

# WEAVER W9-3D Automotive lift



**WEAVER**  
E Q U I P M E N T

Please read this manual before operation

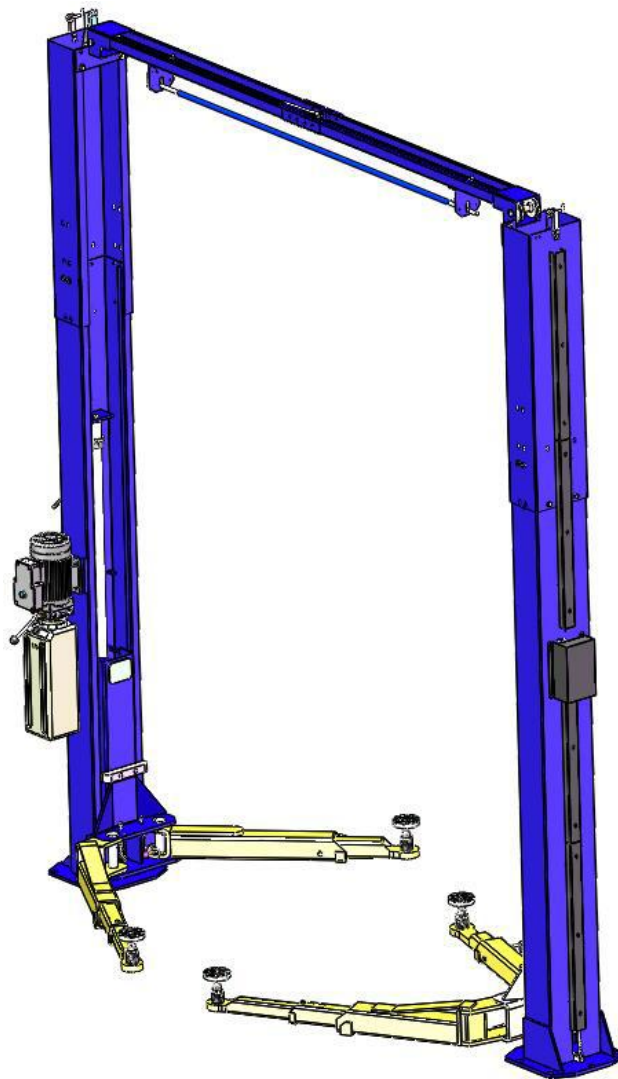
# WEAVER

## LIFT



## W9-3D Installation & Operation Manual

9000 lb. Capacity Overhead  
Asymmetric Two Post Lift



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Inc.**

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READ MANUAL ENTIRELY BEFORE INSTALLING OR OPERATING LIFT

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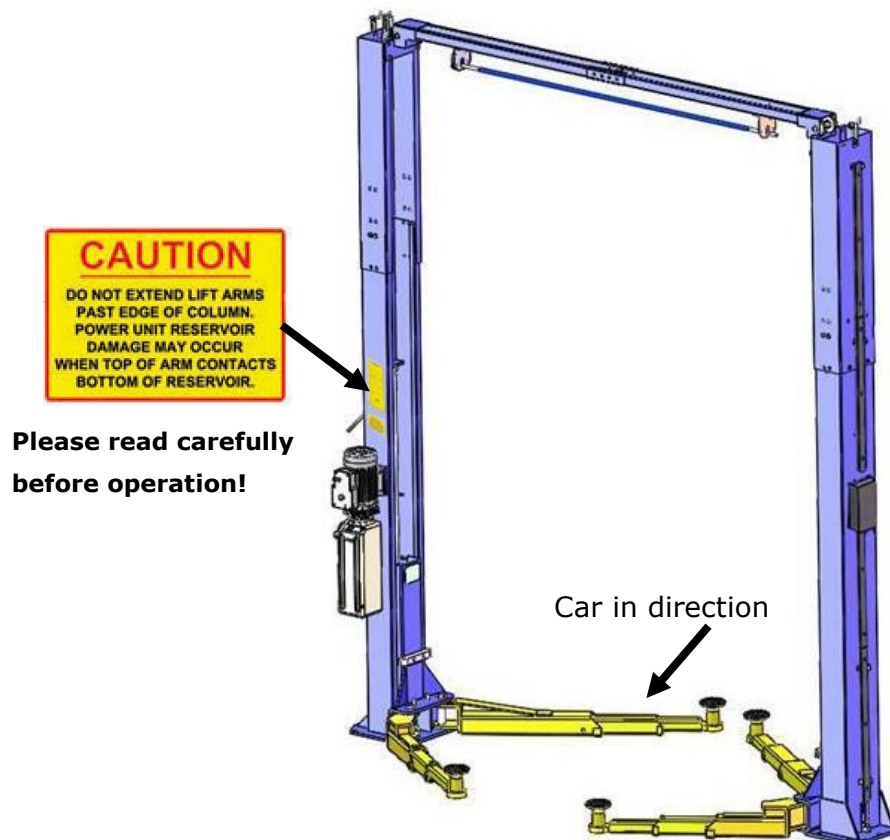
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## I. PRODUCT FEATURES AND SPECIFICATIONS

### CLEAR-FLOOR DIRECT-DRIVE MODEL FEATURES

#### Weaver Lift Model W9-3D (See Fig. 1)

- Direct-drive design minimizes wear parts and repairs.
- Dual hydraulic cylinders designed and made on ANSI standards, utilizing NOK oil seal for cylinder.
- Self-lubricating UHMW Polyethylene sliders and bronze bushings.
- Single-point safety release and dual safety design.
- Clear-floor design provides for unobstructed floor space.
- Overhead safety shut-off device prevents vehicle damage.
- Super-asymmetric arms arms design.
- Standard adjustable heights (2) accommodate varying ceiling heights.

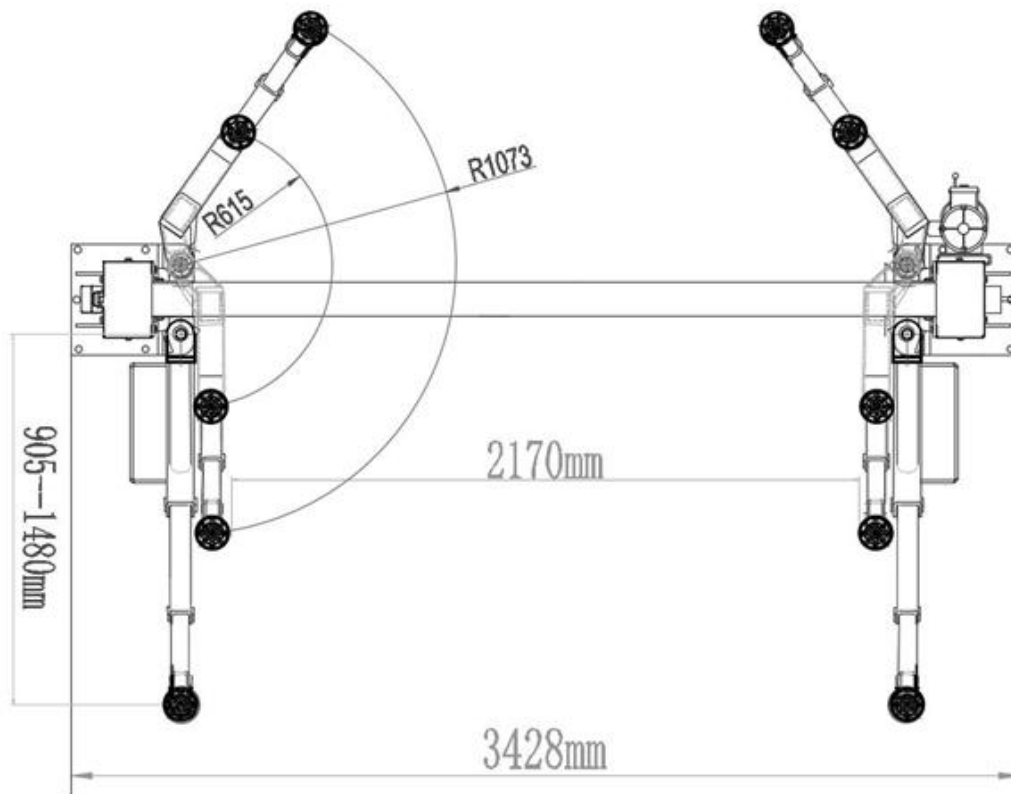


#### MODEL Weaver W9-3D SPECIFICATIONS

Fig. 1

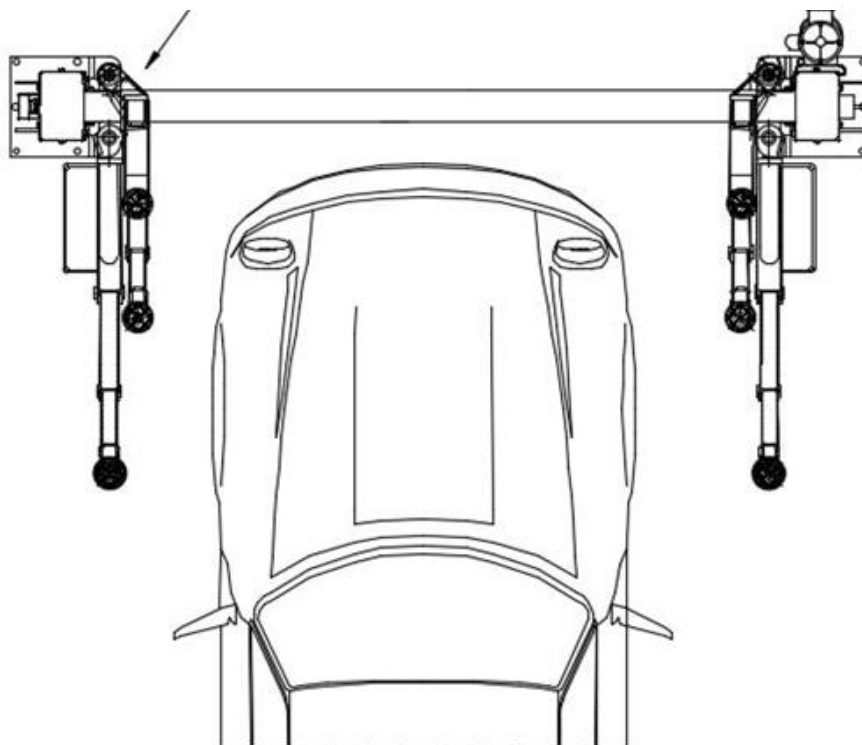
Model	Style	Lifting Capacity	Lifting Time	Lifting Height	Overall Height	Overall Width	Width Between Columns	Minimum Pad Height	Motor
W9-3D	Clear-floor Direct-driven	4.0T 9,000 lbs	52S	1815-2044mm 71 1/2"-80 1/2"	3621/3821mm 142 1/2"/ 150 1/2"	3428mm 135"	2850mm 112 1/4"	90mm 3 1/2"	2.0/3.0 HP

**Swing Arm View  
For Weaver Lift Model W9-3D**



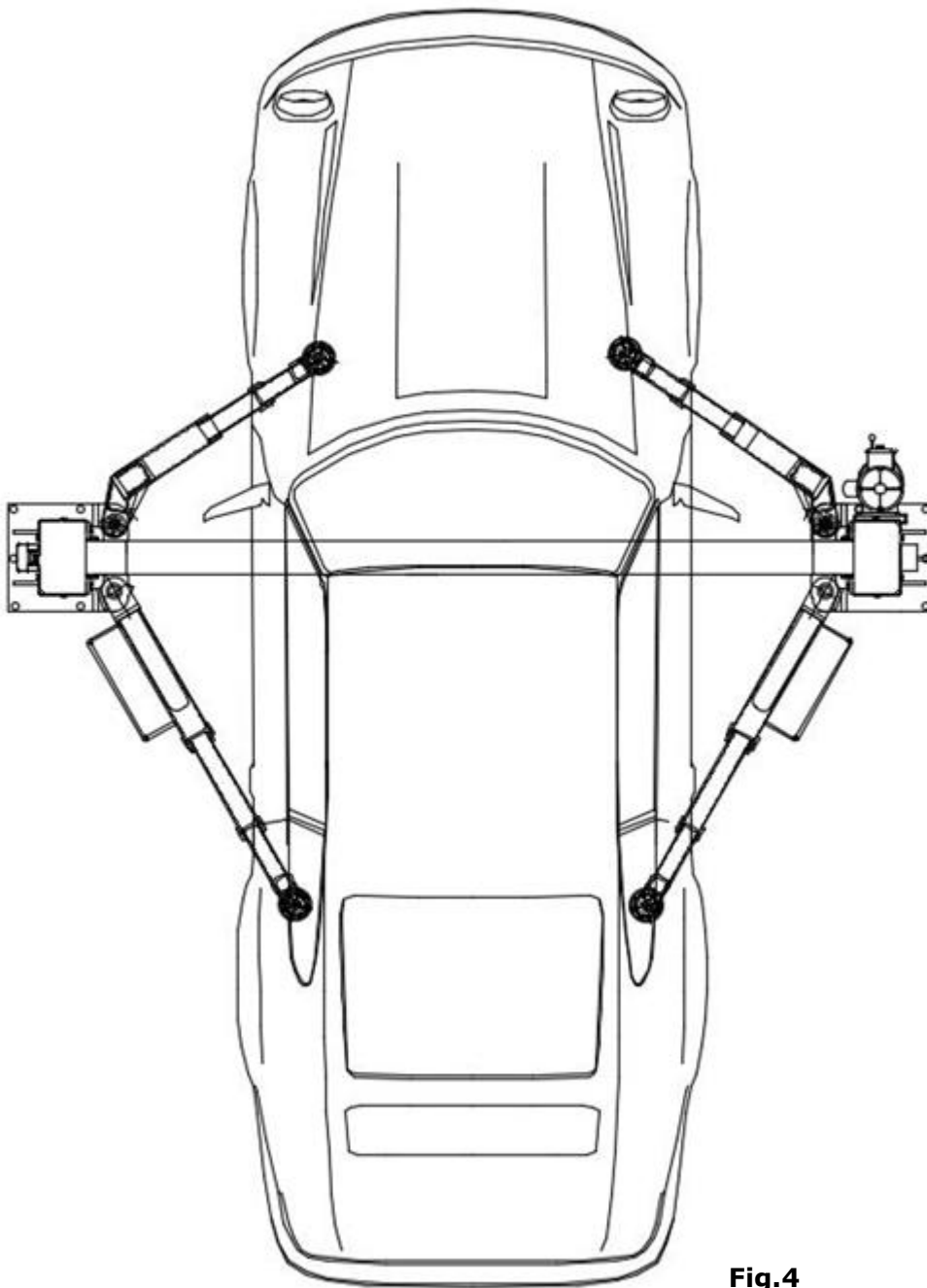
**Fig.2**

**Attention! Please make sure to place the arms in correct position before car drive in !**



**Fig.3**

Swing and extending the arms to the lifting point of vehicle



**Fig.4**

## II. INSTALLATION REQUIREMENT

### A. TOOLS REQUIRED

- ✓ Rotary Hammer Drill ( $\Phi 19$ )



- ✓ Hammer



- ✓ Level Bar



- ✓ English Spanner (12")



- ✓ Ratchet Spanner With Socket (28#)



- ✓ Wrench set  
(8#, 10#, 13#, 14#, 17#, 19#, 24#)



- ✓ Carpenter's Chalk



- ✓ Screw Sets



- ✓ Tape Measure (7.5m)



- ✓ Pliers



- ✓ Socket Head Wrench (3#, 5#, 8#)



- ✓ Lock Wrench



Fig. 5

## **B. SPECIFICATIONS OF CONCRETE**

*Failure to adhere to the specifications of concrete may result in Lift Failure.*

### **FOUNDATION and ANCHORING REQUIREMENTS**

1. Concrete shall have compression strength of at least 3,000 PSI and a minimum thickness of 4" in order to achieve a minimum anchor embedment of 3 1/4". NOTE: When using the standard supplied 3/4" x 5 1/2" long anchors, if the top of the anchor exceeds 2 1/4" above the floor grade, you DO NOT have enough embedment.
2. Maintain a 6" minimum distance from any slab edge or seam. Hole to hole spacing should be a minimum 6 1/2" in any direction. Hole depth should be a minimum of 4". Drilling through the slab is recommended in case an anchor needs to be replaced it can be driven down through the slab. O
3. DO NOT install on asphalt or other similar unstable surface. Columns are supported only by anchoring to floor.
4. Using the shims provided, shim each column base as required until each column is plumb. If one column has to be elevated to match the plane of the other column, full size base shim plates should be used. Torque anchors to 100 ft-lbs. Shim thickness MUST NOT exceed 1/2" when using the 5 1/2" long anchors provided with the lift. Adjust the column extensions plumb.
5. If anchors do not tighten to 100 ft-lbs. installation torque, replace the concrete under each column base with a 4' x 4' x 6" thick 3,000 PSI minimum concrete pad keyed under and flush with the top of existing floor. Allow concrete to cure before installing lifts and anchors (typically 2 to 3 weeks).

## **C. POWER SUPPLY**

The power requirement is 220 Volt 1 phase power with a 30 amp circuit breaker. Use a minimum of 10 gauge wiring.

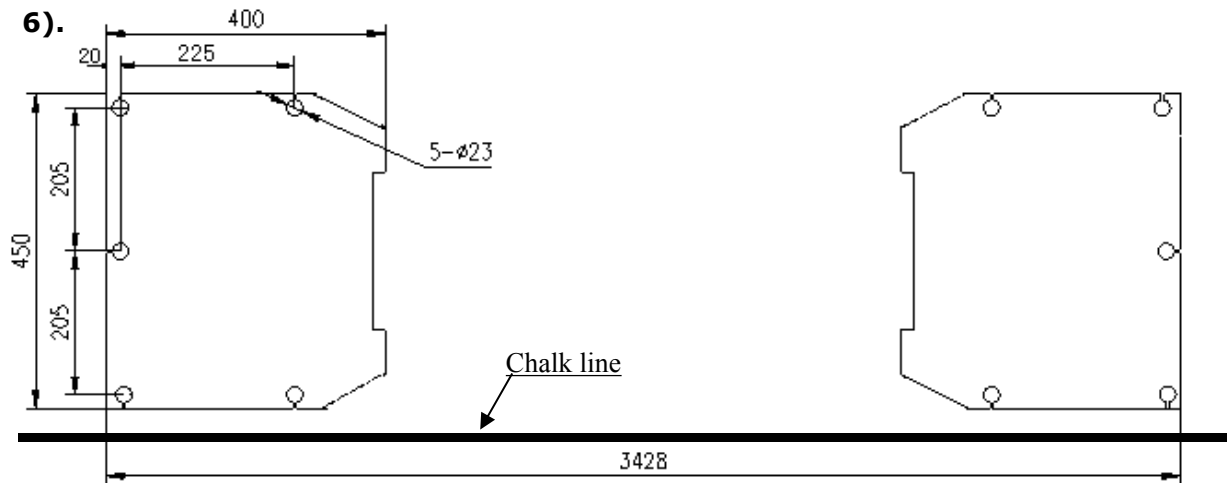


### III. STEPS OF INSTALLATION

#### A. Location of Installation

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

#### B. Use a carpenter's chalk line to establish installation layout of base plate (See Fig. 6).



**Overall Width 135"**

**Fig. 6**

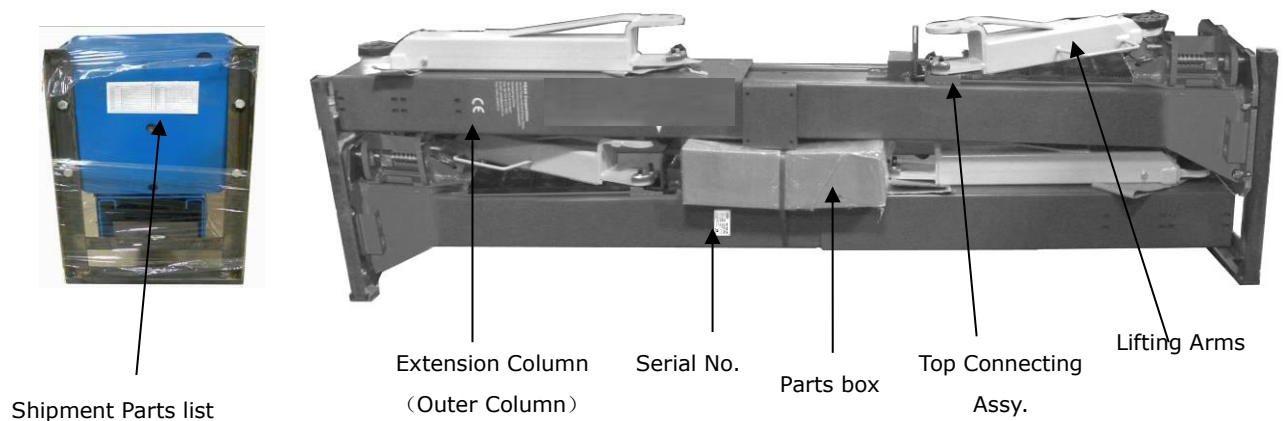
#### C. Check the Parts Before Assembly.

1. Packaged lift and Hydraulic Power Unit (**See Fig. 7**).



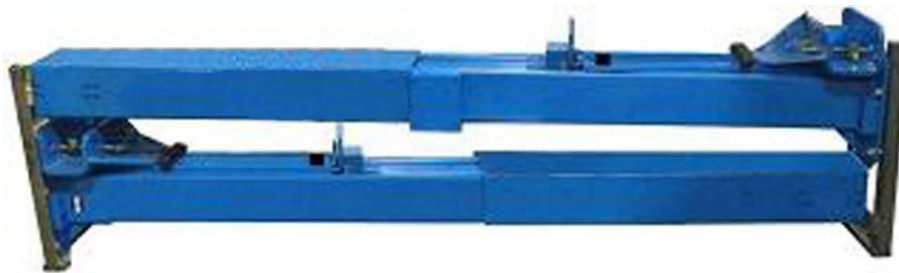
**Fig. 7**

2. Move aside the lift with fork lift or hoist, and open the outer packing carefully  
(See Fig. 8).



**Fig. 8**

3. Take off the lifting arms and parts box from upper and inside the column, then move them to location nearby installation site. Loosen the screws of the upper package stand, take off the upper column and remove the package stand (See Fig. 9).



**Fig. 9**

4. Check the parts according to the shipment parts list (See Fig. 10).



**Fig. 10**

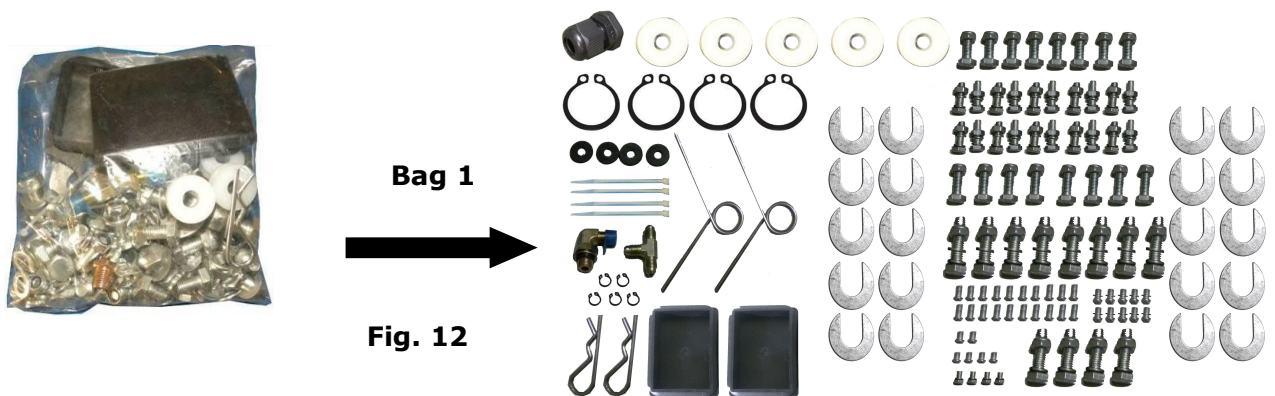
5. Open the carton of parts and check the parts according to parts box list (See Fig. 11).



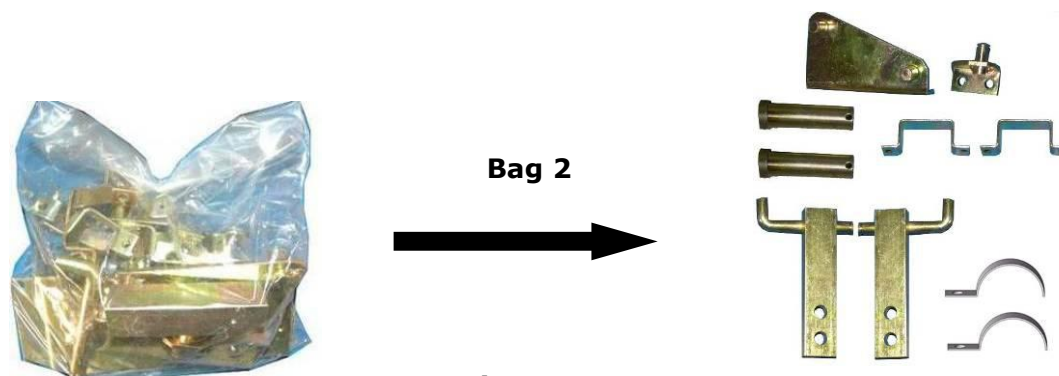
Part Box 95

**Fig. 11**

5. Check the parts of the parts bag 1 & 2 according to parts bag list (See Fig. 12 & Fig. 13).



**Fig. 12**



**Fig. 13**

**D. Install parts of extension columns (See Fig. 14).**

**E. Position Power side Post**

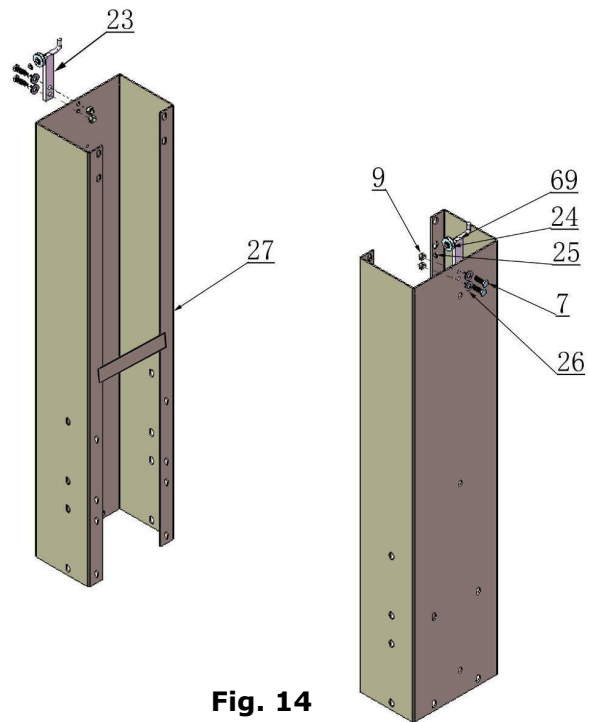
Lay down two posts on the installation site parallel to each other. Position the Power side

Post according to the actual installation bay. It is suggested to install the Power side

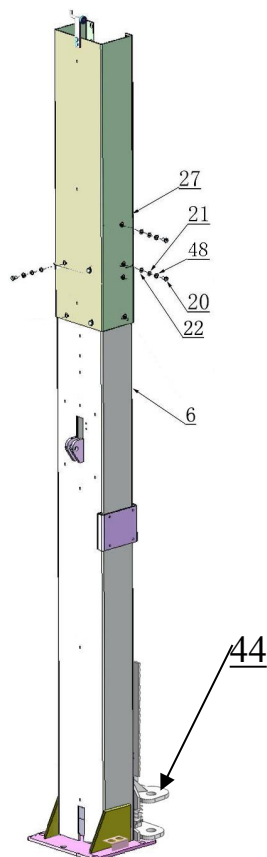
Post on the passenger side from which vehicles are driven into the lift.

This lift is designed with 2-Section columns. Adjust the height according to the ceiling height when connecting the inner and outer columns. To use the low setting (142.5") the ceiling height should be at least 144" minimum. Connect the outer columns using the upper holes

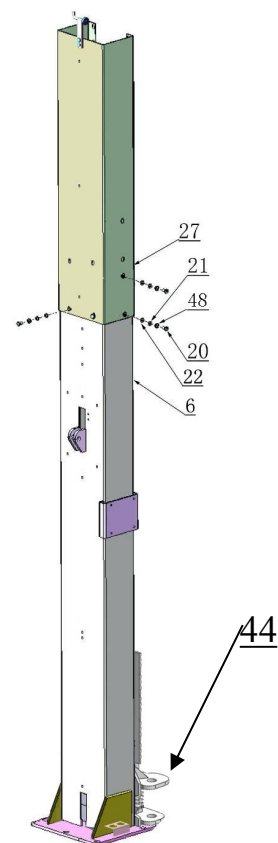
(**See Fig.15**); To use the high setting (150.5") we recommend to connect the outer columns with the lower holes to make the post higher (**See Fig.16**).



**Fig. 14**



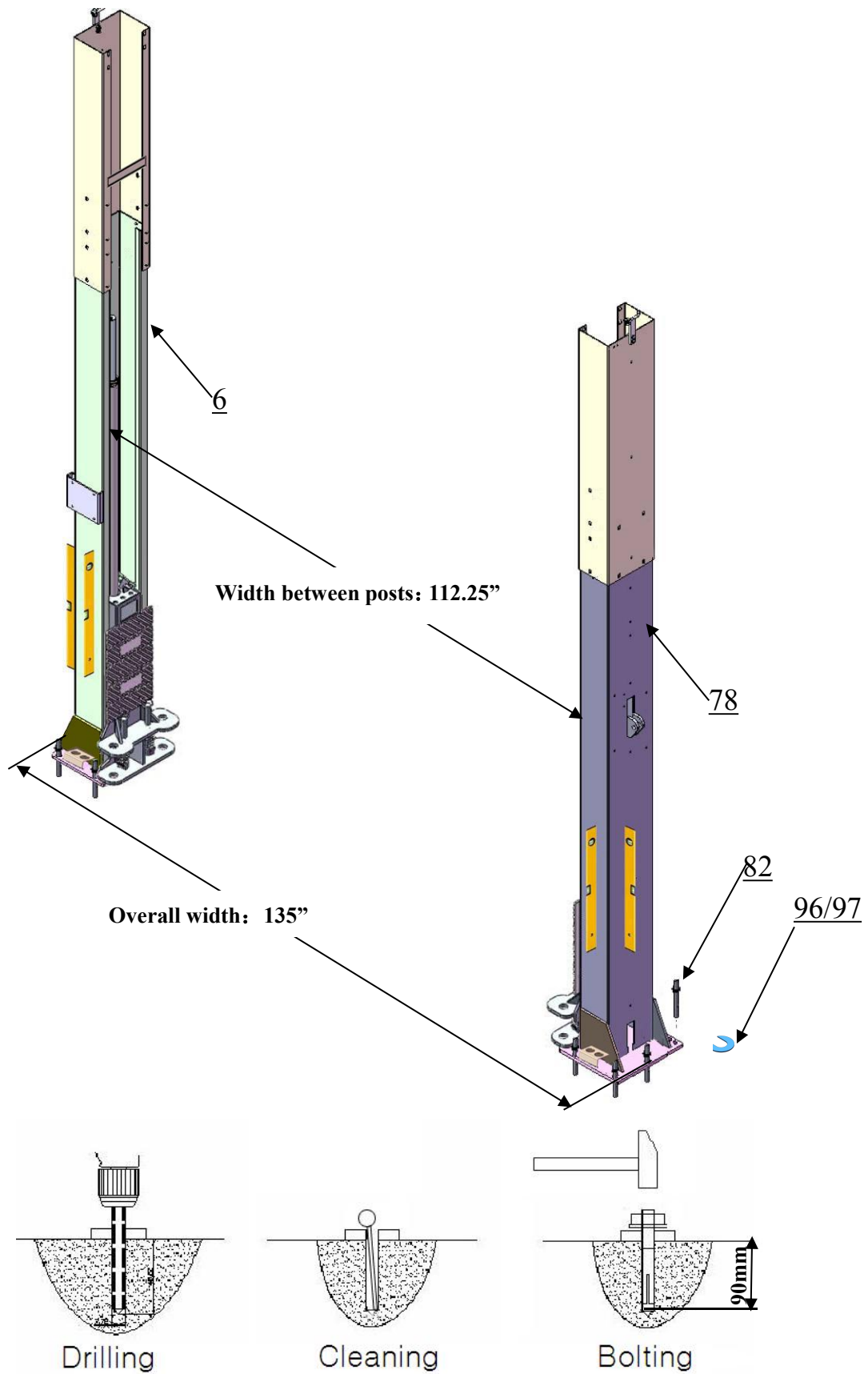
**Fig. 15 Low Setting**



**Fig. 16 High Setting**

## F. Position posts (See Fig. 17)

Position the columns on the installation layout of base plate, shown in **step B**.



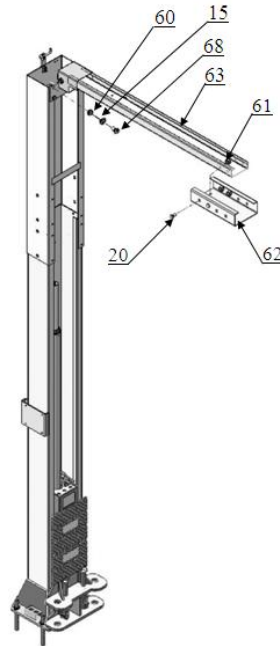
**Fig. 17**

Install the anchor bolts by drilling through the base plate of one column. Level the column plumb with a level and adjust with the shims as needed and tighten.

The other column will be drilled and shimmed after the assembly of the overhead beam and verifying the base plates are square to the proper width dimension.

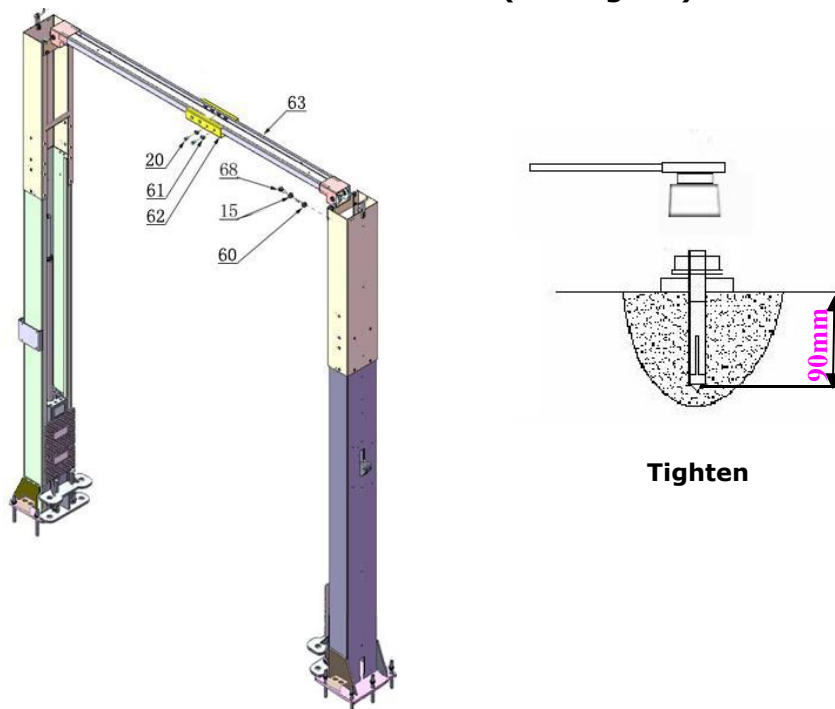
### G. Install Overhead Top Beam

1. With help of the hook of top beam, put one side of top beam on top of the extension column and connecting the top beam to extension column by bolts, tighten the bolts. Then assemble the connecting bracket **(See Fig. 18)**.



**Fig. 18**

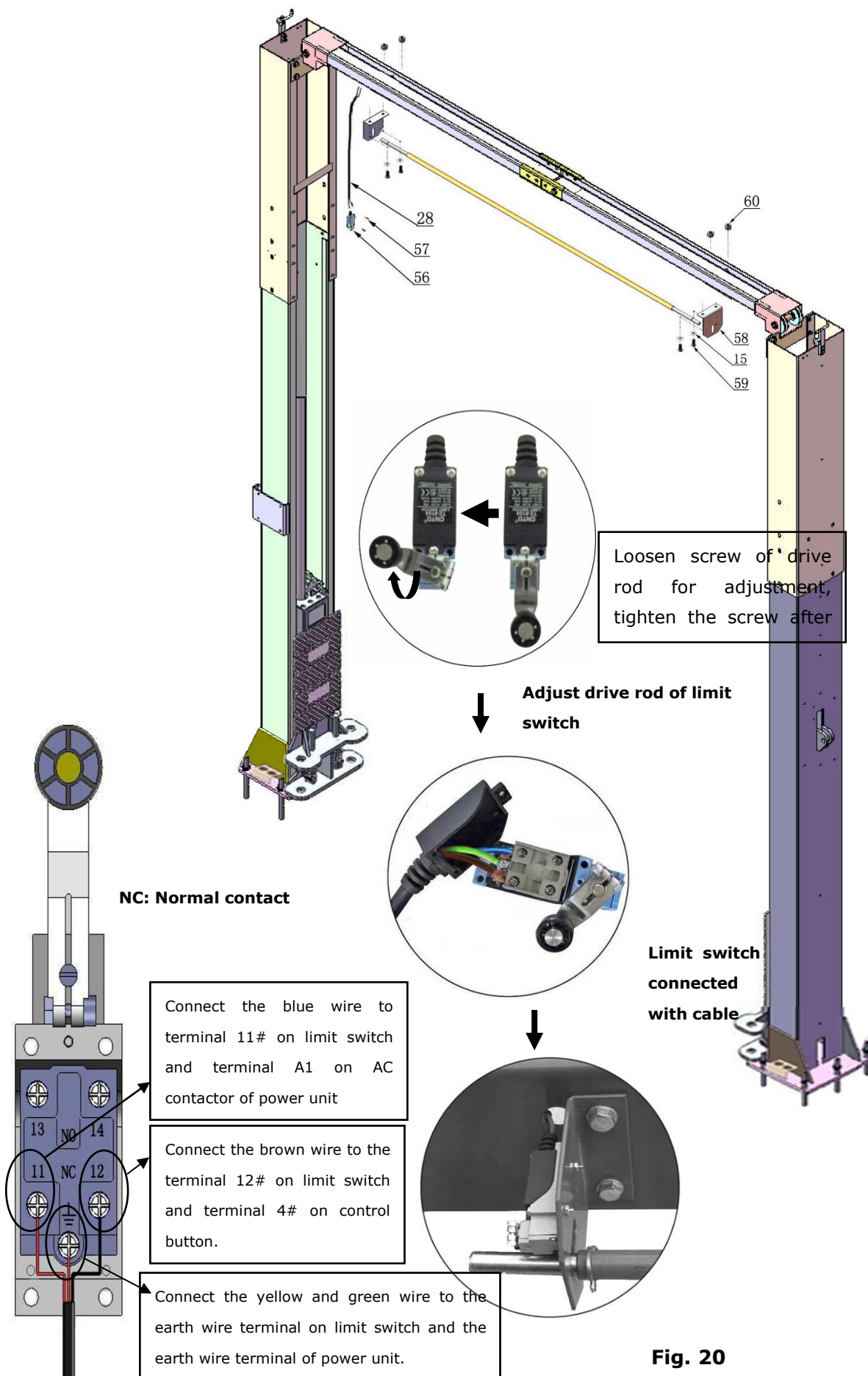
2. Assemble overhead top beam, tighten all beam bolts. Square and check overall width of columns and adjust unanchored post as needed. Drill, level and anchor the other post. Torque the Anchor Bolts to 100 foot lbs. **(See Fig. 19)**.



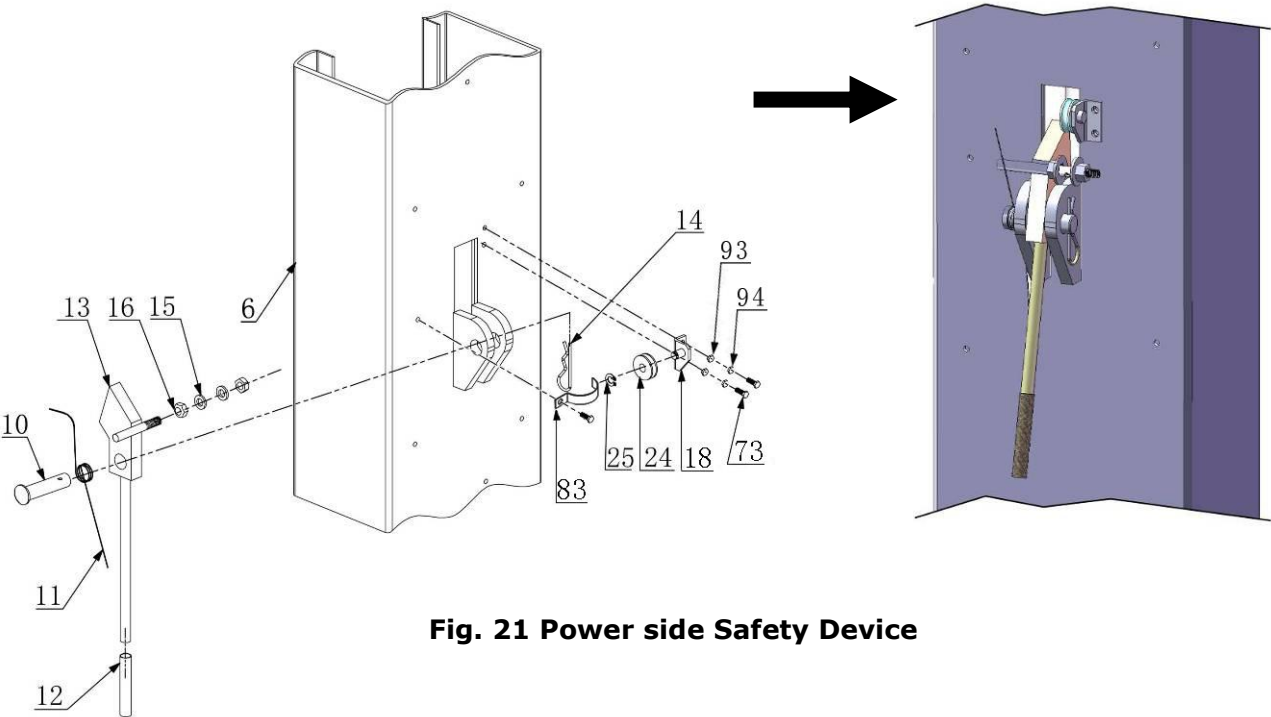
**Fig. 19**



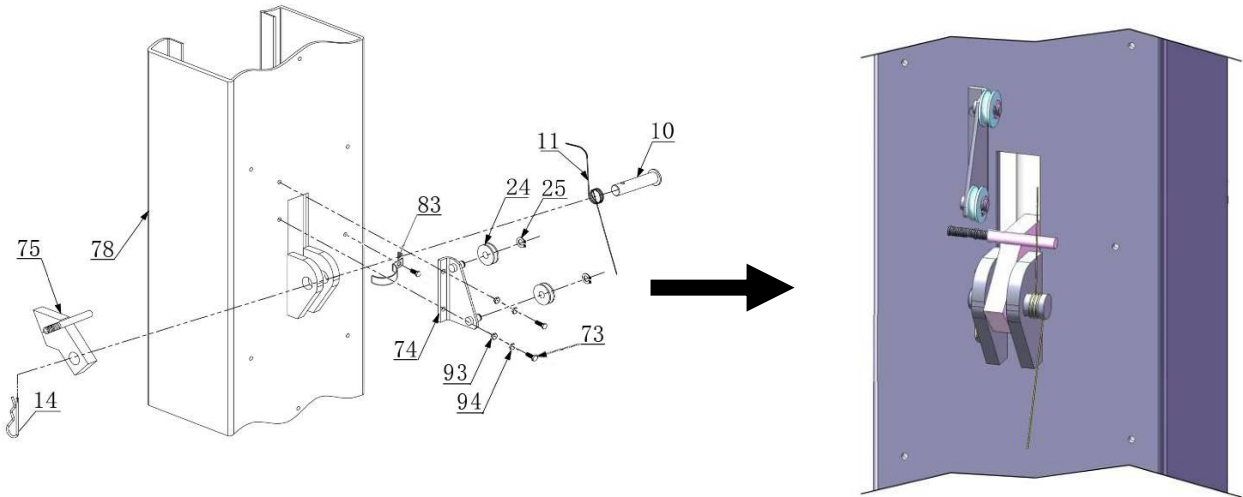
## H. Installing the Control Bar and Limit Switch (See Fig. 20).



**I. Install Safety Device (See Fig. 21 & Fig. 22 ).**



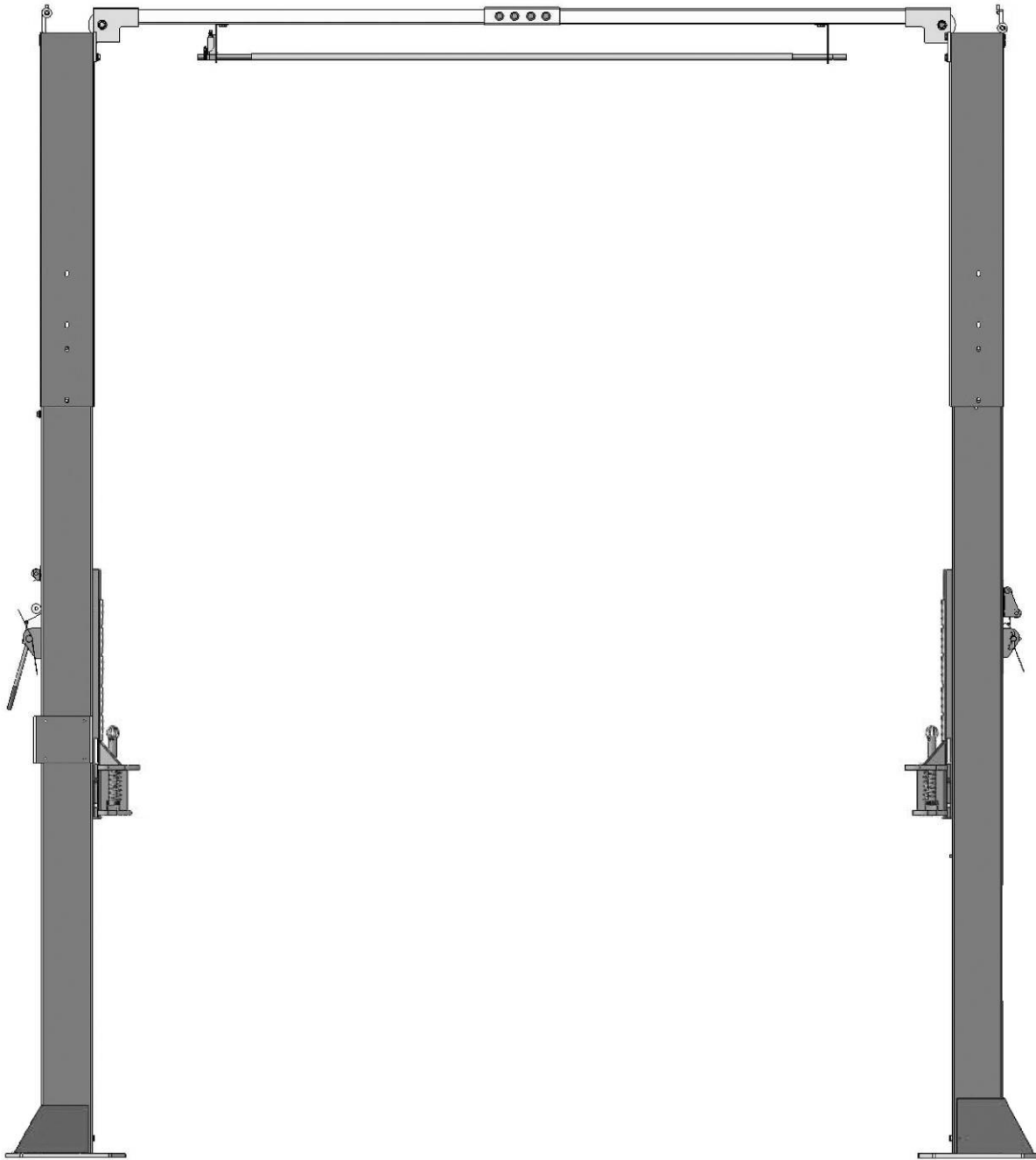
**Fig. 21 Power side Safety Device**



**Fig. 22 Offside Safety Device**



- J. Lift the carriages up to about three feet high (use sufficient lifting means) and set them in the locked position at the same level (**See Fig. 23**).

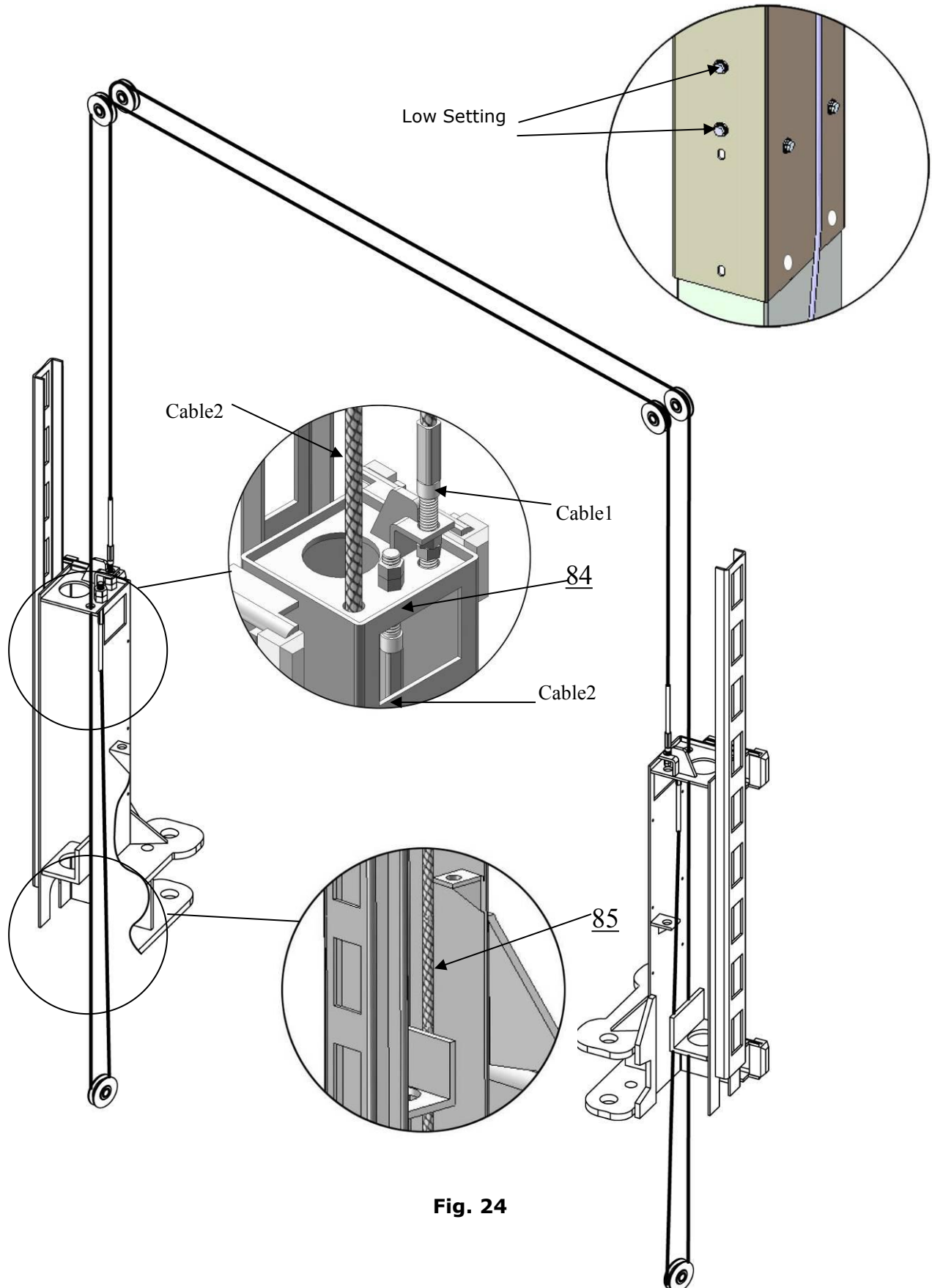


**Fig. 23**

## K. Install Cables

There are two ways of connecting the cables called low setting and high setting connection.

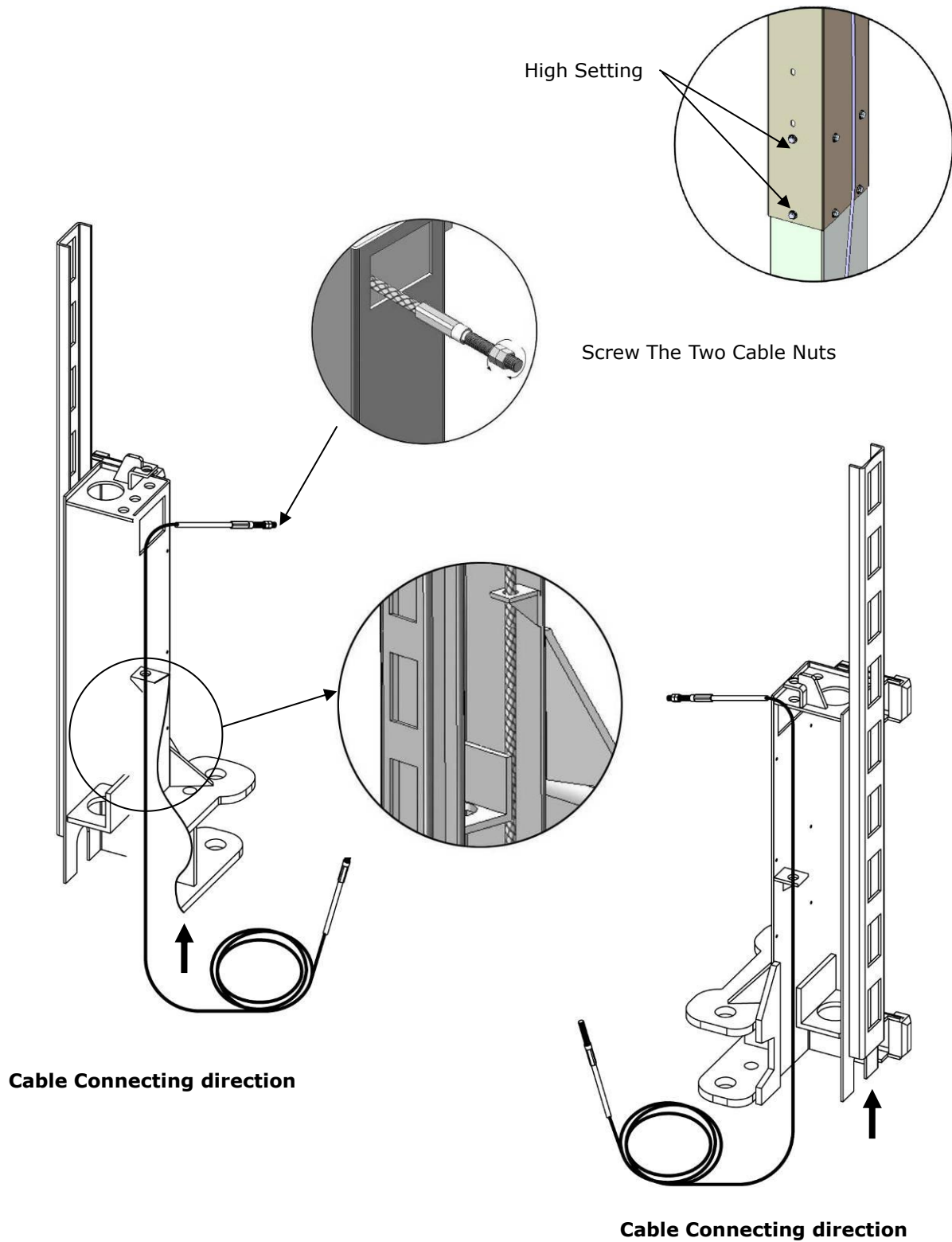
a. For the low setting cable connection (**See Fig. 24**).



**Fig. 24**

b. For the high setting cable connection (**see Fig. 25**).

1. Cable passes through from the bottom of the carriages and can be pulled out from the access hole in front of carriages, then screw the two Cable Nuts (**See Fig. 25**).



**Fig. 25**

2. Connecting Cable for high setting (See Fig. 26).

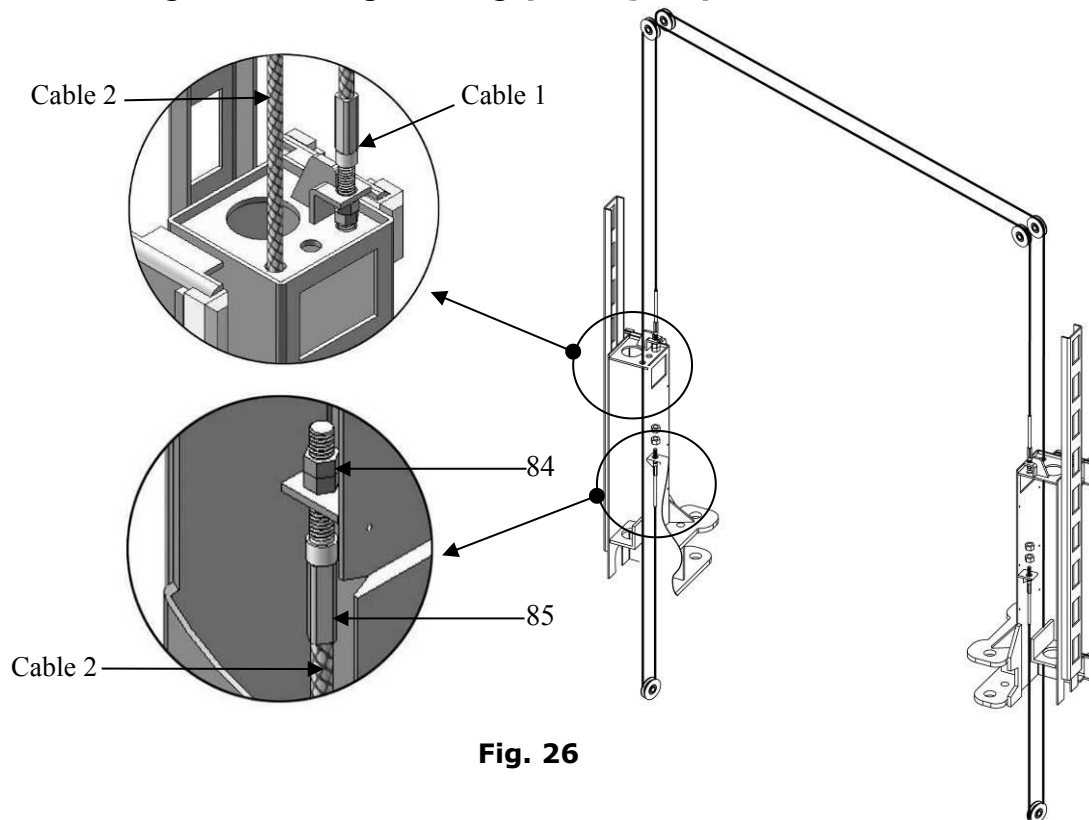


Fig. 26

L. Install Hydraulic Power Unit and Oil Hose Assy. (See Fig. 27).

Tighten all the hydraulic fittings, and fill the Reservoir with Hydraulic Oil (AW 32, 46 or equal non detergent SAE 10 hydraulic oil).

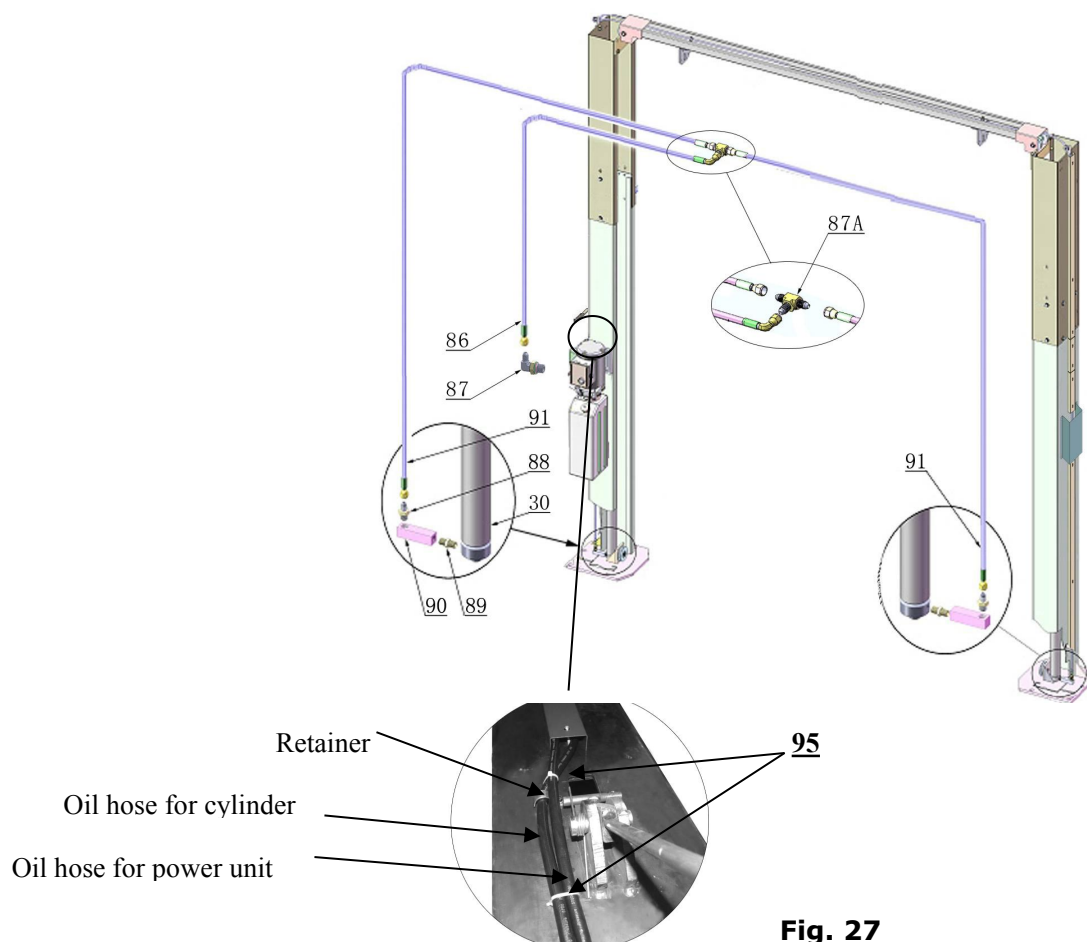
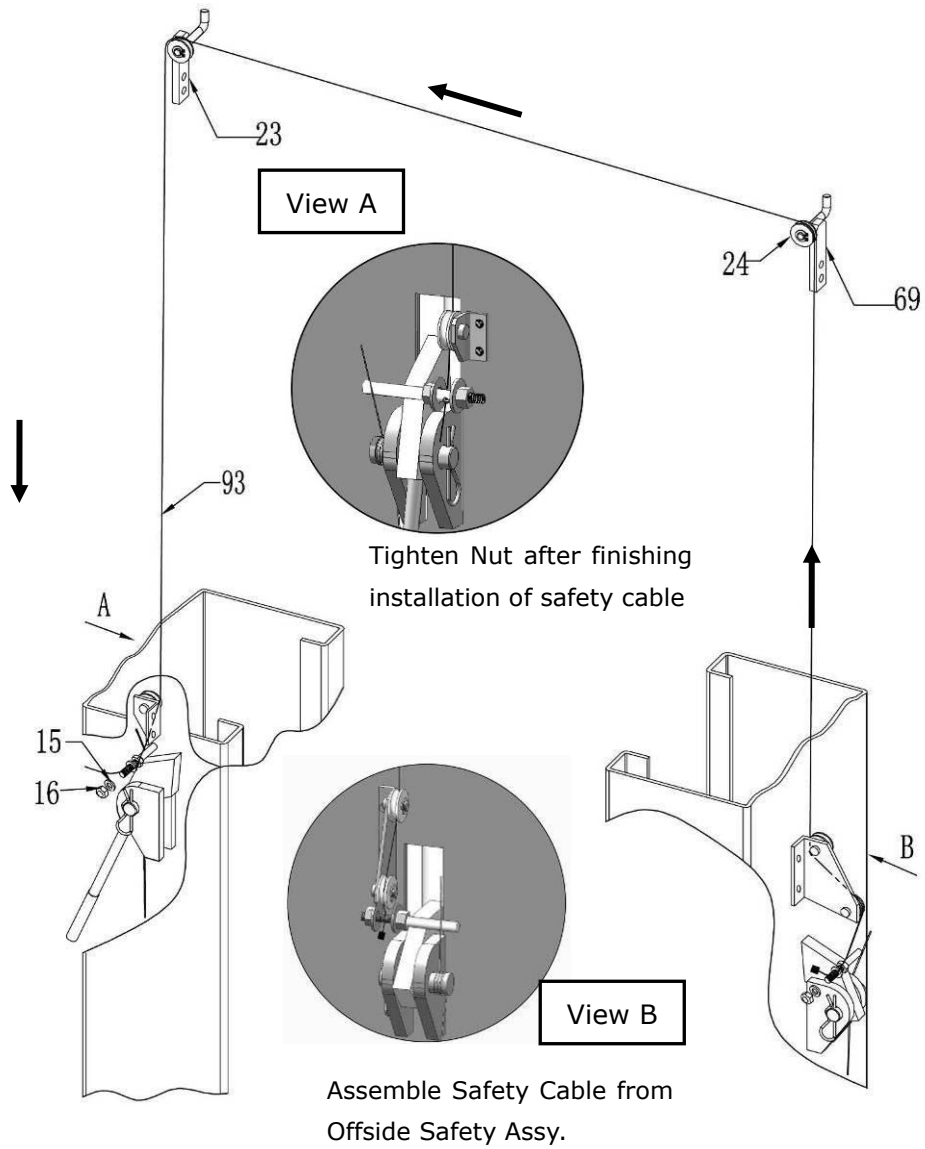


Fig. 27

**M. Install Safety Cable (See Fig. 28)**

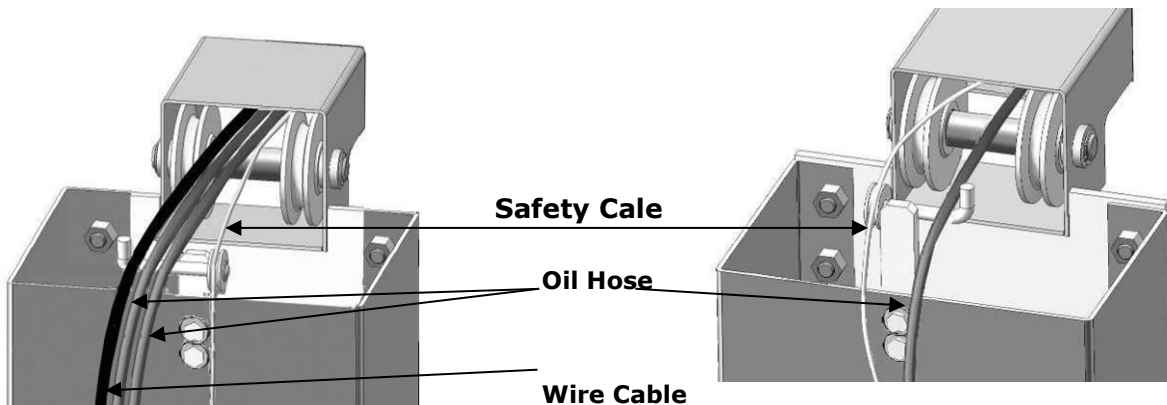


**Fig. 28**

## N. Assembly Cable Retainer

1. Install Oil Hose.

**Note:** Don't cross the oil hose and safety cable together (See Fig. 29 & Fig. 30).

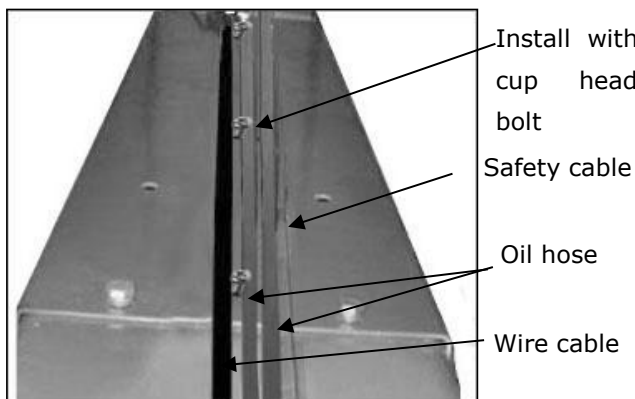


**Powerside Safety Device**  
**Fig. 29**

**Offside Safety Device**  
**Fig. 30**

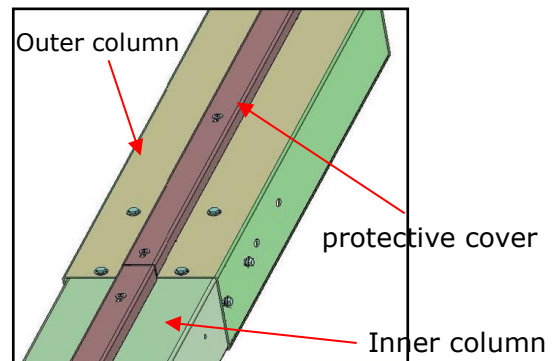
2. Install Safety Cable and Oil Hose. (See Fig.31 & Fig. 32 & Fig. 33)

**Note:** Install the protective cover on the outer column with M6\*35 cup head bolt, Install the protective cover on the inner column with M6\*40 cup head bolt.



**Before install the wire  
protective cover**

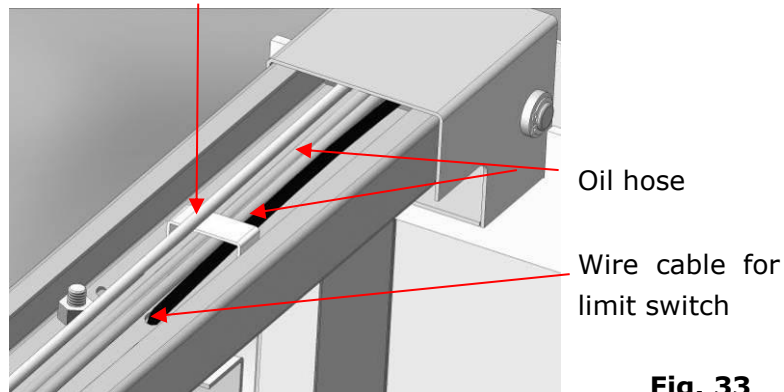
**Fig. 31**



**After install the wire  
protective cover**

**Fig. 32**

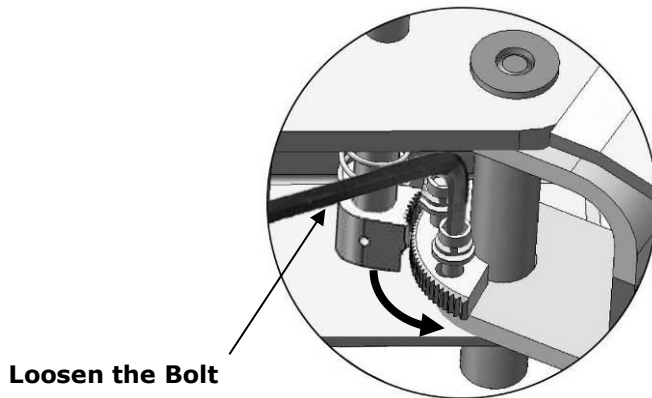
The safety cable can not put inside cable clamp on top of overhead beam



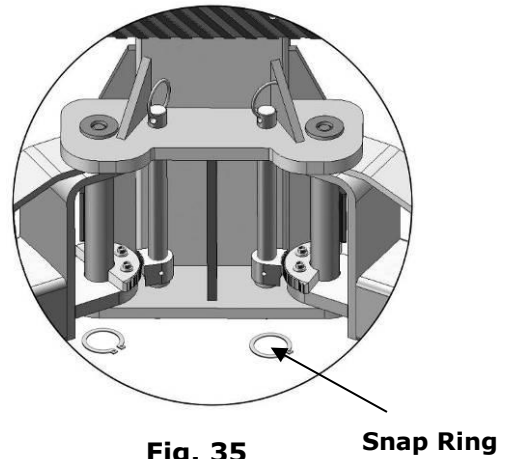
**Fig. 33**

## O. Install Lifting Arms And Adjust The Arm Locks.

1. Install the Lifting Arms (**See Fig. 34**).
2. Lower the carriages down to the lowest position and then use the 8# Socket Head Wrench to loosen the Socket Bolt (**See Fig. 35**).

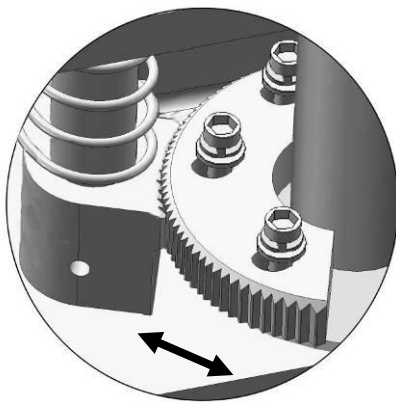


**Fig. 34**

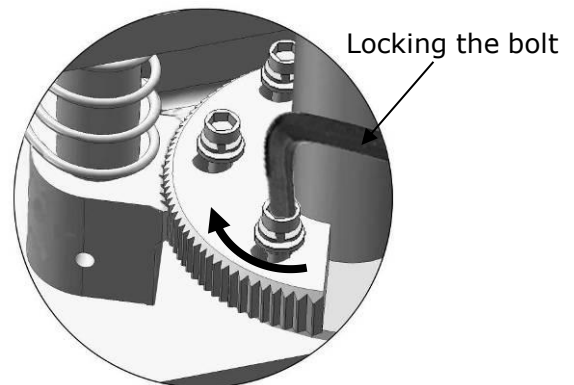


**Fig. 35**

3. Adjust the arm locks as shown by arrow direction (**See Fig. 36**)



**Fig. 36**



**Fig. 37**

4. Adjust the Teeth of Arm Locks assy. So it meshes with the Gear of the Lifting Arm. Tighten the Socket Bolts of Arm Lock assy... (**See Fig. 37**).

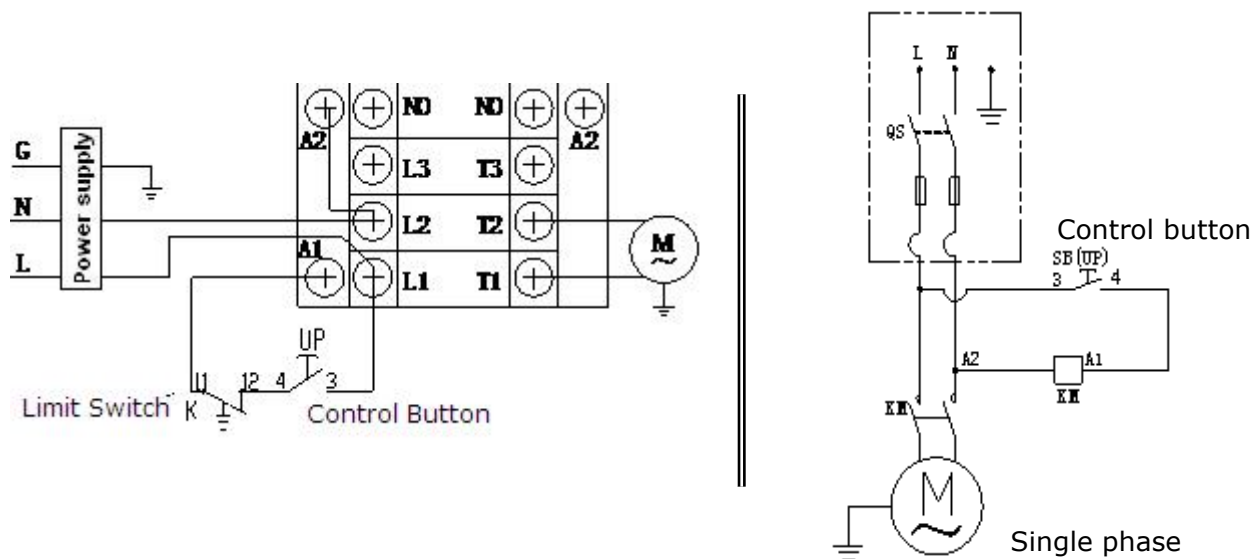
## P. Install Electrical System

Connect the power source as guided on the data plate of Power Unit.

**Note: 1. For the safety of operators, the power wiring must be properly grounded.**

### Single phase motor (See Fig. 38).

1. Connecting the two power supply wires (active wire **L** and neutral 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** to **L2** of AC contactor.
4. Terminal **4#** of control button is connected with terminals **A1** of AC contactor; Terminal **3#** of control button is connected with terminals **L1** of AC contactor.



**Fig. 38**



IV. EXPLODED VIEW

Model Weaver Model W9-3D

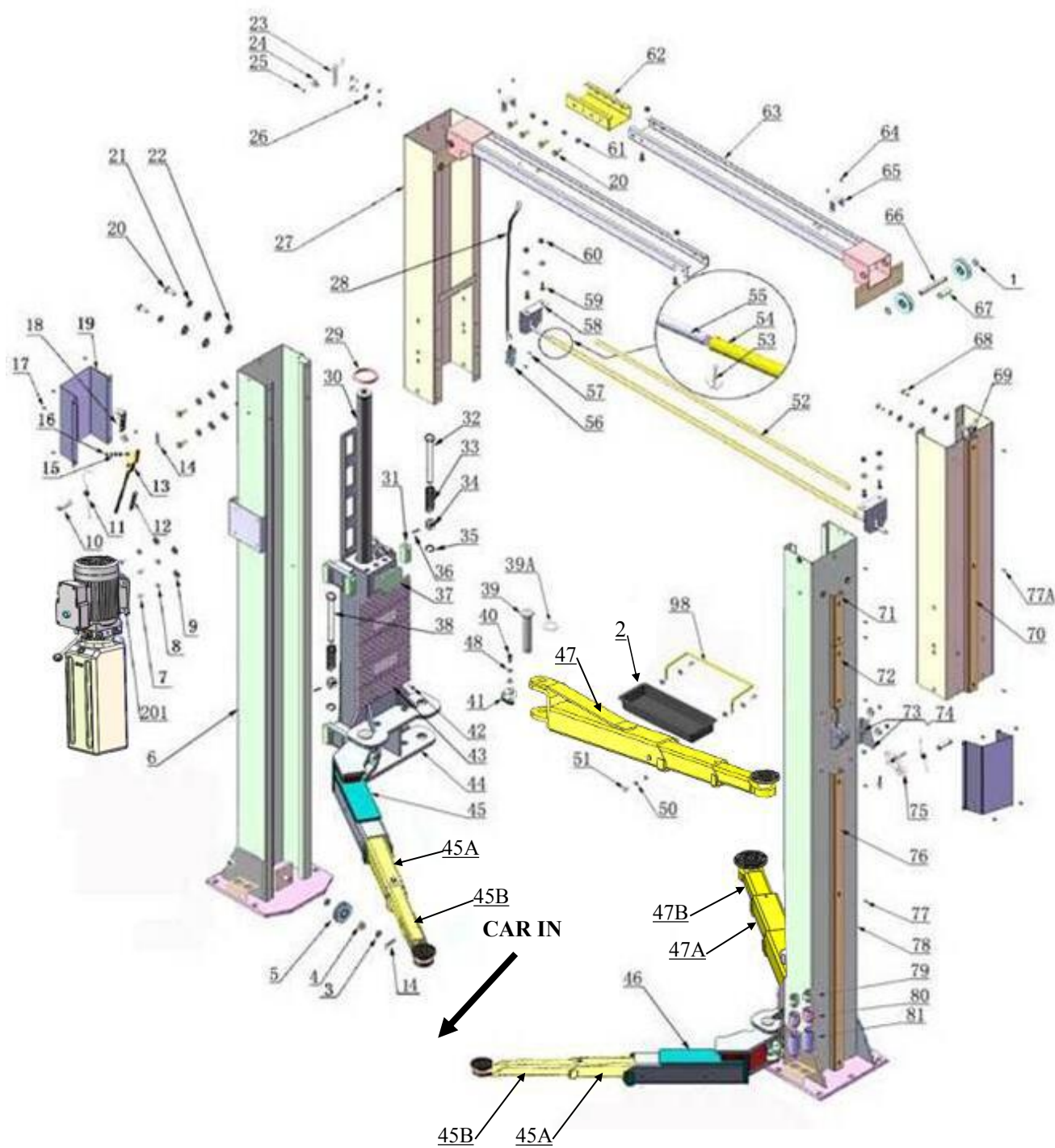
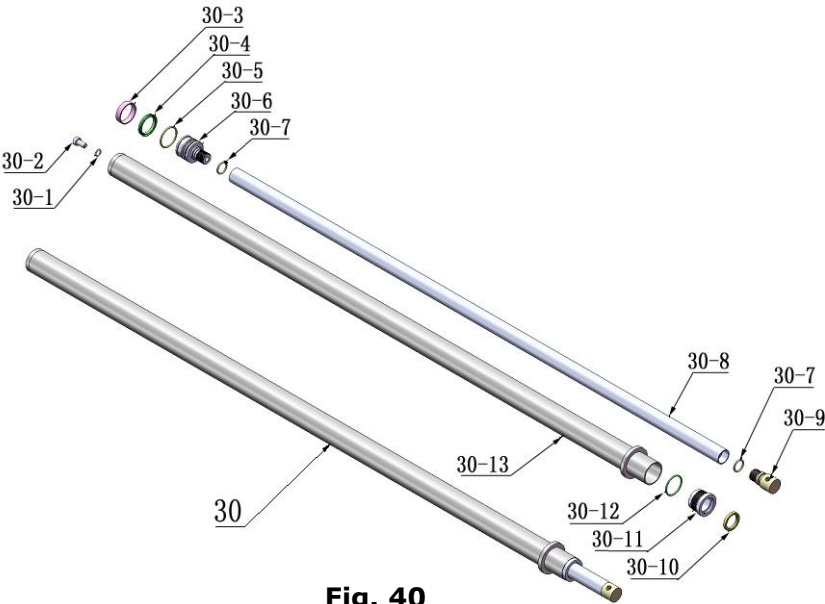


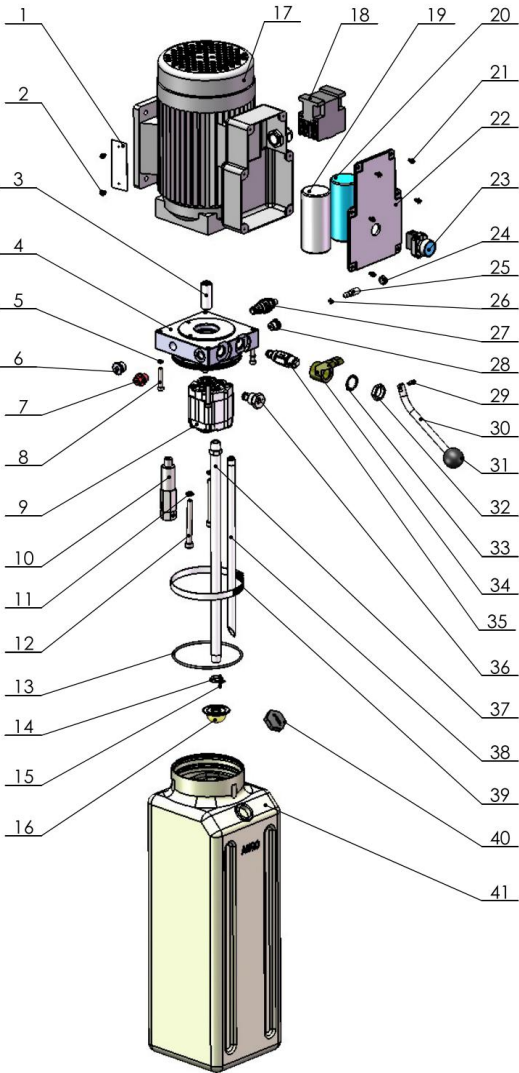
Fig.39

**Cylinders**



**Fig. 40**

**Hydraulic Power Unit**



**Hydraulic  
power unit**

**Fig. 41**

## V. TEST RUN

### 1. Adjust Synchronous Cable (See Fig. 42)

Use Vise Grips to hold the cable fitting while using a wrench to tighten the cable nut. Make sure the two cables have the same tension so the two carriage locks engage synchronously. Install the plastic cover onto the carriage.

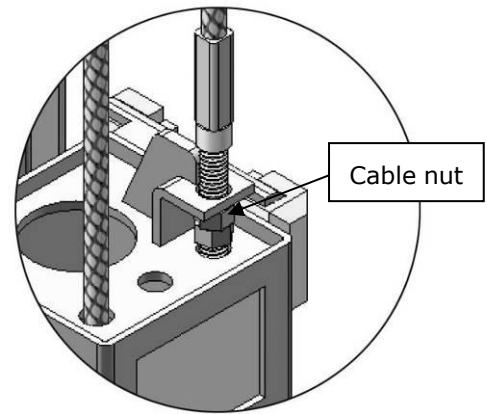


Fig. 42

**If the carriages do not Synchronize when lifting, adjust**

**As follows: (See Fig. 43 & Fig. 44)**

- Press **UP** button to lift the carriages to the first safety lock. Make sure both have cleared the first safety lock and lower the lift completely so both carriages rest in the locked position.
- Loosen the cable by adjusting the lock nuts, release the safety lock of the side that the carriage is in higher position. The other side safety lock is engaged. Then lower the lift, the side with carriage in lower position would be locked, and the other side is unlocked. Continue to lower down the lift till both carriages are at the same level.
- Tightening the cable nut of the synchronize cables, and tightening the safety cable with the lock nuts, try to lift again, adjust the cables if needed.

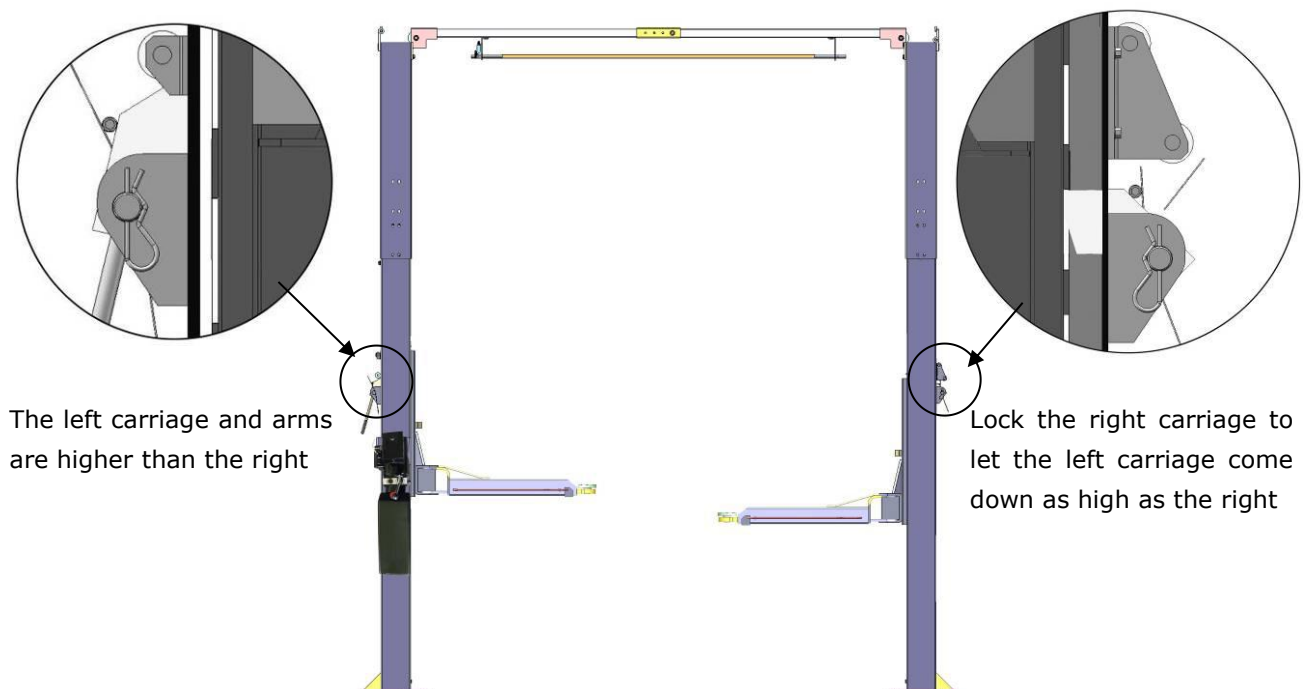
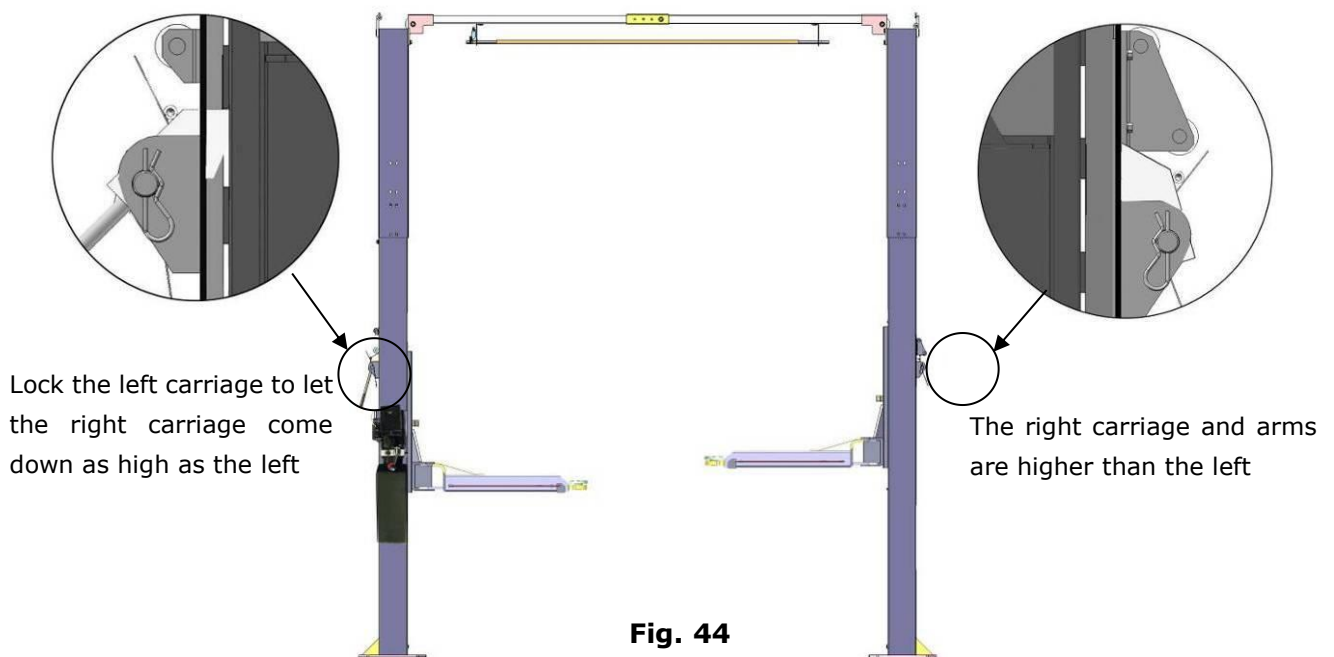


Fig. 43



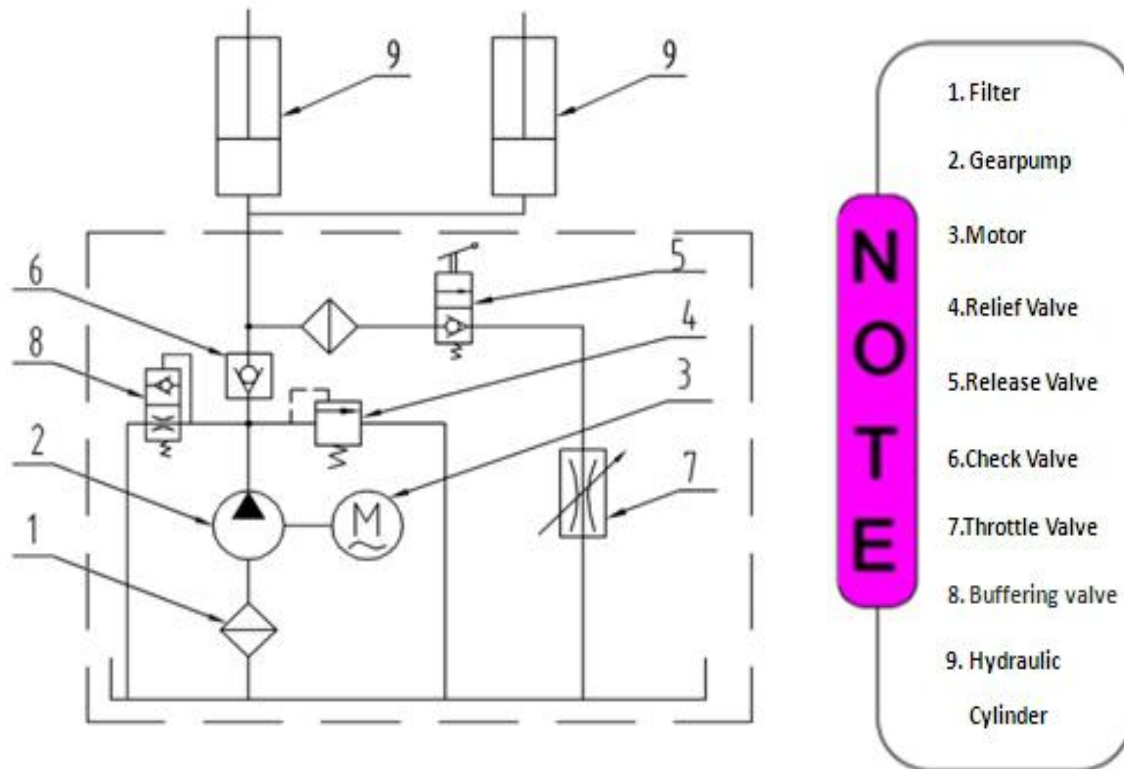
## 2. Adjust Safety Cable

Lifting the carriage and lock at the same height, strain the Safety Cable and then release a little, and then tighten the cable nuts. Make sure the Safety Device can always be worked properly.

## 3. Test with load

After finishing the above adjustment, perform a test run of the lift with a load. Run the lift in low positions the first few cycles, making sure the lift can rise and lower synchronously. The Safety Device should lock and release synchronously. Test run the lift to the top completely. If there is anything improper or out of adjustment, repeat the above adjustments until correct.

**NOTE: The Lift may vibrate during the first lifting cycles. Use the Lift with a load for several times and the air will bleed out through the power unit return line and the vibration should go away. Hold the down lever several seconds after reaches the ground level to release air.**



**Fig. 45 Hydraulic System**

## **VI. OPERATION INSTRUCTIONS**

**Please read the safety tips carefully before operating the lift**

### **To lift vehicle**

1. Keep the Lift bay work area clean
2. Position lift arms to the lowest position
3. Shorten the lift arms
4. Open lift arms
5. Position vehicle between columns
6. Move arms to the vehicle's lifting point as guided by the vehicle manufacturer.

**Note: The four lift arms must contact the vehicle's lifting points where manufacturer recommends at the same time.**

7. Press the **UP** button until the lift pads contact underside of vehicle. Recheck to make sure vehicle is secure.
8. Continue to raise the lift slowly to the desired working height, ensuring the balance of vehicle;

9. Push lowering handle to lower lift onto the nearest safety locked position. The vehicle is ready to repair.

### **To lower vehicle**

1. Be sure area under and near the lift is clear, only leaving operator in lift area;
2. Press the button of **UP** to raise the vehicle slightly, and then release the safety device, lower vehicle by pushing lowering handle.
3. Open the arms and position them to the shortest length;
4. Drive the vehicle away.
5. Turn off the power.

## **VII.MAINTENANCE SCHEDULE**

### **Monthly:**

1. Re-torque the anchor bolts to 100 foot lbs.
2. Check all connectors, bolts and pins to insure proper mounting;
3. Lubricate cable with lubricant;
4. Make a visual inspection of all hydraulic hoses/lines for possible wear or leakage;
5. Check Safety device and make sure proper condition;
6. Lubricate all Rollers and Pins 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, equalize tension of the cables to insure level lifting.
3. Check columns for plumb and level.
4. Check Rubber Pads and replace as necessary.
5. Check Safety device and make sure proper condition.

## 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. Height Limit Switch is damaged 5. AC contactor burned out	1. Replace button 2. Repair all wiring connections  3. Repair or replace motor 4. Replace the Limit Switch 5. Replace AC Contactor
Motor runs but the lift is not raised	1. Motor runs in reverse rotation 2. Gear Pump out of operation 3. Release Valve 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. Release Valve out of work 2. Relief Valve or Check Valve leakage 3. Cylinder or Fittings leaks	Repair or replace
Lift raises slowly	1. Oil line is jammed 2. Motor running on low voltage 3. Oil mixed with air 4. Gear 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 are in activated 2. Release Valve in damage 3. Safety cable broken 4. Oil system is jammed	1. Release the safeties 2. Repair or replace 3. Replace 4. Clean the oil system

## IX. Parts List For Weaver Lift Model W9-3D

Item	Part#	Description	Qty.	Note
			W9-3D	
1	206019	Snap Ring	4	
2	206156	Tool tray	2	
3	209128	Washer $\phi 19$	4	
4	209057B	Bronze Bush For Pulley	6	
5	206020	Pulley	6	
6	206001C	Power-side Inner Column assembly	1	
201	81513001/81513002	Manual Power Unit	1	
7	209003	Hex Bolt	8	
8	209004	Rubber Ring	4	
9	209005	Self locking Nut	8	
10	206002	Safety Pin	2	
11	209007A	Safety Spring	2	
12	206003A	Handle Protective Plastic cushion	1	
13	206004	Power-side Safety Lock assembly	1	
14	209012	Hair Pin $\phi 3.2$	4	
15	206006	Washer	22	
16	206023A	Hex Nut	2	
17	209009	Cup Head Bolt	10	
18	206004A	Safety Pulley Bracket with 2 assembly	1	
19	206081	Safety Cover assembly	2	
20	209126	Hex Bolt	24	
21	209022	Washer	52	
22	209021	Hex Nut	20	
23	206010	Safety Pulley Bracket assembly	1	
24	206009	Plastic Pulley	5	
25	209010	Snap Ring	5	
26	209033	Washer	16	
27	206151	Extension Column	2	
28	206137	Wire Cable	1	
29	209111	Protective Ring For Cylinder	2	
30	217056	Hydraulic Cylinder	2	
31	209015	Slider Block	16	
32	206046A	Arm Lock Bar (left)	2	
33	206050A	Spring	4	



Item	Part#	Description	Qty.	Note
			W9-3D	
34	217044	Arm Lock	4	
35	206032	Snap Ring $\phi 25$	4	
36	206036	Hair Pin $\phi 6 \times 40$	4	
37	209016	Carriage Plastic Cover	2	
38	206046B	Arm Lock Bar (right)	2	
39	206136	Arm Pin assembly	4	
39A	520023	Snap Ring	4	
40	206048	Socket Bolt	12	
41	206049	Moon Gear	4	
42	209019	Screw	12	
43	209018	Protective Rubber	2	
44	206111A	Carriage	2	
45	206183	Outer Arm - Front right (drop-in)	1	
45A	206189	Middle Arm - Front right assembly	2	
45B	201049A	Inner Arm - Front right assembly	2	
46	206182	Outer Arm - Front left (drop-in)	1	
47	206188	Outer Arm - Rear (Drop-in)	2	
47A	209245	Middle Arm - Rear	2	
47B	209246	Inner Arm - Rear	2	
48	209039	Lock washer	32	
49	201046A	Rubber Pad Assy.	4	
49A	420138	Socket bolt	4	
49B	209134	Rubber Pad	4	
49C	680030C	Rubber Pad Frame	4	
50	209034	Lock washer	12	
51	201002	Hex Bolt	8	
52	206025A	Foam Cushion with handle	1	
53	201005	Split Pin	2	
54	206129	Control Bar	1	
55	206025C	Connecting Pin for Control Bar	2	
56	206013	Limit Switch	1	
57	206011	Cup Head Bolt	2	
58	206042	Control Bar Support Bracket	2	
59	206041	Hex Bolt	4	
60	206023	Self locking Nut	12	
61	209056	Self locking Nut	10	
62	206016	Connecting Bracket	1	
63	206018B	Top Beam assembly	2	
64	206028	Cup Head Bolt	4	

Item	Part#	Description	Qty.	Note
			W9-3D	
65	206029	Retainer	2	
66	206021	Pin For Pulley	2	
67	206022	Top Pulley Tube	2	
68	206024	Hex Bolt	8	
69	206010A	Safety Pulley Bracket assembly	1	
70	206085	Protective Cover(L=1240mm)	2	
71	206084	Protective Cover(L=200mm)	2	
72	206083	Protective Cover(L=385mm)	2	
73	640050	Socket bolt	4	
74	206008C	Safety Pulley Bracket assembly	1	
75	206026A	Offside Safety Lock assembly	1	
76	206080	Protective Cover(L=1565mm)	2	
77	206079	Cup Head Bolt	14	
77A	206110	Cup Head Bolt	6	
78	206030C	Offside Inner column assembly	1	
79	209051B	Stackable Adapter (1.5")	4	
80	209052B	Stackable Adapter (2.5")	4	
81	209053B	Stackable Adapter assembly(5")	4	
82	209059	Anchor Bolt	10	
83	217048	Retainer	2	
84	209066	Hex Nut	8	
85	206064A	Cable I=10030mm	2	
86	206073	T fitting for power unit	1	
87	206074A	Oil hose	1	
88	209064	Straight Fitting	2	
89	206062	Straight Fitting	2	
90	233009	Pipe Fitting	2	
91	206061C	Oil Hose	1	
92	260149	Safety cable L=7450mm	1	
93	420045	Washer φ6	14	
94	209149	Lock washer φ6	4	
95	206504	Parts box	1	
96	620065	Shim (2mm)	10	
97	201090	Shim (1mm)	10	
98	206154	Toe guard- Rear	2	

Parts for hydraulic cylinder				
30-1	209069	O-Ring	2	
30-2	209070	Bleeding Plug	2	
30-3	209071	Support Ring	2	
30-4	209072	Y-Ring	2	
30-5	209073	O-Ring	2	
30-6	209074	Piston	2	
30-7	209075	O-Ring	2	
30-8	217076	Piston Rod	2	
30-9	209077	Piston Rod Fitting	2	
30-10	209078	Dust Ring	2	
30-11	209079	Head Cap	2	
30-12	209080	O-Ring	2	
30-13	209081A	Bore Weldment	2	

#### Parts For Power Unit

Item	Part#	Description	QTY	NOTE
			W9-3D	
1	71150019	AMGO Label	1	
2	81400300	Cross half round head screw	2	
3	81400363	Motor connecting shaft	1	
4	81400362	Manifold block	1	
5	10209149	Washer $\phi 6$	4	
6	81400276	Inner hexagon iron plug	1	
7	81400259	Red plastic plug	1	
8	85090142	Hex bolt	4	
9	81400292	Gear pump	1	
10	81400294	Release valve	1	
11	10209034	Washer $\phi 8$	2	
12	814000295	Hex bolt	2	
13	81400365	O-ring	1	
14	10209152	belt	1	
15	85090167	Magnet	1	
16	81400290	Filter net	2	
17	81400453	Aluminum alloy motor	1	
18	41030055	AC contractor	1	
19	81400088	Running capacitance	2	
20	81400130	Starting capacitance	2	
21	420148	Cup Head Bolt With Washer	6	
22	81400208	Cover of Motor Terminal Box	1	
23	10420070	Push Button	1	

24	81400296	Screw nut	1	
25	81400459	Throttle valve core	1	
26	10209069	O-rings	1	
27	81400266	Relief valve	1	
28	81400284	Inner hexagon iron plug	1	
29	81400452	Elastic shaft pin	1	
30	81400451	Relief handle	1	
31	10209020	Plastic ball with rack handle	1	
32	81400125	Relief screw nut	1	
33	81400124	Relief valve spacer	1	
34	81400450	Valve seat( high)	1	
35	81400443	Relief valve	1	
36	81400267	Checking valve	1	
37	81400288	Oil suction hose	1	
38	81400289	Oil return hose	1	
39	81400364	Hose clamp(stainless steel)	1	
40	81400364	Oil tank cover	1	
41	81400275	Oil tank	1	