

Installation And Service Manual

Original



TWO POST LIFT Model: OH-9

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LIFT DISPOSAL

I. PRODUCT FEATURES AND SPECIFICATIONS CLEAR-FLOOR DIRECT-DRIVED MODEL FEATURES Model OH-9(H), OH-10(H) (See Fig. 1)

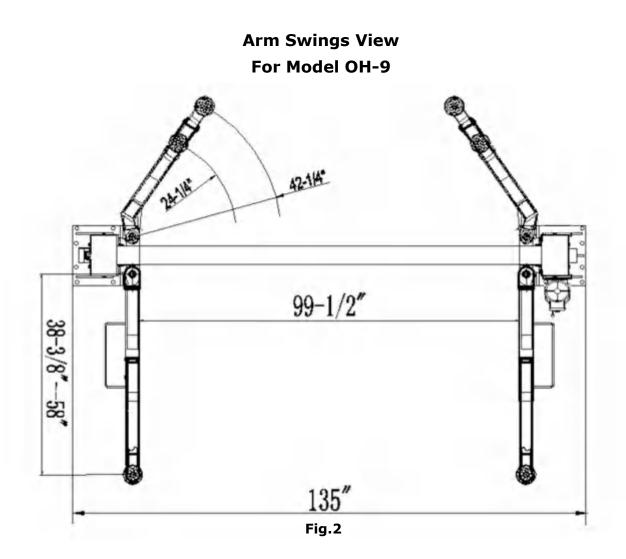
- · Direct-drived design, minimize the lift spare parts and breakdown ratio
- · Dual hydraulic cylinders, designed and made as standards, utilizing oil seal in cylinder
- \cdot Self- lubricating UHMW Polyethylene sliders and bronze bush
- · Single-point safety release, and dual safety design
- . Clear-floor design, provide unobstructed floor use
- . Overhead safety shut-off device prevents vehicle damage
- · Super-asymmetric arms design can fit extremely wide vehicles, stackable rubber pads
- . Standard adjustable heights accommodate varying ceiling heights



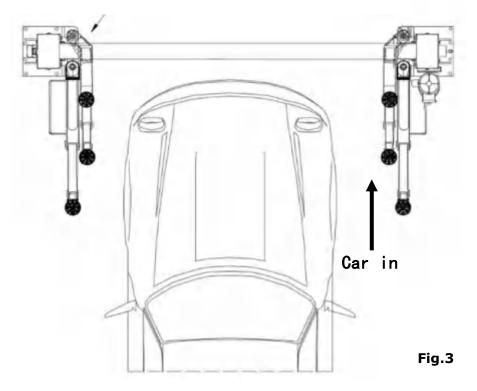
Fig. 1

OH-9, OH-9H, OH-10, OH-10H SPECIFICATIONS

Model	Style	Lifting Capacity	Lifting Time	Lifting Height	Overall Height	Overall Width	Width Between Columns	Minimum Pad Height	Motor
OH-9	Clear-floor Direct-drived	9,000 lbs	56S	71 1/2''-84 1/2''	142-1/2"/150-1/2"	135″	112 1/4″	3 1/2"-12 1/2"	2.0 HP



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



Swing and **extending** the arms to the lifting point of vehicle

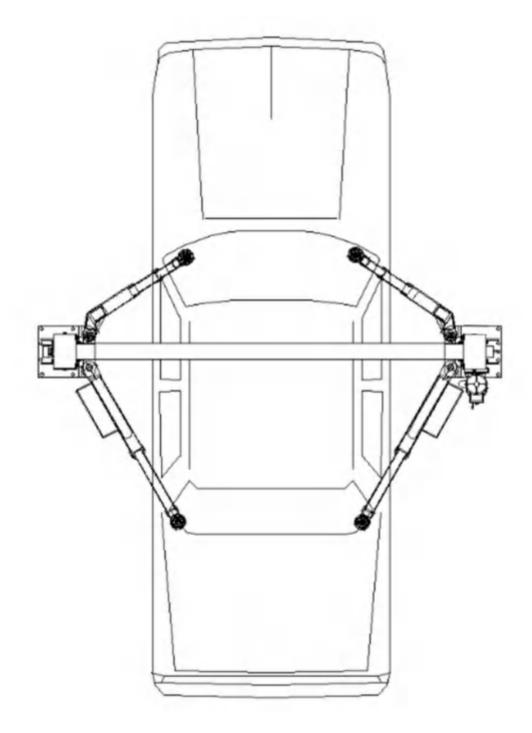


Fig.4

II. INSTALLATION REQUIREMENT

A. TOOLS REQUIRED

✓ Rotary Hammer Drill (Ф19)



✓ Hammer



✓ Level Bar



✓ English Spanner (12")



✓ Ratchet Spanner with Socket (28[#])



Wrench set (8[#], 10[#], 13[#], 14[#], 17[#], 19[#], 24[#])



Fig.5

- ✓ Carpenter's ink marker
- ✓ Screw Sets



✓ Tape Measure (7.5m)



✓ Pliers



✓ Socket Head Wrench (3[#], 5[#], 8[#])



✓ Lock Wrench



B. Equipment storage and installation requirements.

The equipment should be stored or installed in a shady, normal temperature, ventilated and dry place.

C. The equipment should be unload and transfer by forklift.



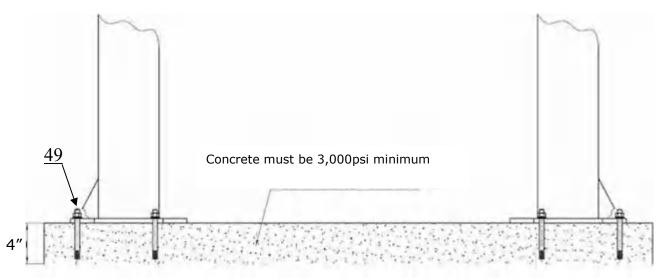


Fig.6

D. SPECIFICATIONS OF CONCRETE (See Fig. 7)

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 3,000psi minimum.



3. Floors must be level and no cracks.

Fig. 7

E. POWER SUPPLY

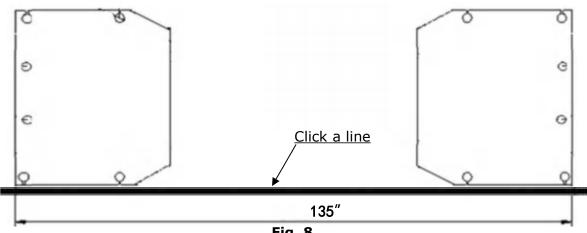
The electrical source must be 3.0HP minimum. The source cable size must be 2.5mm² and in good condition of contacting with floor.

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. Use a carpenter's **ink marker** line to establish installation layout of base-plate (See Fig.8).





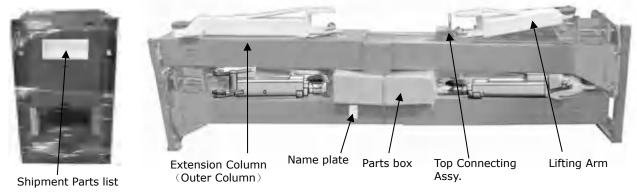
C. Check the parts before assembly.

1. Packaged lift and power unit (See Fig. 9).



Fig. 9

2. Move aside the lift with fork lift or hoist, and open the extension packing carefully, take off the lifting arms and parts box from upper and inside the column, then move them to location nearby installation site, check the parts according to the shipment parts list (See Fig.10).





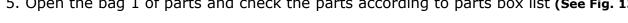
- 3. Loose the screws of the upper package stand, take off the upper extension columns, take out the parts in the inner column and remove the package stand.
- 4. Move aside the parts and check the parts according to the shipment parts list. (See Fig.11, 12).





Fig. 12 Parts in the parts box (50)

50 / Fig. 11 Parts in the shipment parts list 5. Open the bag 1 of parts and check the parts according to parts box list (See Fig. 13).



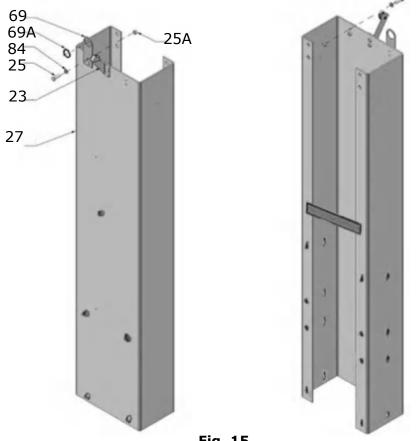




6. Open the bag 2 of parts and check the parts according to parts bag list (See Fig. 14).



D. Install parts of extension columns (See Fig. 15).



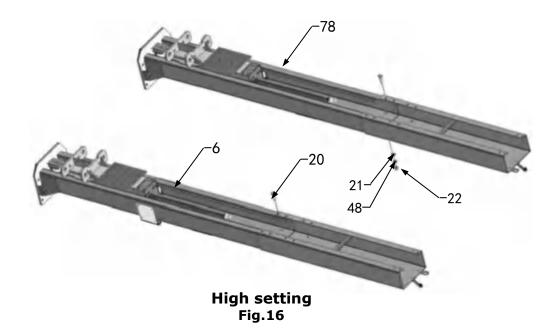


E. Position power-side column

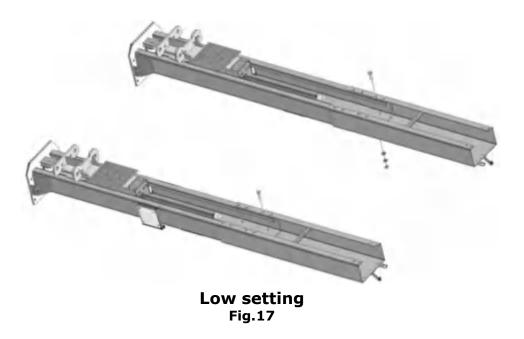
Lay down two columns on the installation site parallelly, position the power-side column according to the actual installation site. Usually, it is suggested to install power-side column on the front-right side of the direction which vehicles are driven to the lift. This lift is designed with 2-Section columns. Adjust the height according to the ceiling height and connect the inner and extension columns.

OH-9, : Not suitable for installation when the height of the workshop is less than 143-3/4"; only low setting installation for height between 143-3/4" - 151-1/2 "; the height of the workshop is greater than 151-1/2", installation can be in both high and low setting;

1. High setting installation, choose the low holes of the outer column and install with the inner column.

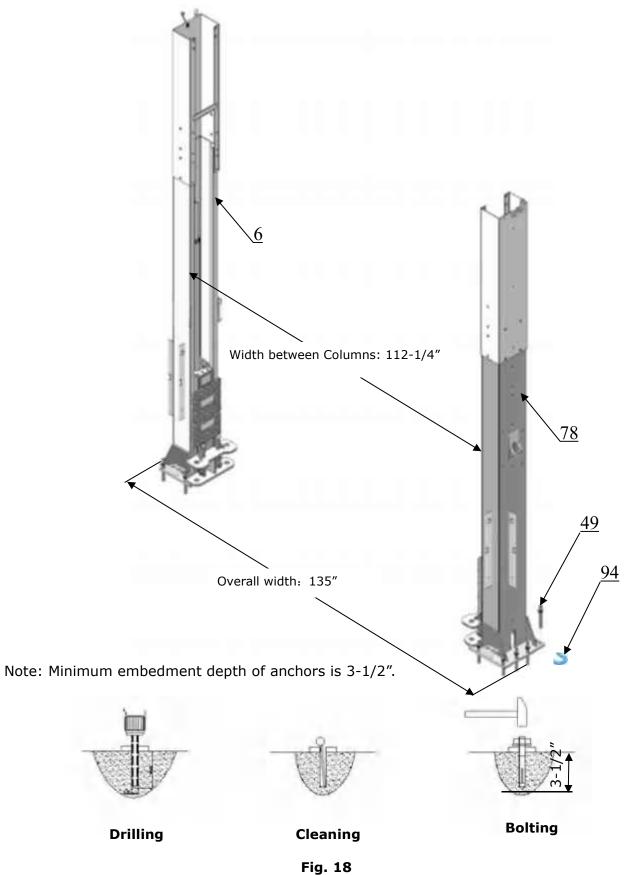


2. Low setting installation, choose the high position holes of the outer column and install with the inner column. (See Fig.17).



F. Position columns (See Fig. 18)

Position the columns on the installation layout of base-plate, Install the anchor bolts. Check the Columns plumpness with level bar, and adjusting with the shims if the columns are not vertical. Do not tighten the Anchor Bolts.





G. Install overhead top beam

1. The hook on the top coupling assembly is hung on the outer column to lock the screws, and then the top beam is installed **(See Fig. 19)**.

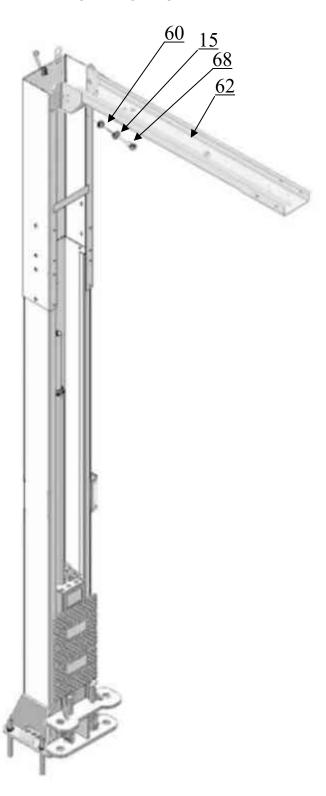


Fig. 19

2. Install the top beam, $\boldsymbol{\mathsf{fix}}$ the anchor bolts.

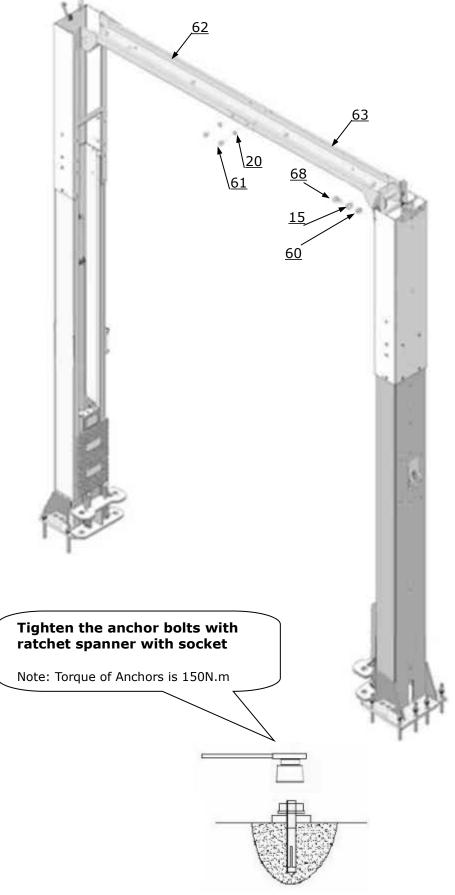


Fig.20

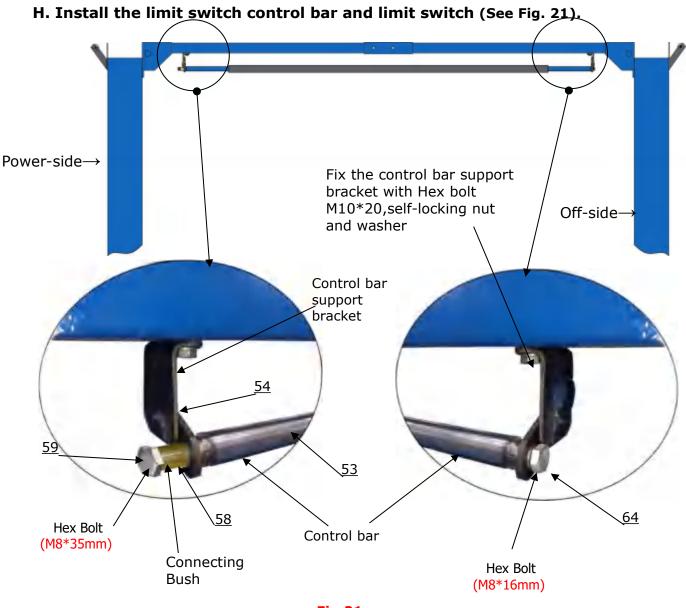


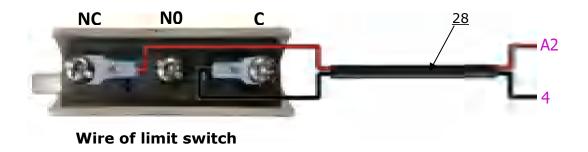
Fig.21

Installing the limit switch and wire.

1.Connect the wire:

Connect the red wire to terminal NC#, another side of the wire connect to the terminal A2 on AC contactor of power unit.

Connect the black wire to terminal C#, another side of the wire connect to the terminal 4 on control button of power unit.



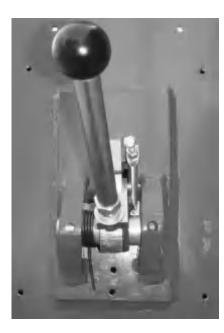


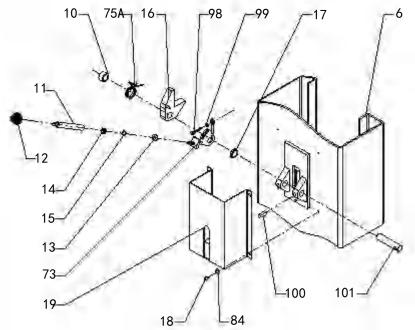
2. Tighten limit switch. Fix the limit switch on control bar support bracket of the power-side as the photo. The wire pass through the top beam and connected to the AC contactor of power unit.



I. Install safety device (See Fig. 24 & Fig. 25).

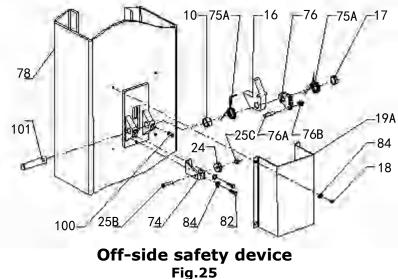
Fig.23





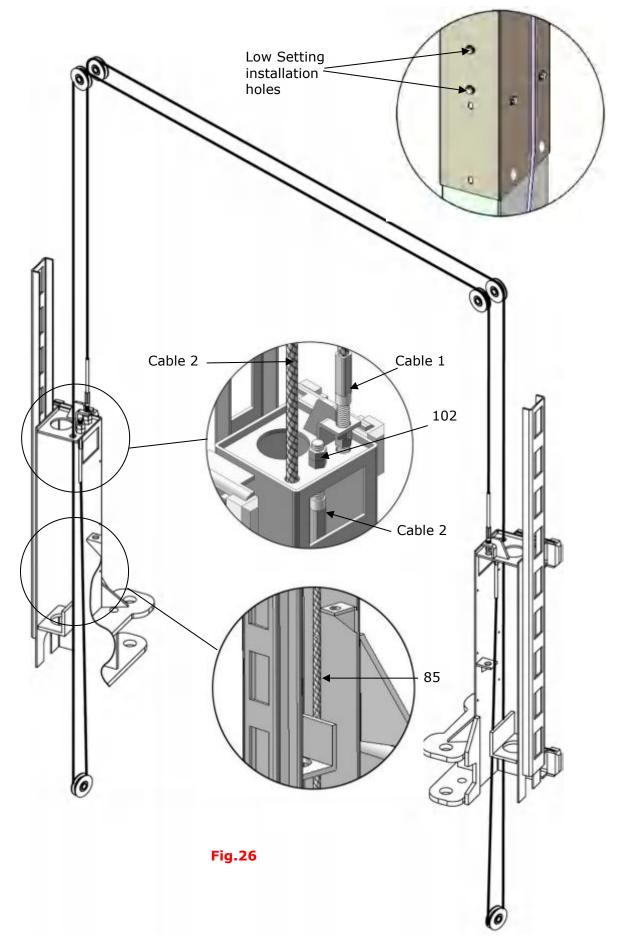
Power-side safety device Fig.24





J. Install cables.

Lift the carriages up by hand and make them be locked at the same level 1. Low setting cable connection .(See Fig.26) Cable install inside the column.



2. High setting cable connection

2.1. Cable cross over from the bottom of the carriages and be pulled out from the open of carriages, then screw the two cable nuts (See Fig. 27).

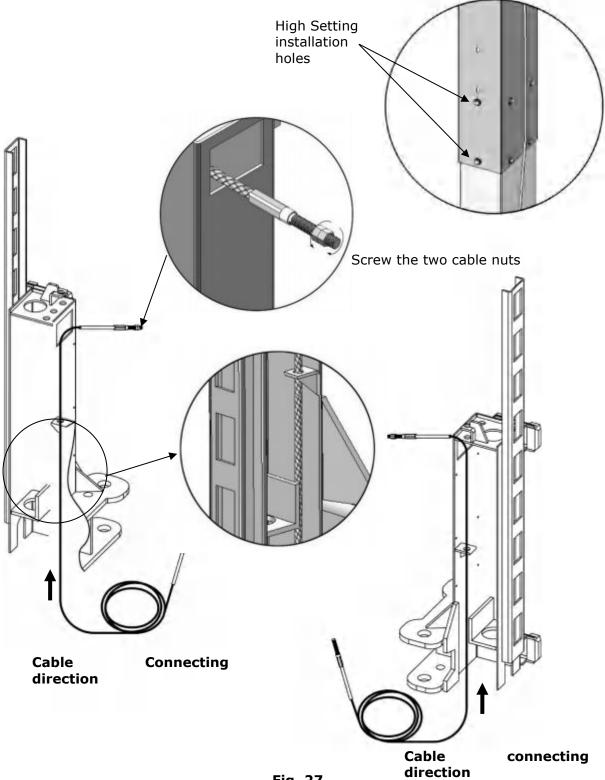
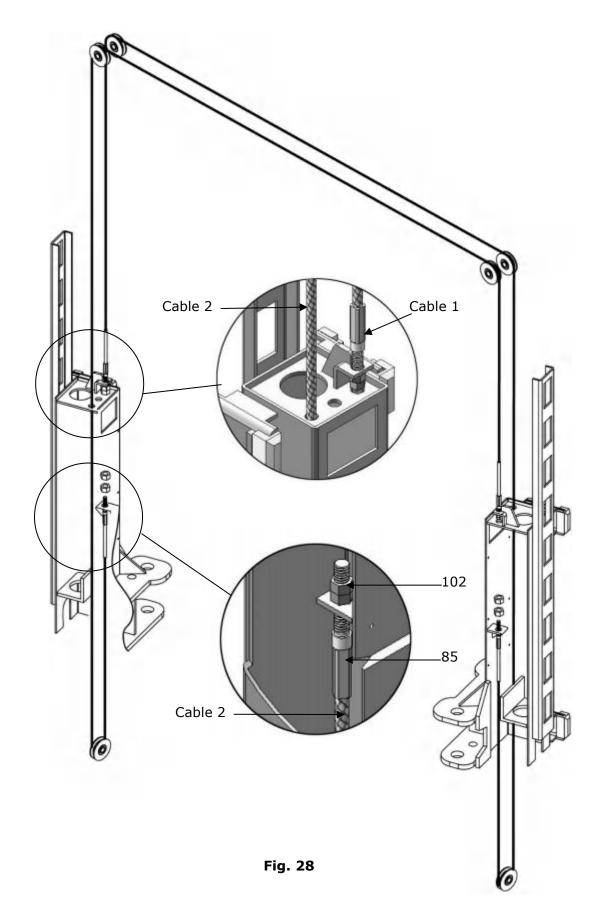


Fig. 27

2.2 Connecting cable for high setting (See Fig. 28).



K. Install oil hose.

1. Oil-line connecting drawing. (See Fig.29)

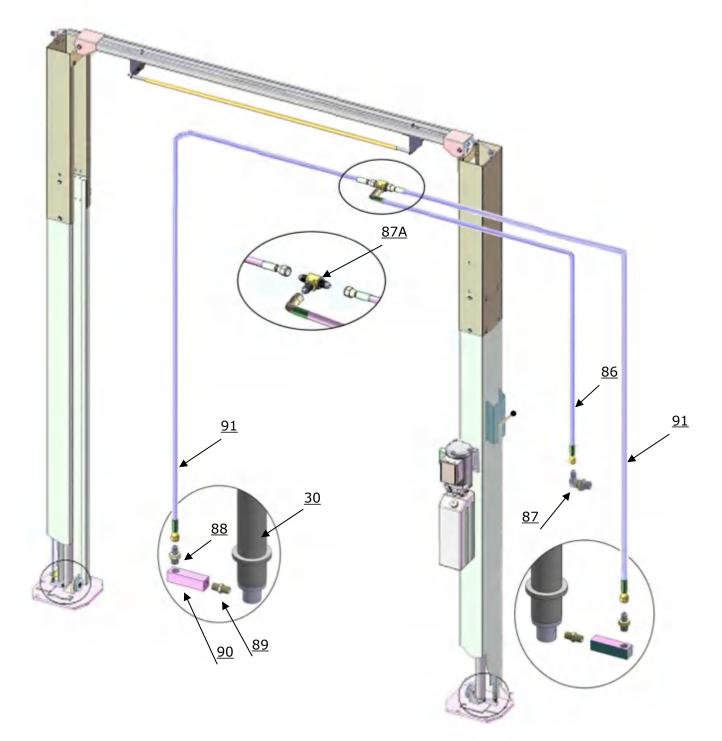
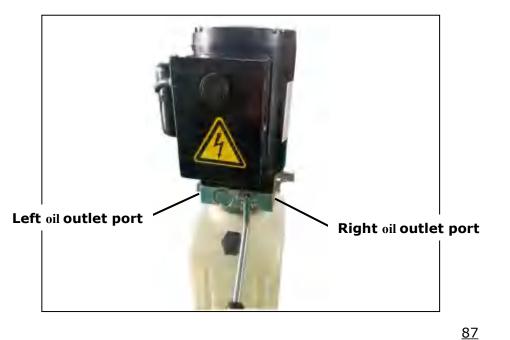
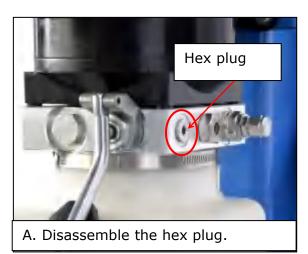


Fig.29

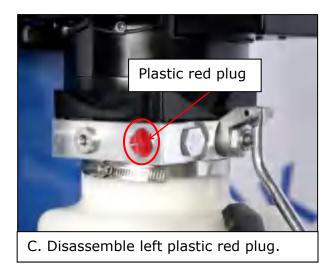
2. Follow these step to connect the oil hose of power unit.







B. Assemble 90⁰ fitting of power unit, and connecting the oil hose.

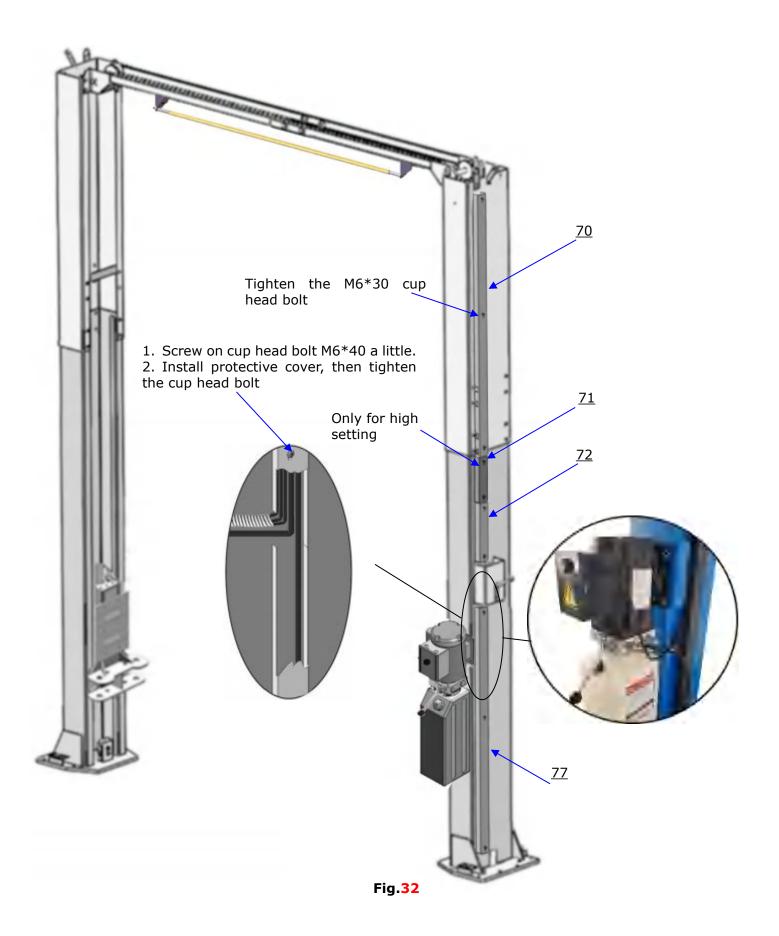


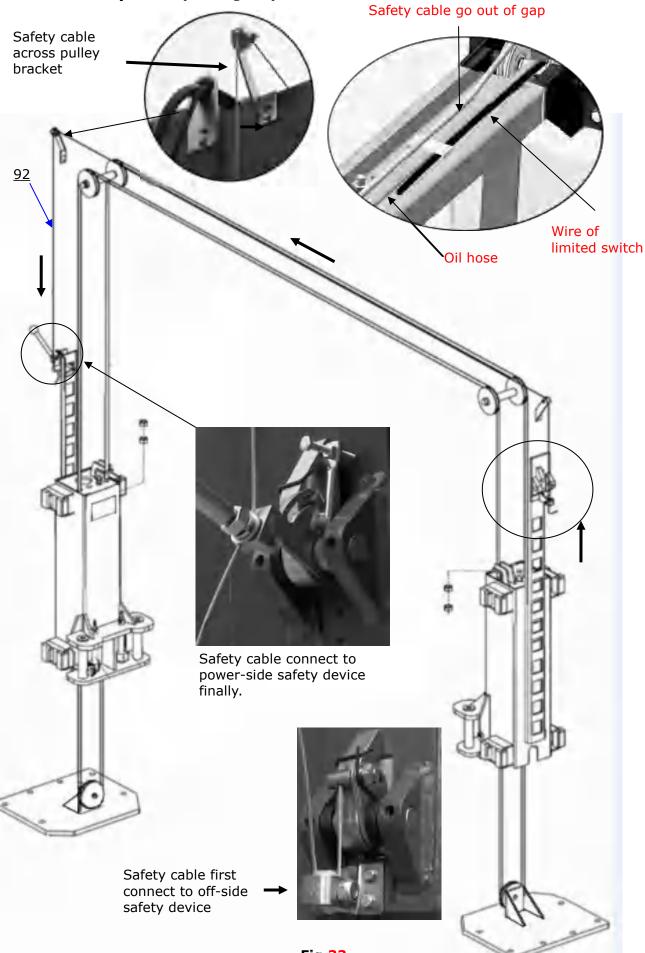


D. Assemble the hex plug by Step A to this left oil inlet port.

Fig.30

L. Install protective cover. (Fig.31)

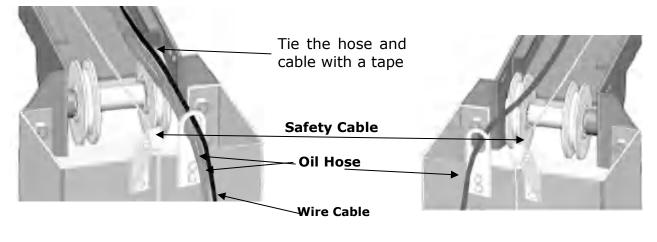




M. Install safety cable (See Fig. 33)

Fig.33

Note: Don't cross the oil hose and safety cable together (See Fig. 34 & Fig. 35).



Power-side Safety Device Fig. 34 Offside Safety Device Fig. 35

N. Cable limited block Installation.

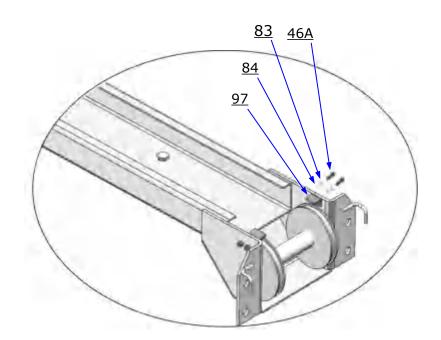
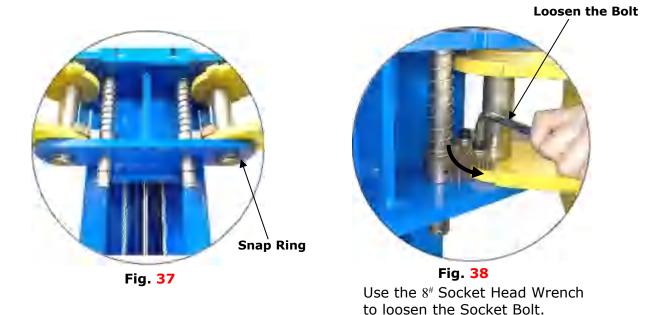


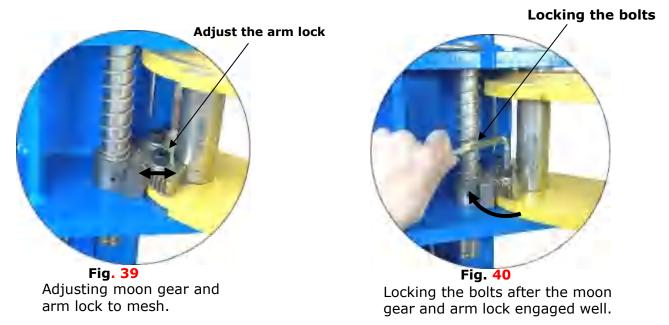
Fig.36

O. Install lifting arms and adjust the arm locks.

- 1. Install the lifting arms (See Fig. 37).
- Lowing the carriages down to the lowest position, then use the 8[#] socket head wrench to loosen the socket bolt (See Fig. 38).



3. Adjust the arm lock as direction of arrow (See Fig. 39)



4. Adjust moon gear and arm lock to make it to be meshed, then tighten the socket bolts of arm lock (See Fig. 40).

P. Tighten all the hydraulic fittings, and fill the reservoir with hydraulic oil.

Note: In consideration of Hydraulic Power Unit's durability and keep the equipment running in the perfect condition, please use Hydraulic Oil 46#.

Q. Install electrical system

Connect the power source on the data plate of power unit.

Note: 1. For safety of operators, the power wiring must contact the floor well.

2. Pay attention to the direction of rotations when using three phase motors.

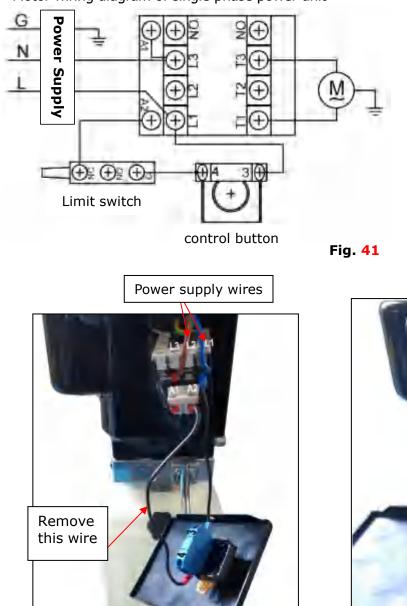
Single phase motor wiring (See Fig. 41)

a. When power supply wires are active wire L and neutral wire N ,connecting active wire L to terminals of AC contactor marked L1, connecting neutral wire N to terminals of AC contractor marked L3.

b. When power supply wires are two active wire L ,connecting to terminals of AC contactor marked L1, L3 respectively.

c. Connecting the limit switch: Remove the short wire connecting terminal 4# of control button and A2 of AC contactor firstly (See Fig. 42), then connect wire C#(Black wire) of limit switch with terminal 4# of control button and connecting wire NC#(red wire) with terminals A2 of AC contactor respectively. (See Fig. 43)

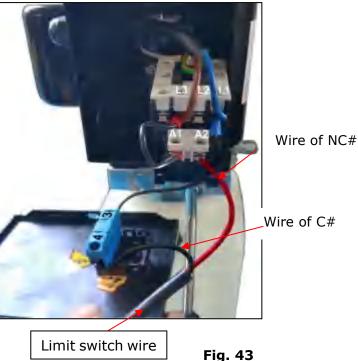
The interior wire of limit switch connecting NC# and C#, refer to Step H.



Motor wiring diagram of single phase power unit

Fig. 42

Circuit diagram



IV. EXPLODED VIEW

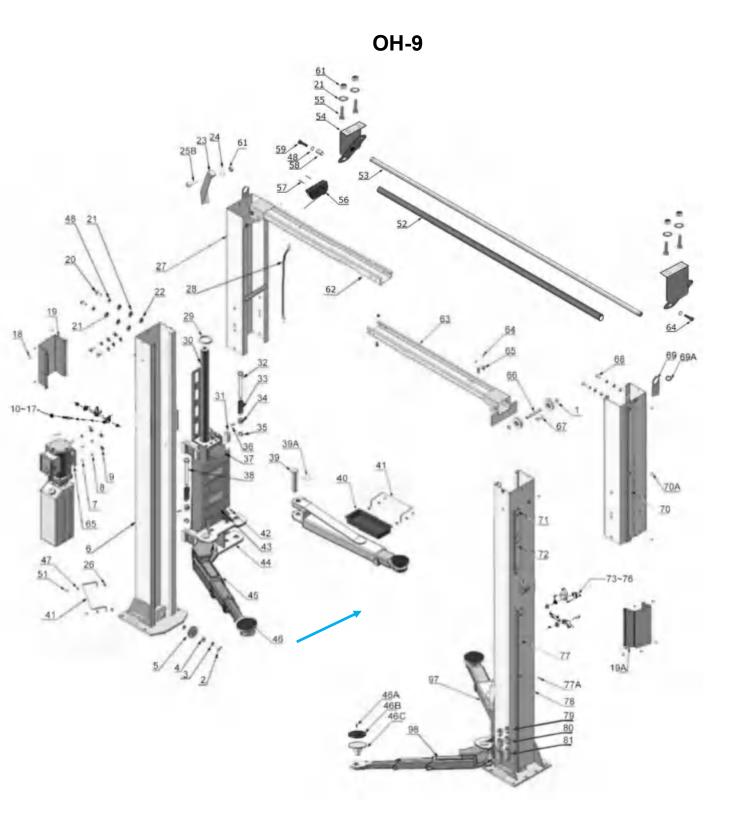


Fig. 44

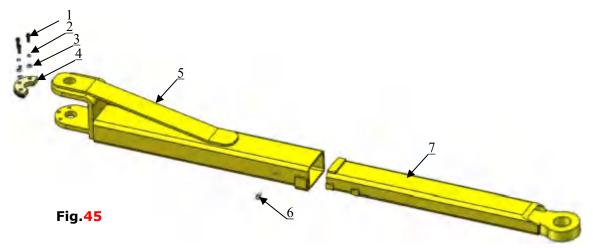
PARTS LIST

Item	Part No.	Description	OH-9
1	10206019	Snap Ring φ19	4
2	10209012	Elastic latch φ3.2	2
3	10209128	Washer φ20	4
4	10209057A	Bronzed bush for Pulley Φ *25.4* Φ 19.1*14.5	6
5	11206020	Pulley	6
6	11206202	Power-side Inner Column	1
7	10209003	Hex Bolt M8*25	8
8	10209004	Rubber Ring φ8*20*3	4
9	10209005	Self-locking Nut M8	8
10	11217436	Safety device spacer ϕ 27*15	2
11	11217006	Safety device control stick	1
12	10217005	Plastic ball M10	1
13	10206023A	Hex bolt M12	1
14	10420026	Lock Washer q12	1
15	10206006	Washer ϕ 12	27
16	11217009	Safety device	1
17	11217012	Safety device spacer $\varphi 27*10$	2
18	10209009	Cap head screw M6*8	10
19	11217405	Cover for power-side safety device	1
19A	11217406	Cover for offside safety device	1
20	10209126	Hex Bolt M10*25	20
21	10209022	Washer φ10	44
22	10209021	Hex Nut M10	20
23	11217379	Safety Cable Bracket	2
24	10206009	Plastic Pulley (white)	3
25	10217013	Hex bolt M6*20	8
25A	10420018	Self-locking nut M6	8
25B	10209046	Hex bolt M10*35	3
26	10209033	Washer φ8	12
27	11206204	Extension Column L=1240mm	2
28	10206137	Wire L=3700	1
29	10209111	Protective Ring for Cylinder	2
30	11217056	Cylinder φ50*1727	2
31	10209015	Slider Block	16
32	11217046A	Arm Lock Bar (left)	2
33	10206050A	Spring	4
34	10217044-01	Arm Lock	4
35	10206032	Snap Ring φ25	4
36	10206036	Hair Pin φ6*40	4
37	10209016	Carriage Plastic Cover	2
38	11217046	Arm Lock Bar (right)	2
39	11217168	Arm pin assy.	4
39A	10520023	Snap Ring φ38	4
40	10206190	Tool tray (Short)	2

Item	Part No.	Description	OH-9
41	11206191	Toe guard bar	4
42	10209019	Screw M6*16	12
43	10209018	Protective Rubber	2
44	11279004	Carriage	2
45	10279010	Front right Arm	1
45A	10279009	Front left Arm	1
46	10201046A	Rubber pad assy.	4
46A	10420138	Socket bolt M6*16	12
46B	10209134	Rubber pad	4
46C	11680030C	Rubber pad bracket	4
47	10209034	Lock Washer φ8	14
48	10209039	Lock washer φ10	22
49	10209059	Anchor bolt 3/4*5-1/2	12
50	10206500B	Parts box	1
51	10201002	Hex Bolt M8*16	14
52	10206025A	Foam tube	1
53	1102072001A	Control Bar φ22*2400	1
54	1103072003A	Control Bar Support Bracket	2
55	10206017	Hex Bolt M10*20	4
56	1002022001	Limit Switch CZ-7121	1
57	10420164	Cap Head Bolt M4*30	2
58	110207007	Connecting Bush φ14*2*20	1
59	10201122	Hex Bolt M8*35	1
60	10206023	Self-locking Nut M12	14
61	10209056	Self-locking Nut M10	7
62	11206195-01	Top Beam A	1
63	11206196-01	Top Beam B	1
64	10201002	Hex Bolt M8*16	1
65	071101	Power unit	1
66	11279016	Pin for Pulley	2
67	11206022	Top Pulley spacer	2
68	10206024	Hex Bolt M12*25	8
69	11217024	Oil hose retainer	2
69A	1061K074	Wire guard	2
70	11203752	Wire protective cover L=1140	2
70A	10206110	Cap head bolt M6*35	4
71	11279624	Protective Cover(L=200mm)	2
72	11203754-01	Protective Cover(L=385mm)	2
73	11217004	Active safety control block	1
74	11217029	Safety Pulley Bracket	1
75	10217008	Torsion spring φ2.5*145°	1
75A	10217030	Torsion spring φ2.5*120°	2
76	11217031	Driven safety control block	1
76A	10217032	Wire cable connecting pin	1
76B	11217033	Tension nut	1

Item	Part No.	Description	OH-9
77	10203778	Protective Cover L=1545	2
77A	10206079	Cap Head Bolt M6*40	14
78	11206203	Offside Inner column	1
79	11209051B	Stackable Adapter (1.5")	4
80	11209052B	Stackable Adapter (2.5")	4
81	11209053B	Stackable Adapter (5")	4
82	10217066	Hex Bolt M6*15	2
83	10209149	Lock Washer φ6	10
84	10420045	Washer φ6	26
85	10206064A	Cable φ9.52*10048mm	2
86	10206132-01	Oil hose 1/4*4470mm	1
87	10209060	90° fitting for power unit	1
87A	10211016	T fitting	1
88	10209064	Straight Fitting	2
89	10206062	Straight Fitting	2
90	10233009	Oil hose straight fitting(square)	2
91	10206130-01	Oil Hose 1/4*5350mm	2
92	10260200	Safety cable φ2.5*7750mm	1
93	10209066	Hex nut M16	8
94	10201090	Shim (1mm)	10
94	10620065	Shim (2mm)	10
95	10209152	Ties 3*150mm	4
96	10279011	Rear Arm assy.	2
97	1102075001	Cable limit plate	4
98	10217010	Hex bolt M6*40	1
99	10217011	Hex nut M6	1
100	10217051	Socket bolt M10*10	2
101	11217050	Safety device pin	2
102	10209066	Nut M16	8

4.1 Rear arm assy. (10279011) explosive view



Item	Part No.	Description	QTY.
1	10206048	Hex nut M10*30	6
2	10209039	Washer φ10	6
3	10209022	Washer φ10	6
4	11206049	Moon gear	2
5	11206192	Rear outer arm	2
6	10201149	Cap head bolt M8*12	2
7	11206193	Rear inner arm	2

4.2 Front left arm assy. (10279009) explosive view

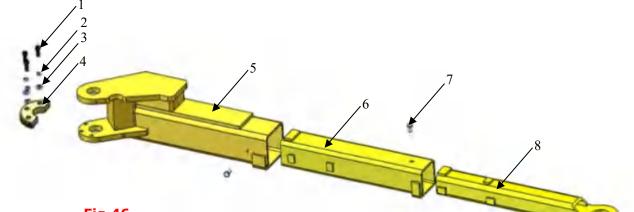
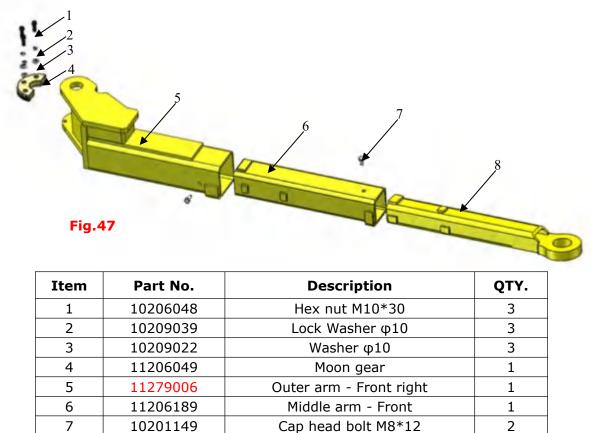


Fig.46

Item	Part No.	Description	QTY.
1	10206048	Hex nut M10*30	3
2	10209039	Lock Washer φ10	3
3	10209022	Washer φ10	3
4	11206049	Moon gear	1
5	11279005	Outer arm - Front left	1
6	11206189	Middle arm - Front	1
7	10201149	Cap head bolt M8*12	2
8	11201049A	Inner arm - Front	1

4.3 Front right arm assy. (10279010) explosive view



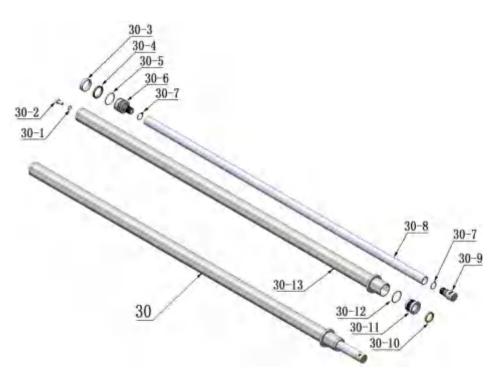
Inner arm - Front

1

4.4 Cylinder (11217056) explosive view

11201049A

8

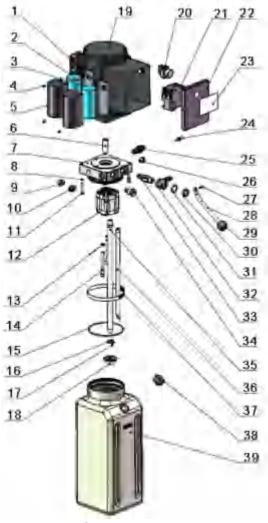




Part list for cylinder

Item	Part No.	Description	QTY.
30-1	10209069	O-ring	2
30-2	10209070	Bleeding Plug	2
30-3	10209071	Support Ring	2
30-4	10209072	Y-ring OSI	2
30-5	10209073	O-ring	2
30-6	11209074	Piston	2
30-7	10209075	O-Ring	2
30-8	11217076	Piston rod	2
30-9	11209077	Piston Rod Fitting	2
30-10	10209078	Dust ring	2
30-11	11209079	End cap	2
30-12	10209080	O ring	2
30-13	11209081A	Bore Weldment	2

4.5 Power unit (071101) explosive view



single phase,220V/60Hz

Fig. 49

Item	Part No.	Description	QTY.		Item	Part No.	Description	QTY.
1	81400180	Rubber pad	2	1	21	41030055	AC contractor	1
2	81400250	Starting capacitor	1		22	81400287	Motor wiring cover	1
3	81400200	Running capacitor	1		23	71111104	AMGO label	1
4	10420148	Screw with washer	4		24	81400560	Throttle valve	1
5	81400066	Capacitor cover	2		25	81400266	Relief valve	1
6	81400363	Motor connector	1		26	81400284	Plug	1
7	80101013	Manifold block	1		27	10720118	Elastic pin	1
8	10209149	Washer	4		28	81400451	Release handle	1
9	81400276	Iron Plug	1		29	10209020	Plastic ball for handle	1
10	81400259	Red rubber plug	1		30	81400421	Release valve nut	1
11	85090142	Hex bolt	4		31	81400422	Self-locking washer	1
12	81400280	Gear pump	1		32	81400449	valve seat(short)	1
13	10209034	washer	2		33	81400567	Release valve	1
14	81400295	Hex nut	2		34	81400566	Check valve	1
15	81400365	O-ring	1		35	81400288	Oil suction hose	1
16	10209152	Ties	1		36	81400289	Oil return hose	1
17	85090167	Magnet	1		37	81400364	Clamp(stainless steel)	1
18	81400290	Filter	1		38	81400263	Oil tank cap	1
19	81400413	Motor	1		39	81400275	Oil tank	1
20	10420070	Button switch	1	1				

Part list of power unit (220V/60HZ/single phase)

4.6 Illustration of hydraulic valve for hydraulic power unit

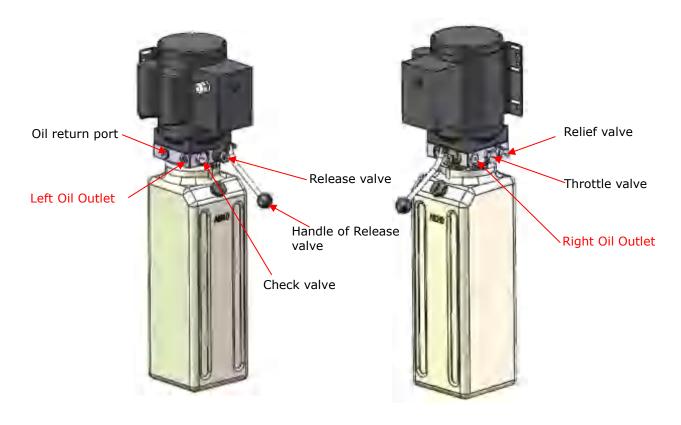


Fig.<mark>50</mark>

V. TEST RUN

1. Adjustment of synchronous cable (See Fig. 51)

Use wrench to hold the cable fitting, meanwhile using ratchet spanner to tighten the cable nut until the two cables are in the same tension.

If the two vehicle carriages do not Synchronized when lifting and lowering, please screw and tighten the cable nut on the lower side carriage.

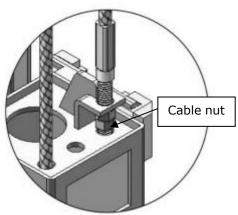


Fig. 51

2. Adjust safety cable

Rise the vehicle carriages and lock them at the same height, strain the safety cable and then release a little, and then tighten the safety cable nuts. Make sure the safety device can always lock the carriages properly.

At last, install the plastic cover of the safety device.

3. Bleeding air from oil cylinder (See Fig. 52)

Rise the vehicle carriages and lock them at the same height, strain the safety cable and then release a little, and then tighten the safety cable nuts. Make sure the safety device can always lock the carriages properly. At last, install the plastic cover of the safety device.





4. Adjust the lowering speed

You can adjust the lowering speed of the lift if needing: screw the throttle valve clockwise to decrease the lowering speed, or counterclockwise to increase the lowering speed.



Adjust clockwise, decrease lowering speed

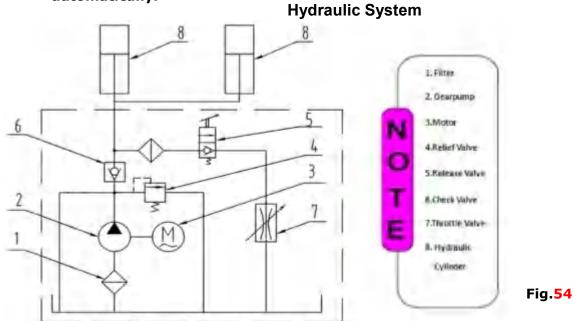
Counterclockwise, increase lowering speed



5. Test with load

After finishing the above adjustment, test running the lift with load. Run the lift in low position for several times firstly, make sure the lift can rise and lower synchronously, the Safety Device can lock and release synchronously. And then test run the lift to the top completely. If there are anything improper, repeat the above adjustment.

NOTE: It may be vibrated when lifting at start, please lifting it with load for several times, the air would be bled and the vibration would be disappeared automatically.



VI. OPERATION INSTRUCTIONS

Please read the safety tips carefully before operating the lift

To lift vehicle

- 1. Keep clean of site near the lift;
- 2. Position lift arms to the lowest position;
- 3. To shortest lift arms;
- 4. Open lift arms;
- 5. Position vehicle between columns;
- 6. Move arms to the vehicle's lifting point;

Note: The four lift arms must contact the vehicle's lifting point at the same time where manufacturers recommended

- Push button UP until the lift pads contact underside of vehicle totally. Recheck to make sure vehicle is secure;
- Continue to raise the lift slowly to the desired working height, ensuring the balance of vehicle;
- 9. Push release handle to lower lift onto the nearest safety. The vehicle is ready to repair.

To lower vehicle

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

Note: In order to extend the service life of the cylinder and seals, raise the machine to top at least once a day

VII. MAINTENANCE SCHEDULE

Monthly:

- 1. Re-torque the anchor bolts with 150 $N \cdot M$;
- 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 is malfunction 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 of the cables to insure level lifting.
- 3. Check columns for plumbness.
- 4. Check Rubber Pads and replace as necessary.
- 5. Check Safety device and make sure in proper condition.

Oil cylinder maintenance:

In order to extend the service life of the oil cylinder, please operate according to the following requirements.

- 1. Recommend to use N46 anti-wear hydraulic oil.
- 2. The hydraulic oil of the lifts should be replaced regularly during using. Replace the hydraulic oil 3 months after the first installation, Replace the hydraulic oil once a year afterwards.
- 3. Make at least one full trip raising and lowering per day. For exhausting the air from the system, which could effectively avoid the corrosion of the cylinder and damage to the seals caused by presence of air or water in the system.
- 4. Protect the outer surface of the oil cylinder's piston rod from bumping and scratching, and timely clean up the debris on the oil cylinder dust-ring and the piston rod.

VIII.TROUBLE SHOOTING

TROUBLE	CAUSE	REMEDY
	1. Button does not work	1. Replace button
	2. Wiring connections are not in good	2.Repair all wiring connections
Motor does not	condition	
run	3. Motor burned out	3. Repair or replace motor
i di i	4. Height Limit Switch is damaged	4. Replace the Limit Switch
	5. AC contactor burned out	5. Replace AC Contactor
	1. Motor runs in reverse rotation	1.Reverse two power wire
Motor runs but	2. Gear Pump out of operation	2.Repair or replace
the lift is not	3. Release Valve in damage	3. Repair or replace
raised	4. Relief Valve or Check Valve in damage	4.Repair or replace
Taiseu	5. Low oil level	5.Fill tank
	1. Release Valve out of work	
Lift does not	2. Relief Valve or Check Valve leakage	Repair or replace
stay up	3. Cylinder or Fittings leaks	
	1. Oil line is jammed	1. Clean the oil line
	2. Motor running on low voltage	2. Check Electrical System
Lift raises too	3. Oil mixed with air	3. Fill tank
slow	4. Gear Pump leaks	4. Replace Pump
	5. Overload lifting	5. Check load
	1. Safety device are in activated	1. Release the safeties
	2. Release Valve in damage	2. Repair or replace
Lift cannot lower	3. Safety cable broken	3. Replace
	4. Oil system is jammed	4. Clean the oil system

IX. Lift disposal.

When the car lift cannot meet the requirements for normal use and needs to be disposed, it should follow local laws and regulations.



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