

HiGH-LiFT
EQUIPMENT

YL-12
Installation & Operation
Manual

**COMMERCIAL TRUCK WHEEL
ALIGNMENT HOIST 7.5 LONG RUNWAYS**



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I. PRODUCT FEATURES AND SPECIFICATIONS

FEATURES

- Manual control air-operated system.
- Mechanical self-lock and air-driven safety release.
- Manual hydraulic power system, cable-driven.
- Sand finish platform
- Adjustable platform and adjustable safety lock ladders.
- Optional Jack: With hand pump/Air-operated hydraulic pump/Controlled by power unit.

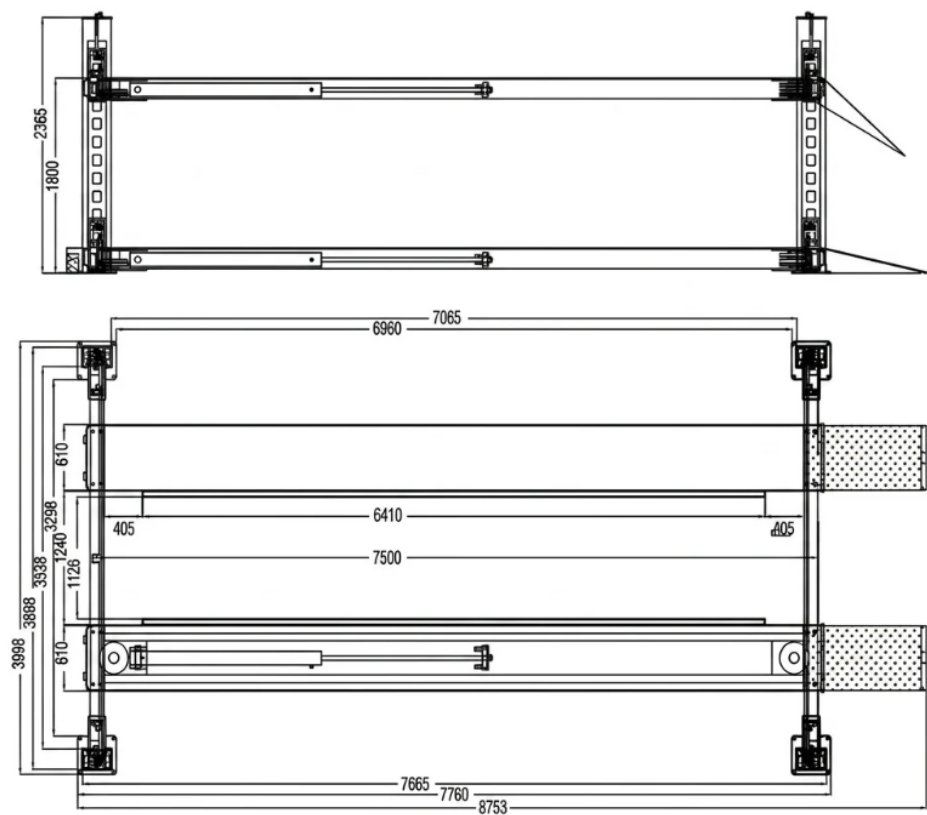


Fig. 1

SPECIFICATIONS

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Length (Inc. Ramps)	Overall Width	Width Between Posts	Gross Weight	Motor
414	1200kg	1800mm	60sec	7760mm	3998mm	3338mm	3200kg	4.0 HP 240V 1 Phase

II. INSTALLATION REQUIREMENTS

A. TOOLS REQUIRED

- ✓ Rotary Hammer Drill ($\Phi 19$)



- ✓ Hammer



- ✓ Level Bar



- ✓ English Spanner (12")



- ✓ Ratchet Spanner With Socket (28#)



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



- ✓ Carpenter's Chalk



- ✓ Screw Sets



- ✓ Tape Measure (7.5m)



- ✓ Pliers



- ✓ Socket Head Wrench (3#, 5#, 6#)



- ✓ Lock Wrench



Fig. 2

B. CONCRETE SPECIFICATIONS (See Fig. 3)

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

1. Concrete must have a thickness of 6 inches minimum and without reinforcing steel bars. Concrete must be cured before the installation.
2. Concrete must be in good condition and must be of test strength 3,000 psi (220kg/cm²) minimum.
3. **Floors must be level and no cracks.**

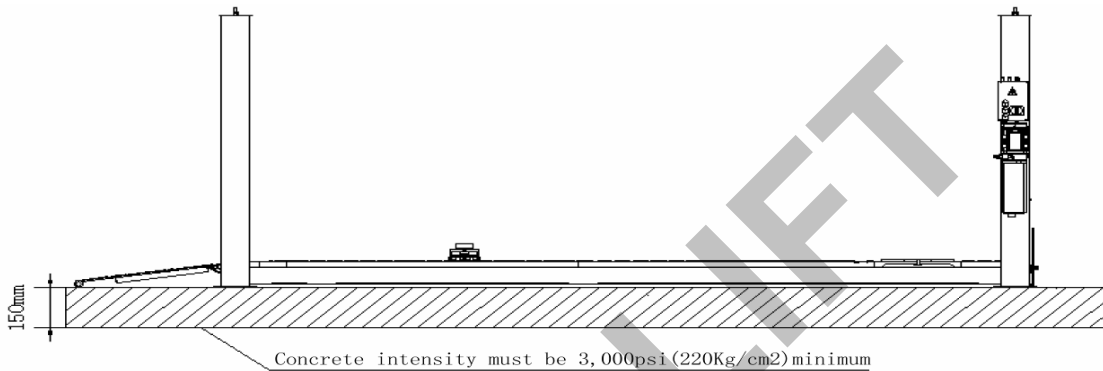


Fig. 3

C. AIR SUPPLY

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

D. POWER SUPPLY

The electric power unit must be greater than 2 horse power. Electrical wire must be a minimum of 4mm².

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).

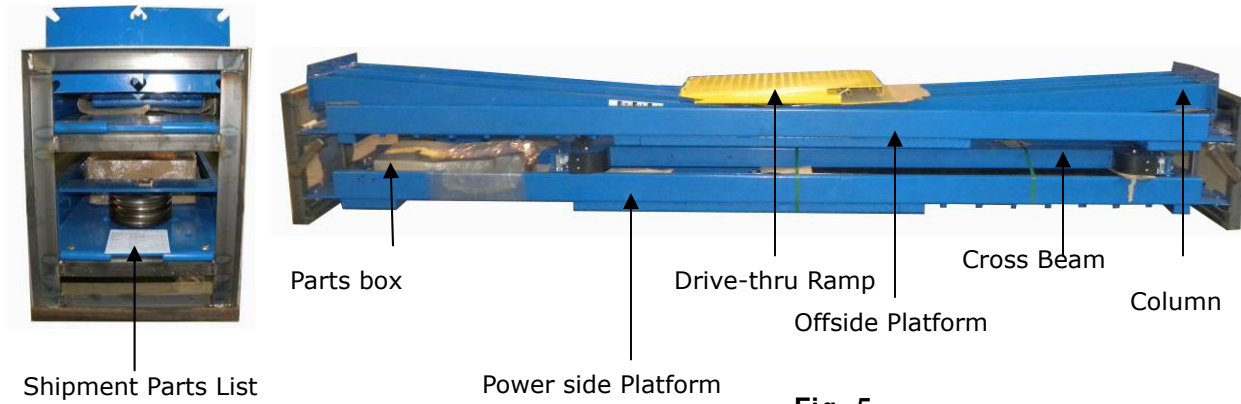


Fig. 5

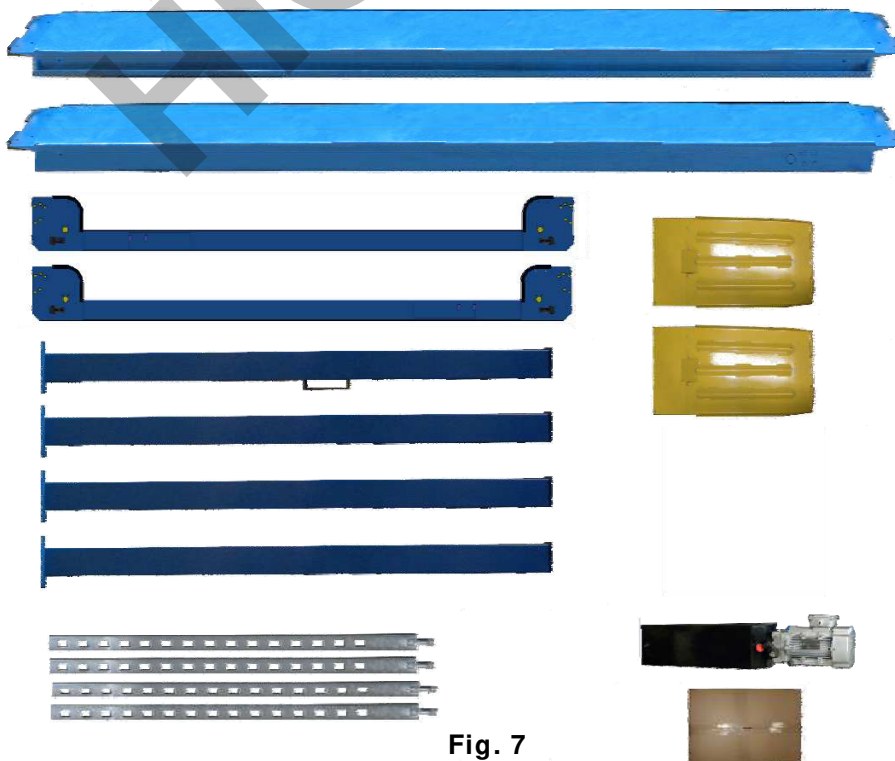
3. Remove the Drive-thru Ramps and Columns (See Fig. 6).



Fig. 6

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

5. Move aside the parts and check the parts according to the shipment parts list. (See Fig. 7).



- 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.

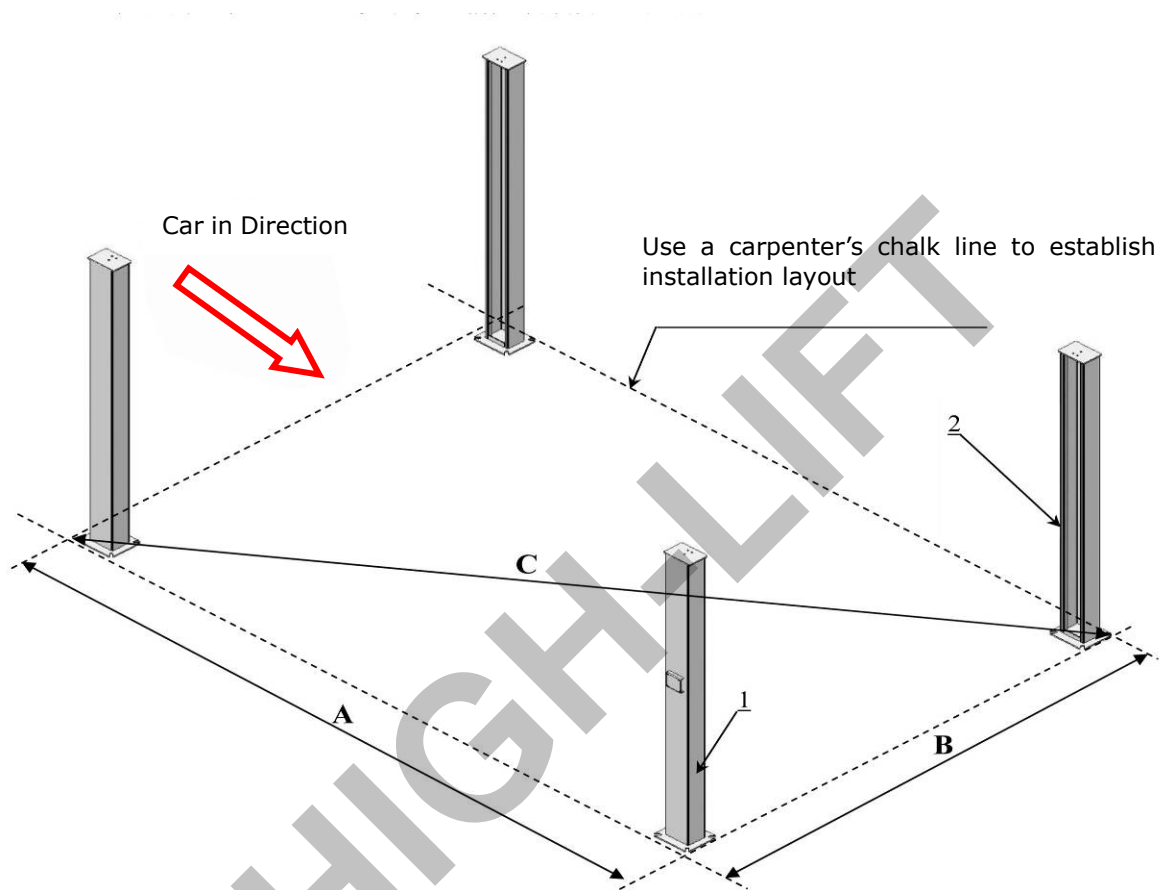


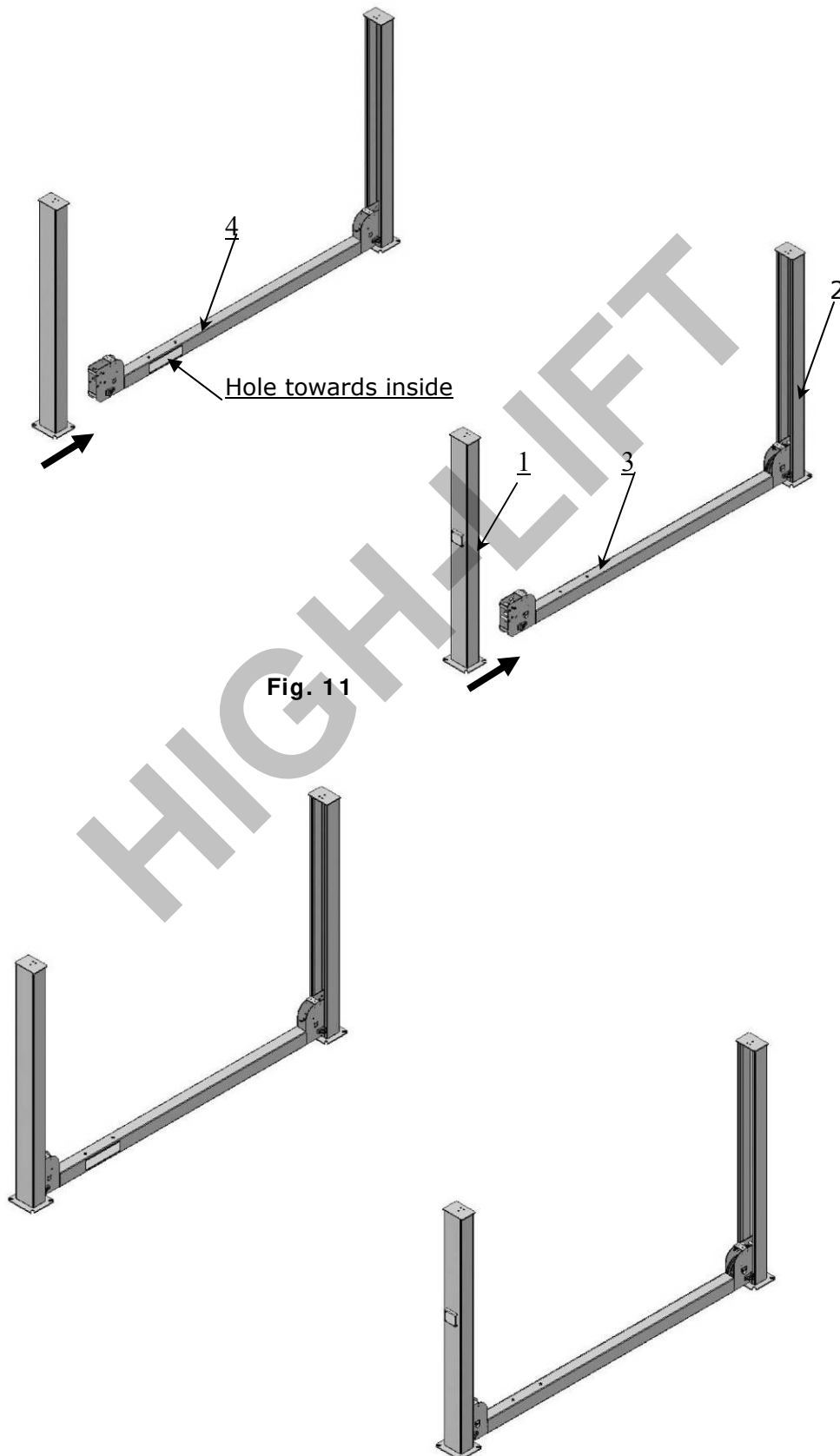
Fig. 10

''

MODEL	A	B	C
YL-12000	7760mm	3998mm	8729mm

Table 1

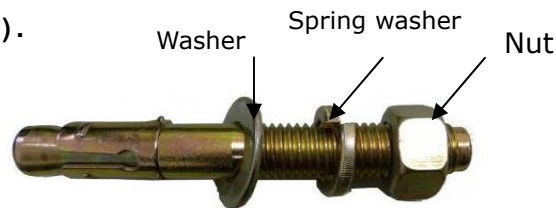
D. Install Cross Beams (See Fig. 11, Fig. 12). ***Note: Install the runway platforms on the cross beams prior to drilling the anchor holes. This will help if measurements are incorrect. Do not fully tighten platform bolts.***



E. Fix the Anchor Bolts

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

Fig. 13



2. Use a the rotary hammer drill with a $\frac{3}{4}$ inch masonry bit and drill all the anchor holes and install the anchor bolts (See Fig. 14).

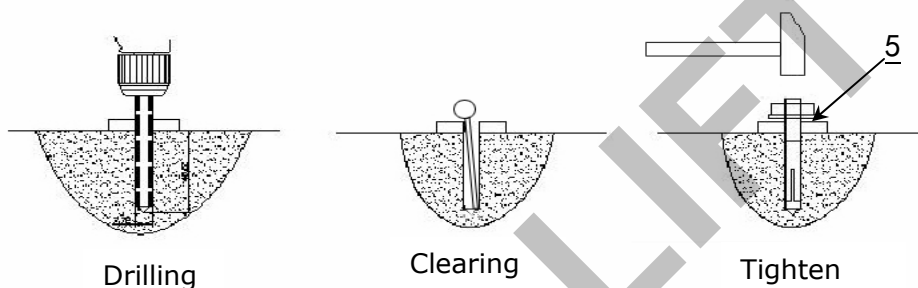


Fig. 14

F. Install the Safety Ladders

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

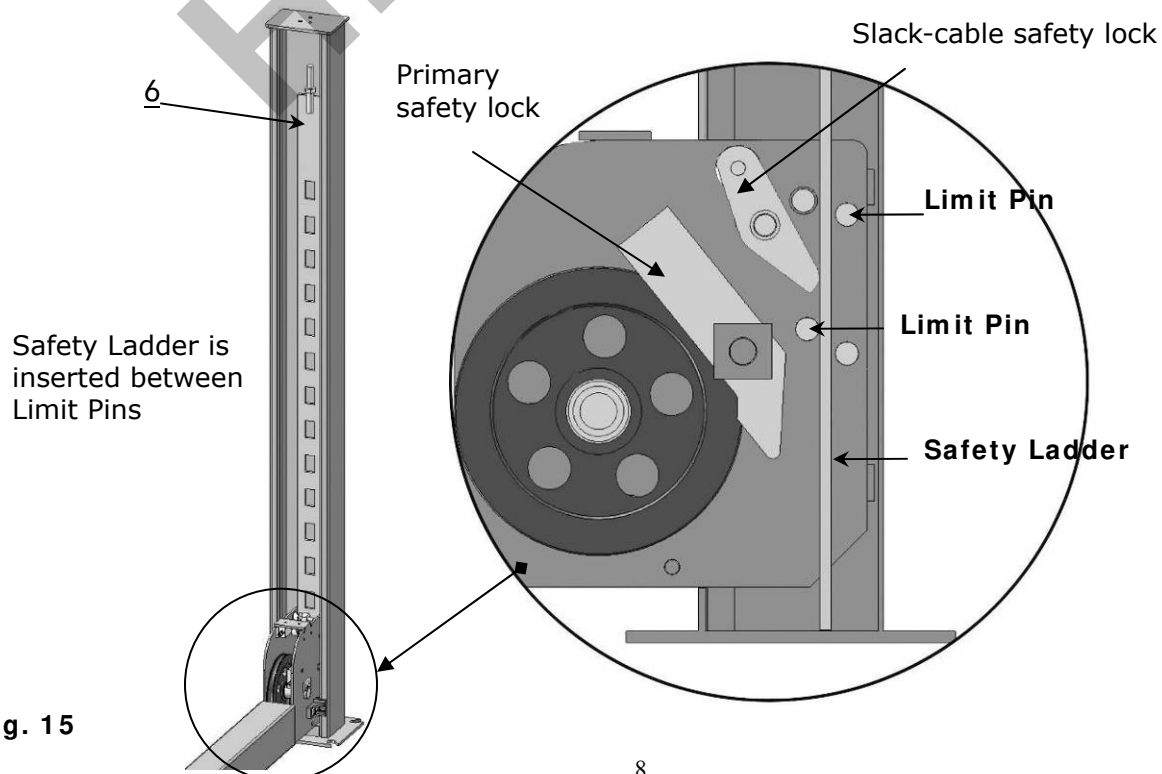


Fig. 15

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

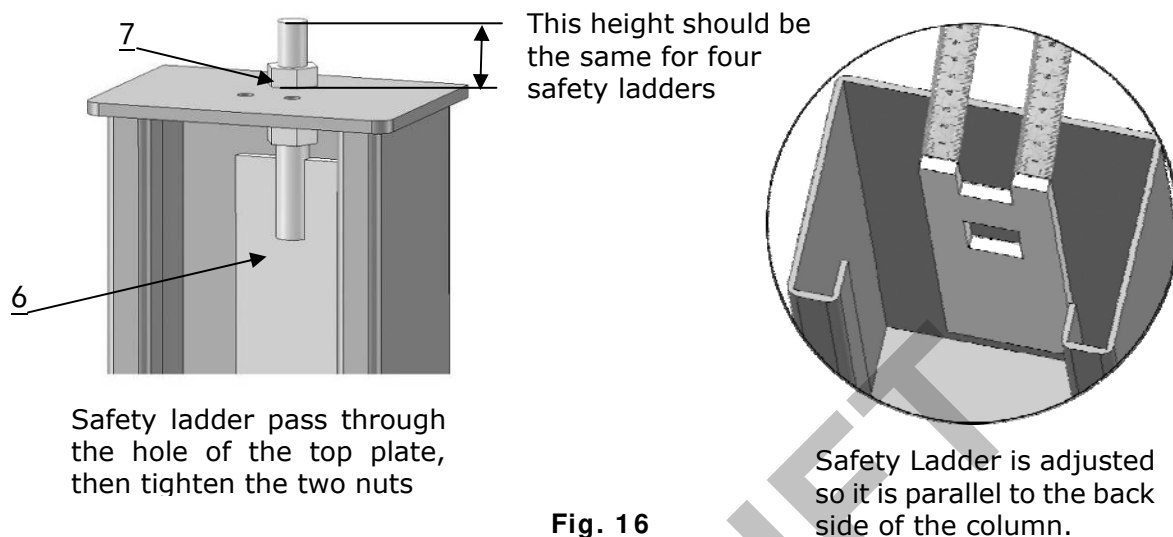


Fig. 16

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

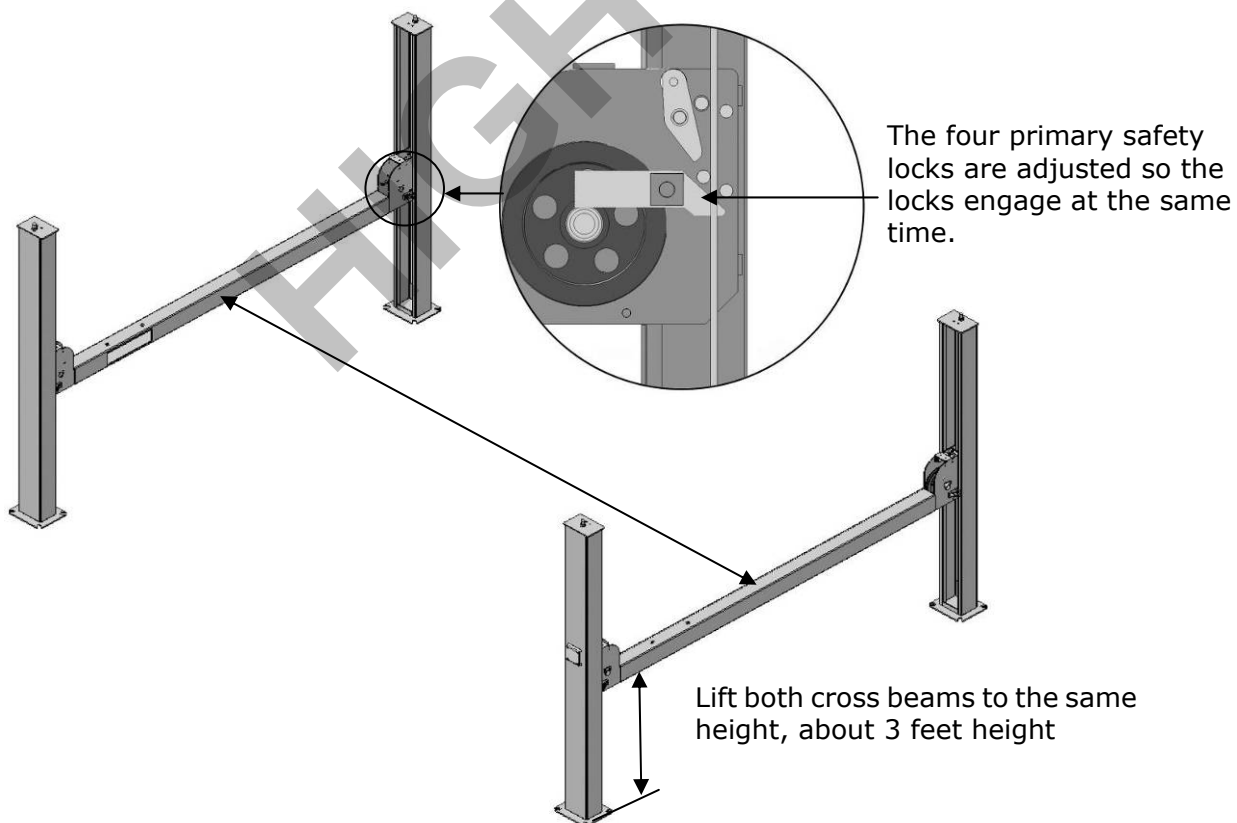


Fig. 17

H. Install power side platform.

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

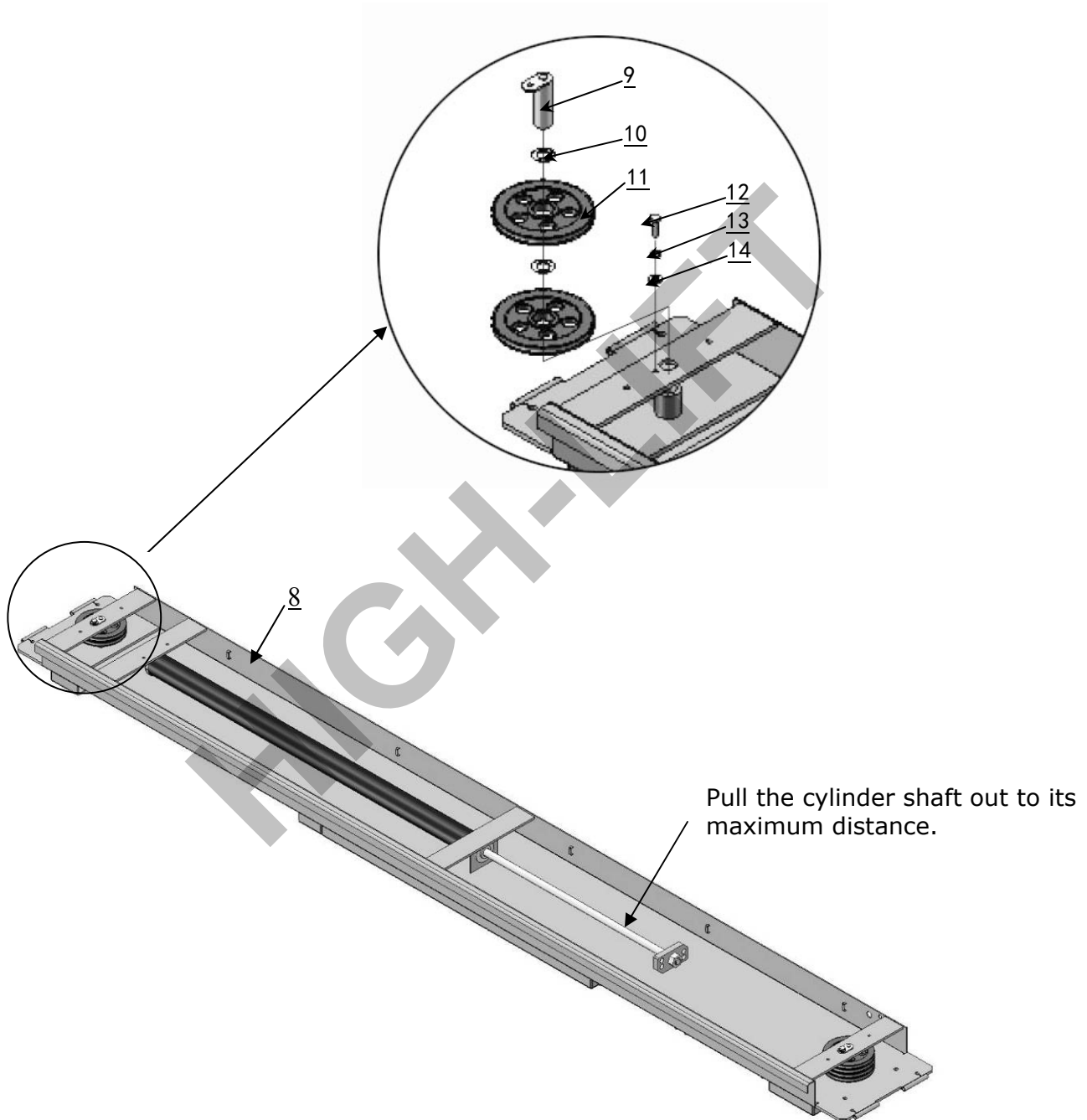


Fig. 18

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

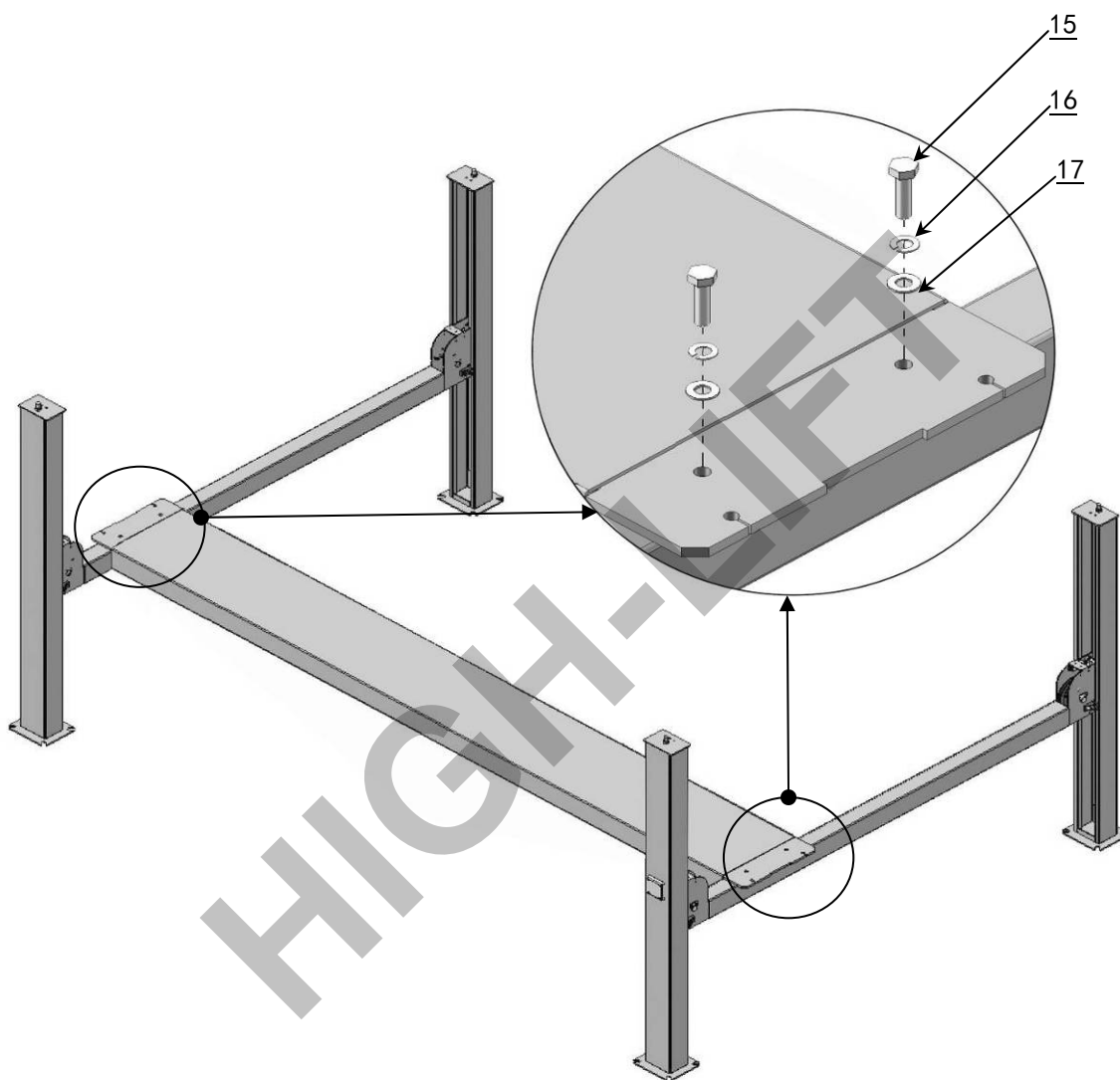


Fig. 19

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

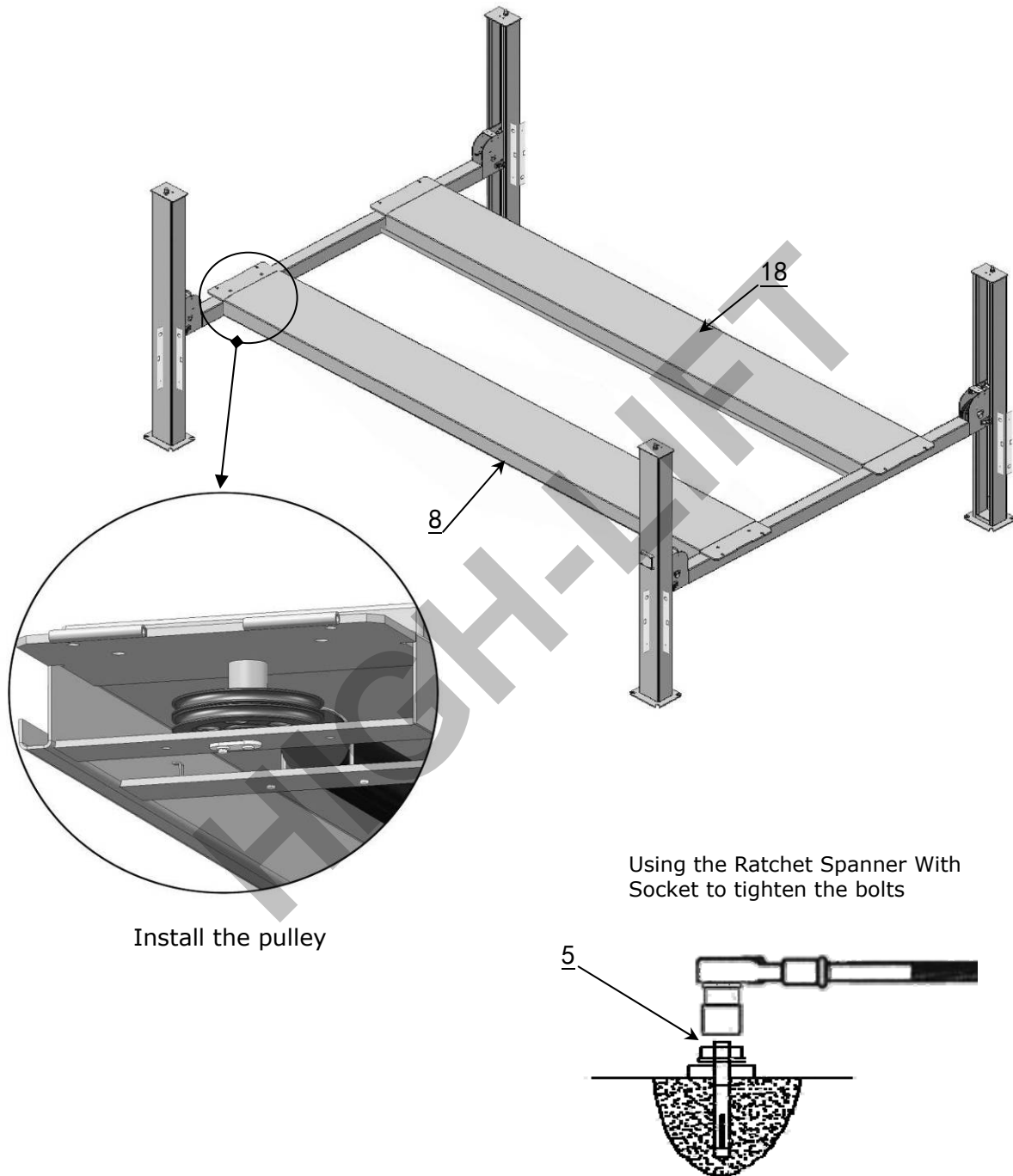
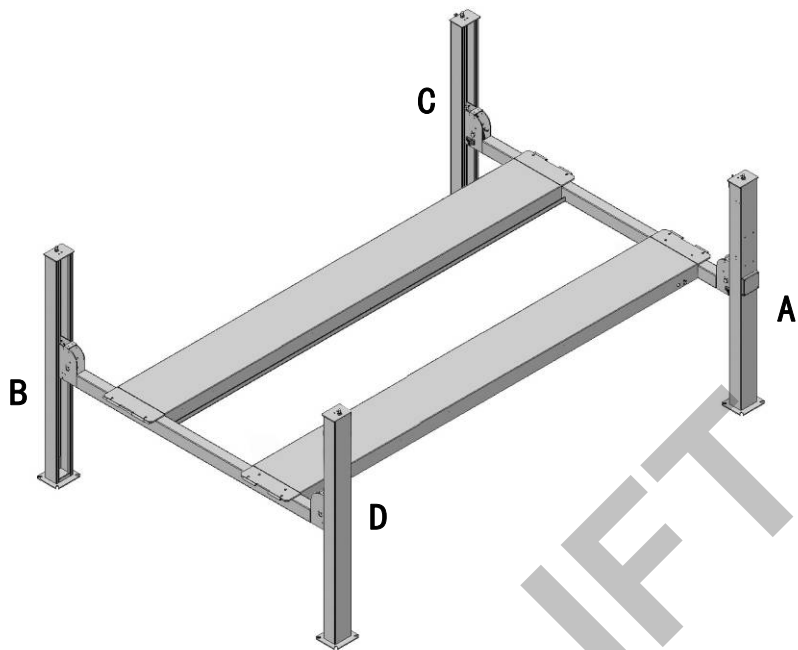


Fig. 20

J. Install cables (See Fig. 21).



NO.	①	②	③	④
Cable Length (inc. connecting fitting)	6670 mm	15940 mm	8490 mm	14100 mm

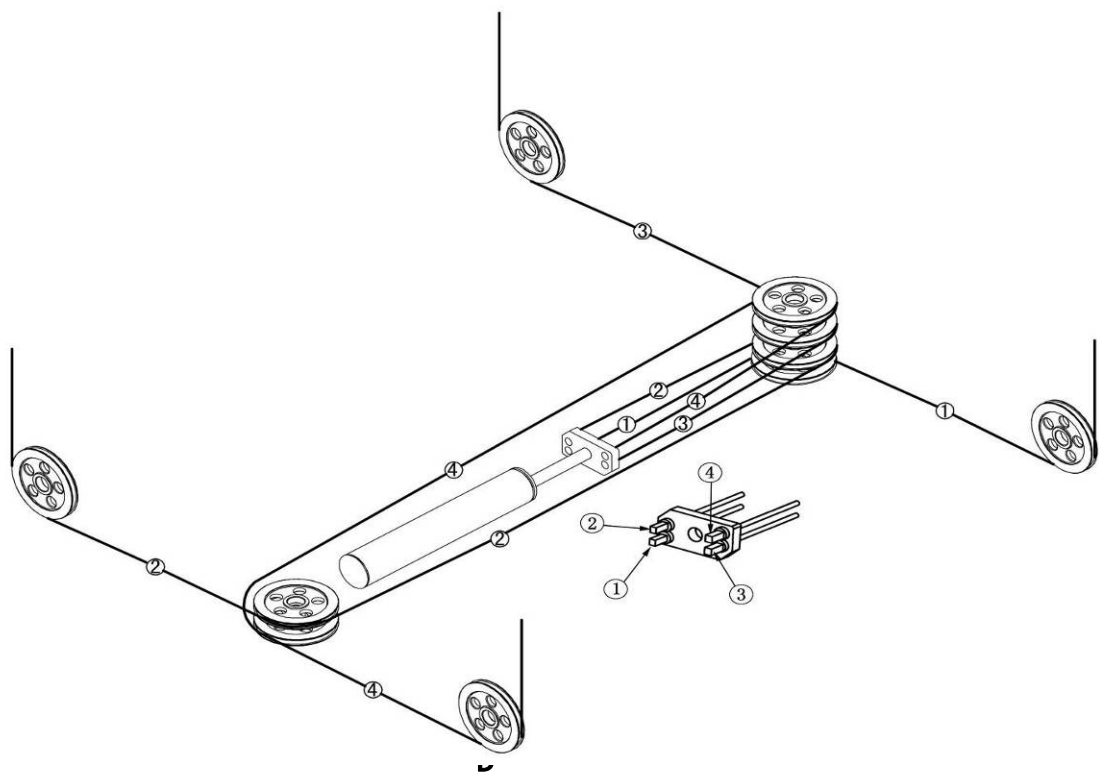


Fig. 21

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

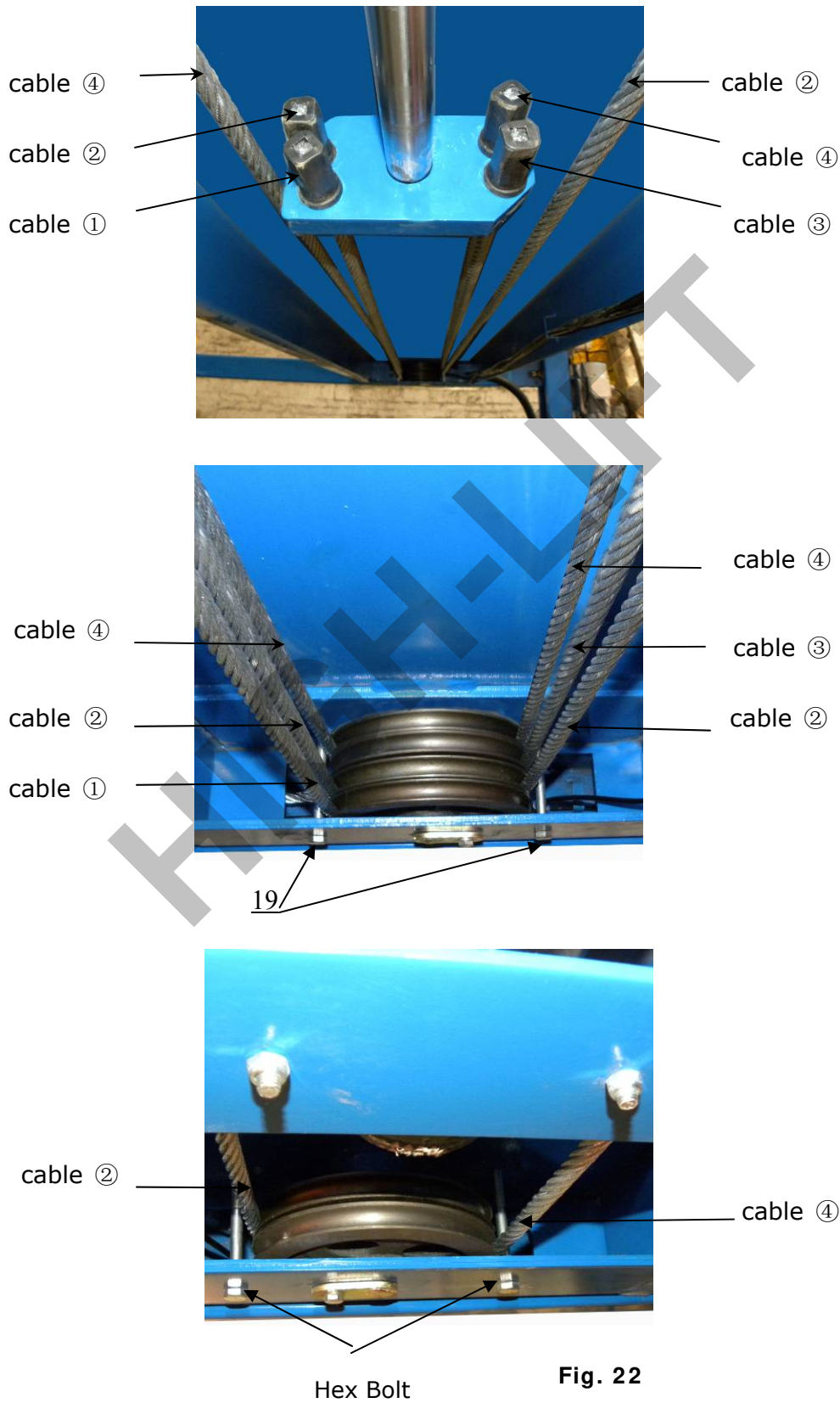


Fig. 22

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

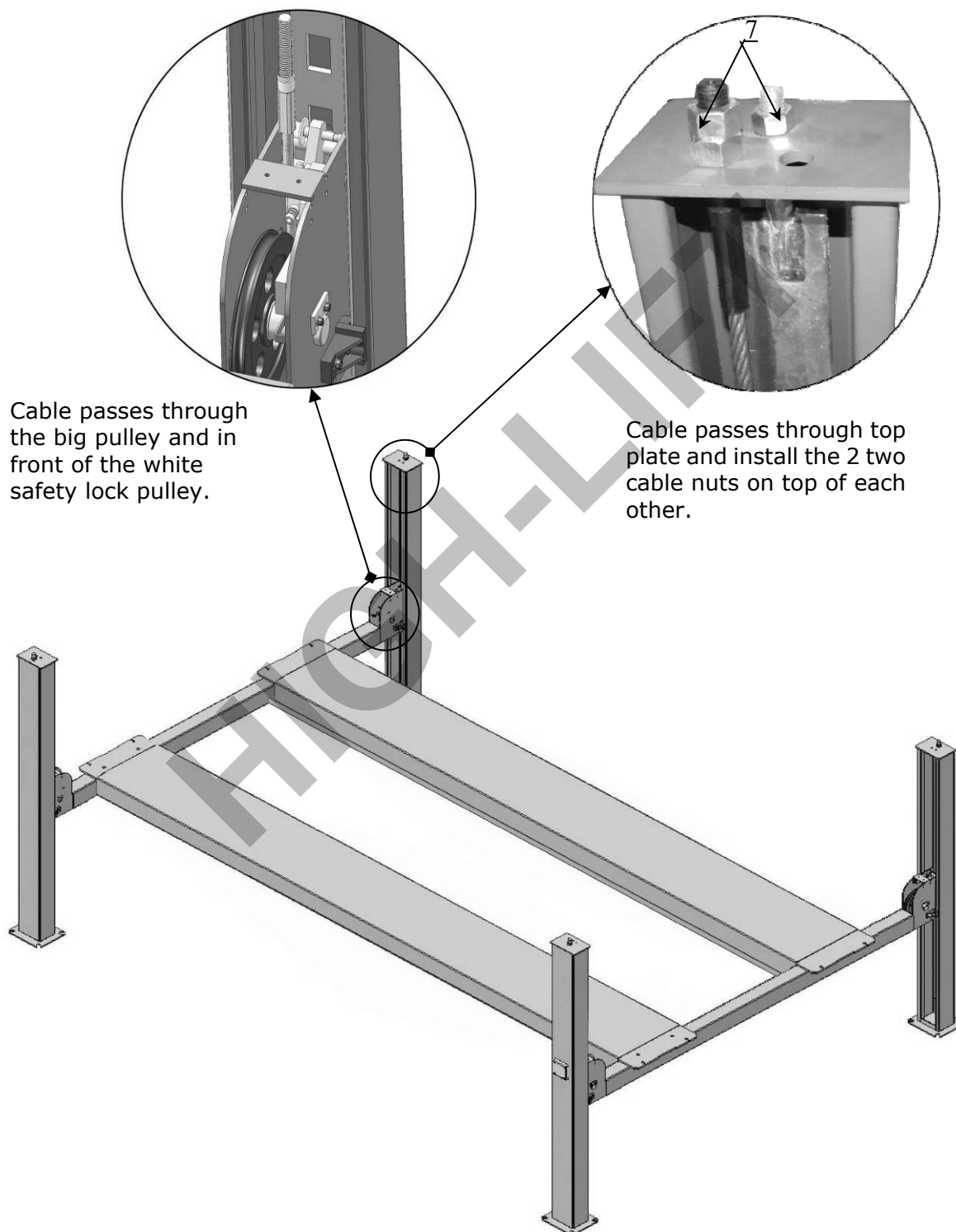


Fig. 23

N. Install Electrical System

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

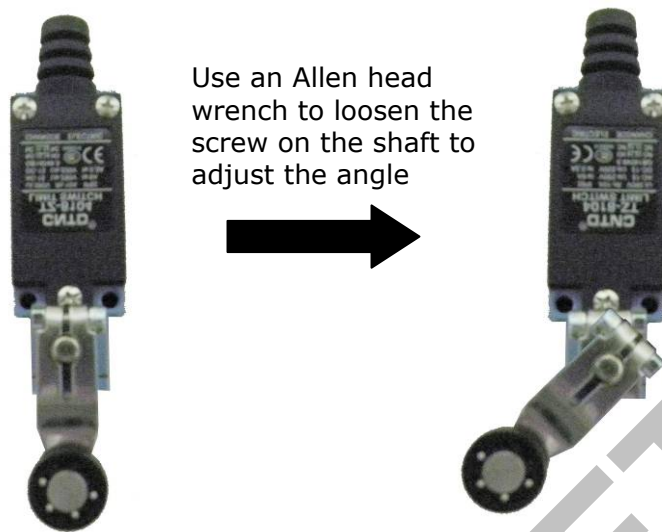


Fig. 30

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



Fig. 31

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

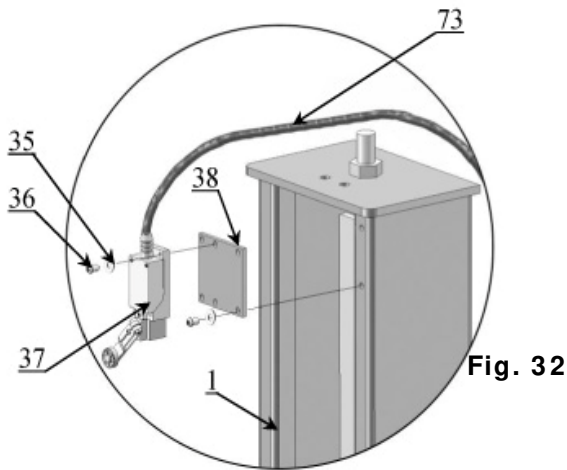


Fig. 32



Fig. 33

O. Electrical Connections

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

ATLAS Single phase motor (See Fig. 34).

1. Connect the two power supply lines (fire wire **L** and zero wire **N**) to terminals on the AC contactor marked **L2**, **L3**.
2. Connect the two motor wires to terminals on the AC contactor marked **T2**, **T3**.
3. Connect **A2** to **L3** on the AC contactor. It May already be installed (short jumper wire)
4. Connecting the Limit Switch: Remove the line of Connecting Terminal **4#** on the up button and **A1** on the AC contactor (See Fig. 35). Then connect wire **12#** on the Limit Switch with Terminal **4#** on the control button and connect wire **11#** with terminals **A1** on the AC contactor.

(See Fig. 36)

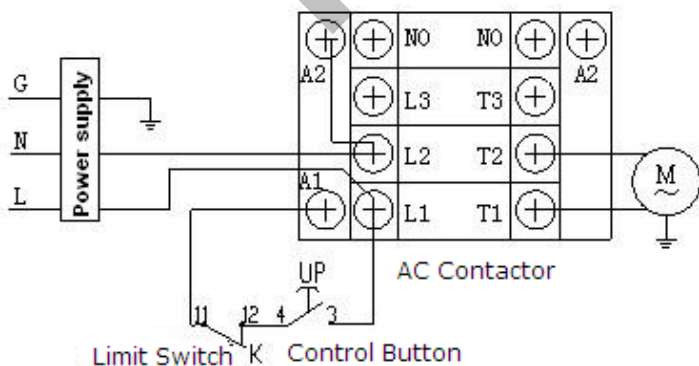
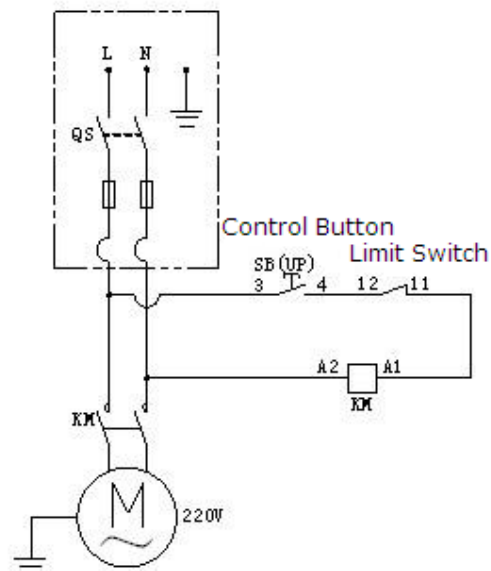


Fig. 34



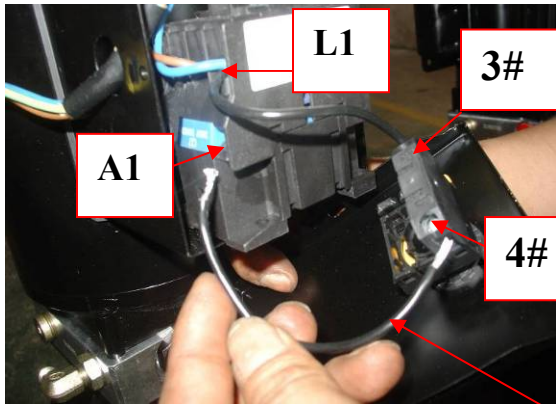


Fig. 35 Remove this line before connecting the Limit Switch

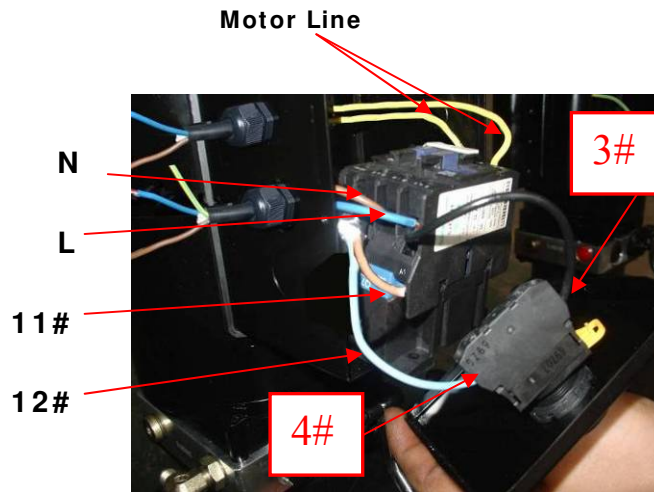


Fig. 36

SPX single phase motor (See Fig. 37)

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

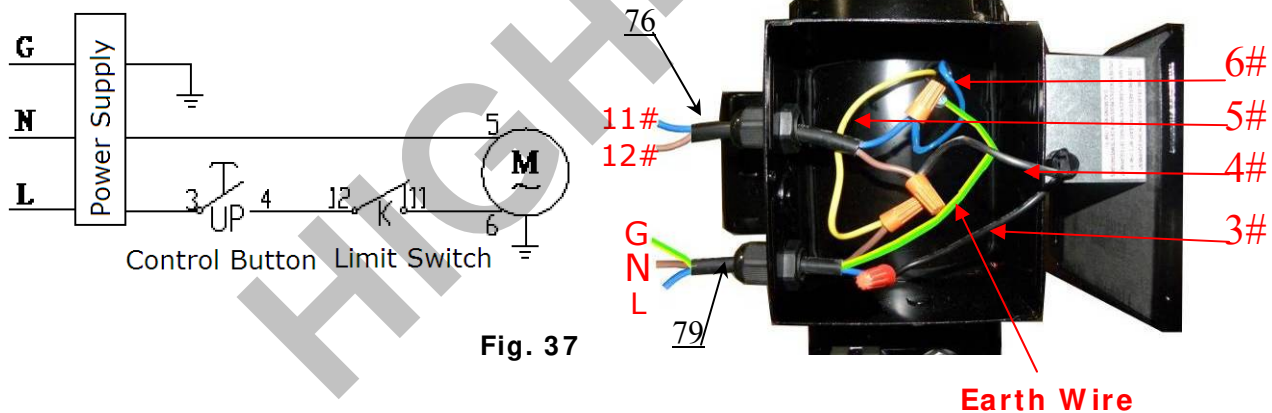


Fig. 37

P. Install Spring and Safety Cover of Cross Beam (See Fig. 38).

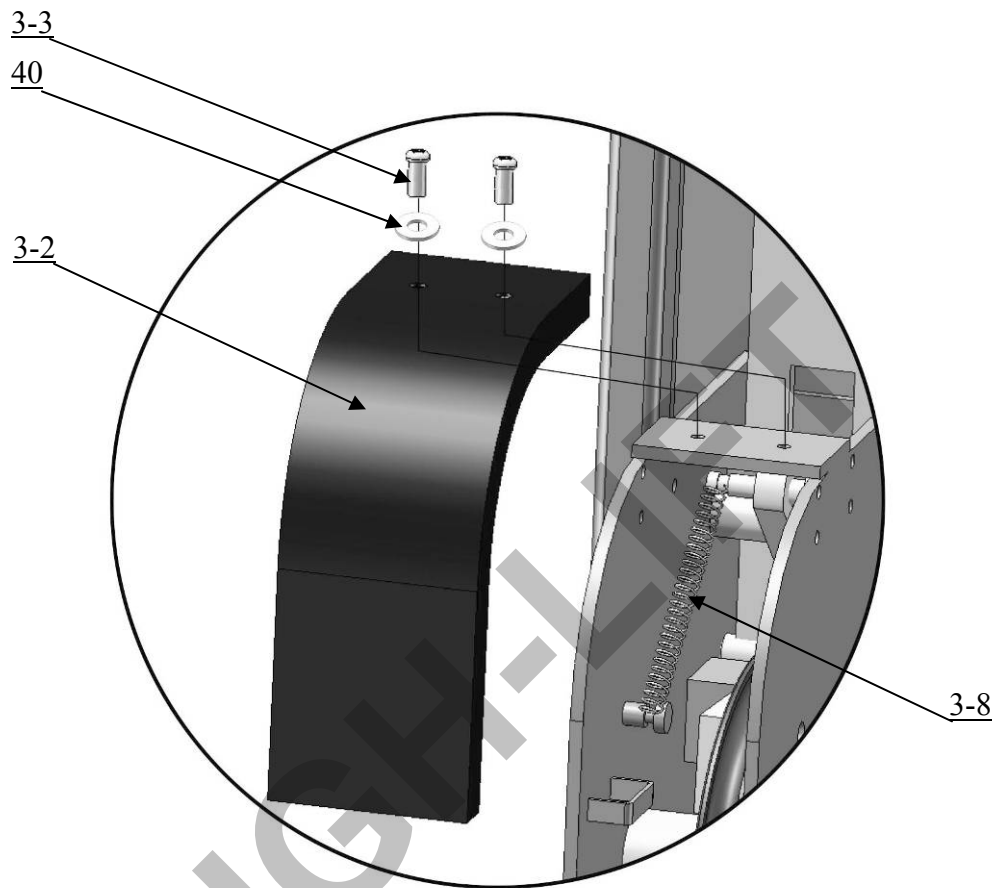
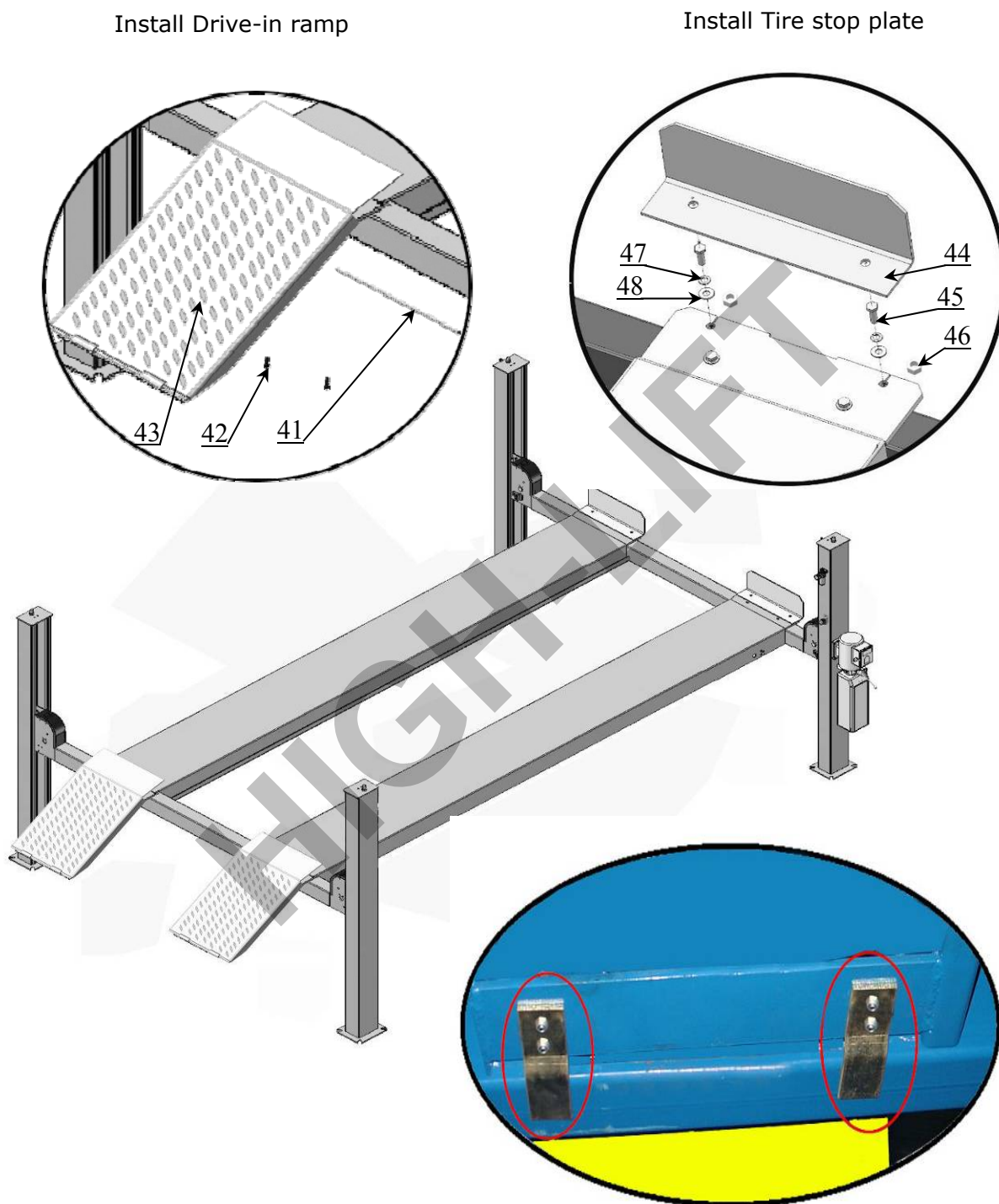


Fig. 38

Q. Install Drive-in ramp, Tire stop plate, Platform locks plates.

(See Fig. 39).



The lock plates are used to prevent the turning & slipping of the offside platform, Use the hex bolts M8×20. Bolt the plates to the front and rear on the platform.

Fig. 39

IV. EXPLODED VIEW

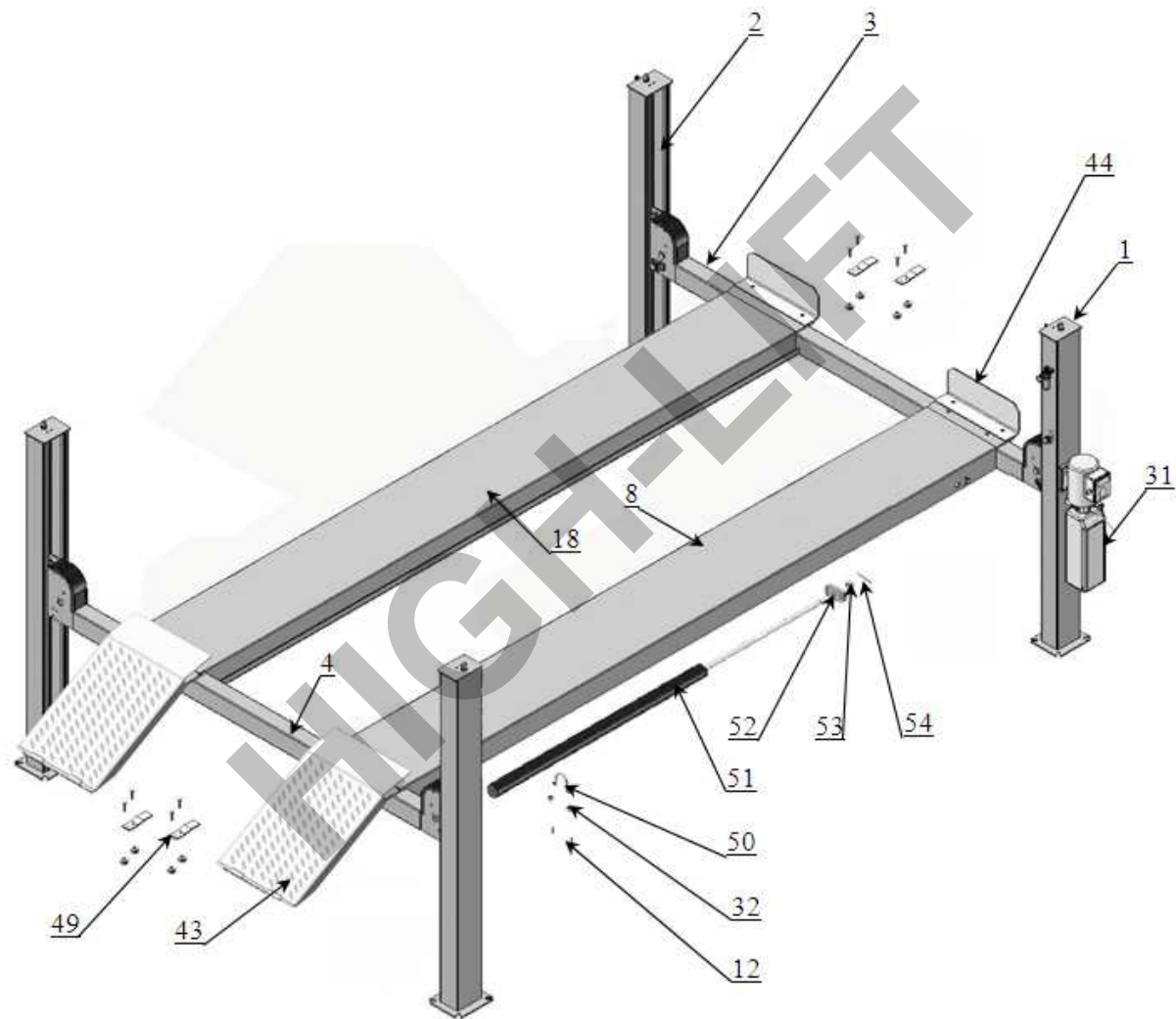


Fig. 40

CROSS BEAM

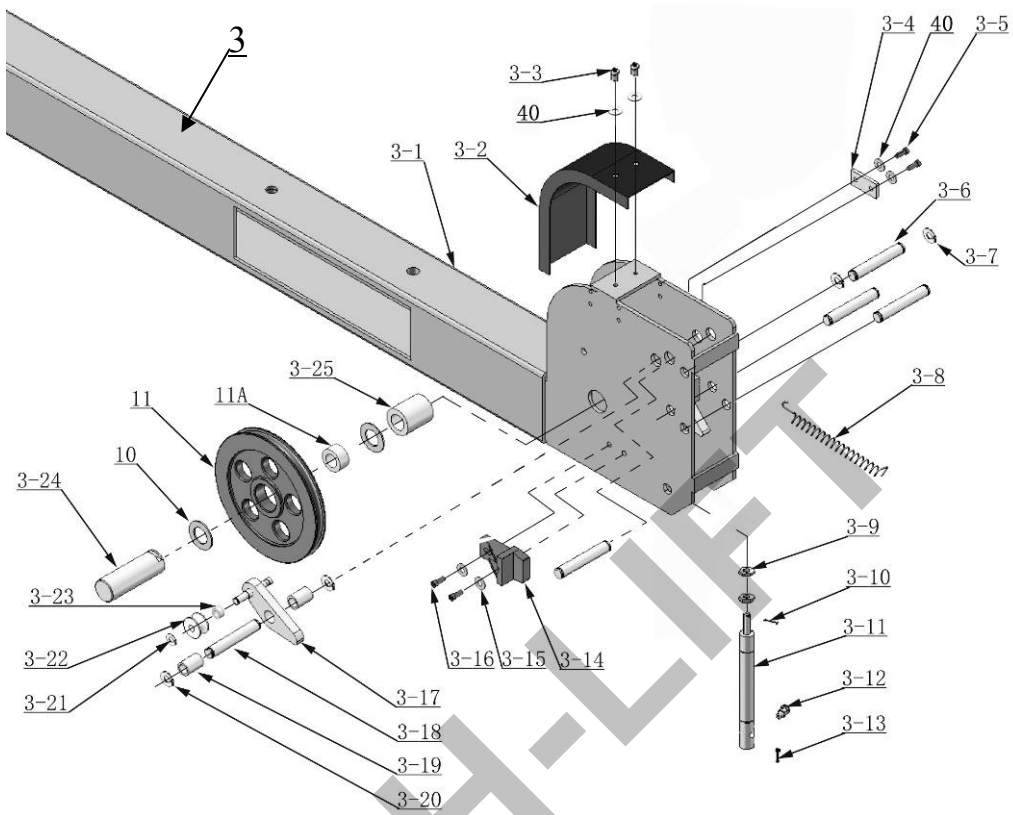


Fig. 41

CYLINDERS

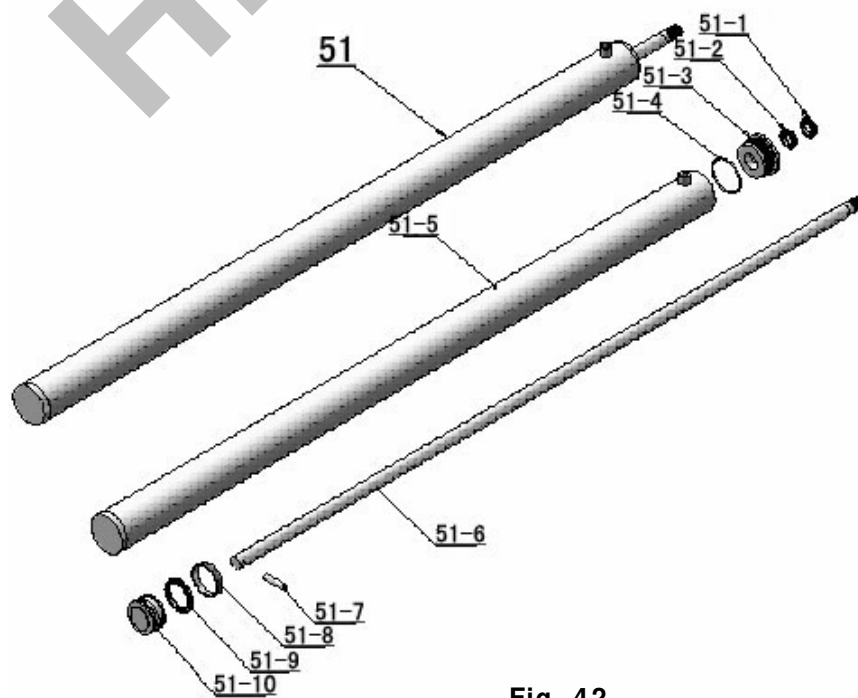


Fig. 42

POWER UNIT

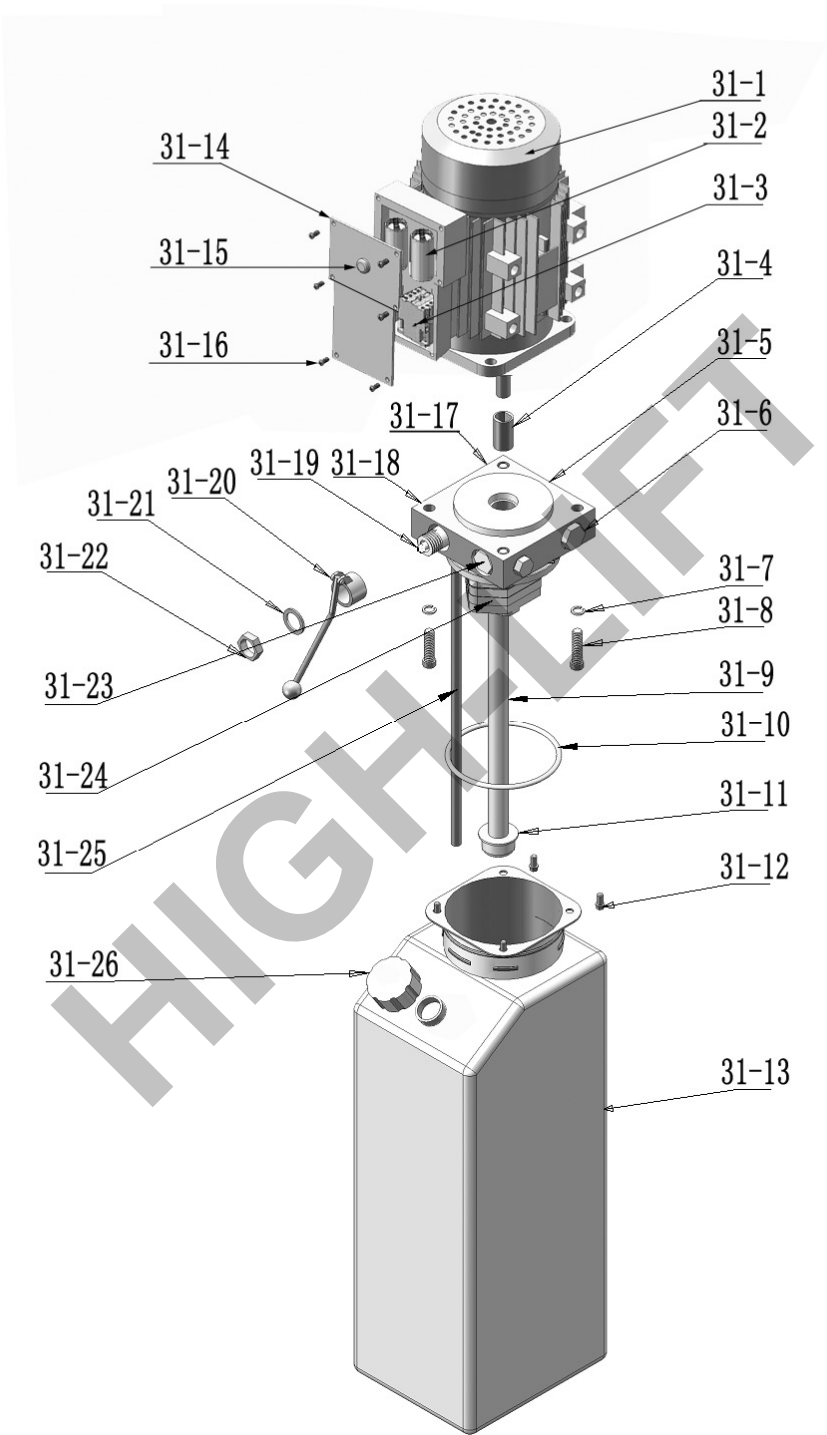
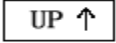


Fig. 43

V. TEST RUN

1. Fill the reservoir with approximately 3.75 gallons Hydraulic Oil (**Note:** In consideration of Power Unit's durability, please use **Hydraulic Oil AW46**)
2. Press button  , the cables will tighten up.
Make sure the cables are in the pulley grooves.
3. Press the Handle of release valve 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 so the platforms and four safety locks click at the same time. Run the lift up and down several times while listening for the safety locks to click at the same time.
5. Adjust the clearance between the post and the plastic slider of Cross-beam to about 2 mm, and then tighten the fixing nut of slider.
6. After finishing the above adjustment, test run the lift with a load. Run the lift with the platforms in low position first, make sure the platforms move up and down at the same time and the safety devices can lock and release at the same time. Test run the lift completely to the top. Repeat steps if necessary.

Circuit Diagram of Hydraulic System

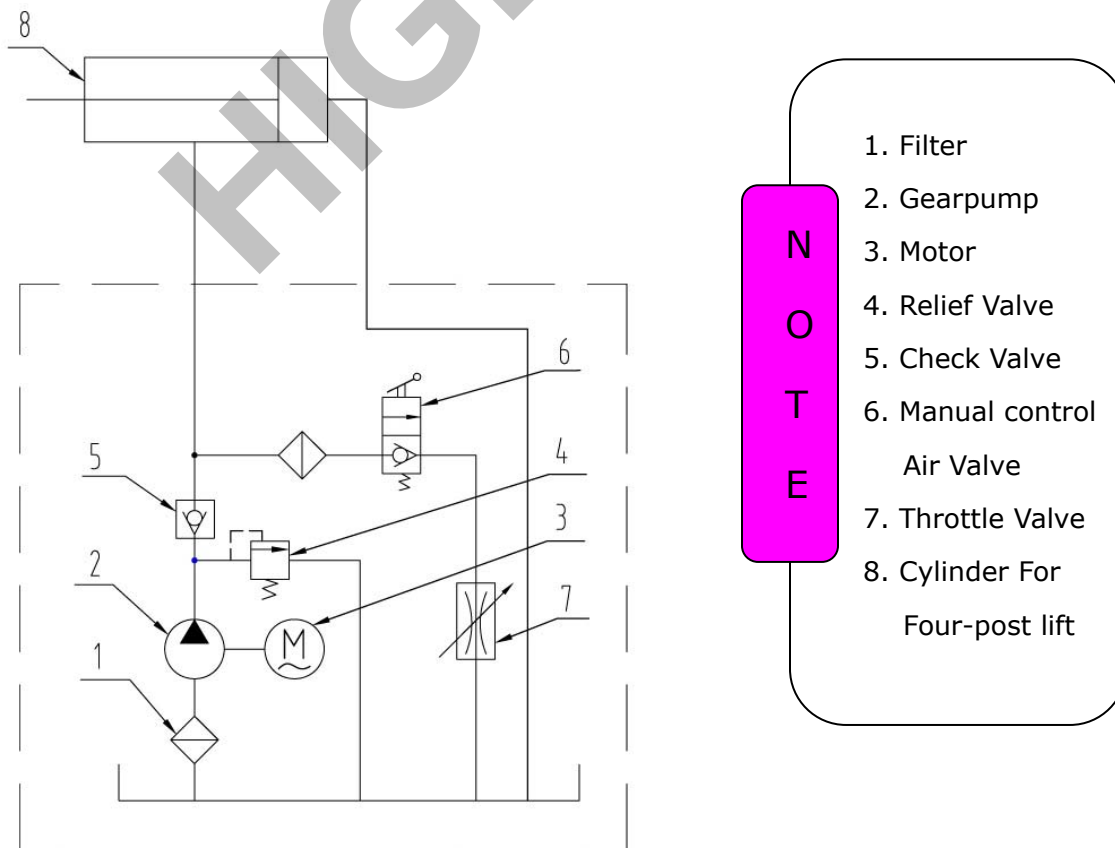


Fig. 44

VI. OPERATION INSTRUCTIONS

To lift vehicle

1. Keep the work area clean and free of clutter
2. Drive vehicle to the Platform and put on the brake
3. Turn on the power and press the button **UP** , raise the lift to the working position

Note: make sure the vehicle is steady when the lift is raised.

4. Push the handle on the release valve to rest the lift on the safety locks. Make sure the safety device is locked at the same height.

To lower vehicle

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

VII. MAINTENANCE SCHEDULE

Monthly:

1. Re-torque the anchor bolts to 850-100 Foot Pounds.
2. Lubricate cable with lubricant.
3. Check all cable connections, bolts and pins.
4. Make a visual inspection of all hydraulic hoses/lines for possible wear or leaks
5. Lubricate all Rollers, Safety devices with 90wt. gear oil or equivalent.

Note: All anchor bolts should take full torque. If any of the bolts do not tighten, DO NOT use the lift until the bolt has been replaced.

Every six months:

1. Make a visual inspection of all moving parts for possible wear, interference or damage.
2. Check and adjust as necessary, equalizer tension to 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. Release valve in damage 3. Gear pump in damage 4. Relief valve or check valve in damage 5. Low oil level	1. Reverse two power wires 2. Repair or replace 3. Repair or replace 4. Repair or replace 5. Fill tank
Lift does not stay up	1. Release valve does not work 2. Relief valve or check valve leakage. 3. Cylinder or fittings leak	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 can not lower	1. Safety device is activated 2. Release valve damaged 3. Air Cylinder damaged 4. Oil system is jammed	1. Release the safeties 2. Replace or repair 3. Replace the cylinder 4. Clean the oil system

EXPLODED VIEW

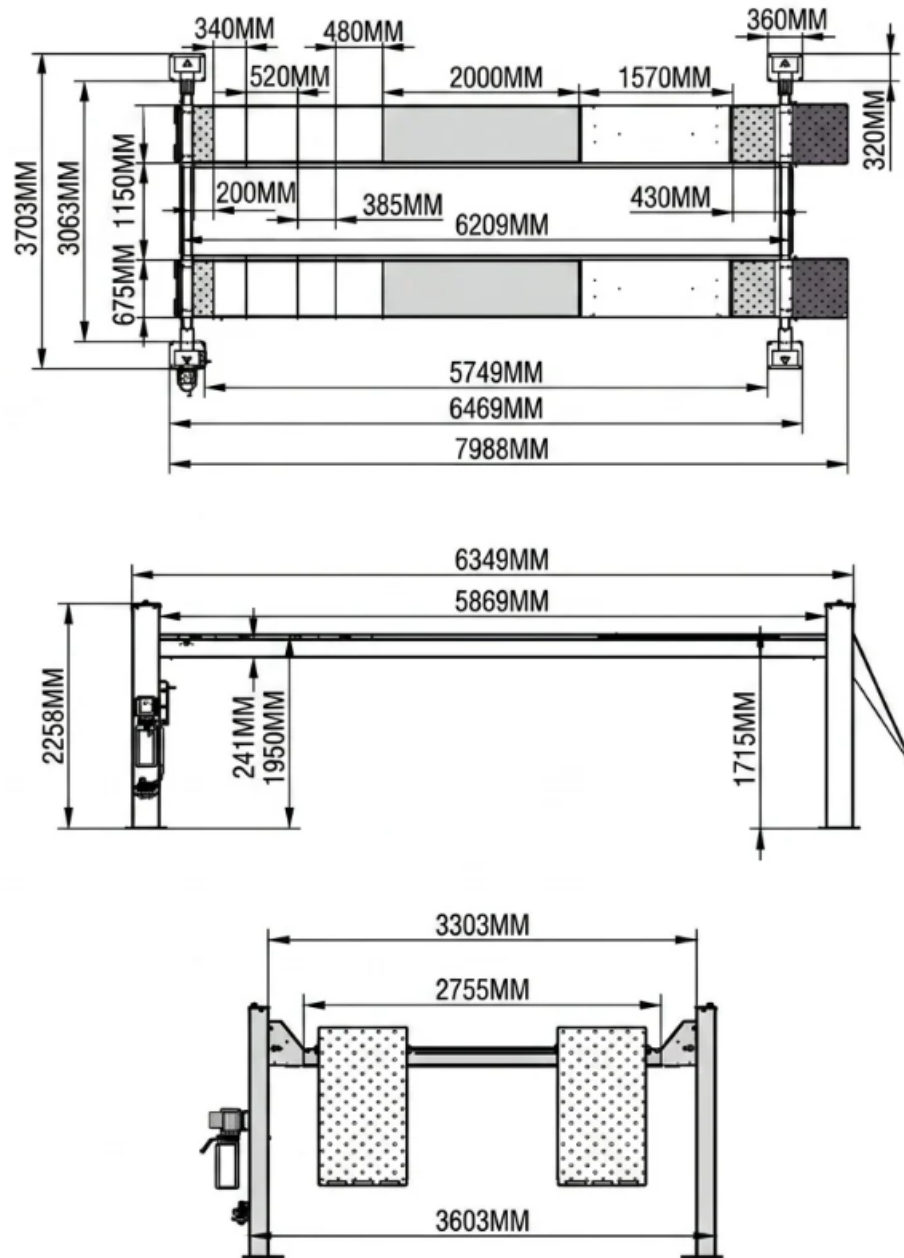


Figure 1

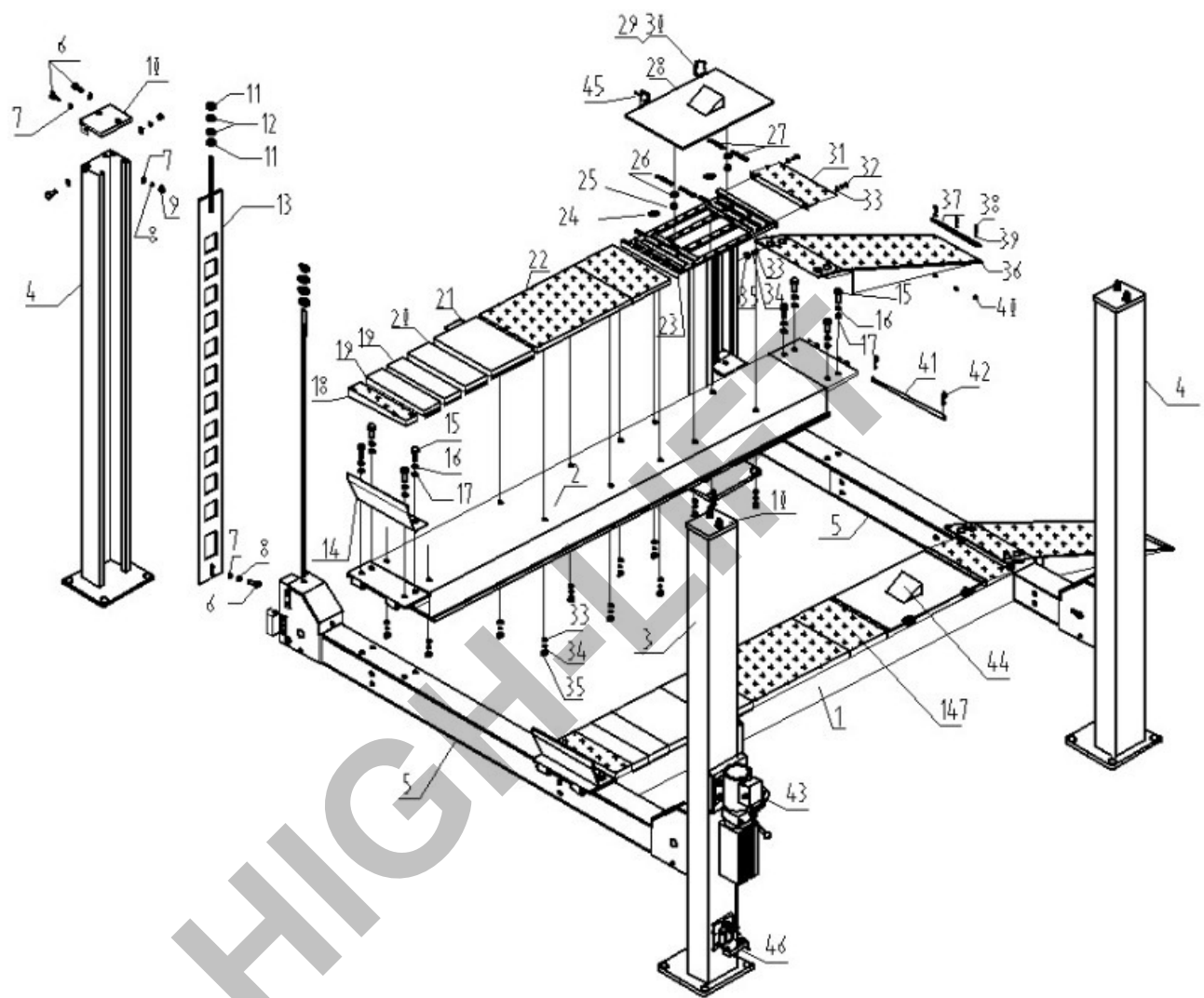


Figure 2

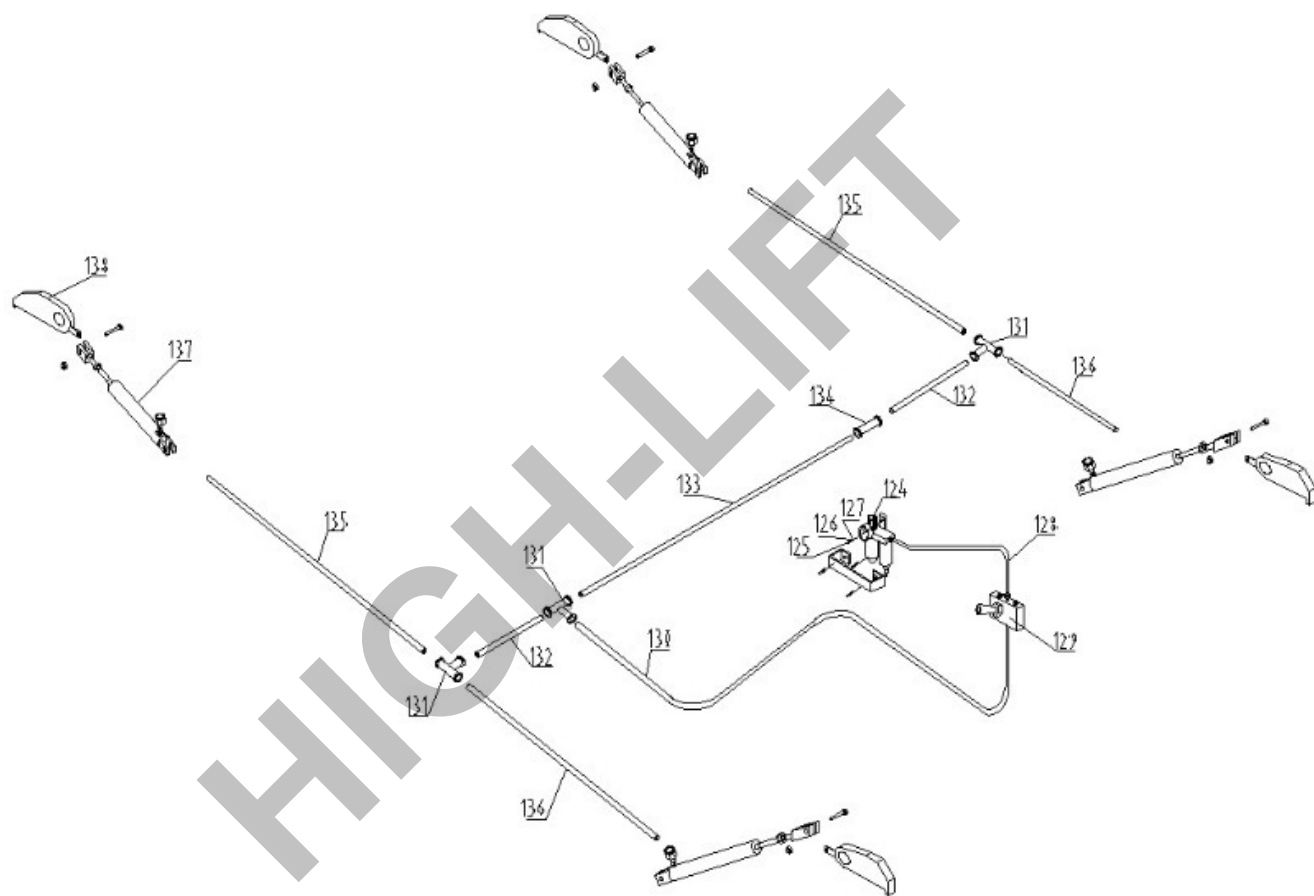


Figure 3

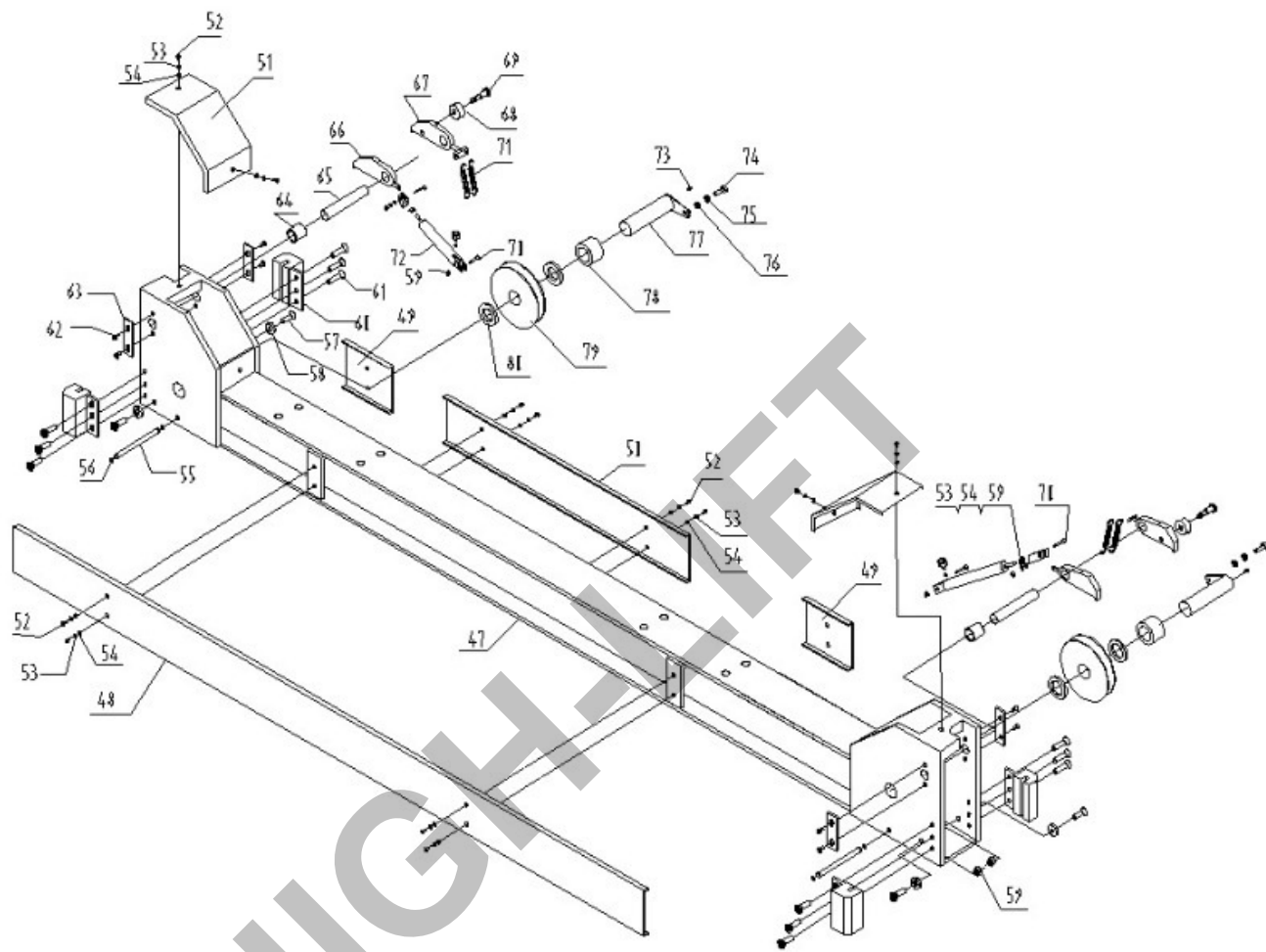


Figure 4

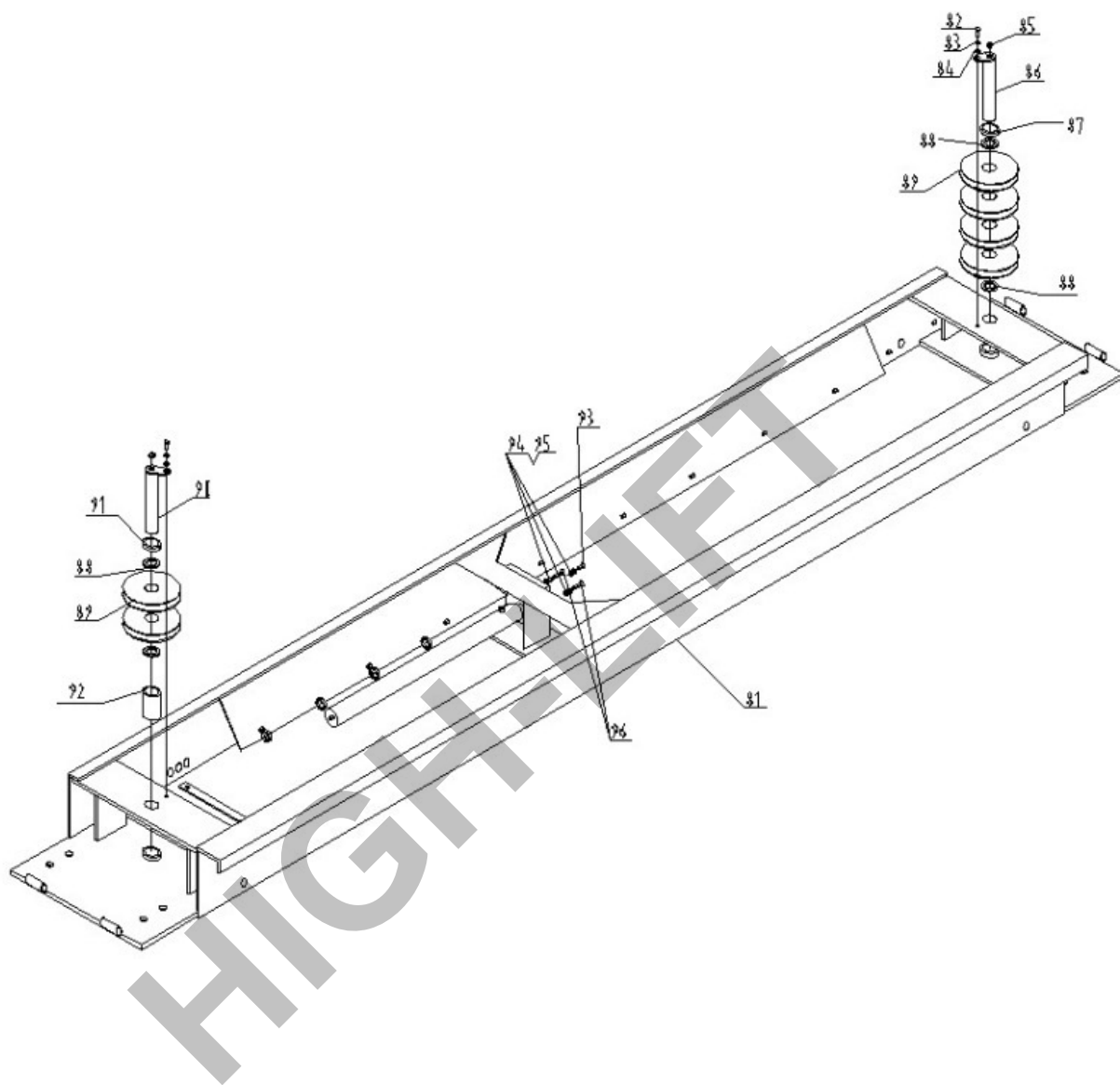


Figure 6

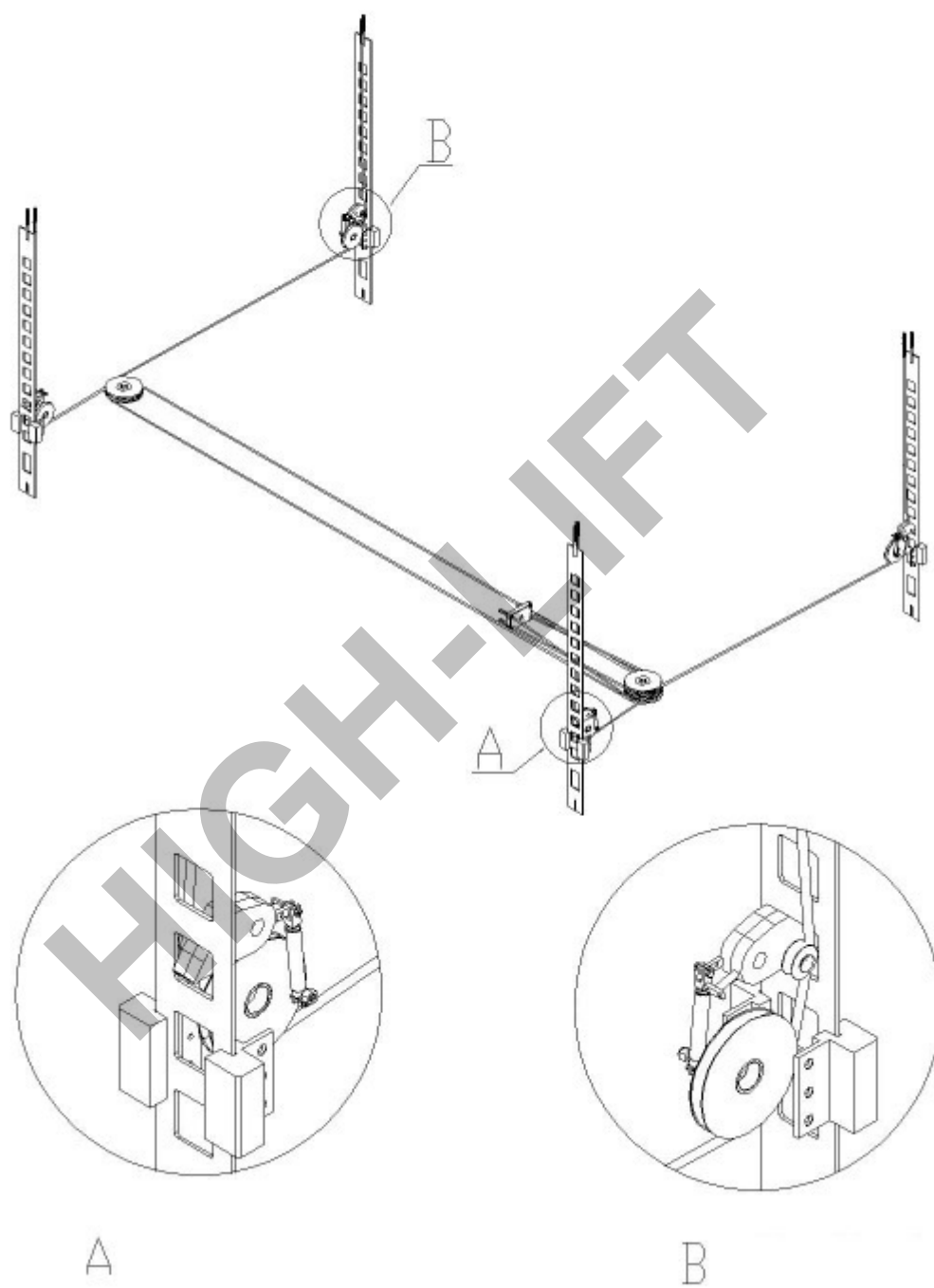


Figure 8

Lift part list

No.	Name	Qty	Remark
1.	Main runway	1	
2.	Subsidiary runway	1	
3.	Main column	1	
4.	Subsidiary column	3	
5.	Beam welding assembly	Each 1	Bilateral symmetry
6.	Hexagon bolt M12*30	20	
7.	Flat gasket 12	36	
8.	Spring washer 12	20	
9.	Nut M12	16	
10.	Column top cover welding assembly	Each 2	Bilateral symmetry
11.	Nut M18	8	
12.	Flat gasket 18	8	
13.	Insurance piece	4	
14.	Stop running plate	2	
15.	Hexagon bolt M12*40	16	
16.	Spring washer12	16	
17.	Flat gasket 12	16	
18.	Locating plate	2	
19.	Active plate 3	4	
20.	Active plate2	2	
21.	Active plate1	2	
22.	Middle plate1720	2	
23.	Slide plate wheel frame welding	2	
24.	Universal ball	88	
25.	Self-locking nut 12	4	
26.	Gasket inner12 outer40	4	
27.	Tension spring	8	
28.	Slide plate welding	2	
29.	Key ring	8	
30.	Chain	4	
31.	Small up ramp welding	2	
32.	Hexagon socket bolt M12*35	4	
33.	Flat gasket 12	32	
34.	Spring washer 12	28	
35.	Nut 12	28	

36.	Big up ramp welding	2	
37.	Up ramp slide block	2	
38.	Screw M5*16	6	
39.	Gasket 5	6	
40.	Nut 5	6	
41.	Up ramp pin	2	
42.	R type pin	4	
43.	Power unit	1	
44.	Brake block	2	
45.	Slide plate pin	4	
46.	Oil-mist separator protect bracket	1	
47.	Beam welding	Each 1	Bilateral symmetry
48.	Long beam side plate	2	
49.	Short beam side plate	4	
50.	Middle bam side plate	2	
51.	Beam head cover	4	
52.	Screw M6*15	32	
53.	Spring washer 6	36	
54.	Flat gasket 6	36	
55.	Wire rope limit pin	4	
56.	12 Snap spring	8	
57.	Screw M6*25	8	
58.	Nylon cushion	8	
59.	Self-locking nut M6	16	
60.	Slide block	8	
61.	Screw M8*20	24	
62.	Screw M6*15	16	
63.	Safety axle dam-board	8	
64.	Beam safety check ring	4	
65.	Beam safety axle	4	
66.	Air safety hook	Each 2	Bilateral symmetry
67.	Breakage insurance hook	Each 2	Bilateral symmetry
68.	Safety limit wheel	4	
69.	Beam safety limit axle	4	
70.	Hexagon bolt M6*25	8	
71.	tension spring	8	
72.	Air cylinder assembly	4	
73.	Nipple	4	
74.	Hexagon bolt M8*15	4	
75.	Spring washer 8	4	
76.	Flat gasket 8	4	
77.	Beam pulley axle welding	4	
78.	Beam pulley check ring	4	

79.	Beam pulley	4	
80.	Flat gasket 40	8	
81.	Main platform welding	1	
82.	Hexagon bolt M8*15	2	
83.	Spring washer 8	2	
84.	Flat gasket 8	2	
85.	Nipple	2	
86.	Platform pulley axle 1	1	
87.	Beam pulley axle sleeve 1	1	
88.	Gasket 42	4	
89.	Wire rope pulley 248	6	
90.	Platform pulley axle 2	1	
91.	Beam pulley axle sleeve 2	1	
92.	Beam pulley axle sleeve 3	1	
93.	Hexagon socket screw M10*20	1	
94.	Flat gasket 10	3	
95.	Spring washer 10	3	
96.	Hexagon socket screw M10*40	2	
97.	Main platform	1	
98.	Power unit	1	
99.	Hexagon bolt M8*25	4	
100.	Flat gasket 8	8	
101.	Hexagon bolt M12*40	2	
102.	Spring washer 8	4	
103.	Nut 8	4	
104.	Copper backing	1	
105.	Through joint	1	
106.	Oil tube L=2340mm	1	
107.	American system 9/16 Nut	1	
108.	Flat gasket 14	1	
109.	Big angle joint	1	
110.	Oil tube L=2020mm	1	
111.	Explosion-proof valve assembly	1	
112.	Small angle joint	1	
113.	Oil cylinder	1	
114.	Silencer	1	
115.	Wire rope pulling plate	1	
116.	Oil cylinder pulling plate slide block	2	
117.	Screw M6*12	2	
118.	Wire rope lock plate	1	
119.	Self-locking nut 30	1	
120.	Oil cylinder limit base	1	

121.	Flat gasket 12	2	
122.	Spring washer 12	2	
123.	Nut 12	2	
124.	Big oil-mist separator	1	
125.	Screw M6*15	4	
126.	Spring washer 6	4	
127.	Flat gasket 6	4	
128.	Air pipe L=800mm	1	
129.	Hand valve assembly	1	
130.	Air pipe L=2600mm	1	
131.	Tracheal tee	3	
132.	Air pipe 1	2	
133.	Air pipe 2	1	
134.	Tracheal pass-through	1	
135.	Air pipe 3	2	
136.	Air pipe 4	2	
137.	Air cylinder assembly	4	
138.	Air safety hook	Each 2	Bilateral symmetry
139.	Nut 20	8	
140.	Flat gasket 20	8	
141.	Wire rope L=11923mm	1	
142.	Wire rope L=10346mm	1	
143.	Wire rope L=4576mm	1	
144.	Wire rope L=6153mm	1	
145.	Beam pulley	4	
146.	Run pulley	6	
147.	Middle plate 610	2	