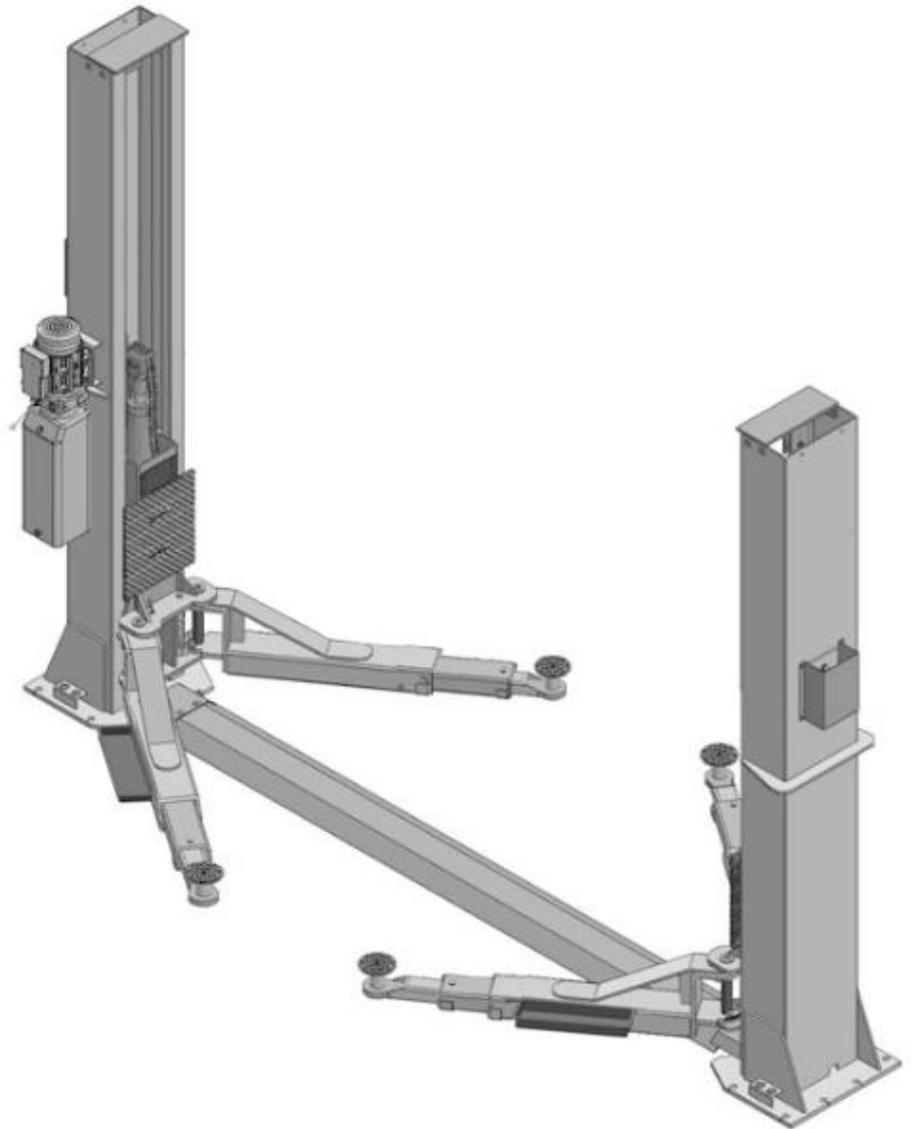




Installation And Service Manual

**B
E
A
R**®



**TWO POST LIFT
Model: 30-212FP**

CONTENTS

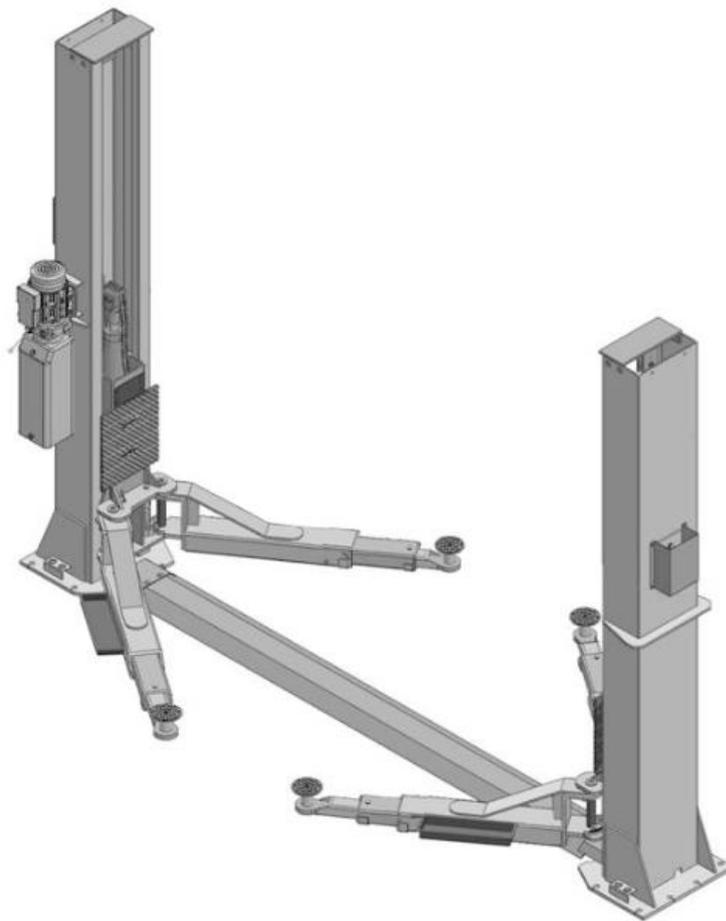
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I. PRODUCT FEATURES AND SPECIFICATIONS

FLOORPLATE CHAIN-DRIVEN MODEL FEATURES

MODEL BP-12 (See Fig.1)

- 12000lbs lifting capacity, compact design small footprint.
- **Dual hydraulic cylinders is designed and manufactured according to standard, utilizing imported seals**
- Adjustable column width, two optional column width installation 118 1/8" or 123 1/2"
- Stackable adapters 1.5", 2.5", 5" can be adjusted the minimum pad height in a short time.
- Lifting arm lock automatic release device, high strength moon gear for making the lift more reliable and safety.
- Self-lubricating UHMW Polyethylene sliders and bronze bush.
- Single-point safety release, and dual safety design.
- \varnothing 9.5 mm cable using for the lift make it more safety and more reliable.



MODEL BP-12 SPECIFICATIONS

Model	Style	Lifting Capacity	Lifting Time	Lifting Height	Overall Height	Overall Width	Minimum Pad Height	Motor
30-212FP	Floor-plate Chain-drive	12000lbs	55S	73 1/4"~82 1/4"	122 1/2"	145 3/8" 150 3/4"	4 3/4"~13 3/4"	2.0HP

Arm Swings View

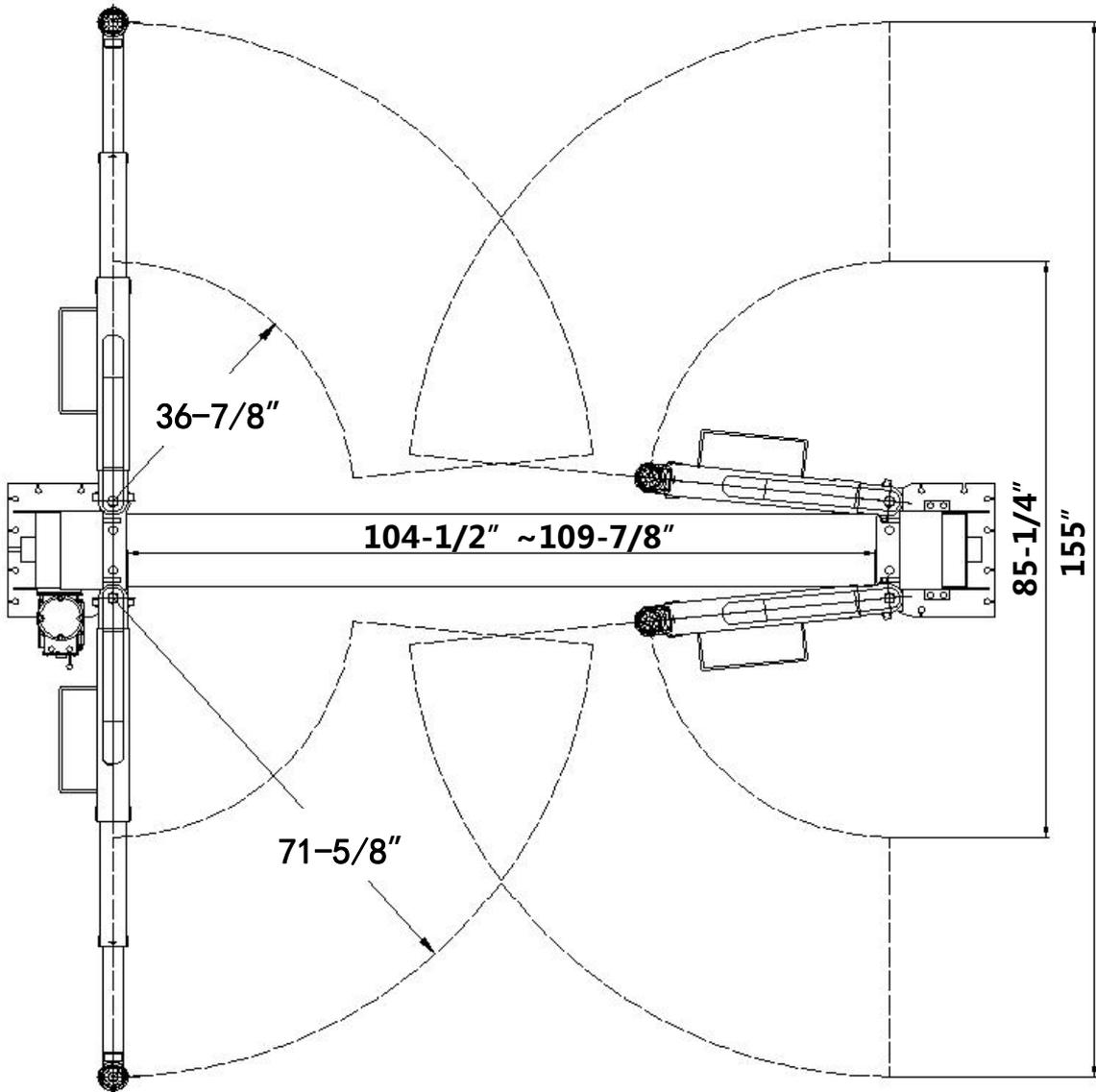


Fig.2

II. INSTALLATION REQUIREMENT

A. TOOLS REQUIRED

- ✓ Rotary Hammer Drill ($\Phi 19$)



- ✓ Hammer



- ✓ Level Bar



- ✓ English Spanner (12")



- ✓ Ratchet Spanner With Socket (28#)



↳

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



- ✓ Carpenter's Chalk



- ✓ Screw Sets



- ✓ Tape Measure (7.5m)



- ✓ Pliers



- ✓ Socket Head Wrench (6#)



↳ Lock Wrench



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. The equipment should be unload and transfer by forklift.

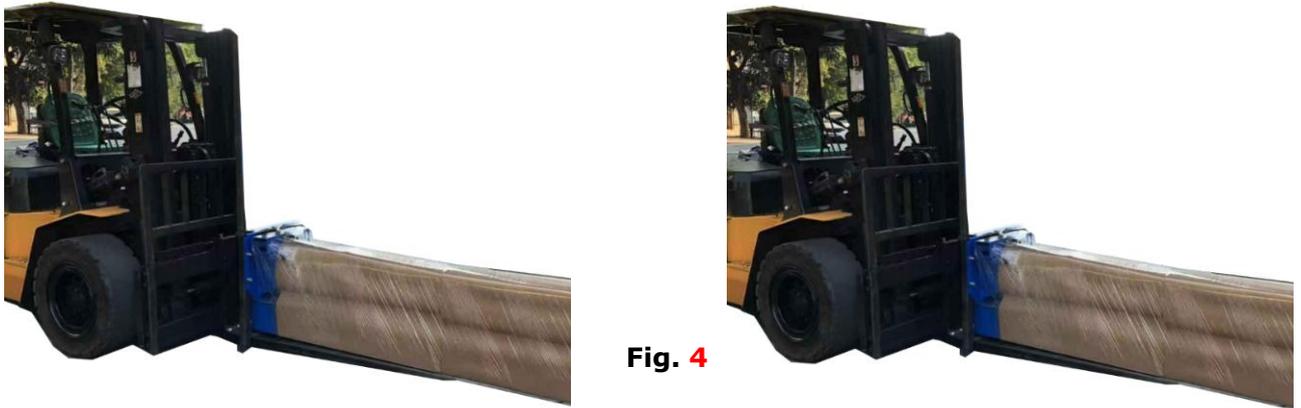


Fig. 4

D. SPECIFICATIONS OF CONCRETE (See Fig. 5)

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 7-7/8" 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.

E. 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.

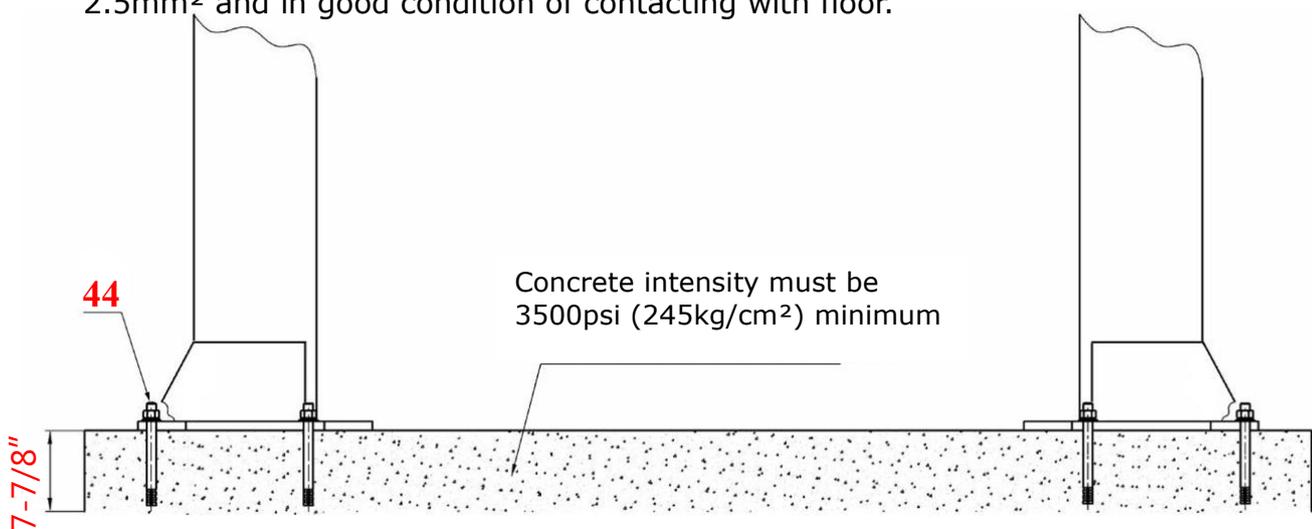


Fig. 5

III. STEPS OF INSTALLATION

A. Location of Installation

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

B. Use a carpenter's chalk line to establish installation layout of baseplate (**See Fig. 6**).

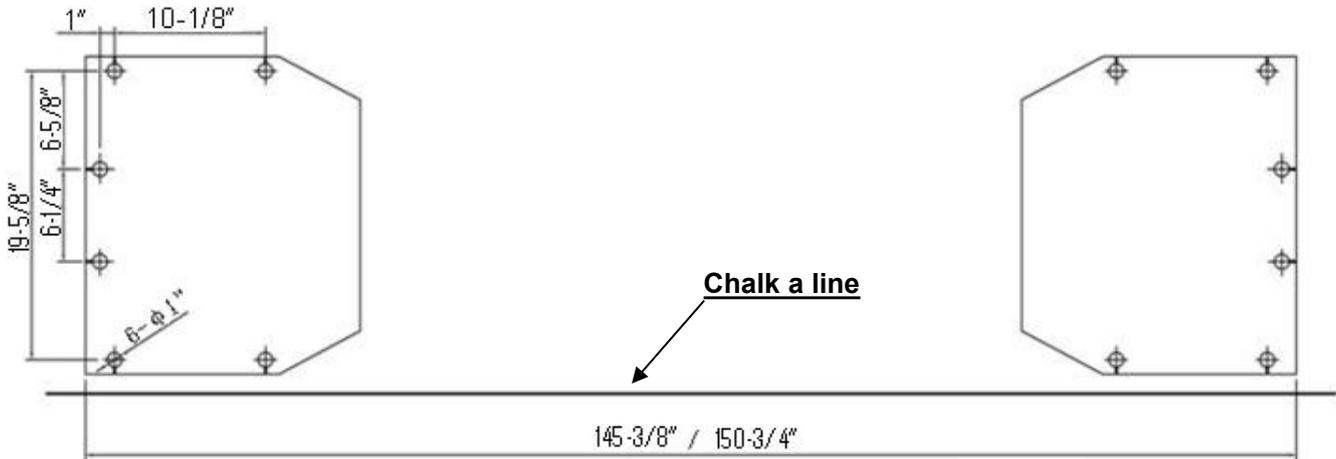


Fig. 6

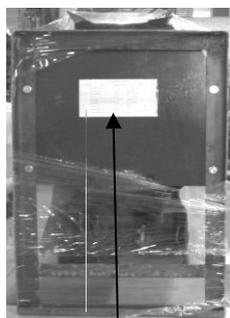
C. Check the parts before assembly

1. Packaged lift and hydraulic power unit (**See Fig. 7**)

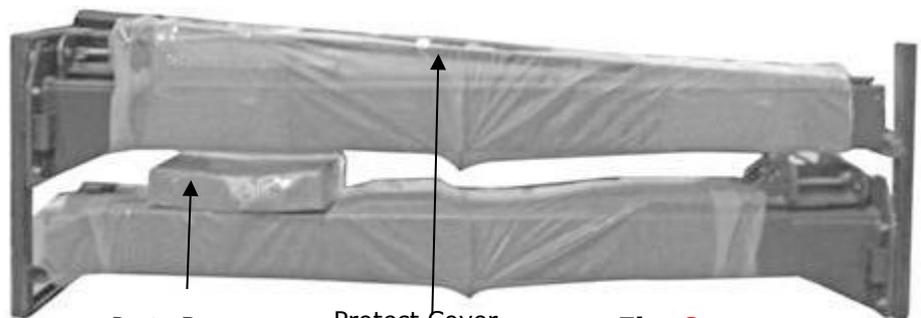


Fig. 7

2. Move the lift aside with a fork lift or hoist, and open the outer packing carefully, take off the parts from upper and inside the column, take out the parts box, check the parts according to the shipment parts list (**See Fig. 8**).



Shipment Parts list



Parts Box

Protect Cover

Fig. 8

3. Take out the parts upper and inside the column, move them beside the installation site.
See **Fig.9**

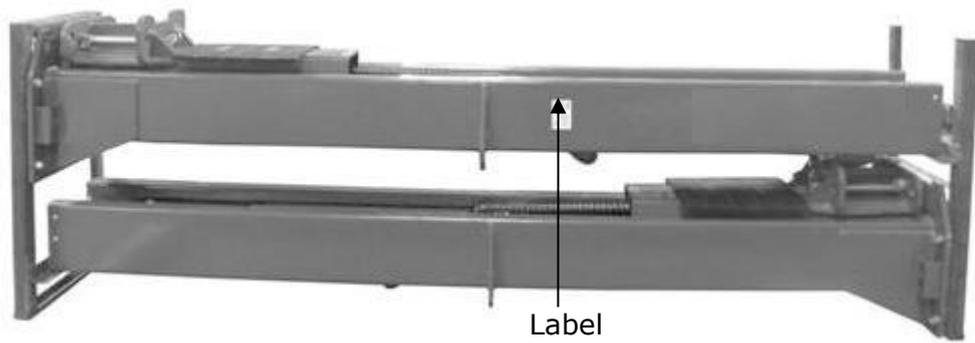


Fig. 9

4. Loosen the screws of the upper package stand, take off the upper column and remove the package stand.
5. Move aside the parts and check the parts according to the shipment parts list (**See Fig. 10,11**)

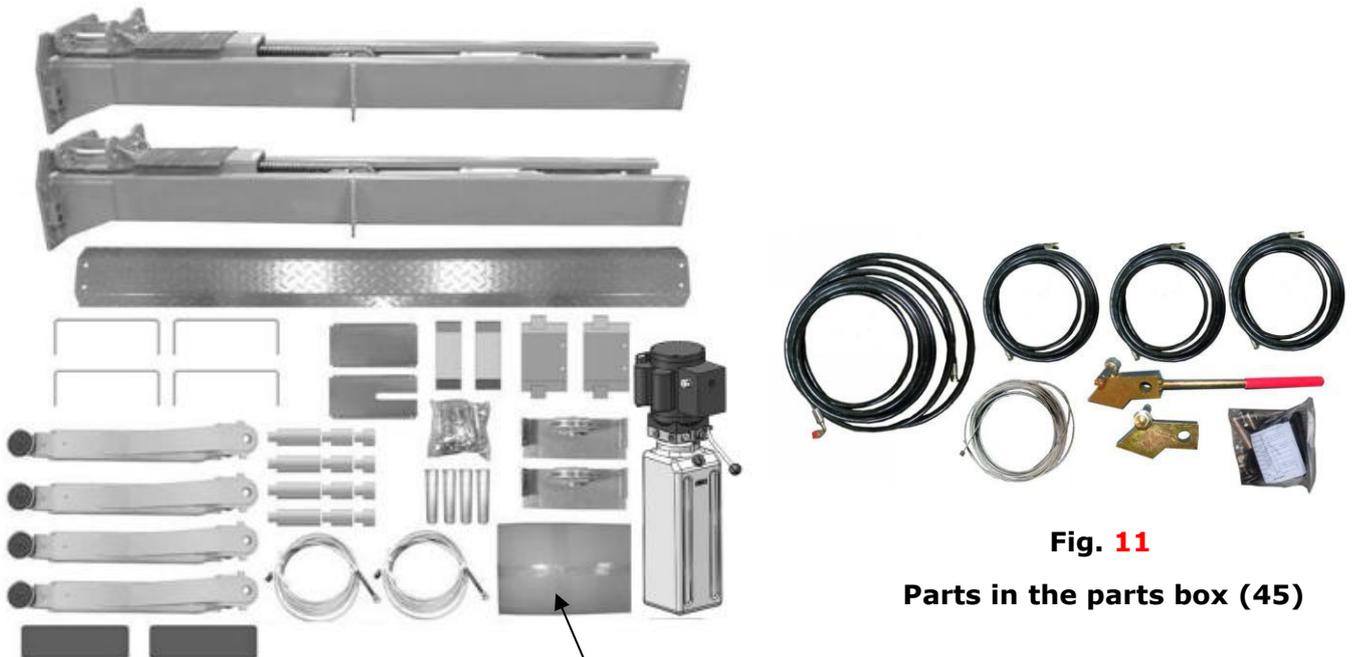


Fig. 11

Parts in the parts box (45)

Parts in the shipment parts list

Fig. 10

6. Open the parts bag and check the parts according to parts box list (**See Fig. 12**).

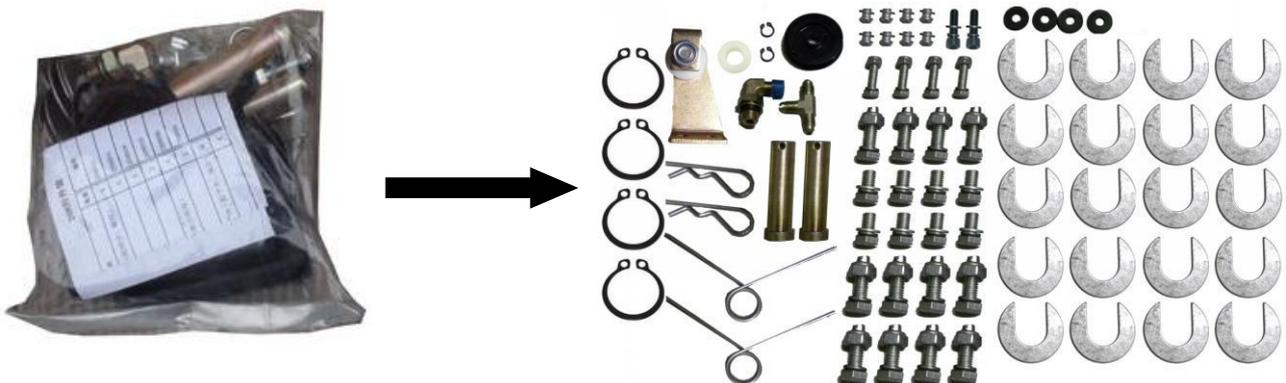
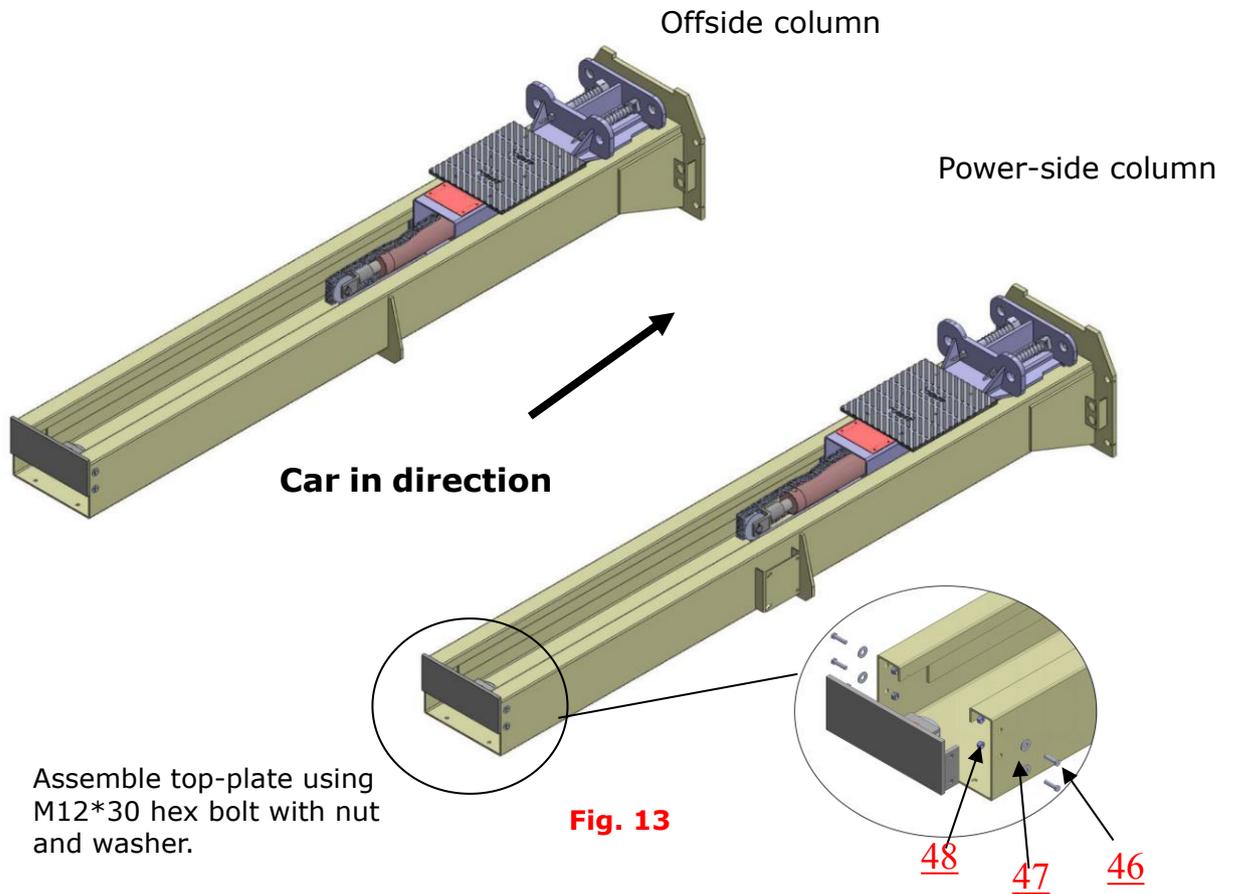


Fig. 12

D. 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. Then install the top plate (**See Fig. 13**).



E. Position columns and install anchor bolts (See Fig. 14)

Check the columns plumbness with level bar, and adjusting with the shims if the columns are not vertical. Anchor bolts should not be tightened.

Note: Lifts are designed to two level width, install according to customer's needs

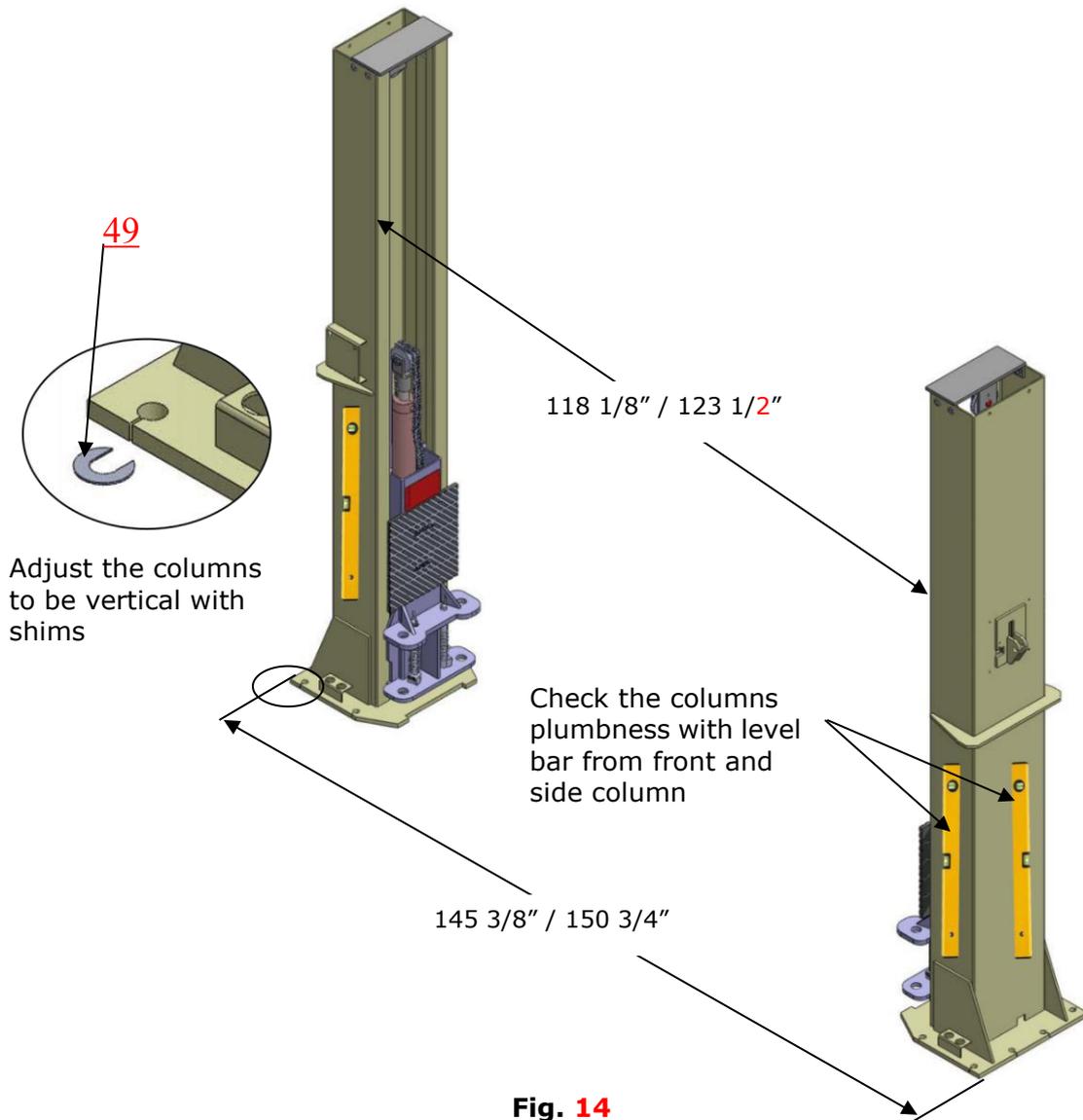


Fig. 14

F. Install anchor bolts

1. Prepare the anchor bolts (See Fig.15)

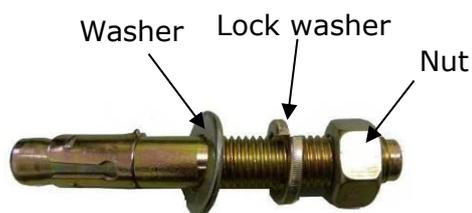


Fig. 15

2. Using the prescribed rotary hammer drill, drill all the anchor holes and install the anchor bolts. Then tighten the anchor bolts (**See Fig. 16**).

Note: Torque of Anchors is 150N.m. Minimum embedment of Anchors is 5-1/2".

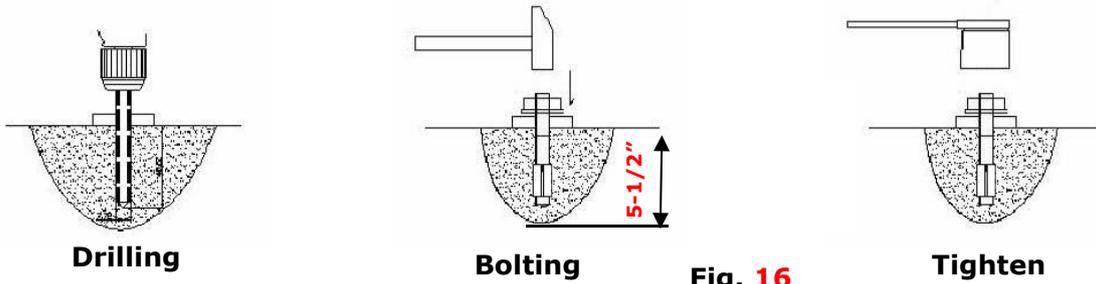


Fig. 16

G. Install safety Lock (See Fig. 17&18)

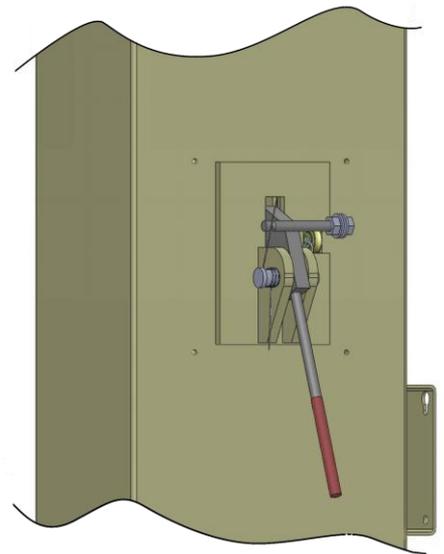
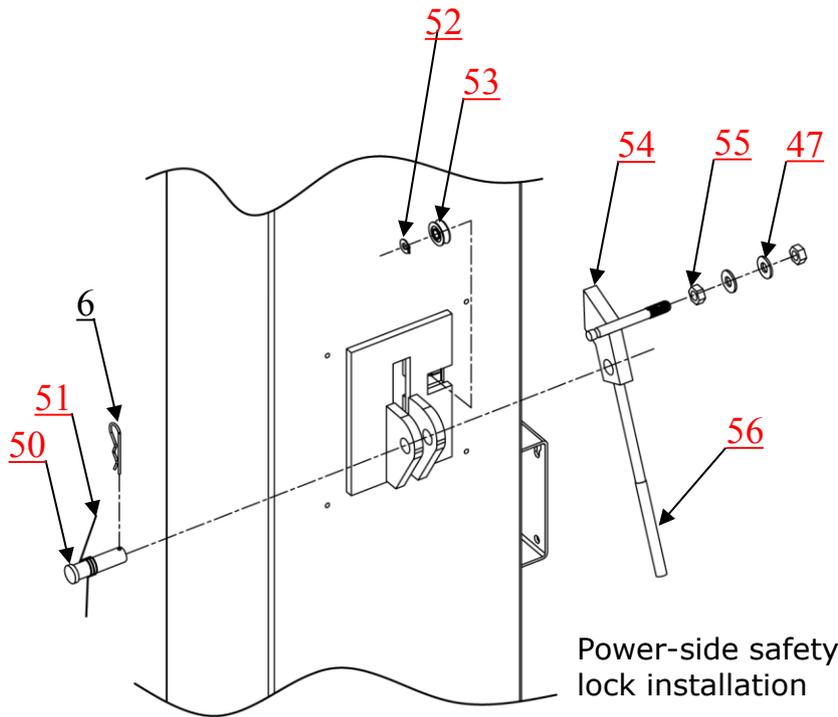


Fig. 17

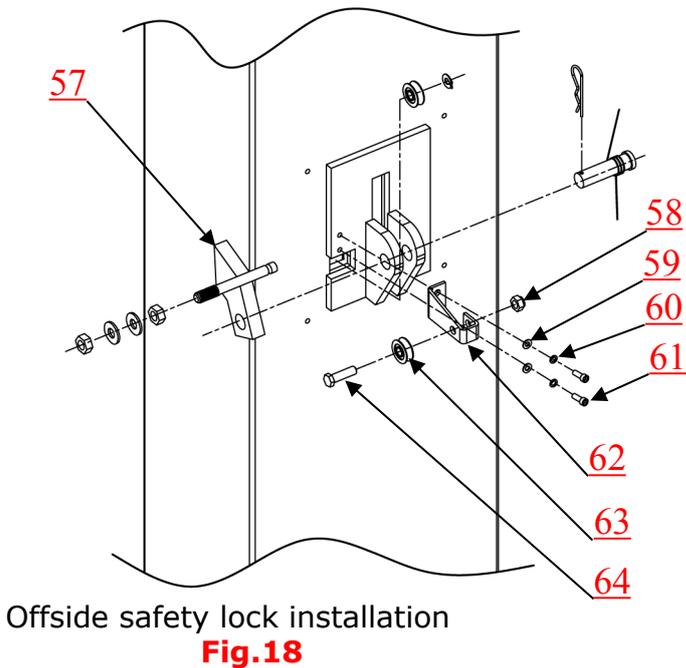
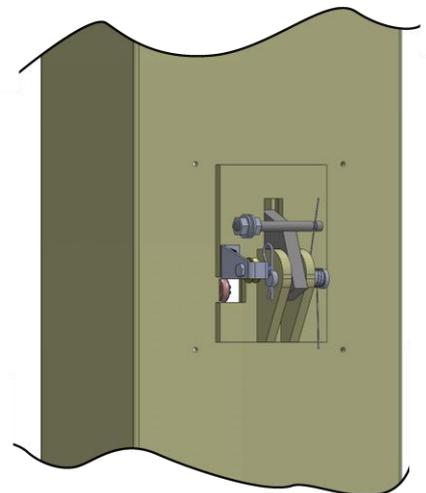


Fig.18



H. Lift the carriages up by hand and make them be locked at the same level (See Fig.19).

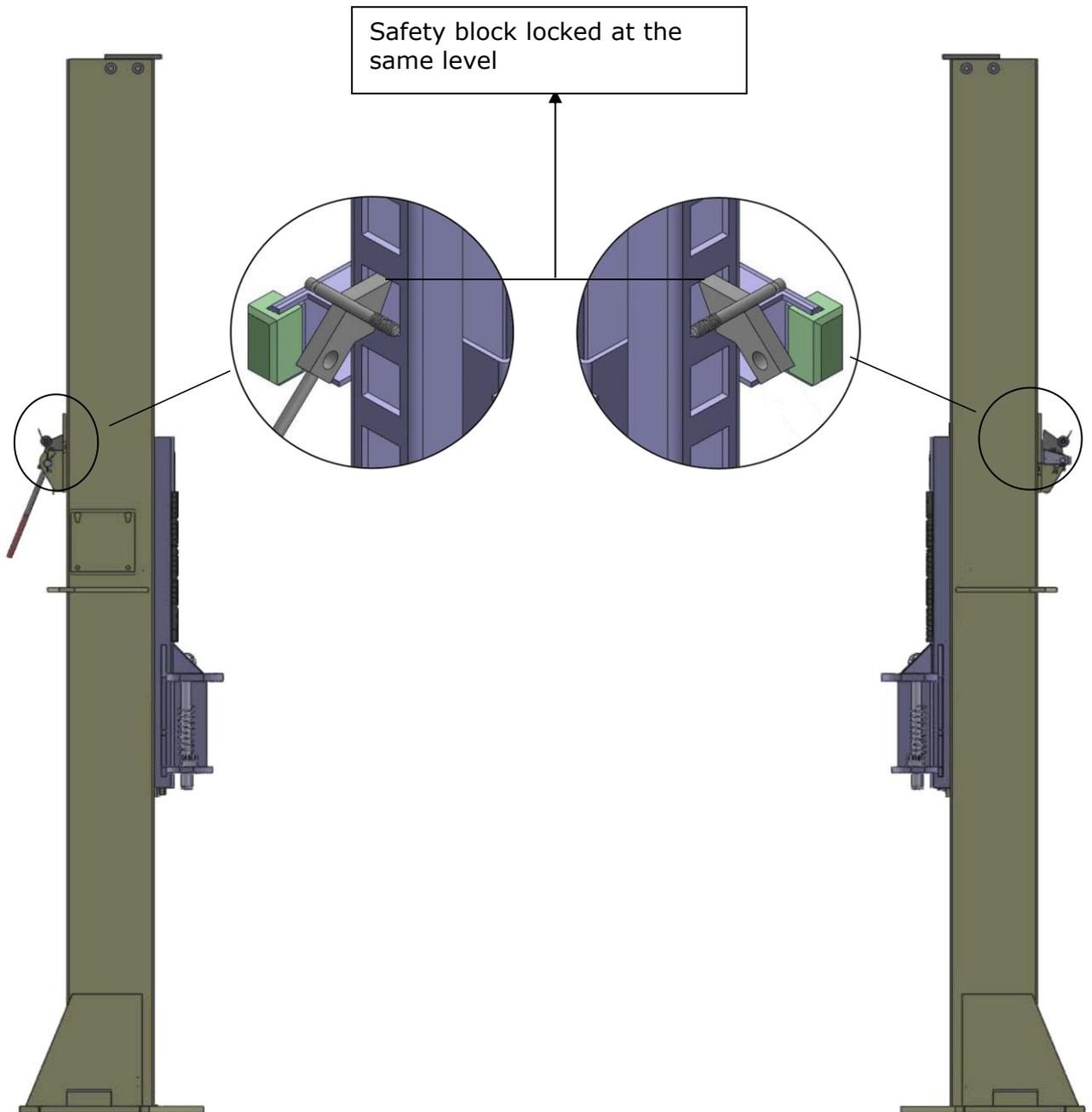
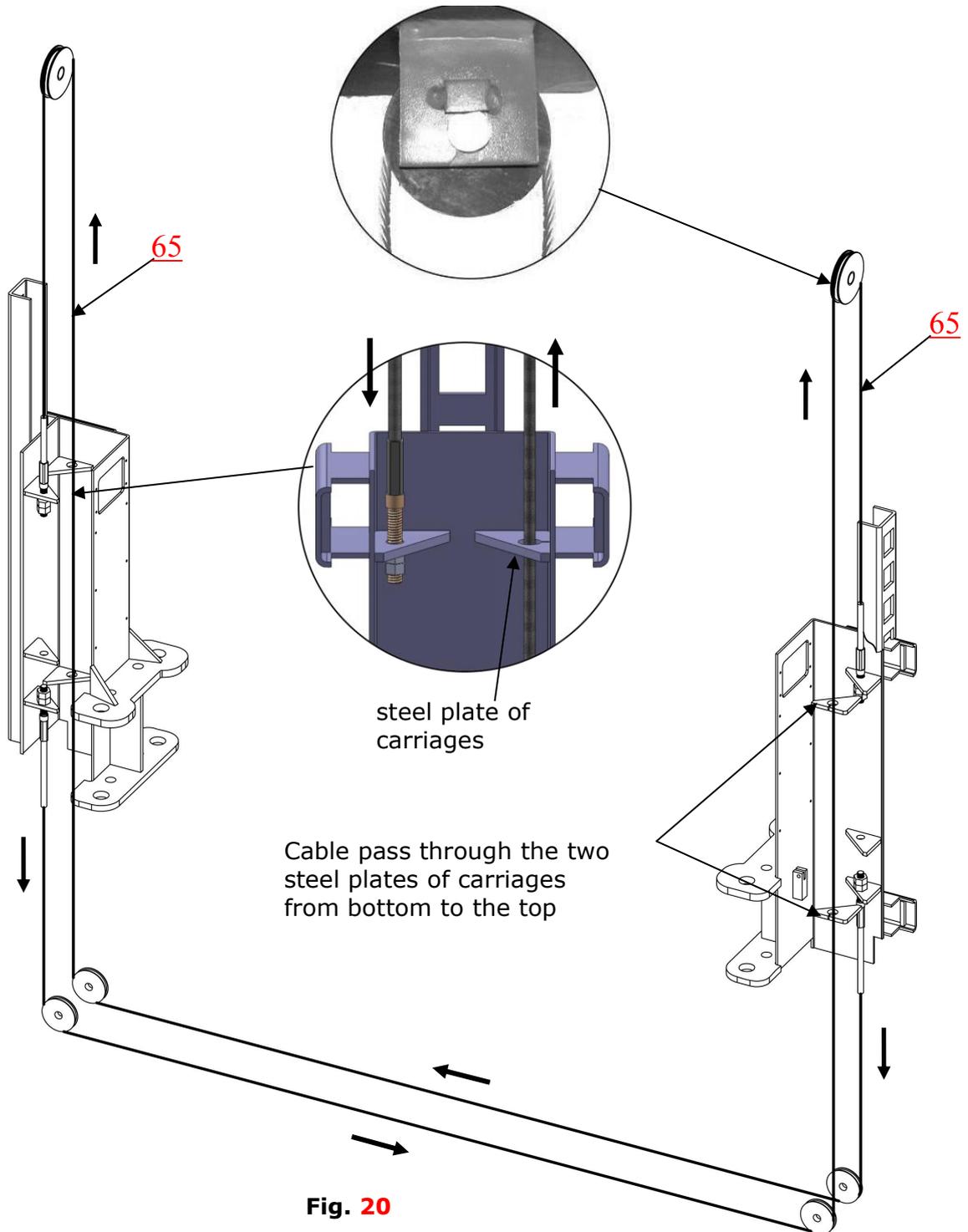


Fig. 19

I. Connecting cables (See Fig. 20)

1. Select the width of the foundation according to step E (**Fig.14**) and select the width of the foundation size 150-3/4" to install the cable (**see Fig.20**)

Note: Cable pass through from one carriage to another must be passed through the hole of the bottom steel plate of carriages



2. Select the width of the foundation according to step E (**Fig.14**) and select the width of the foundation size 145-3/8" vzto install the cable.(**Fig.21&Fig22**)

2.1. Cable go through from bottom to the top, tighten the two cable nuts when it pass through the opening of the carriage. (Fig.21)

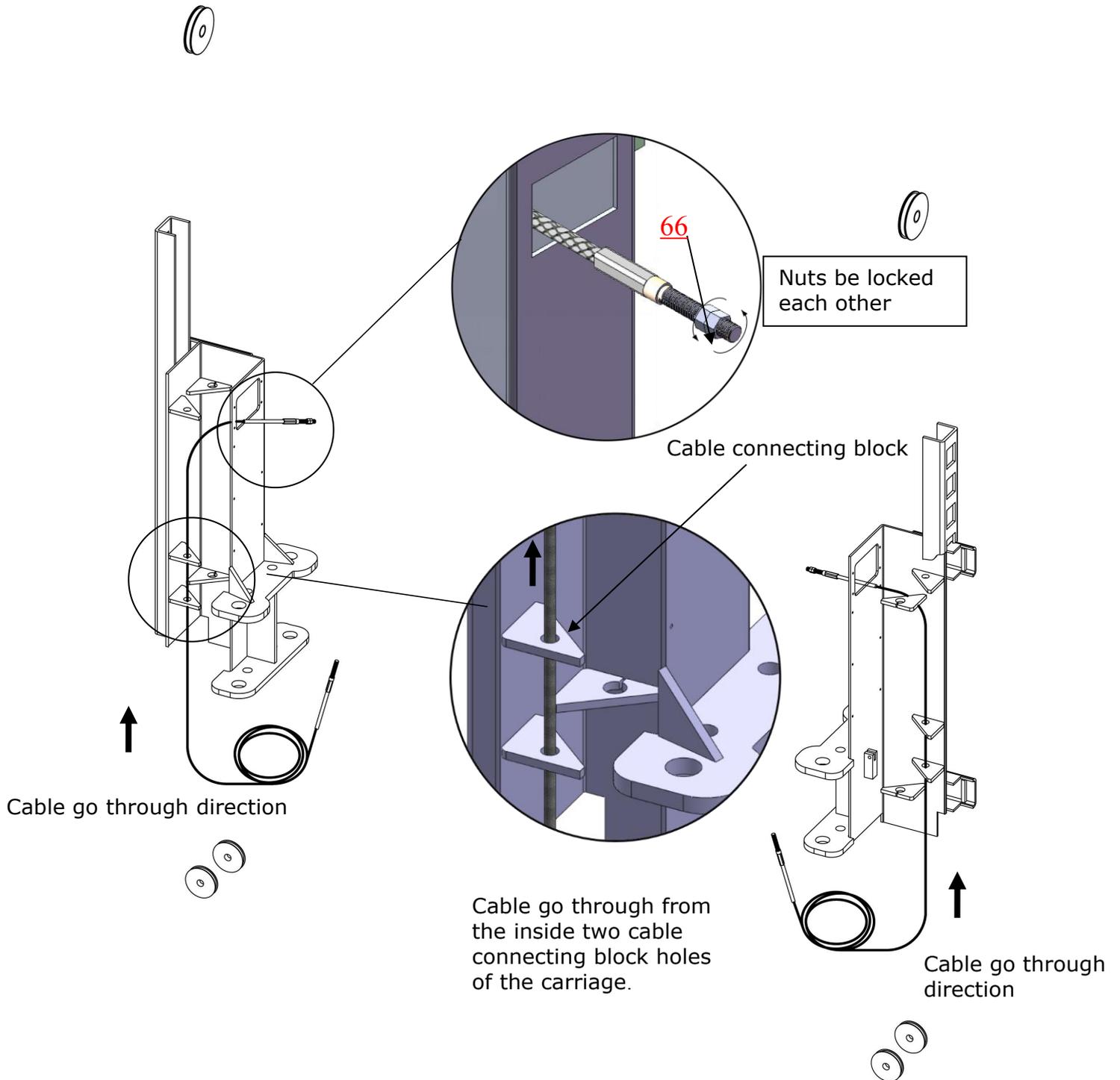


Fig. 21

2.2 Foundation size 145 3/8" cable installation diagram.

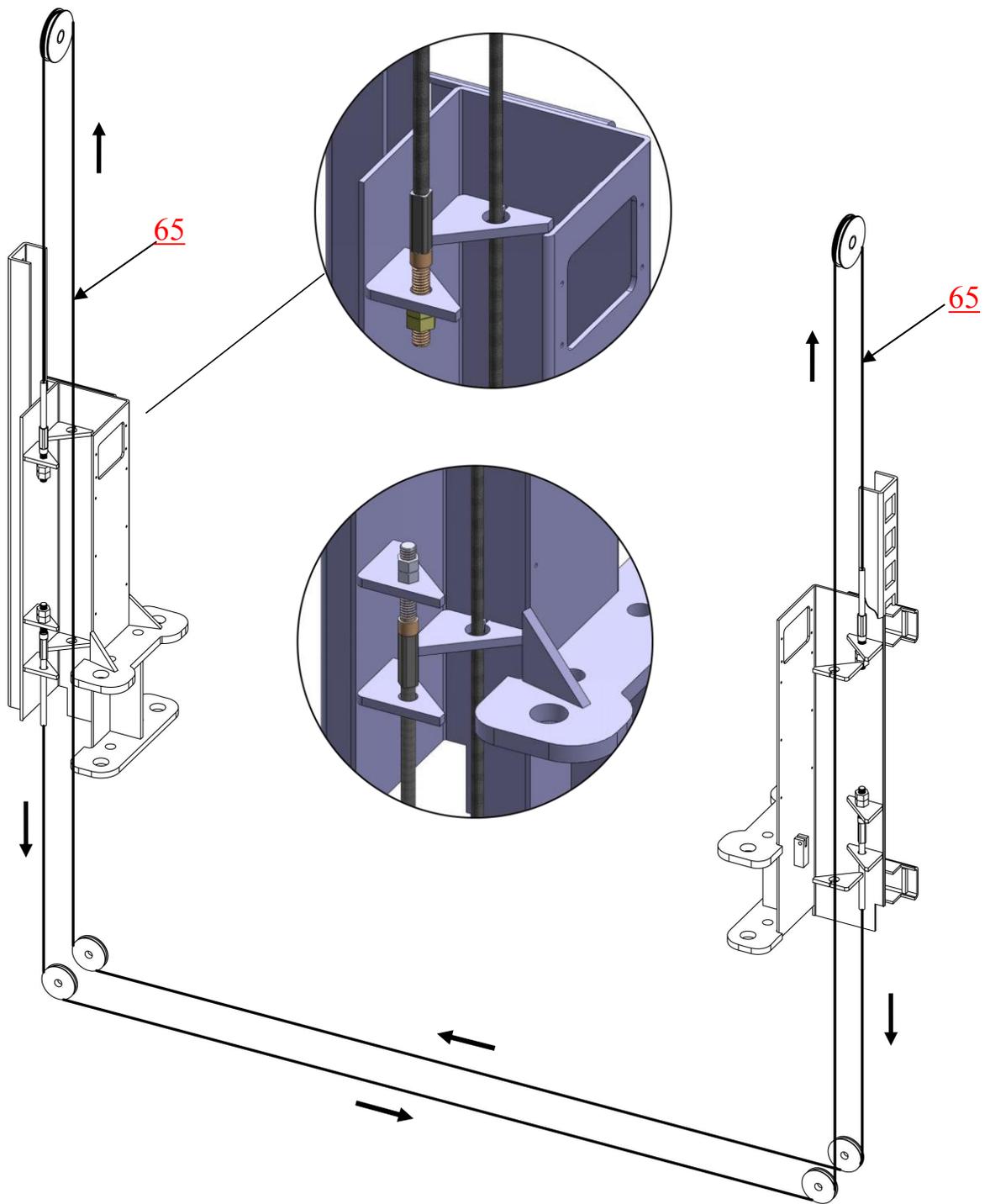


Fig. 22

J. Install safety cable, see Fig.23

NOTE: 1. Assemble safety cable from offside safety assy.

2. Pay attention to the connecting direction of safety cable.

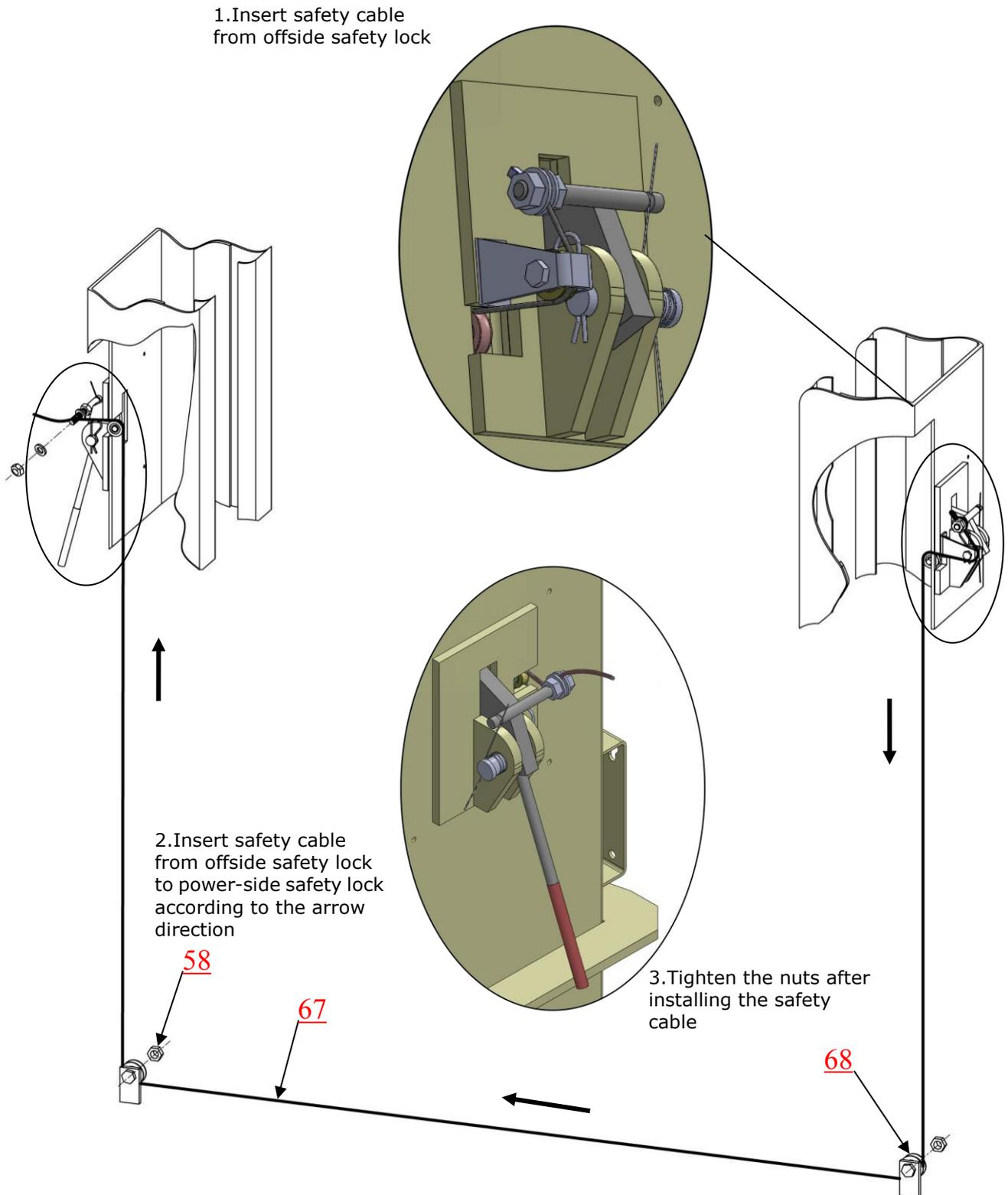
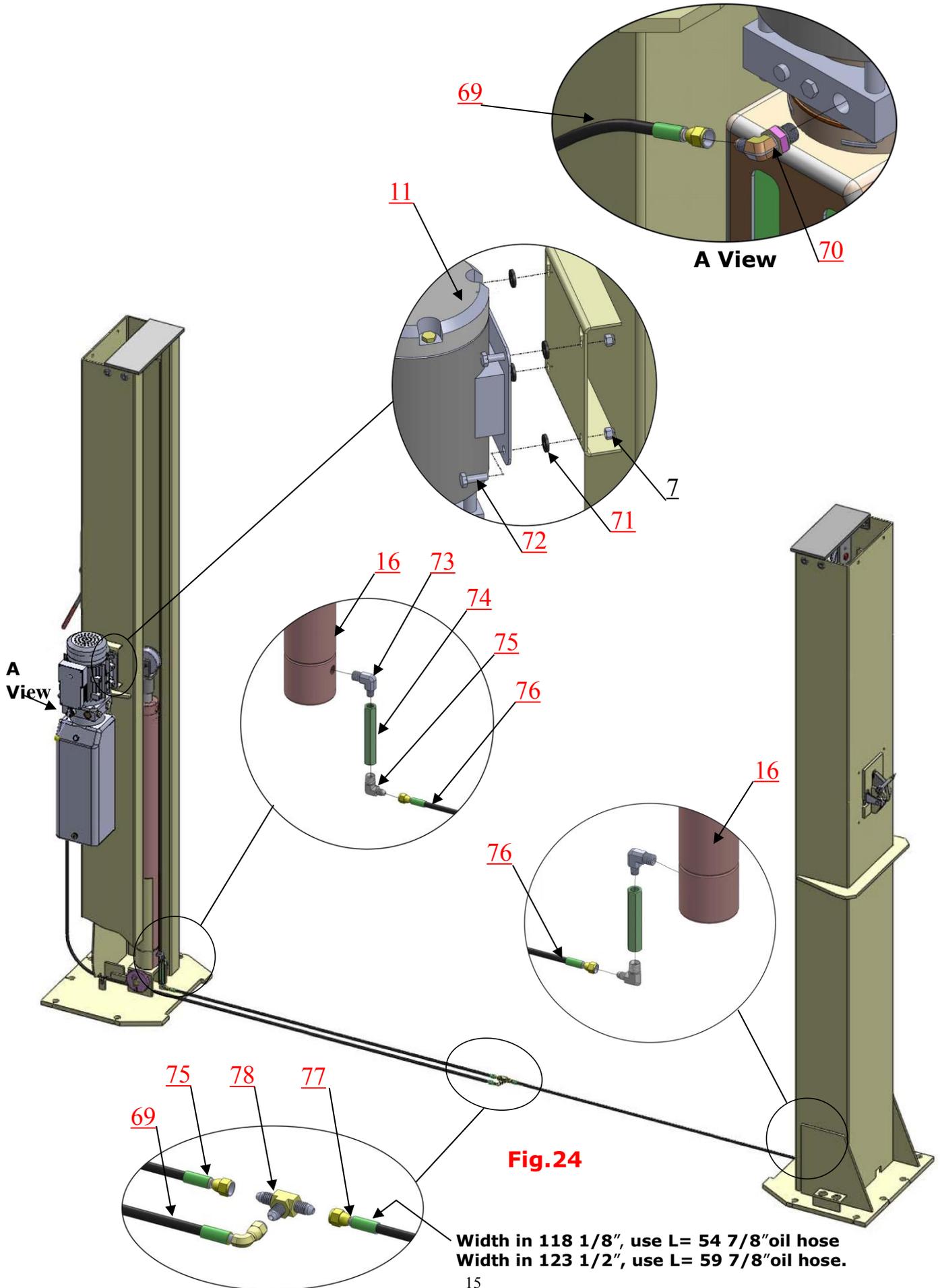


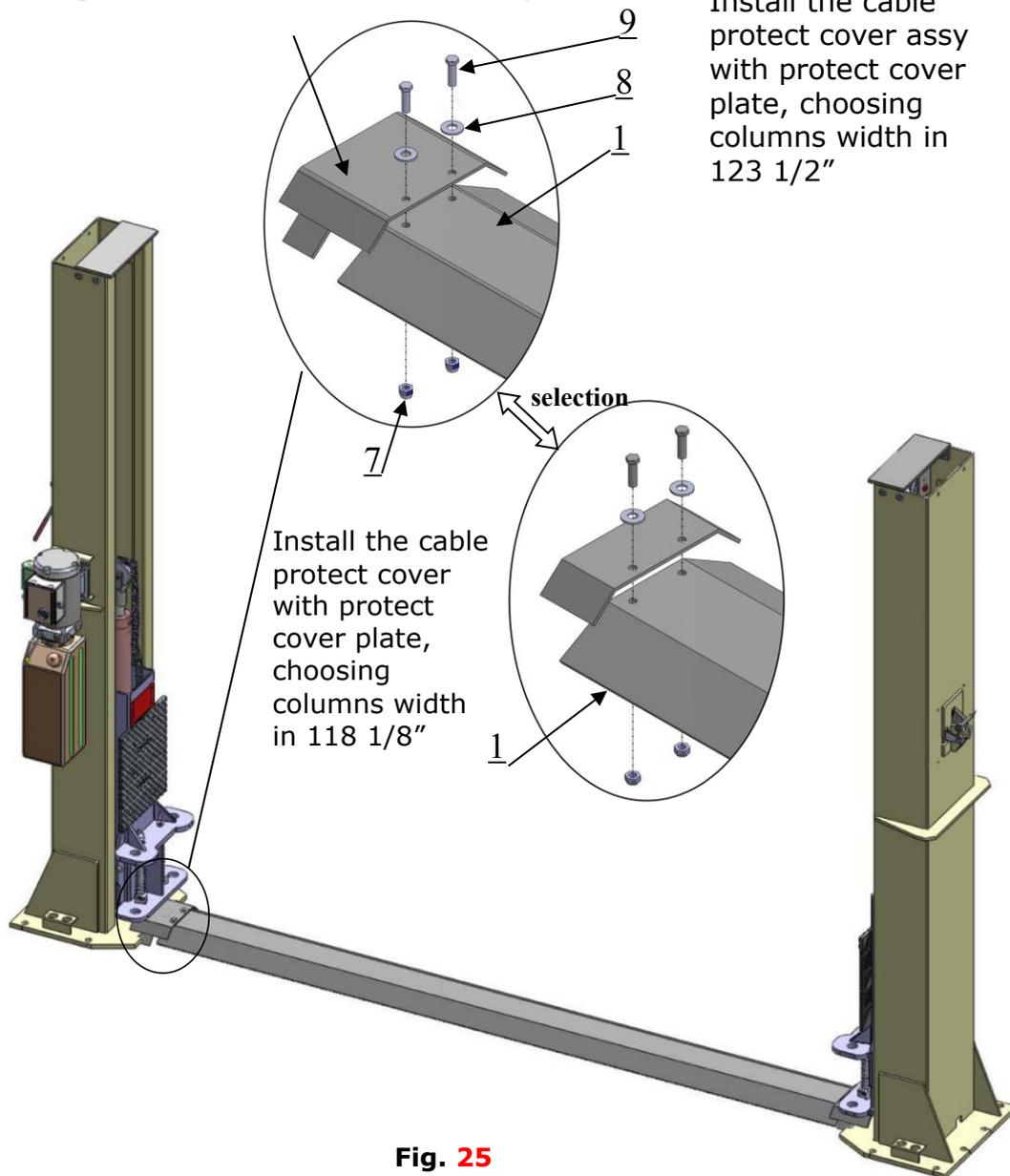
Fig.23

K. Install power unit and oil hose (See Fig. 24)



L. Install protect cover (see Fig.25)

Note: Install cable protect cover or cable protect cover assy with connecting protect cover according to the foundation width of step 5



M. Install lifting arms

1. After Installing the lifting arms (See Fig. 26) Lowering the carriages down to the lowest position, then use the 8# wrench to loosen the nut of the fixed gear (See Fig. 27). adjust the gear according to the arrow direction(see Fig.28), tighten the screws until the gear and rack mesh in good condition (see Fig.29)

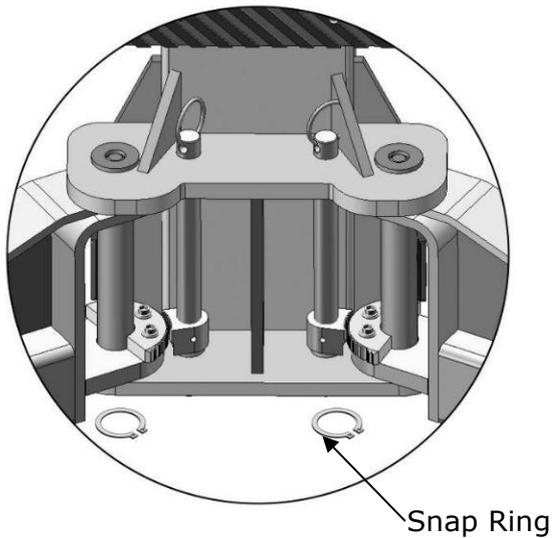


Fig. 26

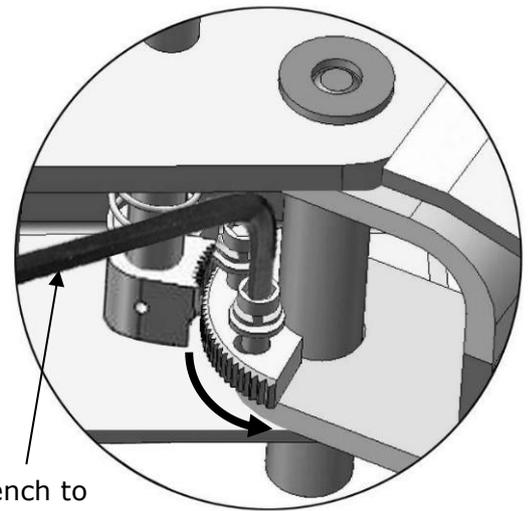
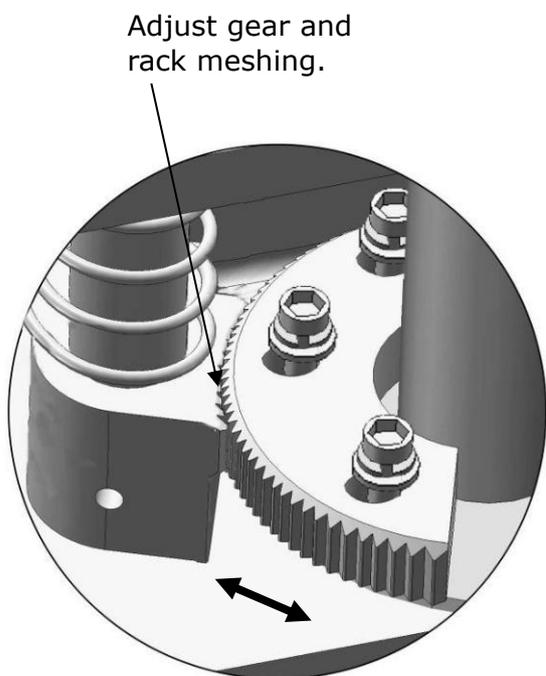


Fig. 27



Lock the screws by wrench after the gear and rack are in good meshing condition

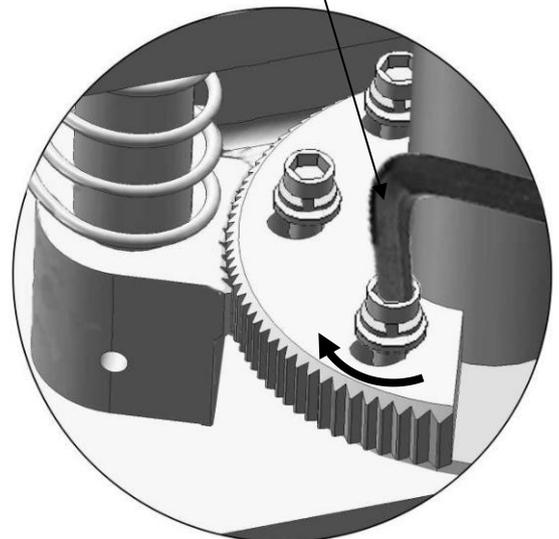


Fig. 28

2. Install lifting arm guardrails

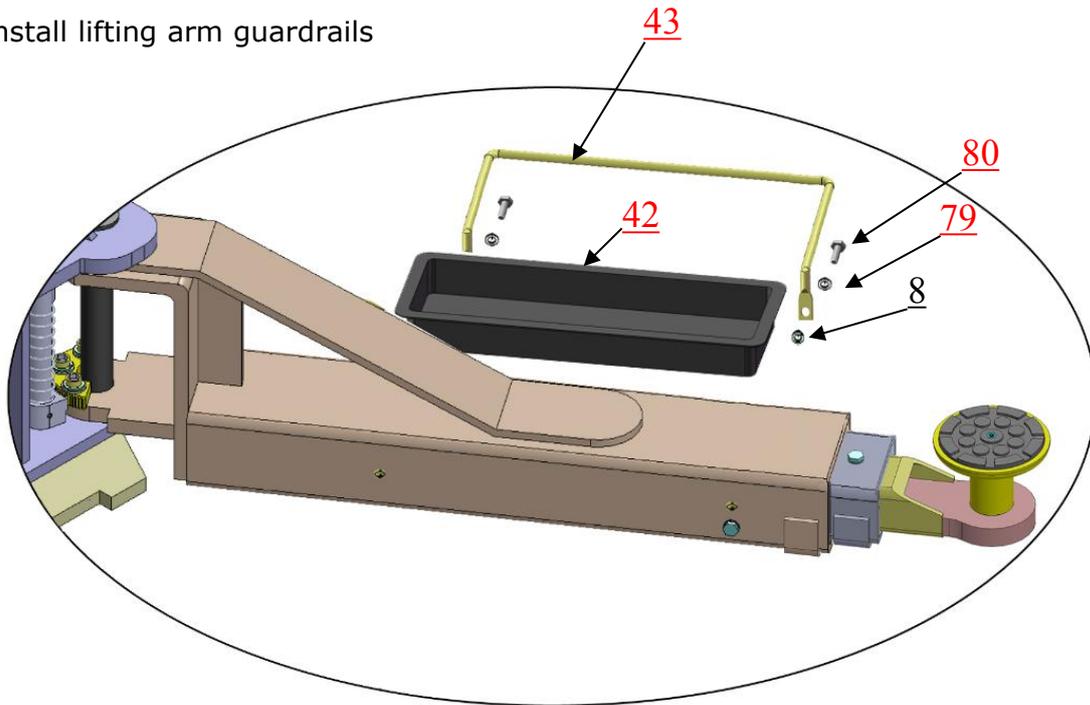


Fig. 29

M. 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#.

O. Install Electrical System Connect the power source on the data plate of power unit.

Note: 1. For the 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 220V (See Fig. 30).

1.1 circuit diagram

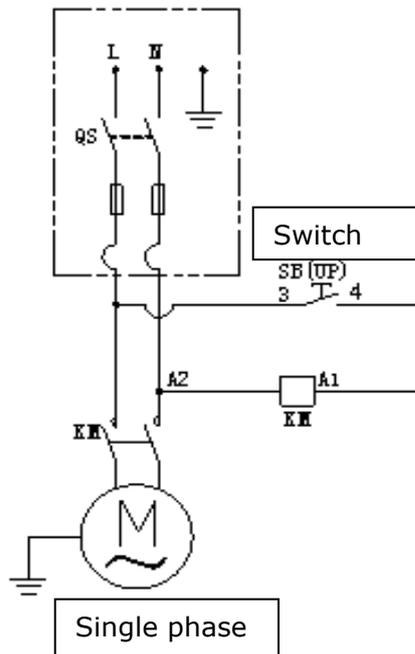


Fig. 30

1.2 Wire connection steps (see Fig.31)

1. Connecting the two power supply wires (active wire **L** and neutral wire **N**) to terminals of AC contactor marked **L1**, **L2** respectively.
2. Switch (3#) connect with terminals of AC contactor marked **L1**. Terminals A1 connected with terminals of switch 4#

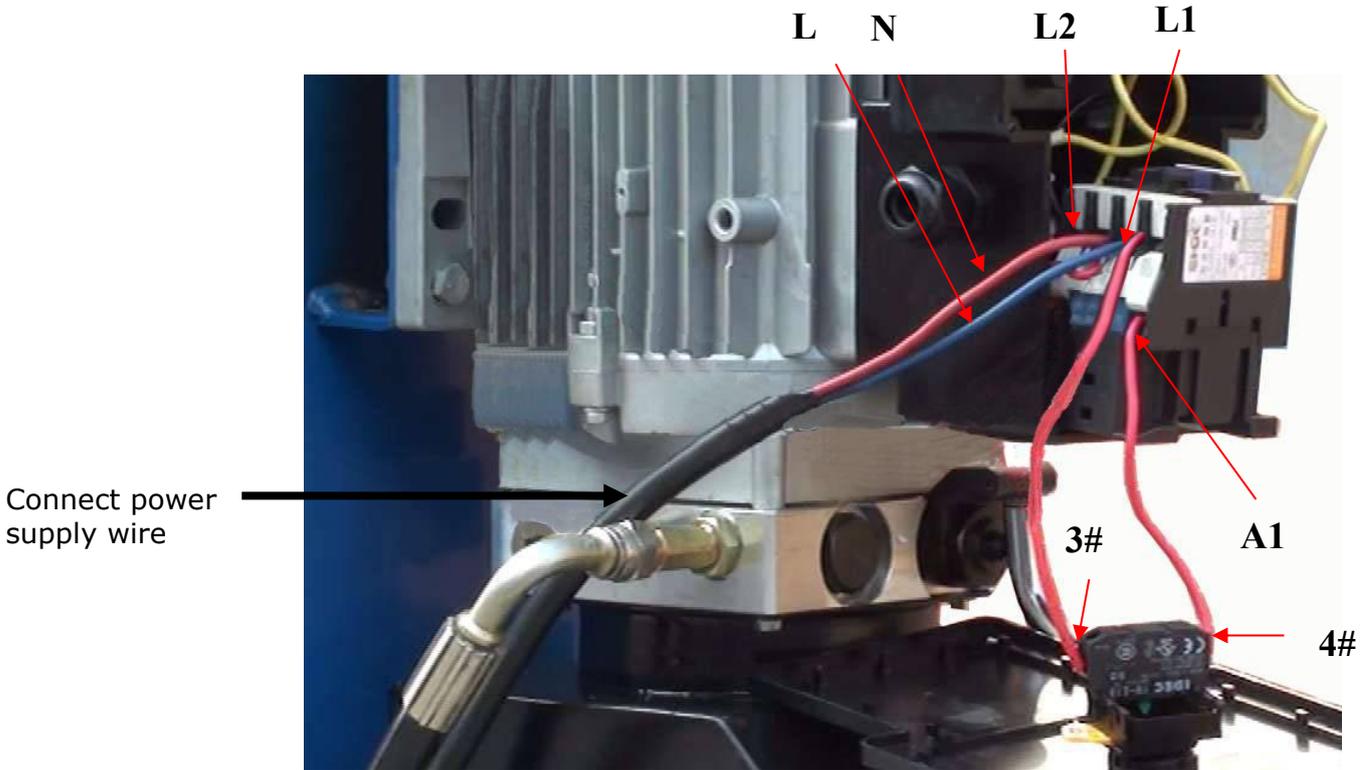


Fig. 31

1.3 Wire connection diagram (see Fig.32)

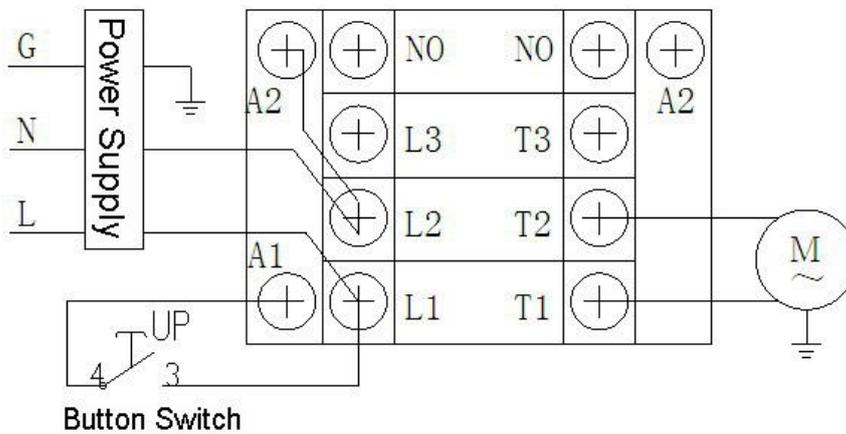


Fig. 32

IV. EXPLODED VIEW

Model BP-12

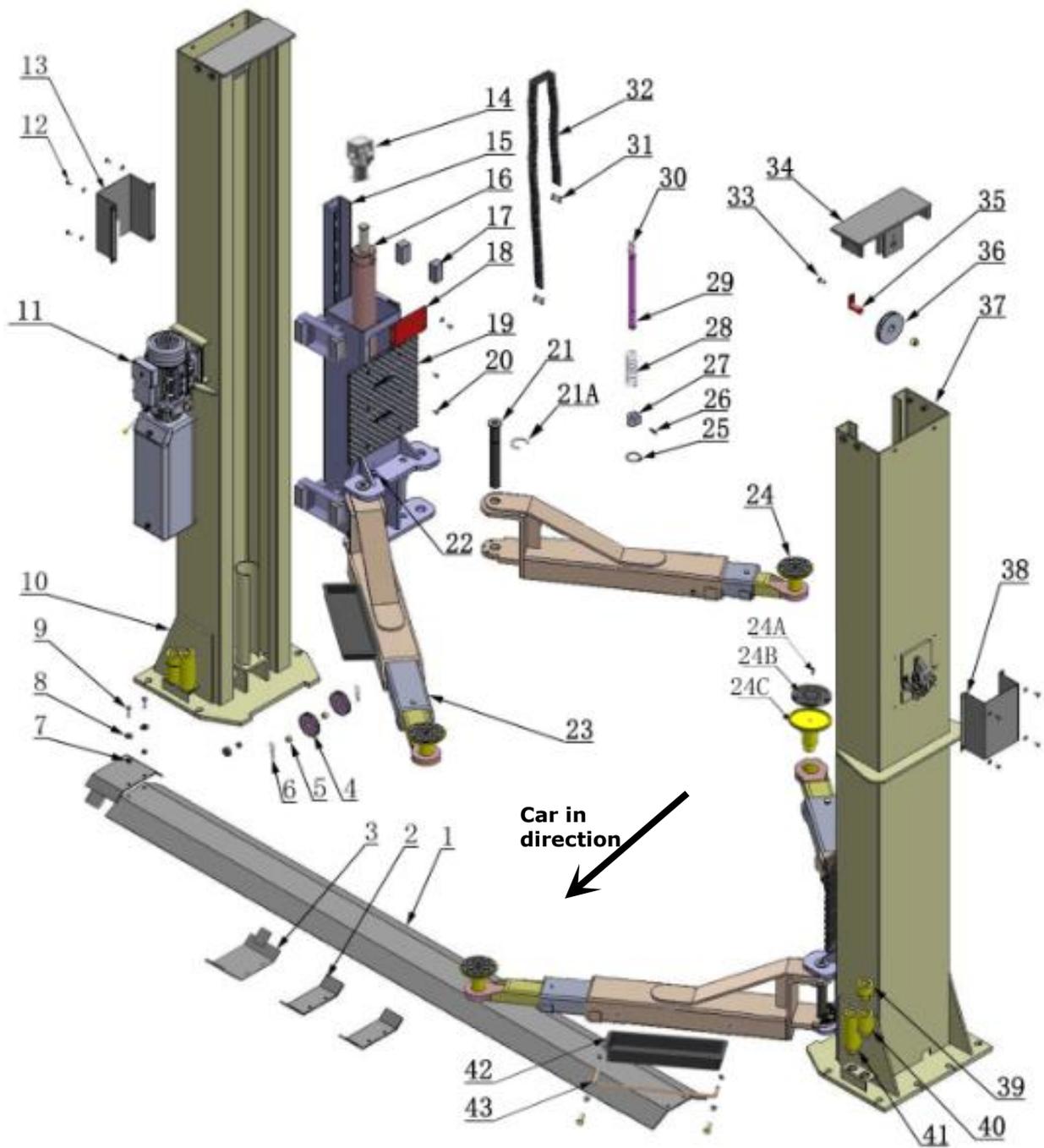


Fig. 33

PARTS LIST FOR Model BP-12

Item	Part#	Description	Qty	Item	Part#	Description	Qty
1	11207001	Protect Cover	1	40	11209052B	Stackable Adapter(2.5 ")	4
2	11207002	Cable Protect Cover	2	41	11209053B	Stackable Adapter(5 ")	4
3	11207003	Cable Protect Cover Assy	2	42	10206156	Tool Tray (short)	2
4	11217019	Top Pulley	4	43	11206154	Toe guard (short)	4
5	10217020	Bronze Bush For Pulley	6	44	10207045	Anchor bolt	12
6	10209012	Hair Pin	6	45	10207500A	Parts Box	1
7	10209005	Self locking Nut	8	46	10217069	Hex Bolt	8
8	10209033	Lock Washer	10	47	10206006	Washer	12
9	10209043	Hex Bolt	4	48	10206023	Self locking Nut	8
10	11207053	Power-side Column	1	49	10201090	Shim (1mm)	10
11	071101	Power Unit	1		10620065	Shim (2mm)	10
12	10209009	Cup Head Bolt	12	50	11206002	Safety Block Pin	2
13	11207005	Main Safety Block Cover	1	51	10209007A	Torsional spring	2
14	11207681	Chain pulley support assy.	2	52	10209010	Snap Ring	2
15	11207009A	Lifting carriage	2	53	10209011	Plastic Small Pulley	2
16	10207010	Cylinder	2	54	11207019	Power-side Safety Lock	1
17	10217188	Slider Block	16	55	10206023A	Hex Nut	4
18	11207047	Carriage Plastic Cover	2	56	10206003A	Handle Gun Cover	2
19	10217053	Rubber Protect Block	2	57	11207020	Offside Safety Lock	1
20	10209019	Screw	12	58	10209056	Self locking Nut	3
21	11217047B	Lifting arms Pin	4	59	10420045	Lock washer	14
21A	10520023	Snap Ring	4	60	10209149	Spring Washer	2
22	11217046C	Arm Lock bar (Right)	2	61	10207021	Socket Bolt	1
23	10207062	Lifting Arm Assy.	4	62	11217029	Pulley Support	1
24	10217114A	Rubber Pad Assy	4	63	10206009	Plastic small Pulley	1
24A	10420138	Socket Bolt	4	64	10209046	Hex Bolt	1

Item	Part#	Description	Qty	Item	Part#	Description	Qty
24B	10420138	Rubber Pad	4	65	10207022	Cable Assy. L=8400mm	2
24C	11680030C	Rubber Pad Frame	4	66	10209066	Cable Nut	8
25	10206032	Snap Ring	4	67	10206065	Safety cable Assy. L=7450mm	1
26	10206036	Hair Pin	4	68	10209049	Plastic black pulley	2
27	11217044	Rack	4	69	10207023	Oil hose	1
28	10217045A	Compressed spring	4	70	10209060	90° Fitting	1
29	11217046B	Arm Lock bar (left)	2	71	10209004	Rubber ring	4
30	11209153	Rack Handle ring-pull	4	72	10209003	Hex bolt	4
31	10201010A	Connector	4	73	10207024	90° Fitting	2
32	10207015	Chain	2	74	10207035	Extended Straight fitting	2
33	10209038	Hex Bolt	2	75	10420097	90° Fitting	2
34	11207016	Top Plate Assy	2	75	10207026	Oil hose	2
35	11217037	Base pulley pin	2	77	10207034	Oil hose	1
36	11217036	Big Pulley	2	78	10211016	T fitting	1
37	11207054	Offside column	1	79	10209034	Spring Washer	8
38	11207018	Offside Safety Lock Cover	1	80	10201002	Hex Bolt	8
39	11209051B	Stackable Adapter(1.5 ")	4				

4.1 Lifting arm (10207062) exploded view

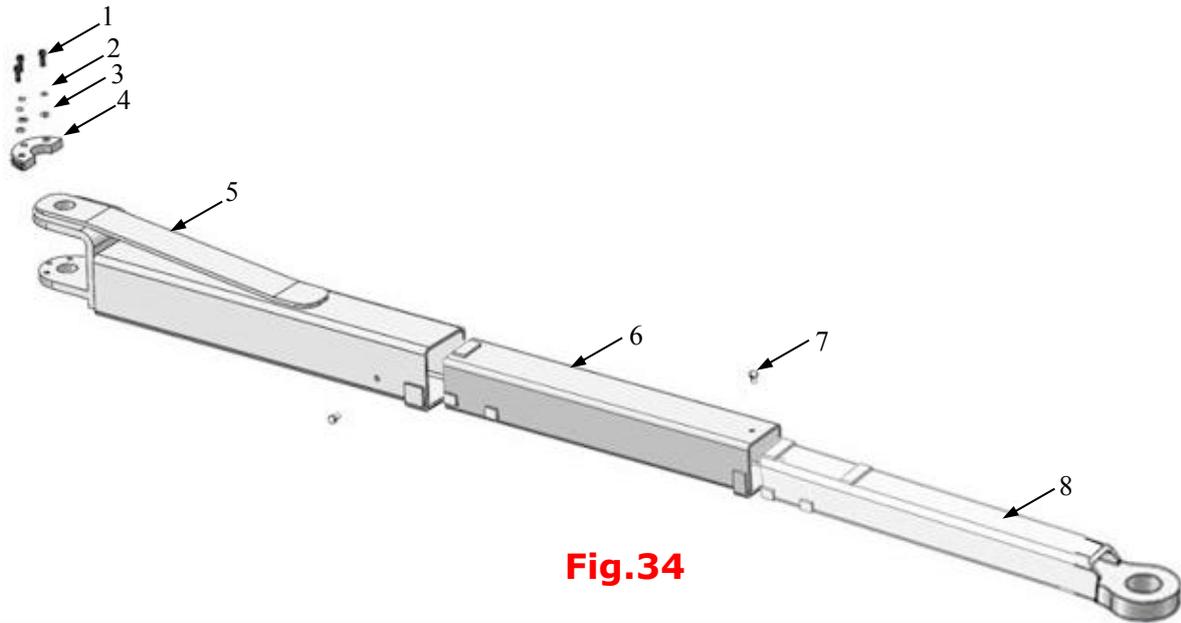


Fig.34

No	Part	Description	QTY	No	Part	Description	QTY
1	10206048	Socket bolt	12	5	11207012A	Outer arm	4
2	10209039	Lock washer	12	6	11217337	Middle arm	4
3	10209022	Washer	12	7	10201149	Cup Head Bolt	8
4	11206049	Moon gear	4	8	11217836	Inner Arm	4

4.2 Chain pulley seat assy. (11207681) exploded view :

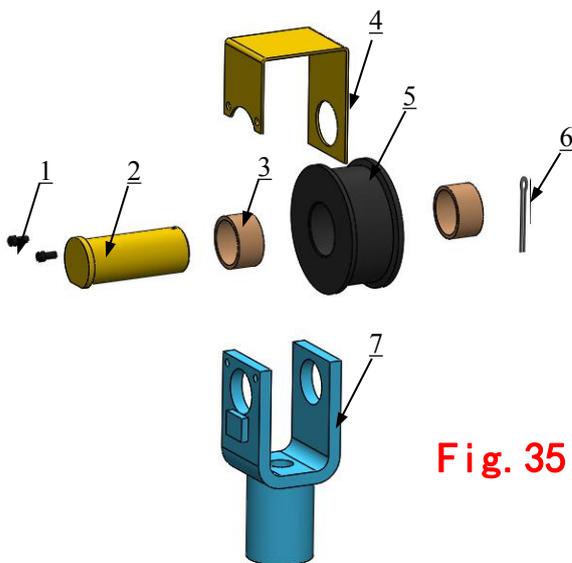


Fig. 35

Item	Part#	Description	QTY
1	81400335	Socket bolt	4

2	11207006	Pin for chain pulley	2
3	10420132A	Bronze bush for chain pulley	4
4	11207693	Chain stop plate	2
5	11207007	Chain Pulley	2
6	10201005	Split pin($\phi 4*50$)	2
7	11207008	Chain pulley seat	2

4.3 Cylinder (10207010) exploded view

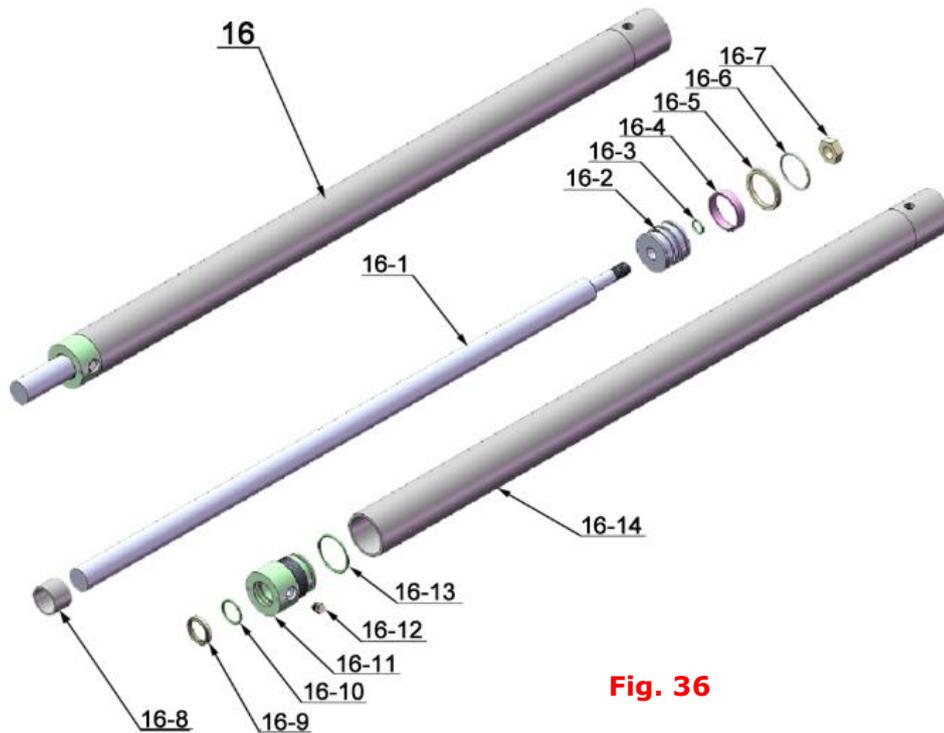
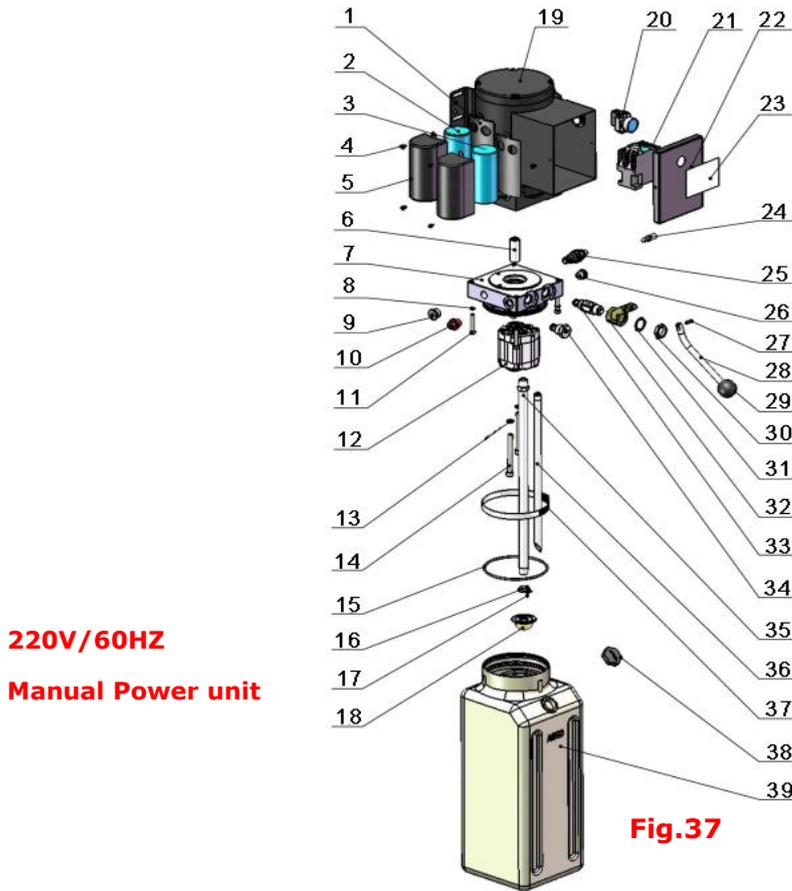


Fig. 36

Item	Part#	Description	Qty.	Item	Part#	Description	Qty.
16-1	11207027	Piston Rod	2	16-8	10207029	Adjustment Tube	2
16-2	11207028	Piston	2	16-9	10217078	Dust Ring	2
16-3	10206069	O-Ring	2	16-10	10520058	O-Ring	2
16-4	10620053	Support Ring	2	16-11	11207030	Head Cap	2
16-5	10620054	Y-Ring	2	16-12	10201034	Bleeding Plug	2
16-6	10630027	O-Ring	2	16-13	10207031	O-Ring	2
16-7	10206071	Hex Nut	2	16-14	11207032	Bore Weldment	2

4.4 POWER UNIT EXPLODED VIEW(071101)



Item	Part#	Description	Qty	Item	Part#	Description	Qty
1	81400180	Rubber Pad	2	21	41030055	AC connector	1
2	81400130	Starting capacitor	1	22	81400287	Motor terminal box cover	1
3	81400088	Running capacitor	1	23	71111216	AMGO power unit label	1
4	10420148	Cup Head Bolt with washer	4	24	81400560	Throttle valve	1
5	81400066	Cover of Motor Terminal Box	2	25	81400266	Relief valve	1
6	81400363	Motor Connecting Shaft	1	26	81400284	Inner hex iron plug	1
7	090106	Manifold block	1	27	10720118	Hair pin	1
8	10209149	Washer	4	28	81400451	Release valve handle	1
9	81400276	Iron plug	1	29	10209020	Plastic ball	1
10	81400259	Red rubber plug	1	30	81400421	Release valve nut	1
11	85090142	Socket bolt	4	31	81400422	Shim	1
12	81400280	Gear pump	1	32	81400449	Valve Seat	1
13	10209034	Washer	2	33	070001	Release Valve	1
14	81400295	Socket bolt	2	34	070002	Check Valve	1
15	81400365	O ring	1	35	81400288	Oil suction pipe	1
16	10209152	Ties	1	36	81400289	Oil return pipe	1
17	85090167	Magnet	1	37	81400364	Clamp	1
18	81400290	Filter	1	38	81400263	Oil tank cap	1
19	81400413	Steel Motor	1	39	81400275	Oil tank	1
20	10420070	Push button	1				

Illustration of hydraulic valve for hydraulic power unit

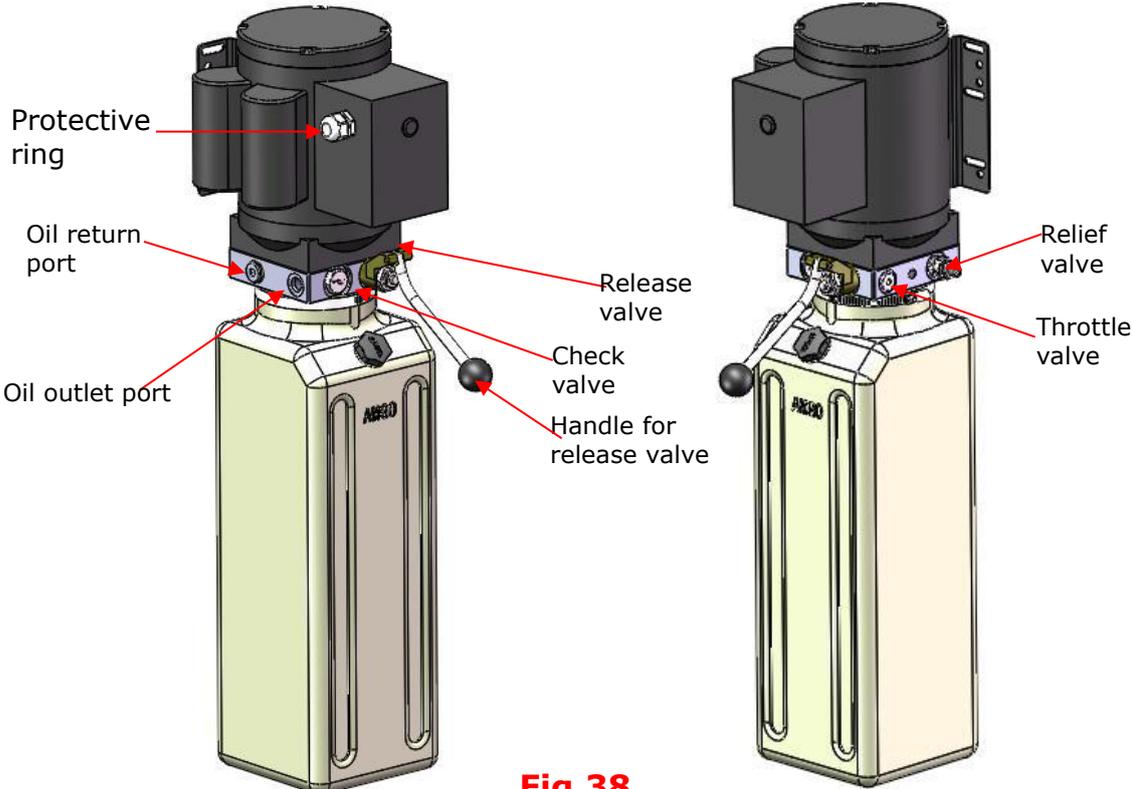


Fig.38

V. TEST RUN

1. Adjust synchronous cable (See Fig. 39)

Press **UP** button to lift the carriage up to the position of the cable nut higher than chain pulley. Use wrench to hold the cable fitting, meanwhile use ratchet spanner to tighten the cable nut. Make sure two cables are in the same tension so that two lifting carriages can work synchronously.

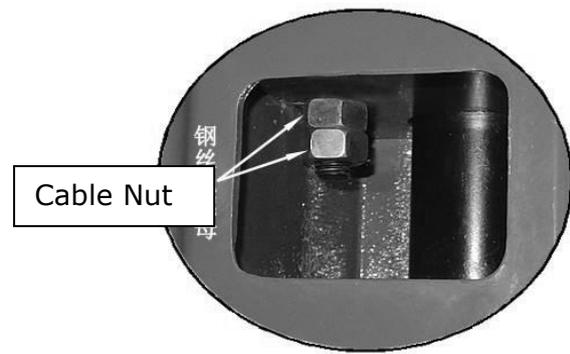


Fig. 39

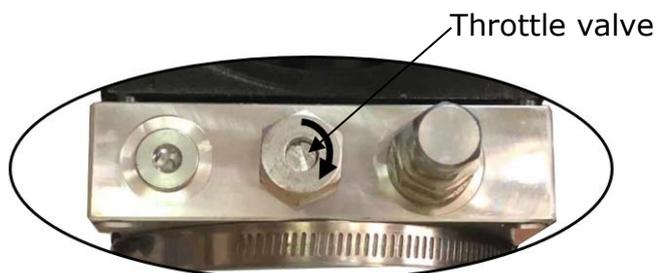
If the carriage does not Synchronize when lifting, please tighten the cable nut of lower side carriage.

2. 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.

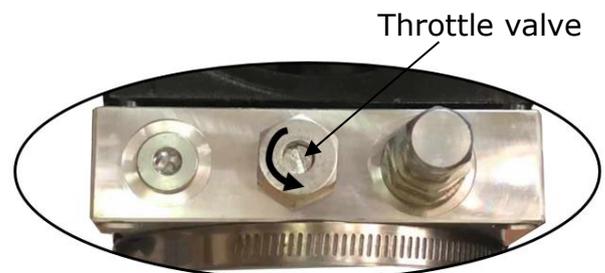
3. Adjust the lower speed

You can adjust the lower speed of the lift if needing: turn the throttle valve clockwise to decrease the lower speed, counterclockwise to increase the lower speed. **(See Fig. 40)**



Clockwise to decrease the lower speed.

Fig.40



Counterclockwise to increase the lower speed.

4. 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 is 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.

Hydraulic Schematic Diagram

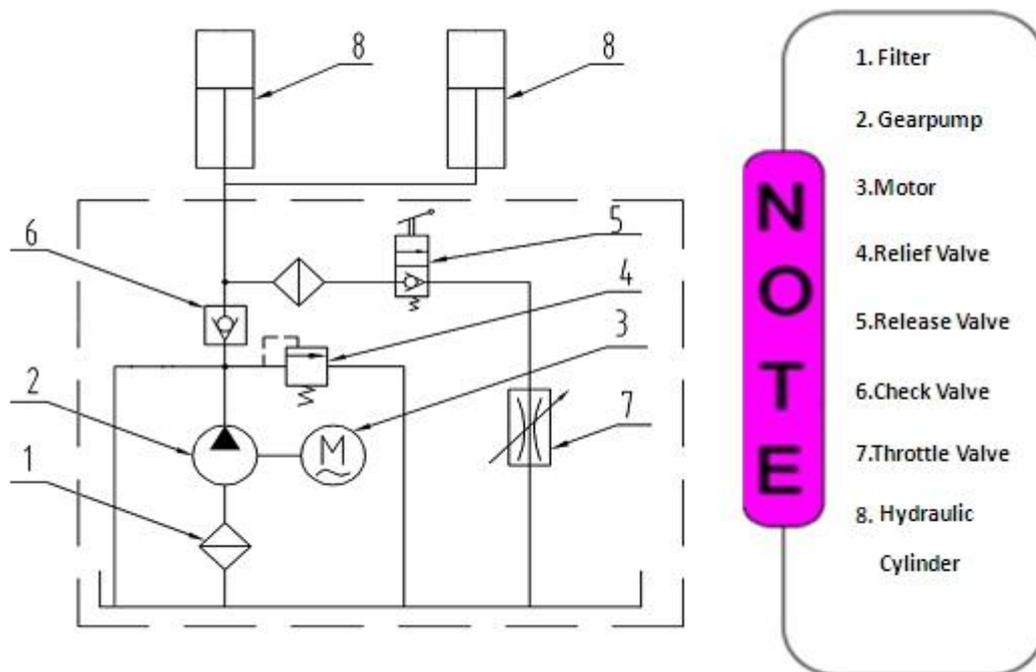


Fig. 41

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 at the same time contact the vehicle's lifting point where manufacturers recommended

7. Push button "**UP**" 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. 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 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 150Nm;
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

TROUBLE	CAUSE	REMEDY
Motor does not run	<ol style="list-style-type: none"> 1. Start Button does not work 2. Wiring connections are not in good condition 3. Motor burned out 4. AC contactor burned out 	<ol style="list-style-type: none"> 1. Replace Start button 2.Repair all wiring connections 3. Repair or replace motor 4. Replace AC Contactor
Motor runs but the lift is not raised	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 1. Release Valve out of work 2. Relief Valve or Check Valve leakage 3. Cylinder or Fittings leaks 	Repair or replace
Lift raises slowly	<ol style="list-style-type: none"> 1. Oil line is jammed 2. Motor running on low voltage 3. Oil mixed with air 4. Gear Pump leaks 5. Overload lifting 	<ol style="list-style-type: none"> 1. Clean the oil line 2. Check Electrical System 3. Fill tank 4. Replace Pump 5. Check load
Lift cannot lower	<ol style="list-style-type: none"> 1. Safety device are locking. 2. Release valve in damage 3. Safety cable broken 4. Oil system is jammed 	<ol style="list-style-type: none"> 1. Release the safeties 2. Repair or replace 3. Replace 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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