

INSTALLATION & OPERATION MANUAL



Atlas PV-12PX 12,000 lb. Capacity Two-Post Overhead Lift



Atlas Automotive Equipment
www.atlasautoequipment.com
(866) 898-2604

Read this entire manual before operation begins.

Record below the following information which is located on the serial number data plate.

Serial No. _____

Model No. _____

Date of Installation _____

———— Contents ————

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Specifications

Clear-Floor Direct-Drive Model Features

Model PV-12PX Features (See Fig. 1)

- Direct drive design, minimizes the lift wear parts and breakdown ratio
- Dual hydraulic cylinders designed and made on ANSI standards utilizing NOK oil seals in the cylinders
- Self lubricating UHMW Polyethylene sliders and bronze bushings
- Single point safety release with dual safety design
- Clear floor design provides unobstructed floor use
- Overhead safety shut off device prevents vehicle damage
- Standard adjustable heights accommodates variety ceiling heights

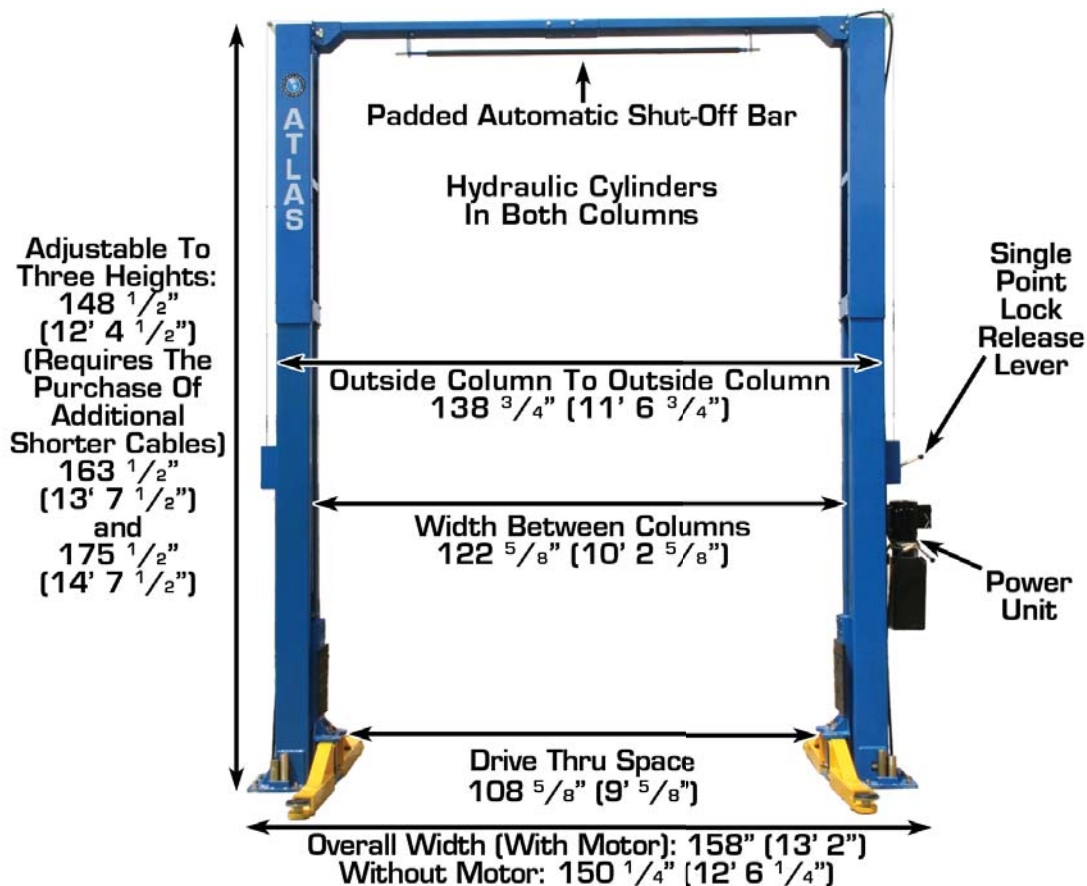


Fig. 1

PV-12PX Specification Chart

Model	Style	Lifting Capacity	Lifting Time	Lifting Height	Overall Height	Overall Width	Width Between Columns	Minimum Pad Height for stackable adapter	Motor
PV-12PX	Clear-Floor Direct-Drive	5.5 T 12,000 lbs	55S	1842-2071mm 72 1/2"-81 1/2"	3812/4192/4497mm 150"/165"/177"	3829mm 150 3/4"	3137mm 123 1/2"	115mm 4 1/2"	2.0 HP

Arm Swings View For Model PV-12PX

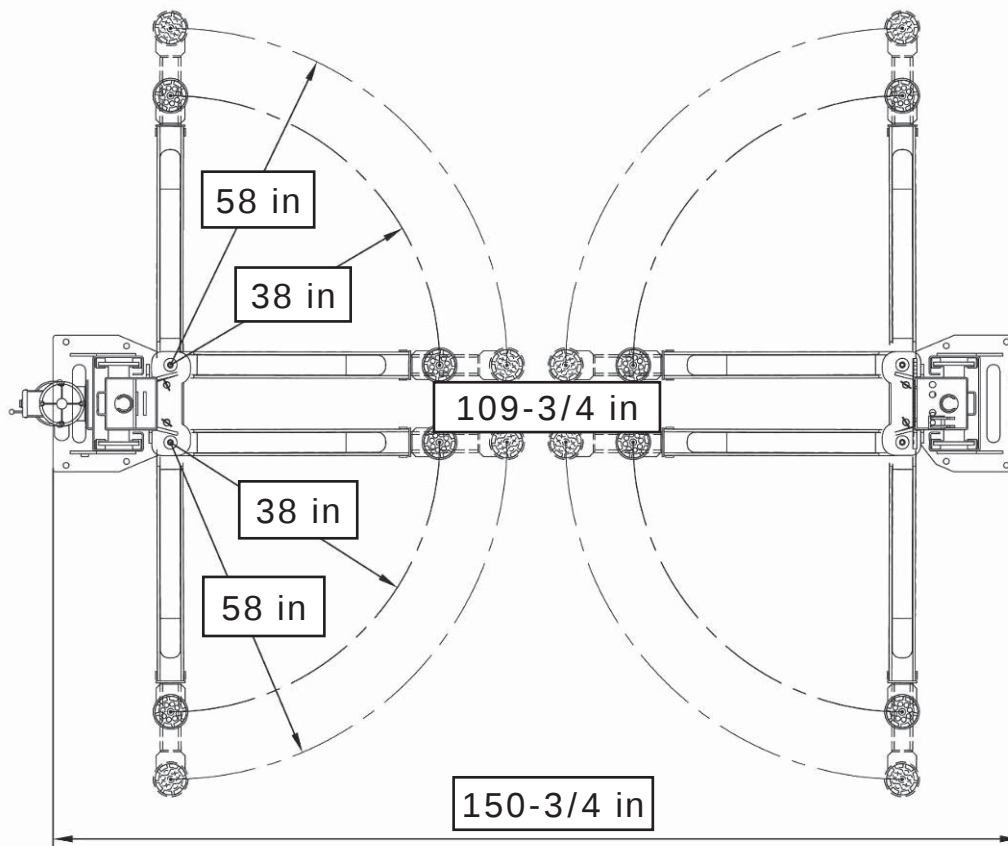


Fig. 2

Installation Requirements

Tools Required

Rotary Hammer Drill (3/4in bit)



Carpenter's Chalk



Hammer



Screw Drivers



4 Foot Level



Tape Measure (25ft)



Crescent Wrench (12")



Pliers



Ratchet & Socket (28mm)



Allen Head Wrench (3mm, 5mm, 8mm)



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



Vise Grips



Fig. 3

Concrete Specifications (See Fig. 4)

Concrete specifications must be followed accordingly.

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

1. Concrete must be 6 inches minimum and must be totally cured before lift installation.
2. Concrete must be in good condition and must have a test strength 3,500psi minimum.
3. Floors must be level and no cracks.

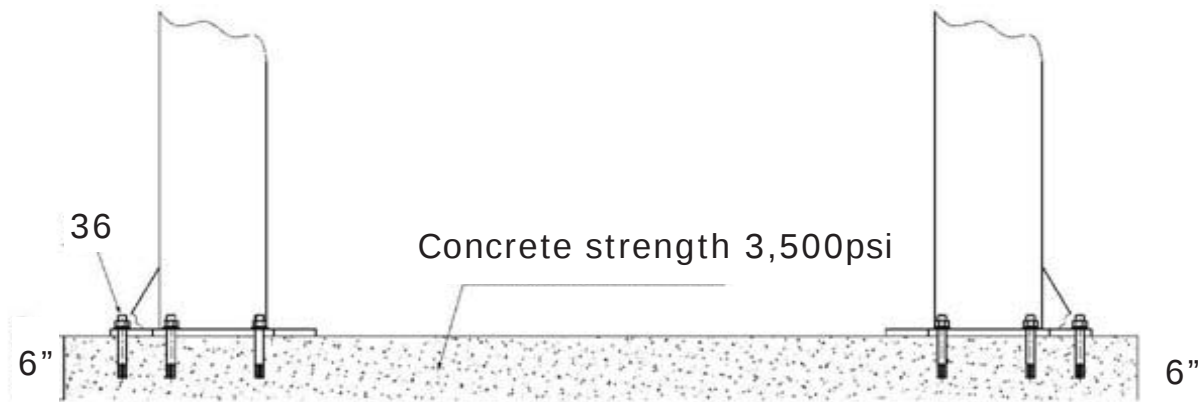


Fig. 4

Power Supply

220 volt single phase 30 amp breaker with minimum of 10 gauge wire.
Voltage range 208v – 230V

Installation Steps

A. Installation Location - Double check the installation site (concrete, layout, space size etc.) for the lift installation.

B. Use a carpenter's chalk line to establish installation layout for the base plates (See Fig. 5).

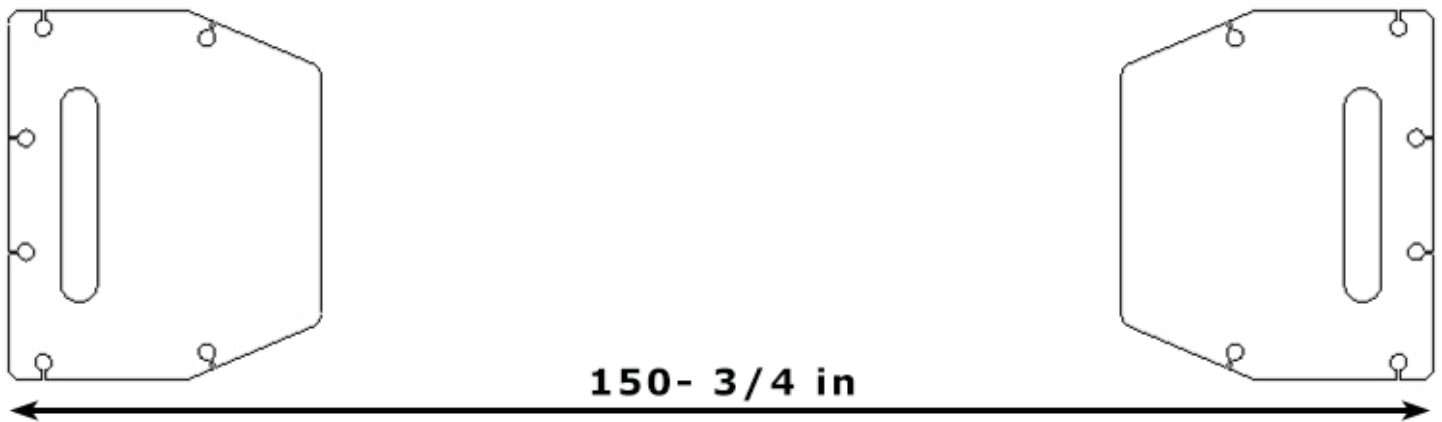


Fig. 5

C. Check the parts before assembly.

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



Fig. 6

2. Move the lift aside with a fork lift or hoist, and open the outer packing carefully (See Fig. 7).

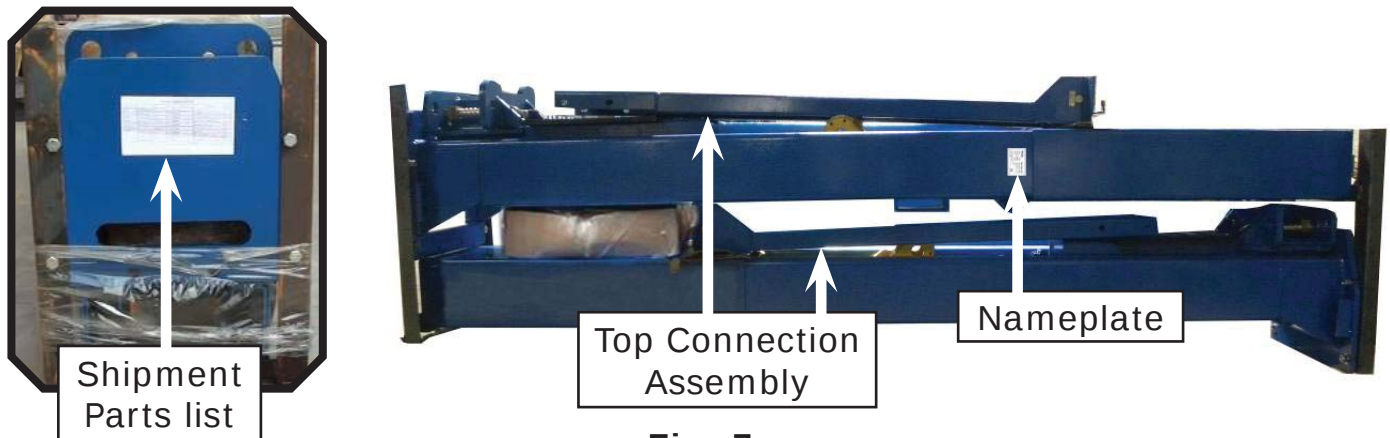


Fig. 7

3. Remove the top connection assembly. (See Fig. 8).

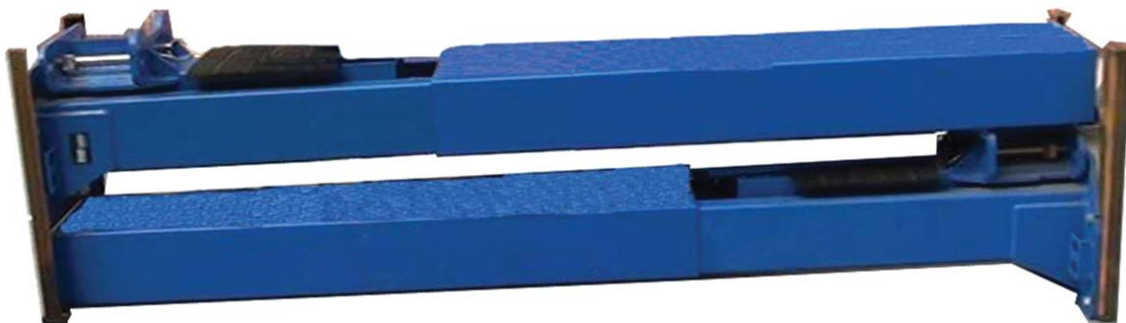


Fig. 8

4. Lift the upper column with a fork lift or hoist. Loosen the bolts on the upper package stand. Remove off the upper outer column. Remove the parts in the inner column (**See Fig. 9**).



Fig. 9

5. Lift the lower column with a fork lift or hoist. Remove the package stand. Remove the lower column. Remove the parts in the inner column (**See Fig. 10**).

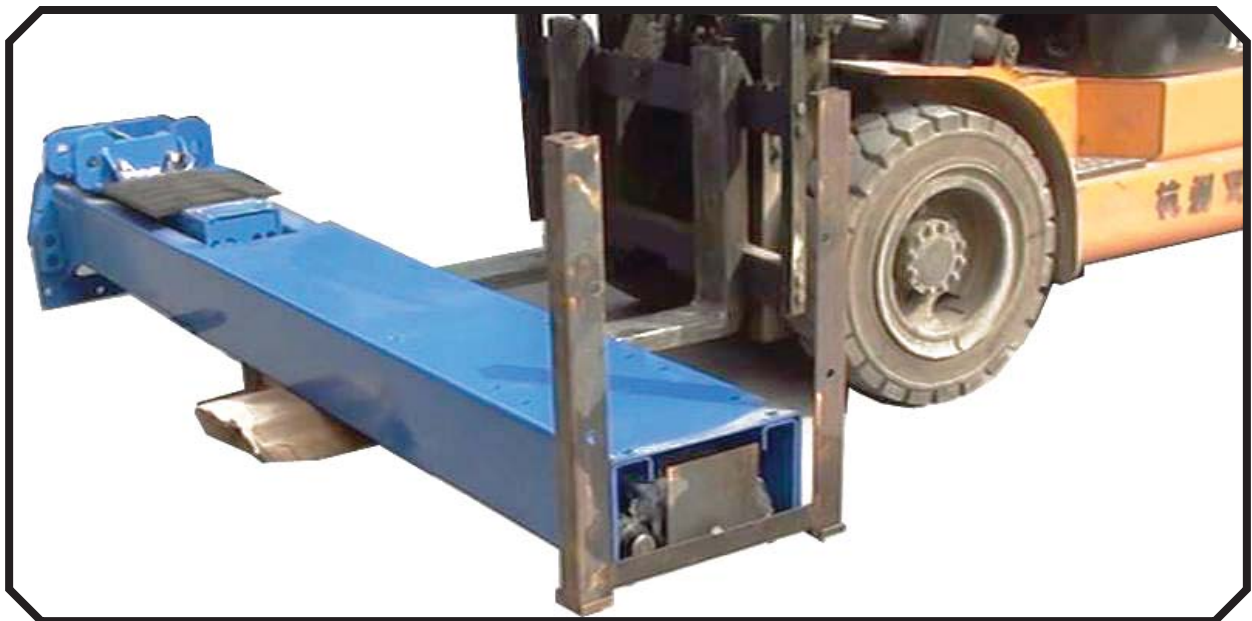


Fig. 10

6. Move aside the parts and check the parts according to the shipment parts list (See Fig. 11).



Fig. 11

7. Open the carton of parts and check the parts according to parts box list (**See Fig. 12**).



Fig. 12

8. Check the parts in parts bag 1# according to parts bag list (**See Fig. 13**).

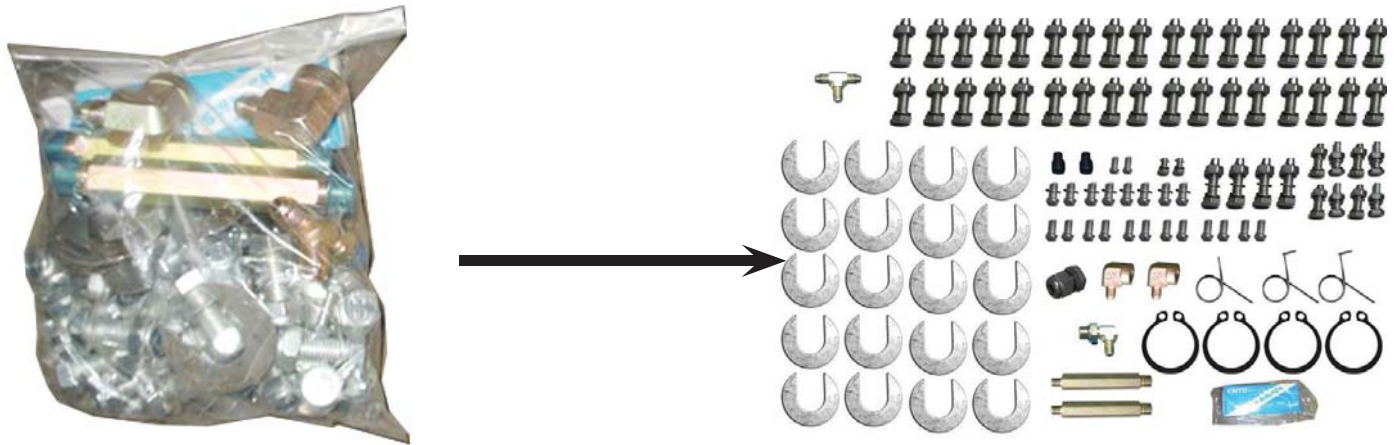


Fig. 13

9. Check the parts in parts bag 2# according to parts bag list (**See Fig. 14**).

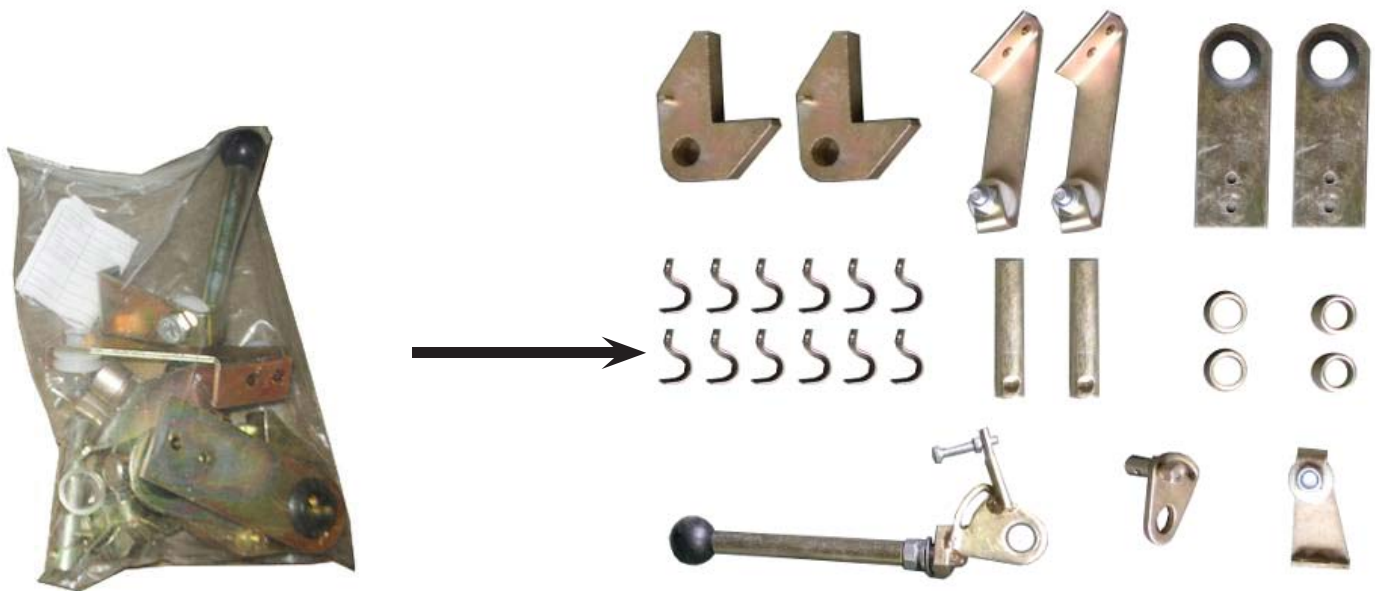


Fig. 14

D. Install the hydraulic hose and lock release cable brackets on the extension columns (See Fig. 15).

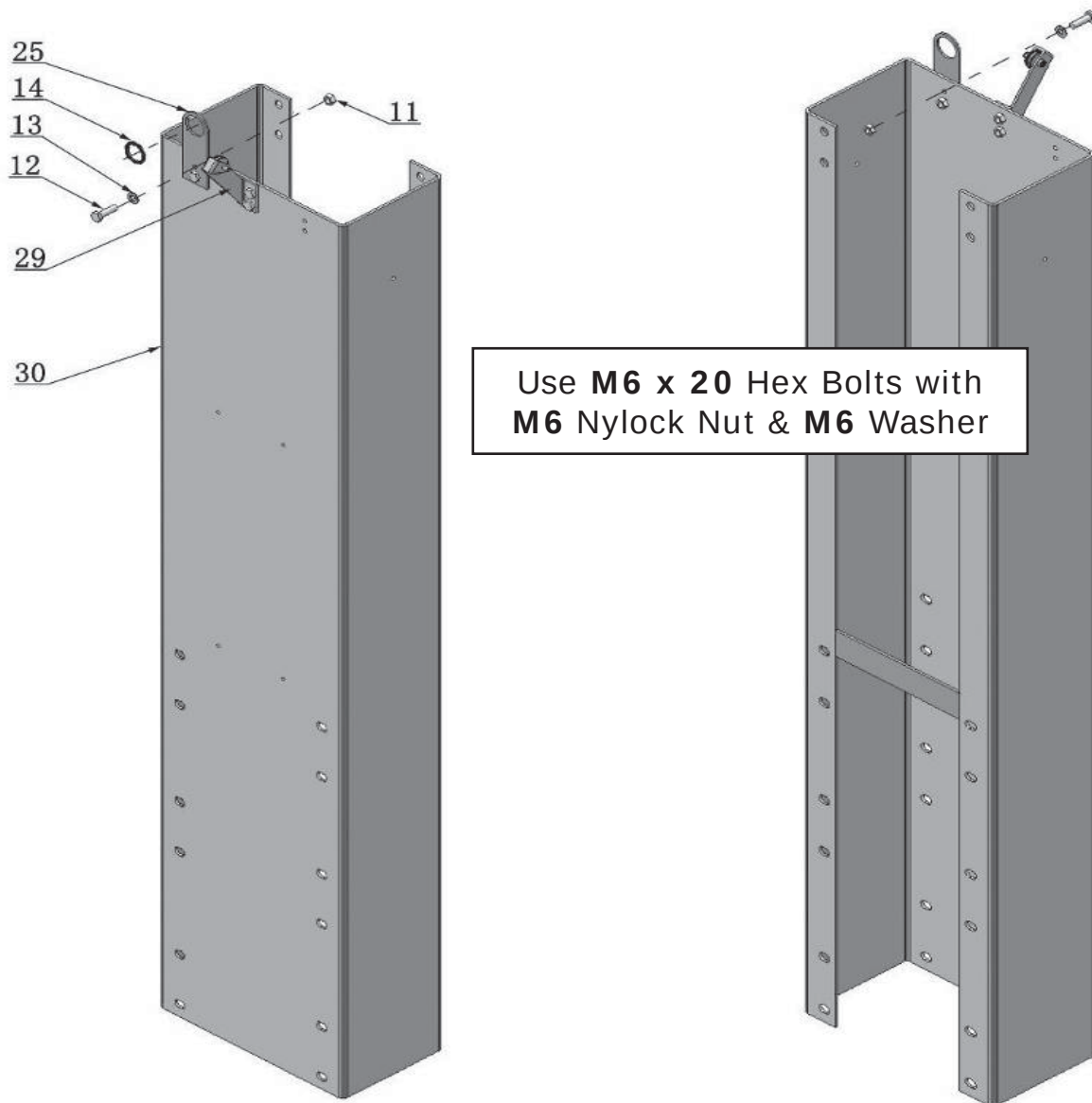
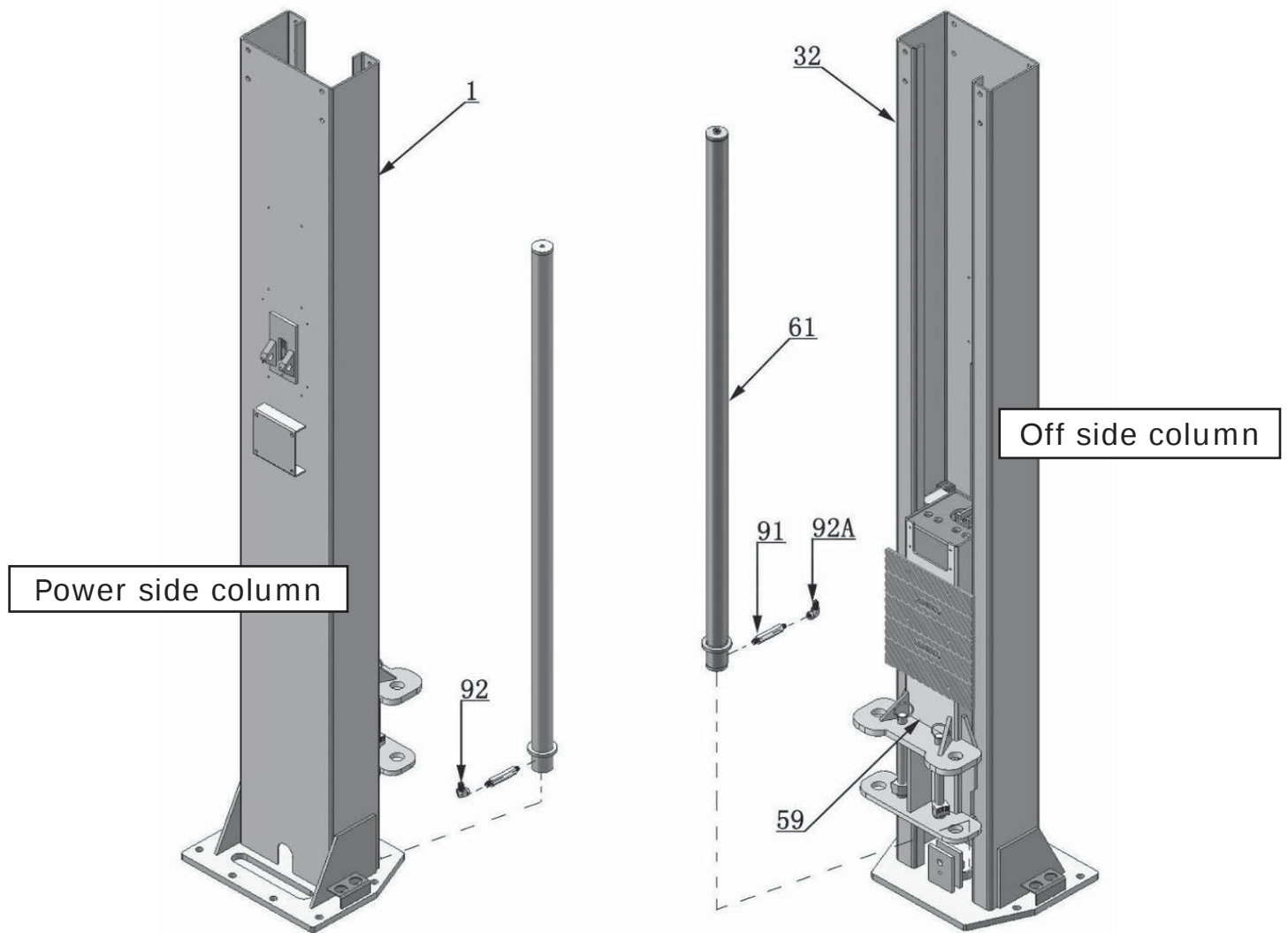


Fig. 15

E. Install hydraulic cylinders

Connect the extended straight fitting and 90° fitting. Install the cylinders through the carriages (See Fig. 16).



Use Teflon tape to seal NPT pipe threads. Do not use Teflon tape on JIC hydraulic hose ends.

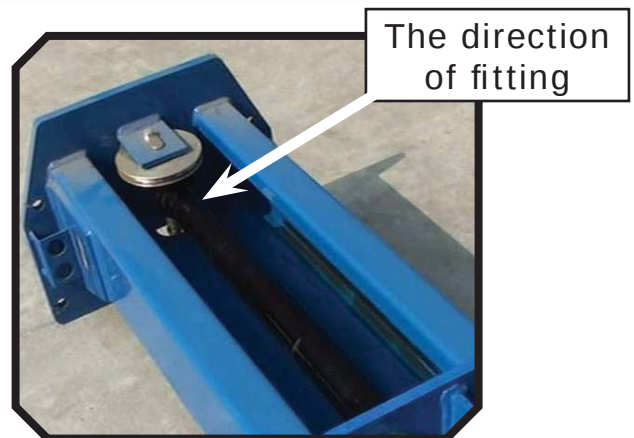


Fig. 16

F. Install columns (Use M12 x 30 Hex Bolt, Nylock Nut & Washer to install extensions)

Lay down the two columns on the installation site parallel of each other. Position the power side column according to the actual installation site. This lift is designed with 2 sectional columns. Adjust the height according to your ceiling height.

1. When the ceiling height is over 4500mm (177 1/8"), connect the outer columns to the lower holes (**See Fig. 17**).

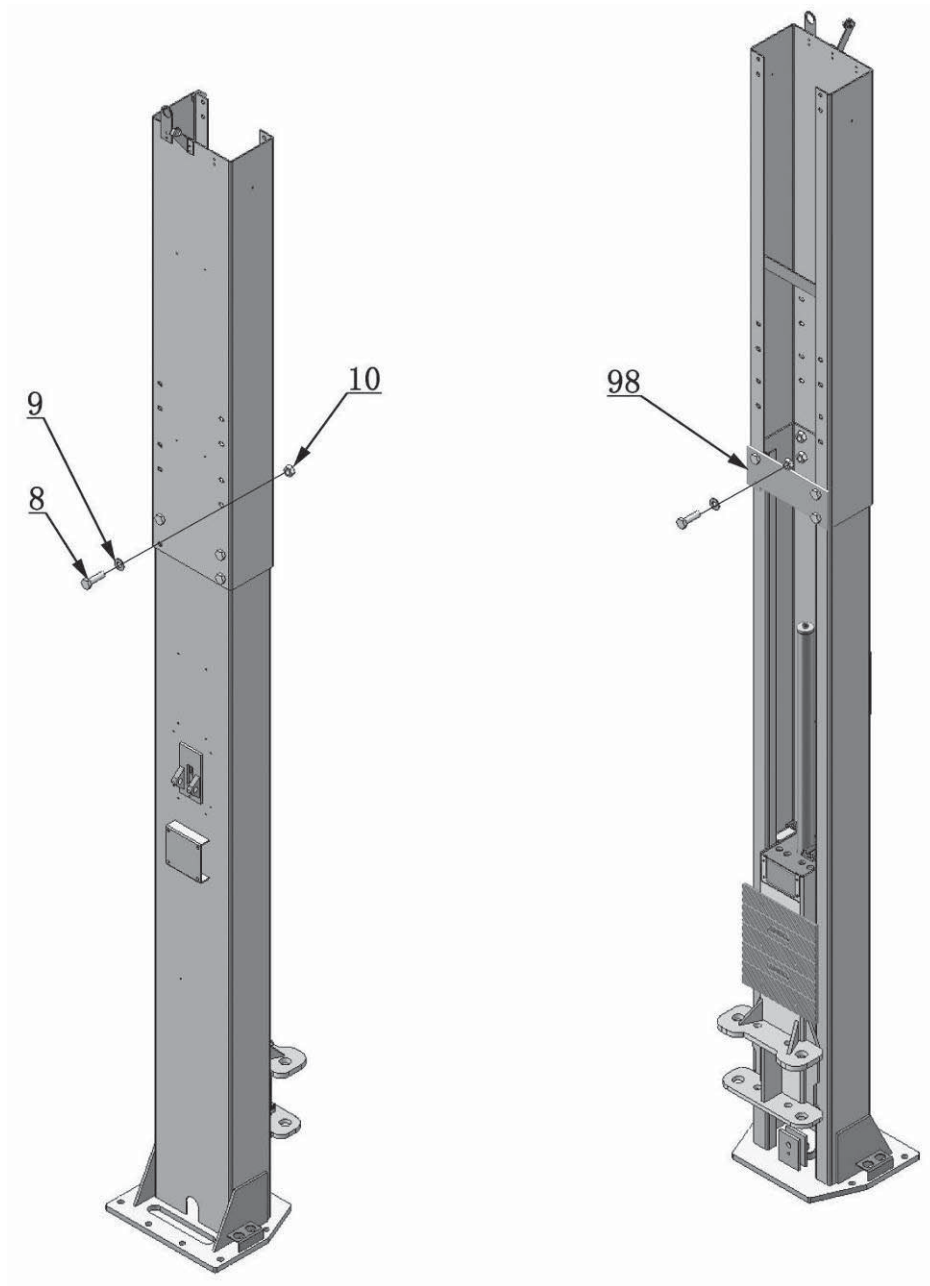


Fig. 17 High Setting

2. When the ceiling height is over 4200mm (165 3/8") but less than 4500mm (177 1/8"), connect the outer columns to the middle holes (**See Fig.18**).

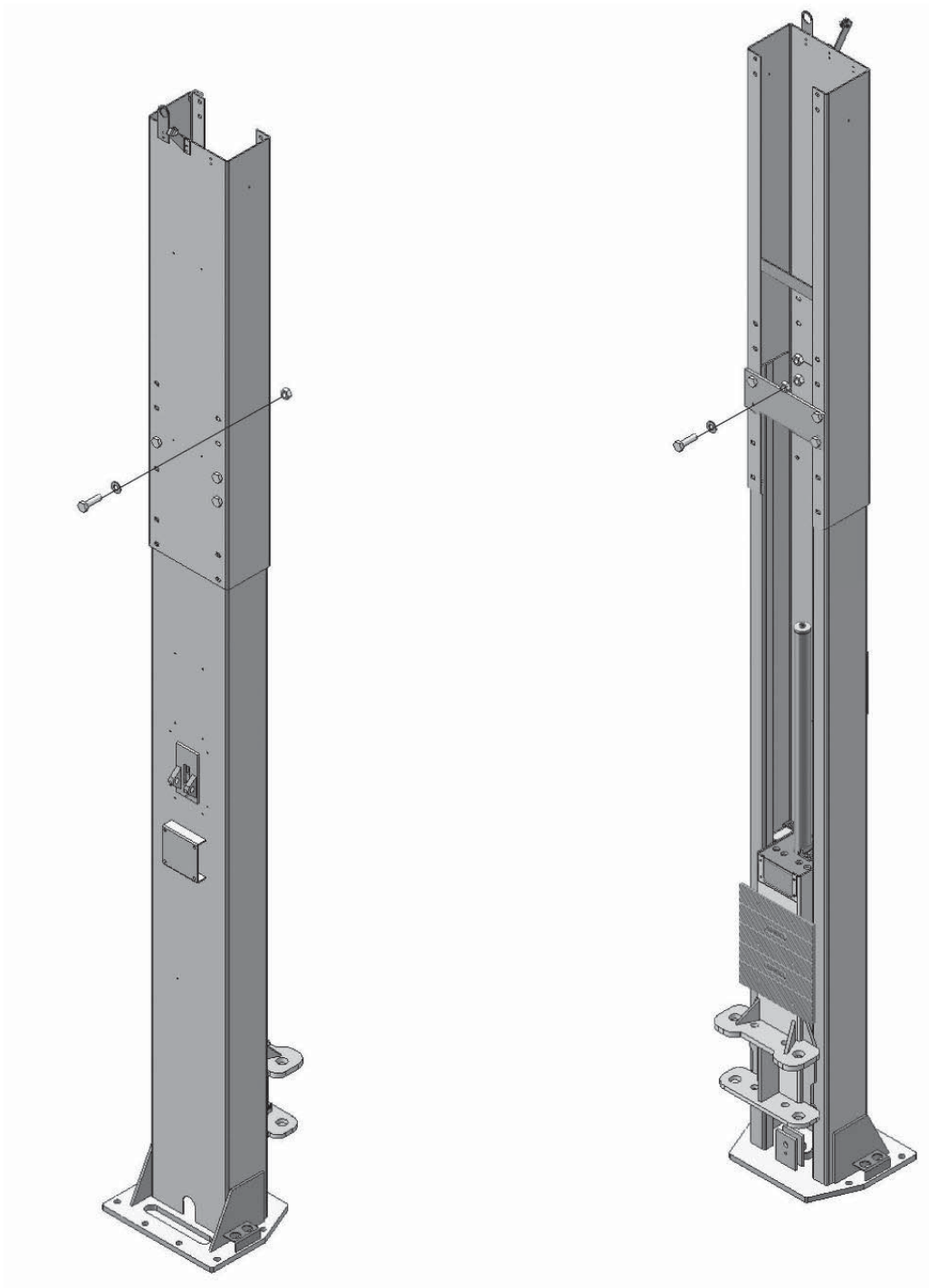


Fig. 18 Low Setting

3. When the ceiling height is less than 4200mm (165 3/8”), connect the outer columns to the upper holes. **The cables are a special order option for the extra low setting.** (See Fig. 19).

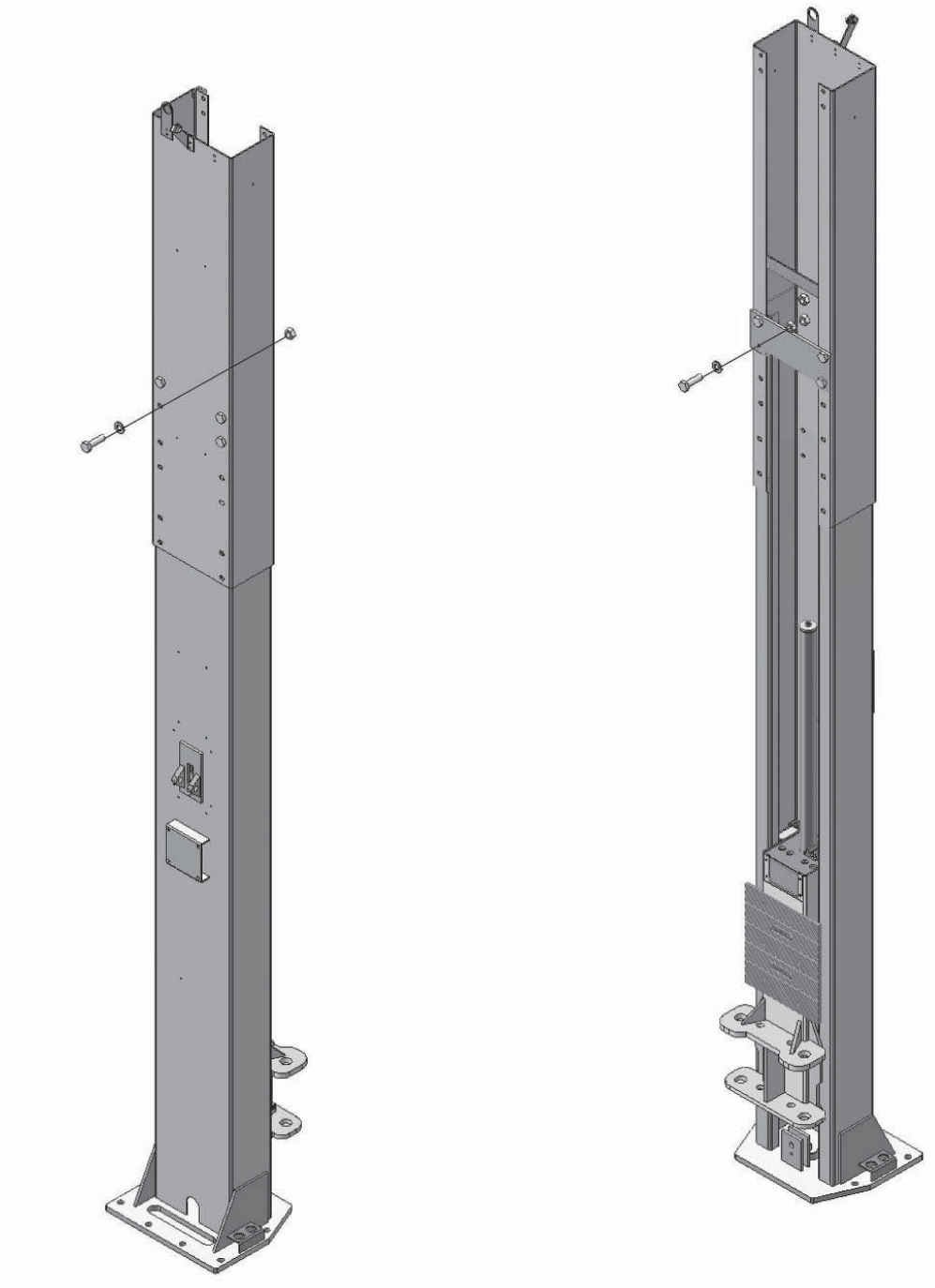


Fig. 19 Special low Setting

G. Position columns

1. Position the columns so the base plates line up with the chalk line. It is recommended to install the power side column on the passenger side of the vehicle. Meanwhile, assemble the overhead top beam (**See fig.21, 22**). Spread the columns to approximately 122-5/8" from inside column to inside column. Install the overhead top beam.
2. Level and plumb the columns and shim where necessary.
3. Drill 3/4" holes. If the top of the anchor exceeds 2 inches above the floor grade, you **DO NOT** have enough embedment. Tighten the anchor bolts between 60 and 86 foot pounds.

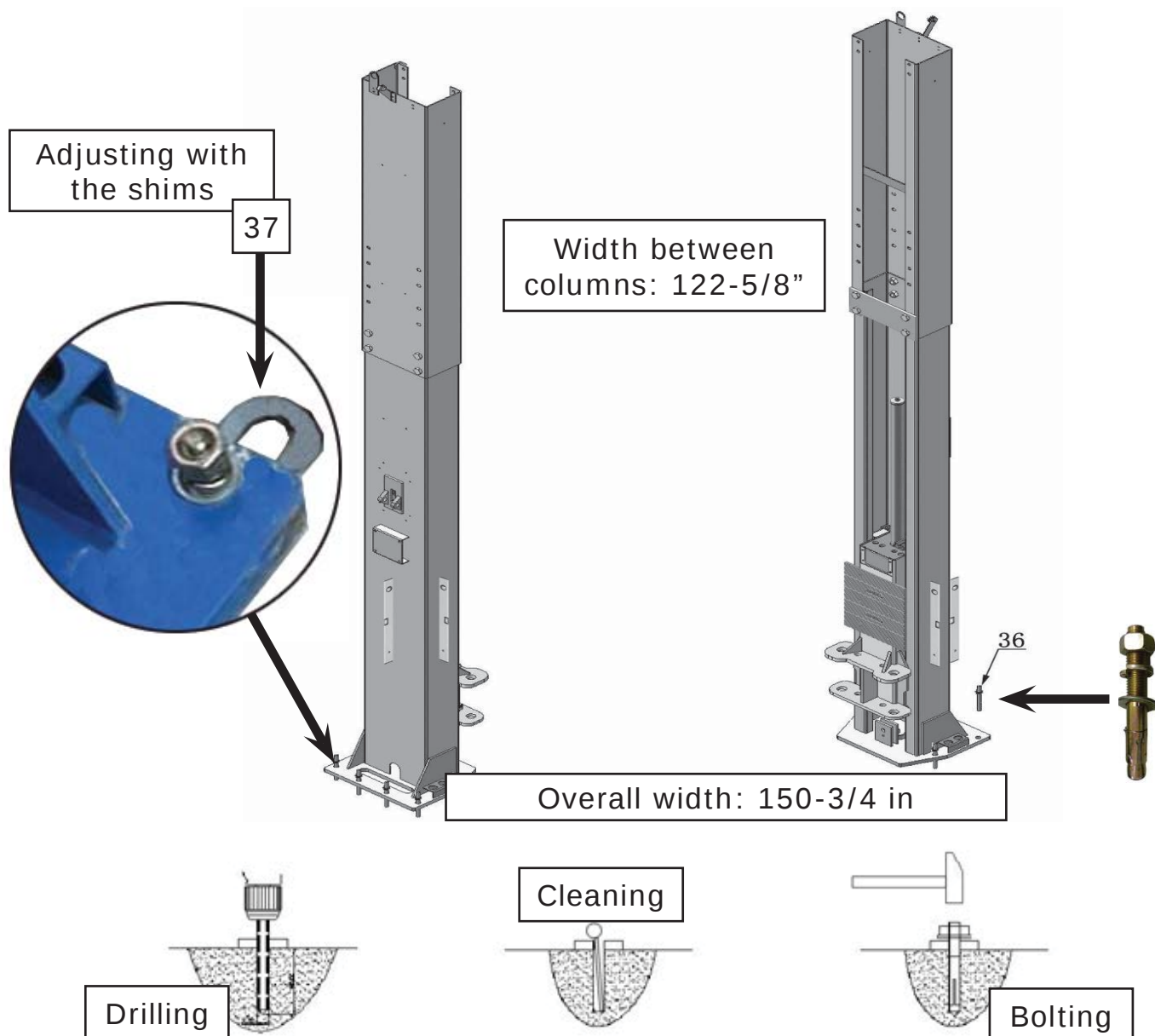


Fig. 20

H. Install overhead top beam

1. With help of the hooks on the top beam, hang the top beam on top of the extension columns and connect the top beam to the extension columns with bolts, tighten the bolts (**See Fig. 21**).

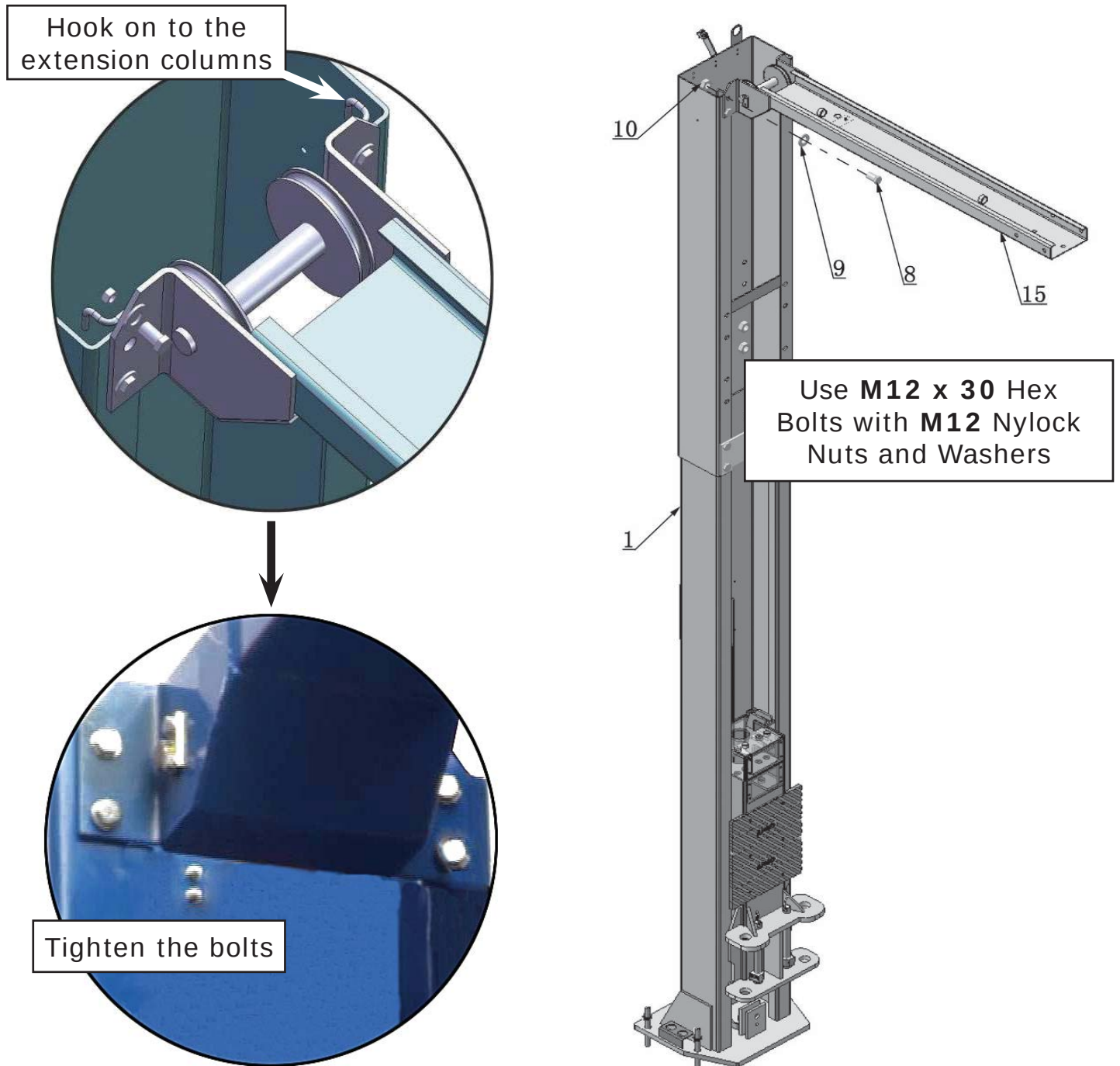


Fig. 21

2. Assemble the over head top beam; tighten the anchor bolts (**See Fig. 22**).

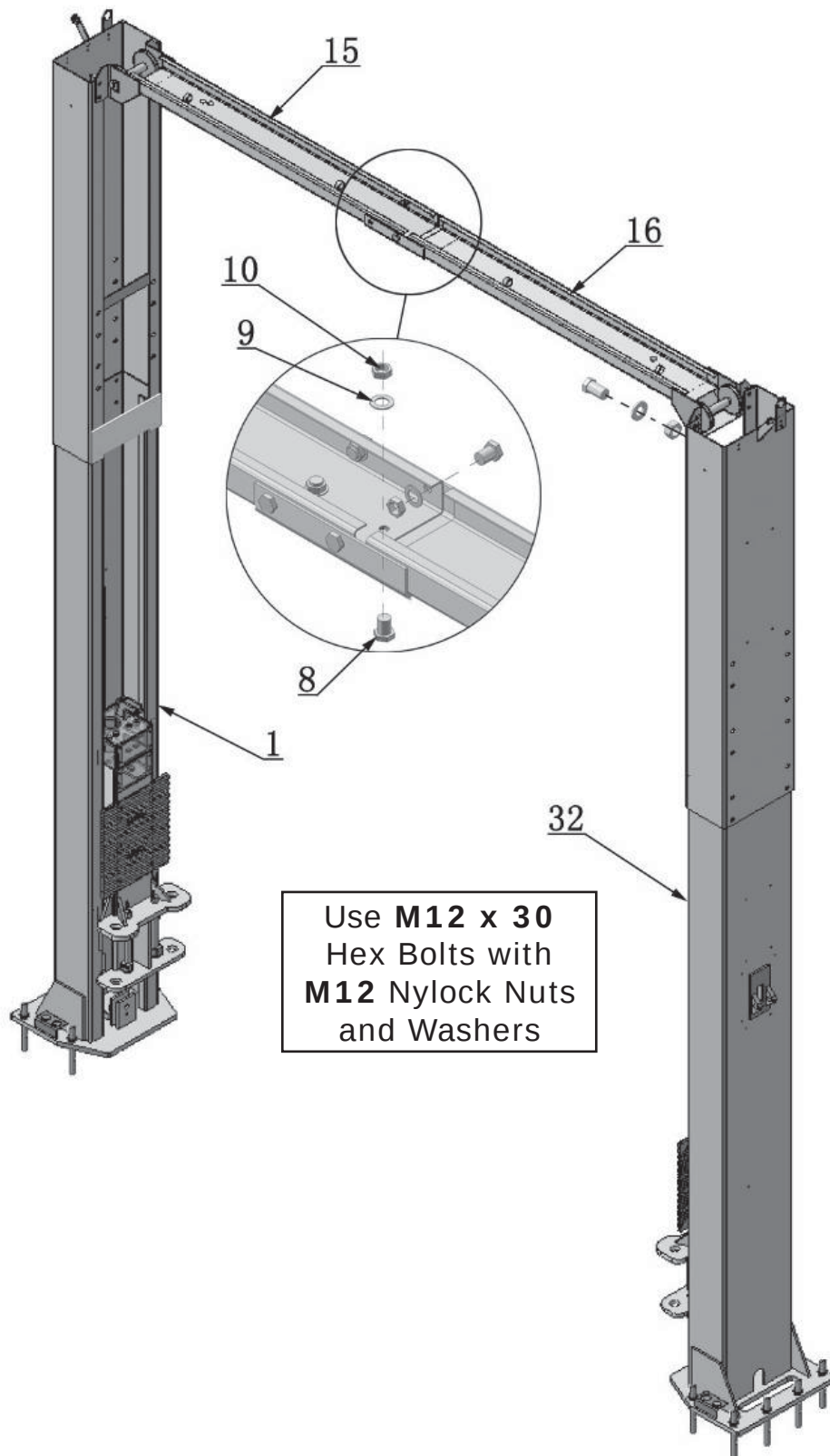
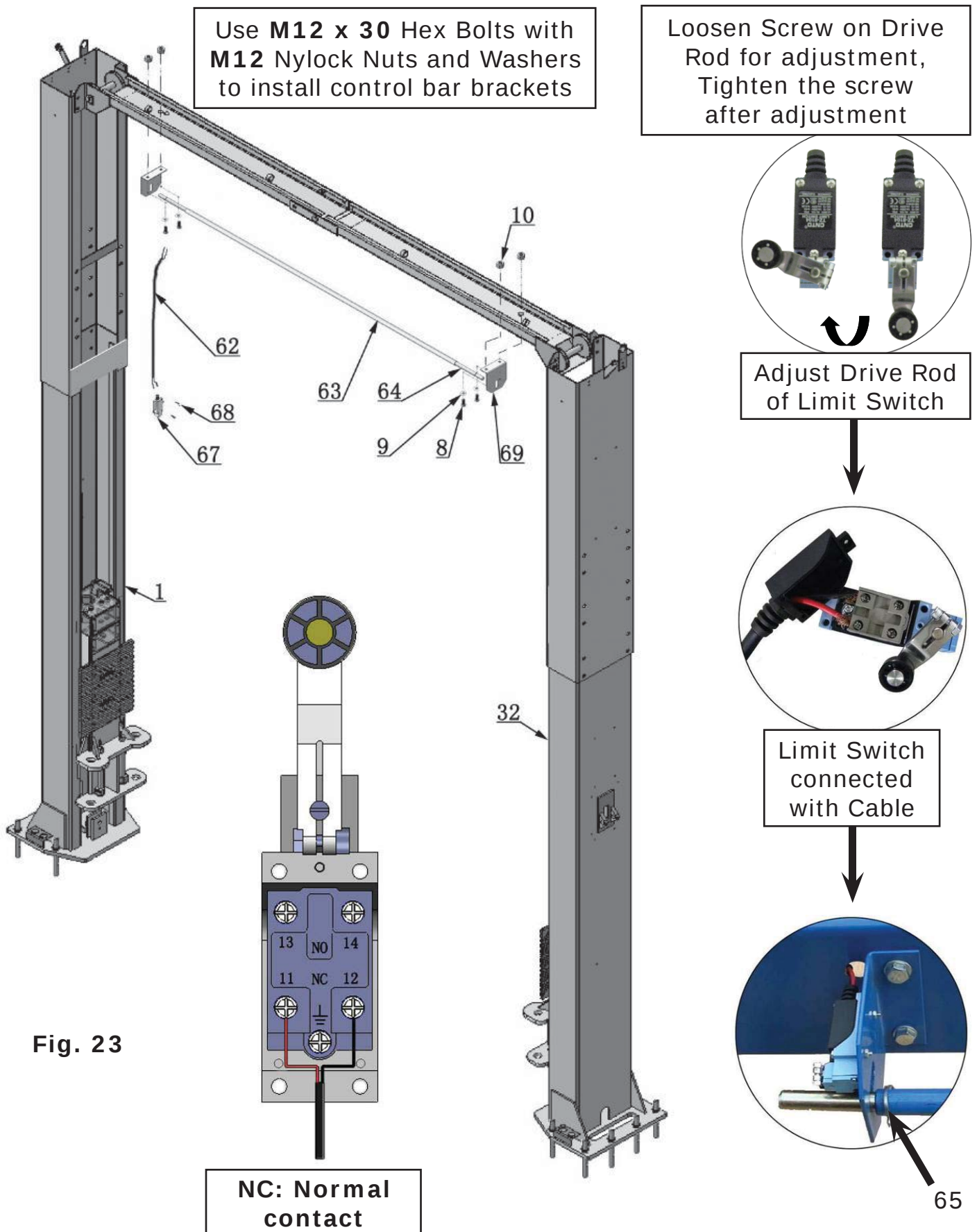
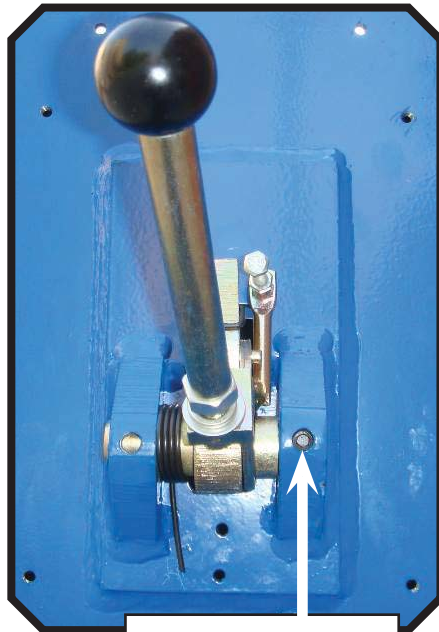


Fig. 22

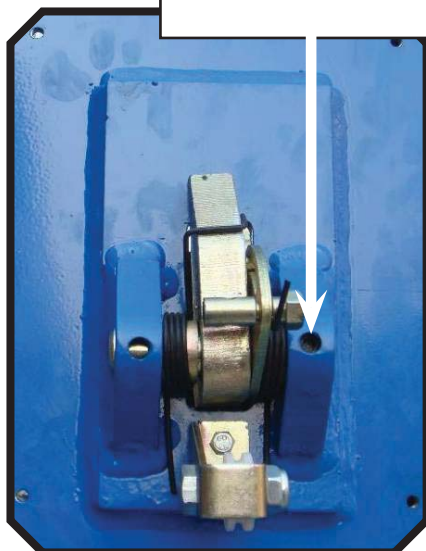
I. Install the limit control bar and limit switch (See Fig. 23).



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



Use M10 x 10
Allen Head
Set Screw



Use **M10 x 20** Hex
Head Bolts to secure
the pulley bracket

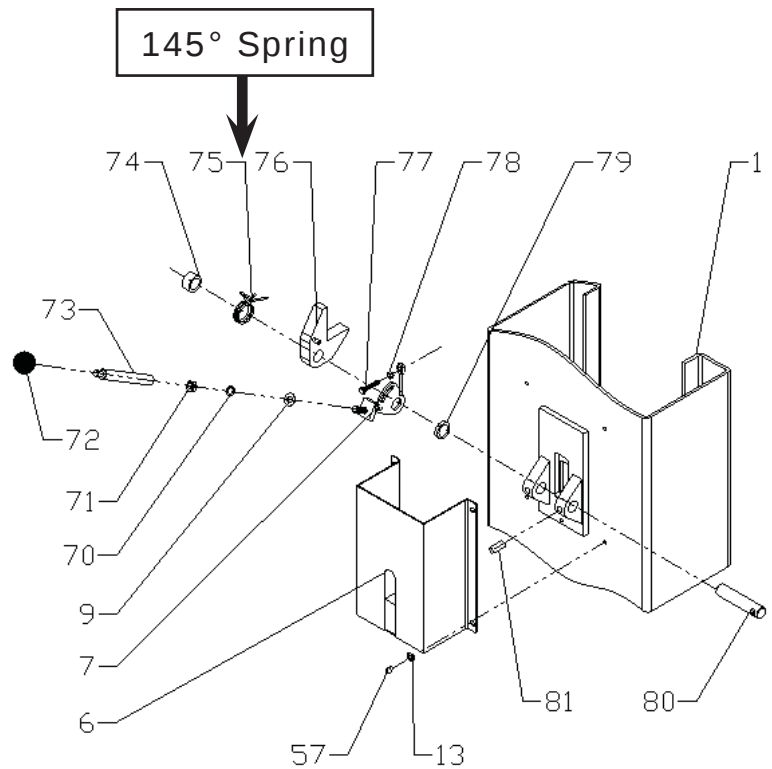


Fig. 24 Power side safety device

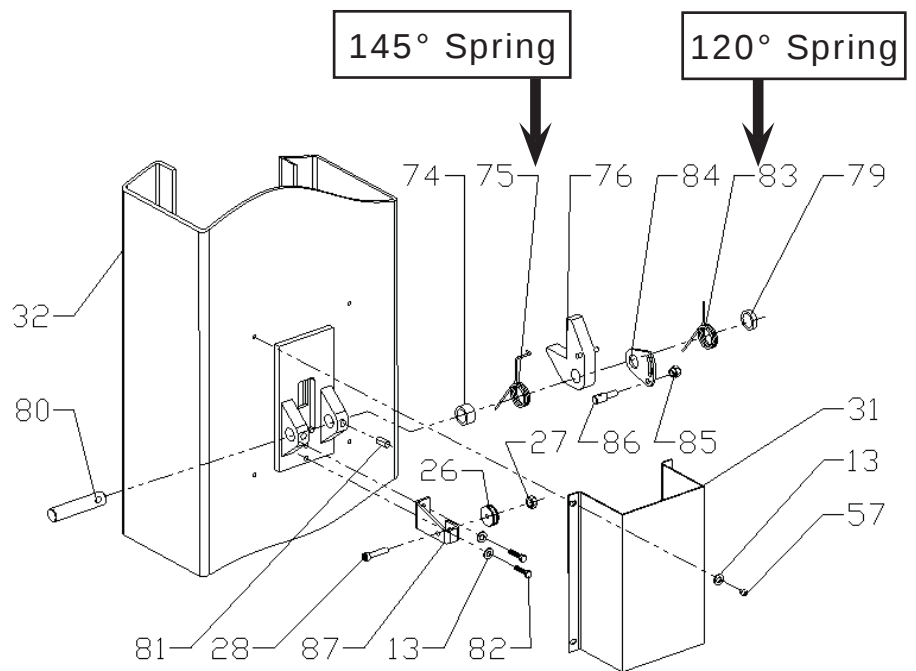


Fig. 25 Offside safety device

K. Lift the carriages up by hand and lock them at the same level (See Fig. 26).

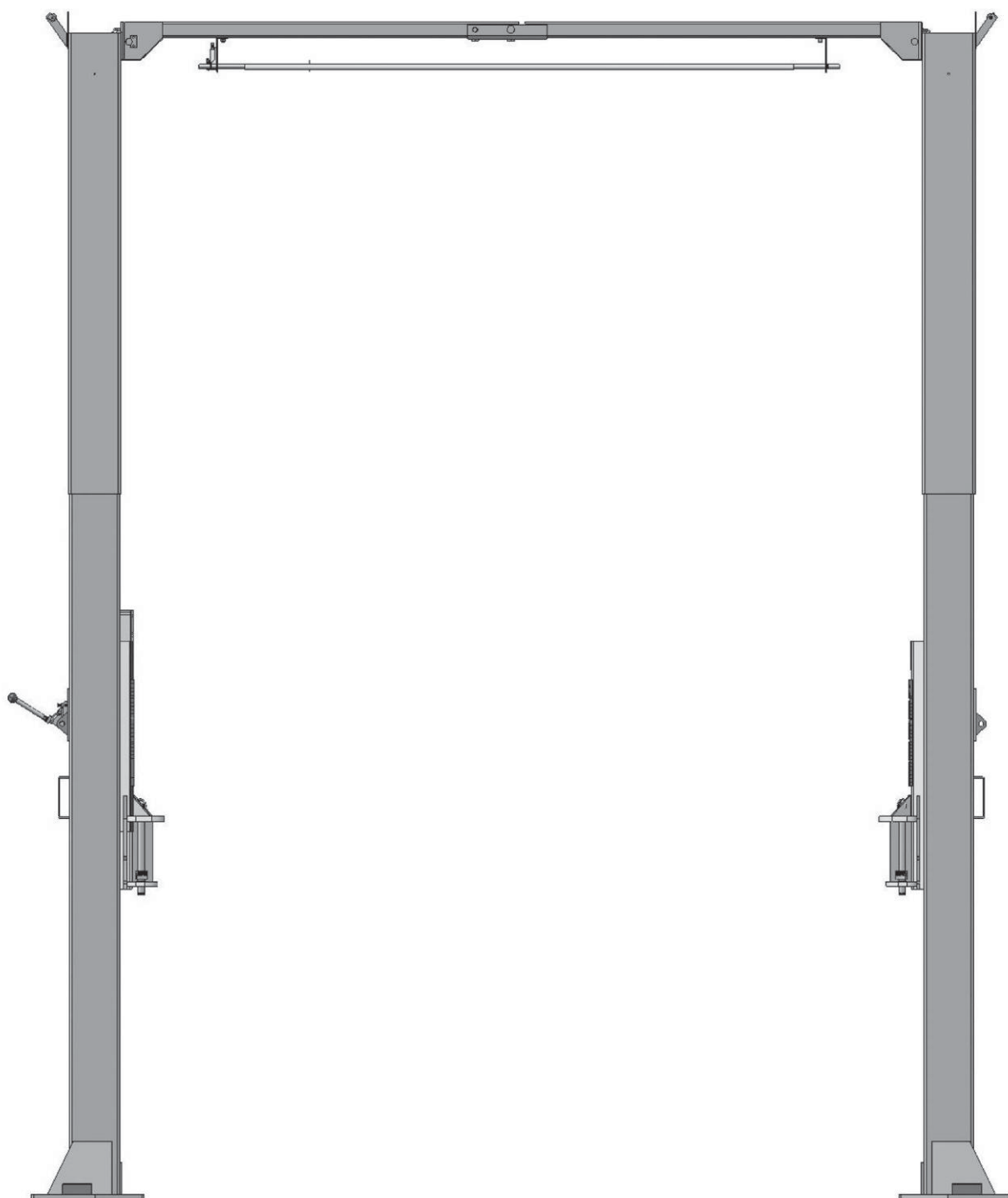


Fig. 26

L. Install cables

1. High setting cable connection, suitable for ceiling height over 4500mm (177'-1/8").

1.1 Take out the carriages' plastic covers, cable passes through from the bottom of the carriages and pulled out from the openings of the carriages, then screw the two cable nuts (See Fig. 27).

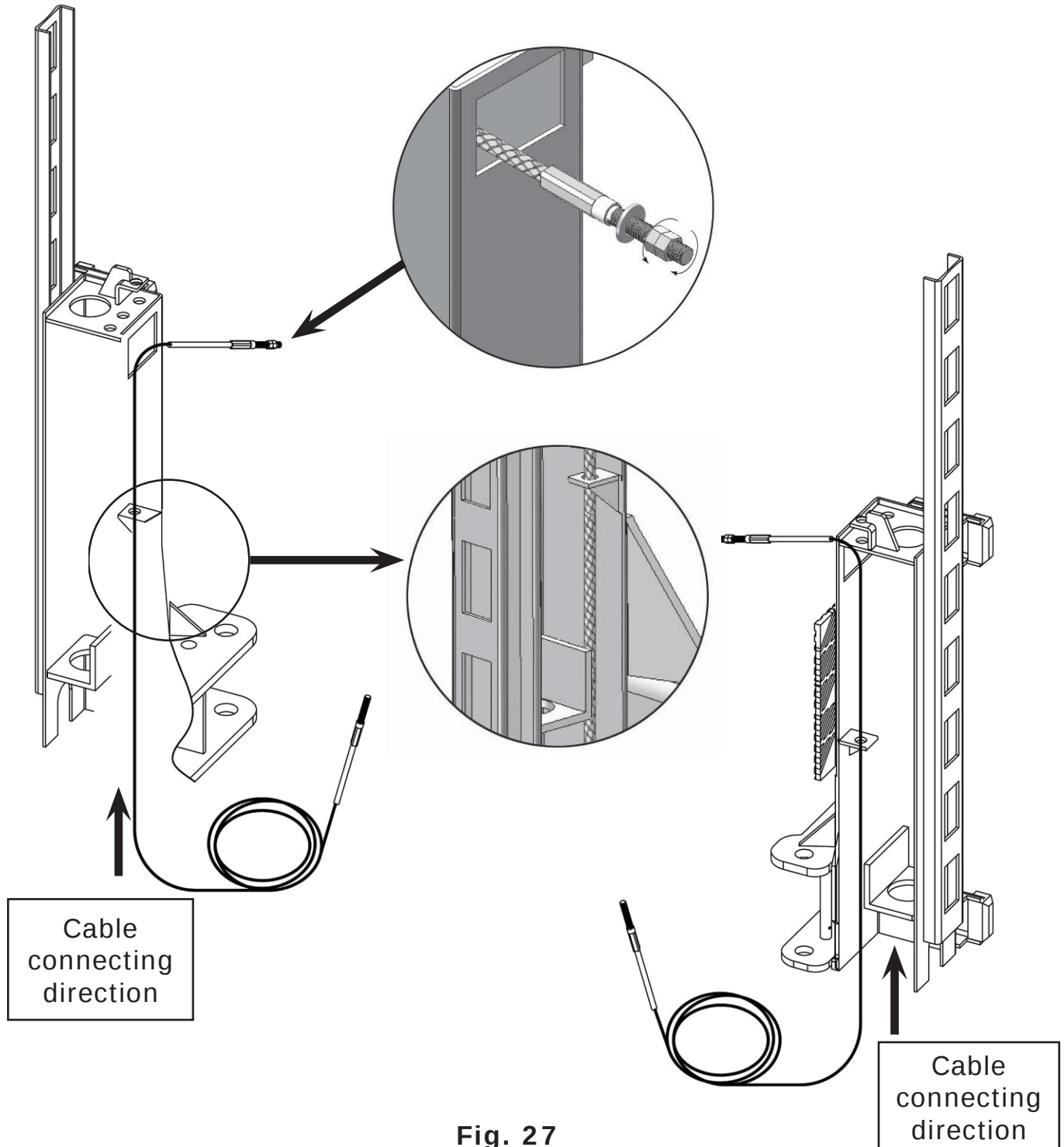


Fig. 27

1.2 Connecting the cable for high setting (See Fig. 28)

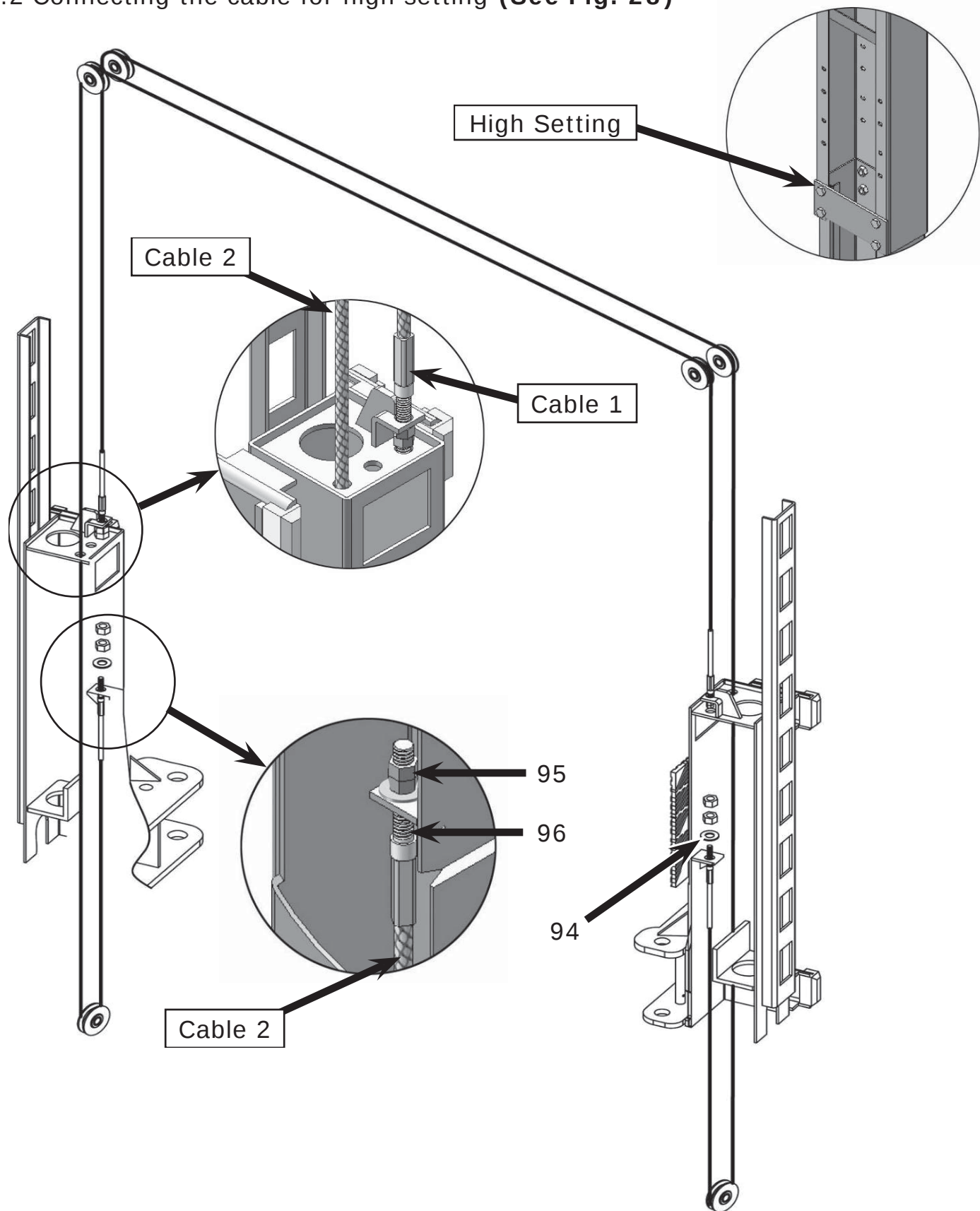


Fig. 28

2. **Low setting cable connection**, suitable for ceiling heights between 4200mm (165 3/8") to 4500mm (177 1/8") (**See Fig. 29**).

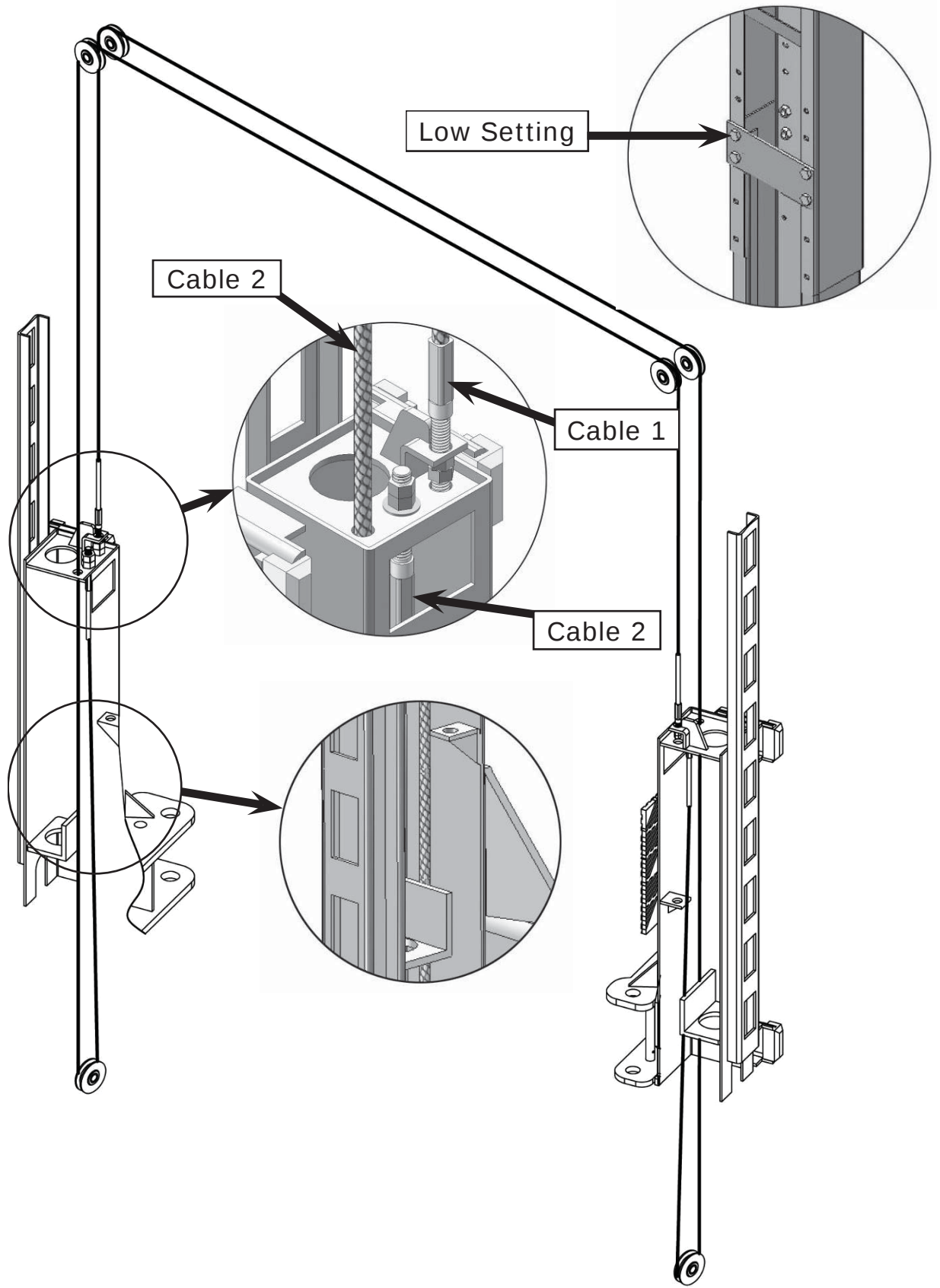


Fig. 29

3. **Special low setting cable connection**, suitable for ceiling height less than 4200mm (165 3/8"), for this setting use with the optional short cable (**See Fig. 30**).

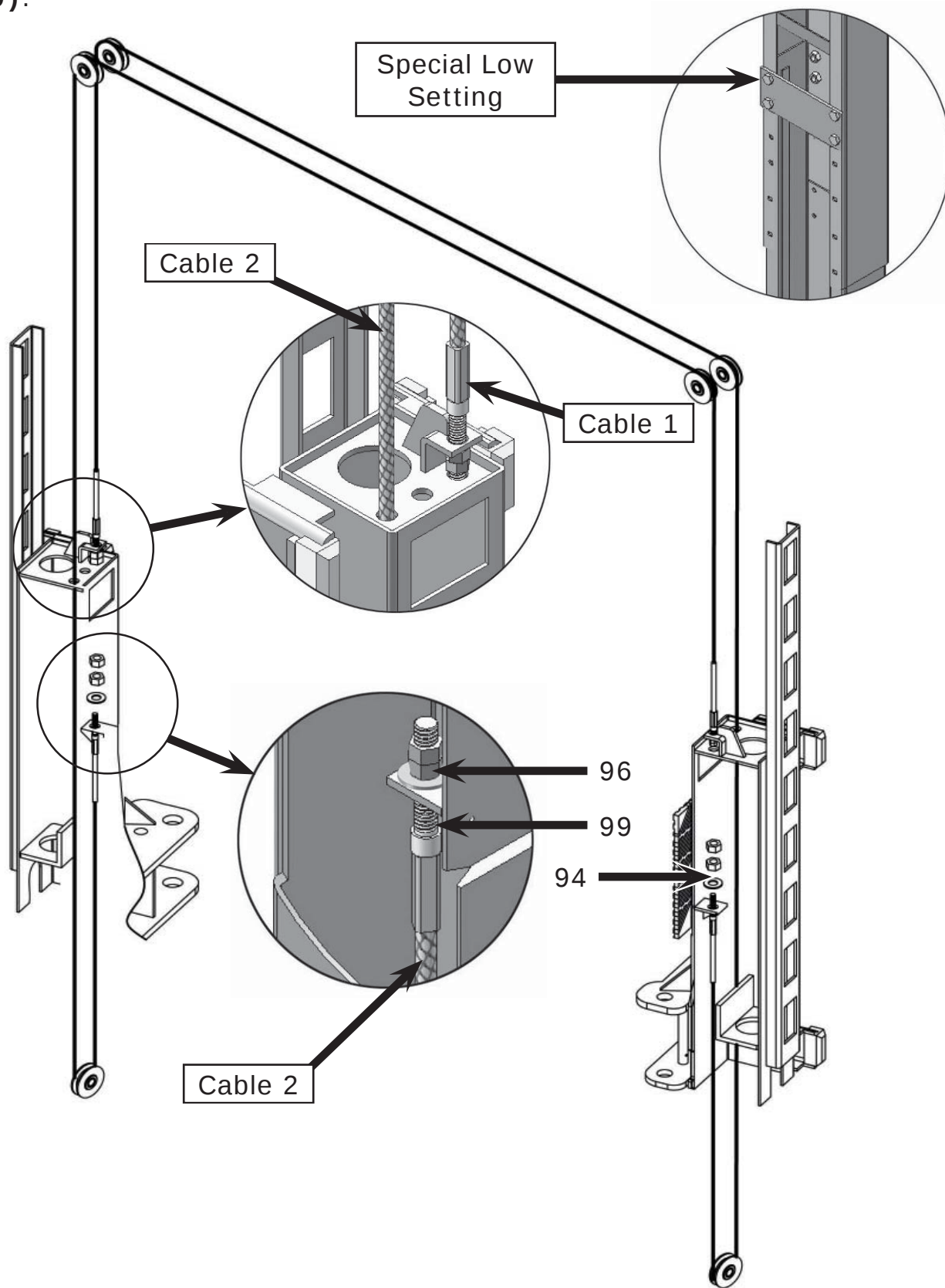


Fig. 30

M. Install power unit (See Fig. 31)

Use **M8 x 25** Hex Bolts
with **M8** Nuts & Washers

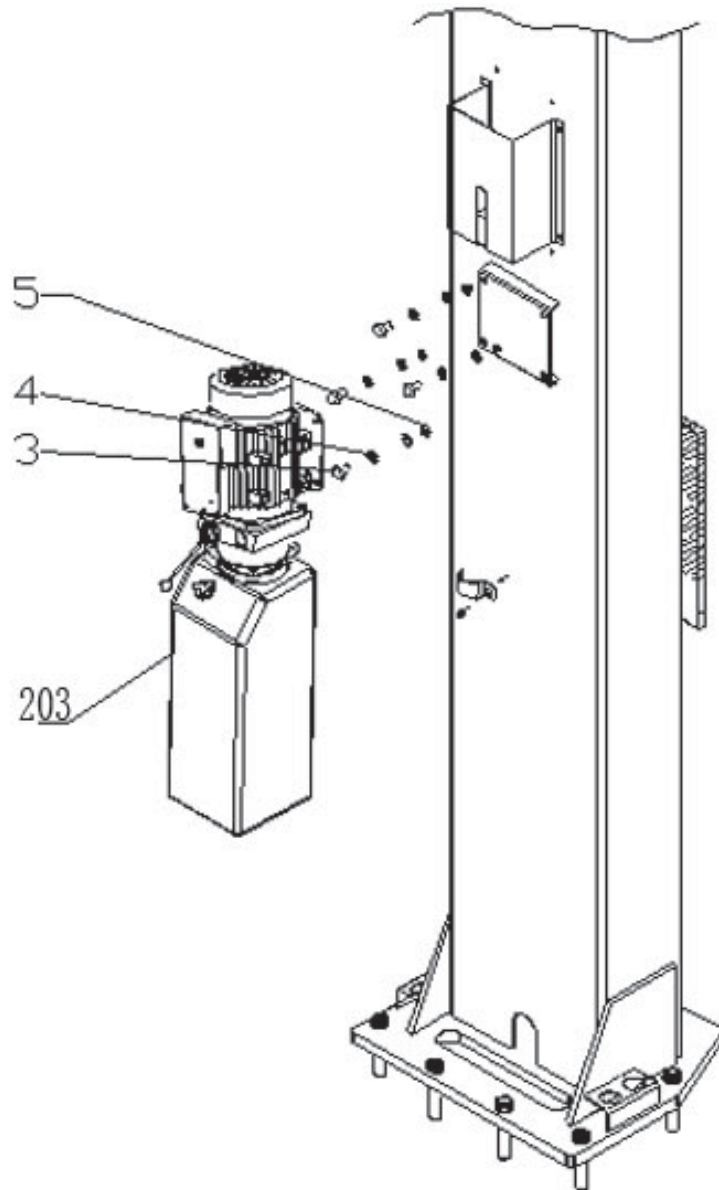


Fig. 31

N. Install oil hoses.

1. At high setting and low setting oil hose connection **(See Fig. 32)**.
2. Special low setting oil hose connection. **(See Fig. 33)**.

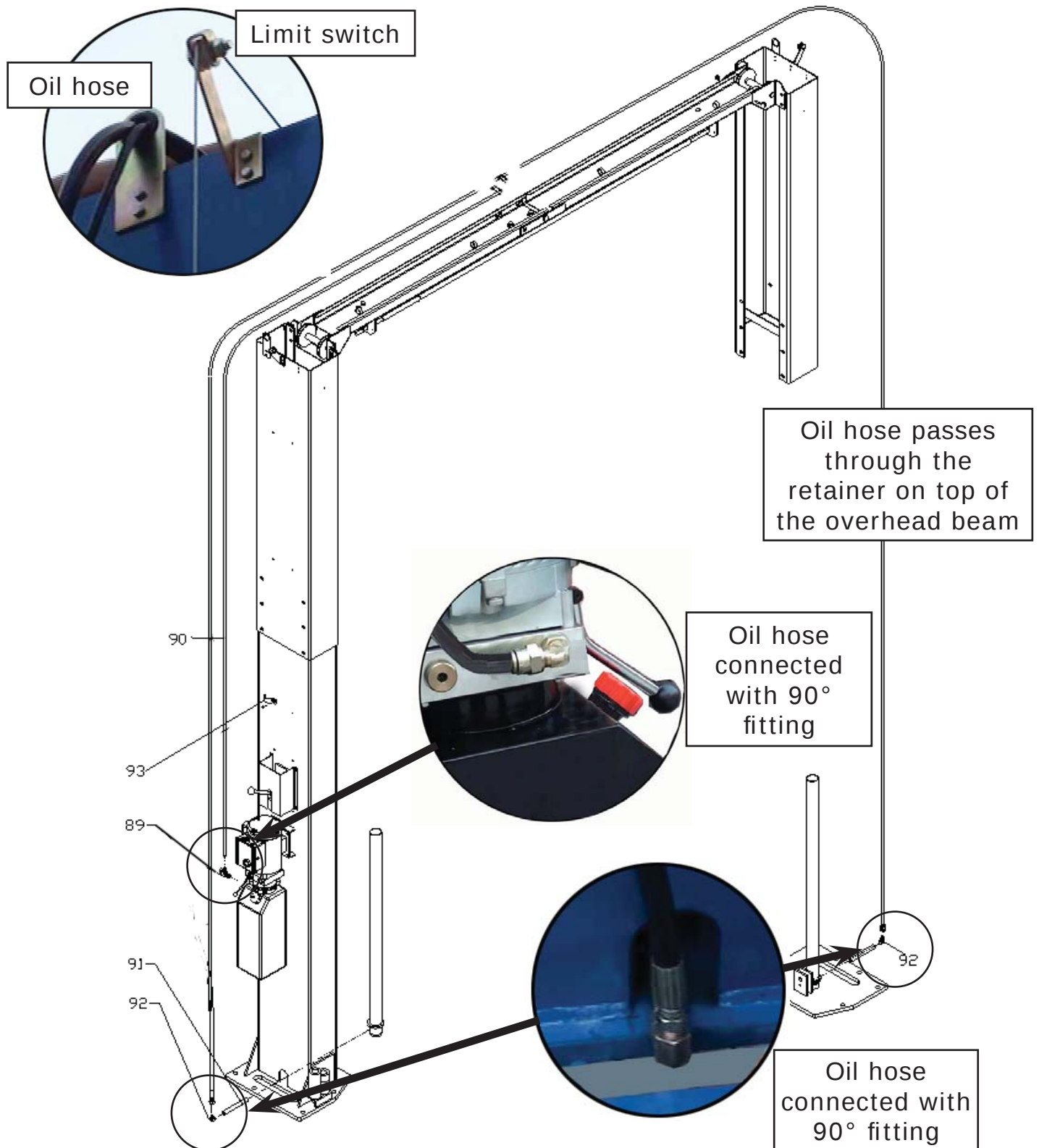
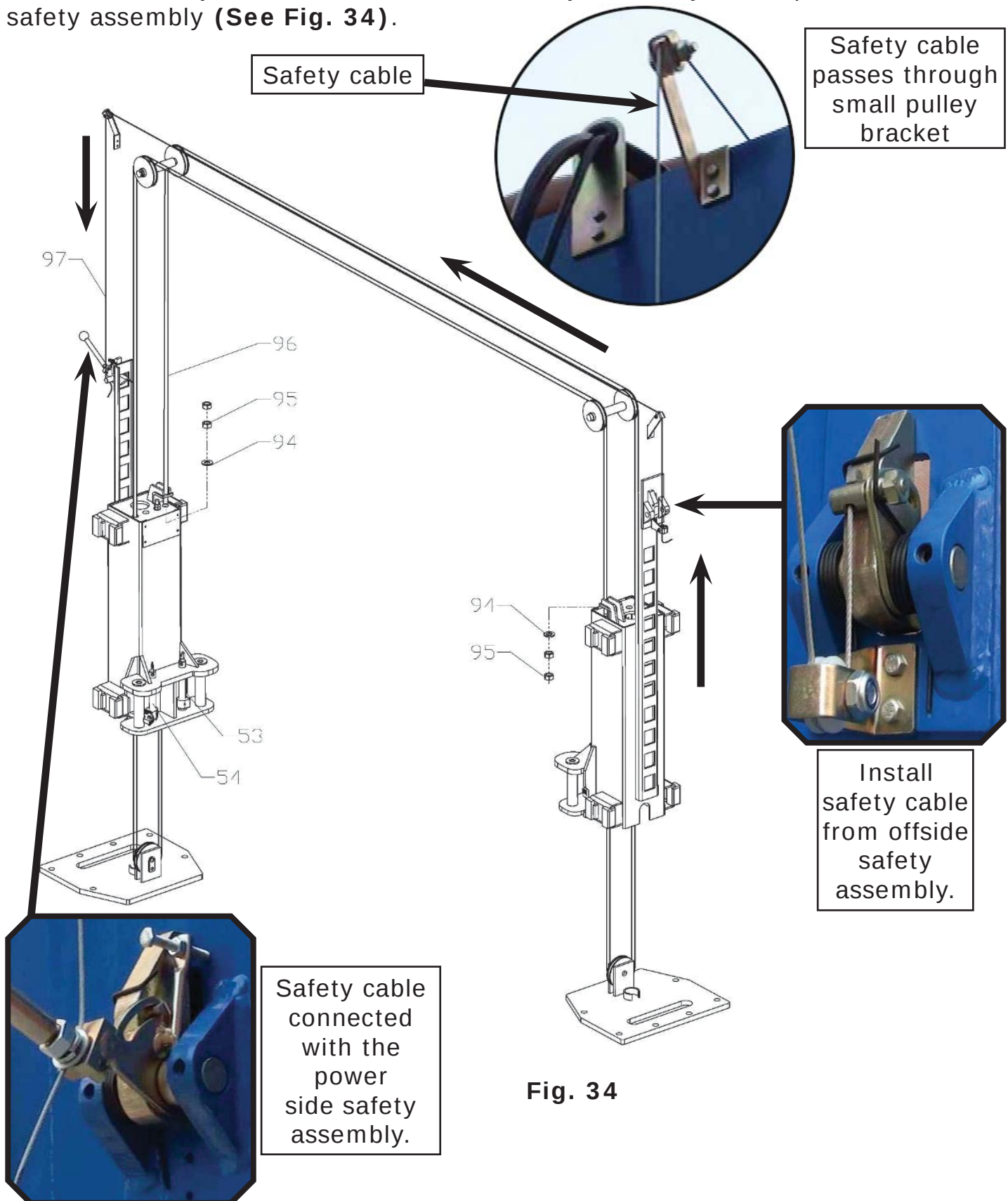


Fig. 32 / 33

O. Install safety cable.

Install the safety cable from the off side safety assembly to the power side safety assembly (**See Fig. 34**).



P. Install hose retainers (See Fig. 35).

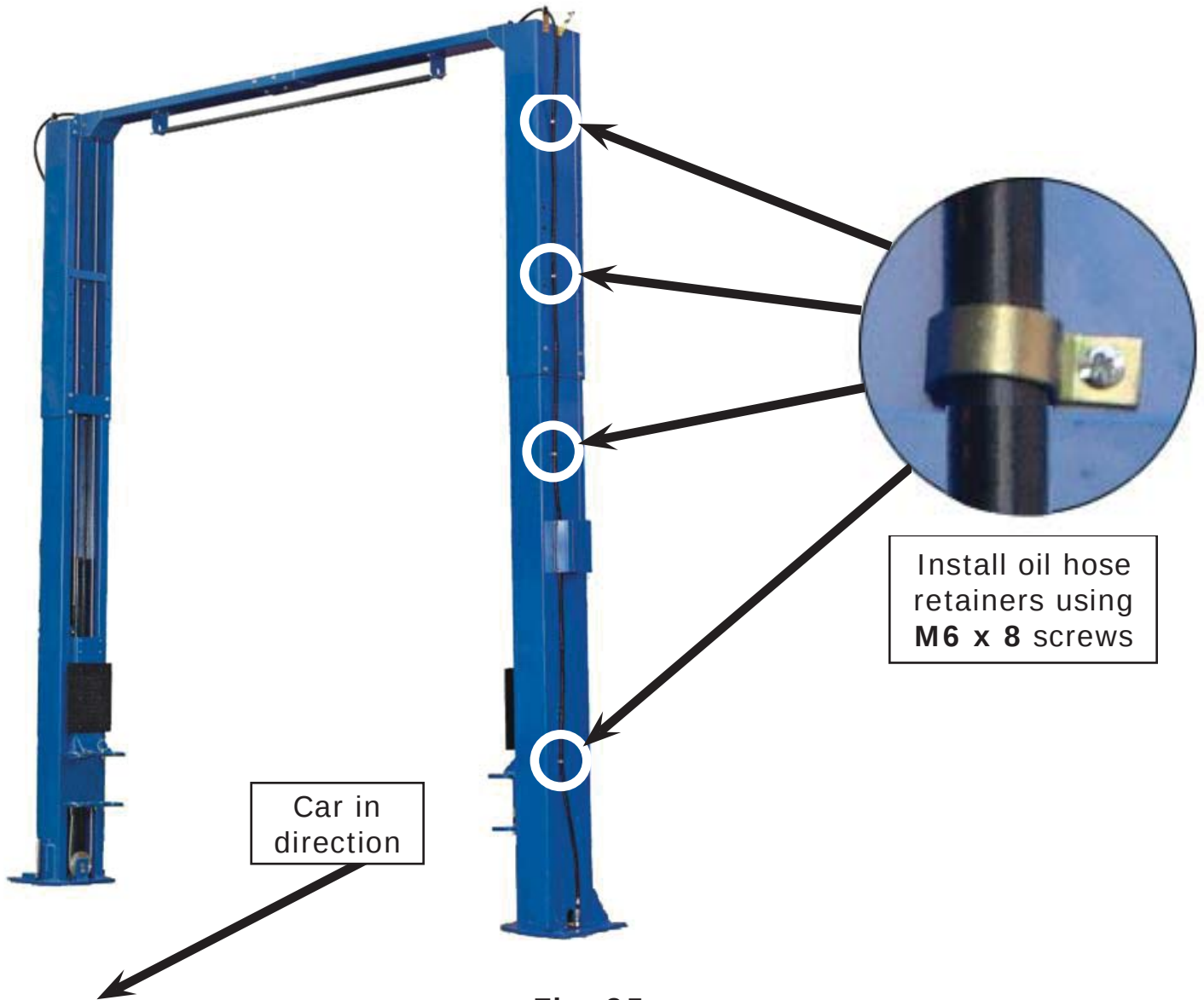


Fig. 35

Q. Install the lifting arms (See Fig. 36)

Lower the carriages down to the lowest position, then use the 8mm Allen head wrench to loosen the socket bolt (See Fig.37). Adjust arm lock as direction of arrow (See Fig.38). Adjust the moon gear and arm lock so they mesh, then tighten the Allen bolts on the arm lock (See Fig.39).

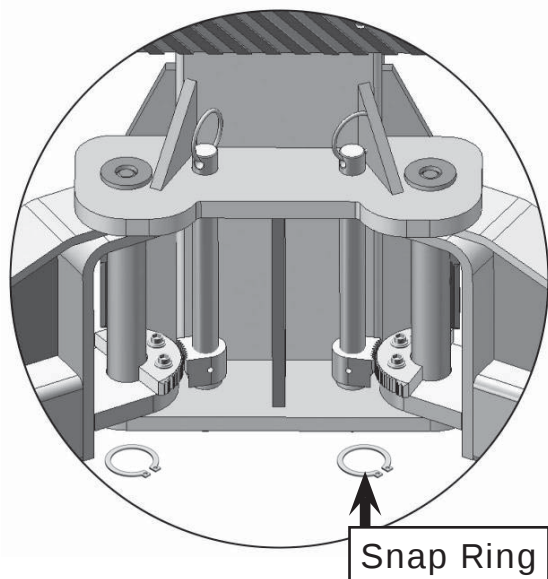


Fig. 36

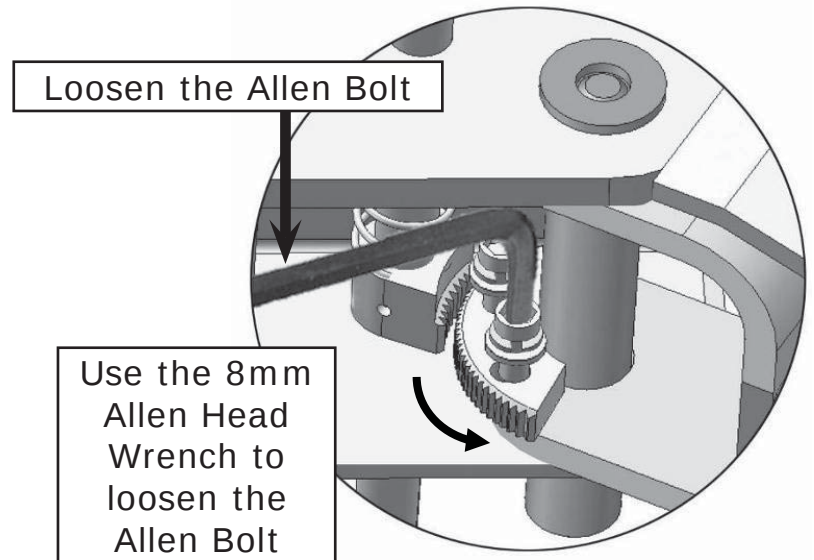


Fig. 37

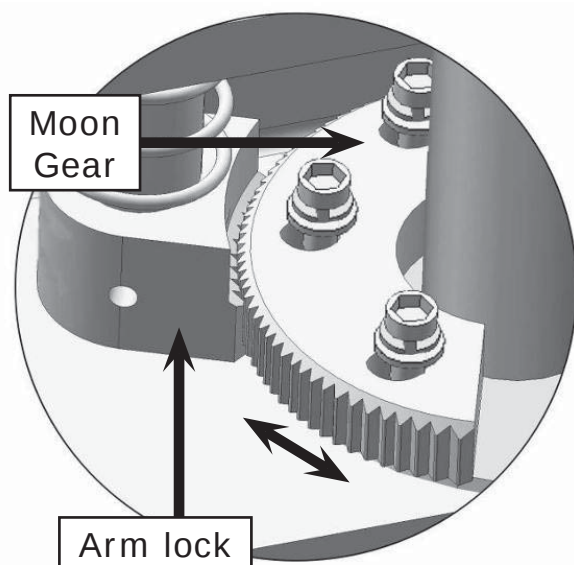


Fig. 38

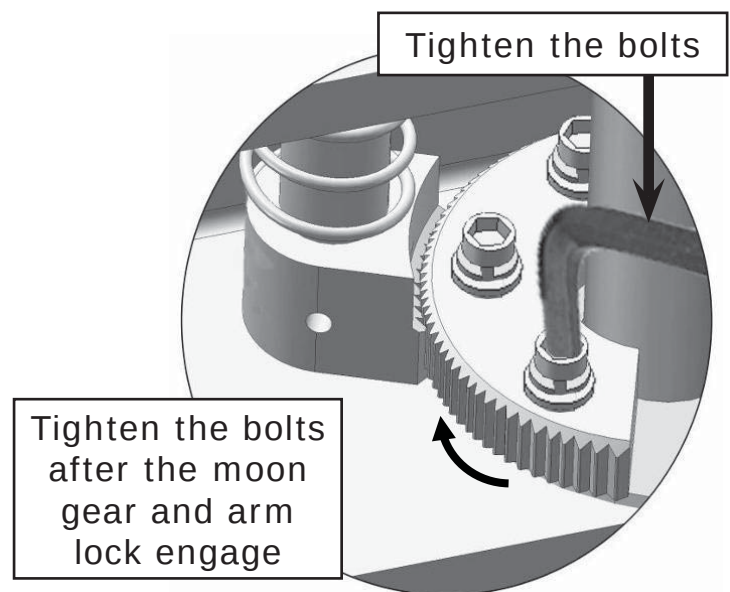


Fig. 39

Install Electrical System

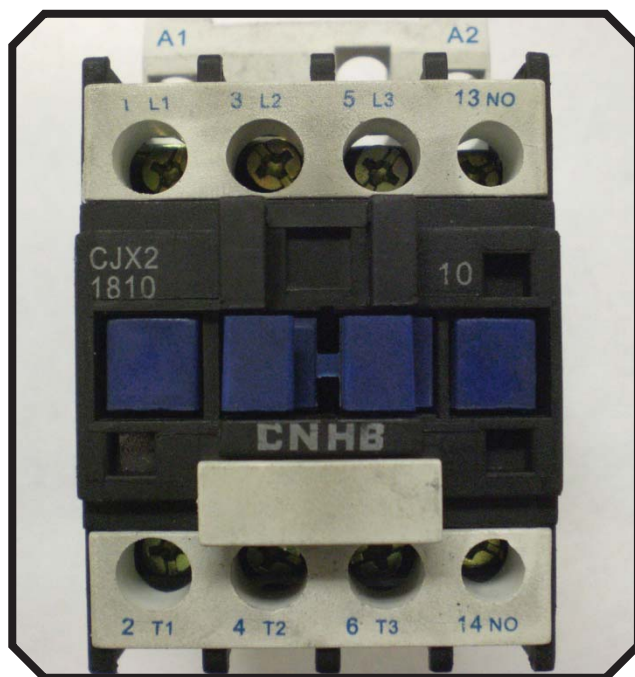
Connect the power source according to the data plate on the Power Unit.

Remove the short “Pig Tail” wire connected to the AC contactor terminals. This wire was used to test the motor after production.

ATLAS Single phase motor

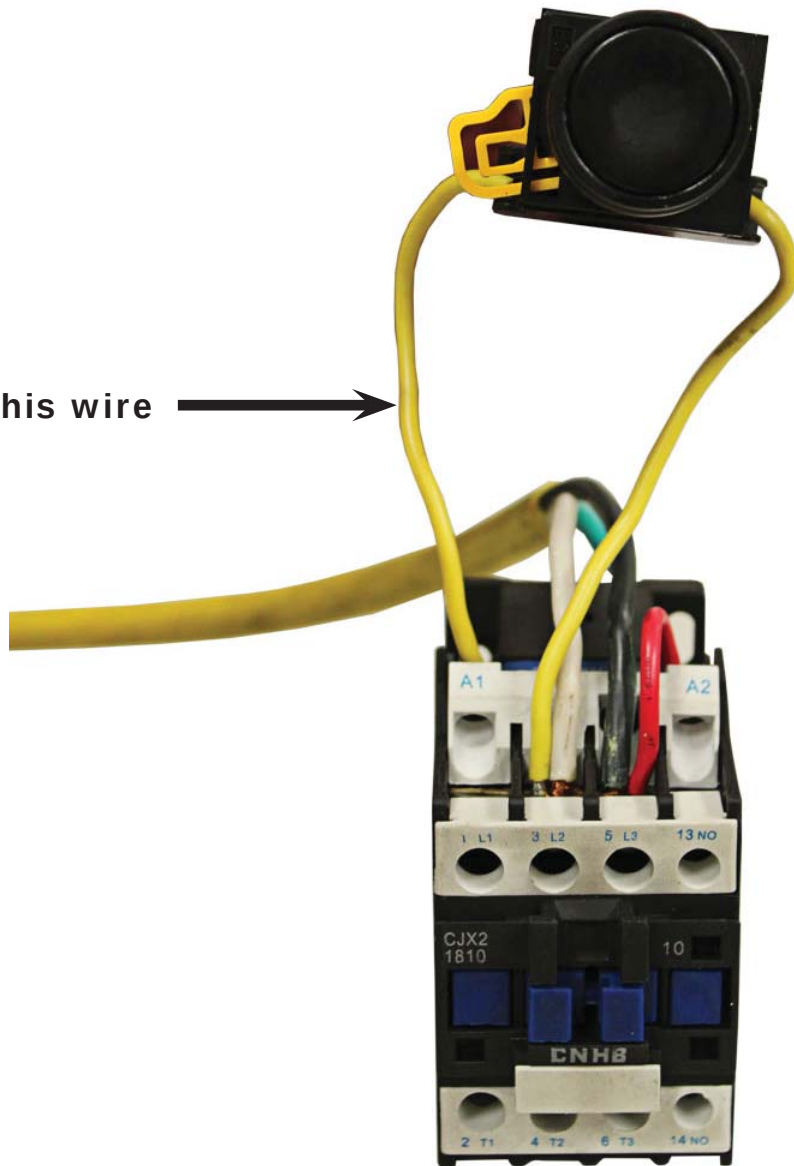
Please Note: This motor is powered by Alternating Current and the terminals on the AC contactor are not wire color specific. There are no positive or negative terminals.

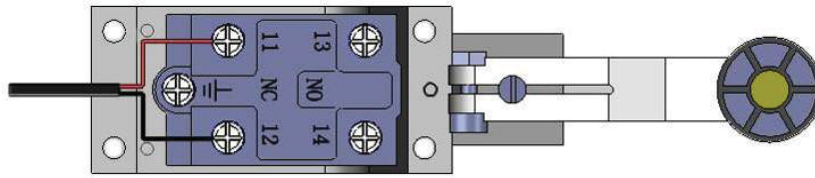
1. Connect the two power supply (**incoming**) wires (**black & white**) to terminals on the AC contactor marked **L2 & L3**.
2. Connect the two motor wires to terminals on the AC contactor marked **T2, T3. These wires are already connected from the factory.**
3. Connect the short wire **A2** to **L3** on the AC contactor. **This wire is already connected from the factory.**
4. Remove the **entire** wire that connects from the “**UP**” button to **A1** on the AC contactor.
5. Connect one of the wires (**does not matter which one**) on the Limit Switch to the “**UP**” button and connect the remaining Limit Switch wire to terminal **A1** on the AC contactor.



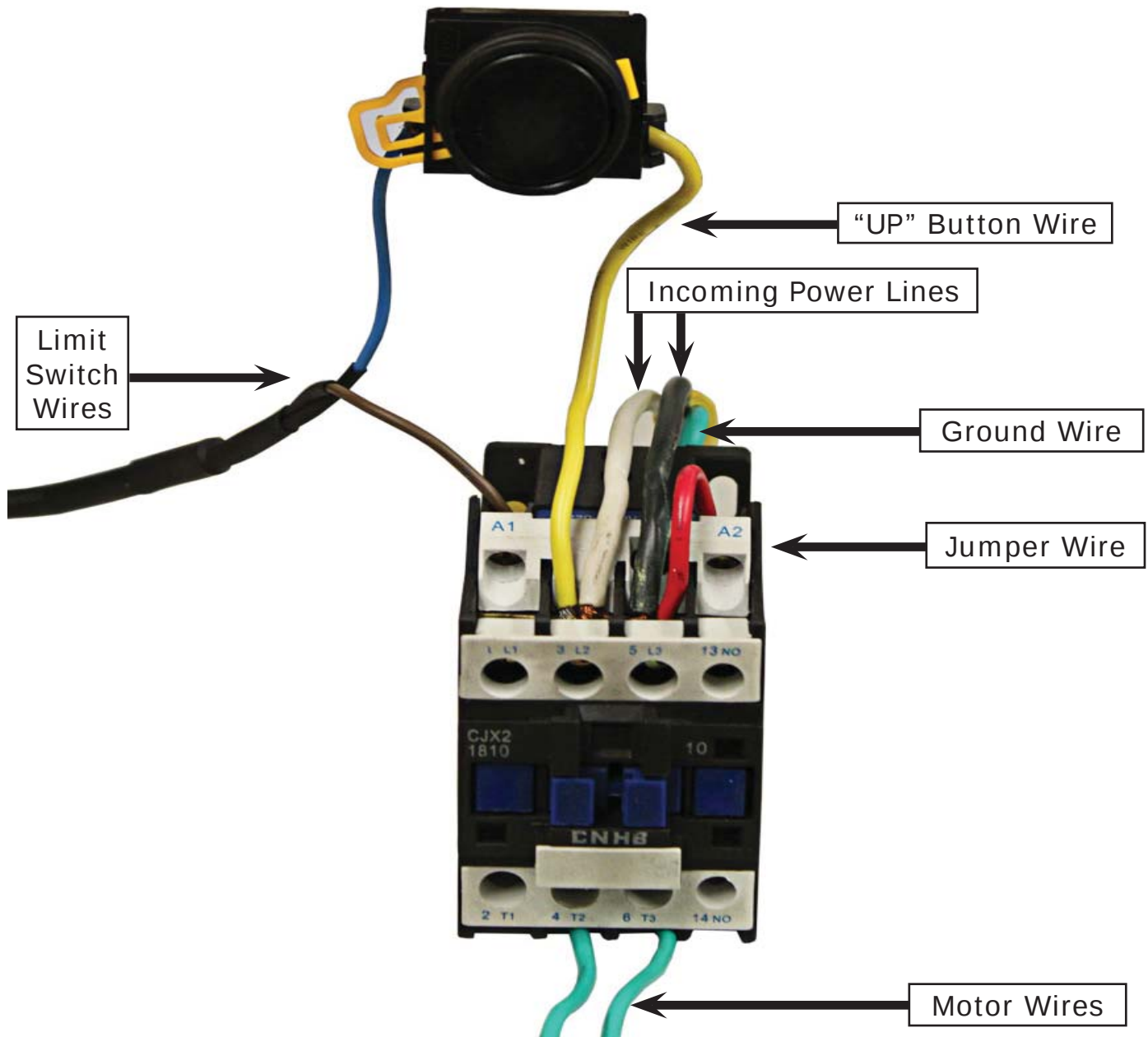
AC CONTACTOR

Remove this wire →





Limit Switch-Connect wires to 11 & 12 (NC) on the Limit Switch



Exploded View

Model PV-12PX

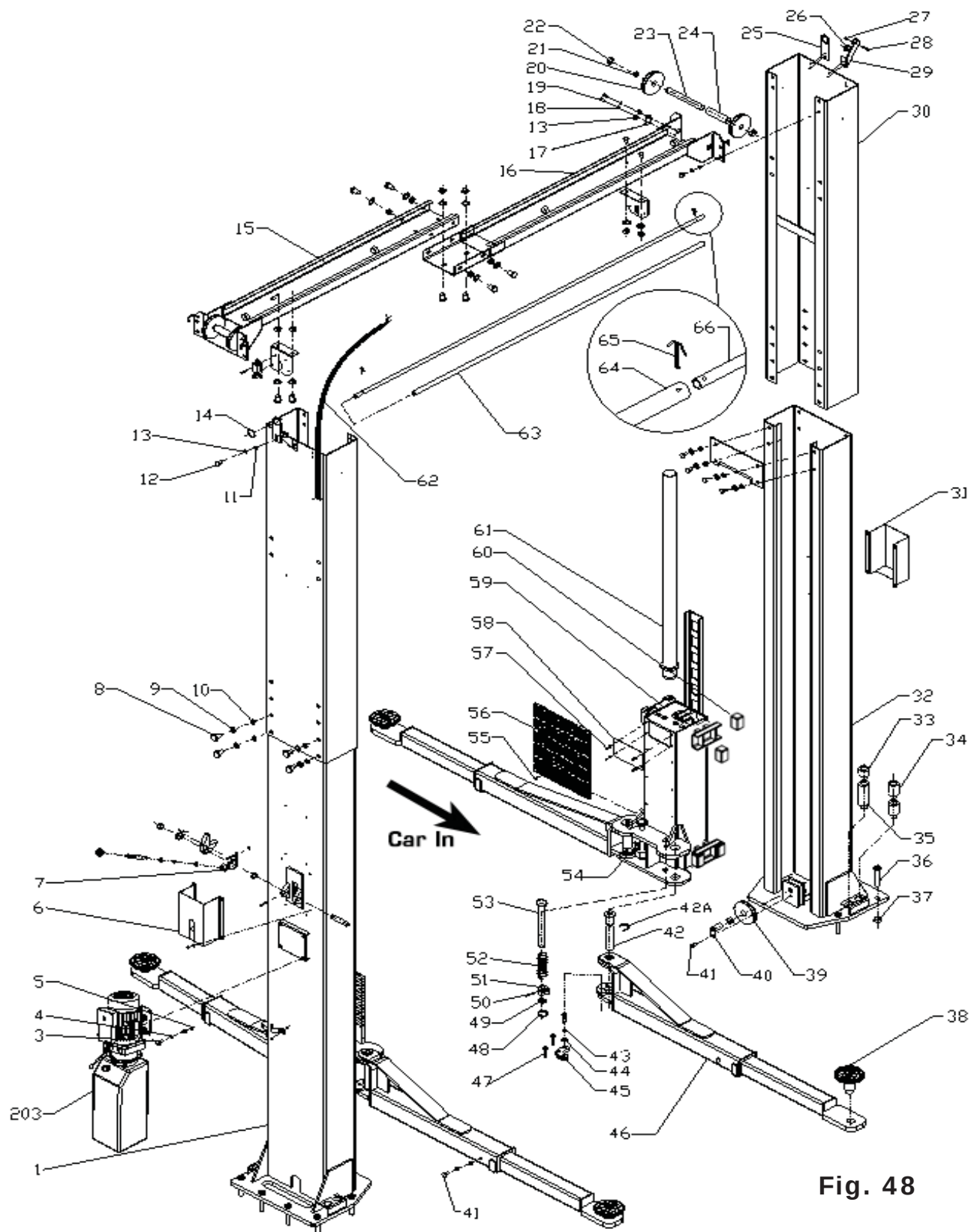


Fig. 48

Cylinders

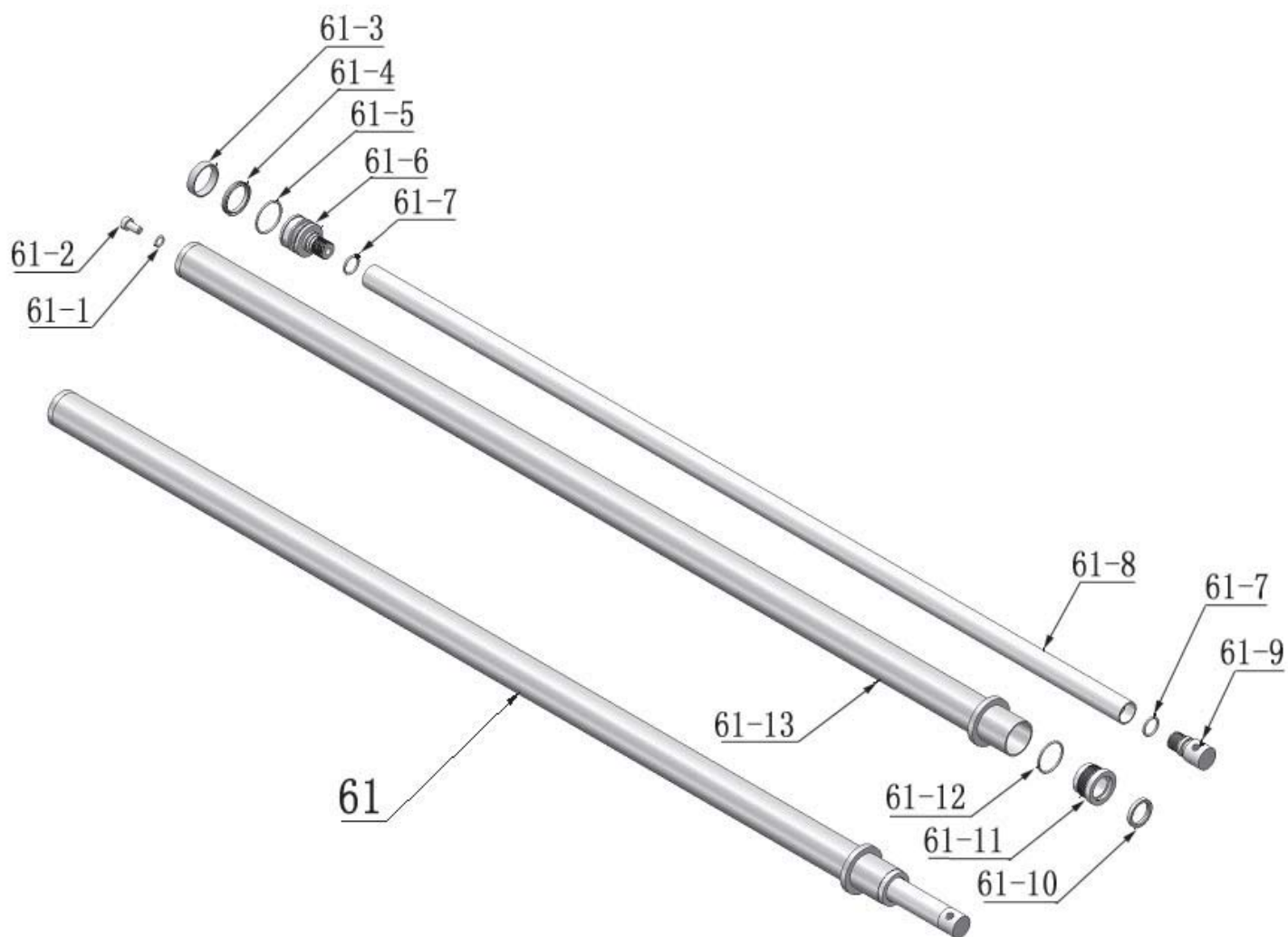


Fig. 49

ATLAS Manual power unit (Fig. 50)

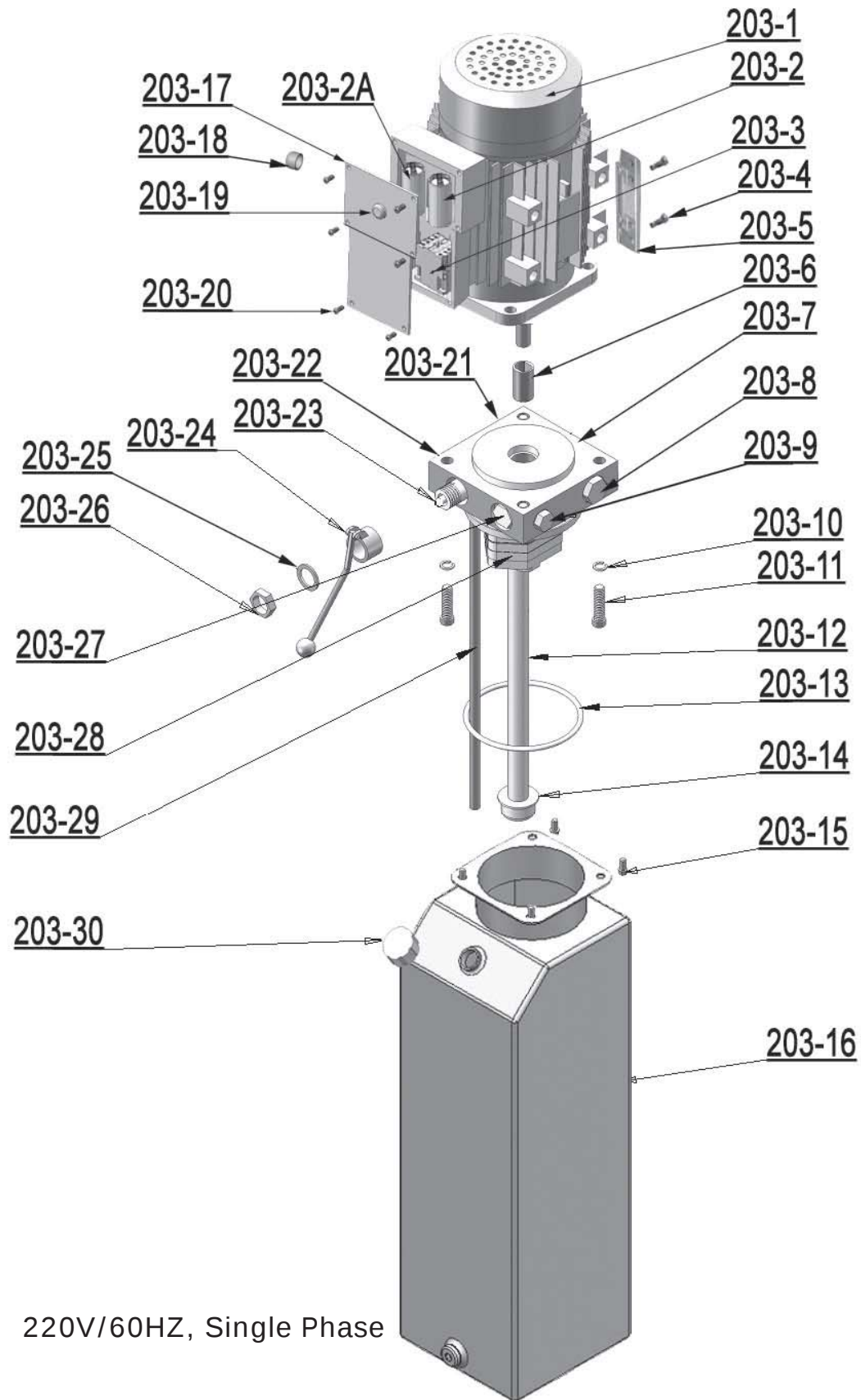


Fig. 50

Illustration of hydraulic valve for ATLAS hydraulic power unit

ATLAS manual power unit, 220V / 60HZ, Single phase (See Fig. 51)

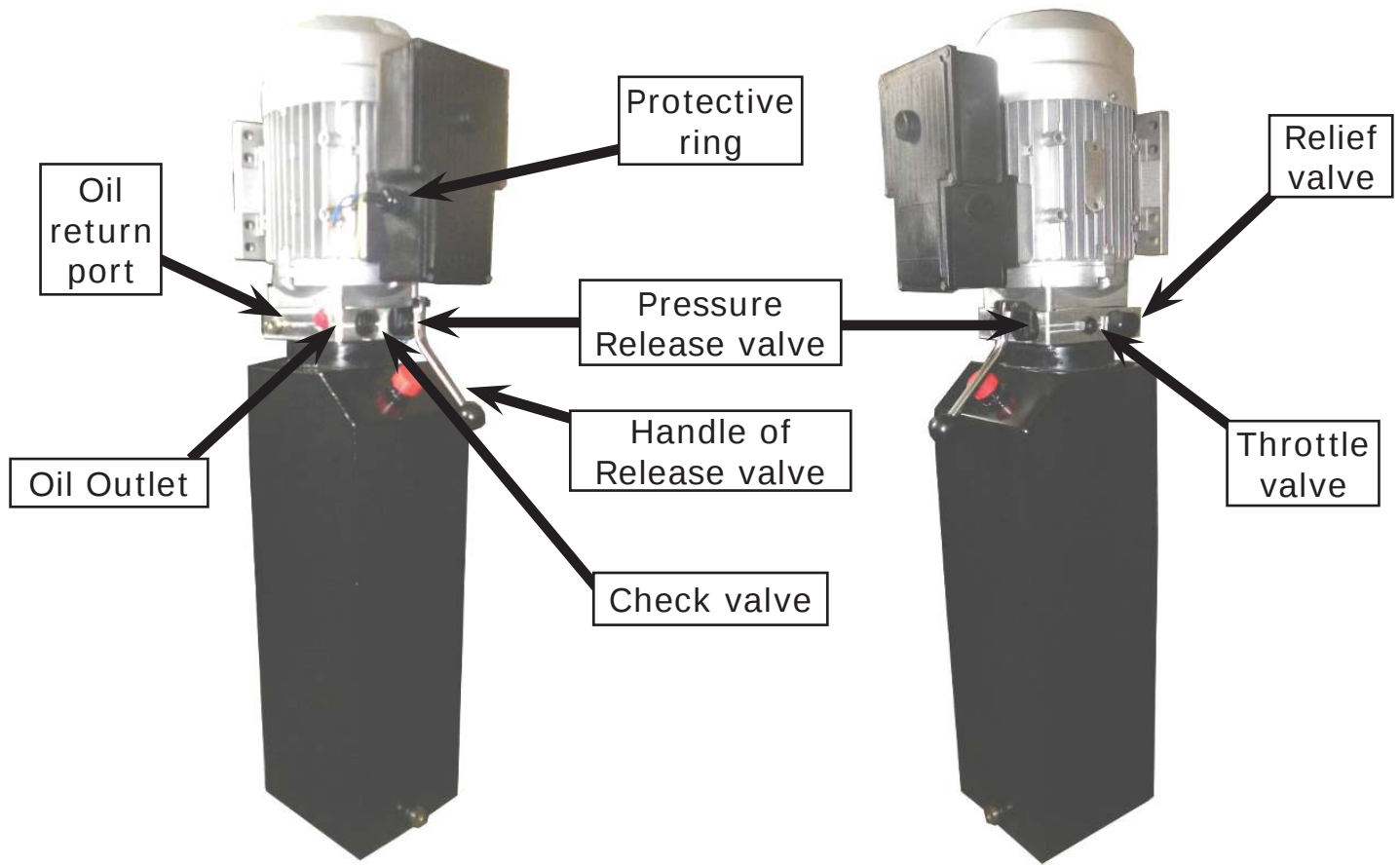


Fig. 51

Test Run

1. Adjust equalizing cables (See Fig. 53)

Use a wrench and hold the cable fitting, meanwhile use a wrench to tighten the cable nut. Make sure the two cables have the same tension and the two carriages lift at the same time. Replace the plastic cover on the lifting head.

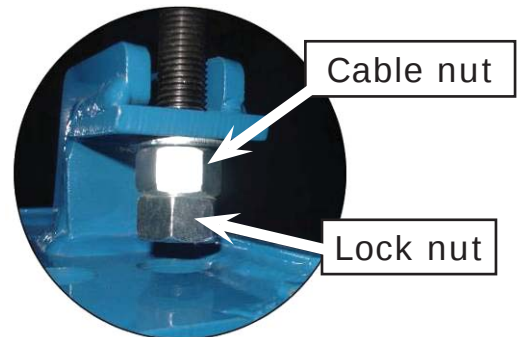


Fig. 53

2. Adjust safety lock cable

Lift the carriages and lock at the same height, pull the safety cable and then release a little, and then tighten the cable nuts. Make sure the safety locks click at the same time.

3. Bleeding the cylinders

Lift the carriages to about 12 inches and loosen the bleeding plugs, Lower the lift until hydraulic fluid seeps from the tops of the cylinders, Tighten the plugs. (See Fig. 54).

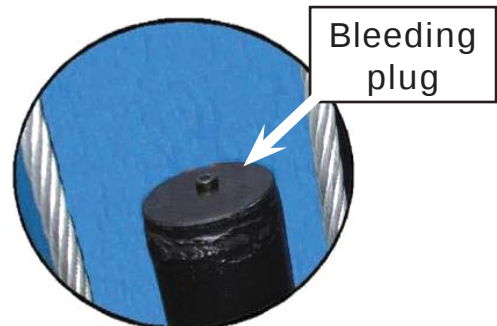
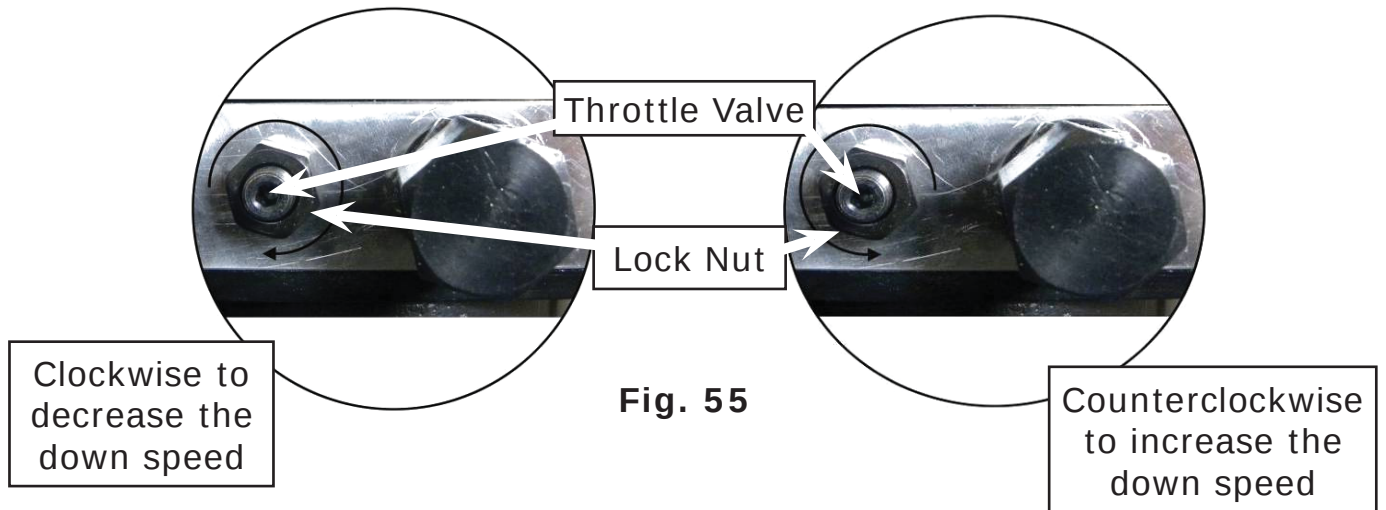


Fig. 54

4. Adjust the lower speed (Only for PEAK power unit) (Adjust with a load on the lift)

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



5. Test with load

After finishing the above adjustment, test run the lift with a load. Run the lift in low position several times, make sure the carriages lift and lower at the same time, the safety lock device should click at the same time. Test run the lift to the top.

NOTE: If the lift vibrates while going up, lubricate all pulleys, pins and wear blocks. If the lift vibrates on the way down, bleed the cylinders.

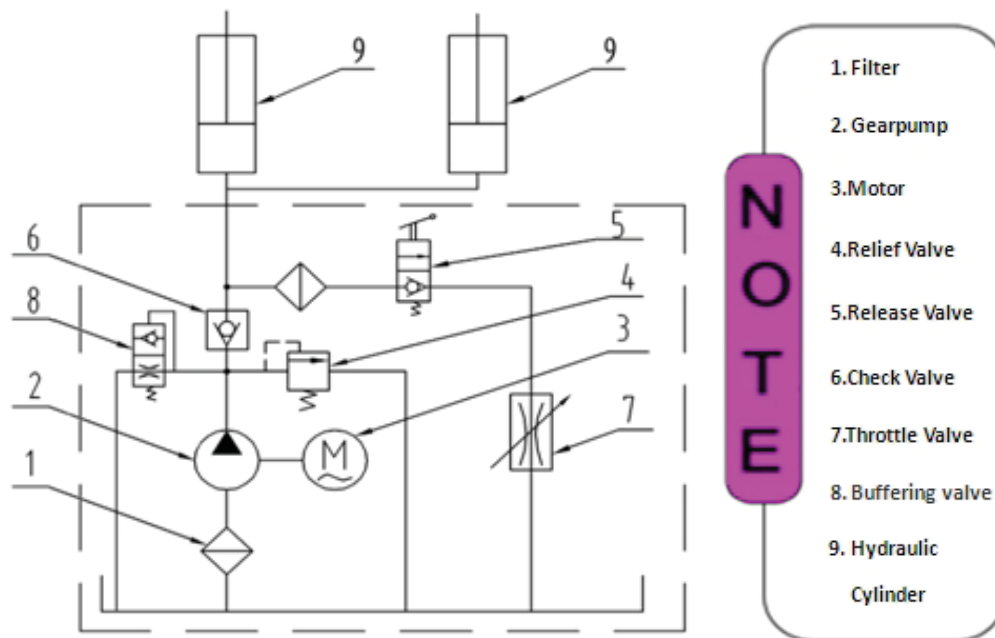


Fig. 56 Hydraulic System

Operation Instructions

Please read the safety tips carefully before operating the lift

To lift vehicle

1. Be sure there are no obstructions near the lift area;
2. Position lift arms to the lowest position;
3. Open lift arms;
4. Position vehicle between columns;
5. Move arms to the vehicle's lifting point;

Note: The four lift arms must make contact at the same time on the vehicle's lifting points and both axles must rise off of the ground at the same time.

6. Press the **UP** button until the lift pads contact underside of vehicle. Check to make sure vehicle is secure;
7. Continue to raise the lift to the desired working height, ensuring the balance of the vehicle;
8. Push lowering handle to lower lift onto the nearest safety lock. The vehicle is ready to repair. **Note: The lift must always be on the safety locks!!!!**

To lower vehicle

1. Be sure there are no obstructions near the lift area;
2. Press the button of **UP** to raise the vehicle slightly, and then release the safety device, lower vehicle by pushing the lowering handle.
3. Open the arms and position them to the shortest length;
4. Drive the vehicle away.

Maintenance Schedule

Monthly:

1. Re-torque the anchor bolts to 65-86 Ft Lbs;
2. Check all connectors, bolts, pulleys and pins;
3. Lubricate cable with lubricant;
4. Make a visual inspection of all hydraulic hoses/lines for possible wear or leakage;
5. Check the condition of the safety lock device;
6. Lubricate all rollers and pins with 90wt. Gear oil or equivalent;

Note: All anchor bolts should take full torque. If any of the anchors do not tighten, 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 equalization tension on the cables for level lifting.
3. Check the columns for plumb.
4. Check rubber pads and replace as necessary.
5. Check safety lock device and make sure they are in condition.

Trouble Shooting

TROUBLE	CAUSE	REMEDY
Motor does not run	1. Button does not work 2. Wiring connections are not in good condition 3. Motor burned out 4. Height limit switch is damaged 5. AC contactor burned out	1. Replace button 2. Repair all wiring connections 3. Repair or replace motor 4. Replace the limit switch 5. Replace AC contactor
Motor runs but the lift is not raised	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. Reverse the two power wires 2. Repair or replace 3. Repair or replace 4. Repair or replace 5. Fill tank
Lift does not stay up	1. Release valve has debris in it 2. Relief valve or check valve leakage 3. Cylinder or fittings leak	Repair or replace
Lift raises slowly	1. Oil line is has an obstruction 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 can not lower	1. Safety lock device are activated 2. Release valve has debris in it 3. Safety cable broken 4. Oil system has an obstruction	1. Release the safeties 2. Repair or replace 3. Replace 4. Clean the oil system

Parts list for model PV-12PX

Item	Part#	Description	Qty.	Note
1	217001B	Power side column	1	
203	209002A	Power unit	1	
3	209003	Bolt	4	
4	209033	Lock washer	4	
5	209005	Nut	4	
6	217003	Power side lock cover	1	
7	217004	Main cam lock	1	
8	217069	Bolt	34	
9	206006	Washer	35	
10	206023	Self locking nut	34	
11	420018	Self locking nut	8	
12	217013	Bolt	8	
13	420045	Washer	26	
14	61K074	Protective ring	2	
15	217015B	Right overhead bar	1	
16	217016B	Left overhead bar	1	
17	420044	Pin stop	2	
18	209149	Washer	8	
19	420138	Bolt	4	
20	217019	Top pulley	4	
21	217020	Bronze bush for pulley	6	
22	217021	Top pulley spacer	4	
23	217022	Pin	2	
24	217023	Pin spacer	2	
25	217024	Hose support	2	
26	206009	Plastic small pulley	3	
27	209056	Self locking nut	3	

Item	Part #	Description	Qty.	Note
28	209046	Bolt	3	
29	217026	Safety cable bracket	2	
30	217027B	Extension column	2	
31	217028	Offside lock cover	1	
32	217034B	Offside column	1	
33	209051B	Adapter 1.5"	4	
34	209052B	Adapter 2.5"	4	
35	209053B	Adapter 5"	4	
36	207045	Anchor bolt	12	
37	620065	Shim	10	
38	217114A	Rubber pad assy.	4	
38A	420138	Socket bolt	4	
38B	209134	Rubber Pad	4	
38C	680030B	Rubber Pad frame	4	
39	217036	Bottom pulley	2	
40	217037	Bottom pin	2	
41	209038	Bolt	6	
42	217047B	Arm pin	4	
42A	520023	Snap ring	4	
43	209039	Lock washer	18	
44	209022	Washer	18	
45	206049	Moon gear	4	
46	217052C	Lifting arm	4	
46A	217120	Outer arm	4	
46B	217121A	Inner arm	4	
47	206048	Allen bolt	12	
48	206032	C-clip	4	
49	217043	Limit ring	4	
50	206036	Roll pin	4	
51	217044	Arm lock	4	

Item	Part #	Description	Qty.	Note
52	217045A	Spring	4	
53	217046C	Left arm lock bar	2	
54	217046B	Right arm lock bar	2	
55	209019	Flat head screw	12	
56	217053	Rubber pad	2	
57	209009	Cup head bolt	28	
58	217054	Carriage plastic cover	2	
59	217196	Carriage	2	
60	217188	Slider block	16	
61	217056A	Cylinder	2	
62	217173	Wire cable	1	
63	206025A	Foam Cushion	1	
64	206129	Limit bar	1	
65	201005	Split Pin	2	
66	206025C	Limit bar link	2	
67	206013	Limit switch	1	
68	206011	Cup head bolt	2	
69	206042	Limit bar bracket	2	
70	420026	Lock washer	1	
71	206023A	Nut	1	
72	217005	Plastic ball	1	
73	217006	Lock handle	1	
74	217007	Large spacer	2	
75	217030	Main spring	2	
76	217009	Main lock	2	
77	217010	Bolt	1	
78	217011	Nut	1	
79	217012	Small spacer	2	
80	217050	Main lock pin	2	
81	217051	Screw	2	

Item	Part #	Description	Qty.	Note
82	217066	Bolt	2	
83	217008	Torsion spring	1	
84	217031	Cam lock	1	
85	217033	Self locking nut	1	
86	217032	Cable lock hold	1	
87	217029	Small pulley bracket	1	
88	690024	Oil hose	2	
89	217189	90 for power unit	1	
90	690025	Oil hose	1	
91	217060A	Cylinder pipe	2	
92	217061A	90 Fitting	1	
93	217191	Hose clamp	12	
94	420029	Cable nut washer	4	
95	209066	Cable nut	8	
96	217063B	Cable with nut	2	
97	217064B	Safety cable	1	
98	217068	Column connecting plate	2	
101	201090	Shim	10	
102	217195	T-fitting	1	
103	217501B	Parts box	1	
For optional short cable and hose				
99	217112	Short cable	2	
100	217113	Short hose	1	
Parts For Hydraulic Cylinder (See Fig. 49)				
61-1	209069	O-Ring	2	
61-2	209070	Bleeding Plug	2	
61-3	209071	Support Ring	2	
61-4	209072	Y-Ring	2	
61-5	209073	O-Ring	2	
61-6	209074	Piston	2	

Item	Part #	Description	Qty.	Note
61-7	209075	O-Ring	2	
61-8	217089	Piston rod	2	
61-9	217077	Piston rod fitting	2	
61-10	209078	Dust ring	2	
61-11	209079A	Head cap	2	
61-12	217080A	O-Ring	2	
61-13	217090	Bore Weldment	2	

Parts For ATLAS Manual Power Unit, 220V / 60Hz, Single phase (See Fig. 50)				
203-1	440014	Motor	1	
203-2	440015	Start capacitor	1	
203-2A	440016	Run capacitor	1	
203-3	209112	AC contactor	1	
203-4	440017	Allen bolt	4	
203-5	440018	Motor fix frame	2	
203-6	209083A	Motor connecting shaft	1	
203-7	440019	Valve body	1	
203-8	209085A	Relief valve	1	
203-9	209113	Throttle valve	1	
203-10	209086A	Lock washer	4	
203-11	209087A	Allen bolt	4	
203-12	440020	Inlet pipe	1	
203-13	209089A	O-Ring	1	
203-14	209090A	Filter	1	
203-15	440021	bolt	4	
203-16	440022	Reservoir (14 liter)	1	
203-17	440023	Cover of motor terminal box	1	
203-18	209109	Protective ring	1	
203-19	209099A	Push button	1	
203-20	440024	Screw	6	
203-21	209110A	Oil return port	1	
203-22	209100A	Oil outlet	1	
203-23	209101A	Release valve	1	
203-24	209102A	Handle of release valve	1	
203-25	209103A	Washer	1	
203-26	209104A	Nut	1	
203-27	209105A	Check valve	1	
203-28	440025	Gear pump	1	
203-29	440026	Oil return pipe	1	
203-30	440027	Filler cap	1	

Warranty



This item is warranted for five (5) years on structural components, two (2) years on hydraulic cylinders, and one (1) year on electric or air / hydraulic power units from invoice date. Wear items are covered by a 90 day warranty.

This LIMITED warranty policy does **not include a labor** warranty.

NOTE: ALL WARRANTY CLAIMS MUST BE PRE-APPROVED BY THE MANUFACTURER TO BE VALID.

The Manufacturer shall repair or replace at their option for this period those parts returned to the factory freight prepaid, which prove after inspection to be defective. This warranty will not apply unless the product is installed, used and maintained in accordance with the Manufacturers installation, operation and maintenance instructions.

This warranty applies to the ORIGINAL purchaser only, and is non-transferable. The warranty covers the products to be free of defects in material and workmanship but, does not cover normal maintenance or adjustments, damage or malfunction caused by: improper handling, installation, abuse, misuse, negligence, carelessness of operation or normal wear and tear. In addition, this warranty does not cover equipment when repairs or alterations have been made or attempted to the Manufacturer's products.

THIS WARRANTY IS EXCLUSIVE AND IS LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING ANY IMPLIED WARRANTY OR MERCHANTABILITY OR ANY IMPLIED WARRANTY OF FITNESS FROM A PARTICULAR PURPOSE, AND ALL SUCH IMPLIED WARRANTIES ARE EXPRESSLY EXCLUDED.

THE REMEDIES DESCRIBED ARE EXCLUSIVE AND IN NO EVENT SHALL THE MANUFACTURER, NOR ANY SALES AGENT OR OTHER COMPANY AFFILIATED WITH IT OR THEM, BE LIABLE FOR SPECIAL CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR THE BREACH OF OR DELAY IN PERFORMANCE OF THIS WARRANTY. THIS INCLUDES, BUT IS NOT LIMITED TO, LOSS OF PROFIT, RENTAL OR SUBSTITUTE EQUIPMENT OR OTHER COMMERCIAL LOSS.

PRICES: Prices and specifications are subject to change without notice. All orders will be invoiced at prices prevailing at time of shipment. Prices do not include any local, state or federal taxes.

RETURNS: Products may not be returned without prior written approval from the Manufacturer.

DUE TO THE COMPETITIVENESS OF THE SELLING PRICE OF THESE LIFTS, THIS WARRANTY POLICY WILL BE STRICTLY ADMINISTERED AND ADHERED TO.