

Installation And Service Manual



TWO POST LIFT

Model: HS-10 HS-10H

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

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





MODEL HS-10 HS-10H SPECIFICATIONS

Model	Style	Lifting Capacity	Lifting Time	Lifting Height	Overall Height	Overall Width	Width Between columns	Minimum Pad Height	Motor
HS-10	Clear-floor Direct-drived	5.0 T 10,000 lbs	55S	71-1/2″~80-1/2″	143-1/8″ /147″	137-1/2″	110-1/4″	4-1/2"~13-1/2"	2.0HP
HS-10H	Clear-floor Direct-drived	5.0 T 10,000 lbs	55S	71-1/2″~80-1/2″	150"/167-1/8"/171"	137-1/2″	110-1/4″	4-1/2″~13-1/2″	2.0HP

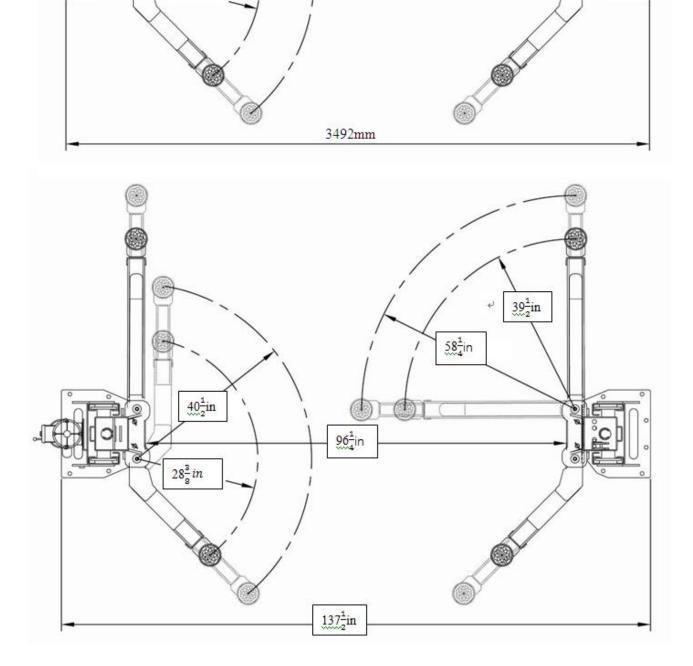


Fig. 2

II. INSTALLATION REQUIREMENT

A. TOOLS REQUIRED

✓ Rotary Hammer Drill (3/4")



✓ Hammer



✓ Level Bar



✓ English Spanner (12")



✓ Ratchet Spanner With Socket (28[#])



Wrench set
 (10[#], 13[#], 14[#], 15[#], 17[#], 19[#], 24[#], 27[#], 30[#],)





✓ Carpenter's Chalk



- ✓ Screw Sets
- ✓ Tape Measure (295")



✓ Pliers



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



✓ Lock Wrench

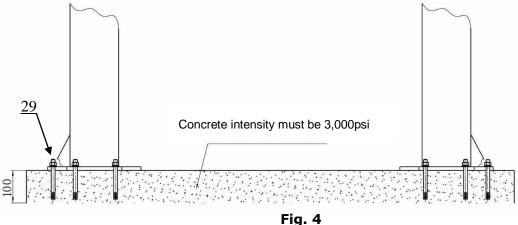




B. SPECIFICATIONS OF CONCRETE (See Fig. 4)

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 100mm minimum and without reinforcing steel bars, and must be completely dry before lift installation.
- 2. Concrete must be in good condition and must be of test strength 3,000psi minimum.
- 3. Floors must be level with no cracks or holes.



C. POWER SUPPLY

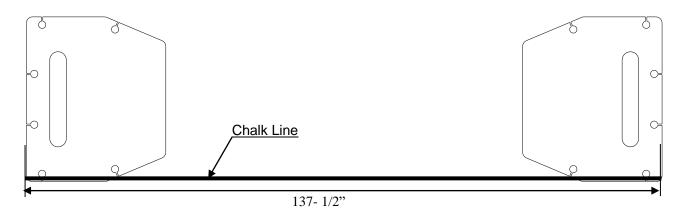
The electrical source must be 2.0HP minimum. The source cable size must be 2.5mm² and in good condition of contacting with floor.

III. INSTALLATION STEPS

A. Location of installation

Check and ensure 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 baseplate (See Fig. 5).





C. Check the parts before assembly.

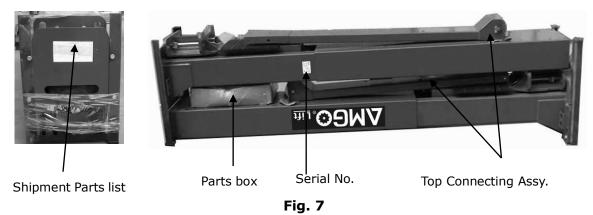
1. Packaged lift and hydraulic power unit (See Fig. 6).





2. Move the lift aside with a fork lift or hoist, and open the outer packing carefully and remove aside the top connecting assy. and parts box



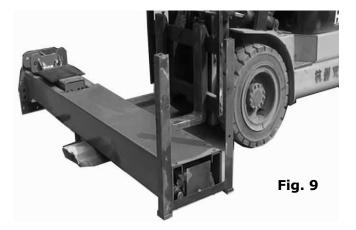


3. Lift the upper column with a fork lift or hoist, loose the bolts of the upper package stand, take off the upper extension column, then take out the parts in the inner column (See Fig. 8).



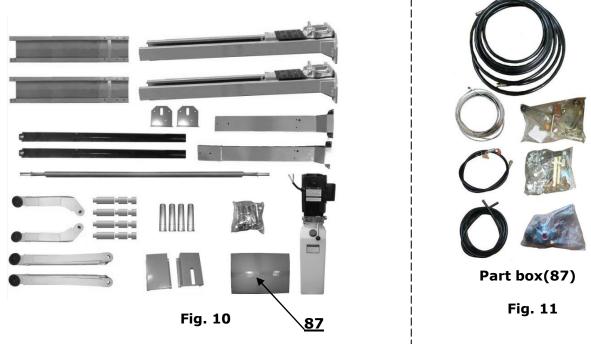


4. Lift the lower column with a fork lift or hoist, take down the package stand, than take off the lower extension column, take out the parts in the inner column (See Fig. 9).

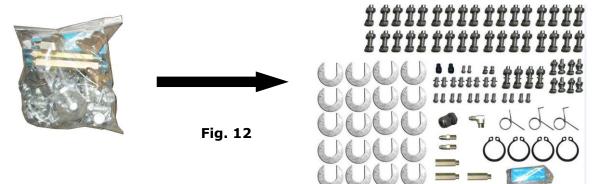


5. Move aside the parts and check the parts according to the shipment parts list. Open the carton of parts and check the parts according to parts box list

(See Fig. 10, Fig.11).



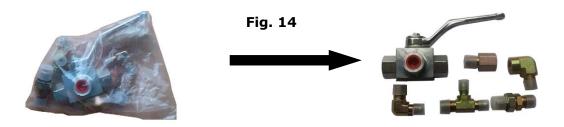
6. Check the parts of the parts bag 1 according to parts bag list (See Fig. 12).



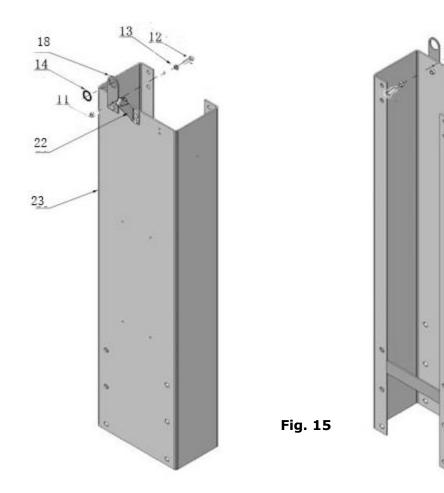
9. Check the parts of the parts bag 2 according to parts bag list (See Fig. 13).



10. Check the parts of the parts bag 2 according to parts bag list (See Fig. 15).

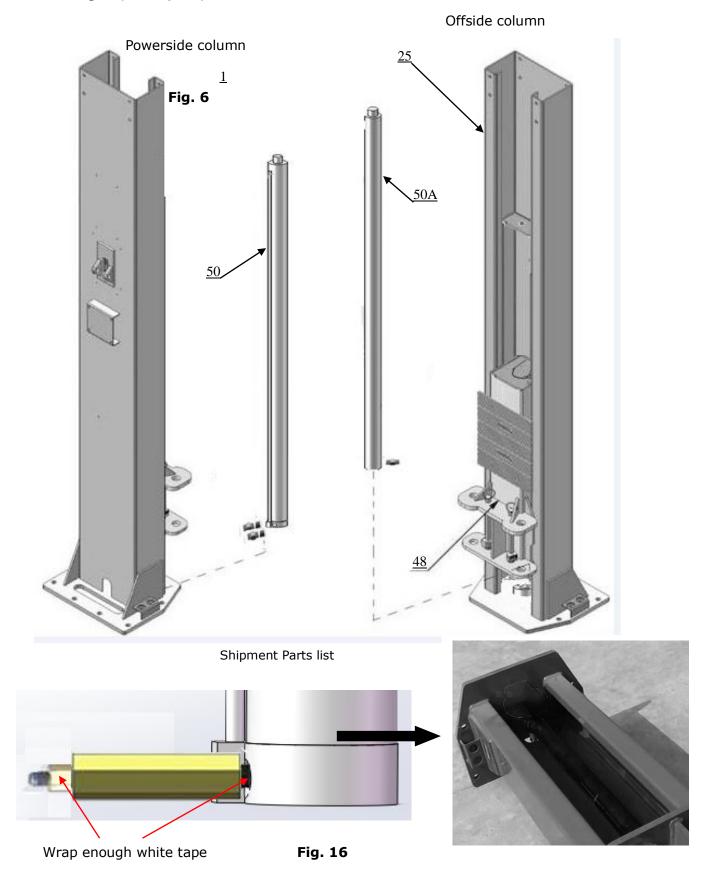


D. Install parts of extension columns (See Fig. 15).



E. Install hydraulic cylinder

Warp white tape with one side of extend straight fitting and connecting it and 90° fitting, then install the cylinder in the carriages (See Fig. 16).



F. Install columns

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 from which vehicles are driven to the lift. This lift is designed with 2-section columns. Adjustable height according to the ceiling height and connecting the inner and extension columns.

For model HS-10

1. When the ceiling height is over 147-5/8", connecting the extension columns with the lower holes (See Fig. 17).

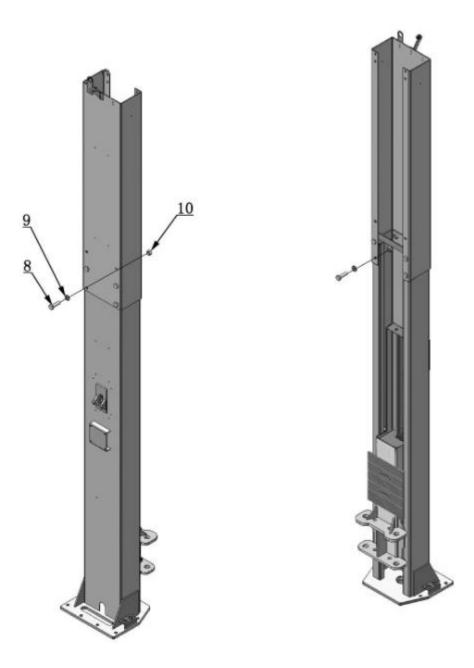


Fig. 17 High Setting

2. When the ceiling height is lower than 147-5/8", connecting the extension columns with the upper holes (See Fig.18).

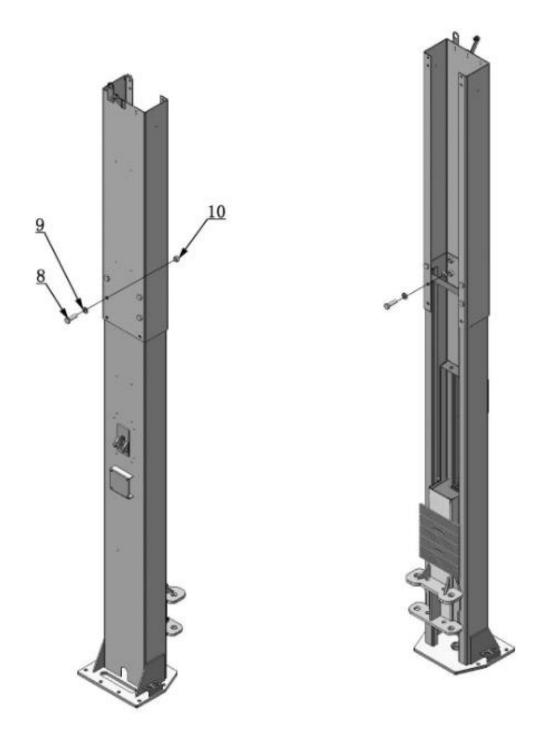


Fig. 18 Low Setting

For model HS-10H

1. When the ceiling height is over 171-1/4", connecting the extension columns with the lower holes (See Fig. 19).

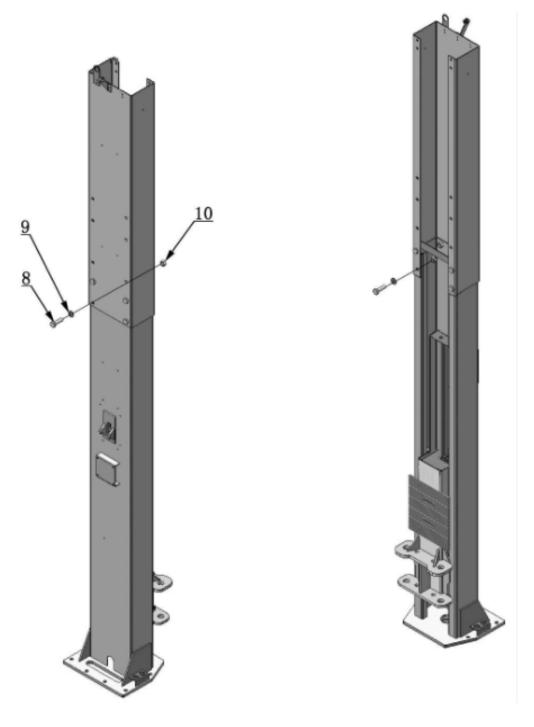


Fig. 19 High Setting

2. When the ceiling height is over 167-1/4" but lower than 171-1/4", connecting the extension columns with the middle holes (See Fig.20).

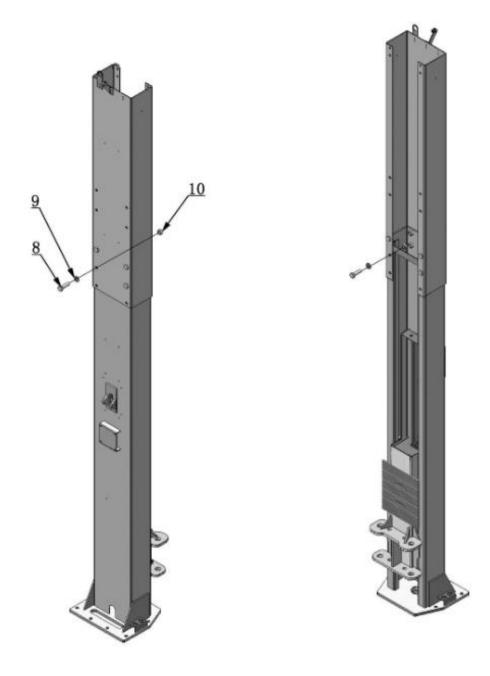


Fig. 20 Low Setting

 When the ceiling height is lower than 167-1/4", connecting the extension columns with the upper holes, this setting need to use with the optional short cable set (See Fig.21).

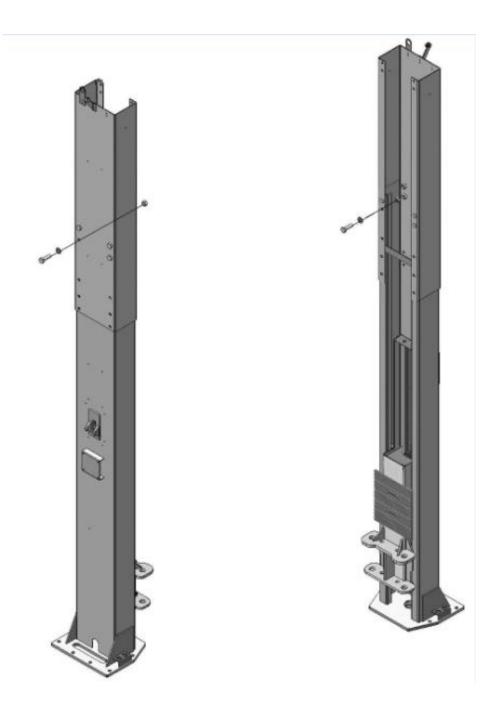
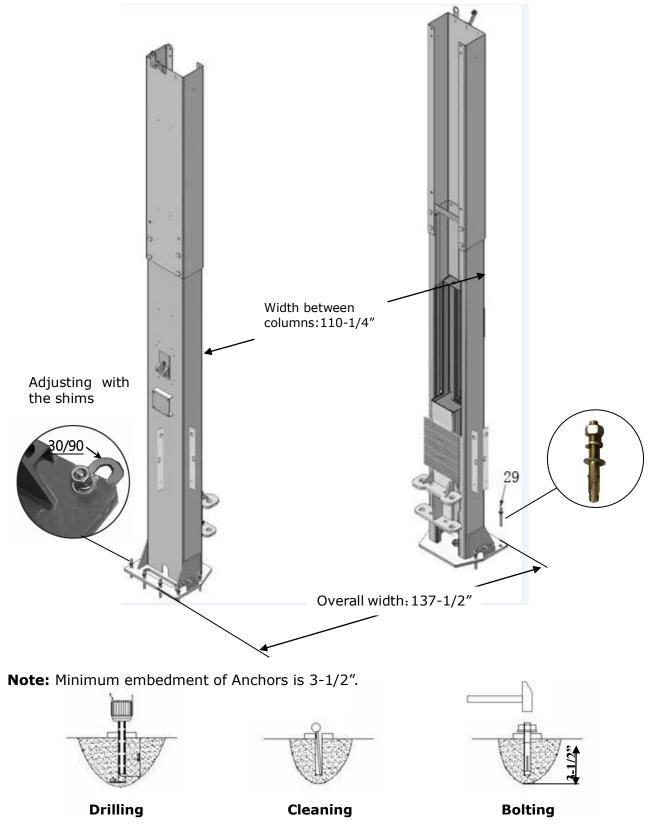


Fig. 21 Special Low Setting

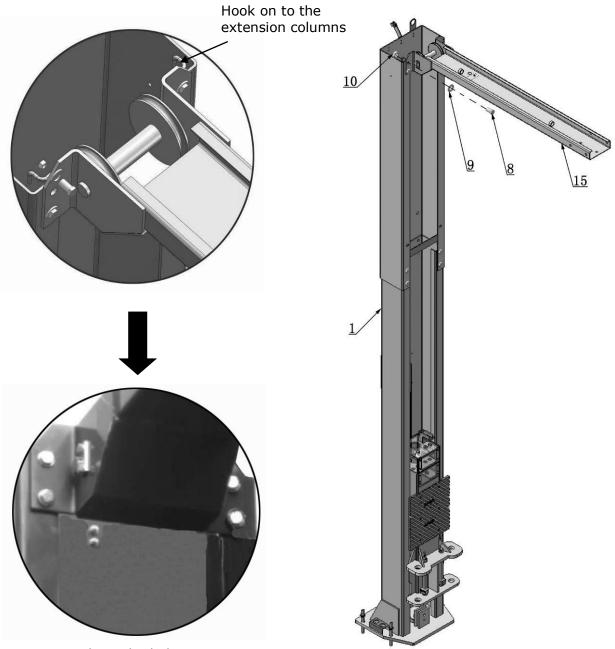
G. Position columns

Position the columns on the installation layout of base plate. Check the columns plumbness with level bar, and adjusting with the shims if the columns are not vertical. Do not tighten the anchor bolts (See Fig.22).



H. Install overhead top beam

 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. 23).



Tighten the bolts

Fig. 23

2. Assemble overhead top beam, tighten the columns anchor bolts (See Fig. 24).

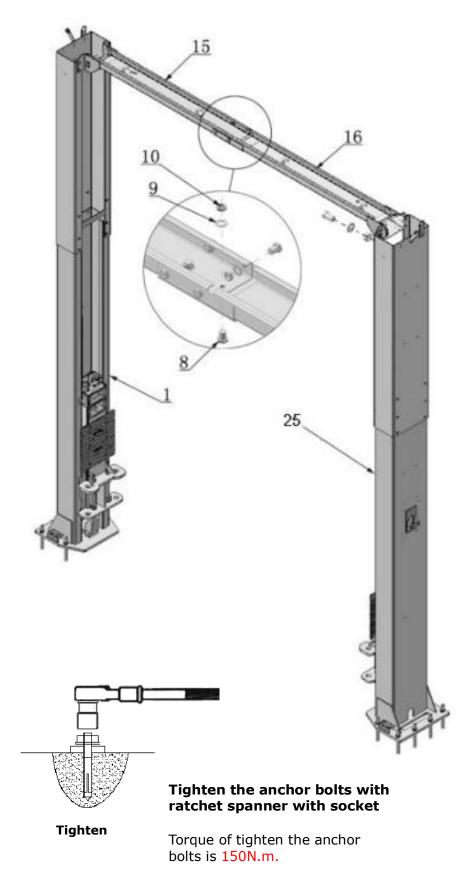
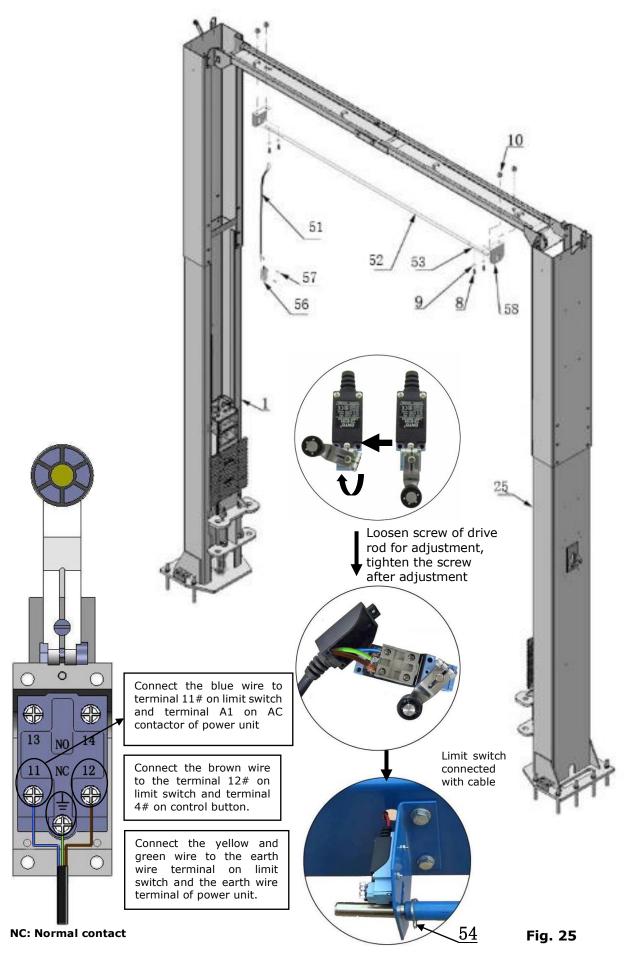
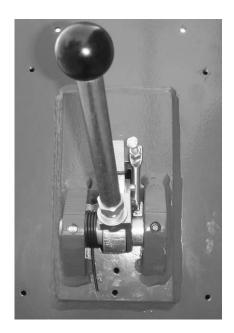


Fig. 24

I. Installing the limit switch control bar and limit switch (See Fig. 25).



J. Install safety device (See Fig. 26 & Fig. 27).



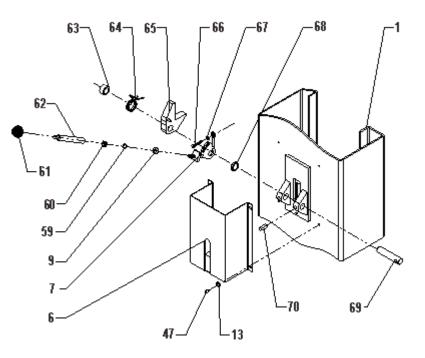


Fig. 26 Powerside safety device



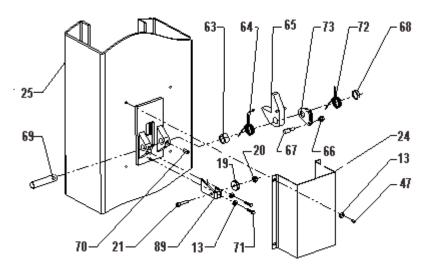
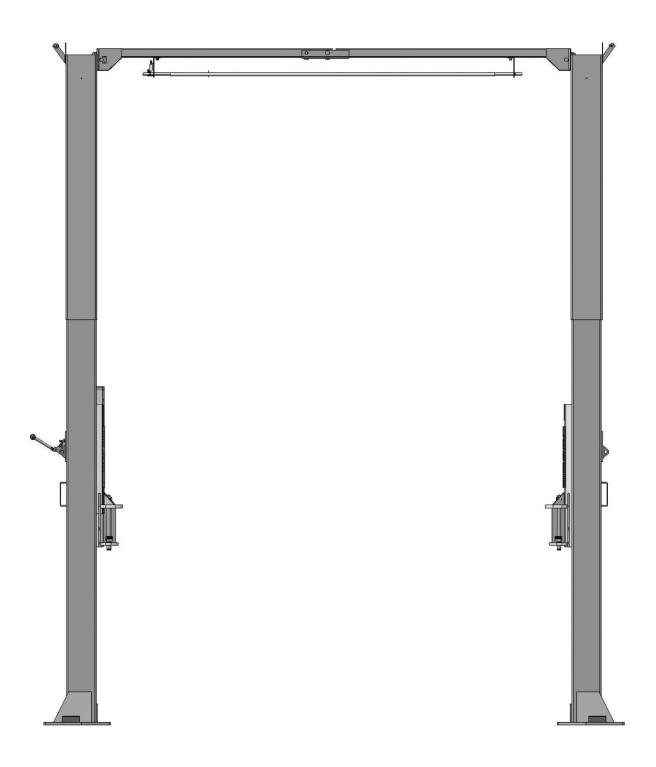
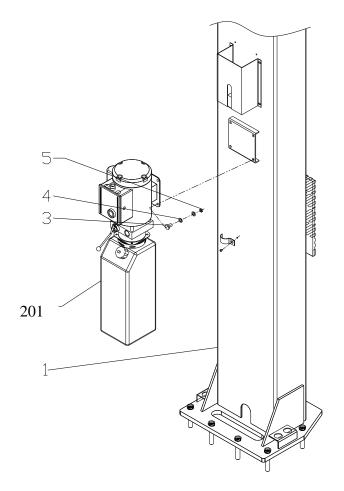


Fig. 27 Offside safety device

K. Raise the carriages up by hand and make them be locked at the same level (See Fig. 28).



L. Install power unit (See Fig. 29)



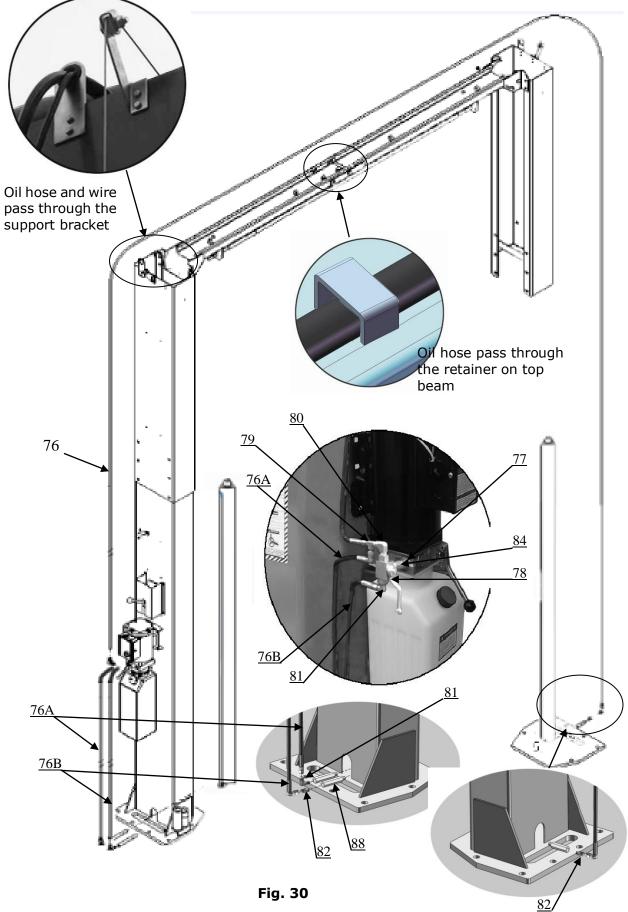




Note: In consideration of Hydraulic Power Unit's durability and keep the equipment running in the perfect condition, please use Hydraulic Oil 46#.

I. Install oil hose

At high setting and low setting oil hose connection (See Fig. 30).



J. Install safety cable.

Install safety cable from offside safety assy. firstly, pass through the top beam, then install to power side safety assy. **(See Fig. 31)**.

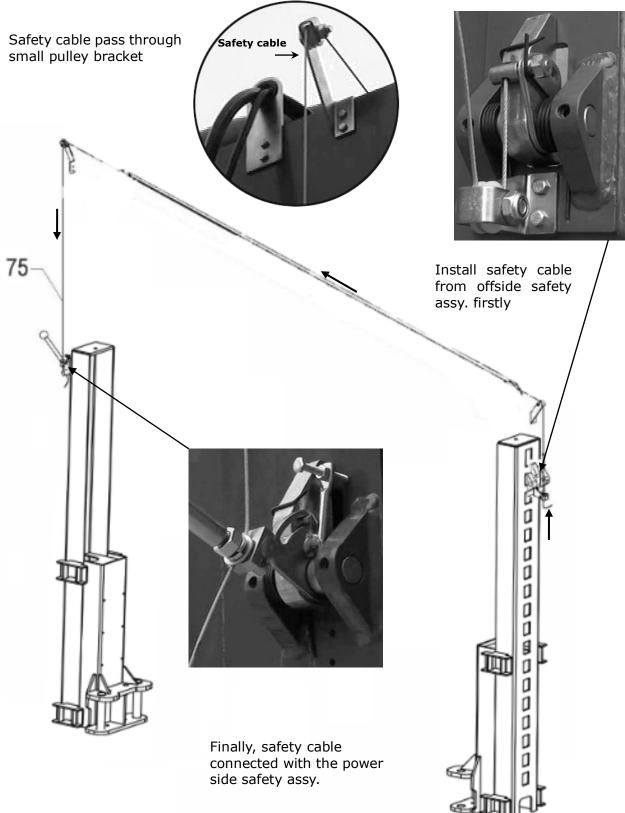


Fig. 31

K. Install retainer (See Fig. 32).

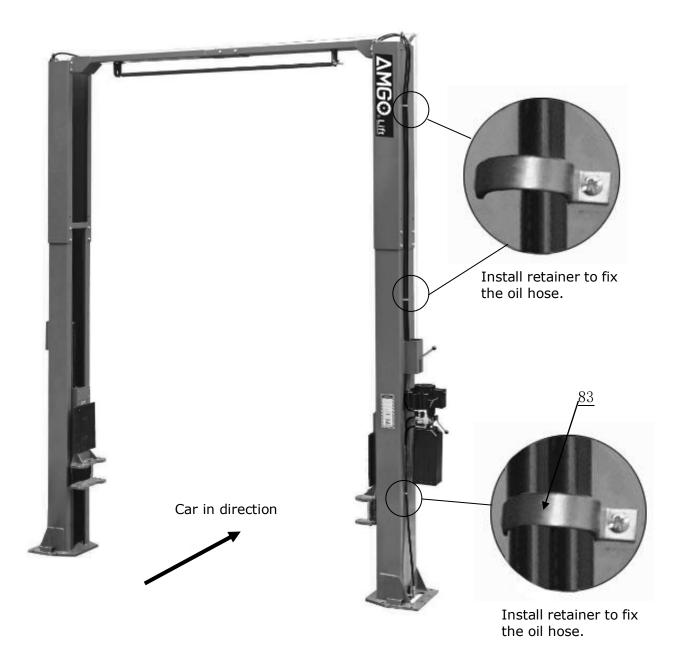


Fig. 32

L. Install lifting arms and adjust the arm locks

- 1. Install lifting arms (See Fig. 33).
- 2. Lowing the carriages down to the lowest position, then use the 8[#] socket head wrench to loosen the socket bolt (**See Fig.34**).
- 3. Adjust moon gear as direction of arrow (See Fig.35).
- 4. Adjust moon gear and arm lock to make it to be meshed, then tighten the socket bolts of arm lock (**See Fig.36**).

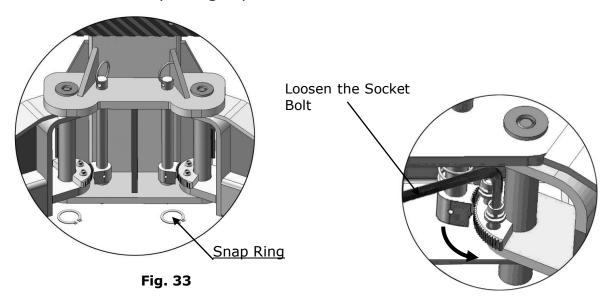
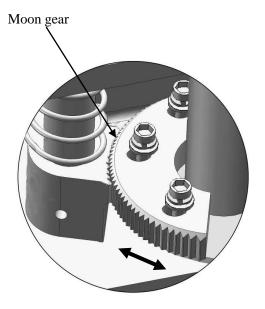
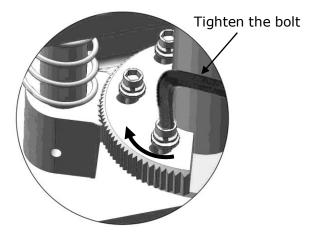


Fig. 34





Locking the bolts after the moon gear and arm lock engaged well





M. Install electrical system

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

Note: 1. For the safety of operators, the earth wire must contact the floor well.

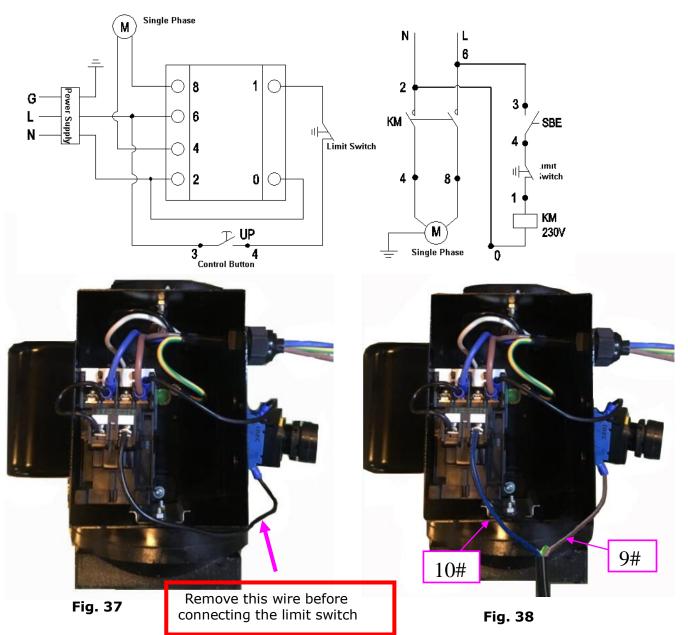
2. Pay attention to the direction of rotations when using three phase motors.

Single phase motor (See Fig. 37).

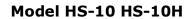
- 1. Connecting the two power supply lines (active wire **L** and neutral wire **N**) to terminals **#6**, **#2** of AC contactor respectively.
- 2. Connecting ground wire G to motor.
- 3. Connecting the limit switch: Removing the wire connecting terminal 4# of control button and the wire connecting A1 of AC contactor firstly (See Fig. 38), then connecting wire 10# of limit switch with terminal 4# of control button; Connecting wire 9# with terminals #1 of the AC contactor.

Motor Connecting Diagram

Schematic Circuit Diagram



IV. EXPLODED VIEW



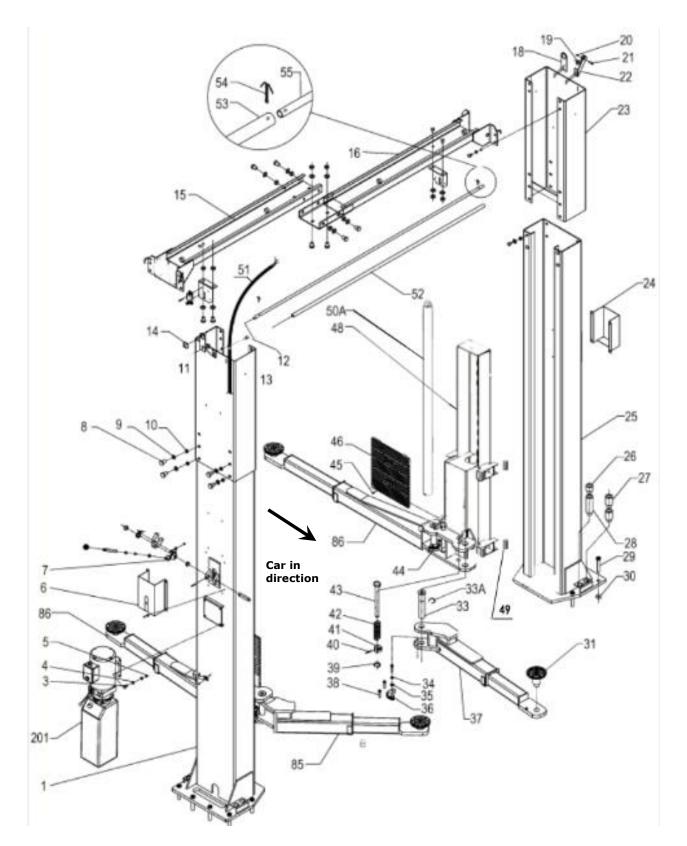
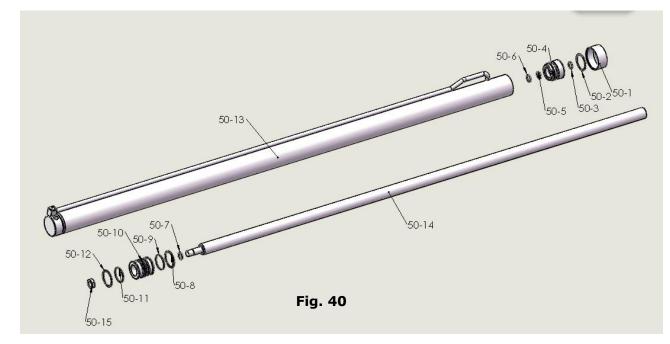


Fig. 39

Main Cylinder



Secondary cylinder

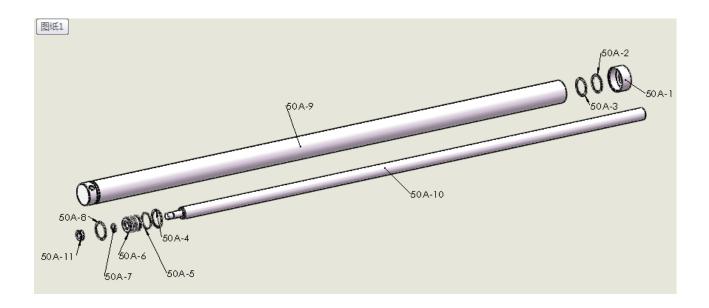


Fig. 41

POWER UNIT EXPLODED VIEW 220V/60HZ, single phase

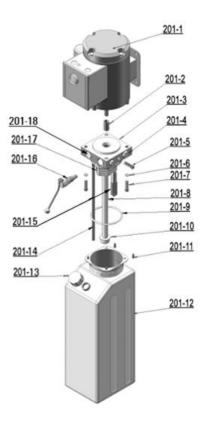
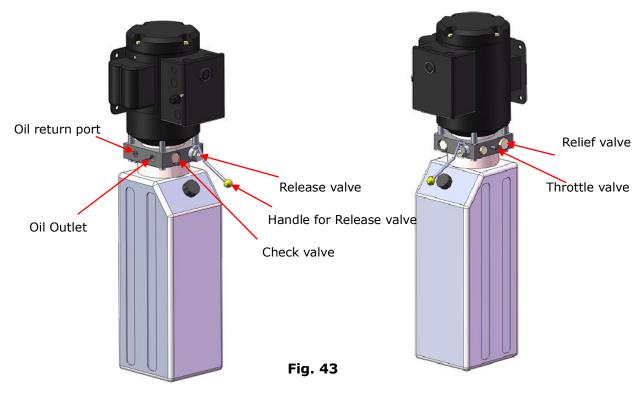


Fig. 42

Illustration of hydraulic valve for hydraulic power unit



V. TEST RUN

1. Adjust safety cable

Lifting the carriages 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.

2. Synchronization

The Synchronization adopts hydraulic equalization system.



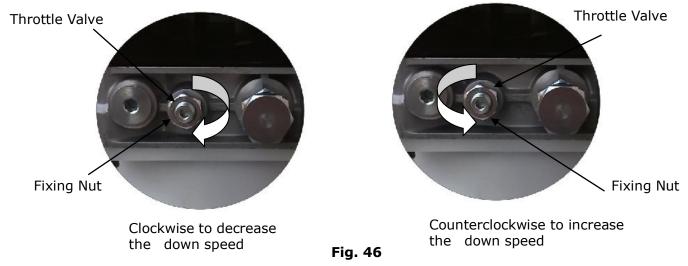
Fig. 44



- A. Turn the reversing handle to the position as Fig.44, push button UP, raise the power side carriage to the highest position, then turn the reversing handle to another position as Fig.45, push button UP, raise the offside carriage to the highest position.
- B. Turn back the reversing handle to the position as Fig.44, open the safety device, push the release handle of the power unit to lower the lift to the lowest position.
- C、 Turn the reversing handle to the position as Fig.45, push the release handle of the power unit to bleed the air. After the air in the cylinder is fully bleeding out, turn the handle back to the position as Fig.44 and push button UP to raise the lift. Check the carriages if raise at the same height, if yes, the lift work synchronization. If not, turn the reversing handle to the position as Fig.45 to fill the oil.
- D_{x} Repeat the above steps for several times until the lift is synchronization.

4. Adjust the lower speed

You can adjust the lower speed of the lift if needing: Loosen the fixing nut of the throttle valve, and then turn the throttle valve clockwise to decrease the lower speed, or counterclockwise to increase the lower speed. Do not forget to tighten the fixing nut after the lower speed adjustment has been done.



5. Test with load

After finishing the above adjustment, test running the lift with load. Run the lift in low position for several times first, 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, lifting it with load for several times, the air would bleed off and the vibration would be disappeared automatically.

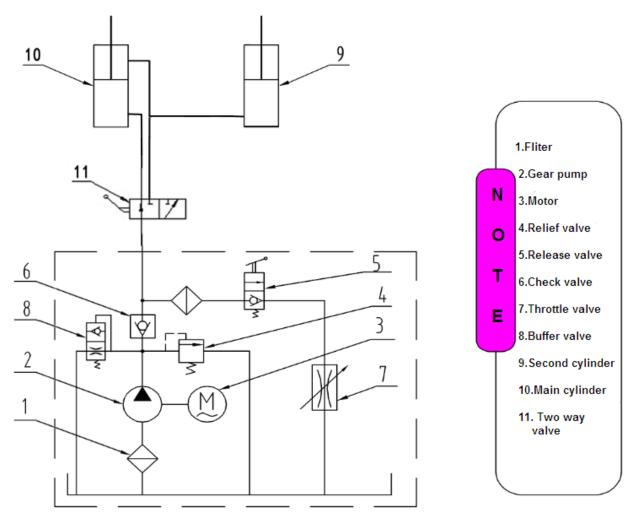


Fig. 47

VI. OPERATION INSTRUCTIONS

Please read the safety tips carefully before operating the lift

To lift vehicle

- 1. Keep clean of site around the lift
- 2. Position lifting arms to the lowest position
- 3. Shorten the arms to the shortest condition
- 4. Open the lifting arms to allow vehicle drived in
- 5. Position vehicle between columns
- 6. Move/adjust 4 arms so that lifting pads are under correct lift points (per manufacturer's recommendation) of vehicle. Adjust pads so that all four pads will contact the lift points simultaneously. This ensures the vehicle will be lifted in a

level position.

- Push the control button until the lift pads contact underside of vehicle totally. 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 lock. 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. Press the control button 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 away the vehicle.
- 5. Turn off the power.

VII. MAINTENANCE SCHEDULE

Monthly:

- 1. Re-torque the anchor bolts to 150N.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 plumbness.
- 4. Check rubber pads and replace as necessary.
- 5. Check safety device and make sure proper condition.

VIII. TROUBLE SHOOTING

1. Button does not work	1. Replace button
2. Wiring connections are not in good	2.Repair all wiring connections
condition	
3. Motor burned out	3. Repair or replace motor
4. Height limit switch is damaged	4.Repair or replace
5. AC contactor burned out	5. Replace AC contactor
1. Motor runs in reverse rotation	1.Reverse two power wire
2. Gear pump out of operation	2.Repair or replace
3. Release valve in damage	3. Repair or replace
4. Relief valve or check valve in damage	4.Repair or replace
5. Low oil level	5.Fill tank
1. Release valve out of work	
2. Relief valve or check valve leakage	Repair or replace
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
3. Oil mixed with air	3. Fill tank
4. Gear pump leaks	4. Replace pump
5. Overload lifting	5. Check load
1. Safety device are locking	1. Release the safeties
2. Release valve in damage	2. Repair or replace
3. Safety cable broken	3. Replace
4. Oil system is jammed	4. Clean the oil system
	condition 3. Motor burned out 4. Height limit switch is damaged 5. AC contactor burned out 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. Release valve out of work 2. Relief valve or check valve leakage 3. Cylinder or fittings leaks 1. Oil line is jammed 2. Motor running on low voltage 3. Oil mixed with air 4. Gear pump leaks 5. Overload lifting 1. Safety device are locking 2. Release valve in damage 3. Safety cable broken

Item	Part#	Description		Qty. HS-10 HS-10H		
	217227	-	HS-10			
1	217237	Power side inner column	1	1		
201	209002	Power unit	1	1		
3	209003	Hex bolt	4	4		
4	209033	Lock washer	4	4		
5	217002	Hex nut	4	4		
6	217003	Powerside lock cover	1	1		
7	217004	Main cam lock	1	1		
8	217069	Socket bolt	34	34		
9	206006	Lock washer	35	35		
10	206023	1/2" Self locking nut	34	34		
11	420018	0.216" Self locking nut	8	8		
12	217013	0.216*3/4" Socket bolt	8	8		
13	420045	Lock washer	18	18		
14	61K074	Protective ring	2	2		
15	217169	Top Beam Assy. (Right)	1	1		
16	217170	Top Beam Assy. (Left)	1	1		
17	420138	Socket bolt 0.216*5/8	4	4		
18	217024	Oil Hose Support Plate	2	2		
19	206009	Plastic Small Pulley P005A-2	3	3		
20	209056	3/8" Self locking nut	3	3		
21	209046	3/8*1-3/8" Socket bolt	3	3		
22	217026	Safety Cable Bracket	2	2		
	217027		2	0		
23	217027A	– Outer Column	0	2		
24	217028	Offside lock cover	1	1		
25	217238	Offside inner column	1	1		
26	209051B	Adapter 1.5"	4	4		
27	209052B	Adapter 2.5"	4	4		
28	209053B	Adapter 5"	4	4		
29	209059	Anchor bolt3/4"*5-1/2	12	12		
30	620065	Shim(2mm)	10	10		
31	217114A	Rubber pad assy.	4	4	1	
31A	420138	Socket bolt	4	4	1	
31B	209134	Rubber Pad	4	4	1	
31C	680030B	Rubber Pad Frame	4	4		
32	209038	Hex Bolt	6	6		

IX. Parts list for model HS-10 and HS-10H

			(Qty.		
Item	Part#	Description	HS-10	HS-10H	Note	
33	217168	Arm Pin	4	4		
33A	520023	Snap Ring 1-1/2"	4	4		
34	209039	Lock Washer	18	18		
35	209022	Washer	18	18		
36	206049	Moon Gear	4	4		
37	217041A	Front left arm	1	1		
37A	217115	Front left outer arm	1	1		
37B	217116A	Front left inner arm	1	1		
38	206048	3/8*1-3/16" Socket bolt	12	12		
39	206032	Washer 1″	4	4		
40	206036	Roll Pin	4	4		
41	217044	Arm Lock	4	4		
42	217045	Spring	4	4		
43	217046A	Arm Lock Bar(left)	2	2		
44	217046	Arm Lock Bar(Right)	2	2		
45	209019	0.216*5/8" Flat Head Screw	12	12		
46	217053	Protective Rubber	2	2		
47	209009	0.216*5/16" Cup Head Bolt	18	18		
48	217197	Carriage	2	2		
49	217188	Block	16	16		
50	217230	Main Cylinder	1	1		
50A	217231	Secondly Cylinder	1	1		
51	217171	Wire Cable L=126"	1	1		
52	206025A	Foam Cushion	1	1		
53	206129	Control Bar L=94-1/2"	1	1		
54	201005	Split Pin	2	2		
55	206025C	Connector for Control Bar	2	2		
56	206013	Limit Switch	1	1	1	
57	206011	Cup Head Bolt	2	2		
58	206042	Limit Bar Bracket	2	2		
59	420026	1/2" Lock washer	1	1		
60	206023B	1/2" Hex Nut	6	6		
61	217005	Plastic Ball 3/8"	1	1		
62	217006	Lock Release Handle	1	1		
63	217007	Large Spacer	2	2		
64	217030	Spring	2	2		
65	217009	Safety Lock	2	2		

Item	Do-++#	Description		Nata	
Itelli	Part#	Description	HS-10	HS-10H	Note
66	217010	0.216*1-5/8" Hex bolt	1	1	
67	217011	0.216 Hex nut	1	1	
68	217012	Small Spacer	2	2	
69	217050	Main Lock Pin	2	2	
70	217051	Fixing Screw 3/8*3/8"	2	2	
71	217066	0.216*5/8″ Hex bolt	2	2	
72	217008	Spring	1	1	
73	217031	Offside Cam Lock	1	1	
74	217033	Tighten nut	1	1	
	217064	Safety cable L=311"	1	0	
75	217064A	Safety cable L=359"	0	1	
	217232	Oil hose5/16 " *366"	1	0	
76	217240	Oil hose5/16 " *414"	0	1	
76A	217233	Oil hose5/16 " *56-1/4"	1	1	
76B	217234	Oil hose 5/16 " *55"	1	1	
77	440009	Power unit straight fitting	1	1	
78	680065	Two way valve	1	1	
79	209062	T fitting for cylinder	1	1	
80	52K027	90°fitting 1/4NPT(M)*1/4NPT(F)	1	1	
81	420097	90°fitting 1/4NPT(M)*1/4JIC(M)	2	2	
82	209064	Straight fitting 1/4NPT(M)*1/4JIC(M)	2	2	
83	217191	Retainer	10	10	
84	630103	Straight fitting	1	1	
85	217042A	Front right column	1	1	
85A	217117	Front right outer column	1	1	
85B	217116A	Front right inner column	1	1	
86	217049A	Rear column	2	2	
86A	217118	Rear outer column	2	2	
86B	217119A	Rear inner column	2	2	
	217500B		1	0	
87	217503B	– Parts box	0	1	
88	217235	Extend Straight Fitting	3	3	
89	217029	Pulley Bracket	1	1	
90	201090	Shim	10	10	

Parts For	Hydraulic Ma	ain Cylinder		
50-1	217252	Head Cap	1	
50-2	201030	Y ring	1	
50-3	209078	Dust Ring	1	
50-4	217251	Head cap seal kit	1	
50-5	217229	Y ring USI	1	
50-6	217228	Support Ring	1	
50-7	209069	0 ring	1	
50-8	201029	Support Ring	1	
50-9	201030	Y ring OSI	1	
50-10	217249	Piston	1	
50-11	201030	Y ring OSI	1	
50-12	201029	Support ring	1	
50-13	217248	Bore weldment	1	
50-14	217250	Piston rod	1	
50-15	206071	nut	1	
Parts For	Hydraulic Se	cond Cylinder		
50A-1	217255	Head Cap	1	
50A-2	209078	Dust Ring	1	
50A-3	209073	O ring	1	
50A-4	209080	O ring	1	
50A-5	209072	Y ring OSI	1	
50A-6	217254	Piston	1	
50A-7	206069	O ring	1	
50A-8	209071	Support ring	1	
50A-9	217253	Bore weldment	1	
50A-10	217250	Piston rod	1	
50A-11	206071	Nut	1	

Parts For Power unit 220V,60Hz parts list						
201-1	81400287	Motor	1	1		
201-2	81400363	Motor Connecting Shaft	1	1		
201-3	81400362	Valve Body	1	1		
201-4	81400266	Relief valve	1	1		
201-5	81400268	Throttle Valve	1	1		
201-6	209149	Washer 0.216"	4	4		
201-7	85090142	Socket Bolt 0.216*1-3/8"	4	4		
201-8	81400288	Oil inlet Pipe	1	1		
201-9	81400365	O Ring	1	1		
201-10	81400290	Flitter	1	1		
201-11	203018	Socket Bolt	4	4		
201-12	81400275	Reservoir	1	1		
201-13	81400263	Filler Cap	1	2		
201-14	81400289	Oil Return Pipe	1	1		
201-15	81400294	Buffer valve	1	1		
201-16	81400265	Release valve	1	1		
201-17	81400280	Gear pump	1	1		
201-18	81400267	Check valve	1	1		

CE

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