

AMGO  [®] Hydraulics

Original

Installation And Service Manual



FLUSH-MOUNT SCISSORS LIFT

XL-9F

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I. PRODUCT FEATURES AND SPECIFICATIONS (See Fig.1)

FLUSH-MOUNT SCISSORS MODEL XL-9F

- Electronic control operating system, friendly to use.
- Dual self-lock mechanism.
- Dual cylinders automatic synchronization system.
- Dual self-lock mechanical safety system.
- Double Extended platforms.
- Photo cell protection.



Fig. 1

MODEL XL-9F SPECIFICATIONS

Model	Lifting Capacity	Lifting Height	Lifting Time	Overall Length	Overall Width	Runway Width	Width Between runways	Motor
XL-9F	9000lbs (4,000kg)	87-3/4" (2230mm)	49S	65"~80-3/4" (1654-2054mm)	74-3/4" (1900mm)	21-5/8" (550mm)	31-1/2" (800mm)	2.0HP

II. INSTALLATION REQUIREMENT

A. TOOLS REQUIRED

- ✓ Rotary Hammer Drill
($\Phi 19$ 、 $\Phi 10$ 、 $\Phi 4$)



- ✓ Hammer



- ✓ Level Bar



- ✓ English Spanner (12")



- ✓ Wrench set (15#, 17#)



- ✓ Grease gun



- ✓ Carpenter's Chalk



- ✓ Screw Sets



- ✓ Tape Measure (7.5m)



- ✓ Pliers



- ✓ Lock Wrench



- ✓ Ratchet Spanner with Socket



Fig. 2

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

Specifications of concrete must be adhere to the specifications as following.

Failure to do so may result in lift and/or vehicle falling.

1. Lift Location: Always use architect plans when available. Check layout dimension against floor plan requirements and make sure that adequate space is available.
2. Overhead Obstructions: The area where the lift will be located should be free of overhead obstructions such as heaters, building supports, electrical lines etc.
3. Concrete: Visually inspect the site where the lift is to be installed and check for cracked or defective concrete. All models must be installed on 3000psi (210kg/cm²) minimum concrete with a minimum thickness 6".

D. POWER SUPPLY

The electrical source must be 2.2kw minimum. The source cable size must be 2.5mm² and in good condition of contacting with floor.

WARNING !

A level floor is recommended for proper installation and level adjustment. Small differences in floor slopes may be compensated by shim. If a floor is of questionable slope, consider pouring a new concrete slab.

- ✓ **DO NOT** install this lift on any asphalt surface or any surface other ground than concrete.
- ✓ **DO NOT** install this lift on expansion seams or on cracked or defective concrete.
- ✓ **DO NOT** install this lift on a second/elevated floor without first consulting build architect.
- ✓ **DO NOT** install this lift outdoors unless special consideration has been made to protect the power unit from weather conditions.

2. Move the parts aside, open the outer packing and check the parts according to the shipment parts list (See Fig. 5).

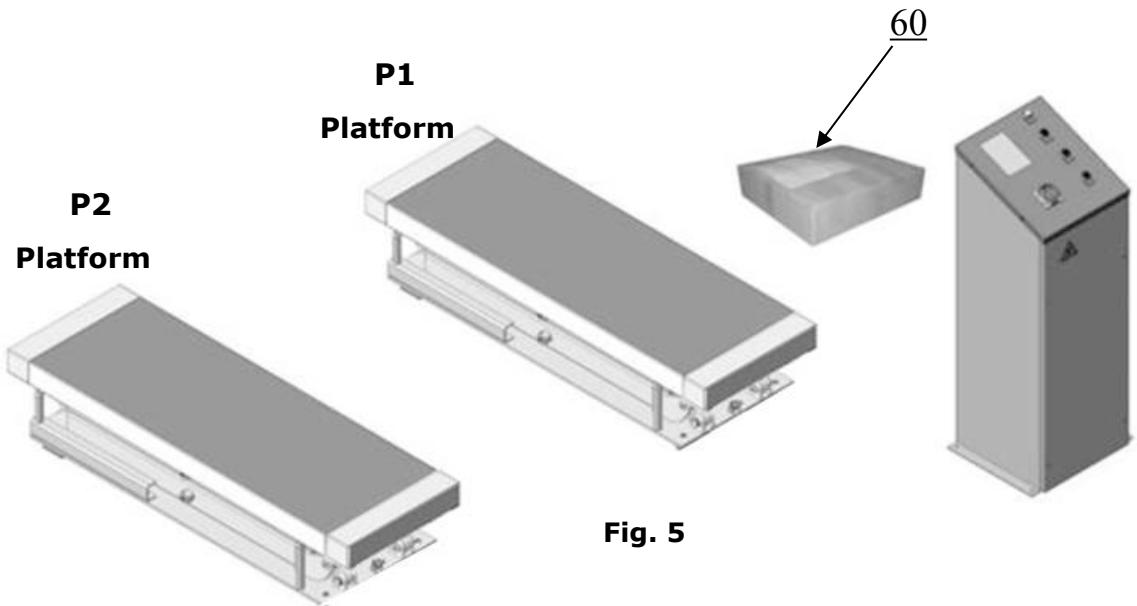


Fig. 5

3. Open the parts box, check the parts according to the part list (See Fig. 6).



Fig. 6

4. Check the parts of the parts bag according to the parts bag list (See Fig. 7).



Fig. 7

C. Layout the machine and install oil system and air line system.

1. Layout the equipment with forklift or other equipment to the location according to **Step B**. Lift the equipment to about 1 meter high for oil system and air line system installation (See Fig. 8).

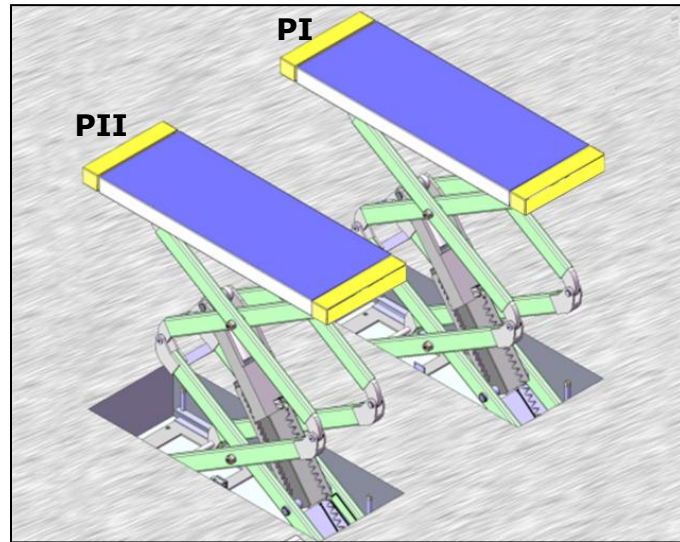
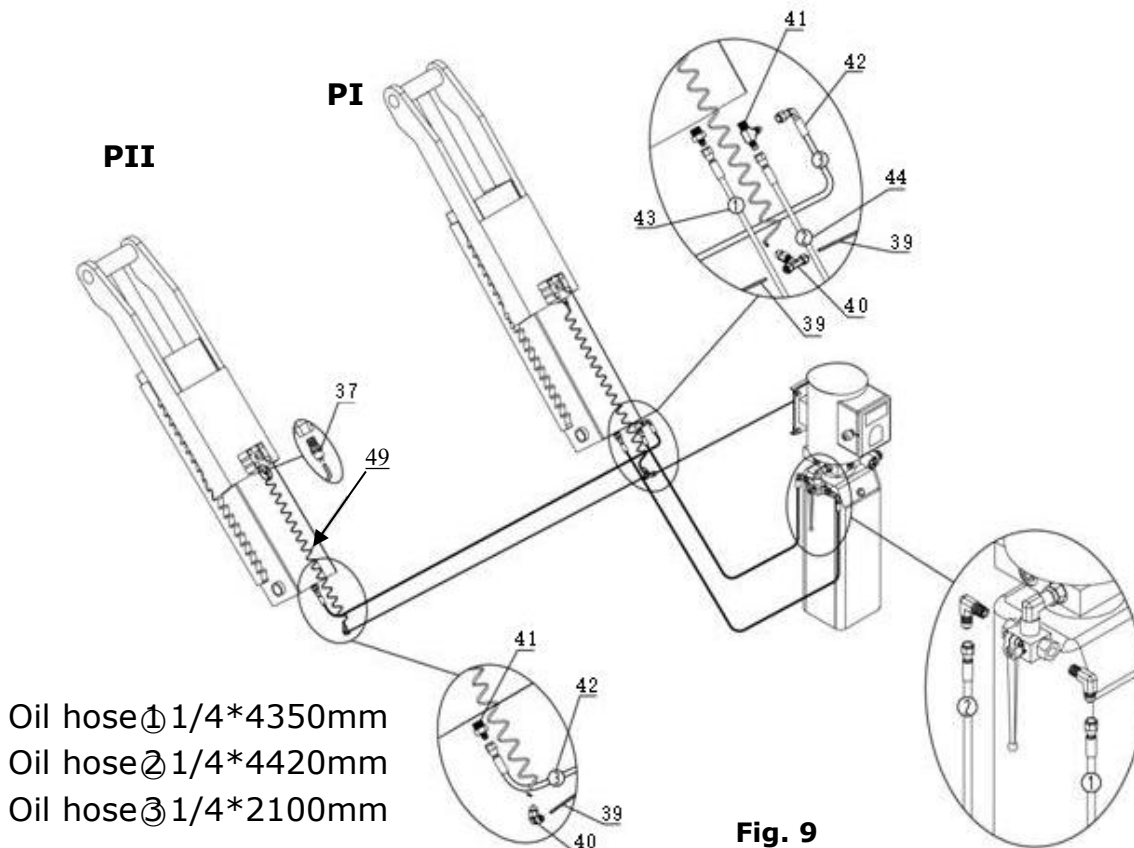
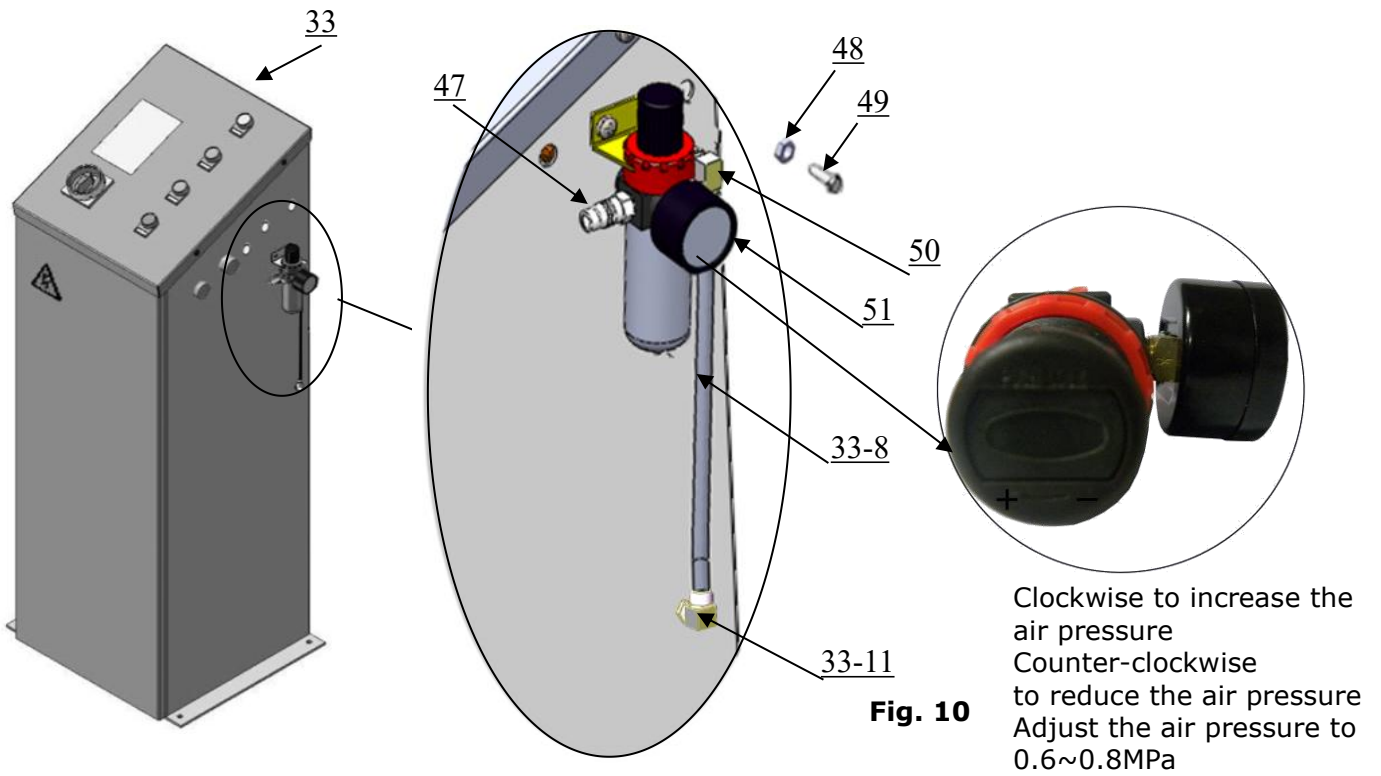


Fig. 8

2. Locate the cabinet control to the preserved place, install relevant air lines and wires through the embedded PVC pipe
3. Connecting the oil hose and air line (See Fig. 9).



4. Install the oil-water separator (See Fig. 10).



Connecting the air source by the oil-water separator

D. Install electric system

1. Wire connection for 220V hydraulic power unit

1.1. Connect the power wire and limit switch wire according to the Wiring diagram (See Fig. 11).

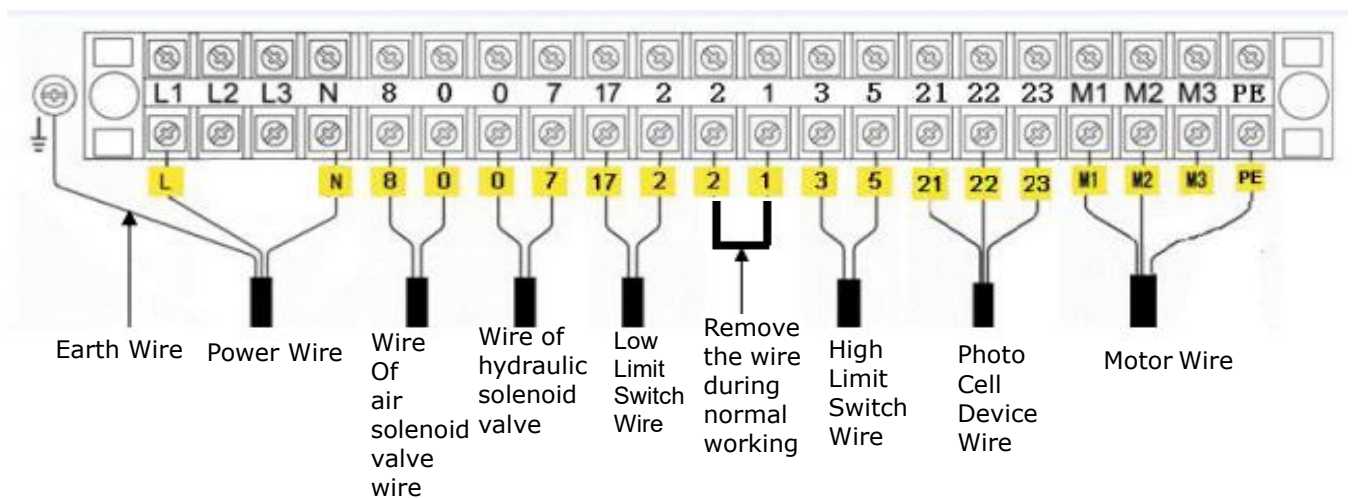


Fig. 11

When the input power supply are two fire wires, these two fire wires connect terminal L1 and N in separate.

1.2 Circuit Diagram (See Fig. 12)

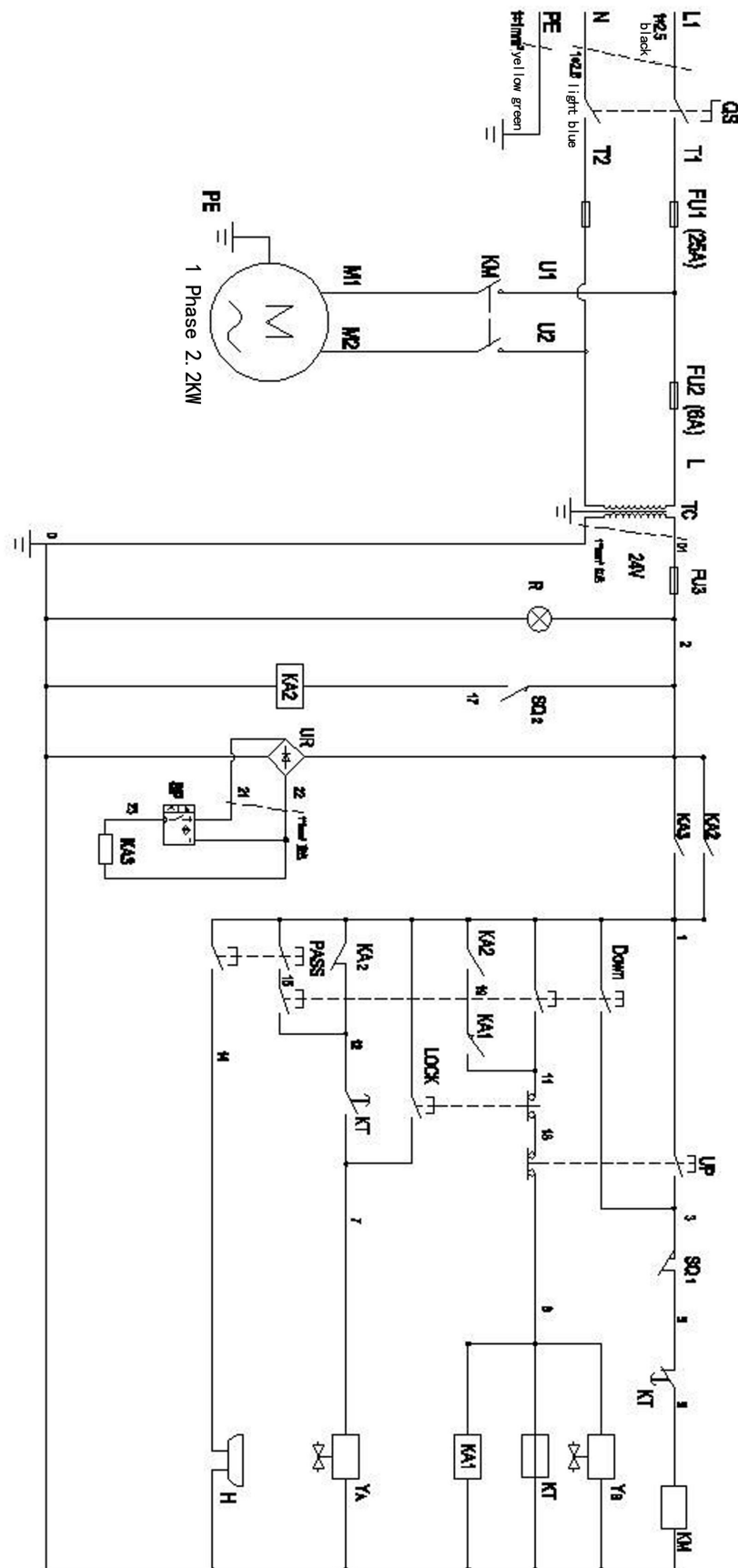


Fig. 12

Electric Component 220V

Item	Name	Code	Specification
1	Power switch	QS	25A
2	Breaker	FU ₁	2P
3	Breaker	FU ₂	1P
4	Breaker	FU ₃	1P
5	Intermediate Relay	KA2	24V AC
6	Time relay	KT	24V AC
7	Limit switch (high)	SQ ₁	10A
8	Limit switch (low)	SQ ₂	10A
9	Hydraulic solenoid valve	Y _A	24V AC
10	Air solenoid valve	Y _B	24V AC
11	Push button	Up	Duplex
12	Push button	Lock	Duplex
13	Push button	Down	Trigeminy
14	Lower alarm button	Pass	Duplex
15	Motor	M	Single Phase
16	Buzzer	H	24VAC
17	Transformer	TC	24V AC
18	Intermediate relay	KA	24V AC
19	Power indicator	R	White 24V
20	Intermediate relay	KA ₃	24V DC
21	Rectifier bridge	UR	KBPC10-10
22	Phone cell device	SP	24V DC
23	AC contactor	KM	24V AC

E. Leveling two platforms and install anchor bolts.

1. Check by level bar and use the shim to adjust the platforms until two platforms are in the same level.

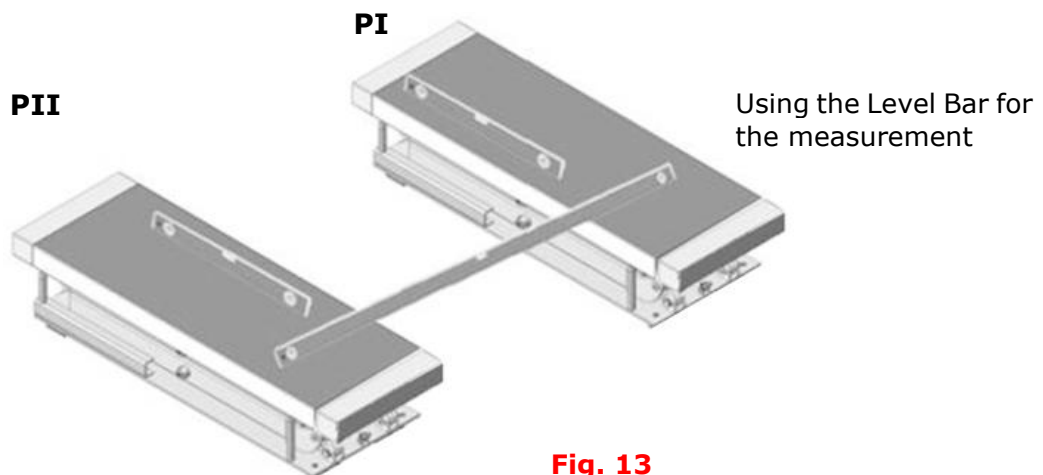


Fig. 13

2. Install anchor bolts.

2.1 Raise the lift to 1000mm then drill holes to install the anchor bolts (**See Fig.14**).

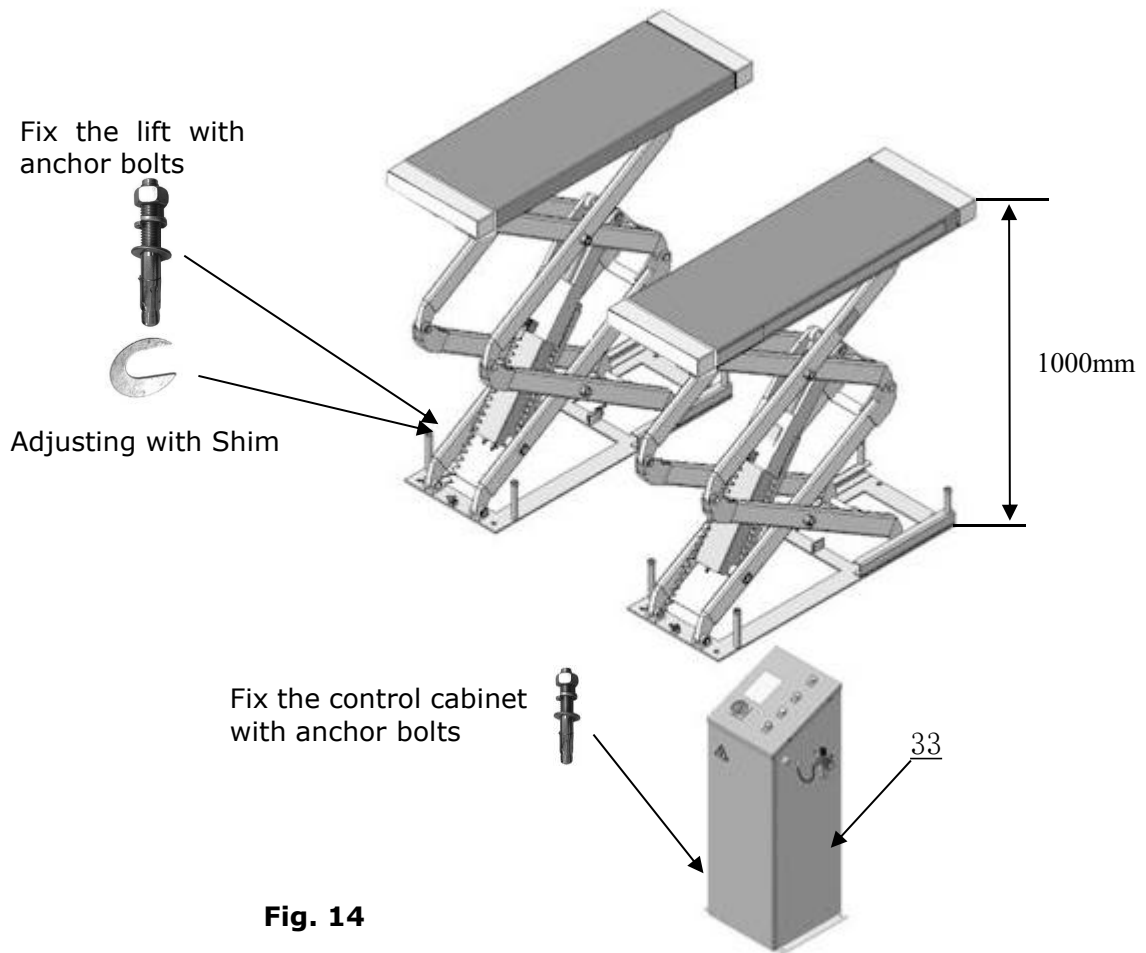


Fig. 14

2.2 Fix the Anchor bolts (3/4*5-1/2”).

Drilling the hole for the anchor bolt with the rotary hammer drill, type the anchor bolt into the ground, and then fasten it with Ratchet spanner (**See Fig. 15**).

Note: The torque of anchor bolt is 150N.m, the length inside ground of anchor bolt must be over 90mm.

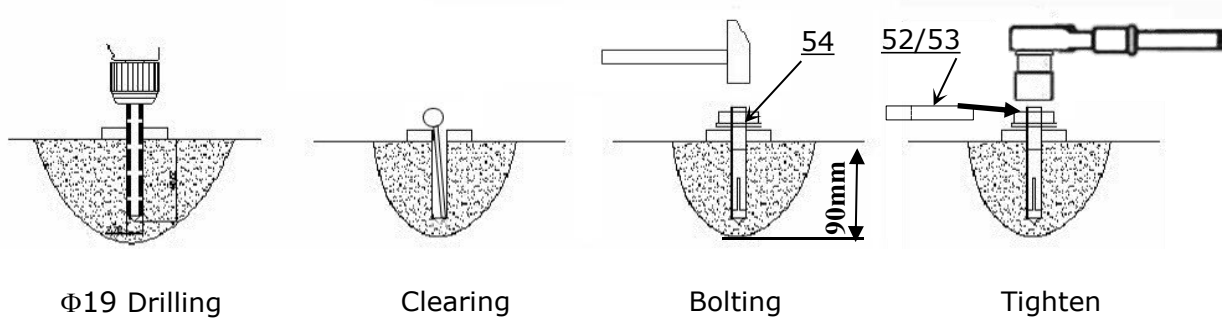


Fig. 15

3. Fix the control cabinet anchor bolts (M10×100mm) (See Fig. 16).

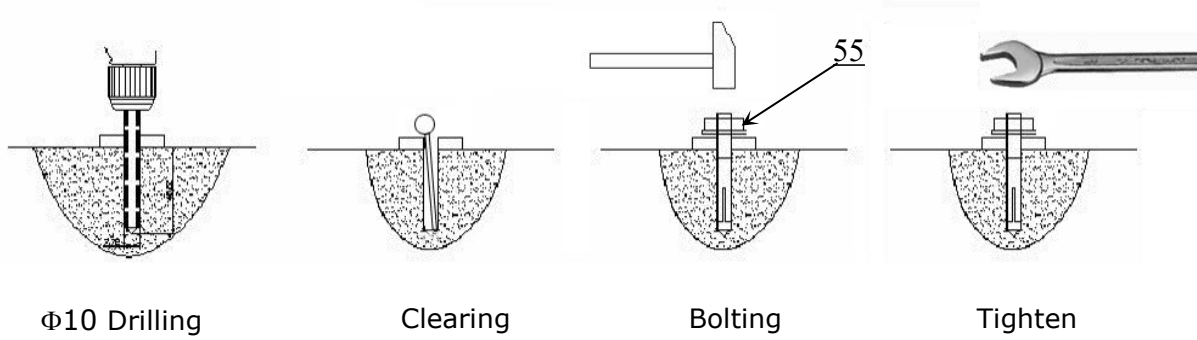


Fig. 16

F.Instruction of Phone cell device

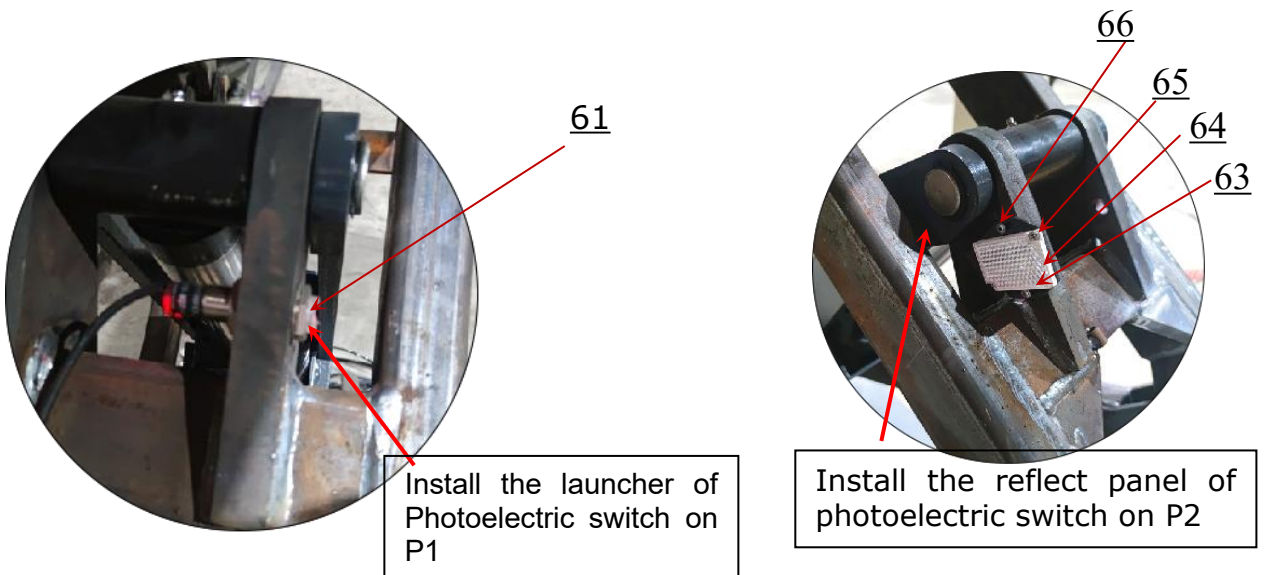


Fig.17

IV. EXPLODED VIEW

MODEL XL-9F

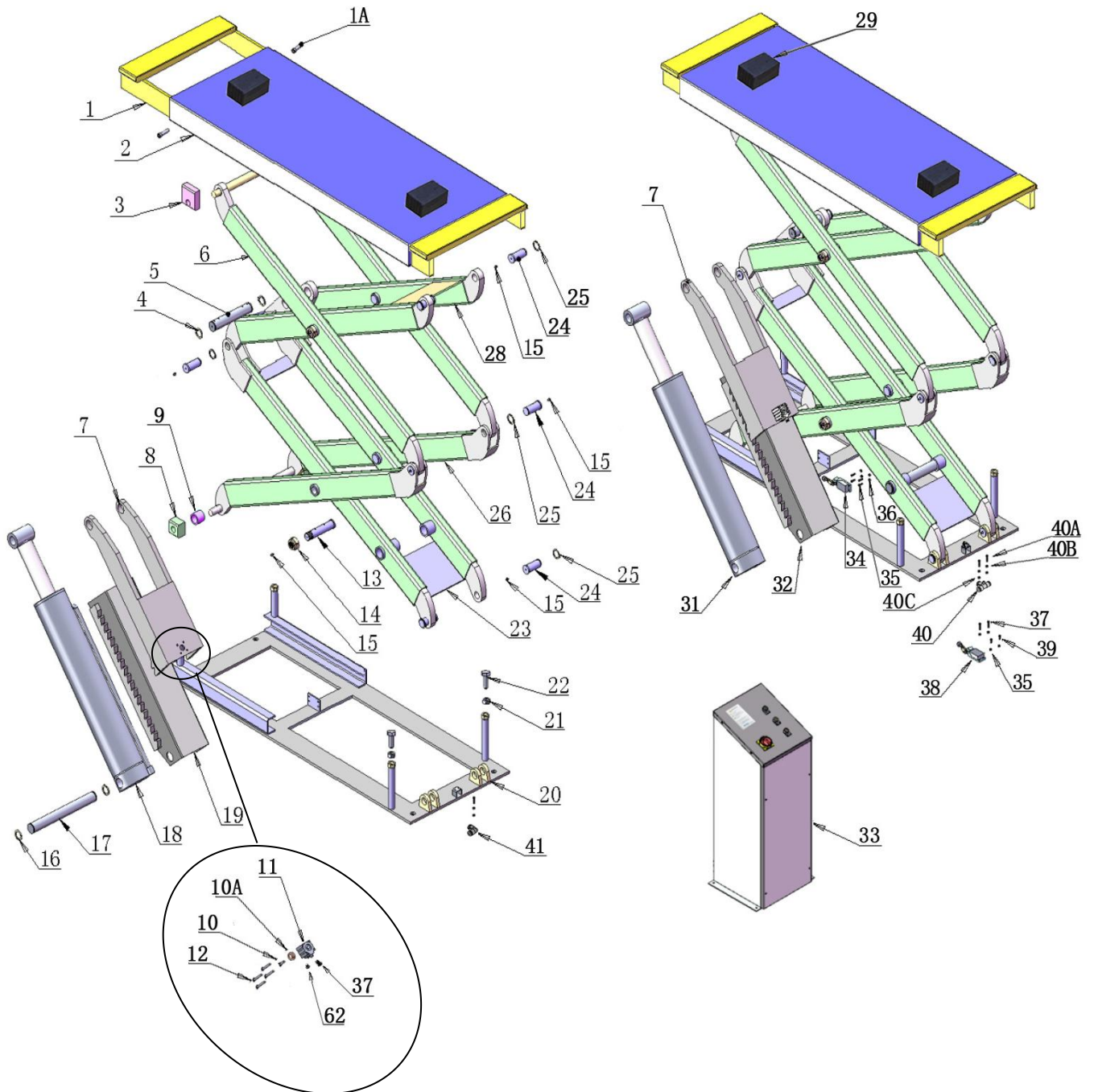


Fig. 18

PARTS LIST FOR XL-9F

Item	Part No.	Description	QTY
1	11610001A	Extended Platform Assembly	4
1A	10207021	Socket Bolt M6*12	8
2	11610127	Runway Platform	2
3	1003115001	Slider for platform 78*78*30	4
4	10610006A	Upper Scissors (out)	2
5	11610005A	Connecting Pin for Cylinder	2
5A	10420132A	Bronze Bush $\Phi 41.3*\Phi 35.1*20$	4
6	10610098	Snap Ring $\Phi 35$	4
7	11610128	Safety device support panel assembly	2
8	10580103	Slider of base 70*53*30	4
9	1103112001	Slider limit sleeve $\phi 35*3*22$	4
10	10680005	Cap Head Bolt M6*10	2
10A	10510048	Slider for safety lock (SX221)	2
11	10520011	Air Cylinder SDA32*25	2
12	10420153	Cap Head Bolt M6*20	8
13	11610018	Rotating Shaft A	8
14	10610019	Self-locking Nut M30*3.5	8
15	10620064	Greasing Fitting M6	38
16	10520023	Snap Ring $\Phi 38$	4
17	11610030A	Fix-Pin for cylinder	2
18	10610031A	Secondly Cylinder $\phi 100*510$	1
19	11610032A	Safety Lock Tube (Secondly)	1
20	11610017A	Base Frame Assembly	2
21	10610096	Hex Nut M18	8
22	10610095	Hex bolt M18*70	8
23	11610014C	Lower Scissors (in) Assembly	2
24	11610009A	Rotating Shaft B	16
25	10610008	Snap Ring $\Phi 30$	16
26	11610013B	Lower Scissors (out) Assembly	2
27	10610012	Washer	16
28	11610011B	Upper Scissors (in) Assembly	2
29	10610070	Rubber Pad 120*100*70	4
30	071201	Power Unit	1
31	10610029A	Main Cylinder $\phi 120*510$	1
32	11610028A	Safety Lock Tube (main)	1
33	10610007A	Cabinet Control	1
34	10610118	High Limit Switch Assy.	1
35	10620095	Hex Nut M4	6
36	10420164	Cap Head Bolt M4*30	2

Item	Part No.	Description	QTY
37	10420047	Air Cylinder Straight Fitting	2
38	10610119	Lower Limit Switch Assy.	2
39	10610114	Air Line $\Phi 6 * \Phi 4 * 6300\text{mm}$	1
40	10420124	T Fitting for connection	1
40A	10610099	Cup head bolt M3*20	3
40B	10610097	Hex nut M3	3
40C	10610101	Washer $\phi 3$	3
41	10520069	90° fitting	1
42	10510023	Straight Fitting For Cylinder G3/8-19(M)*1/4JIC(M)	2
43	10201022	T-Fitting For Cylinder	1
44	10610068	Oil Hose (No.3) 1/4*2100	1
45	10610112	Oil Hose (No.1) 1/4*4350	1
46	10610113	Oil Hose (No.2) 1/4*4420	1
47	10420146	Fitting for Air Line	1
48	10420018	Self-Locking Nut M6	2
49	10520065	Air Line $\Phi 6 * \Phi 4 * 2000\text{mm}$	2
50	10420076	90° Fitting 6*8 screw thread	1
51	10420145	Oil Water Separator AFR-2000	1
52	10620065	Shim(2 mm)	20
53	10201090	Shim((1 mm)	20
54	10209059	Anchor bolt 3/4*5-1/2	8
55	10620071	Anchor bolt M10*100	4
56	10440009	Straight Fitting for Power Unit 3/8SAEO/R(M)*1/4NPT(M)	1
57	1052K027	90° Fitting 1/4NPT(F)*1/4NPT(M)	1
58	10420097	90° Fitting 1/4NPT(M)*1/4JIC(M)	2
59	10680065	Two-way Valve	1
60	10610500	Parts Box	1
61	10610125	Photo Cell switch assembly	1
62	10520059	Muffle	2
63		Reflect plate of photo cell switch	1
64	11620718	Fixed plate of photo cell switch 2*68*52	1
65	41080181	Cup head bolt M4*6	2
66	10201104	Cup head bolt M4*8	2

1. CYLINDERS(10610029A/10610031A)

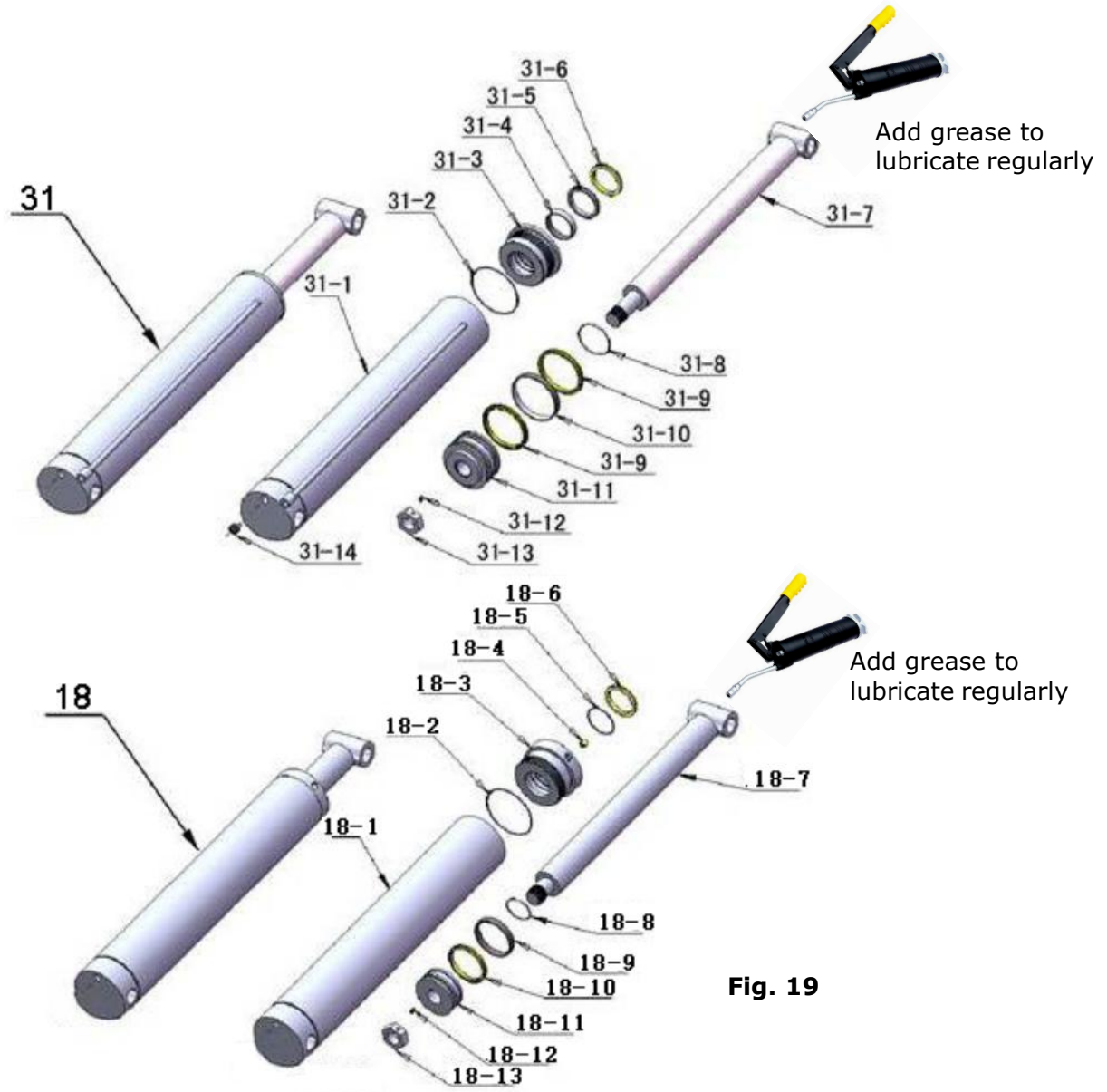


Fig. 19

Parts for Hydraulic Cylinder

Item	Part No.	Description	QTY
31-1	11610033	Main cylinder assembly	1
31-2	10520053	O Ring($\phi 118 \times 5.3$)	1
31-3	11520043	Head cap (main)	1
31-4	10520052	Support Ring($\phi 67 \times \phi 73 \times 15$)	1
31-5	10520051	Y Ring ISI($\phi 67 \times \phi 77 \times 6$)	1
31-6	10520050	Dust Ring ($\phi 67 \times \phi 75$)	1
31-7	11610035	Piston Rod (main)	1
31-8	10520054	O Ring ($\phi 38 \times 3.55$)	1
31-9	10520055	Y Ring OSI($\phi 105 \times \phi 120 \times 9$)	2
31-10	10520056	Support Ring ($\phi 114 \times \phi 120 \times 15$)	1

Item	Part No.	Description	QTY
31-11	11520045	Piston (main)	1
31-12	10520049	Set screw	2
31-13	10520047	Hex Nut M36	1
31-14	10530009	Hose Burst Valve	1
18-1	11610034	Secondly Cylinder assembly	1
18-2	10510083	O Ring($\phi 100*4$)	1
18-3	11520044	Head Cap (secondly)	1
18-4	10201034	Bleeding Plug	3
18-5	10520058	O Ring($\phi 45*3.55$)	1
18-6	10520057	Dust Ring($\phi 45*\phi 53$)	1
18-7	11610036	Piston Rod (secondly)	1
18-8	10520061	O ring($\phi 28*3.55$)	1
18-9	10520062	Support Ring($\phi 94*\phi 100*15$)	1
18-10	10520063	Y Ring OSI($\phi 85*\phi 100*9$)	1
18-11	11520046	Piston (secondly)	1
18-12	10520049	Set screw	1
18-13	10520048	Hex Nut M27	1

2. CONTROL CABINET

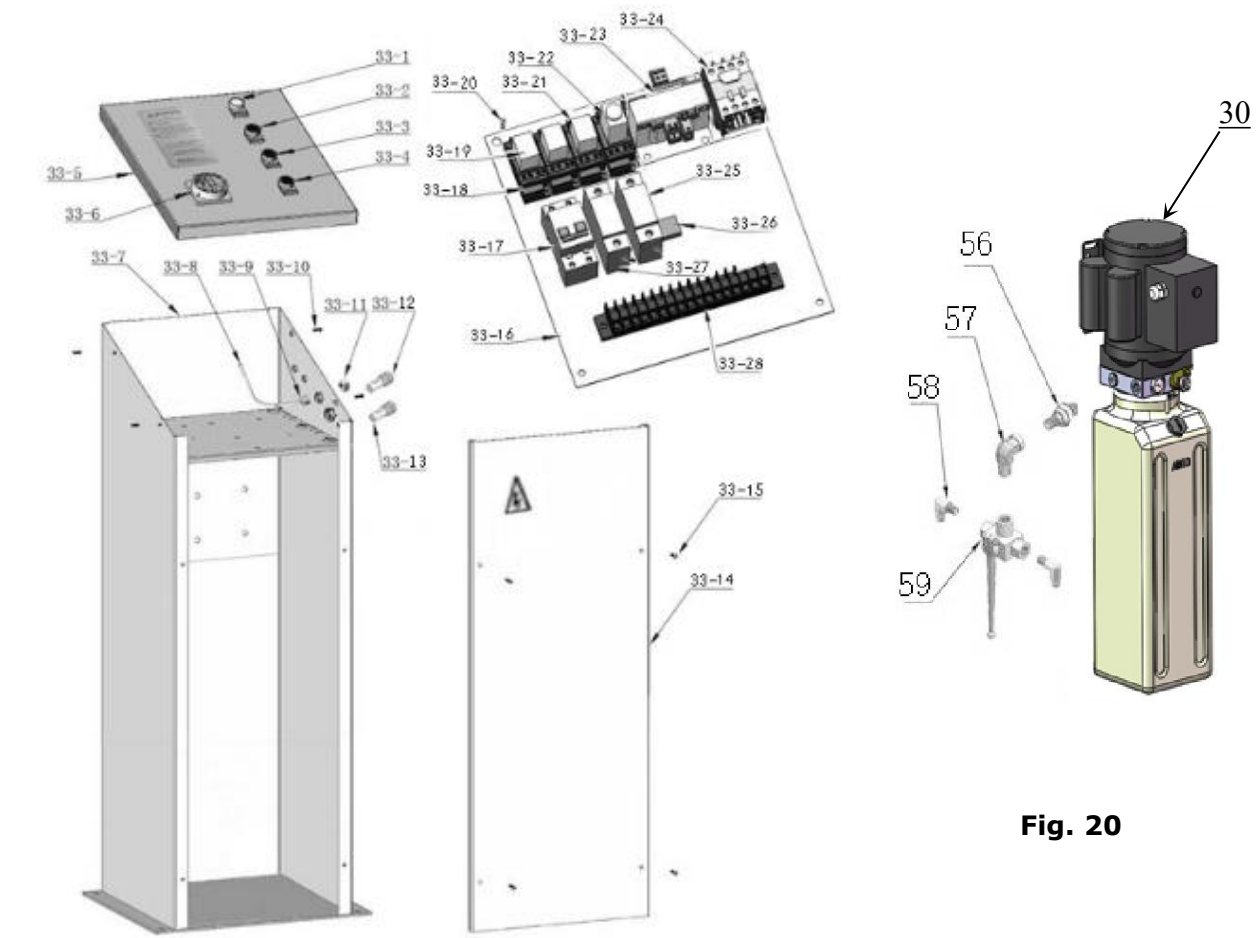


Fig. 20

Parts For Control Cabinet

Item	Part No.	Description	QTY
33-1	10201094	Power indicator	1
33-2	10420071	Button UP	1
33-3	10420071	Button LOCK	1
33-4	10420072	Button DOWN	1
33-5	1152K001B	Control Panel	1
33-6	41010217	Power Switch (QS)	1
33-7	11610109	Cabinet Body	1
33-8	10420167C	Air Line 6*8*200mm	2
33-9	1061K110	Straight Fitting for Air Line 6*8 screw thread	1
33-10	10209145	Cap Head Bolt M6*12	4
33-11	10420076	90° Fitting for Air Line 6*8 screw thread	2
33-12	10420143	Buzzer (H)	1
33-13	10420142	Lowering Alarm Button K	1
33-14	1152K022A	Cabinet Door	1
33-15	10720038	Cap Head Bolt M6*30	4
33-16	1152K006A	Terminal Panel for Installing Element	1
33-17	10202046	Circuit breaker 2P 25A	1
33-18	10420135	Timer Relay Base	4
33-19	10420141	Intermediate Relay	2
33-20	1061K052	Cap Head Bolt with washer M4*8	17
33-21	104101492	Intermediate Relay	1
33-22	10420083	Timer Relay	1
33-23	10580114	Transformer	1
33-24	10420084A	AC Contactor	1
33-25	10202051	Circuit breaker 1P 2A	1
33-26	10580101	Rectifier bridge	1
33-27	10510081	Circuit breaker 1P 6A	1
33-28	10620082	Terminal	1

3. ELECTRIC POWER UNIT (071021)

Electric power unit 220V/60Hz/ single phase

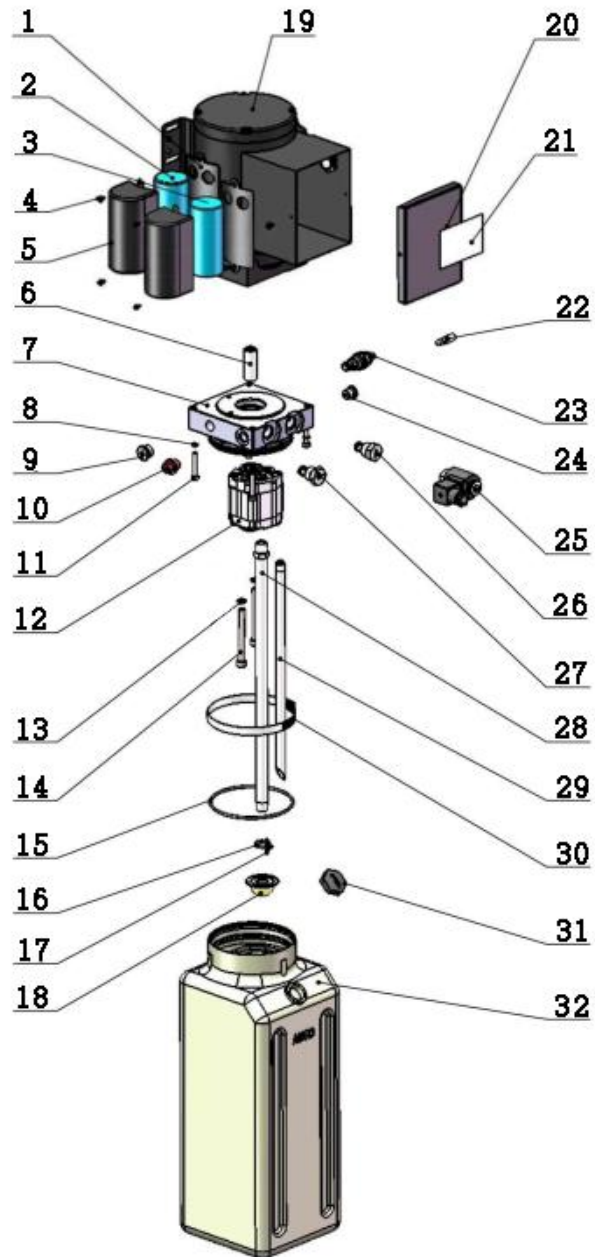


Fig. 21

Parts for Electric Power Unit 220V/60HZ/1 Phase

Item	Part No.	Description	QTY
1	81400180	Rubber Pad	2
2	81400250	Start Capacitor	1
3	81400200	Run Capacitor	1
4	10420148	Cap head bolt with washer	6
5	81400066	Protective Cover for capacitor	2
6	81400363	Motor Connecting shaft	1
7	81400362	Manifold block	1
8	10209149	Washer $\phi 6$	4
9	81400276	Socket Iron Plug	1
10	81400259	Red rubber plug	1
11	85090142	Socket Bolt	4
12	81400292	Gear Pump	1
13	10209034	Washer $\phi 8$	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	81400208	Cover of Motor Terminal Box	1
21	71111190	AMGO Power unit sticker	1
22	81400560	Throttle valve	1
23	81400266	Relief Valve	1
24	81400284	Iron Plug	1
25	81400420	Solenoid valve winding	1
26	81400423	Electrical Release Valve	1
27	81400566	Check valve	1
28	81400288	Inlet pipe	1
29	81400289	Oil Return pipe	1
30	81400364	Hose Clamp (stainless steel)	1
31	81400263	Filler Cap	1
32	81400275	Reservoir	1

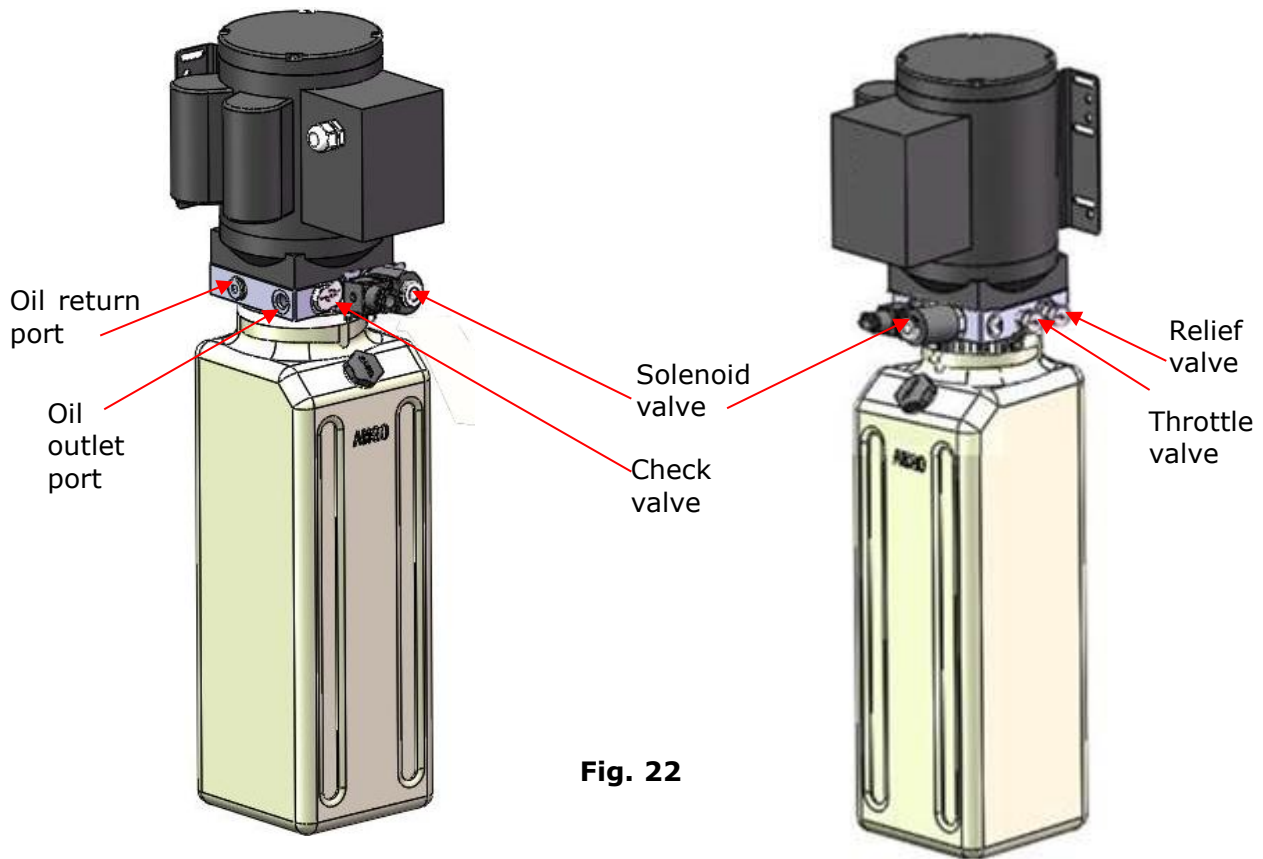
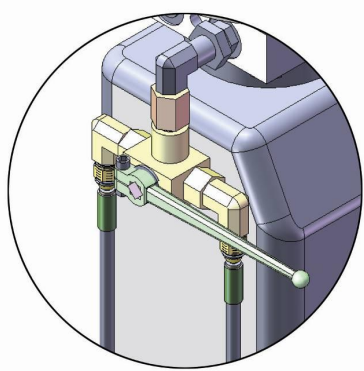


Fig. 22

V. TEST RUN

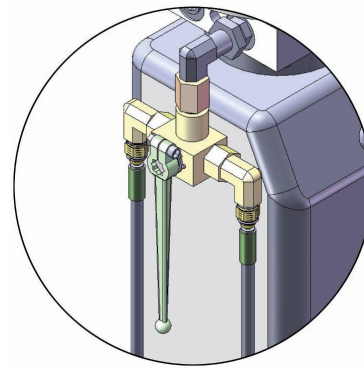
1. Turn the power on, push button **UP** to check if the motor steering is correct. If the steering is wrong, turn off the power, correcting the motor steering, then fill oil and air exhaust adjustment.
2. Fill reservoir with Hydraulic Oil (**Note: In consideration of power unit's durability and the best performance, please use Hydraulic Oil 46#**).
3. Synchronous adjustment
 - (1) Lowering down both platforms to lowest level.
 - (2) Turn the Two-way valve to the filling position (**See fig.23**), push button "**Up**" to fill oil into the secondly cylinder till platform P2 begin to rise, then release button. And then push button "**DOWN**" and "**PASS**" for 5 seconds, it will accompany with the sound of a buzzer, also there are air bubbles emitted from the oil tank. That is air exhaust from the cylinder. Repeat this operation 2-3 times until no bubbles generate.

- (3) Quick - stop button **UP**, release the button as soon as P2 platform begin to rise.
- (4) Turn the Two-way valve to the normal working position (**See fig.24**), push button **“Up”** to raise the lift, check if platform P1 and P2 rise the same time. If still not synchronous, repeat step (2) and (3) until the both side of platform are synchronization.



Oil Filling Position

Fig. 23

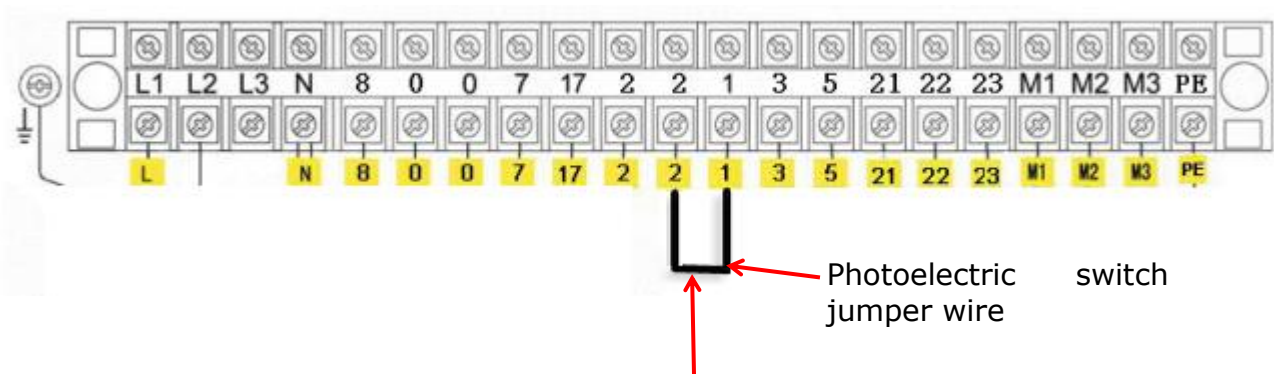


Normal Working Position

Fig. 24

- (5) Finished the synchronous adjustment, remove the jumper wire of photoelectric switch which connect terminal 1# and 2#.

Note: Once the platform P1 and P2 fail to keep at the same level during working, which make the photo cell switch out of work range, the power would be shut off. Open the control cabinet, connect the jumper wire of photoelectric switch which connect terminal 1# and 2# (**see fig.25**). Turn on the power, do the oil filling/synchronizing operations again, then remove the jumper wire, the equipment can work again.



Remove the cord after synchronizing

Fig. 25

B. Test run

Check the height limit switch, the hose and fitting connection, and do test run. The lift must be tested run and checked carefully before in use.

VI. OPERATION INSTRUCTIONS

To lift vehicle

1. Keep clear of site near the lift, and down the lift to the lowest position.
2. Drive vehicle to the platform and put on the brake.
3. Turn on the power and push the button "**UP**", raise the lift to the working position.

Note: make sure the vehicle is steady when the lift is rising

4. Push button "**Lock**" to lock the lift in the safety device. Make sure the safety is locked in the same height before working.

To lower vehicle

1. Be sure clear of around and under the lift, only leaving operator in lift area.
2. Push the button "**Down**", the lift is lowered continually and stopped at the height **500mm** from ground. Keep feet clear off lift, push button "**DOWN**" while push the **PASS** lower alarm button at the side of control cabinet, the lift is lowered to ground with alarm tone;
3. Drive away the vehicle when the lift is lowered to the lowest position.
4. Turn off the power, clean the lift's appearance, clean the work site.

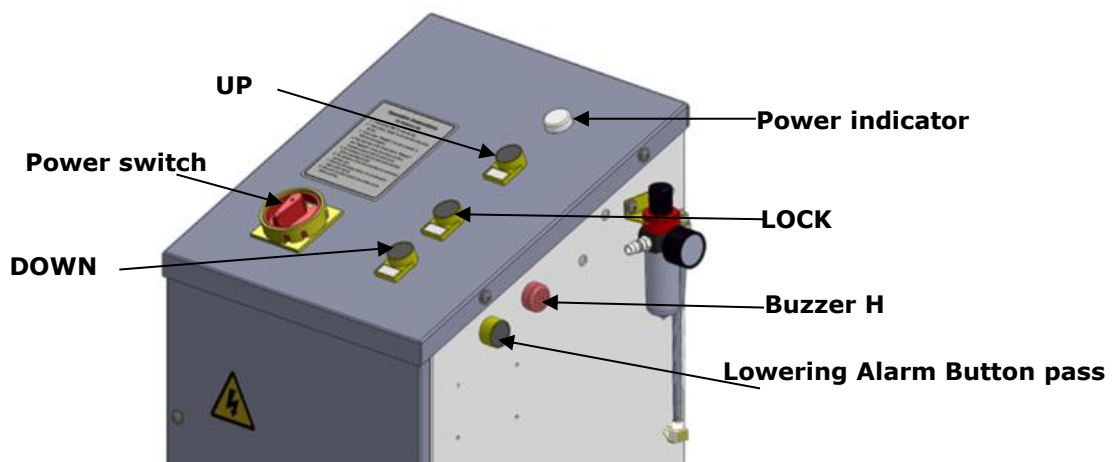


Fig. 26

VII.MAINTENANCE SCHEDULE

Monthly:

1. Re-torque the anchor bolts to 150 Nm.
2. Lubricate all moving parts with lubricant.
3. Check all fittings, bolts and pins to insure proper mounting.
4. Make a visual inspection of all hydraulic hoses/lines for possible wear or leakage.
5. Adjusting the lifting level on both platform.

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 the platform as necessary to insure level lifting.
3. Check all fastener and re-torque.

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	<ol style="list-style-type: none"> 1.Button does not work 2. AC contactor burned out 3. Motor burned out 	<ol style="list-style-type: none"> 1. Replace button 2. Replace AC contactor 3. Repair or replace motor
Motor have voice but not run	<ol style="list-style-type: none"> 1.Wiring connections of 3 phase are not in good condition. 2. AC contactor main contacts in poor contact 	<ol style="list-style-type: none"> 1. Check the 3 phase wiring connections, and repair it if not in good condition. 2. Replace AC contactor.
Motor runs but the lift is not raised	<ol style="list-style-type: none"> 1.Motor runs in reverse rotation 2.Low oil level 3.The Gear Pump out of operation 4.Relief valve or check valve in damage 5.Shaft Coupling in damage 	<ol style="list-style-type: none"> 1.Reverse two power wire 2.Fill tank 3.Repair or replace 4.Repair or replace 5.Replace Shaft Coupling
Lift raised slowly	<ol style="list-style-type: none"> 1.Oil line is jammed 2. Gear Pump leaks 3.Overload lifting 4.Power Voltage low 5.Oil mixed with air 	<ol style="list-style-type: none"> 1.Clean the oil line 2.Replace Pump 3.Check load 4.Check electrical system 5.Fill tank and bleeding air
Lift cannot lower	<ol style="list-style-type: none"> 1. Hydraulic Solenoid valve out of operation 2. Low Air pressure can't open the lock 	<ol style="list-style-type: none"> 1. Check Solenoid valve and Air line 2.Adjusting Air pressure of Compressor

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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