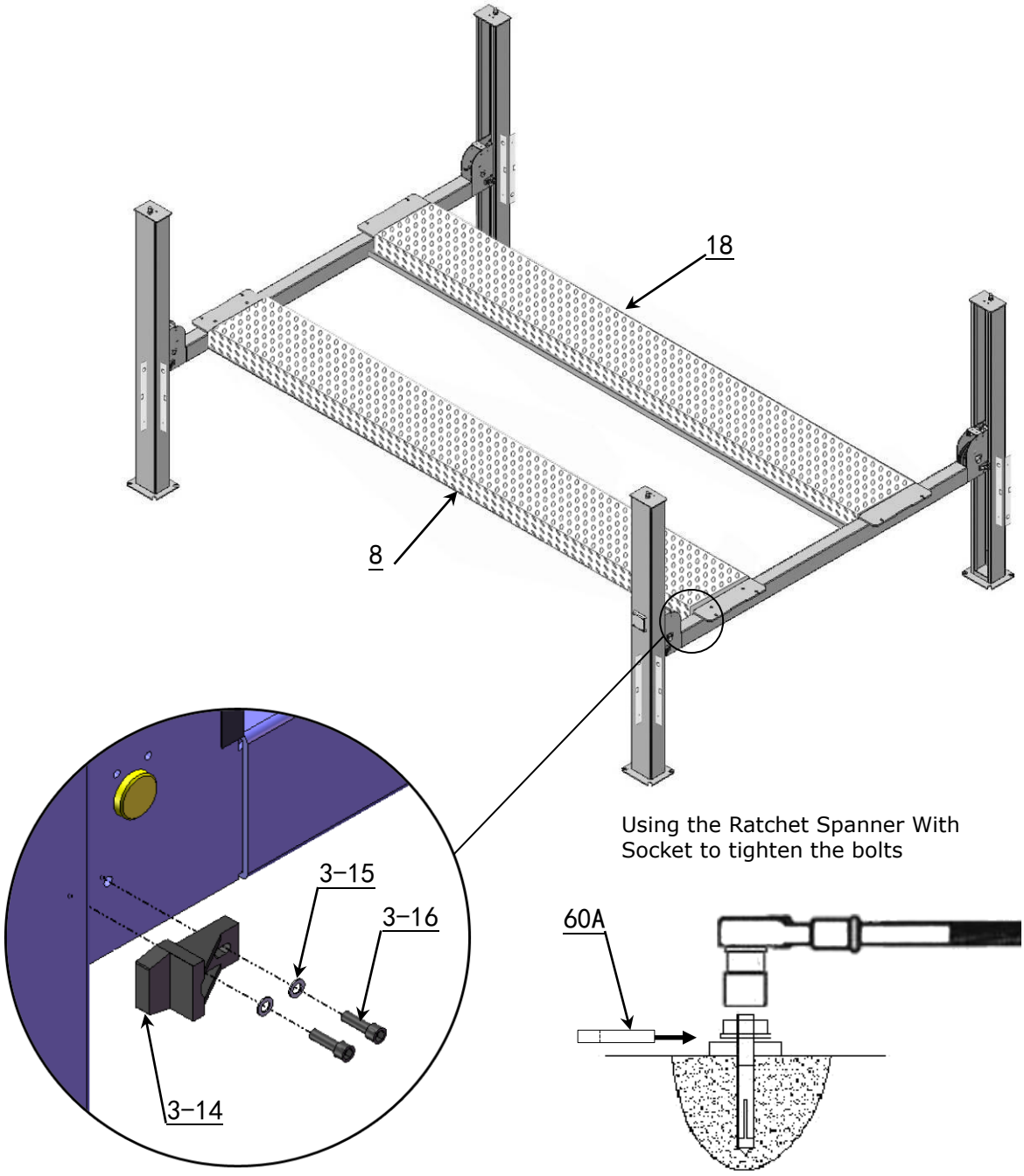
Fig. 18



Tighten the powerside platform and cross beam with bolts M16*30

Fig. 19

I. Assembly offside platform and slider block, check the plumbness of columns with level, adjusting with the shims if not, and then tighten the anchor bolts **(See Fig. 20)**.



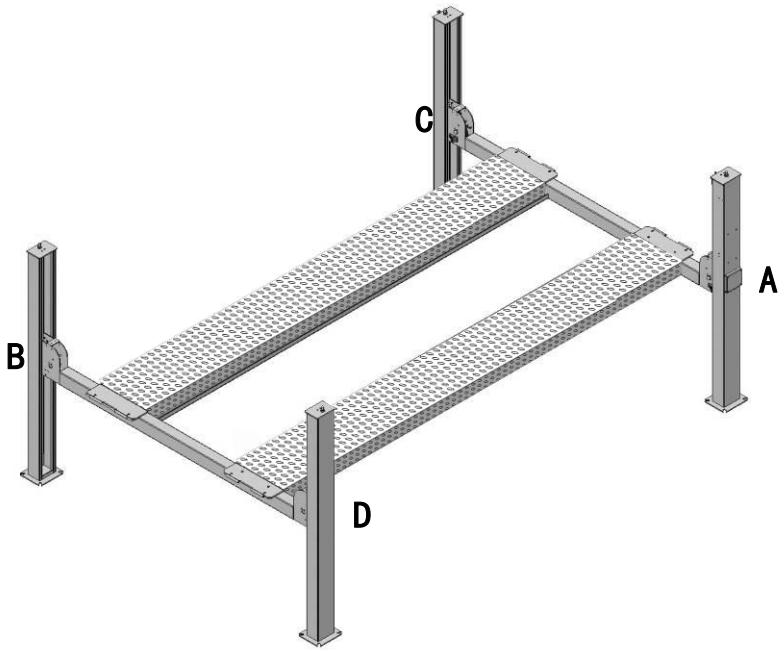
Install the slider block

Note: The tightening torque for the anchor bolt is 150N.m

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.



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

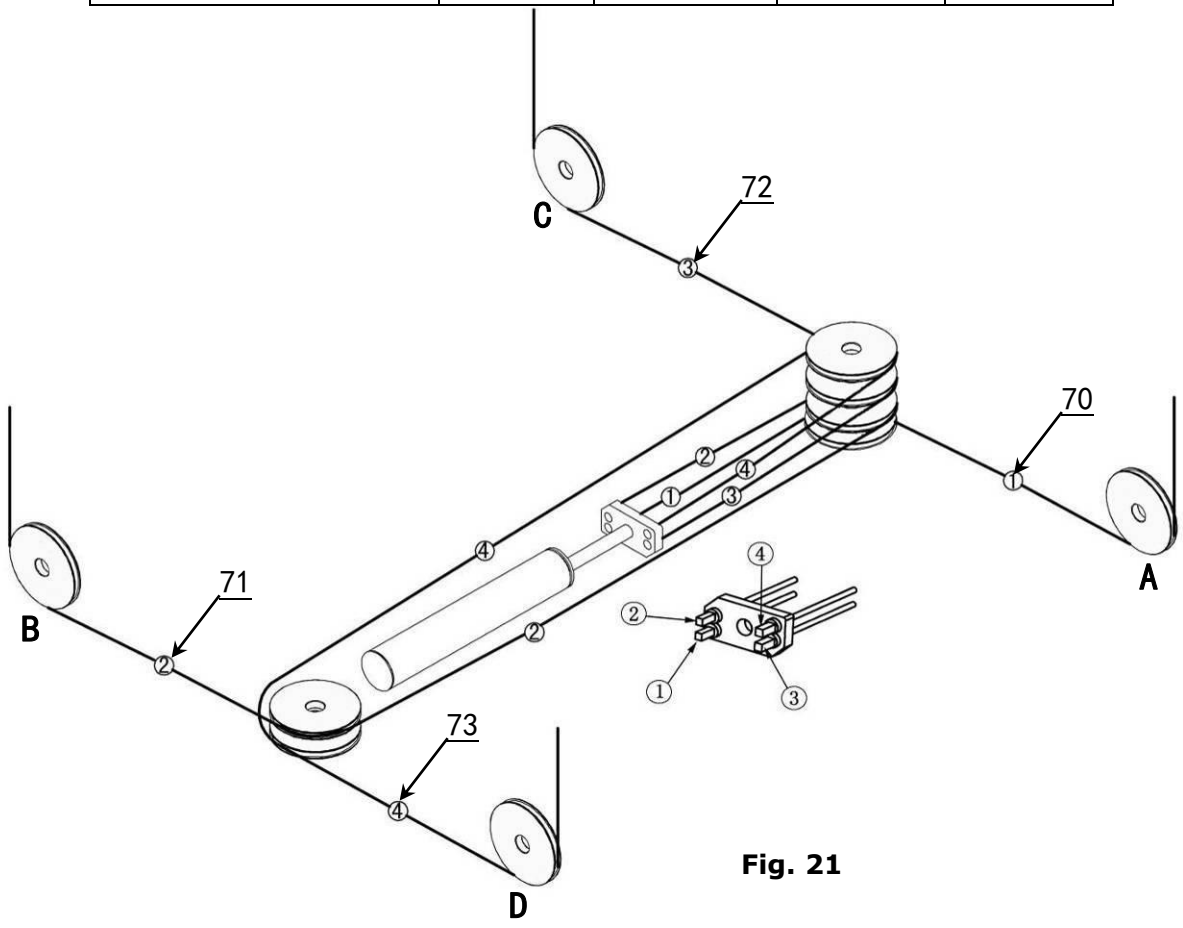


Fig. 21

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

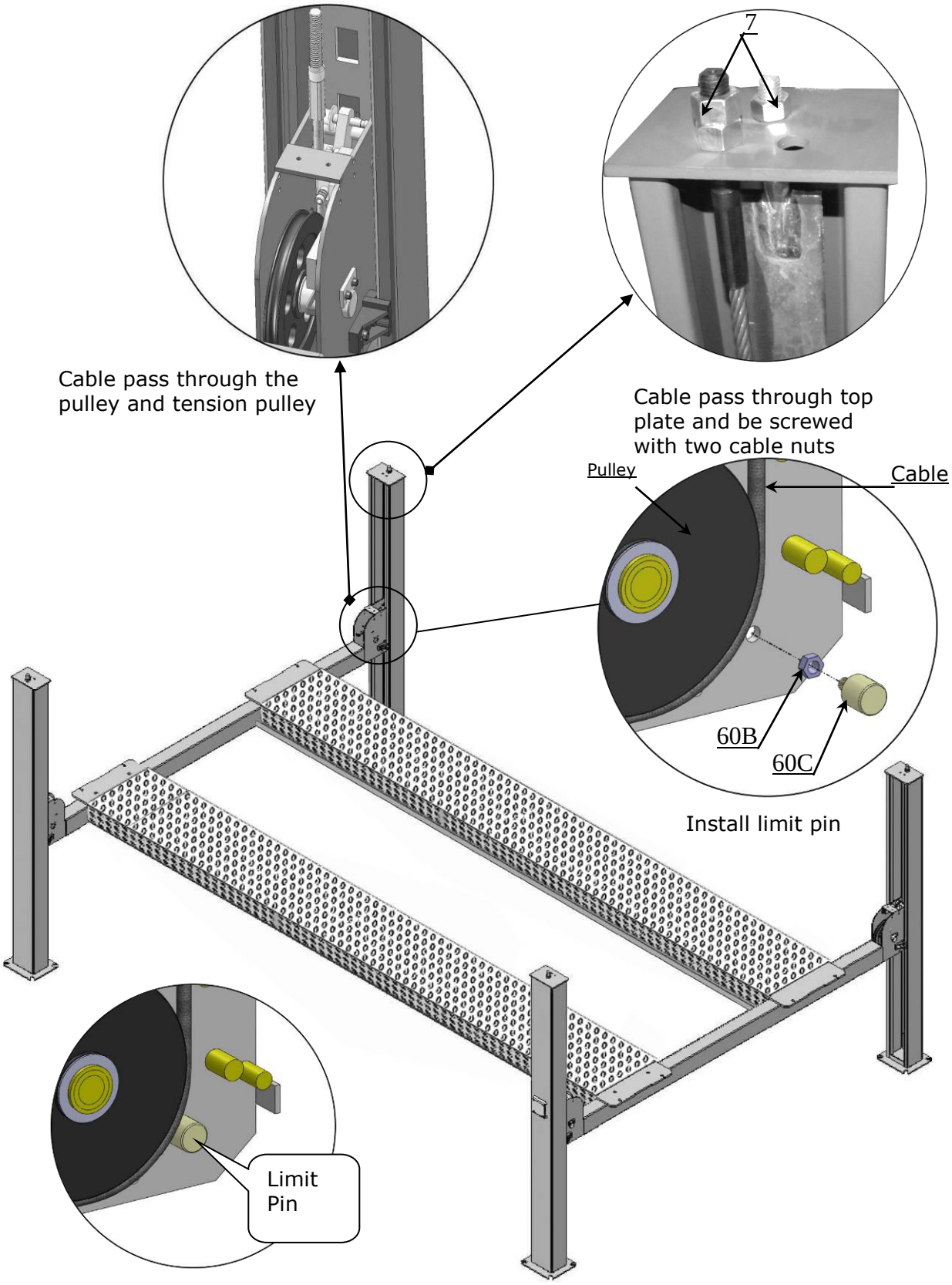
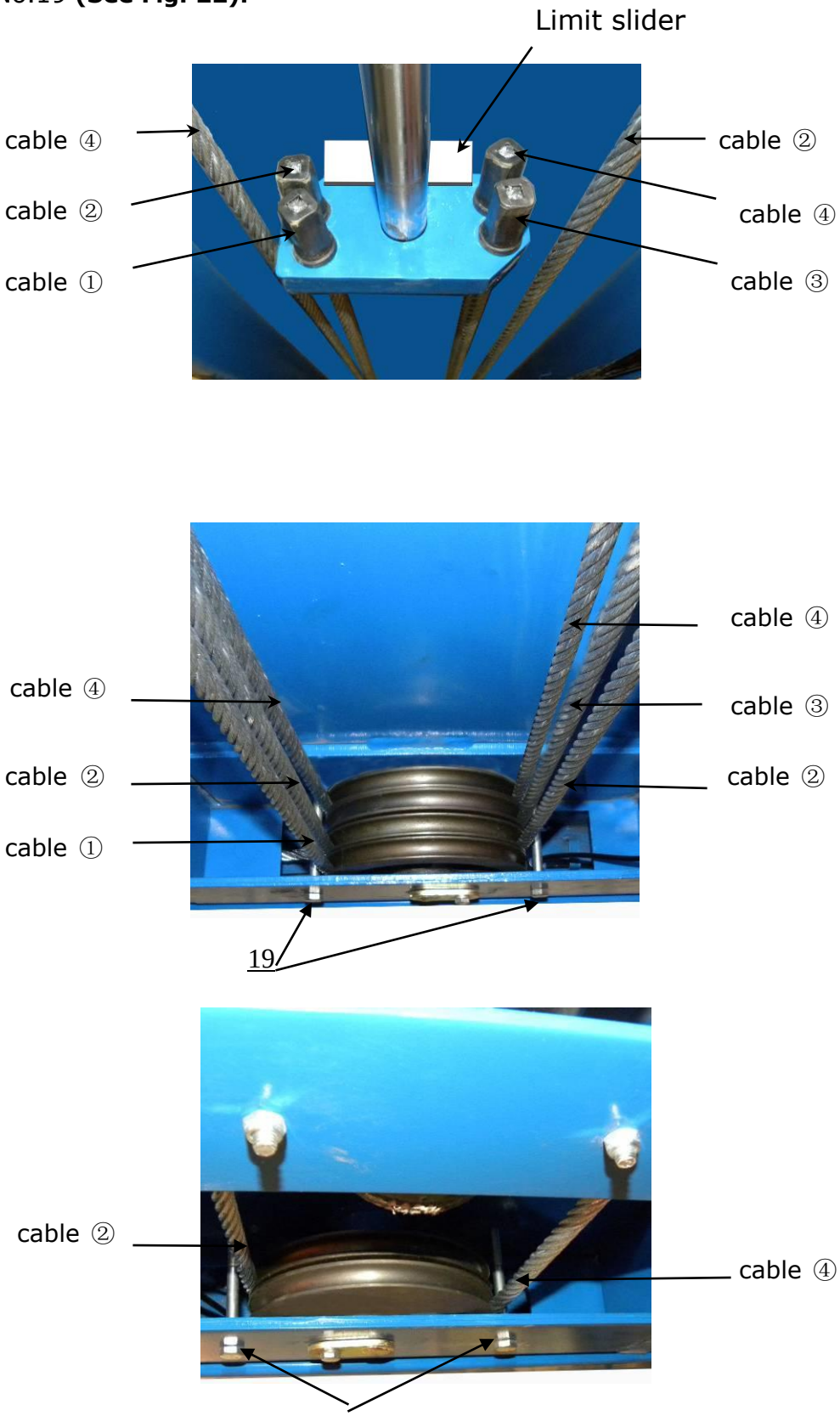


Fig. 22

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

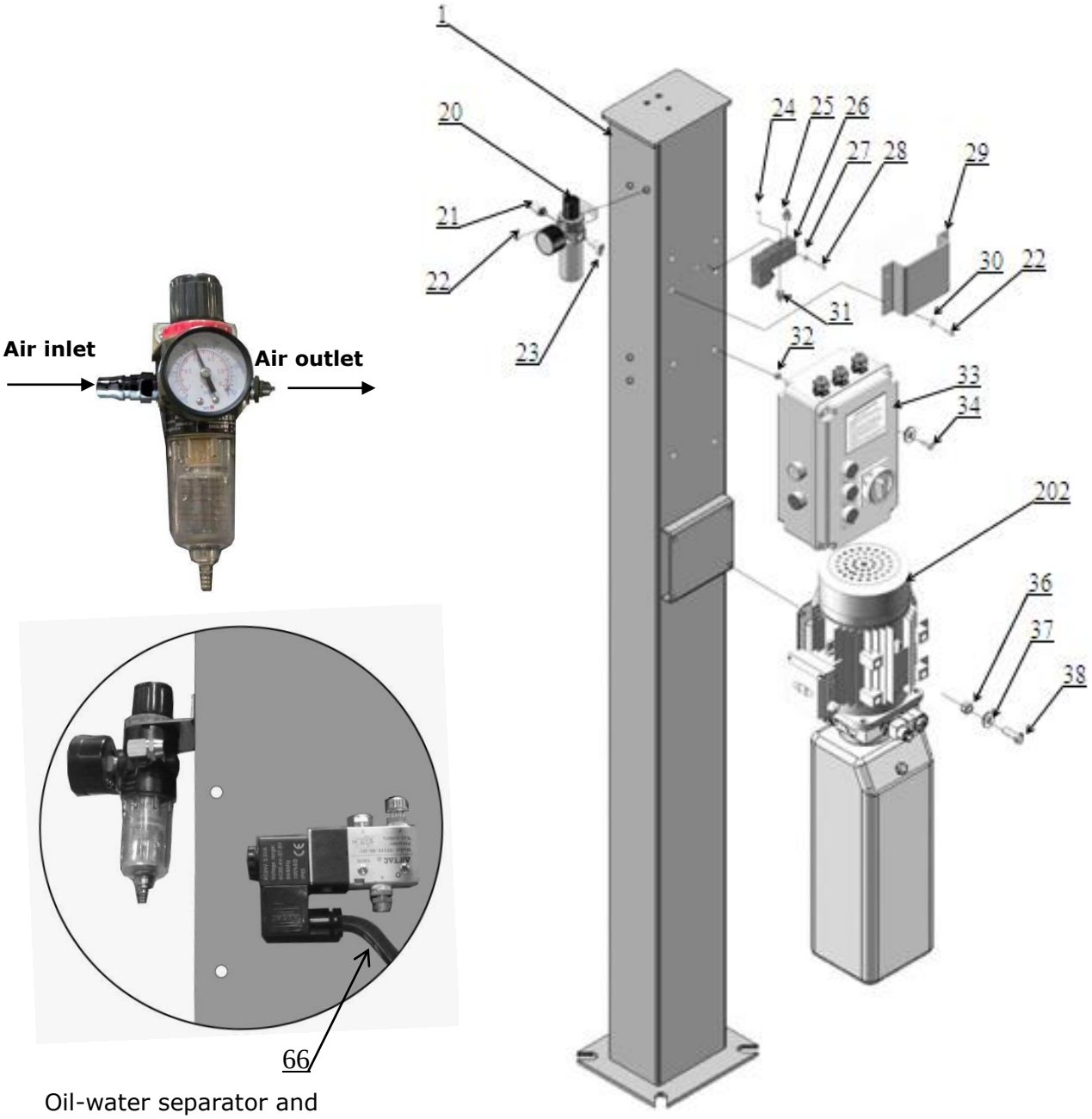


Hex Bolts M10*140

Fig. 23

K. Install oil-water separator, air solenoid valve, control box and power unit

1. For Electric control air-operated four post lift **(See Fig. 24).**



Oil-water separator and
Air Solenoid Valve

Fig. 24

L. Install hydraulic system (See Fig. 25).

Note: Oil hoses 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 cable.

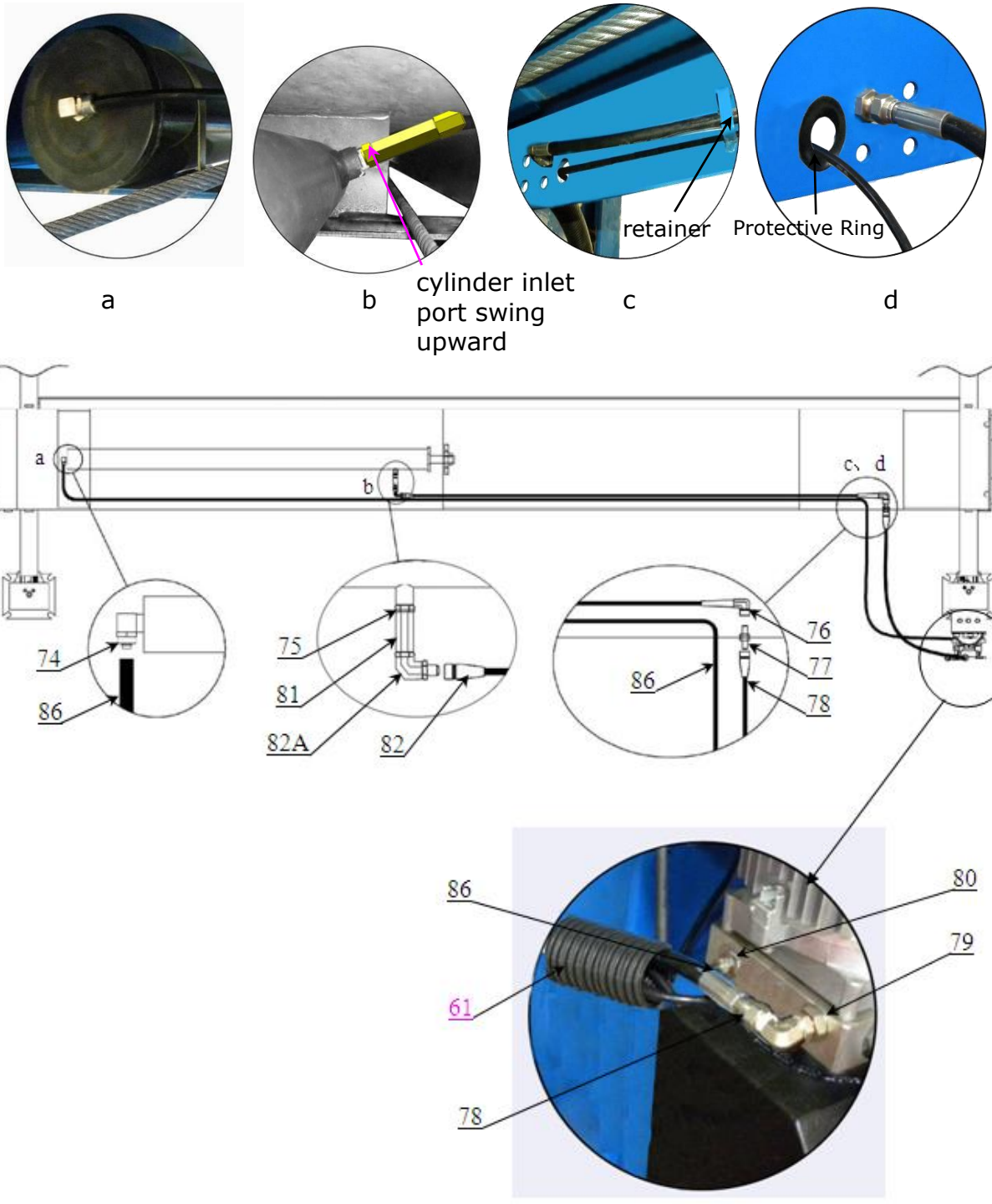


Fig. 25

M. Install air-line system

1. Shear the ¢6×¢4 black air lines of cross beams between the two retainers, and then connect with T-Fitting**(See Fig. 26)**.
2. Connecting front and rear cross beam air system by using ¢6×¢4 black air line **(See Fig. 27).**
3. Connecting air solenoid valve by using ¢6×¢4 black air line **(See Fig. 27)**.

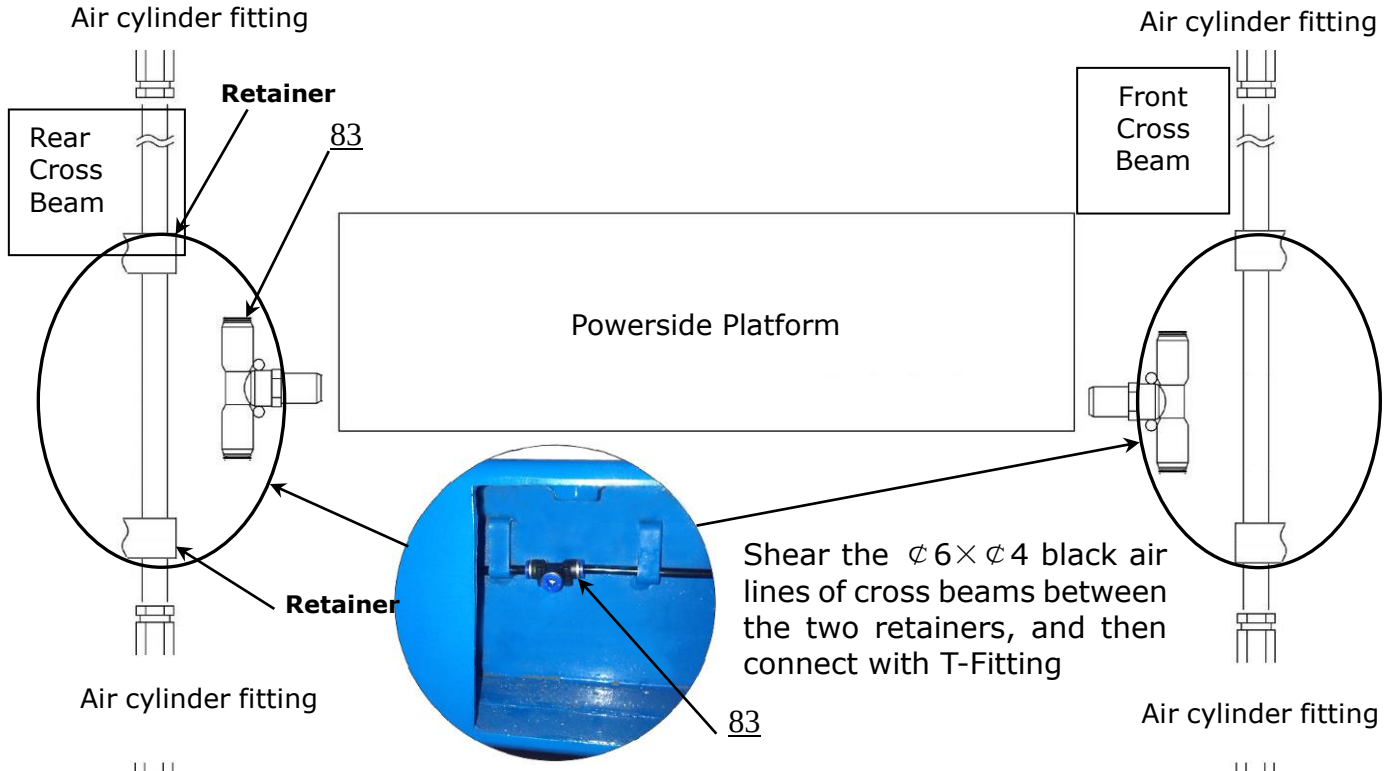


Fig. 26

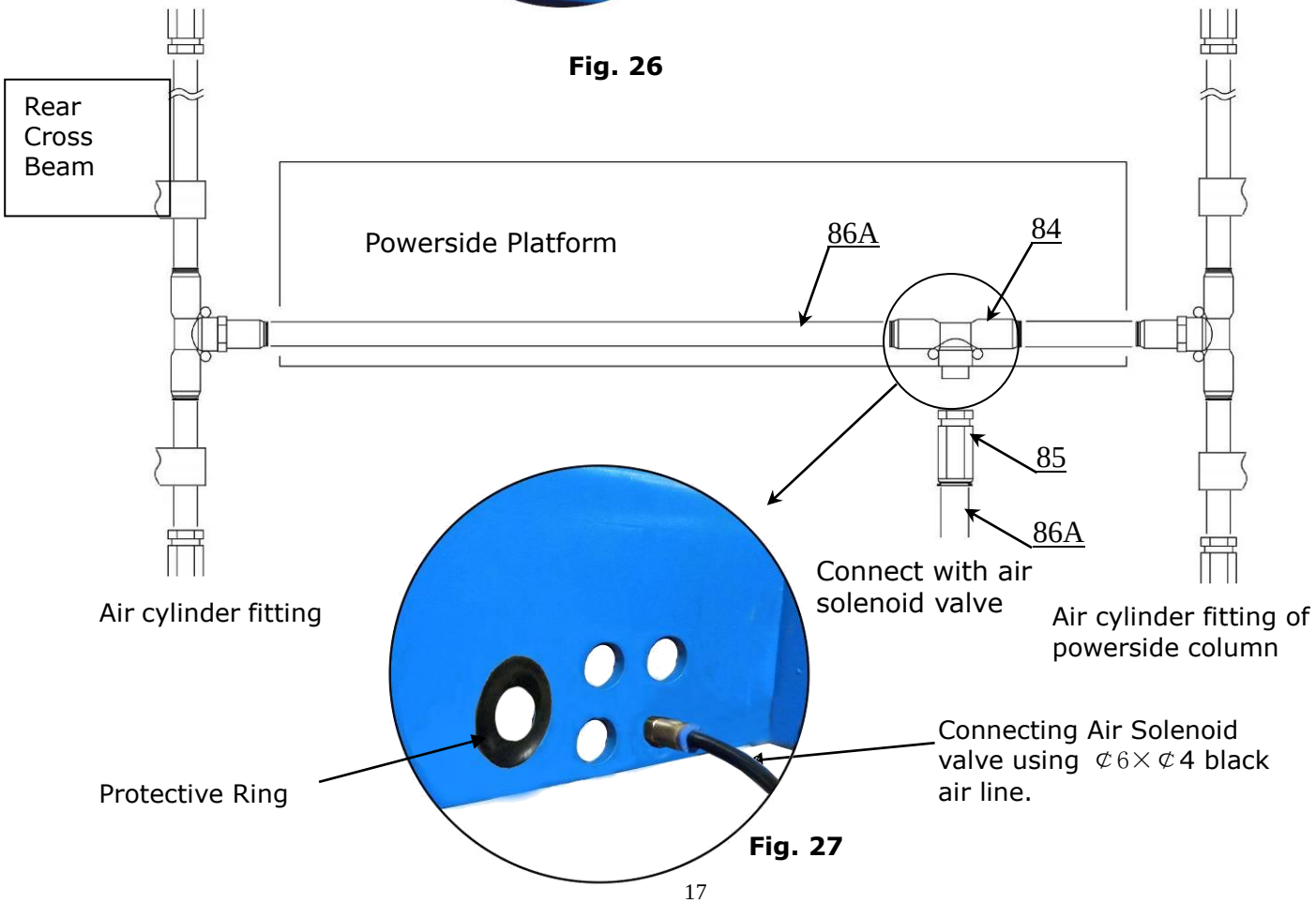


Fig. 27

4. Connecting Oil-water separator and Air solenoid valve using air line **(See Fig. 28)**.

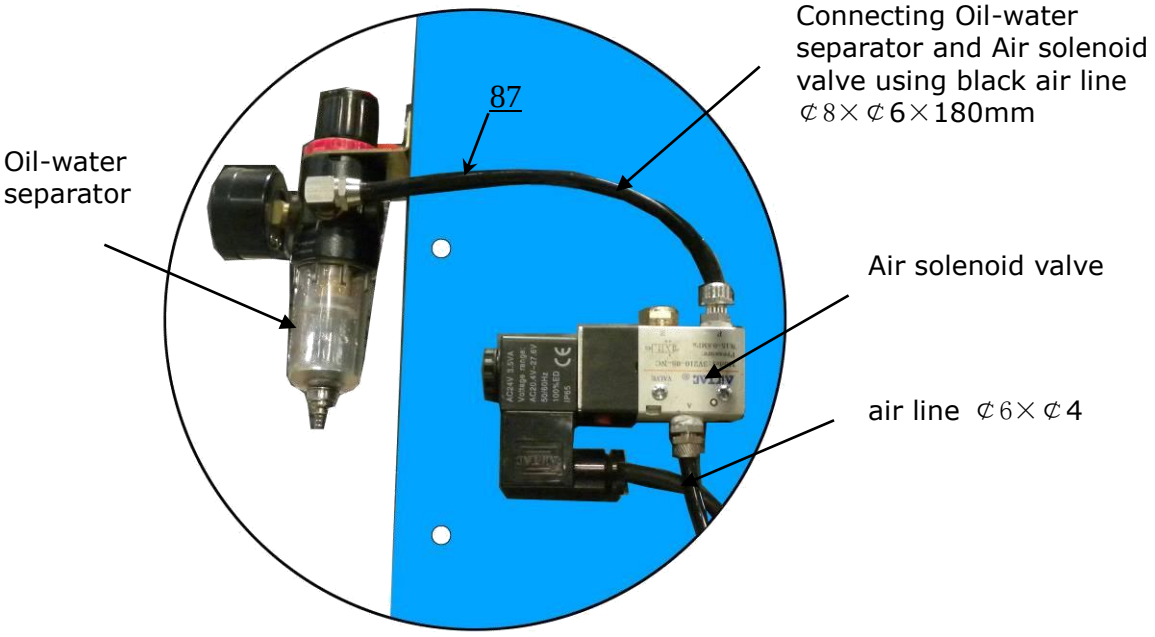


Fig. 28

5. Connecting air inlet (Air supply pressure 5kg/cm^2- 8kg/cm^2), adjusting the air pressure of Oil-water separator to 0.4 - 0.6MPa **(See Fig. 29)**.

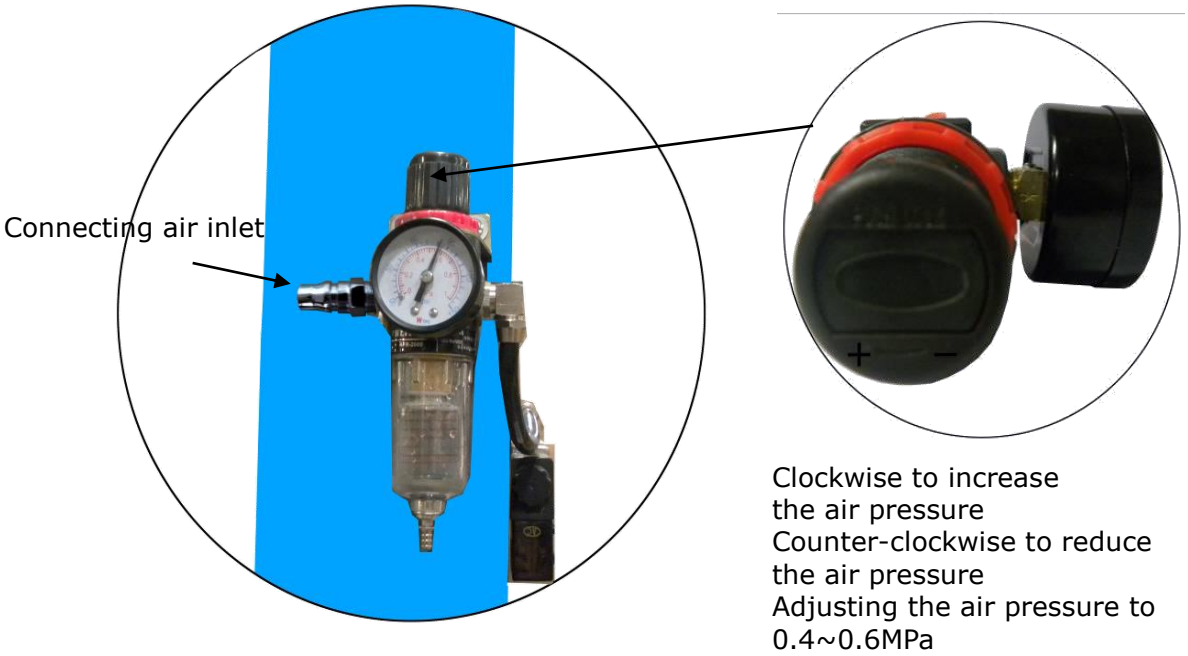


Fig. 29

N. Install electric system

1. Install high limit switch **(See Fig. 30)**

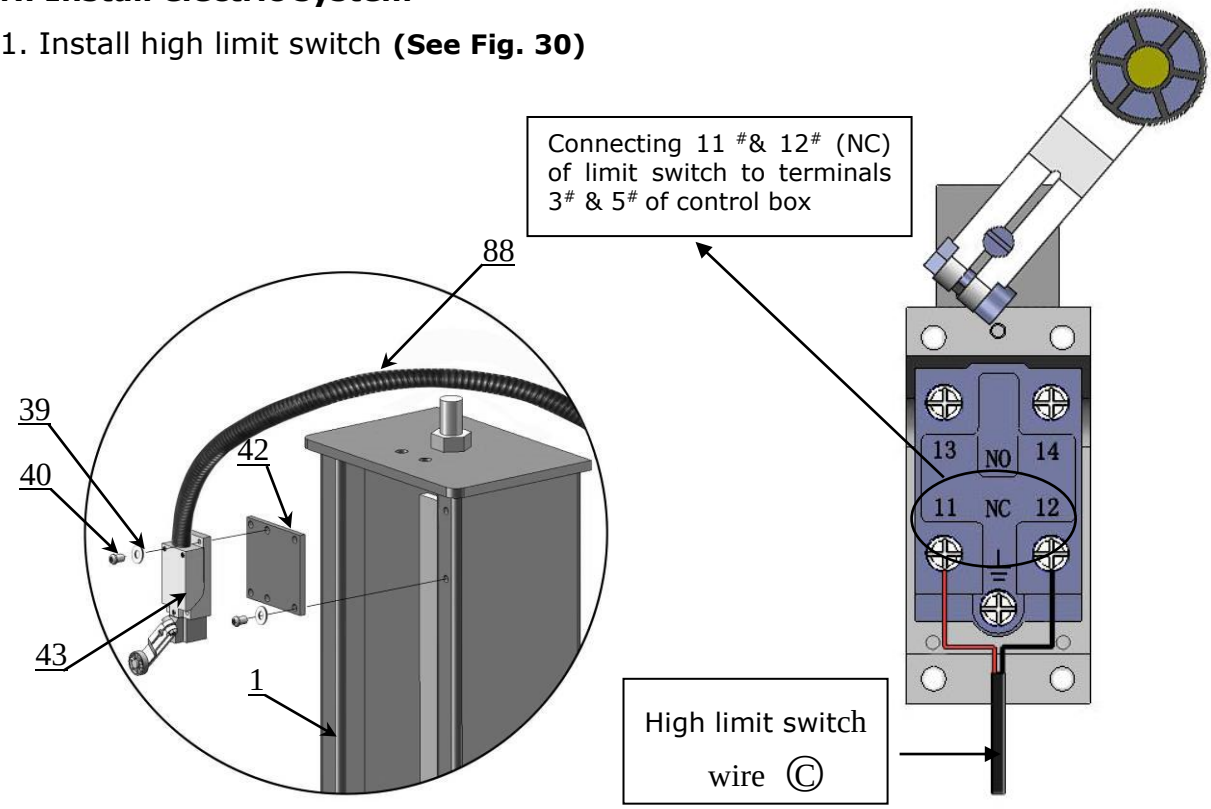


Fig. 30

2. Install lower alarm limit switch **(See Fig. 31)**

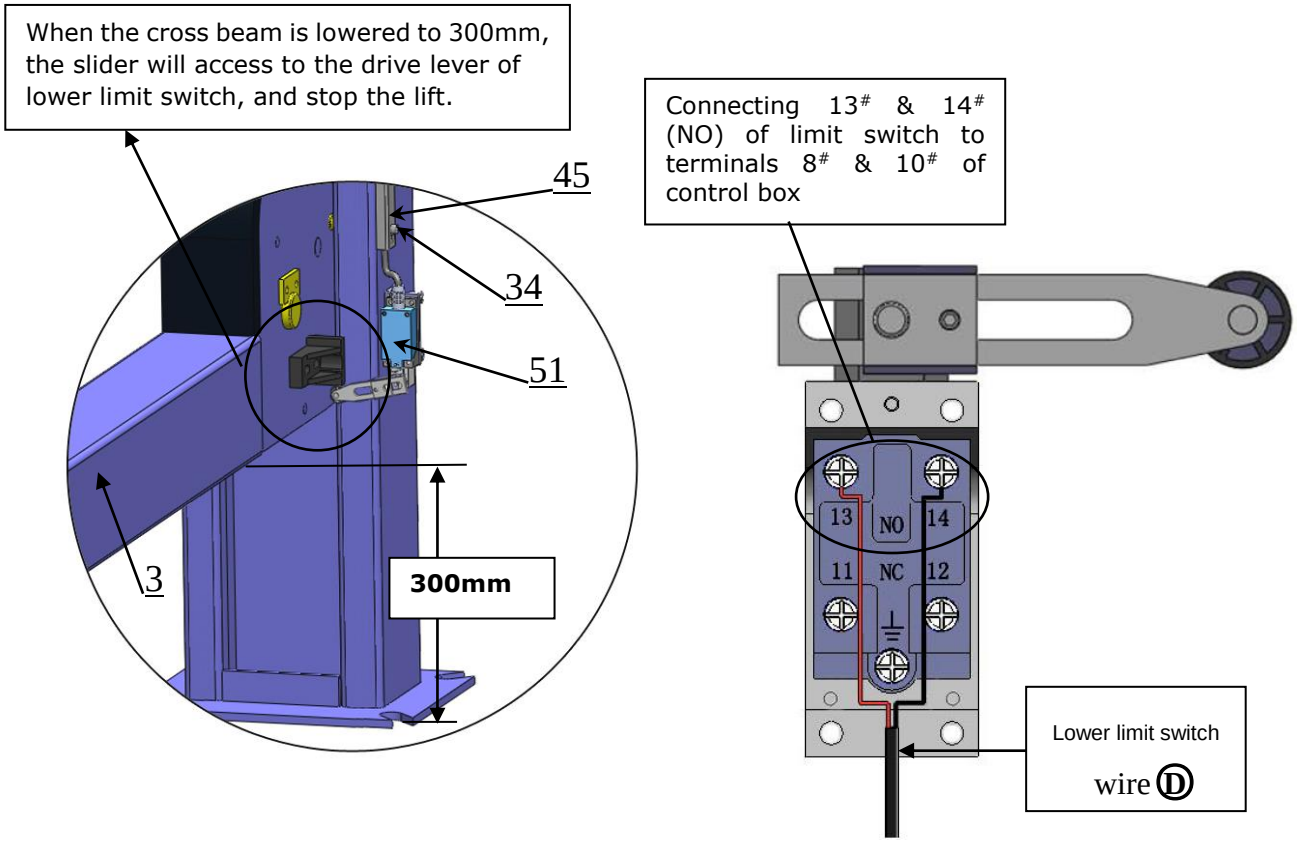
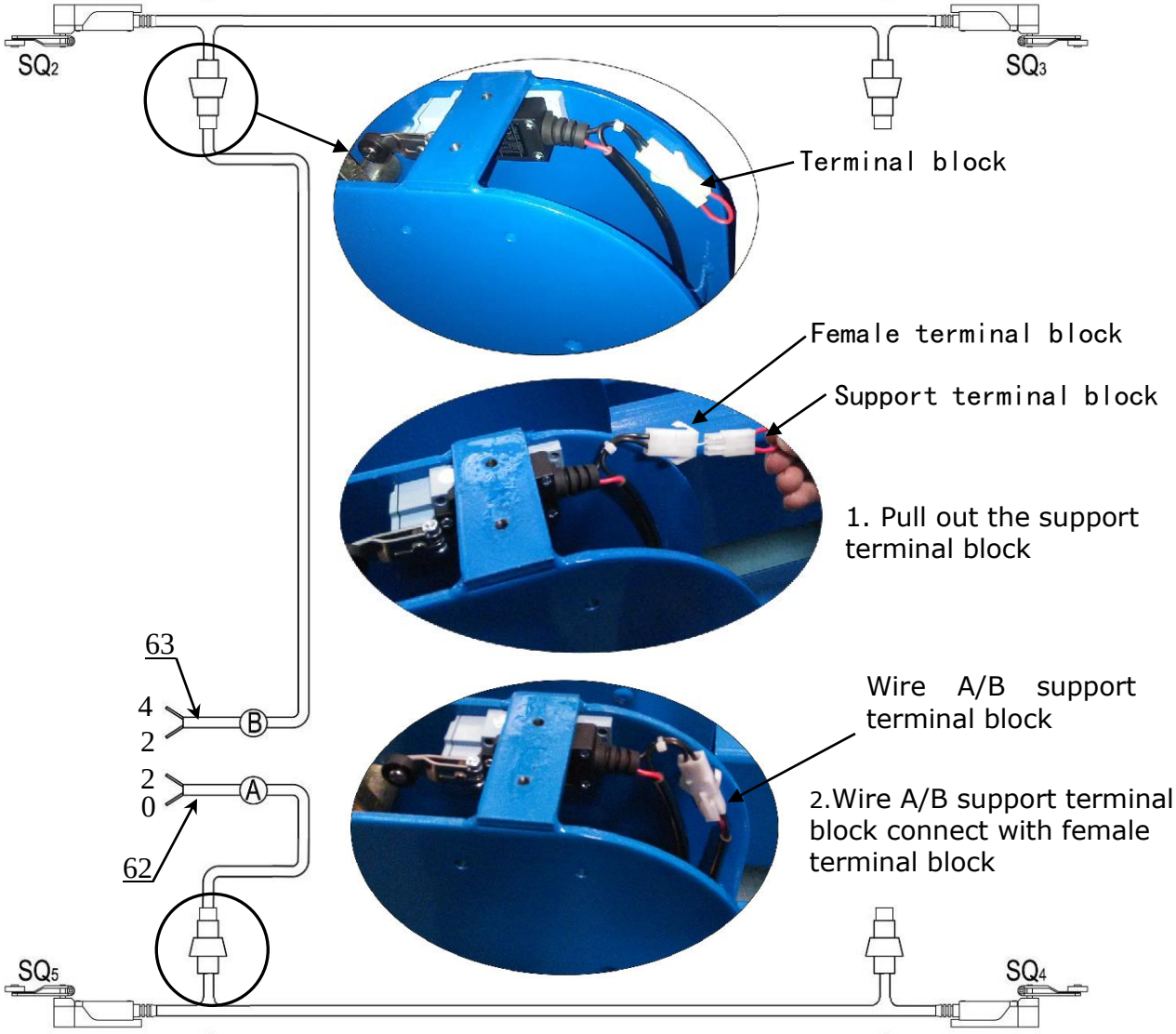


Fig. 31

3. Connecting wire of limit switch on cross beam **(See Fig. 32)**



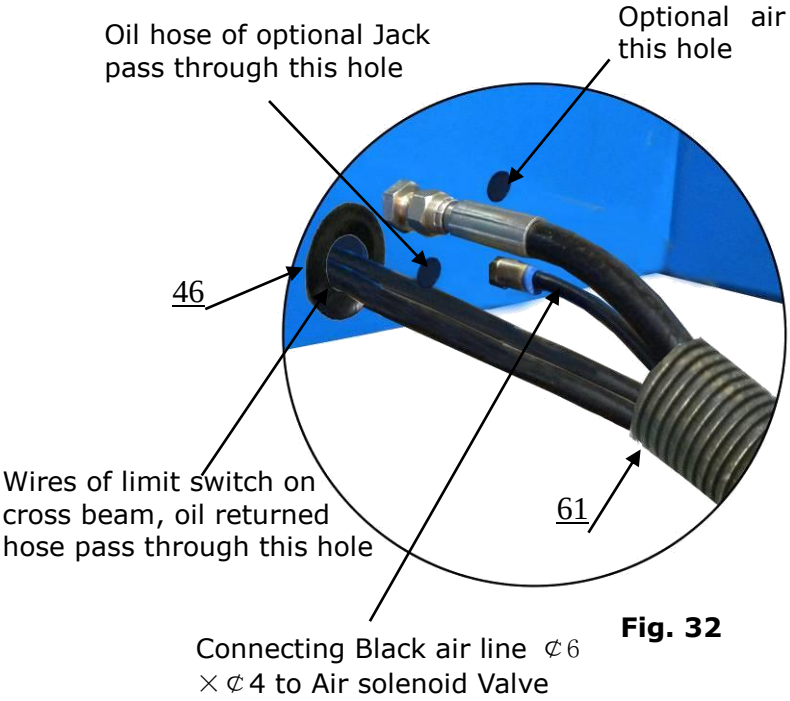
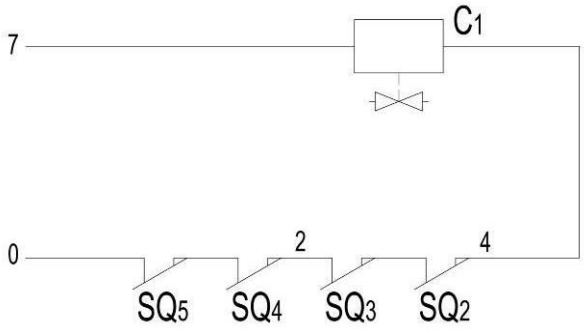


Fig. 32



Circuit Diagram
Limit Switch (SQ2~SQ5) on Cross Beam

4. Connecting wire with control box **(See Fig. 33)**.

Note: 1) Specification of wire of limit switch and Air solenoid valve is 2×1^2 (two wires cable, wire size 1 mm^2)

2) Wire cable for power source and motor are 4×2.5^2 (Four wires cable, wire size 2.5 mm^2)

3) Using white bobbin to wind around wire and air line.

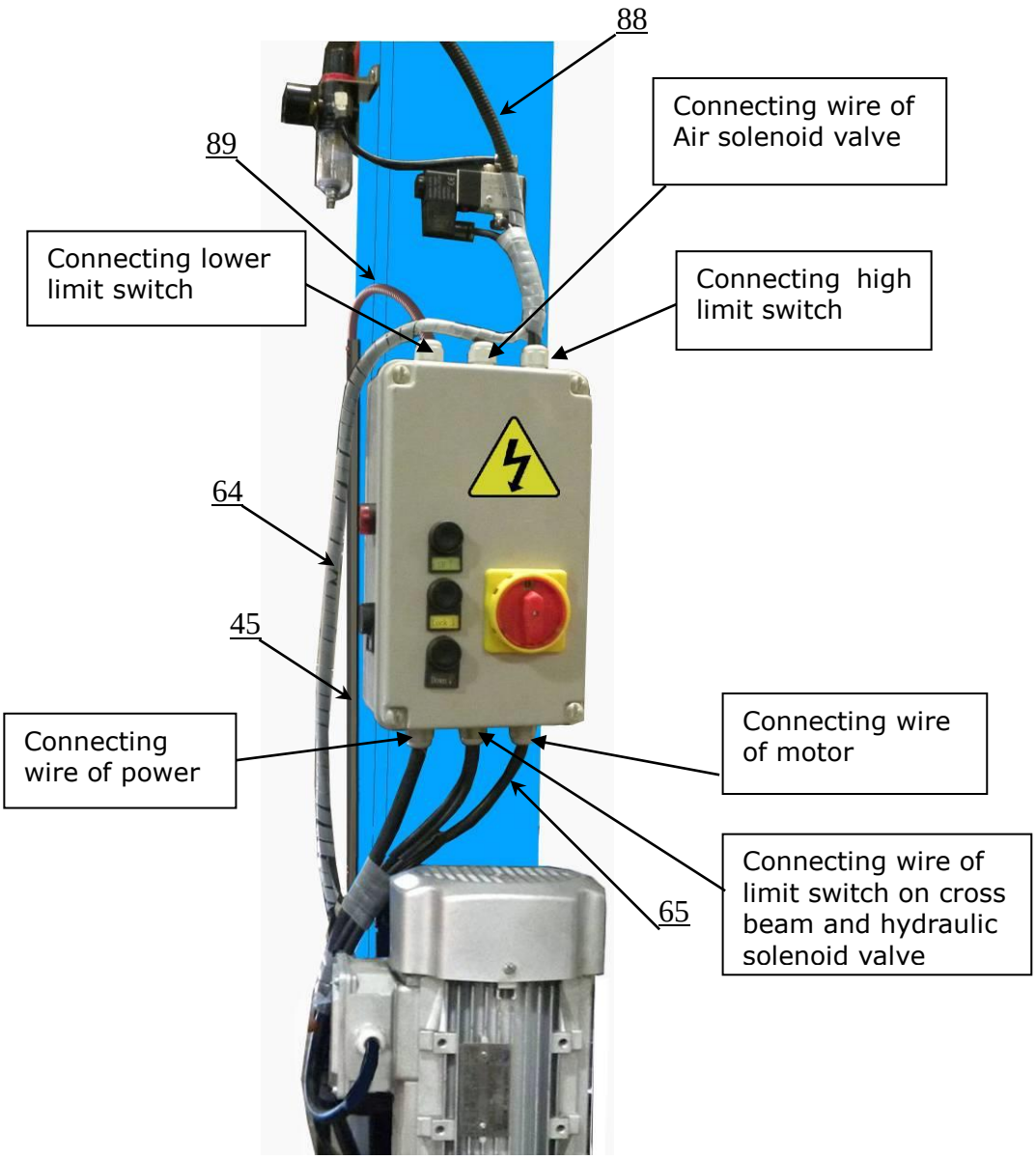


Fig. 33

5. Adjusting the current rating of thermal relay in control box according to the different configurations of hydraulic power unit. In general, the electric current of thermal relay should equal or larger than that of motor. The following table shows rated current regulation of thermal relay in case of different hydraulic power unit.

Hydraulic power unit	**INDYPRO**					**SPX**		**Monarch**		
	220V 3HP	380V 3HP	415V 3HP	220V 4HP	380V 4HP	220V 3HP	380V 3HP	220V 3HP	380V 3HP	415V 3HP
Rated current of thermal relay	16A	12A	12A	22A	14A	18A	12A	16A	12A	12A

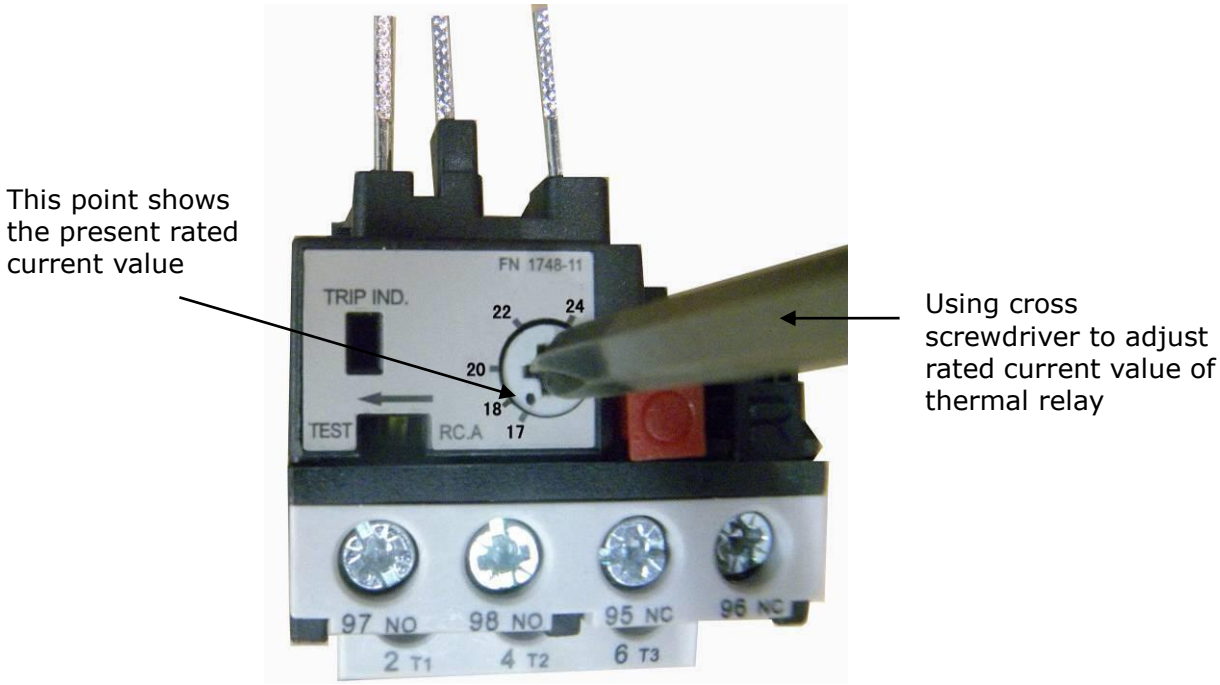


Fig. 34

6. 380V Wire connection and circuit diagram

6.1 Wire connection diagram in the control box **(See Fig. 35)**.

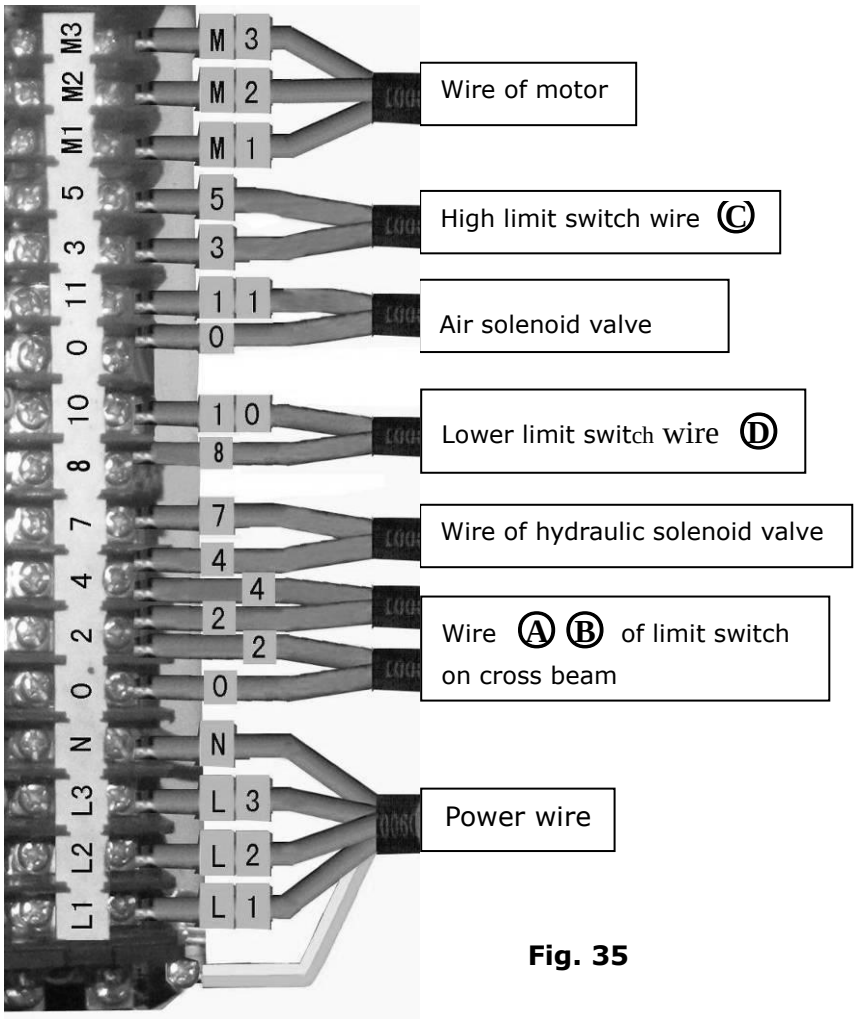


Fig. 35

6.2 380V Wire connection diagram of hydraulic motor **(See Fig. 36)**.

Motor wire (M1、M2、M3) are connected to the three wires in the motor.

Turn on the power, push button **"UP"**, if motor run but lift is not worked, pls. change the wires connection.

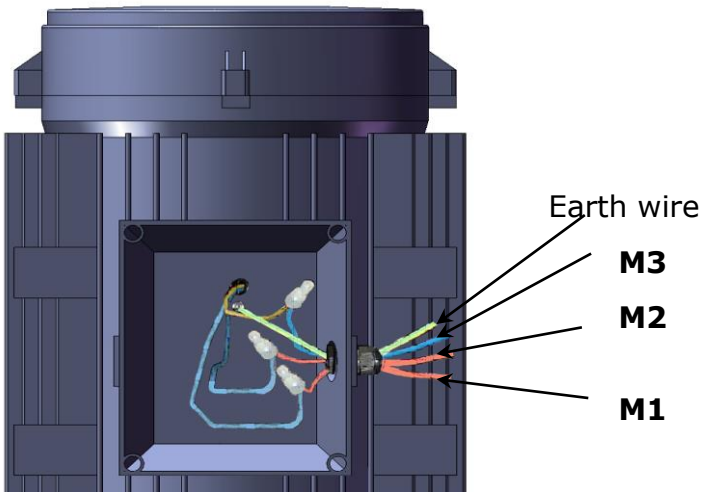


Fig. 36

6.3 380V Circuit diagram **(See Fig. 37)**

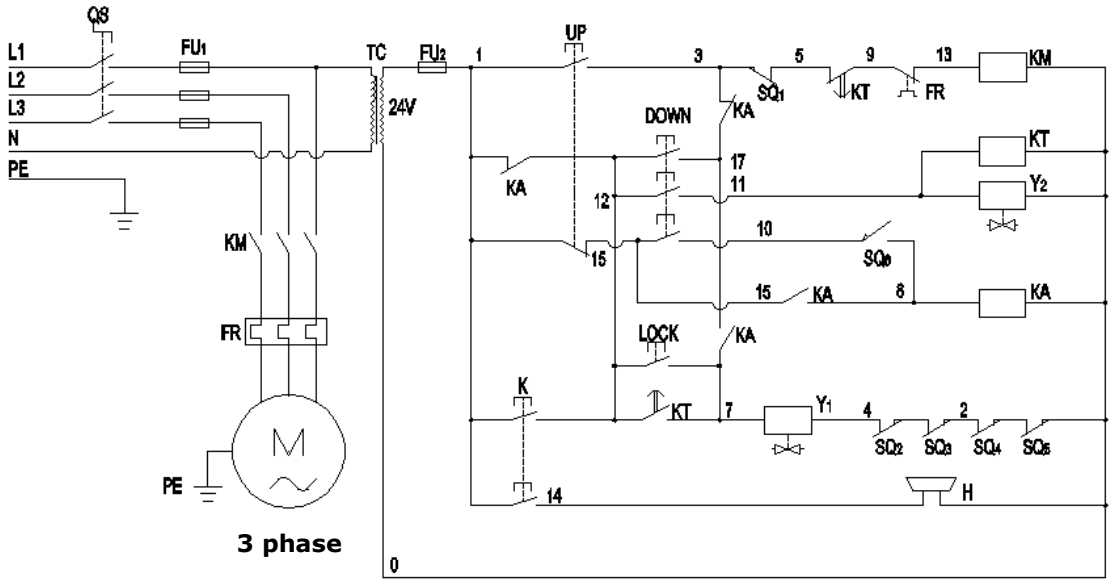


Fig. 37

Circuit component

Item	Name	Code	Specification		Item	Name	Code	Specification
1	Power switch	QS	380V AC		10	Push button	Down	Triplex
2	Fuse	FU_1	25A				K	Duplex
3	Fuse	FU_2	3A		11	Push button	LOCK	Single
4	AC contactor	KM	24V AC		12	Motor	M	3 Phase
5	Time relay	KT	24V AC		13	Transformer	TC	24V AC
6	Limit switch	$SQ_{(1\sim6)}$	10A		14	Thermal relay	FR	17A~24A
7	Air solenoid valve	Y2	24V AC		15	Intermediate relay	KA	24V AC
8	Hydraulic solenoid valve	Y1	24V AC		16	Alarm	H	24V AC
9	Push button	UP	Duplex					

7. 220V Wire connection and circuit diagram

7.1 Wire Connection diagram in the control box **(See Fig. 38)**.

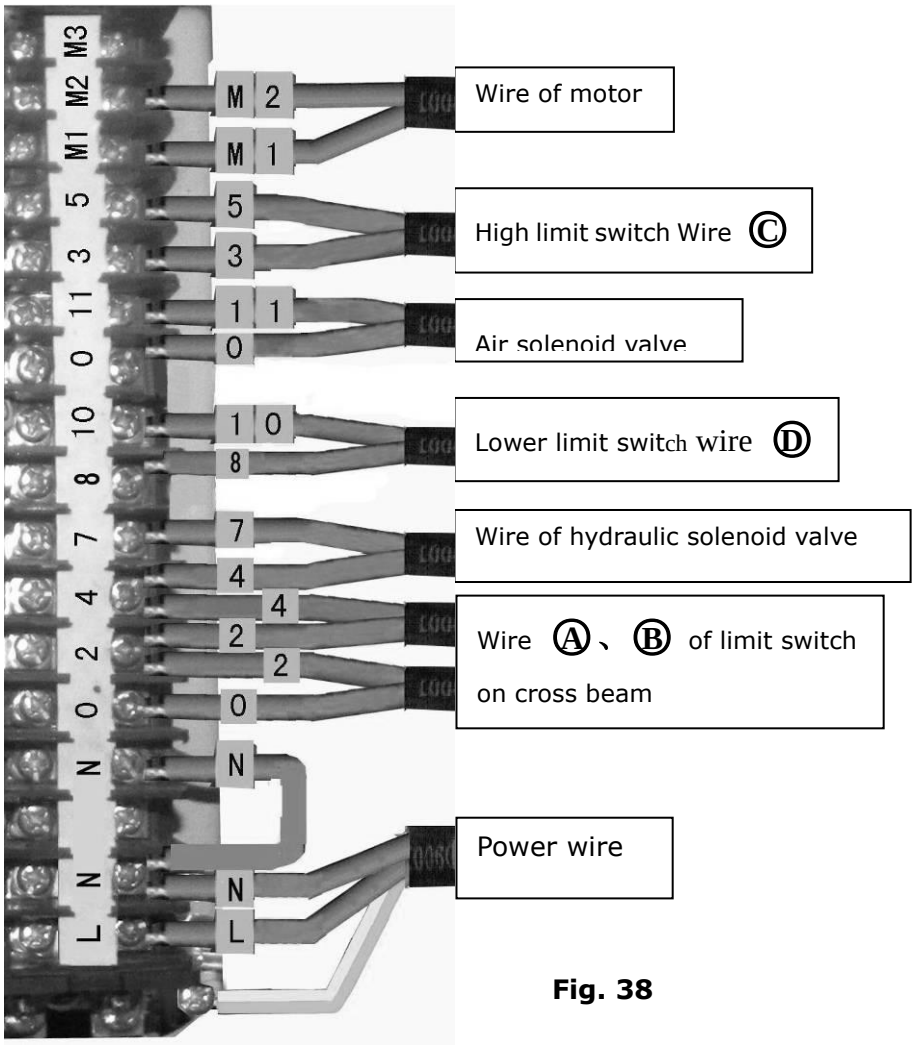


Fig. 38

7.2 220V Wire connection of hydraulic power unit **(See Fig. 39)**.

Motor wire (M1、M2) separately connected to two wires in the motor

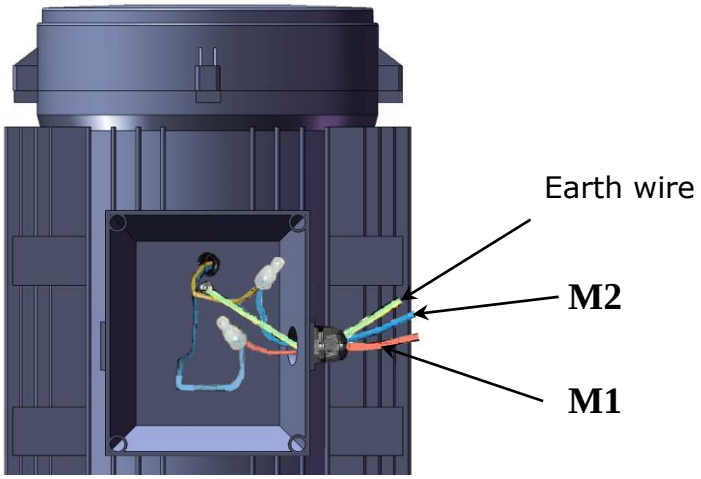


Fig. 39

7.3 Circuit diagram **(See Fig. 40)**

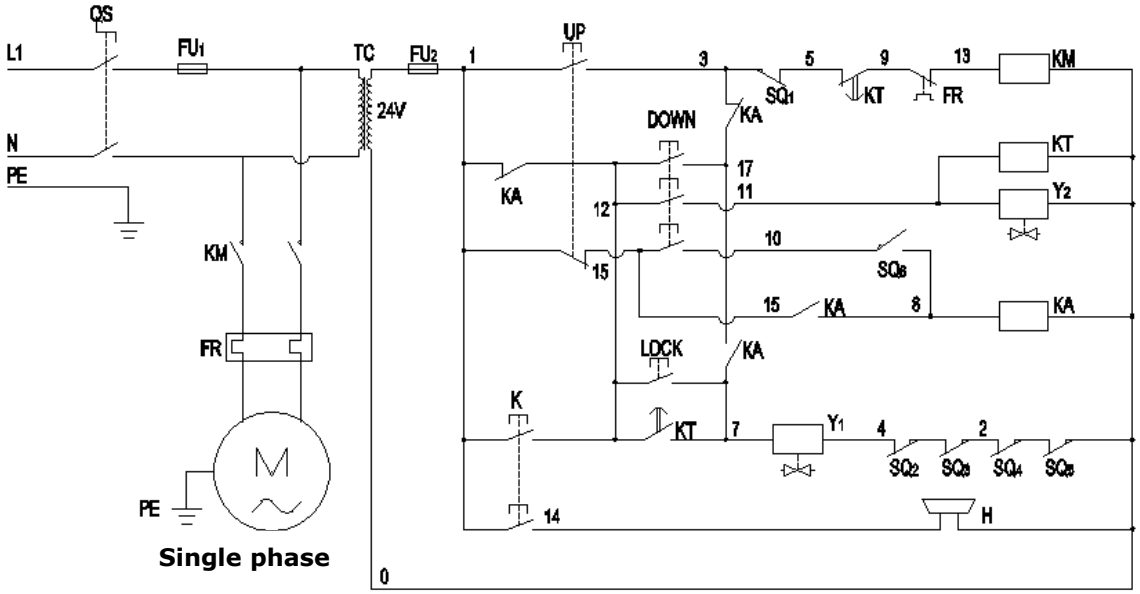


Fig. 40

Circuit component

Item	Name	Code	Specification		Item	Name	Code	Specification
1	Power switch	QS	380V AC		10	Push button	Down	Triplex
2	Fuse	FU_1	25A				K	Duplex
3	Fuse	FU_2	3A		11	Push button	LOCK	Single
4	AC contactor	KM	24V AC		12	Motor	M	Single phase
5	Time relay	KT	24V AC		13	Transformer	TC	24V AC
6	Limit switch	$SQ_{(1\sim6)}$	10A		14	Thermal relay	FR	17A~24A
7	Air solenoid valve	Y2	24V AC		15	Intermediate relay	KA	24V AC
8	Hydraulic solenoid valve	Y1	24V AC		16	Alarm	H	24V AC
9	Push button	UP	Duplex					

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

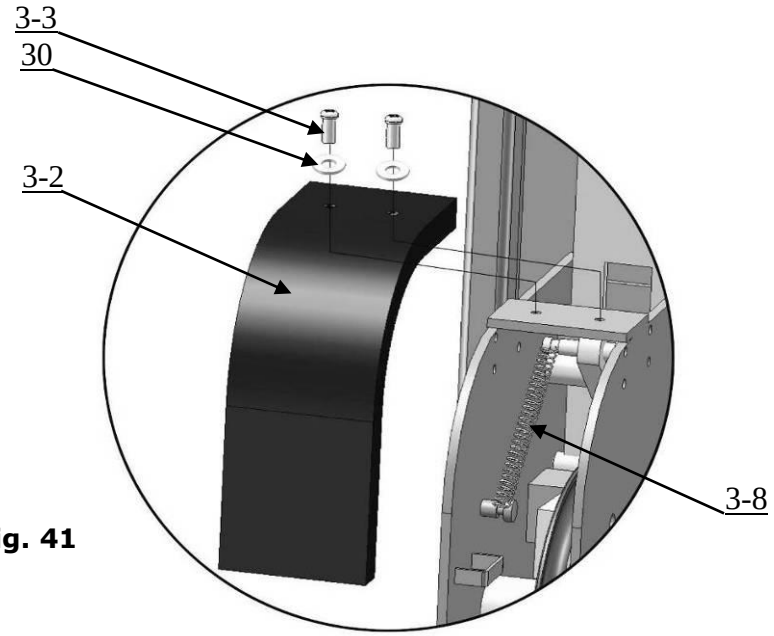


Fig. 41

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

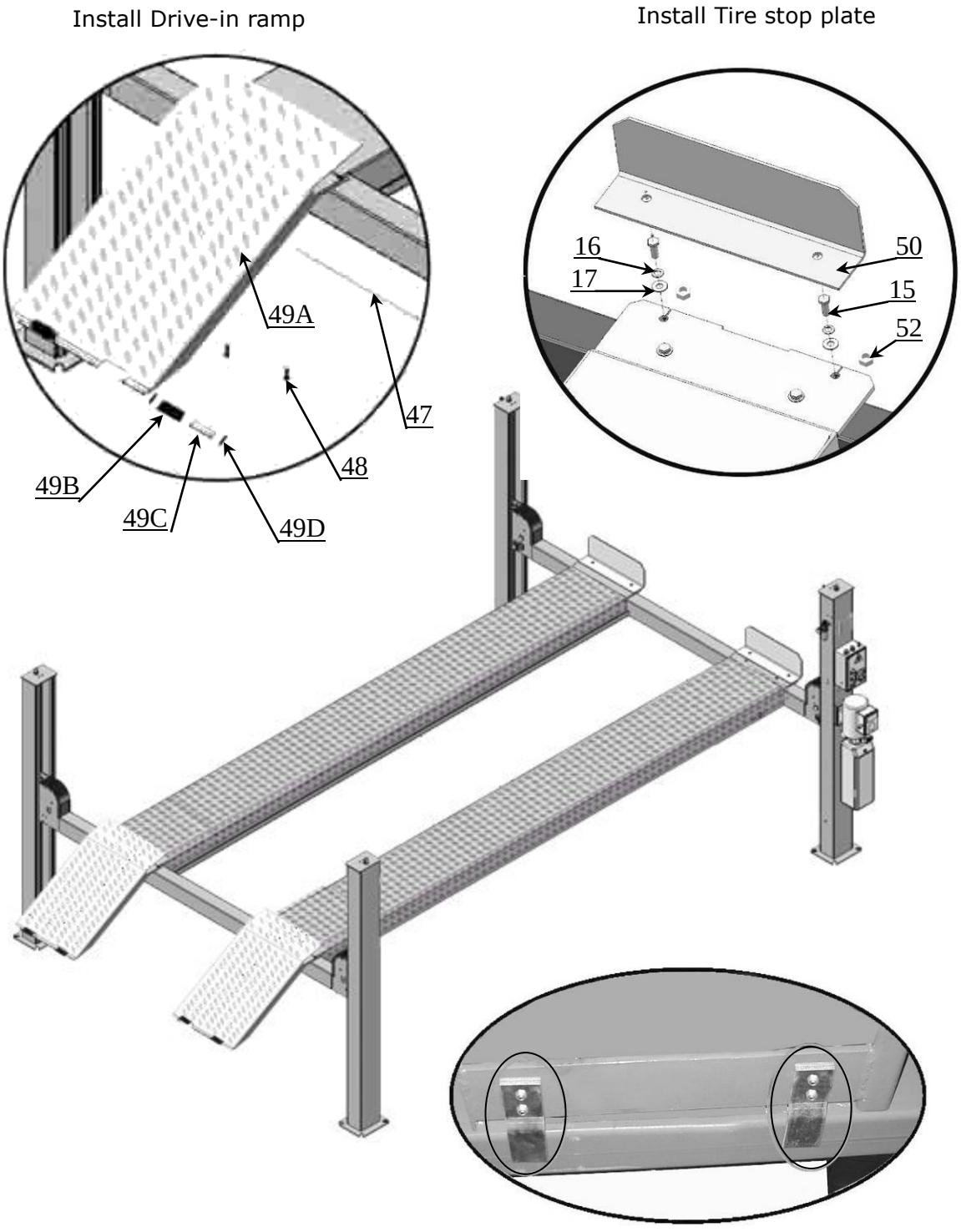


Fig. 42

Q: Illustration of installing the optional air line kits

1. Finish installation of TFP14（A465）

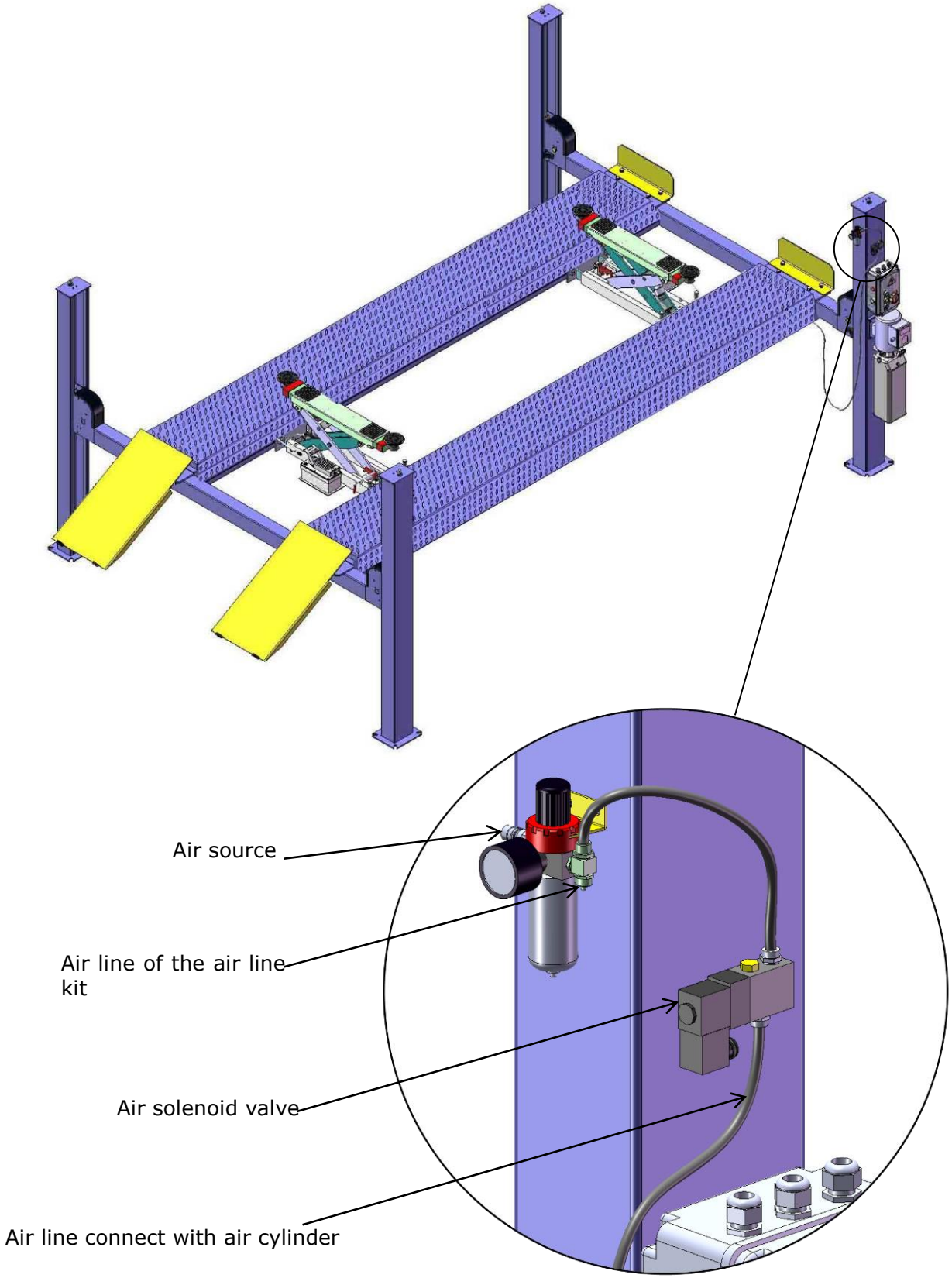


Fig. 43

2. Install air line kit

a. Connect the air line fittings with ϕ8*ϕ6 black air line (The length of air line can be cut accordingly) **(Fig.44)**

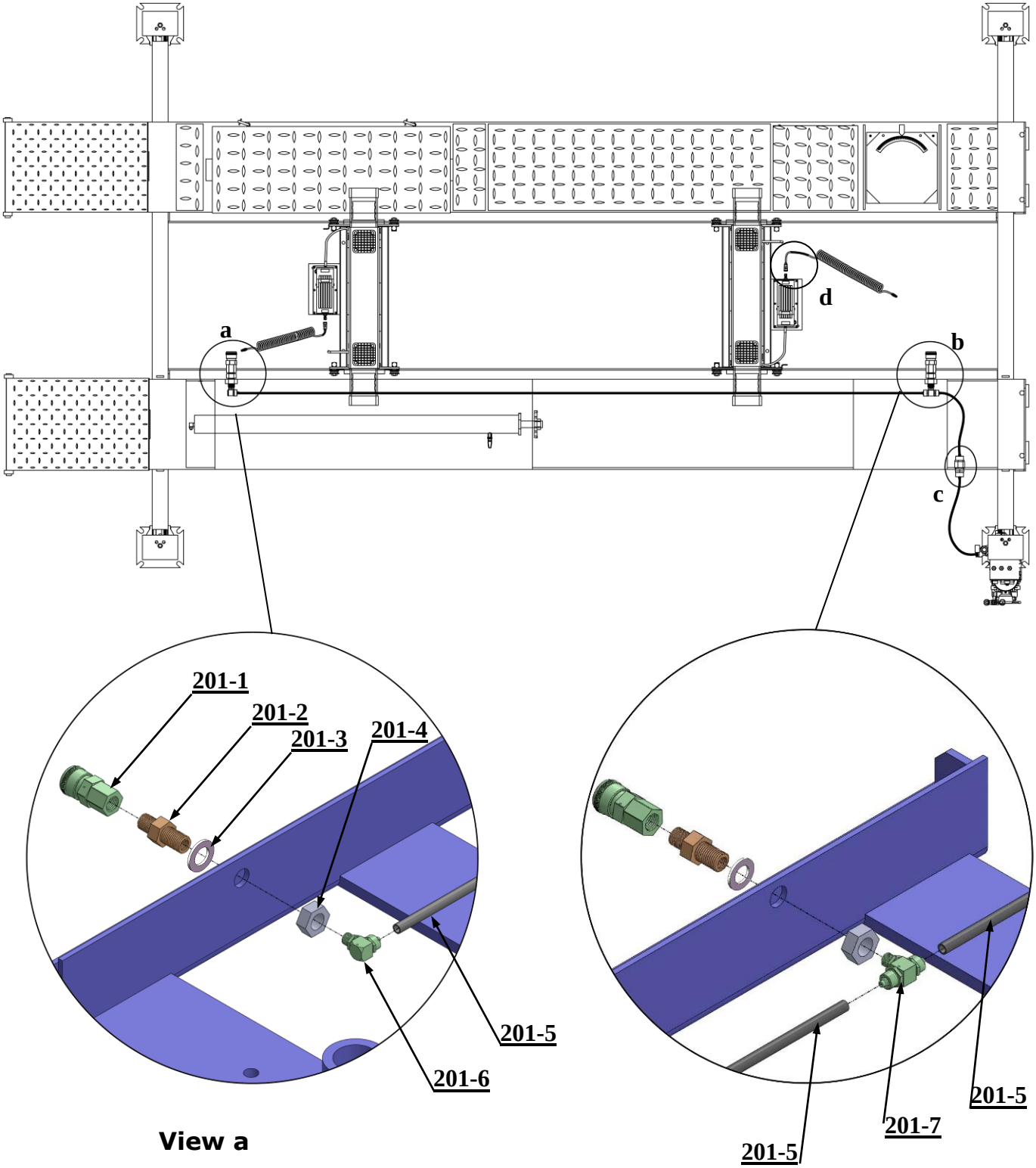
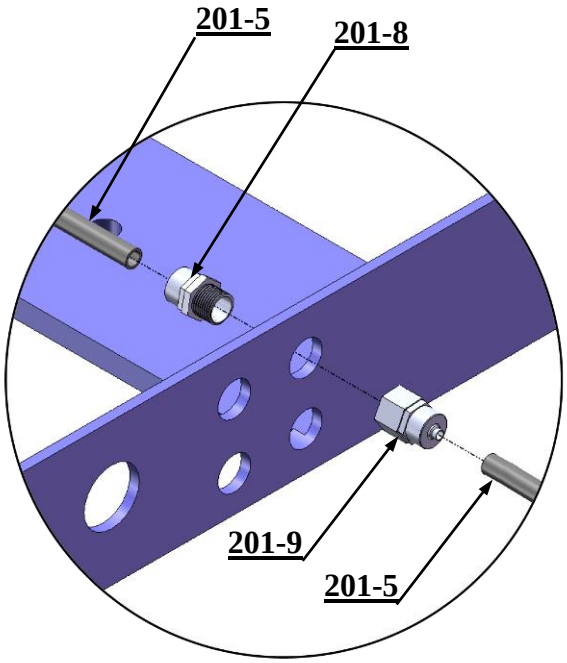
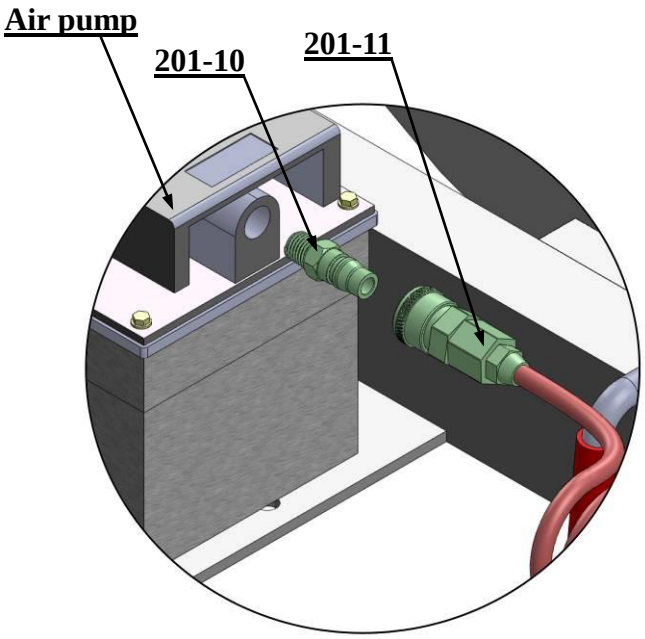


Fig. 44



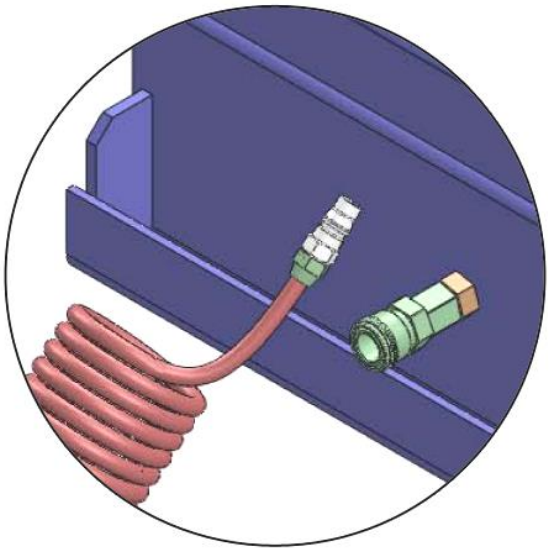
View c



View d

Connect the female fitting of air line ① and ② to the male quick fitting on air pump

Tighten the oil hose of air line kit, oil hose and the air line of the lift air line system by tie kits and pass them through the plastic protecting hose



Another side of the air line which shown in view d connect to the female quick fitting installed on the platform

b. Connecting air solenoid valve**(Fig.45).**

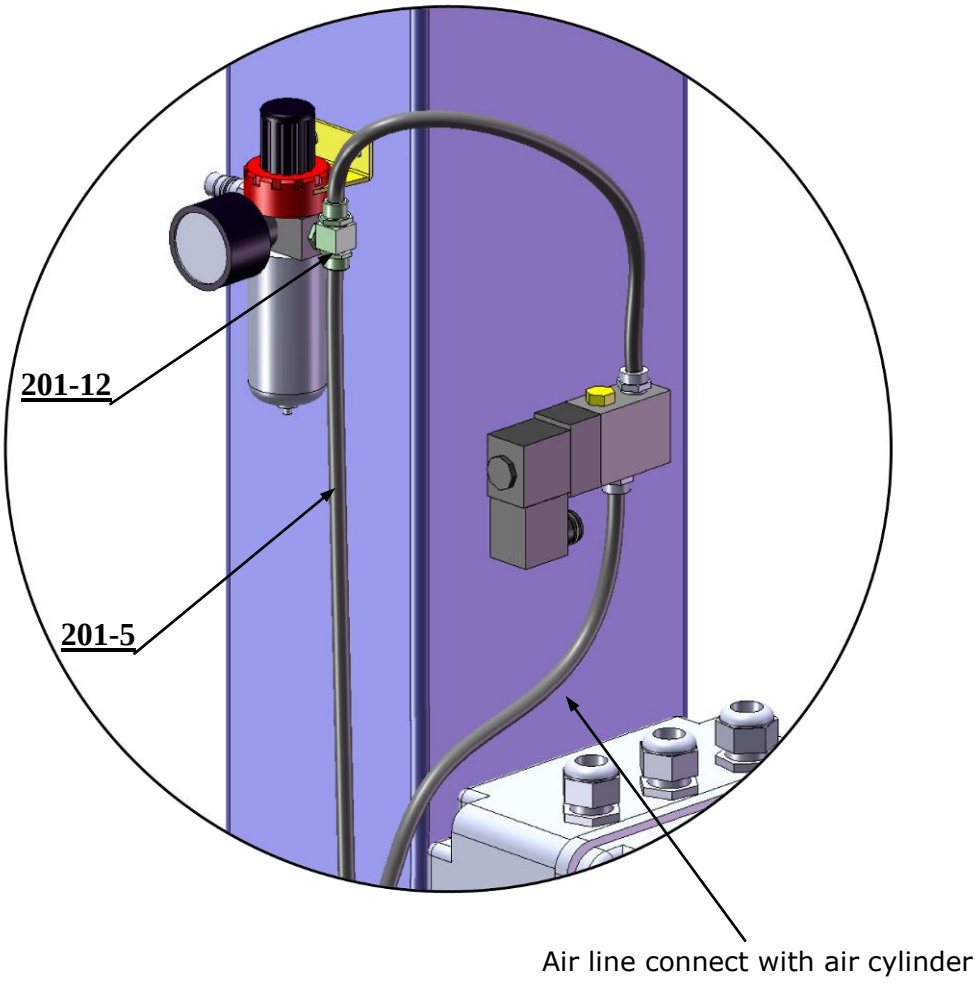


Fig. 45

3. Connecting air source, and operate the Jack with air pump.

IV. EXPLODED VIEW

Model TFP14(A465)

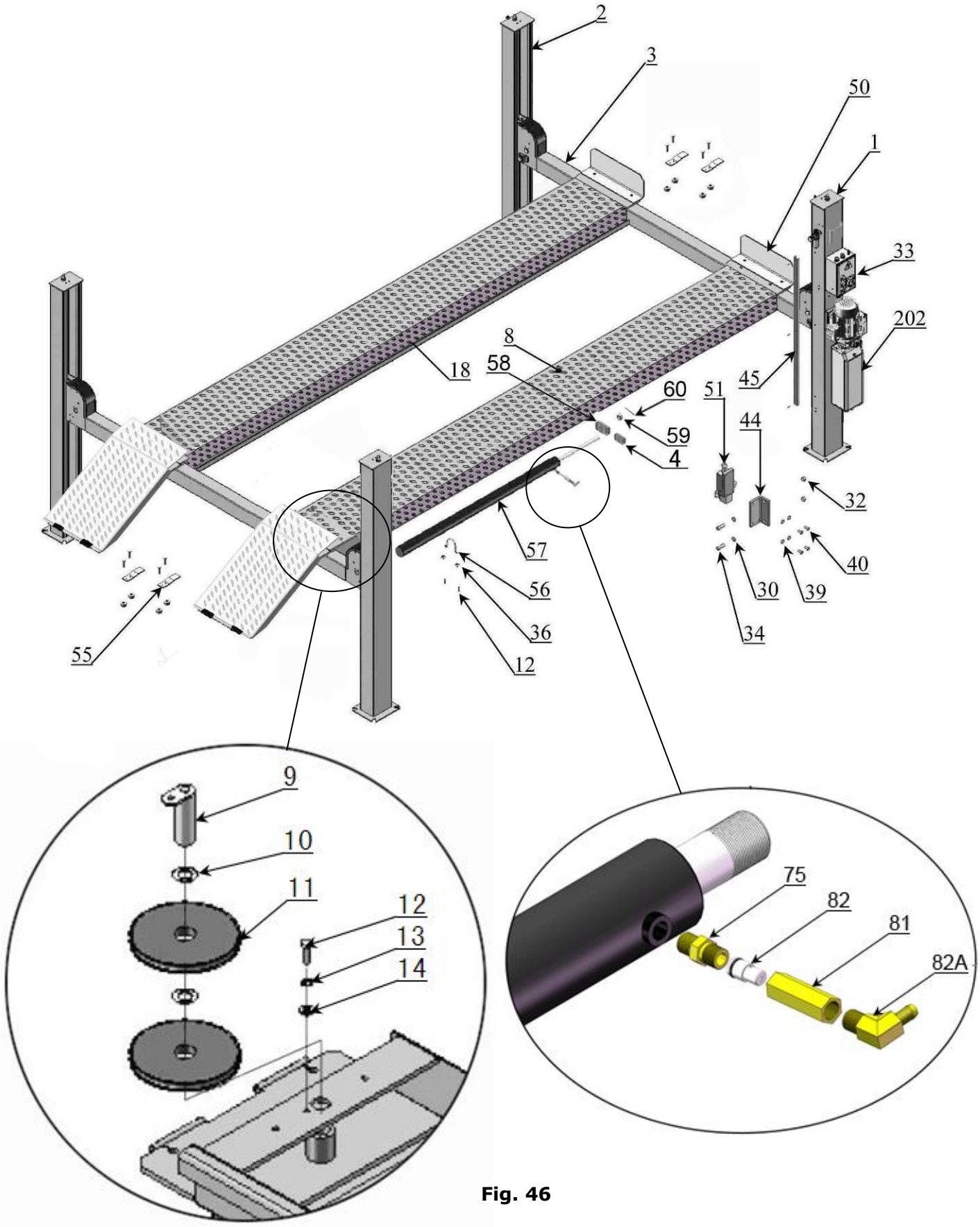


Fig. 46

CROSS BEAM

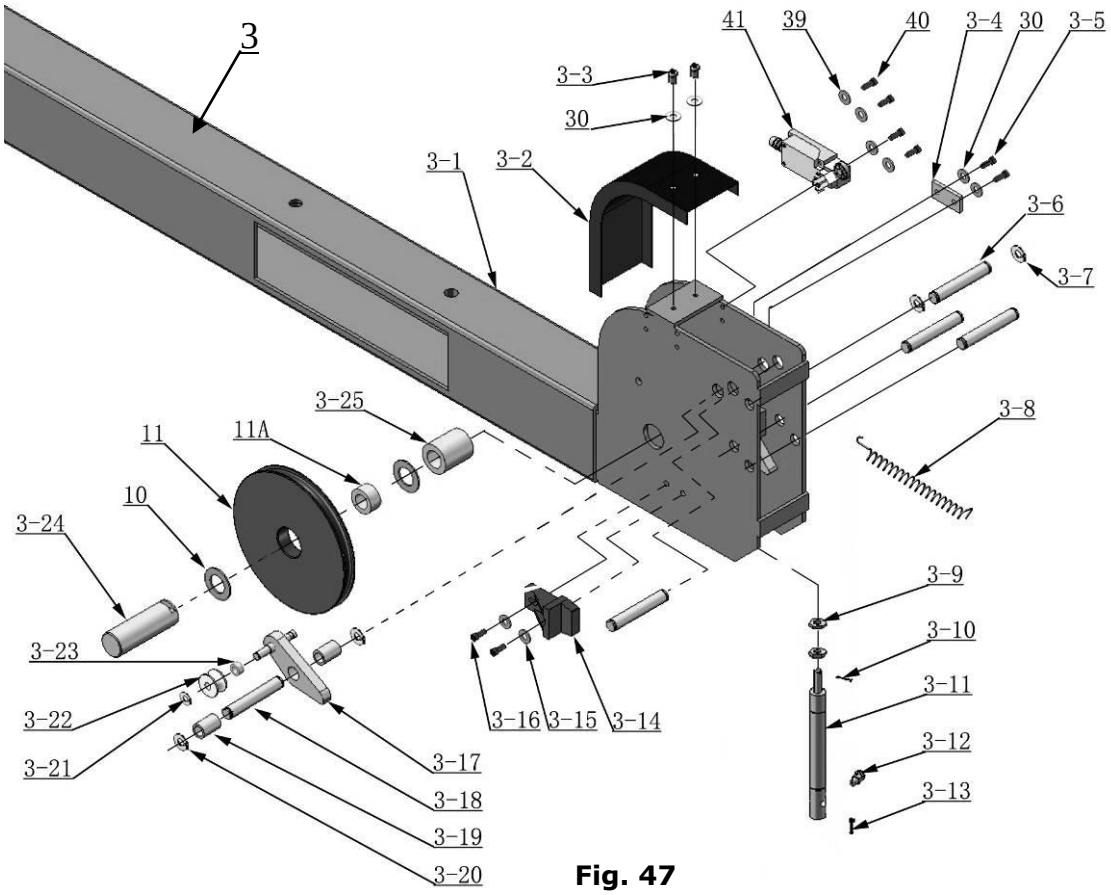


Fig. 47

CYLINDERS

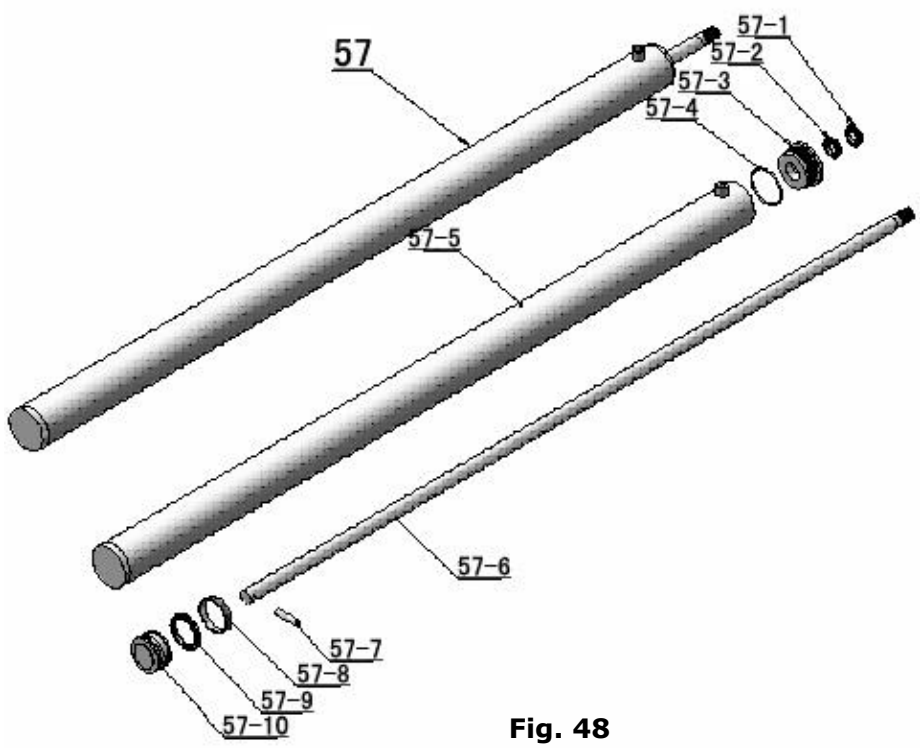


Fig. 48

CONTROL BOX

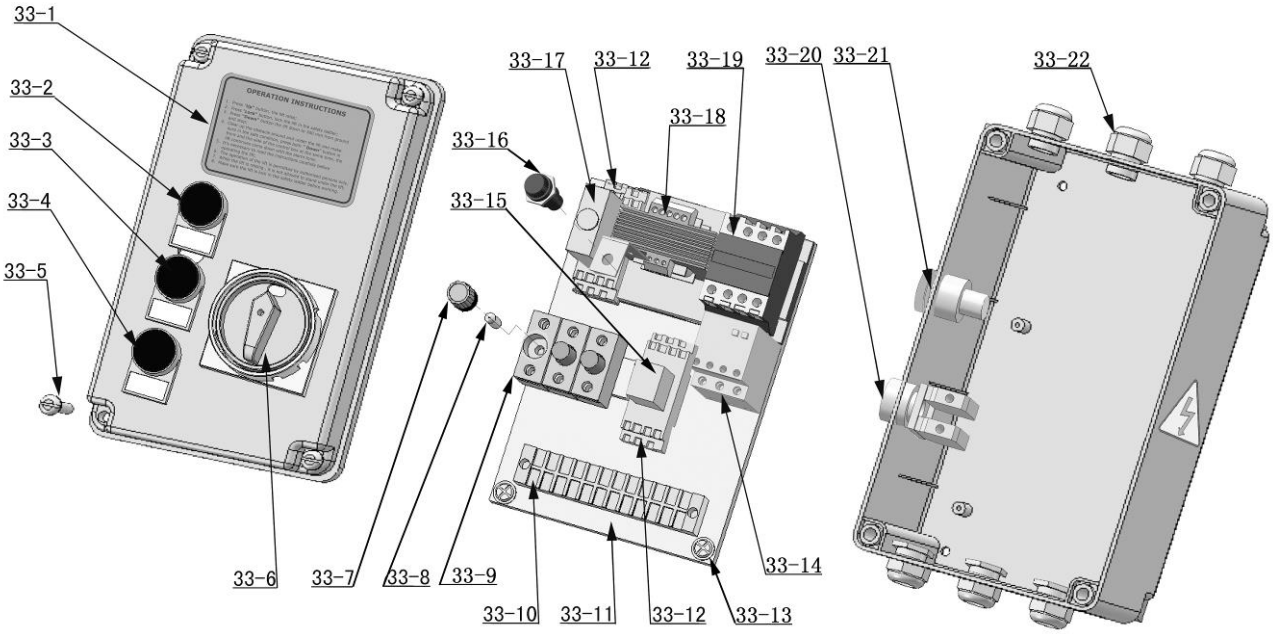
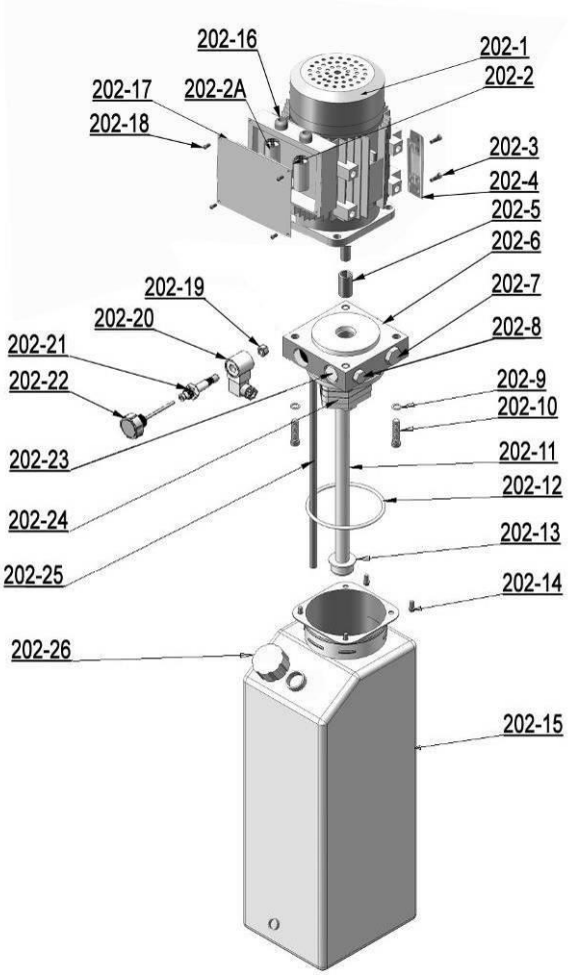


Fig. 49

INDYPRO ELECTRIC POWER UNIT

220V/50HZ/1 Phase



380V/50HZ/3 phase

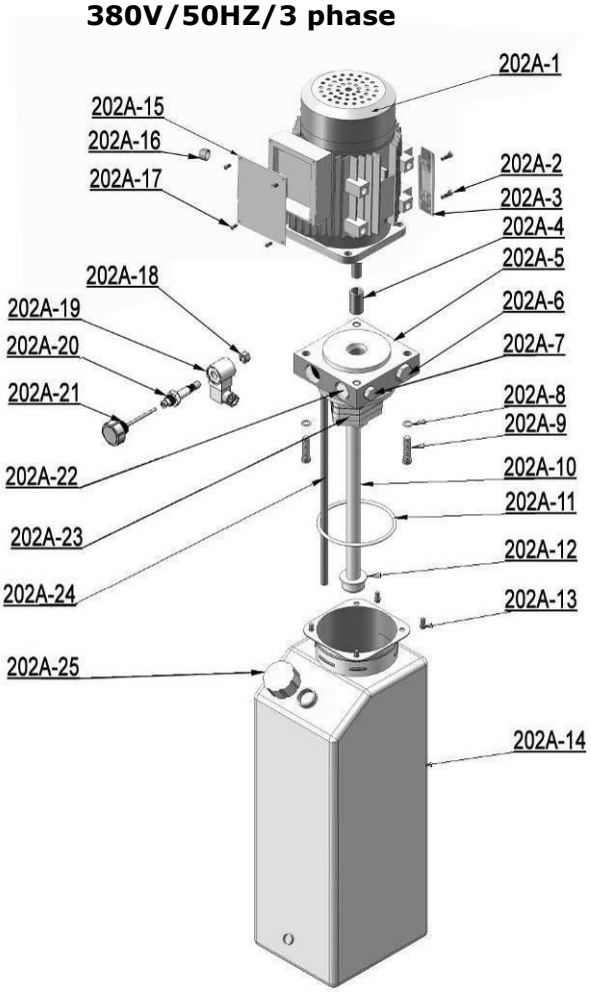


Fig. 50

Illustration of hydraulic valve for INDYPRO power unit

a. INDYPRO electric power unit, 220V/50HZ, Single phase (See Fig. 51)

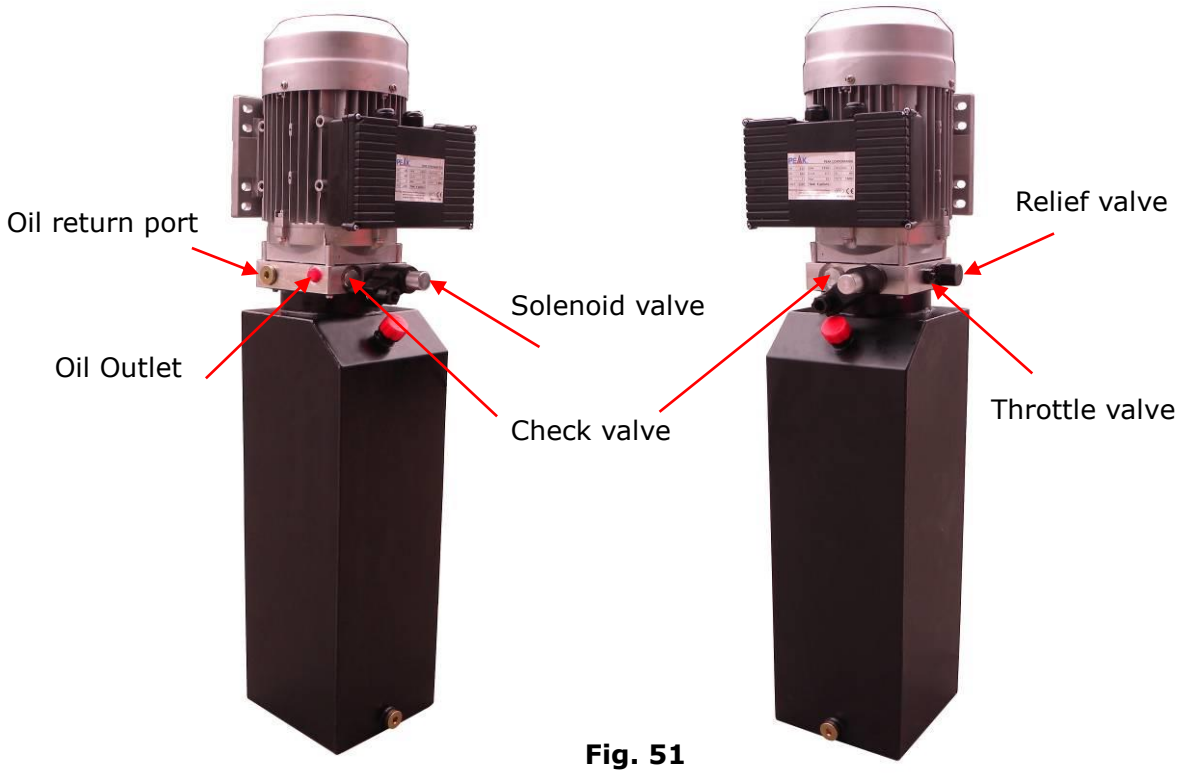


Fig. 51

b. INDYPRO electric power unit, 380V/50HZ/3 phase (See Fig. 52)

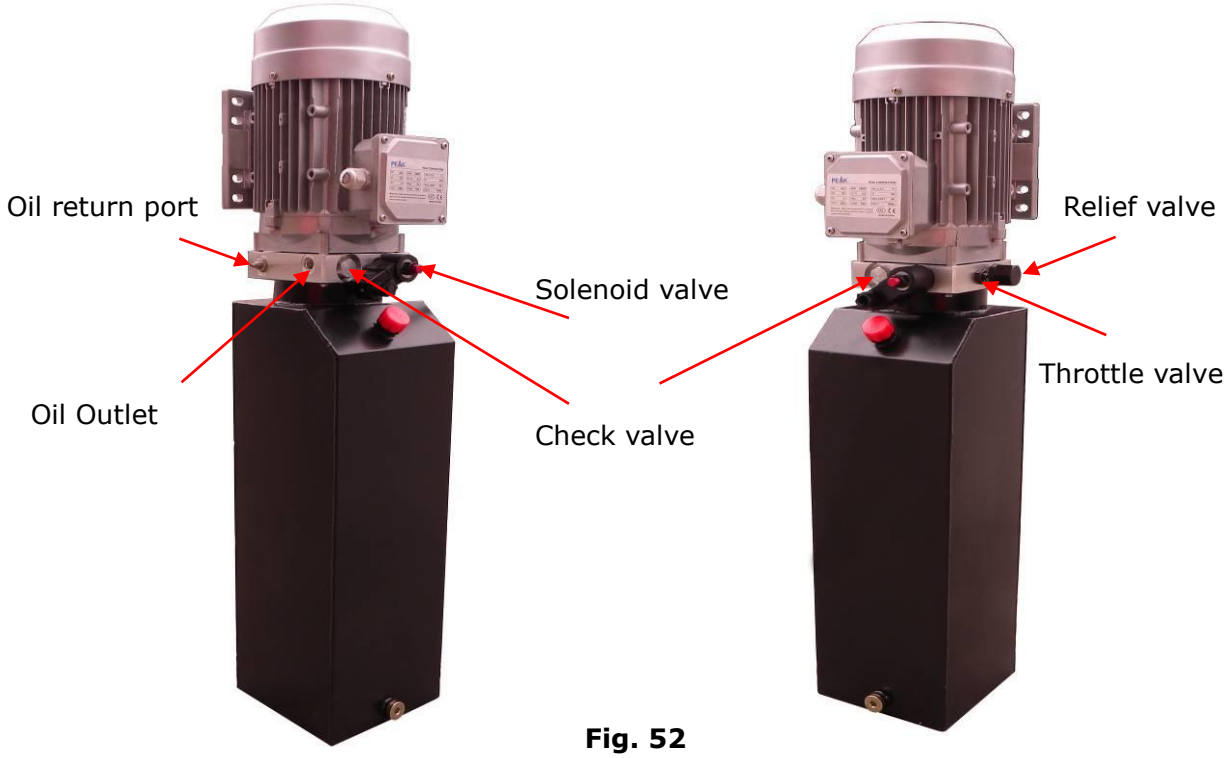


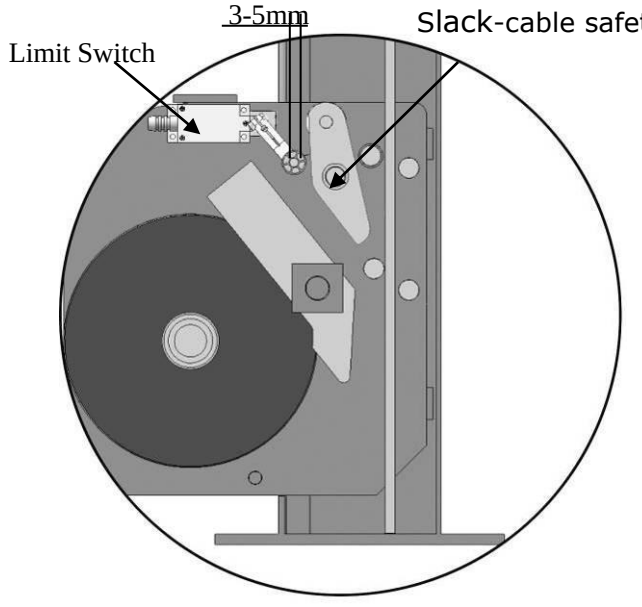
Fig. 52

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. Push button UP ↑ , the cables will be strained. Check whether the Cables match the pulley. Make sure the cables are not across.
3. Push self-lock button Lock ↓, the cross-beam will be locked to the safety ladders, and then adjust the platforms to be level by adjusting the nuts of Safety Ladders.
4. Adjust the cable fitting Hex nuts to make platforms and four safety locks work synchronously. You need to run the lift up and down for several times, meanwhile do the synchronous adjustment till the four safety devices can lock and release at the same time.
5. Adjust the clearance between the post and the plastic slider of cross-beam to about 2mm, and then tighten the fixing nut of slider.
6. Adjust Limit Switch on Cross Beam:

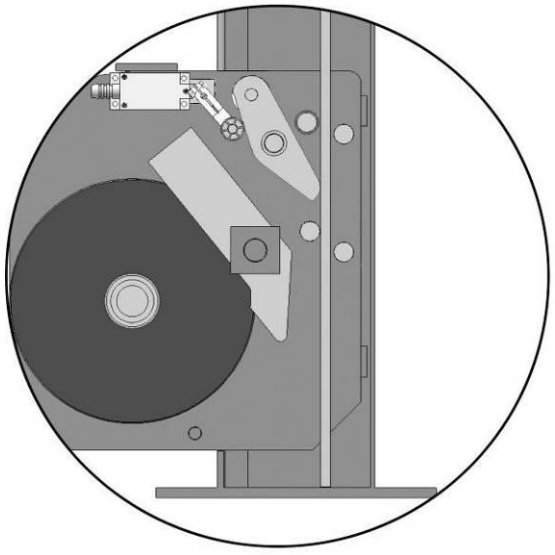
6.1 Push button UP ↑ , the cables will be strained. Check whether the distance between lever of limit switch on cross beam and the slack-cable safety lock is 3-5mm. If not, please adjust the distance correctly **(See Fig. 53)**.

6.2 Push self-lock button Lock ↓ ,the cross-beam will be locked to the safety ladders, and the cables are released, check whether lever of limit switch on cross beam touch the slack-cable safety lock and whether limit switch is open completely. If not be opened, then adjust the lever of limit switch till the slack-cable safety lock can completely open the switch **(See Fig. 54)**.



Tighten cable

Fig. 53



Release cable

Fig. 54

7. 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 is anything improper, repeat the above adjustment.

Circuit Diagram of Hydraulic System

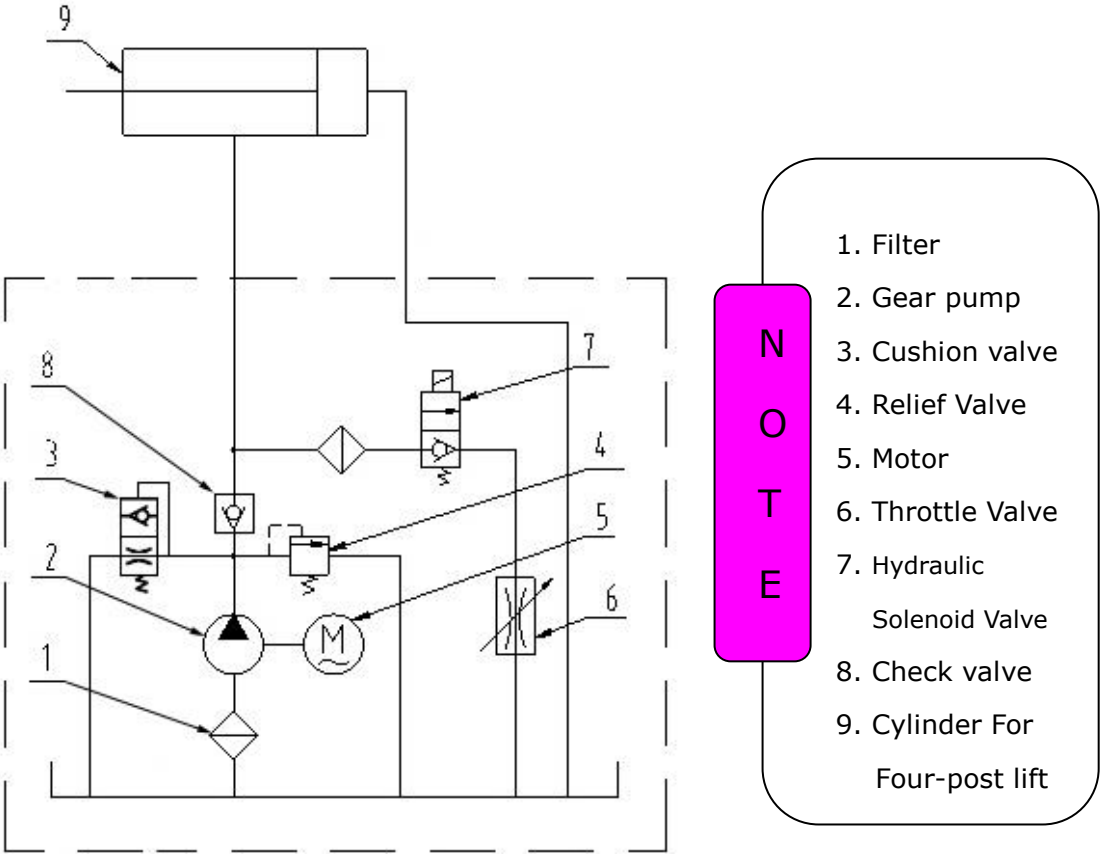


Fig. 55

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 push button UP ↑, raise the lift to the working position;
   Note: make sure the vehicle is steady when the lift is raised.
4. Push button Lock ↓, 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. Push the button Down ↓, the lift will be raised for 3-5 seconds, and then the safety device would be released and the lift starts lowering automatically;
3. The lift will be stopped automatically when coming down to about 300 mm to ground, check around and make sure it is safety and no any obstacle under the lift, then push both Down ↓ buttons (one on the side) at the same time, the lift would be lowered with the tone alarm;
4. Drive away the vehicle when the lift is lowered to the lowest position;
5. Turn off the power.

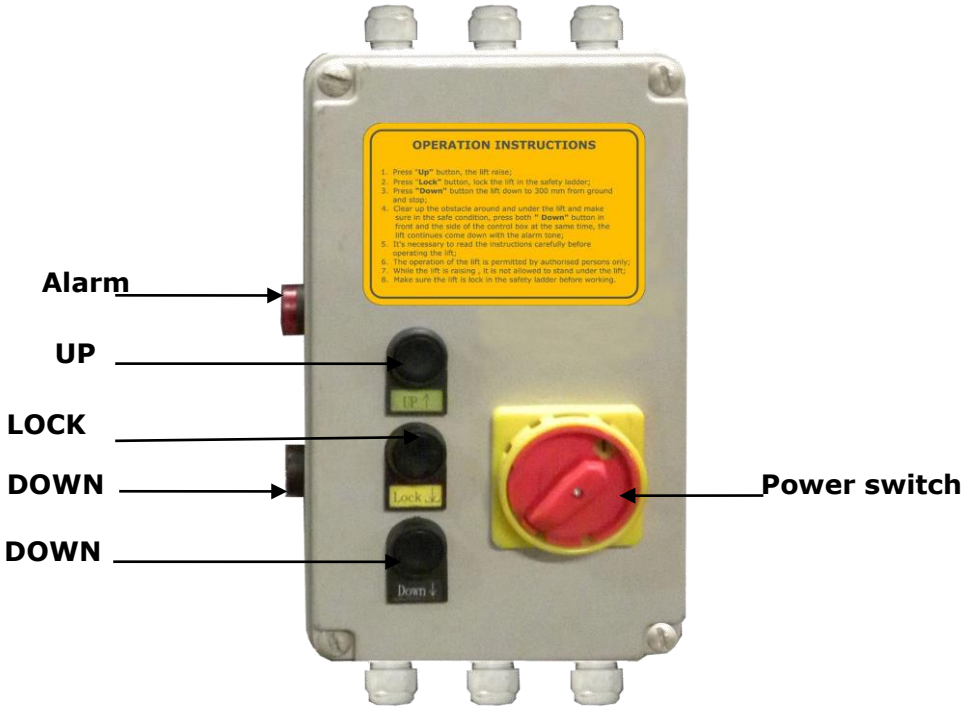


Fig. 56

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.

VIII. TROUBLE SHOOTING

TROUBLE	CAUSE	REMEDY
Motor does not run	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	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	1.Motor runs in reverse rotation 2. Hydraulic solenoid valve in damage 3.Gear pump in damage 4.Relief valve or check valve in damage 5.Low oil level	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	1.Solenoid valve out of work 2 Relief valve or check valve leakage. 3.Cylinder or fittings leaks	Repair or replace
Lift raises too slow	1.Oil line is jammed 2.Motor running on low voltage 3. Oil mixed with Air 4.Pump leaks 5.Overload lifting	1.Clean the oil line 2.Check electrical system 3. Fill tank 4.Replace Pump 5.Check load
Lift cannot lower	1.Air solenoid valve damaged 2. Hydraulic solenoid valve damaged 3.Air Cylinder damaged 4. Air –line leaked	1.Replace or repair 2.Replace or repair 3.Replace the cylinder 4.Check the air-line

IX. PARTS LIST FOR MODEL TFP14

Item	Part#	Description	QTY.	Note
(See Fig.43, Fig.16, Fig.18-Fig.20,Fig.22, Fig.24,Fig.30-Fig.32& Fig.42)				
1	460020	Powerside Column	1	
2	460021	Offside Column	3	
3	460062	Cross Beam Assy.	2	
4	460059	Limit Slider	1	
5	209059	Anchor Bolt	16	
6	410022	Safety Ladder	4	
7	420175A	Hex Nut	16	
8	460054	Powerside Platform	1	
9	460025	Pulley Shaft Weldment	2	
10	420023A	Washer	12	
11	420024B	Pulley	10	
11A	420132A	Bronze Bush for Pulley	10	
12	209043	Hex Bolt	12	
13	209034	Lock Washer	2	
14	420144	Washer	2	
15	420030	Hex Bolt	12	
16	420137	Lock Washer	12	
17	420029	Washer	12	
18	460055	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	6	
23	420076	90^0 Fitting for Air Line	1	
24	201034	Bleeding Plug	1	
25	420147	Straight Fitting for Air Line	1	
26	420077	Air Solenoid Valve	1	
27	420148	Washer	2	
28	420149	Cup Head Bolt	2	
29	420150	Cover of Air Solenoid Valve	1	
30	420045	Washer	28	
31	420151	Straight Fitting for Air Line	1	
32	420018	Self locking Nut	6	
33	440036	Control Box	1	
34	420153	Cup Head Bolt	9	
202	440033	Electric Power Unit	1	
36	209005	Self locking Nut	14	
37	209004	Rubber Ring	8	
38	209003	Hex Bolt	4	
39	420152	Washer	18	
40	206011	Cup Head Bolt	18	
41	460061	Limit Switch Assy. for Cross Beam	2	
42	420010A	Fixing Plate For Limit Switch	1	
43	420225	High limit switch assy. ©	1	
44	420203	Fixing Plate For Limit Switch	1	

Item	Part#	Description	QTY.	Note
45	420204	Wire Protective Cover	1	
46	420156	Protecting Rubber Ring	1	
47	420004	Pin for Drive-in Ramp	2	
48	420005	Fixing Bolt	4	
49A	460028	Drive-in Ramp	2	
49B	620063	Roller for Drive in Ramp	4	
49C	620043	Pin for Roller	4	
49D	209010	Snap Ring	8	
50	420031	Tire Stop Plate	2	
51	460058	Lower limit switch assy. Ⓓ	1	
52	209066	Hex Nut	4	
55	420007	Platform Locking Plate	4	
56	460029	Fixing Ring For Oil Cylinder	1	
57	460030	Hydraulic Cylinder	1	
58	420013	Cylinder Connecting Plate	1	
59	420014	Hex Nut	1	
60	201005	Split Pin	1	
60A	620065/201090	Shim	20/ea.	
60B	209056	Self locking nut	4	
60C	420217	Limit Pin	4	
Parts for Circuit System (See Fig.32-33, Fig.24)				
61	420016B	Protecting Plastic Hose	1	
62	420249	Wire Cable Ⓐ	1	
63	460065	Wire Cable Ⓑ	1	
64	420168	White Winding Tape	1	
65	420016A	Wire cable	1	
66	420205	Wire cable	2	
67	460500	Parts box	1	
Parts For Cable (See Fig.21)				
70	460031	No.① Cable	1	
71	460032	No.② Cable	1	
72	460033	No.③ Cable	1	
73	460034	No.④ Cable	1	
Parts For Hydraulic System (See Fig.26)				
74	420166	90^0 Fitting	1	
75	420243	Straight Fitting For Cylinder	1	
76	460060	Oil Hose	1	
77	420120	Extended Straight Fitting (with Nut)	1	
78	460038	Oil Hose	1	
79	209060	Straight Fitting For Power Unit	1	
80	420095	Straight Fitting	1	
81	420245	Straight Fitting	1	
82	420247	Compensation valve	1	
82A	201020	90^0 Fitting	1	
Parts For Air Line System (See Fig.27-28)				

Item	Part#	Description	QTY.	Note
83	420124	T-Fitting For Air Line	2	
84	420242	T-Fitting For Air Line	1	
85	420241	Straight Fitting For Air Line	1	
86	420206	Oil return hose	1	
86A	460013	Black Air Line	1	
87	420167B	Black Air Line	1	
Parts for Circuit System (See Fig.32-33, Fig.24)				
88	420009A	Protecting Plastic Hose	1	
89	420009B	Protecting Plastic Hose	1	
Parts For Cross Beam (See Fig.44 & Fig.41)				
3-1	460064	Cross Beam	2	
3-2	460043	Pulley Safety Cover	4	
3-3	209009	Cup Head Bolt	8	
3-4	420044	Limit Plate	4	
3-5	420138	Socket Bolt	8	
3-6	420038	Pin	12	
3-7	420037	Snap Ring	24	
3-8	420033	Spring	4	
3-9	420050	Hex Nut	8	
3-10	420049	Split Pin	4	
3-11	420048	Air Cylinder	4	
3-12	420047	Fitting for Air Cylinder	4	
3-13	420046	Split Pin	8	
3-14	420042	Plastic Slider	8	
3-15	209033	Washer	24	
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	206019	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 For Cylinder (See Fig.45)				
57-1	420059	Dust Ring	1	
57-2	420060	Y- Ring	1	
57-3	460046	Head Cap	1	
57-4	460047	O- Ring	1	
57-5	460048	Bore Weldment	1	
57-6	420064	Piston Rod	1	
57-7	460050	Pin	1	
57-8	460051	Support Ring	1	
57-9	460052	Y- Ring	1	
57-10	460053	Piston	1	

Item	Part#	Description	QTY.	Note
Parts For Control Box (See Fig.46)				
33-1	420069A	Cover Of Control Box	1	
33-2	420071	Button **UP**	1	
33-3	209099A	Button **Lock**	1	
33-4	420072	Button **Down**	1	
33-5	420139	Screw	4	
33-6	420074	Power Switch (QS1)	1	
33-7	420085	Fuse Cap	3	
33-8	420086	Fuse (FU1)	3	
33-9	420087	Fuse Base	3	
33-10	420075A	Terminal Group	1	
33-11	420133A	Panel for Installing Element	1	
33-12	420135	Thermal Relay Connector	2	
33-13	420073	Cup Head Bolt	4	
33-14	440034	Thermal Relay (FR)	1	
33-15	420141	Intermediate Relay (KA)	1	
33-16	420176	Fuse Protector (FU2)	1	
33-17	420083	Timer Relay (KT)	1	
33-18	420134	Transformer (TC)	1	
33-19	420084A	24V AC Contactor (KM)	1	
33-20	420142	Button **Down (K)**	1	
33-21	420143	Alarm Lamp (H)	1	
33-22	420088	Fitting For White Wire Cable	6	
Parts for Optional Air line kits				
201-1	61K090	C Fitting	2	
201-2	61K091	Air hose connector	2	
201-3	430010	Washer	2	
201-4	61K092	Hex bolt	2	
201-5	209136A	Air hose	1	
201-6	61K094	90 Fitting	1	
201-7	61K093	T-fitting	1	
201-8	430011	Straight fitting	1	
201-9	430012	Straight fitting	1	
201-10	420146	Straight fitting	2	
201-11	520065A	Air hose(spring)	2	
201-12	430013	T-fitting	1	
	61K070A	Ties	2	
Parts For INDYPRO Electric Power Unit 220V/50HZ/1 Phase (See Fig.47)				
202-1	81400199	Motor	1	
202-2	81400074	Start Capacitor	1	
202-2A	81400207	Run Capacitor	1	
202-3	420043	Socket Bolt	4	
202-4	81400174	Motor Fixing Frame	2	
202-5	81400127	Motor Connecting Shaft	1	
202-6	81400198	Valve Body	1	
202-7	81400106	Relief Valve	1	
202-8	81400107	Throttle Valve	1	

Item	Part#	Description	QTY.	Note
202-9	209149	Lock Washer	4	
202-10	81400148	Socket Bolt	4	
202-11	81400156	Oil Inlet Pipe	1	
202-12	81400144	O-ring	1	
202-13	81400150	Filter	1	
202-14	81400145	Socket Bolt	4	
202-15	81400027	Reservoir	1	
202-16	81400178	Protective Ring	1	
202-17	81400208	Cover of Motor Terminal Box	1	
202-18	680005	Cup Head Bolt	4	
202-19	81400193	Hydraulic Solenoid Valve Nut	1	
202-20	81400194	Hydraulic Solenoid Valve Coil	1	
202-21	81400195	Hydraulic Solenoid Valve Nut	1	
202-22	81400196	Pressure Adjusting Bar	1	
202-23	81400192	Check Valve	1	
202-24	81400158	Gear Pump	1	
202-25	81400157	Oil Return Pipe	1	
202-26	81400113	Filler Cap	1	
Parts For INDYPRO Electric Power Unit 380V/50HZ/3 Phase (See Fig.47)				
202A-1	81400201	Motor	1	
202A-2	420043	Socket Bolt	4	
202A-3	81400174	Motor Fixing Frame	2	
202A-4	81400127	Motor Connecting Shaft	1	
202A-5	81400198	Valve Body	1	
202A-6	81400106	Relief Valve	1	
202A-7	81400107	Throttle Valve	1	
202A-8	209149	Lock Washer	4	
202A-9	81400148	Socket Bolt	4	
202A-10	81400156	Oil Inlet Pipe	1	
202A-11	81400144	O-ring	1	
202A-12	81400150	Filter	1	
202A-13	81400145	Socket Bolt	4	
202A-14	81400027	Reservoir	1	
202A-15	81400209	Cover of Motor Terminal Box	1	
202A-16	81400178	Protective Ring	1	
202A-17	680005	Cup Head Bolt	4	
202A-18	81400193	Hydraulic Solenoid Valve Nut	1	
202A-19	81400194	Hydraulic Solenoid Valve Coil	1	
202A-20	81400195	Hydraulic Solenoid Valve Body	1	
202A-21	81400196	Pressure Adjusting Bar	1	
202A-22	81400192	Check Valve	1	
202A-23	81400206	Gear Pump	1	
202A-24	81400157	Oil Return Pipe	1	
202A-25	81400113	Filler Cap	1	

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