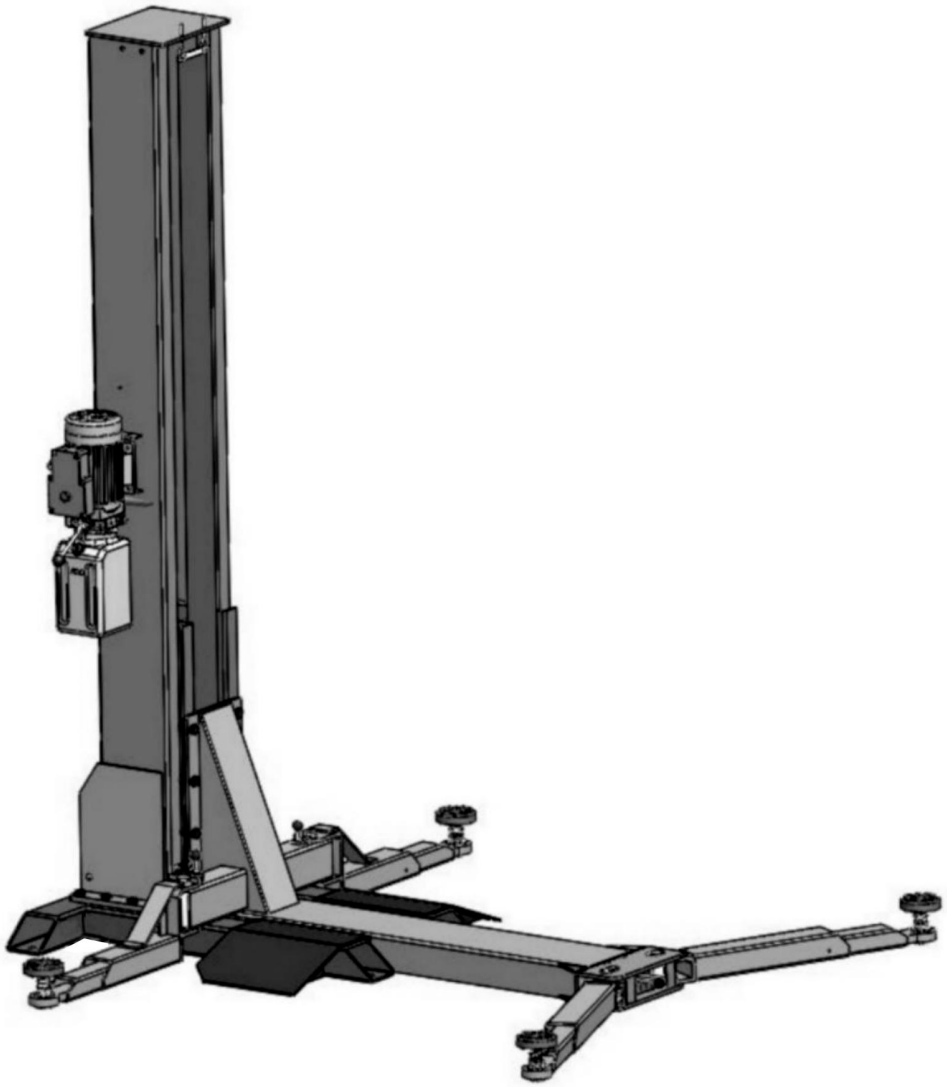
AMGO® Hydraulics

Original

Installation And Service Manual



SINGLE POST LIFT
Model:SL-7

CONTENTS

I. PRODUCT FEATURES AND SPECIFICATIONS

CHAIN-DRIVE SINGLE POST MODEL SL-7 FEATURES

. Compact design.

· High quality cylinders and power units are manufactured to high standards.

. Self-lubricating UHMW Polyethylene sliders and bronze bush.

. Manual release safety lock, two-stage lock system

. Super-symmetric arms design with 3-stages front arms and 2-stages rear arms.

. Stackable and screwed type rubber pad.

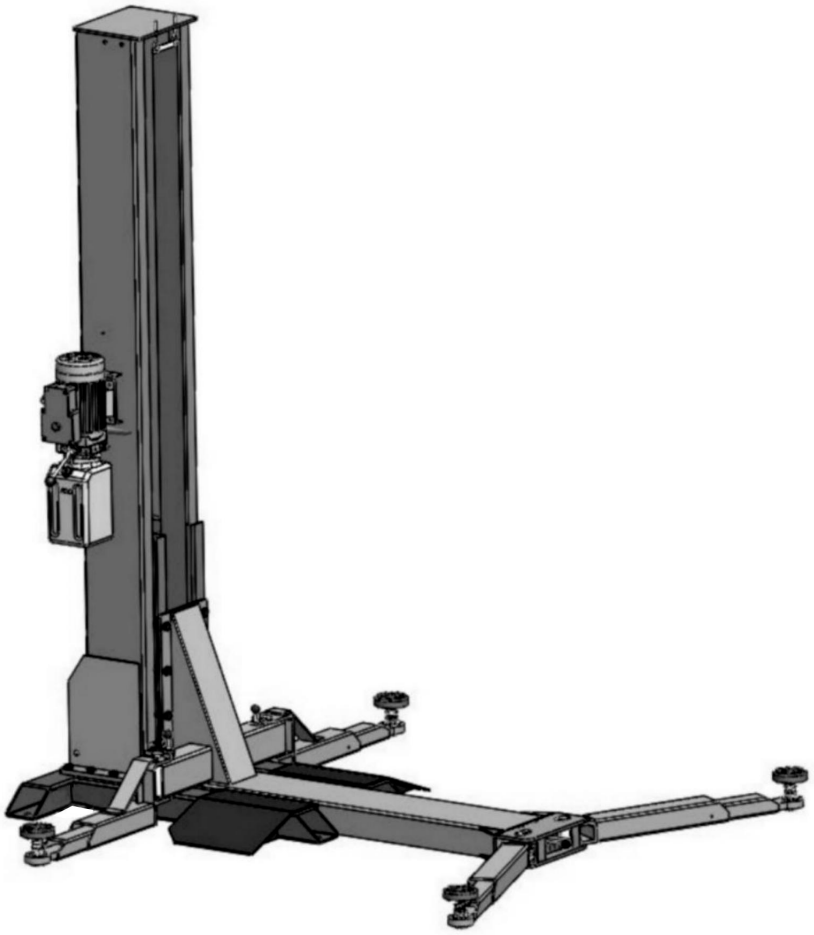


Fig.1

MODEL SL-7 SPECIFICATIONS

Model	Style	Lifting Capacity	Lifting Time	Lifting Height	Overall Height	Overall Width	Minimum Pad Height	Motor
SL-7	Chain-drived	7,000 lbs	84S/32S	71 7/8″-77 5/8″	108 7/8″	84 1/2″	4 3/8″	1.0HP/ 2.0HP

Arm Swings
View

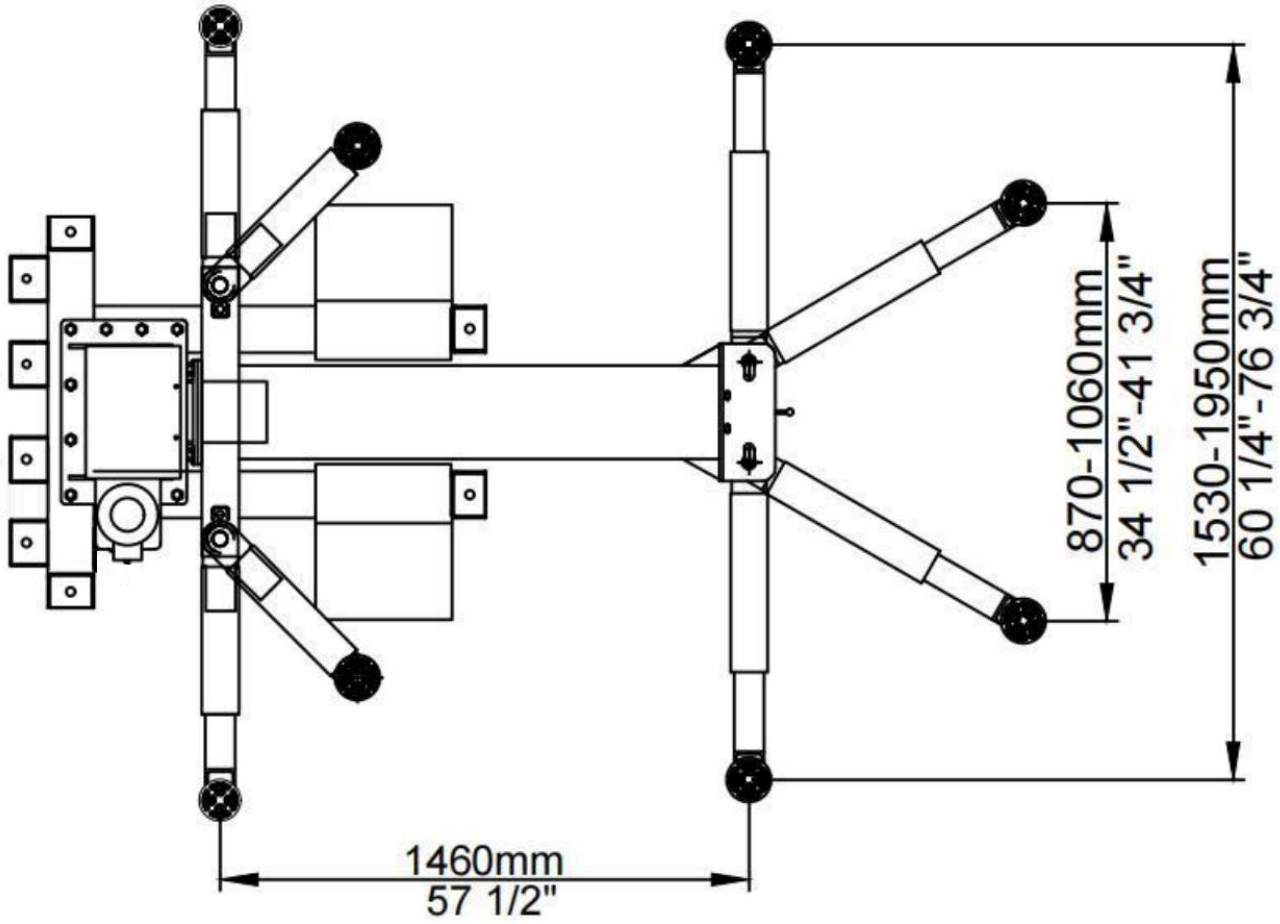


Fig.2

II. INSTALLATION REQUIREMENT

A. TOOLS REQUIRED

- Rotary Hammer Drill(Φ19)

- Hammer

- Level Bar

- English Spanner(12″)

- Wrench set：(10#、13#、14#、12# 17#、19#、24#、30#)

- Carpenter's Chalk

- Screw sets

- Tape Measure(7.5mm)

- Pliers

- Socket Head Wrench：(4#、5#、6#)

Fig.3

B. Equipment storage and installation requirements.

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

C. SPECIFICATIONS OF CONCRETE (See Fig. 4)

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 5'' 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 3,500psi minimum.
3. Floors must be level and no cracks.

D. POWER SUPPLY

The electrical source must be 2.0HP minimum. The source cable size must be 2.5mm² and in good condition of contacting with floor.

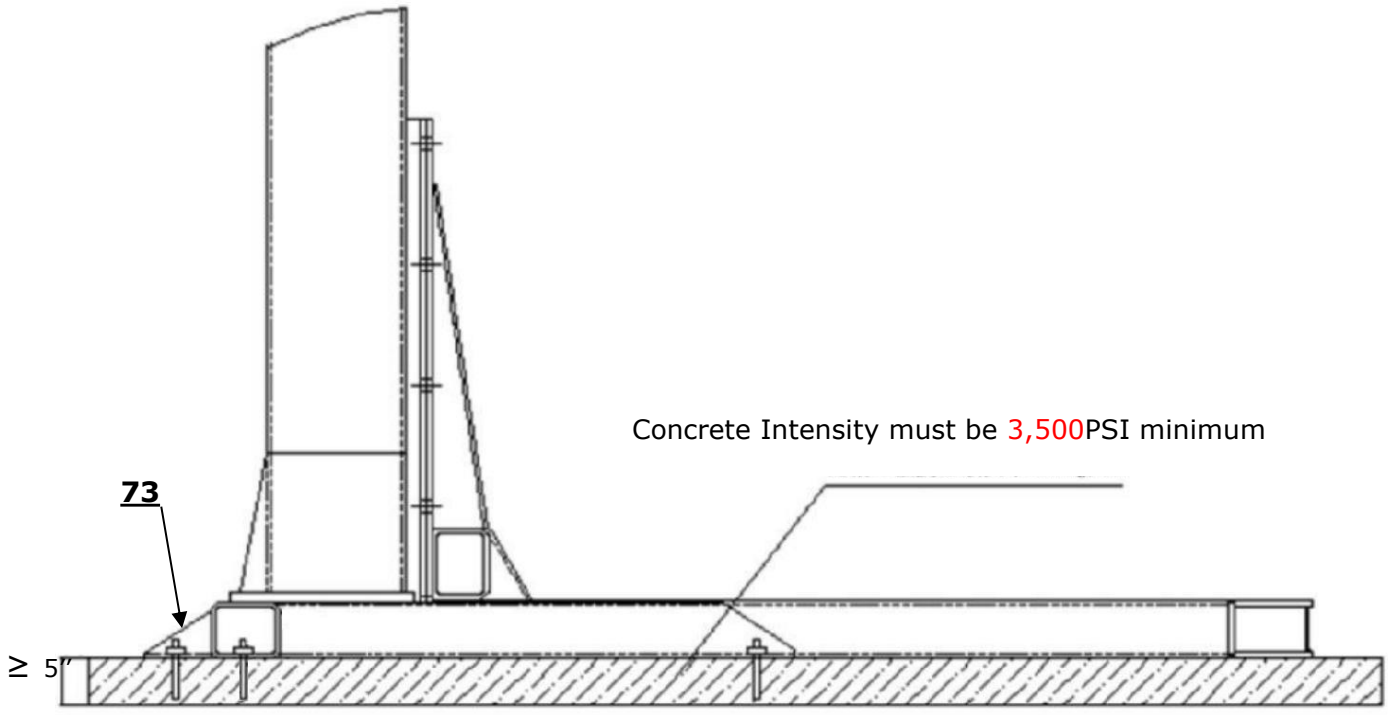


Fig.4

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. 5)**

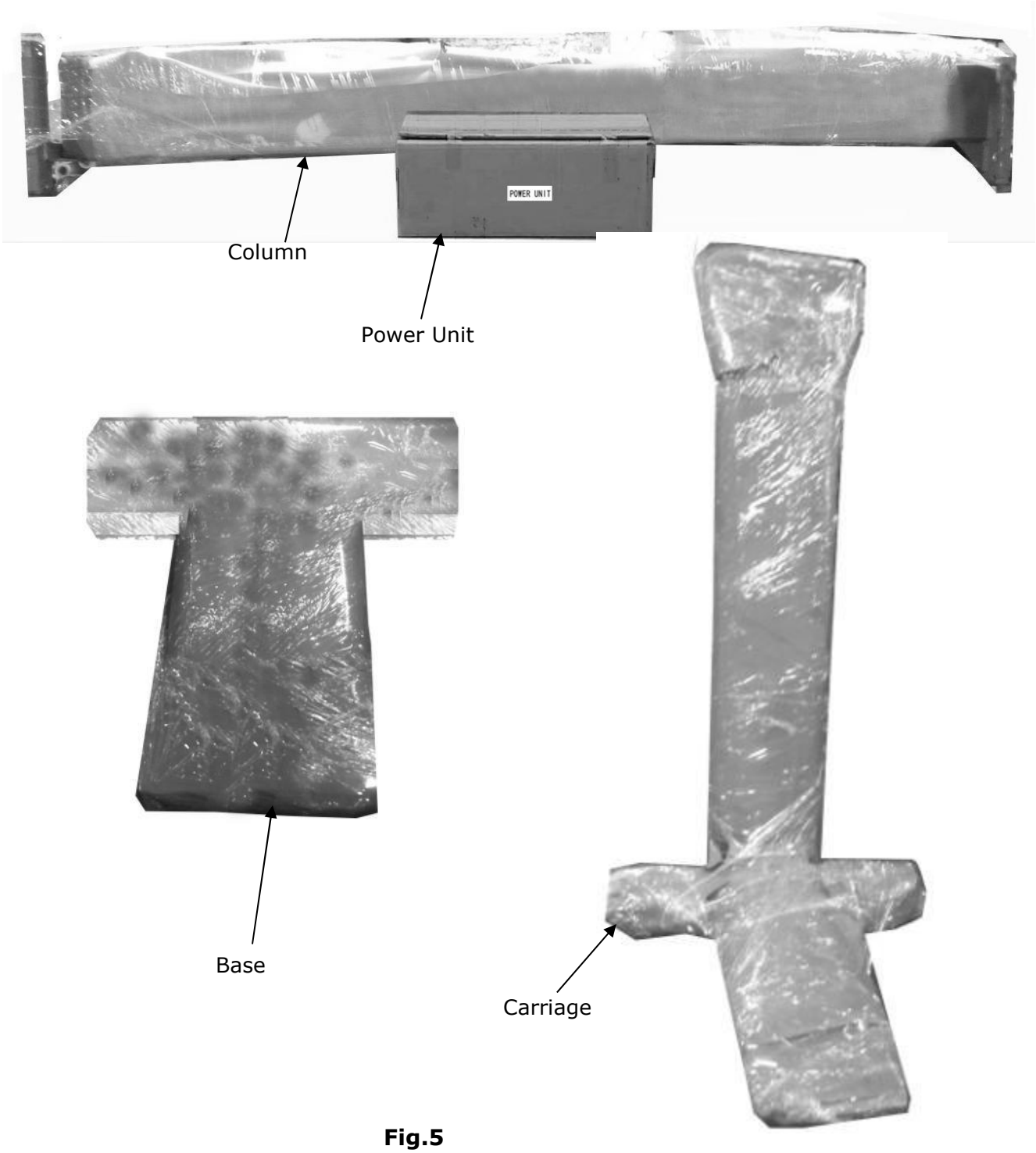


Fig.5

2. Take off the packaging on the machine. Take off the packing rack.
3. Move aside the parts and check the parts according to the shipment parts list. (**See Fig.6 & 7**)

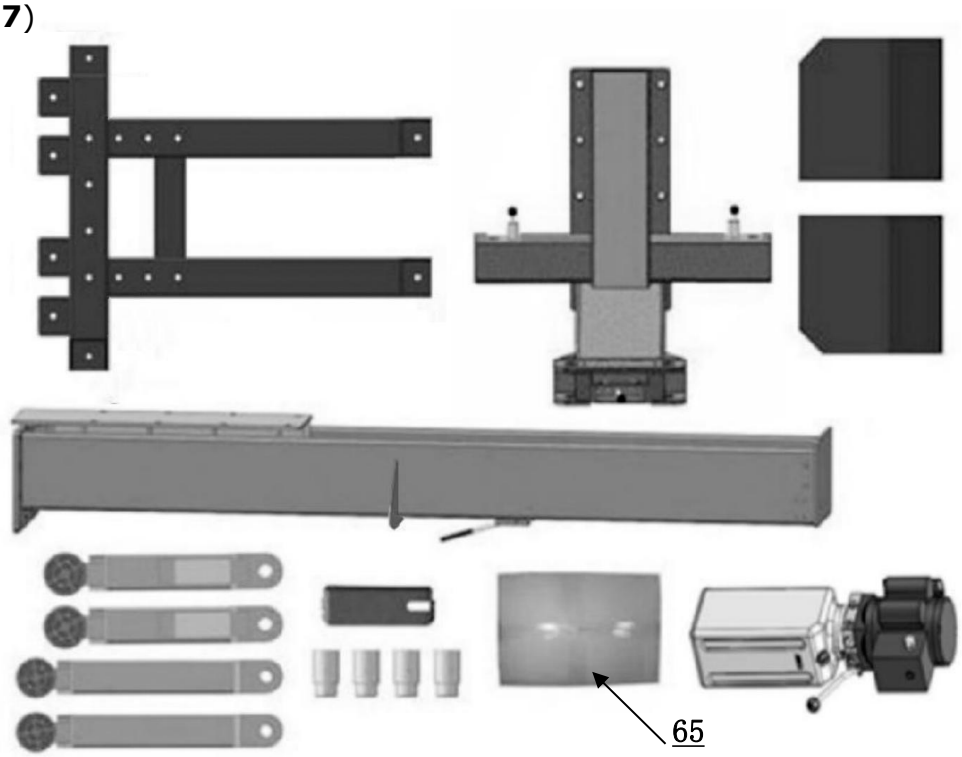


Fig.6

Part box （65）
Fig.7

4. Check the parts of the parts bag according to the parts bag list **(See Fig.8)**

Fig.8

C .Lay the base on the ground, confirm installation place according to the ground state, the main purpose is to save space. (**See Fig.9**)

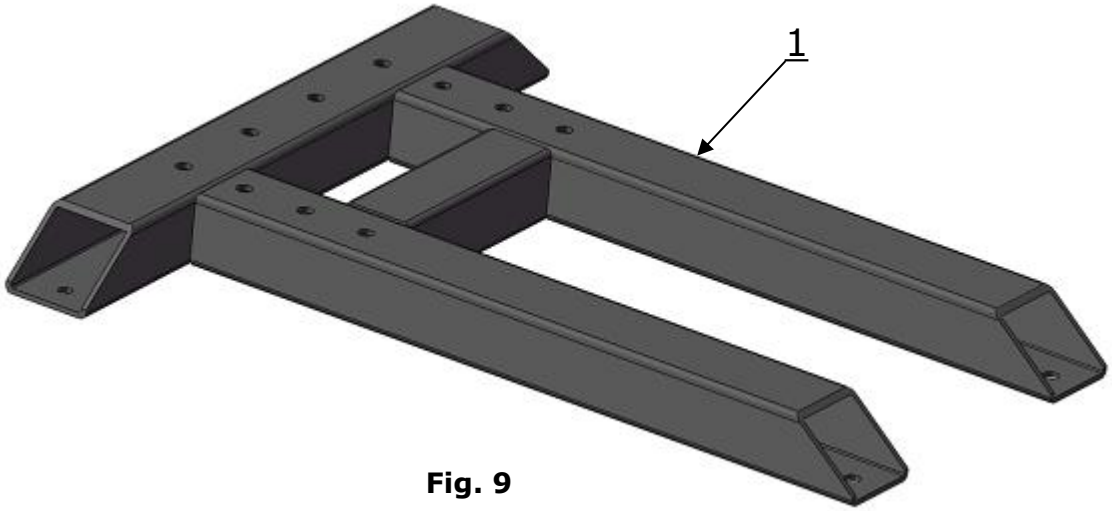


Fig. 9

D. Install column and lift platform

1. Lay the column on the ground. (**See Fig.10**)

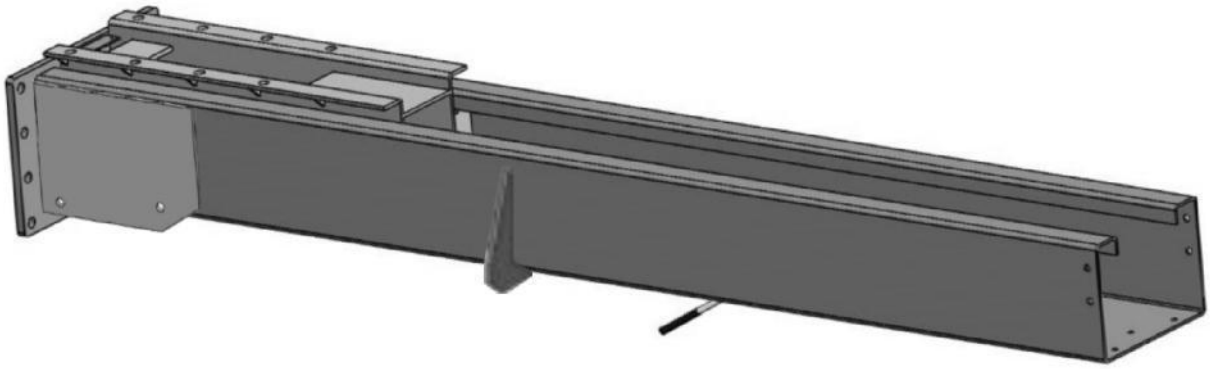
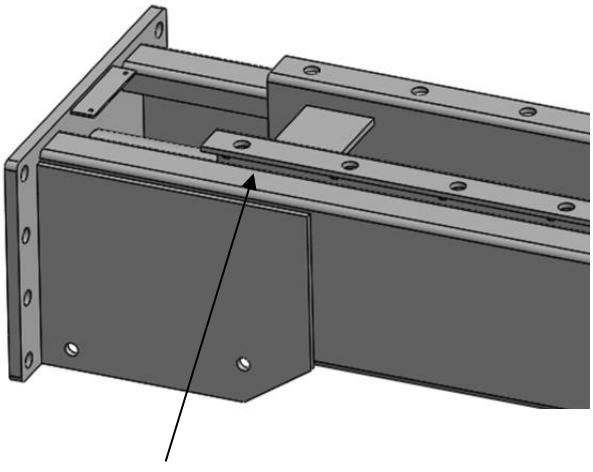
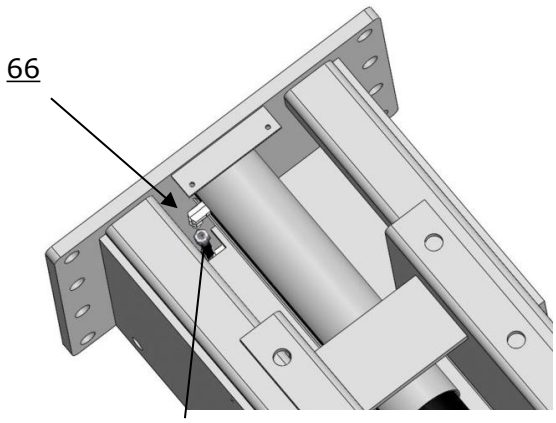


Fig. 10

2. Connecting oil hose of cylinder (**See Fig. 11**)



Pull out the carriage about 200mm



Connect oil hose to cylinder connector

Fig. 11

3. Fix column to the base plate. (**See Fig.12**)
4. Fix lifting platform to carriage. (**See Fig.13**)

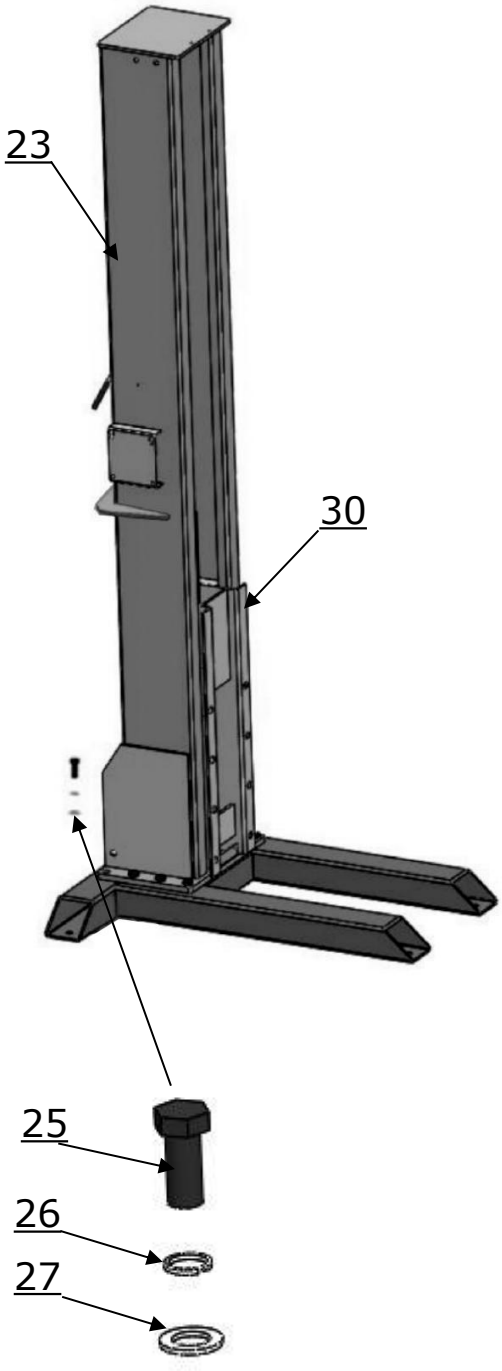


Fig. 12

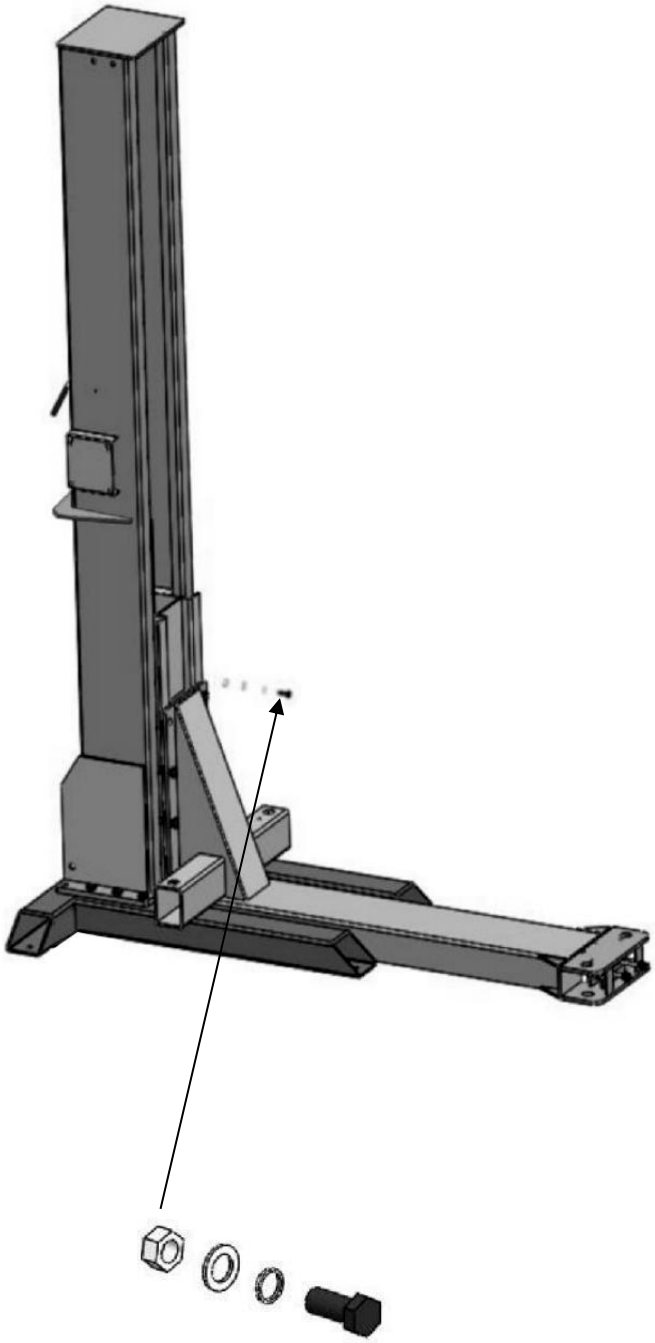


Fig. 13

E. Install safety device, power unit, oil hose and wire holder (See Fig.14)

Note: Tighten the oil hose fitting and power unit fitting to avoid oil leakage; Pay attention to the direction of power unit fitting.

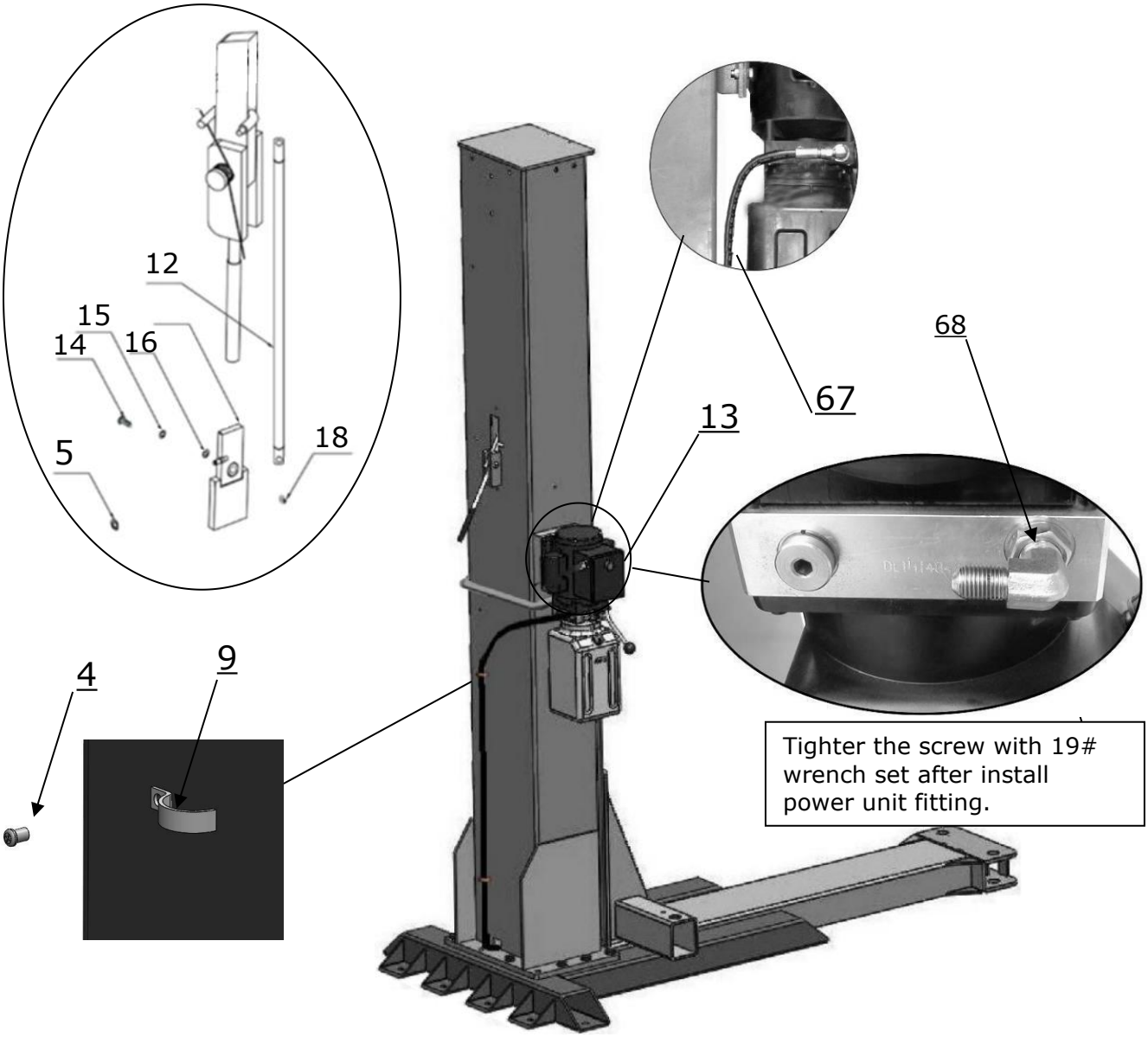


Fig.14

F. Install plastic barrier (See Fig.15)

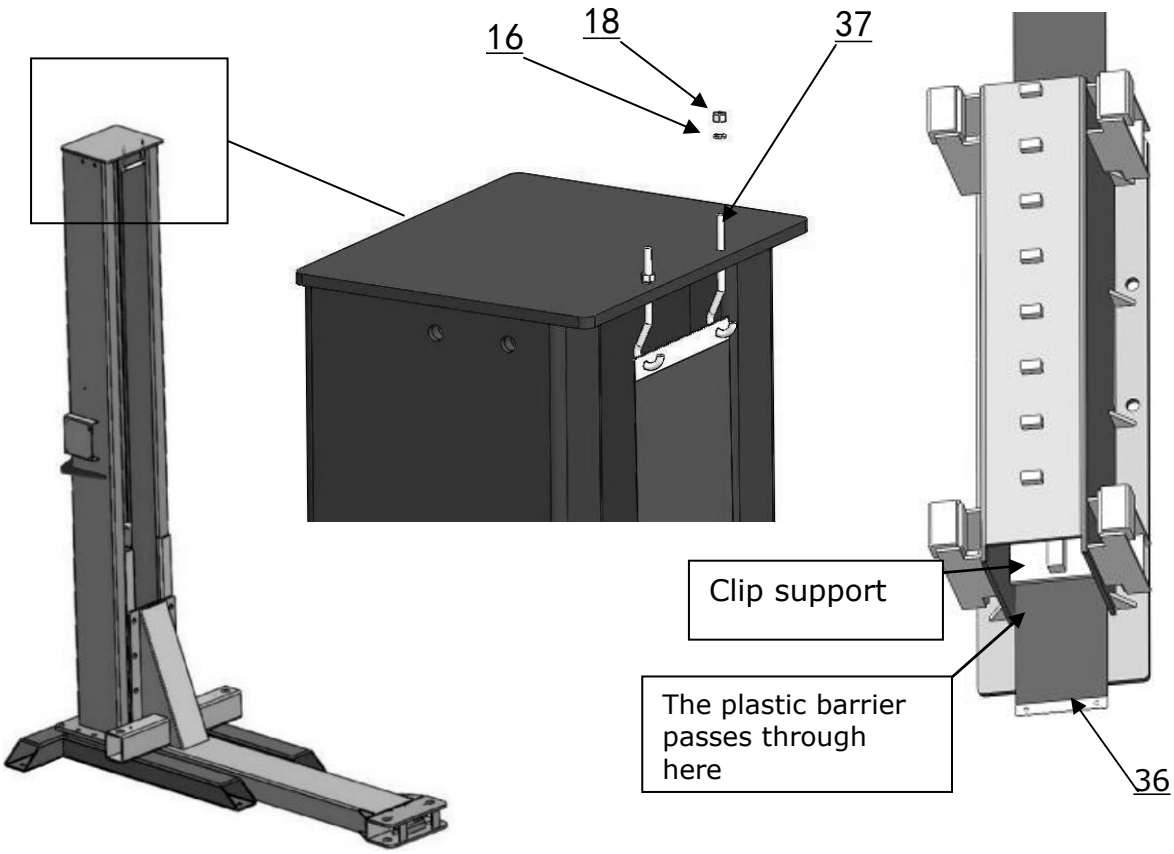


Fig. 15

G. Install electrical system

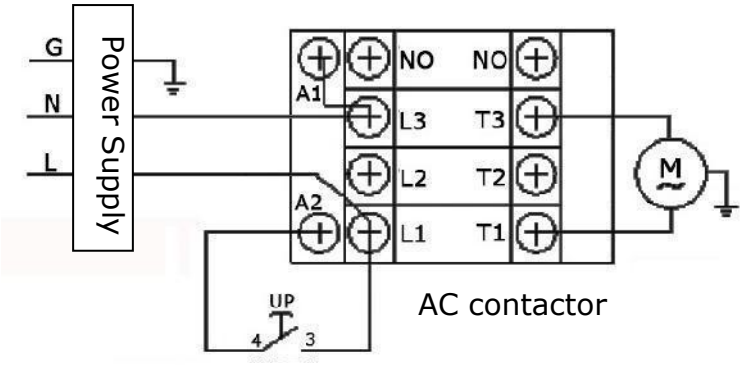
Connect the power source on the data plate of power unit.

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

Single phase motor

1. power supply wires (active wire **L** and neutral wire **N**) to terminals of AC contactor marked L1, L3 respectively. Circuit diagram **(See Fig. 16).**

2. Connecting the earth wire terminal of the motor.



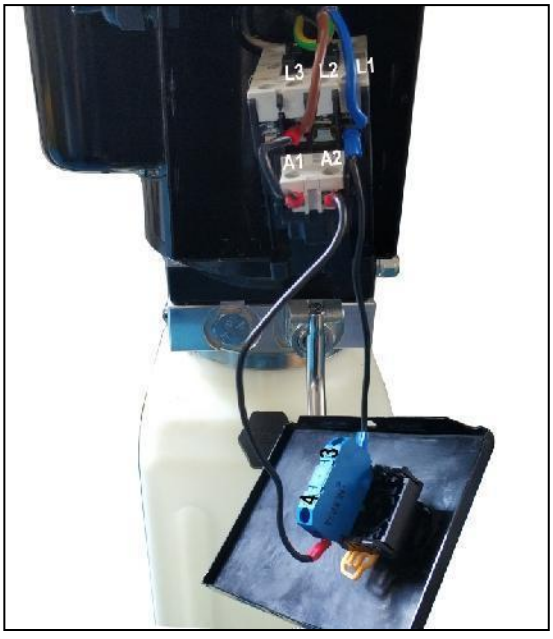


Fig. 16

H. Install lifting arms (**see Fig.17**); Lowing the carriages down to the lowest position, then use the 6# wrench to loosen the nut **(See Fig. 18)** Adjust the arm lock as arrow direction **(See Fig. 19).** Adjust moon gear and arm lock to make it to be good engagement, then tighten the nut of arm lock **(See Fig. 20).**

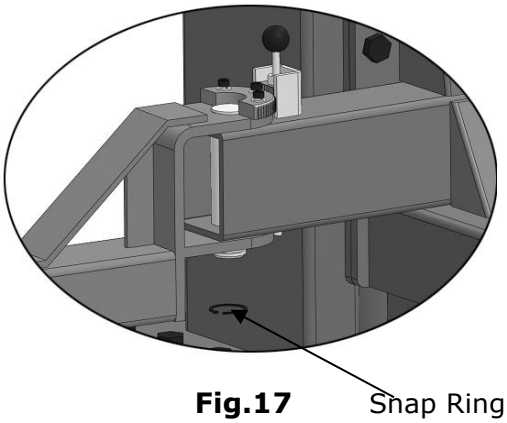


Fig.17

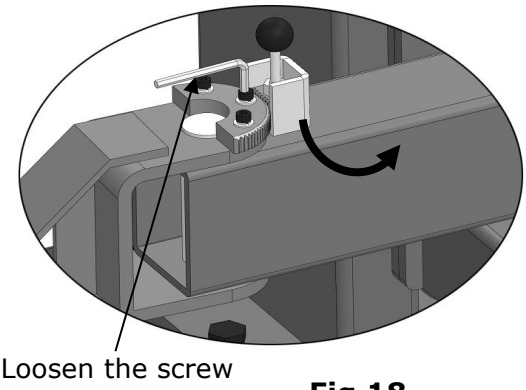


Fig.18

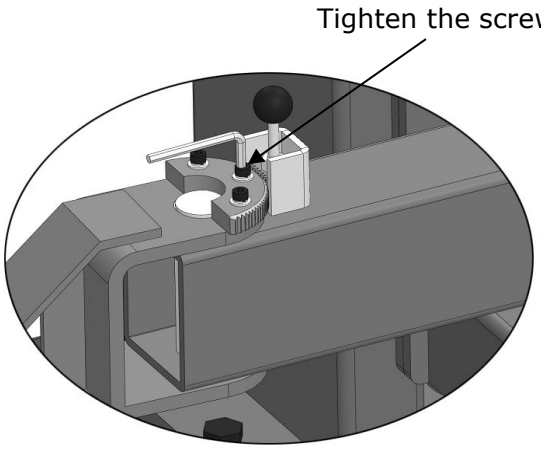


Fig.19

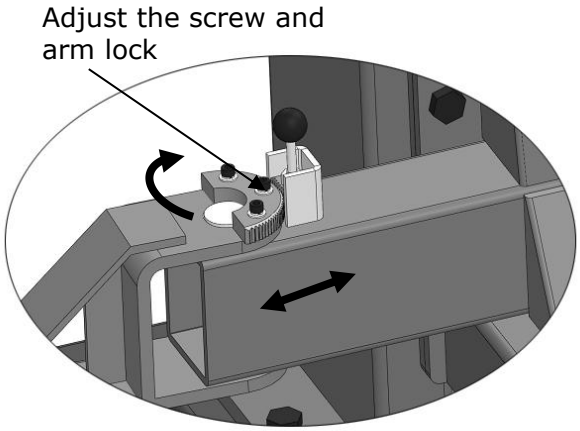


Fig.20

Operation of Arm Lock Handle

① Pull out the control handle.
② Move Left or right to release the both arm locks.

Fig.21

I. 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#.

J. Using level to measure and adjust the column to be vertical.

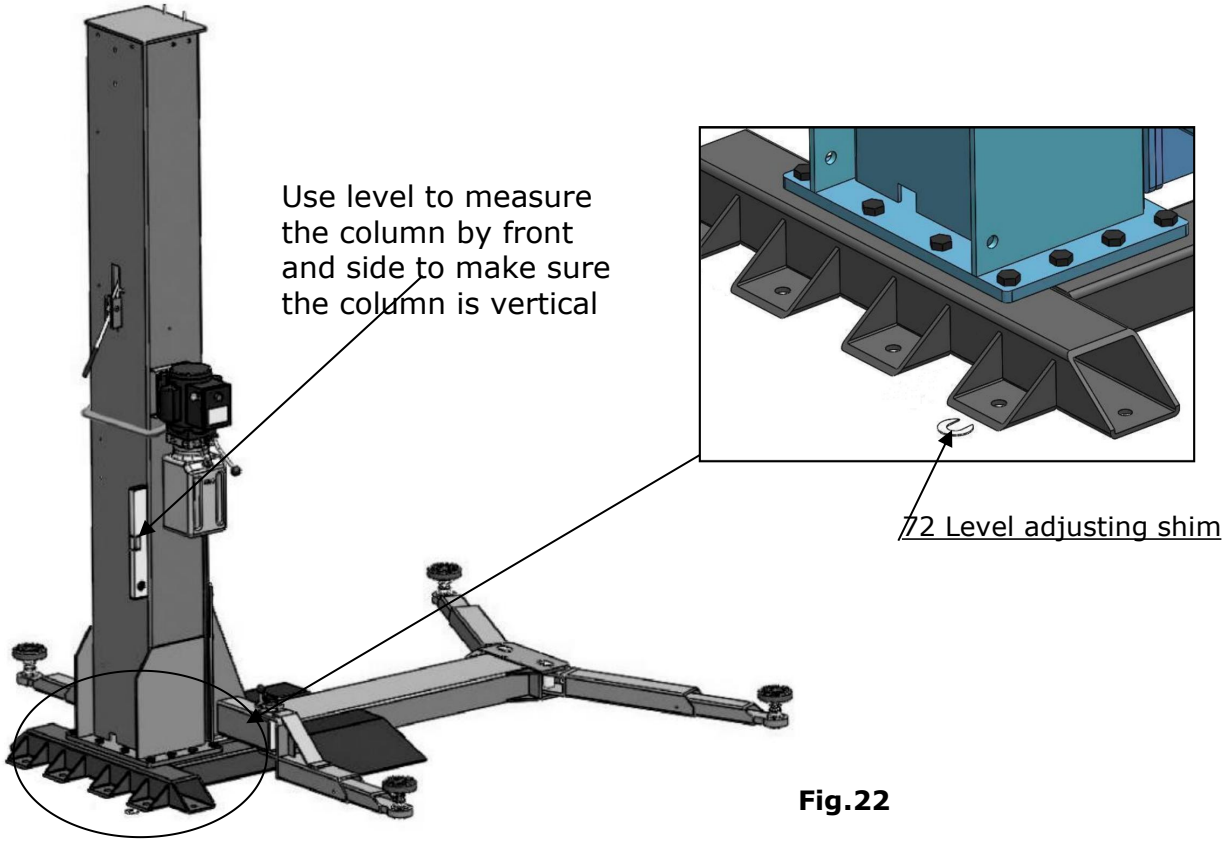


Fig.22

K. Fix the anchor bolts

1. Prepare the anchor bolts **(See Fig. 23).**

Fig.23

2. Using the prescribed rotary hammer drill, and drill all the anchor holes and install the anchor bolts. Make the columns plumpness, and adjusting with the shims if not, then tighten the anchor bolts **(See Fig. 24).**

Note**:** Torque of Anchors is 150N.m. Minimum embedment of Anchors is 4-1/2"

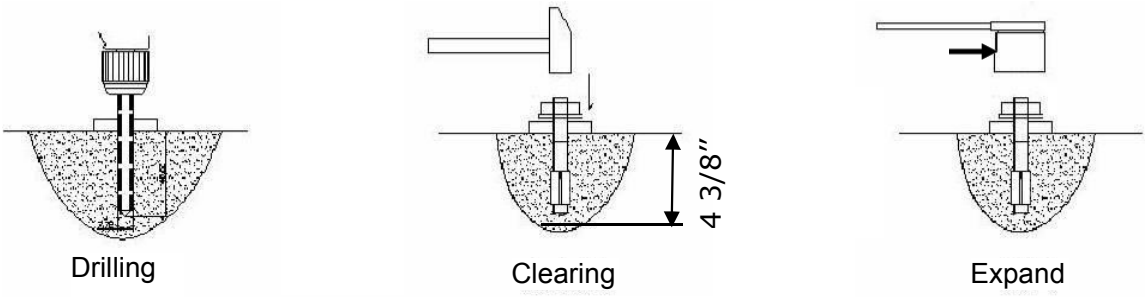


Fig.24

IV. Exploded View

Model：SL-7

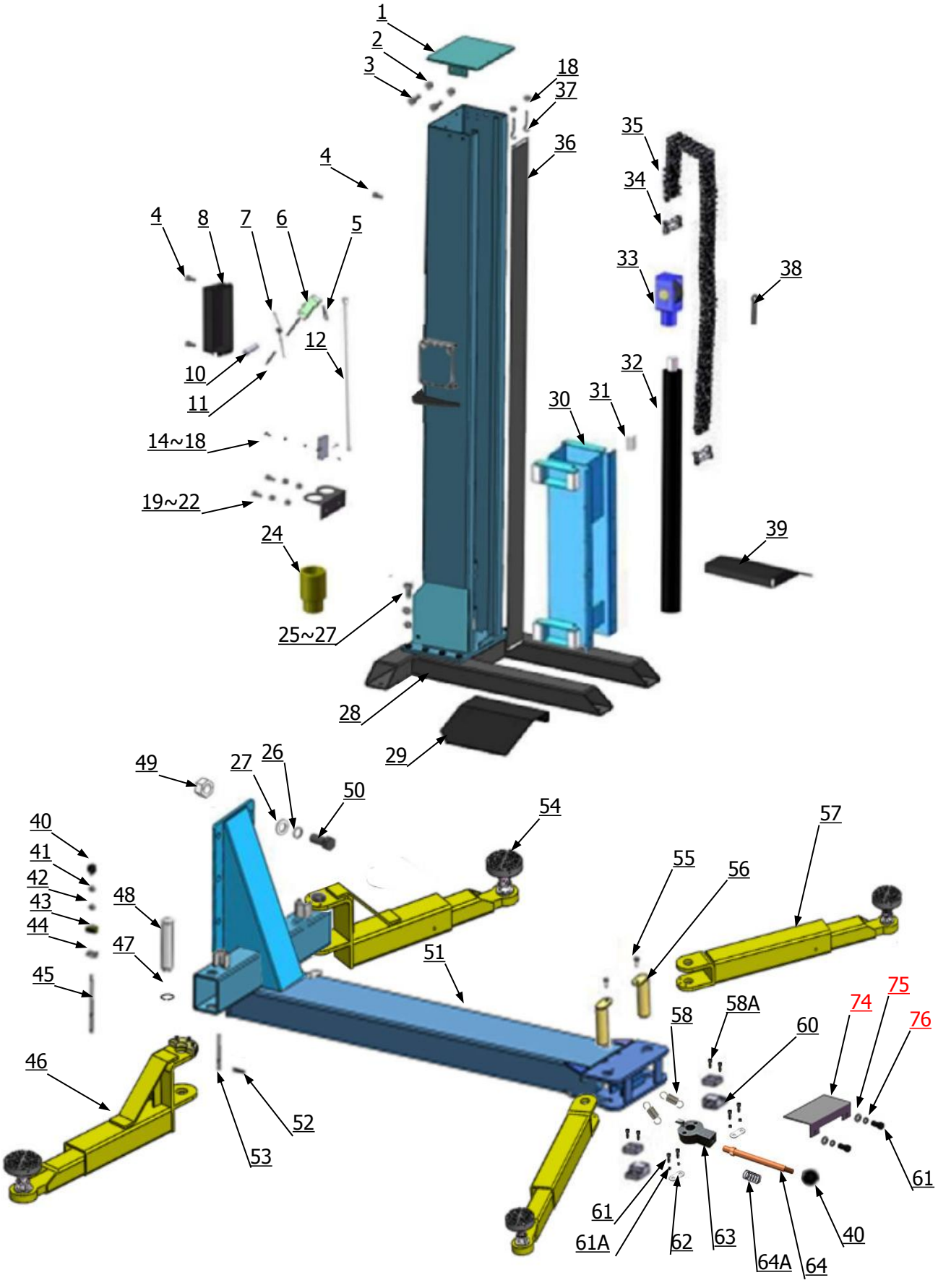


Fig.25

PARTS LIST FOR SL-7

Item	Part#	Description	QTY	Note
1	11101013	Top Plate assembly	1	
2	10206023	Self-Locking Nut M12	4	
3	10217069	Hex Bolt M12*30	4	
4	10209009	Cap Head Bolt M6*8	6	
5	10209012	Spring Pin (φ3.2)	1	
6	11203263	Power Side Safety Device	1	
7	10209007	Safety Spring (120°angle)	1	
8	11209008	Safety Cover	1	
9	11217048	wire clip	2	
10	11206002	Safety stop pin	1	
11	10206003	Rubber handle sleeve	1	
12	11203013	Coupling	1	
13	81513019	Power unit	1	
14	10217013	Hex Bolt M6*20	1	
15	10209149	Lock Washer φ6	5	
16	10420045	Washer φ6	13	
17	11203261	Power-side Safety Block	1	
18	10420018	Self Locking Nut M6	3	
19	10680003	Hex Bolt M8*12	2	
20	10209034	Lock Washer φ8	4	
21	10209033	Washer φ8	4	
22	11203035	Stackable Adapter Set	1	
23	11101040	Column assembly	1	
24	11203034	Stackable adapter 3”	4	
25	10101002	Hex Bolt M20*50	10	
26	10201114	Lock Washer φ20	18	
27	10209128	Washer φ20	18	
28	11101023	Base	1	
29	11101024	Drive-in ramp	1	
30	11102608	Carriage	1	
31	10217188	Slider Block (46*46*76)	8	
32	10207010	Cylinder	1	
33	10207008	Chain pulley seat assy.	1	
34	10201010A	Chain head	2	
35	10101007	Chain	1	
36	11101042	Plastic baffle L=2570mm	1	
37	10203117	Adjusting screw with hook M6×95	2	
38	10201005	Split pin (φ4*50)	1	
39	11101025	Drive-in Ramp	1	
40	10209020	Plastic ball	3	
41	10209021	Hex nut M10	2	
42	10209039	Lock Washer φ10	2	

Item	Part#	Description	QTY	Note
43	10209023A	Arm lock	2	
44	11201041	Limit Shim	2	
45	11101010	Arm Lock Bar	2	
46	10101034	Outside arm assy.	2	
47	10520023	Snap ring φ38	2	
48	11209030A	Arm pin	2	
49	10420175A	Hex nut M20	8	
50	10101001	Hex Bolt M20*45	8	
51	11101016-01	Platform	1	
52	10209025	Spring pin φ4*25	4	
53	10209026	Safety spring φ1.4	2	
54	10203054	Rubber pad assy.	4	
55	10101003	Countersunk Screw M8*12	8	
56	11101005	Arm pin	2	
57	10101033	Outside Arm Assy.	2	
58	1101015001	Spring Φ13*Φ10*Φ1.5*32	2	
58A	85090128	Socket bolt M6*20	4	
59	10101008	Arm lock	2	
60	11101009-0	Arm lock fixing plate	2	
61	85090245	Socket bolt M5*12	6	
61A	1101012008	Limit Sleeve Φ10*6.2	4	
62	1101012002	Connecting block	2	
63	1101012004	Arresting Stop	1	
64	1101012009	Control handle	1	
64A	1101015001	Spring (Φ12.6*Φ1.2*21)	1	
65	10102500	Parts box	1	
66	10201020	90^0 fitting of cylinder 3/8NPT(M)*1/4JIC(M)	1	
67	10101027	Oil hose assy. 1/4" *1660	1	
68	10209060	90^0 fitting of Power unit	1	
69	10209003	Hex bolt M8*25	4	
70	10209004	Rubber ring(φ8*φ20*3)	4	
71	10209005	Self-locking nut M8	4	
72	10620065	Shim (2mm)	10	
	10201090	Shim (1mm)	10	
73	10201140	Anchor bolt 3/4*6-1/2"	8	
74	1101012010	Limit cover plate	1	
75	10420152	Washer Φ5	6	
76	10209143	Lock Washer Φ5	6	

1. Rubber Pad Assembly(10203054)exploded view:

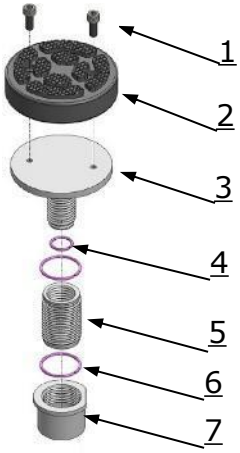


Fig.25

Item	Part#	Description	QTY
1	10420043	Hex Bolt M8*20	8
2	10203043	Rubber pad	4
3	11203026	Support pad assy.	4
4	10203041	Retaining ring	4
5	11203025	Adjusting screw	4
6	10203042	Retaining ring	8
7	11203024	Adjustment Screw	4

2. Outside Arm Assembly (10101033)exploded view:

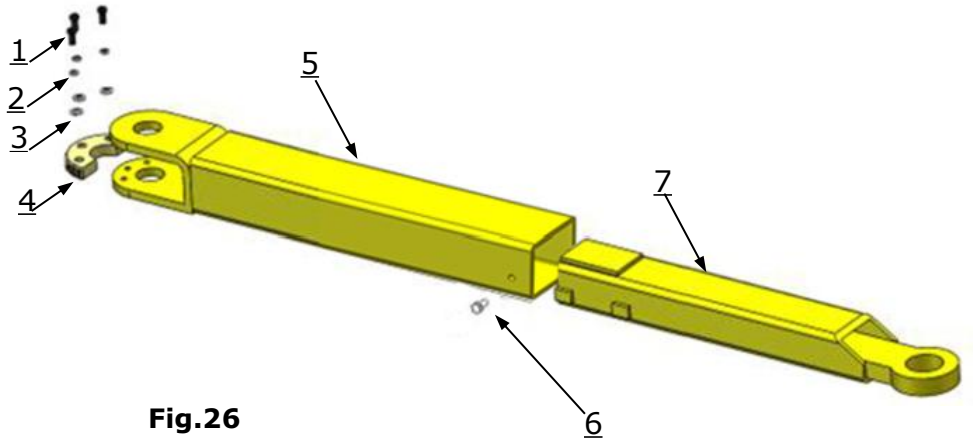


Fig.26

Item	Part#	Description	QTY
1	10209032	Socket bolt M8*25	6
2	10209034	Lock washerφ8	6
3	10209033	Washerφ8	6
4	10209035	Moon gear	2
5	11101019	Outer arm - outside	2
6	10201149	Cup head bolt M8*12	2
7	11203101	Inner arm	2

3. Inside Arm Assembly (10101034) exploded view:

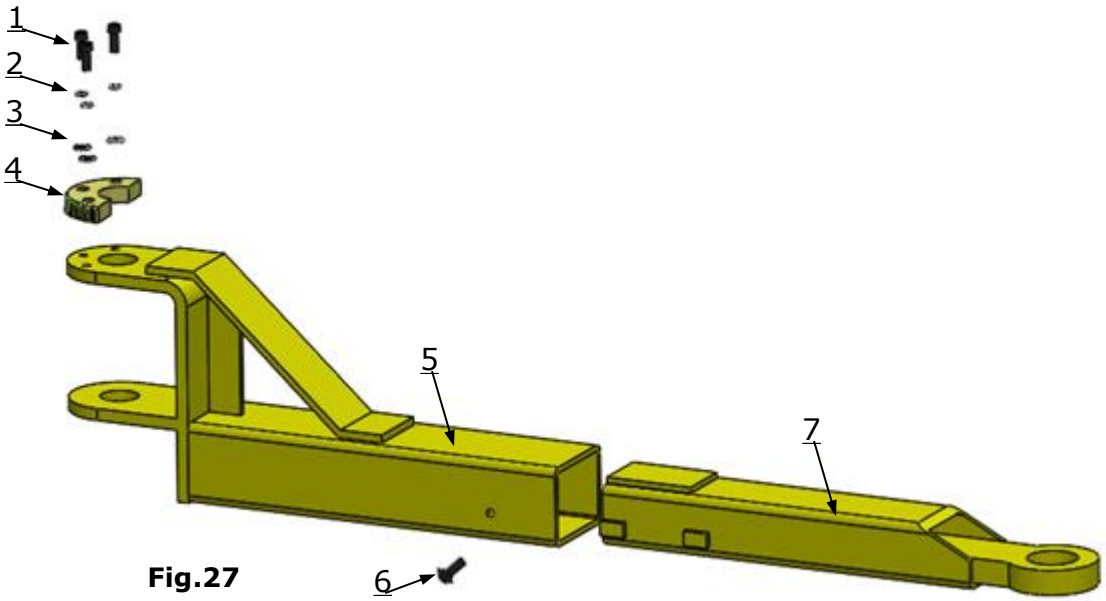
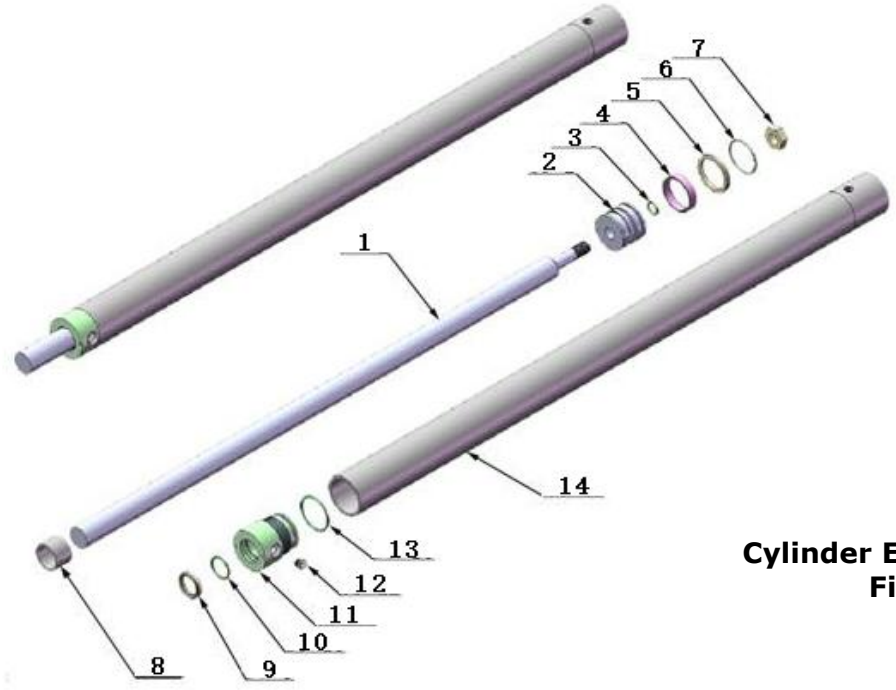


Fig.27

Item	Part#	Description	QTY
1	10209032	Socket bolt M8*25	6
2	10209034	Lock Washer φ8	6
3	10209033	Washer φ8	6
4	10209035	Moon gear	2
5	11203101	Outer arm - Inside	2
6	10201149	Cup head bolt M8*12	2
7	11102006	Inner arm - Inside	2

4. Cylinder Assy. (10207010) exploded view:



Cylinder Explode View
Fig.28

Item	Part#	Description	QTY
1	11207027	Piston Rod	1
2	11207028	Piston	1
3	10206069	O-Ring	1
4	10620053	Support Ring	1
5	10620054	Y-Ring OSI	1
6	10630027	O-ring	1
7	10206071	Hex Nut	1
8	11207029	Adjustment Tube	1
9	10217078	Dust Ring	1
10	10520058	O-Ring	1
11	11207030	Head Cap	1
12	10201034	silencer	1
13	10207031	O-Ring	1
14	11207032	Cylinder Tube	1

5. Chain Pulley Support Assy. (11207681) exploded view：

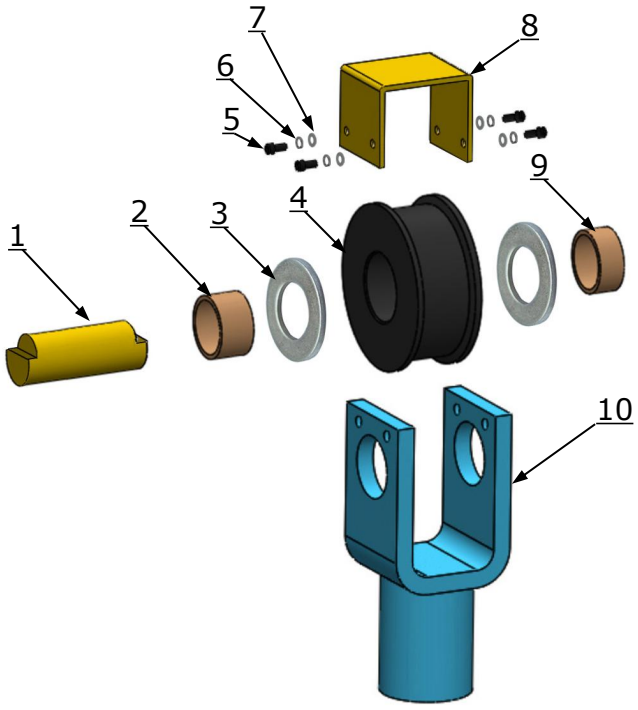
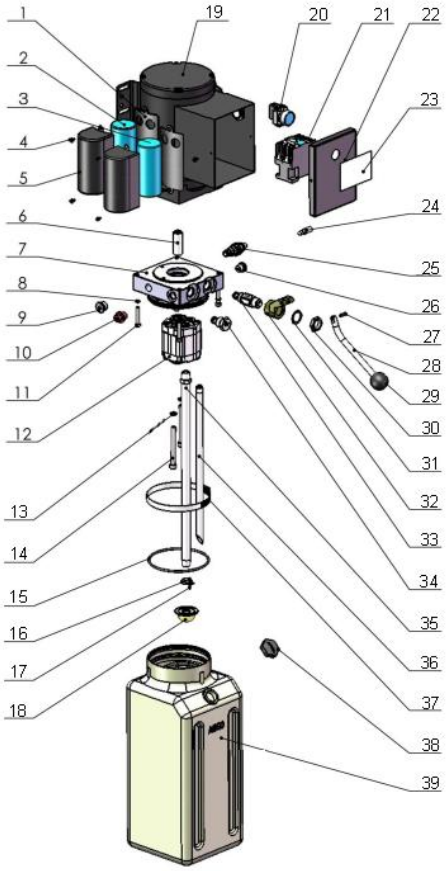


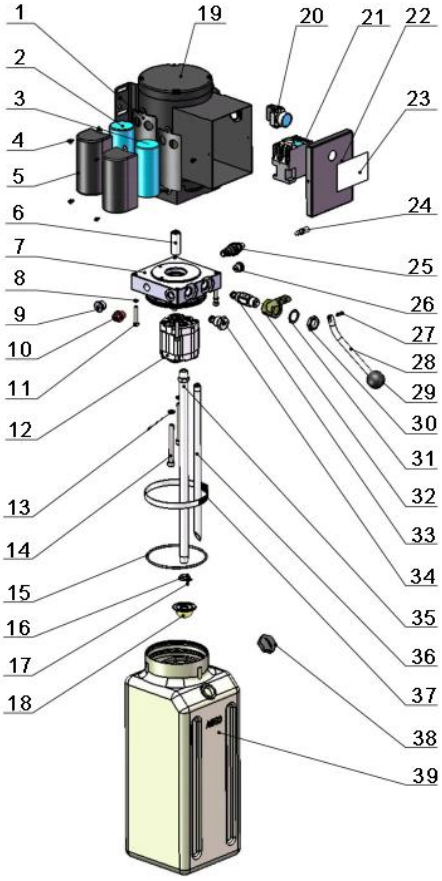
Fig.29

Item	Part#	Description	QTY.
1	11207006	Pin for Chain Pulley Φ35*93	1
2	10420132	Bronze Bush Φ41.2*Φ35.1*20	1
3	11530023	Washer Φ44*Φ35.5*2	2
4	11207007	Chain Pulley Φ105*50	1
5	10430138	Socket Bolt M6*16	4
6	10209149	Spring Pad Φ6	4
7	10420045	Washer Φ6	4
8	11207693	Chain limit block	1
9	10530042	Bronze Bush Φ41.2*Φ35.1*28	1
10	11207008	Chain Pulley Seat	1

6 Exploded view of manual power unit



110V/60Hz/1 phase
Fig.30
071103



220V/60Hz/1 phase
Fig.31
071104

Manual Power Unit 110V/60Hz/1 Phase

Item	Part#	Description	QTY
1	81400180	Rubber pad	2
2	81400250	Start capacitor	1
3	81400200	Running capacitor	1
4	10420148	Cup Head Bolt with Washer	4
5	81400066	**Cover of capacitor**	2
6	81400363	Motor connecting shaft	1
7	81400362	Manifold block	1
8	10209149	Washer φ6	4
9	81400276	End plug	1
10	81400259	Red plastic plug	1
11	85090142	Hex Bolt	4
12	81400312	Gear pump	1
13	10209034	Washer φ8	2
14	81400295	Socket bolt	2
15	81400365	O ring	1
16	10209152	Tie	1
17	85090167	Magnet	1
18	81400290	Filter	1
19	81400412	Motor	1
20	10420070	Push button	1
21	81400559	AC connector	1

Item	Part#	Description	QTY
22	81400287	Cover of Motor Terminal Box	1
23	71111211	AMGO Sticker	1
24	81400560	Throttle valve	1
25	81400266	Relief valve	1
26	81400284	Plug	1
27	81400452	Pin	1
28	81400451	Handle for release valve	1
29	10209020	Plastic ball	1
30	81400421	Nut for release valve	1
31	81400422	Shim for release valve	1
32	81400449	Valve seat(short)	1
33	81400567	Release valve	1
34	81400566	Check valve	1
35	81400375	Oil suction pipe	1
36	81400376	Oil return pipe	1
37	81400364	Clamps(stainless steel)	1
38	81400263	Oil tank cap	1
39	81400320	Oil tank	1

220V 60Hz manual power unit breakdown list

Item	Part#	Description	QTY
1	81400180	Rubber pad	2
2	81400250	Start capacitor	1
3	81400200	Running capacitor	1
4	10420148	Cup Head Bolt with Washer	4
5	81400066	Cover of capacitor	2
6	81400363	Motor connecting shaft	1
7	090101	Manifold block	1
8	10209149	Lock Washer	4
9	81400276	Socket plug	1
10	81400259	Red plastic plug	1
11	85090142	Socket Bolt	4
12	81400312	Gear pump	1
13	10209034	Lock Washer φ8	2
14	81400295	Socket bolt	2
15	81400365	O ring	1
16	10209152	Tie	1
17	85090167	Magnet	1
18	81400290	Filter	1
19	81400413	Motor	1
20	10420070	Push button	1
21	41030055	AC connector	1
22	81400287	Cover of Motor Terminal	1
23	71111104	AMGO Sticker	1
24	81400560	Throttle valve	1
25	81400266	Relief valve	1
26	81400284	Socket Plug	1
27	10720118	Spring Pin	1
28	81400451	Handle for release valve	1
29	10209020	Plastic ball	1
30	81400421	Nut for release valve	1
31	81400422	Shim for release	1
32	81400449	Valve seat(short)	1

33	81400567	Release valve	1
34	81400566	Check valve	1
35	81400375	Oil suction pipe	1
36	81400376	Oil return pipe	1
37	81400364	Clamps(stainless steel)	1
38	81400263	Oil tank cap	1
39	81400320	Oil tank	1

Illustration of hydraulic valve

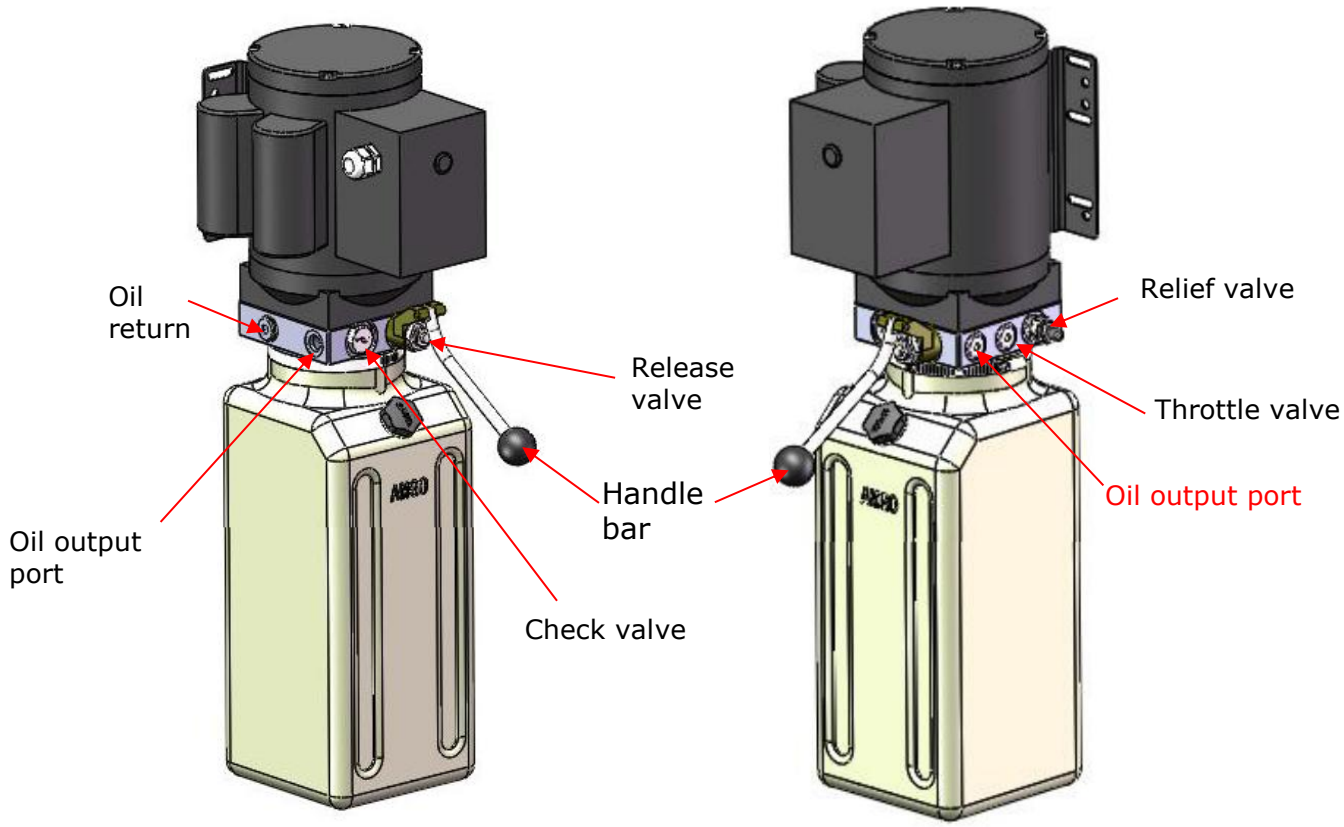
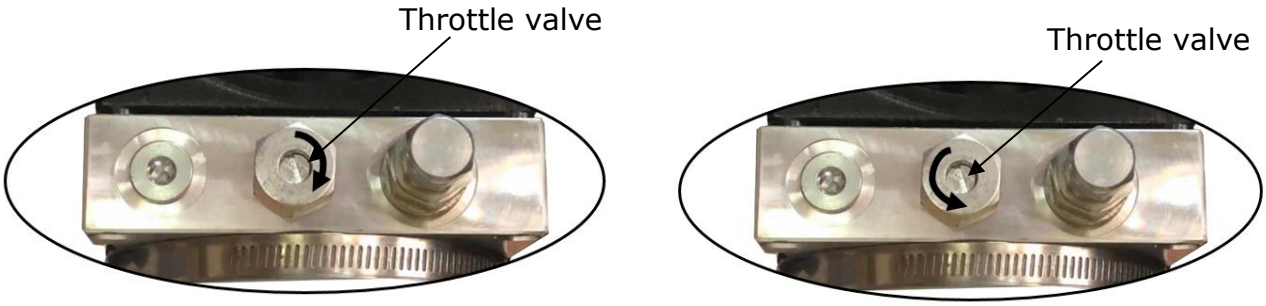


Fig.32

V. TEST RUN

1. Adjust the lower speed (See Fig.34)

Users can adjust the descending speed according to their needs. Adjust the throttle valve core clockwise. At this time, the descending speed becomes slower, and vice versa.



Clockwise to decrease the lowering speed

Counterclockwise to increase the lowering speed

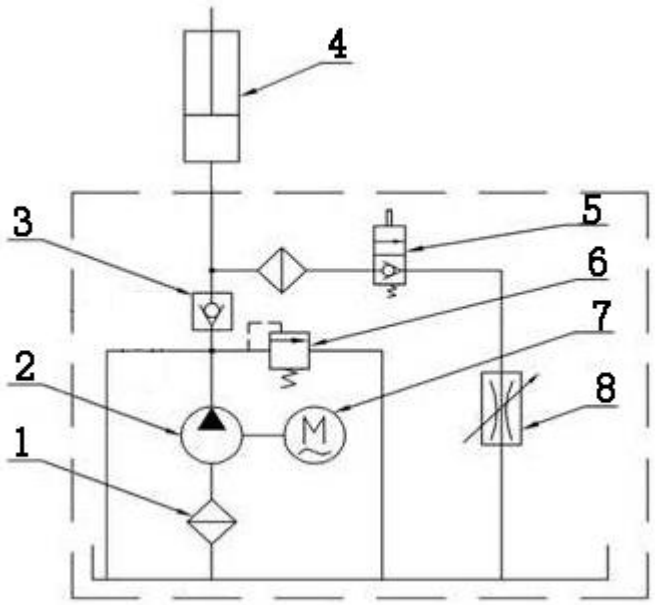
Fig.33

2. Test with loading

After finishing the above adjustment, test running the lift with loading. Run the lift in low position for several times firstly, make sure the lift can rise and lower without abnormal phenomena. 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.

Circuit Diagram of Hydraulic System



1 Filter
2 Gear pump
3 Check valve
4 Cylinder
5 Release valve
6 Relief valve
7 Motor
8 Throttle valve

Fig. 34

VI. OPERATION INSTRUCTIONS

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 beside of the lifting arm, car should at the other side of the column;

Move arms to the vehicle's lifting point;

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

6. Turn on the power of the power unit and press **up** button until the rubber pads fully contact the car, making sure it is safe;

7. Slowly lift the lift. Make sure that the car is in a balanced state, then lift the car to the required height and release the **UP** button
8. Press the release handle of the power unit and lower the lift to the safety lock position. Only after confirming that the safety device is in a normal working state then the car can be maintained.

To lower vehicle

1. Be sure the clearance of around and under the lift, only leaving operator in lift area;

2. Press the start button of the power unit to raise the vehicle slightly, and then open the safety device, then lower the vehicle by pressing the release handle of the power unit;

3. Open the arms and position them to the shortest length;
4. Drive away the vehicle.

VII. MAINTENANCE SCHEDULE

Monthly:

1.Re-torque the anchor bolts to 150 N.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 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 of the cables to insure level lifting.

3.Check columns for plumpness.

4.Check Rubber Pads and replace as necessary.

5.Check Safety device and make sure 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
Motor does not run	1. Button does not work 2. Wiring connections are not in good condition 3. AC contactor burned out 4. Motor burned out	1. Replace button 2. Repair all wiring connection 3. Repair or replace contactor 4. Repair or replace motor
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 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 too slow	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 cannot lower	1. Safety device are locking 2. Release valve in damage 3. Safety cable broken 4. Oil system is jammed 5.Hydraulic solenoid valve out of work	1. Release the safeties 2. Repair or replace 3. Replace 4. Clean the oil system 5. Replace the solenoid valve

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.

AMGO® Hydraulics

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