

Stratus 2 Post Base Plate Lift Installation & Operation & Maintenance Instructions

Model No.: SAE-F12X

2 Post Base Plate Lift

Single (1) Point Manual Release

Lifting Capacity: 12000lbs

Installation & Operation
Maintenance Instructions

STRATUS[®]

auto equipment



Important Note

1. This equipment can not be installed , operated or repaired without reading instructions.
2. Electricity must be hooked up by certified electrician.
3. Do not use this equipment beyond its rated capacity.

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1-Equipement Description

1. 1-Description

This 2 Post Floor Plate Lift is an advanced car & truck maintenance equipment, mainly used for automotive's repair and maintenance.

1.2-Technical Specifications

Model	SAE-F12X
Lift Capacity	5500KG/12000lbs
Overall Height	3117mm/122 3/4"
Overall Width	3940mm/155 1/8"
Maximum Lifting Height	1900mm/74 13/16"
Minimum Height	125mm/4 15/16"
Lifting Time	About 60 sec.
Outside Column to Outside Column Width	3742mm/147 5/16"
Inside Column Width	3300mm/129 15/16"
Drive Through	2949mm/116 1/8"
Column Thickness of Steel	6mm/0.236"
Carriage Thickness of Steel	6mm/0.236"
Arms Thickness of Steel	8mm/0.315"
Equalized Cable Diameter	9mm/0.354"
Voltage	220V
Power	3.0Kw/4Hp
Breaker	30A
Hydraulic Oil	3-5 Gallons AW32/AW46
Equipment Weight	1980LBS

Installation (See Fig 1)

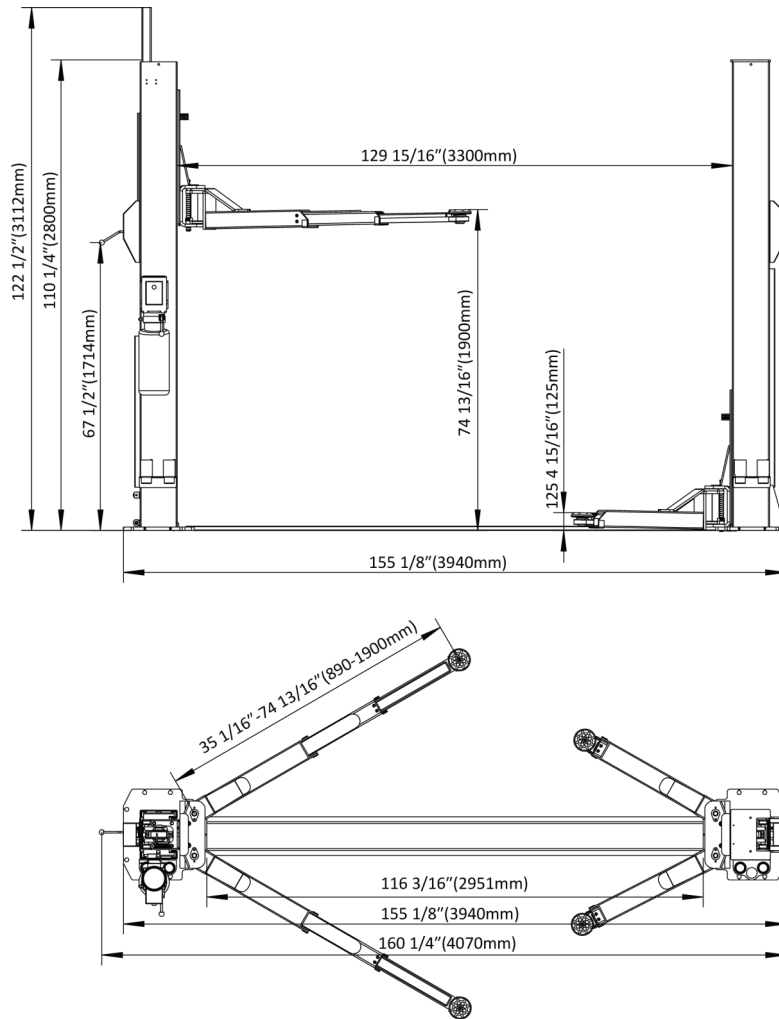


FIG 1

Features (See Fig 2)

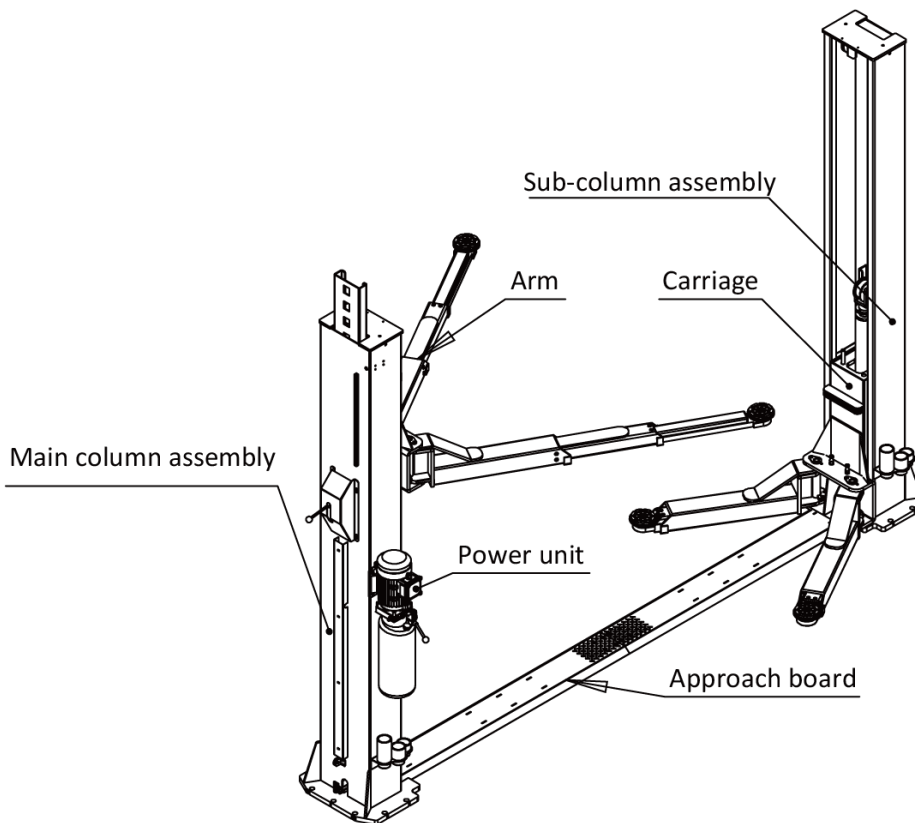














FIG 2

1.3-Installation requirement

Tools required

Name	Picture
Rotary hammer drill (Φ19)	
carpenter's chalk	
Hammer	
Screw Sets	
Level bar	
Tap measure	
English spanner(12")	
Pliers	
Ratchet spanner with socket(28#)	
Socket head wrench(3#,5#,8#)	
Lock wrench	
Wrench set(10#,13#,14#,15#,17#,19,24#,27#,30#)	

2-Specifications of concrete (See Fig 3)

Specifications of concrete must be adhered to the specification as following. Failure to do so may result in lift and/or vehicle falling.

- ◇ Concrete must be thickness 200mm minimum and without reinforcing steel bars, and must be completely dry before lift installation.
- ◇ Concrete must be in good condition and must be of test strength 3500psi(245kg/cm²) minimum.
- ◇ Floor must be level with no cracks or holes.

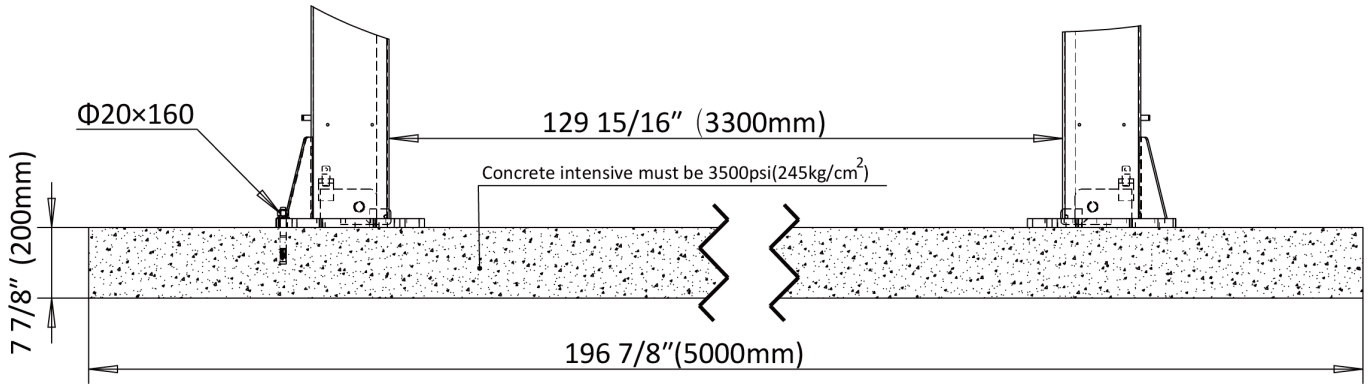


FIG 3

Steps of installation

- ◇ Location of installation

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

- ◇ Use a carpenter's chalk line to establish installation layout of baseplate(See Fig4).

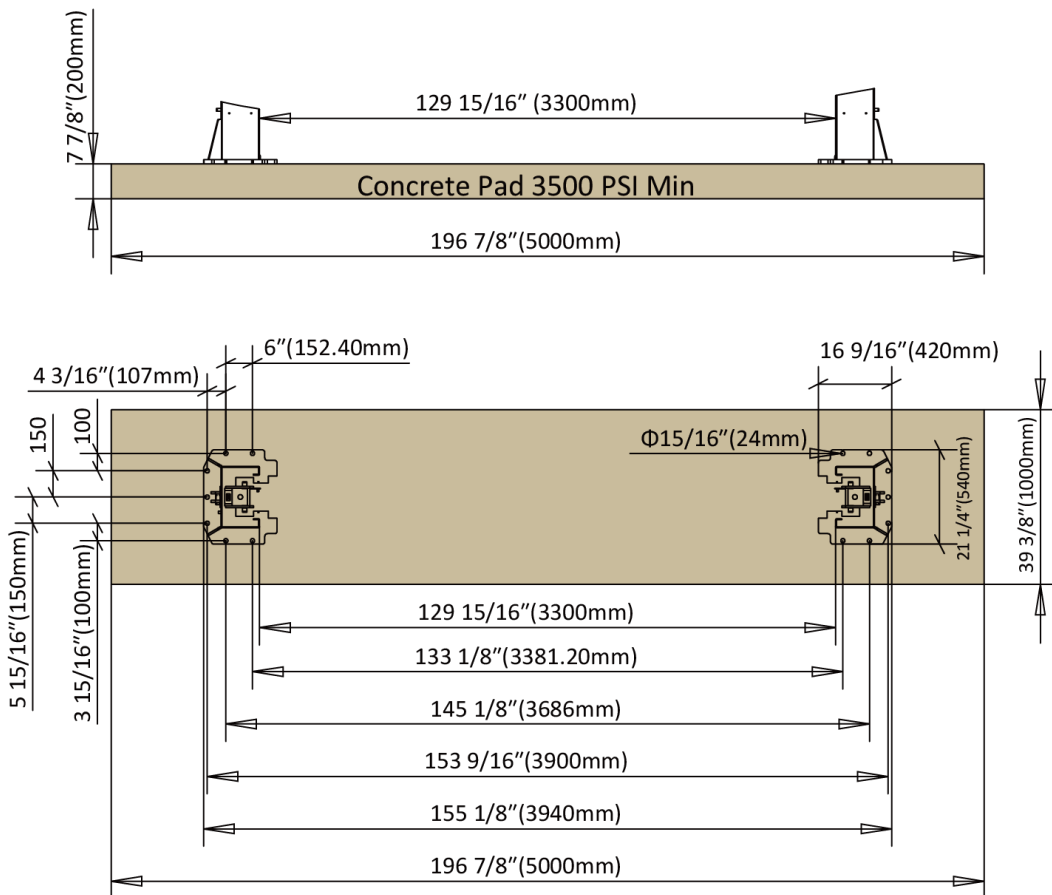


FIG 4

3-Installation steps

Step 1: Check the parts before assembly

Packaged lift and hydraulic power unit (See Fig 5)

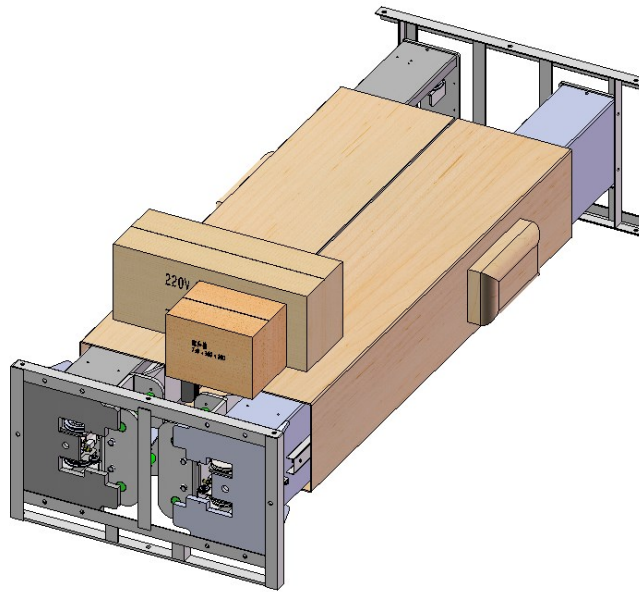


FIG 5

Step 2: Move aside the parts and check the parts according to the shipment parts list (See Fig 6).

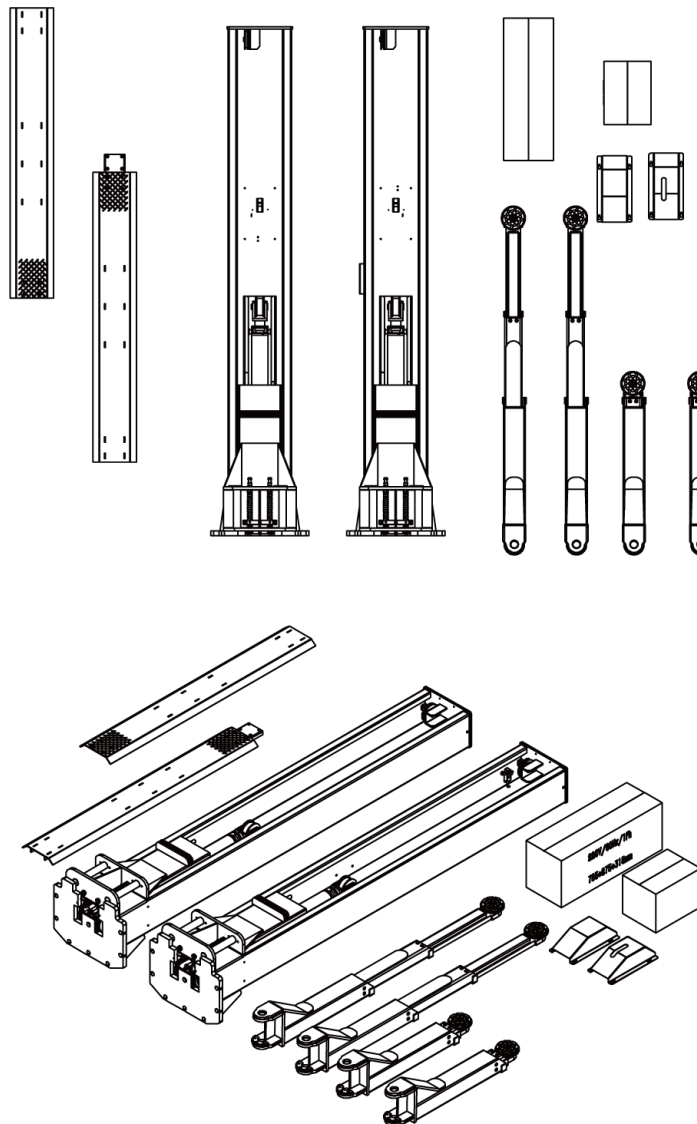











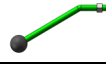








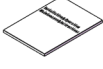


FIG 6

Step 3: Spare parts in the accessories box.

NO.	Name	Photo	Parameter	Qty.
1	Arm shaft		Φ40×250L	4
2	Arm shaft fixing screw		Countersunk Hexagon Screw M10×15L	4
3	Arm bottom pad		Φ70mm	4
4	Increased set		Φ60×100L	4
5	Heightening bracket			2
6	Heightening sleeve bracket fixing screw		Hexagon socket screws M8×10L	4
7	Anti-collision tape			2
8	Anti-collision rubber strip fixing screws		Hexagon socket screws M8×30	4
9	Power unit frame			1
10	Power unit frame fixing screws		Hexagon socket screws M10×16L	Each 2
11	Power unit fixing screws		Hexagon Screw M8×25L	Each 4
12	Manual unlocking lever		M10	Each 1
13	Safety lock release cable			1
14	Wire rope U-shaped chuck		M3	2
15	Expansion screw		M20×160L	14
16	Plastic gasket			15
17	Plastic cable tie			30
18	Main column upper limit switch			1
19	Main column upper limit switch fixing screw		Phillips round head screws M5×10L	2
20	Locking and unlocking rope seat assembly accessories			6
21	User's manual			1

Step 4: Install anchor bolts

Position the columns on the installation layout of baseplate. Install the anchor bolts. 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 7).

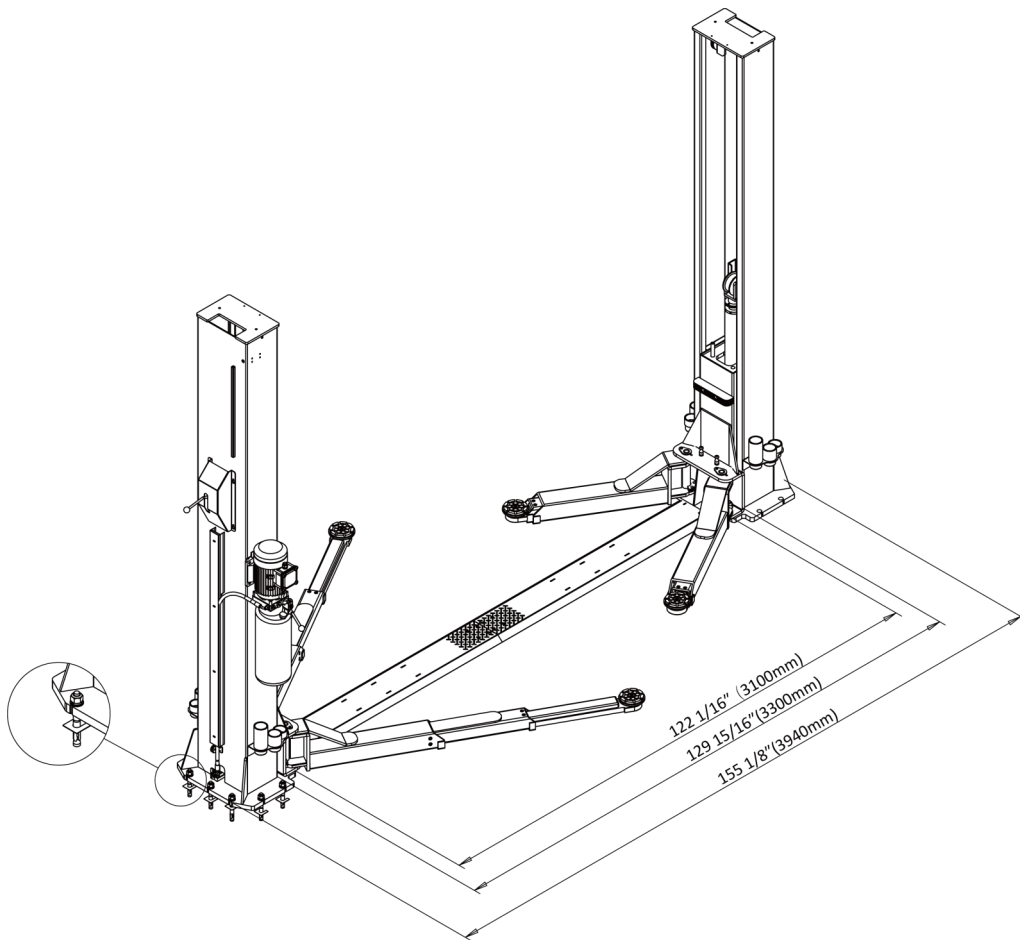


FIG 7

Install Anchor Bolts (Fig 8)

1. Adjust the distance between 2 columns as required dimensions (Fig 8).
2. Adjust the opening direction of the two columns in a straight line (visible).
3. Install Anchor Bolts (Suggest to use 3/4" Drill).

Note: Don't Fasten/Tighten Nuts now in case any adjustment needed.

4. Adjust the verticality of the columns (visible) and use U-shape washer (come with package) if necessary.

5. Tighten anchor bolts nuts in diagonal order (Foot Pounds of Torque:90+, suggest to use hand wrench to tighten nuts).

Note: Anchor bolts driven into the ground at least 150mm.(See Fig 8)



FIG 8

Step 5: Adjust Carriage

Raise the carriage to the 1st locking position located at the bottom of the column (Fig 9).

Note: You can hear ‘click’ once locked.

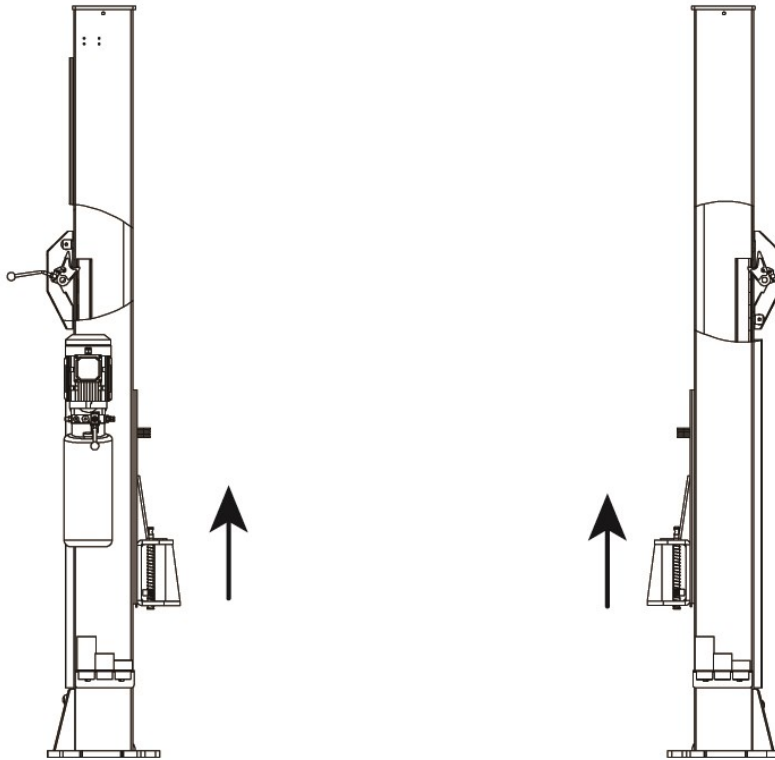


Fig 9

Step 6: Install Equalized Cables (2 Cables in total)

Red & Blue color in this Fig are showing how to route the 2 cables (Fig 10).

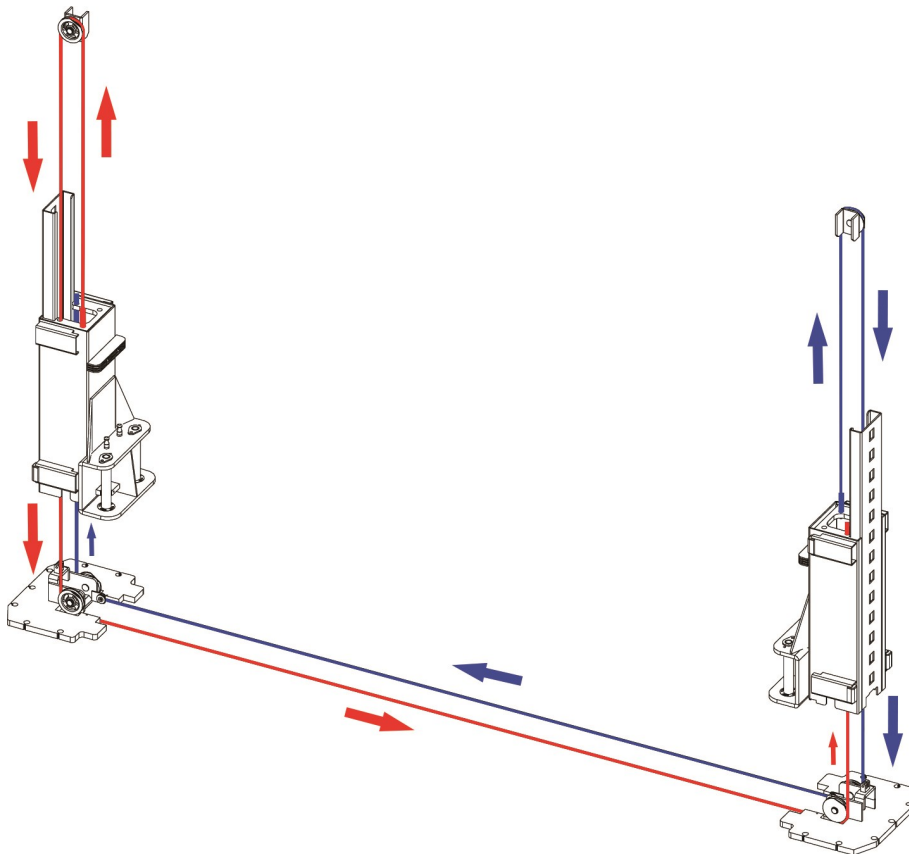
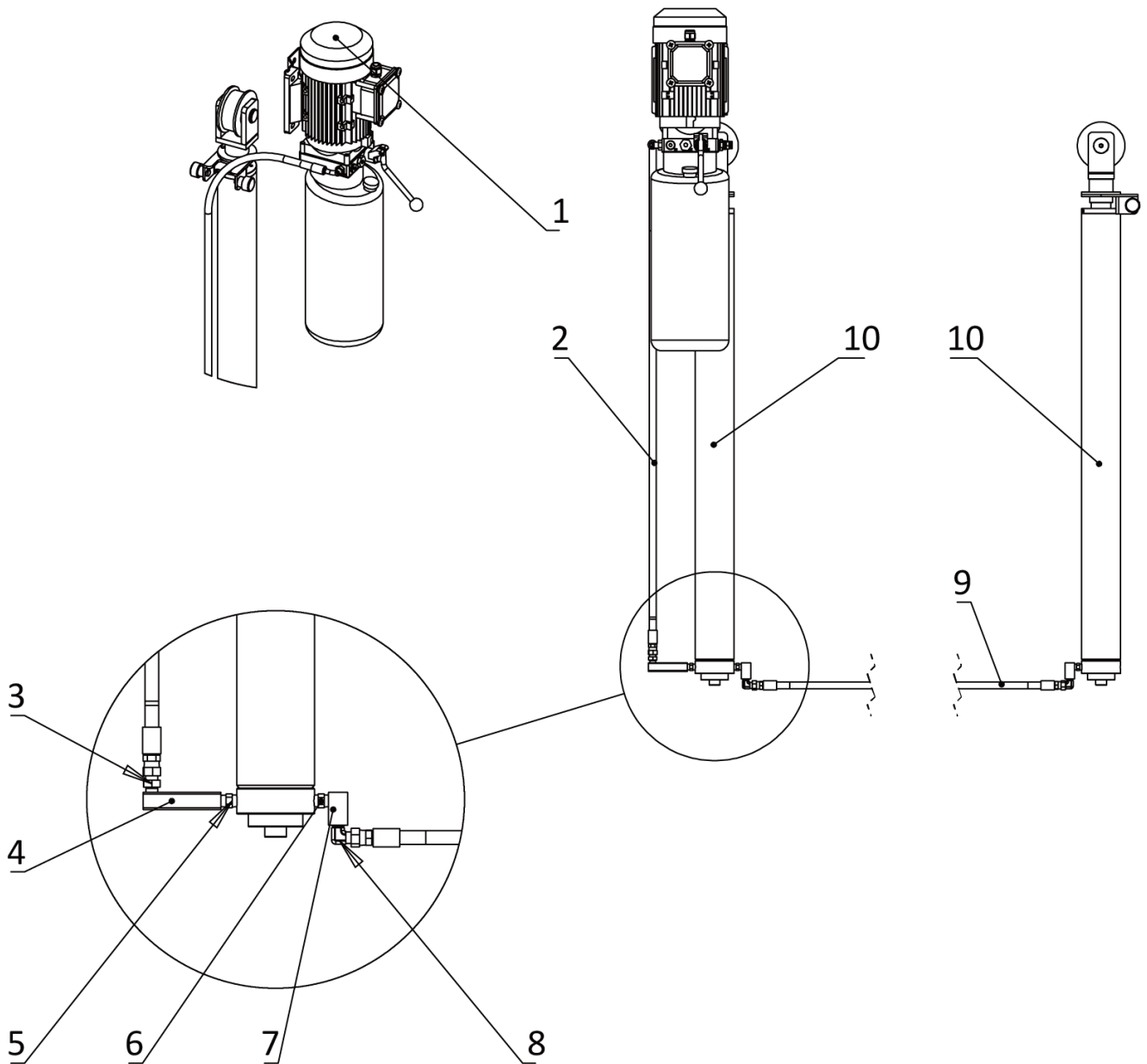


Fig 10

Step 7: Install Hydraulic Hose (2 hose in total)

Connect the longer hose in between the 2 cylinders, connect the short hose in between the cylinder and the power unit. Please tighten the nuts with hand to avoid thread damage, then use hand wrench to fasten completely. (Fig 11)



No.	Name	Qty.	No.	Name	Qty.
1	Power unit	1	6	Connector 2	1
2	Hose 1	1	7	Connect square steel 2	1
3	Connector 1	1	8	Right angle connector	1
4	Connect square steel 1	1	9	Hose 2	1
5	Connector 2	1	10	Hydraulic cylinder	2

Fig 11

Step 8: Install Safety Lock Release Cable

1.The safety lock has been pre-installed.

2.Install safety lock release cable to connect the safety lock on the main column and vice column. (Fig 12)

3.Install safety lock cover.

NOTE: Press the single point lock release lever on the main column to check if this lever can release the mechanisms in both columns at the same time. Adjust the safety lock release cable adjustment screw if necessary until the lever can release the mechanisms in both columns at the same time.

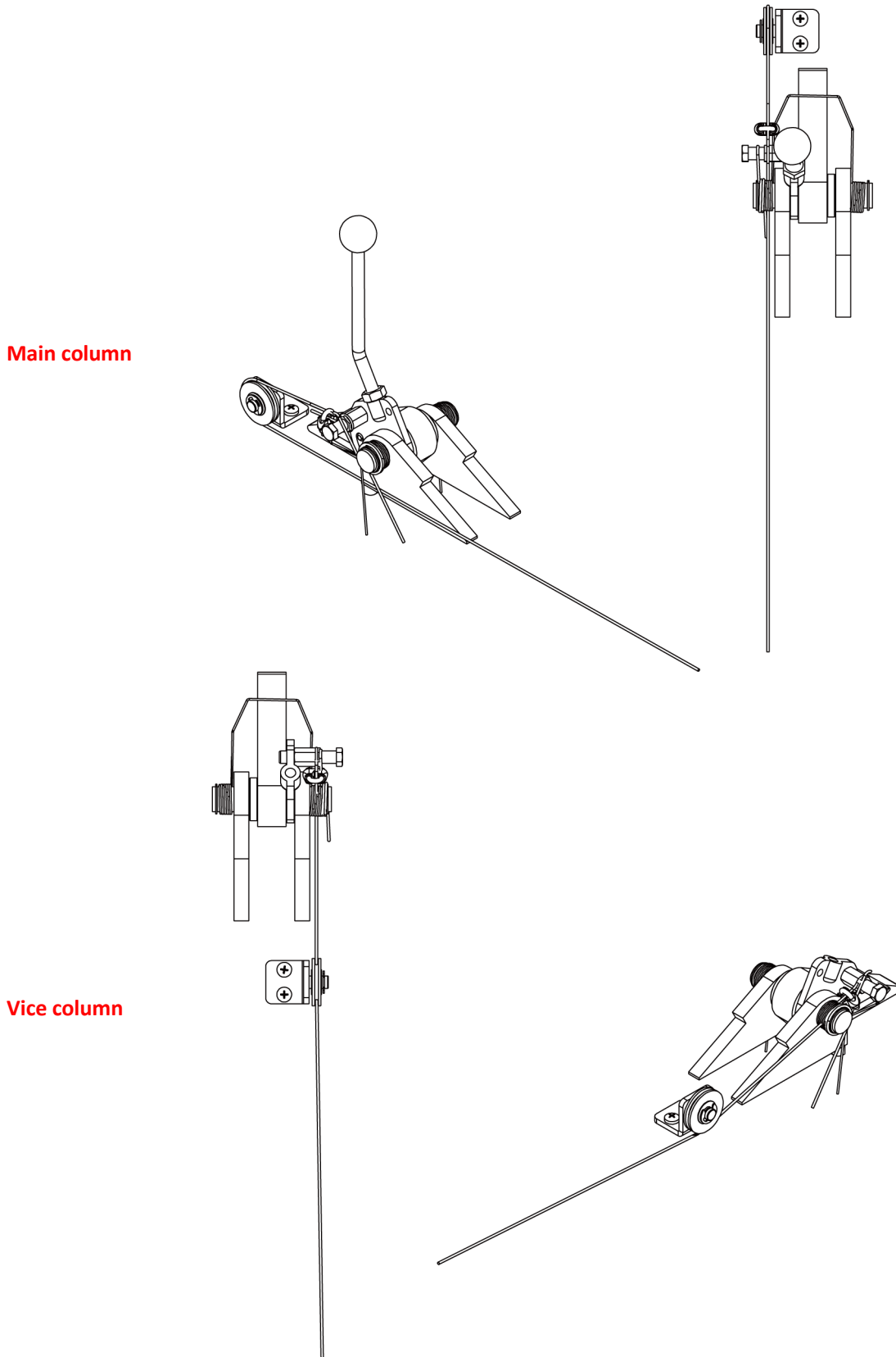


Fig 12

Step 9: Install Power Unit

Install power unit & motor mounting plate on the main column with screws .Truck adapters holder. (Fig 13).

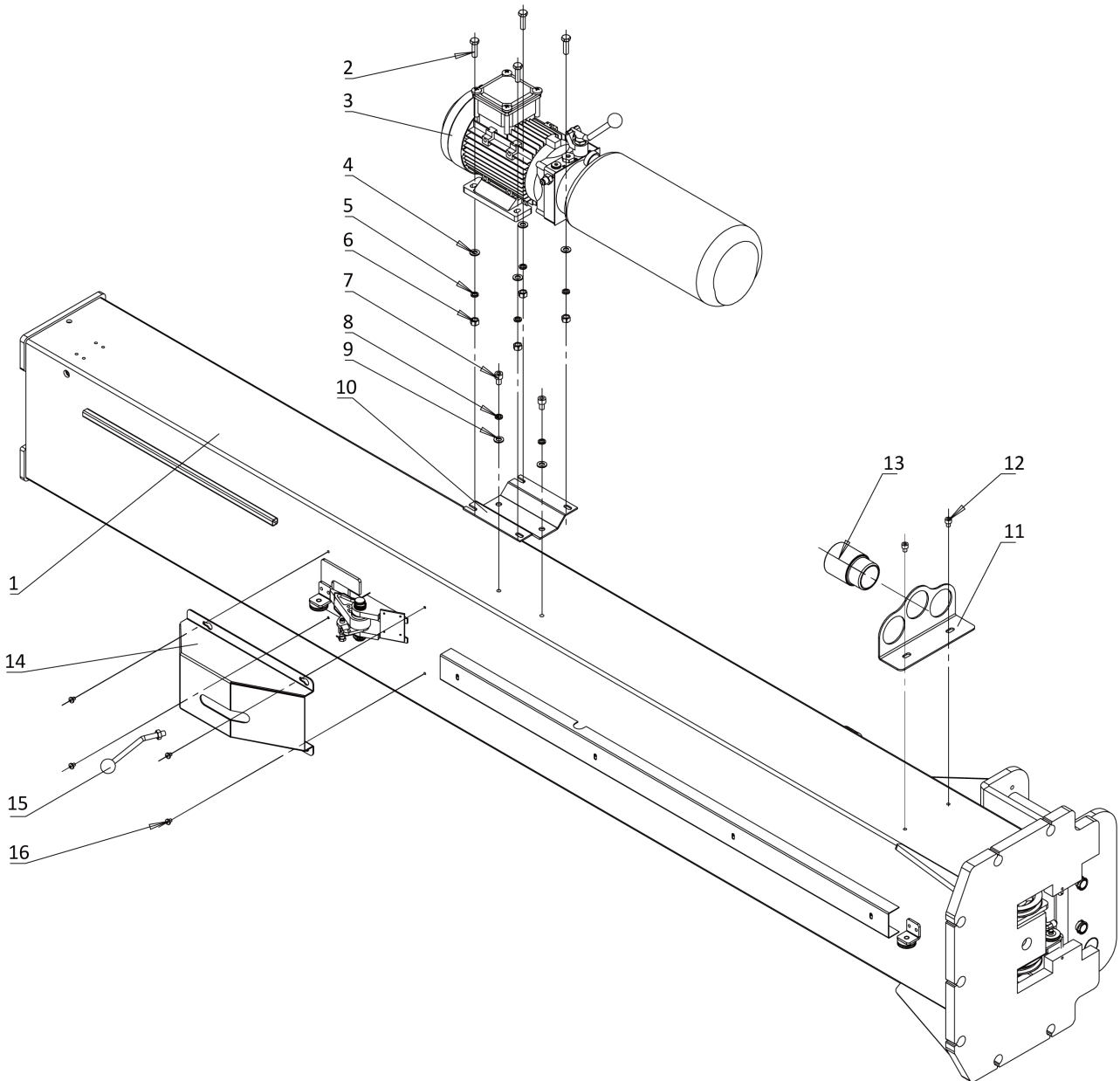


Fig 13

No.	Name	Qty.	No.	Name	Qty.
1	Main column assembly	1	9	Flat pad $\Phi 10$	2
2	Hexagon screw M8×25	4	10	Power unit backpack	1
3	Power unit	1	11	Heightening bracket	1
4	Flat pad $\Phi 8$	4	12	Socket head cap screws M8×10	2
5	Spring cushion $\Phi 8$	4	13	Increase the set	1
6	Hex nuts M8	4	14	Safety lock cover (Opening)	1
7	Socket head cap screws M10×16	2	15	Unlock lever	1
8	Spring cushion $\Phi 10$	2	16	Phillips round head screws M6×8	4

Step 10: Safety Lock Release Cable & Hose & Limiter Switch Wire Protection cover.

1. Safety Lock Release Cable & Hose & Top Limiter Switch Wire Position (Fig 14).

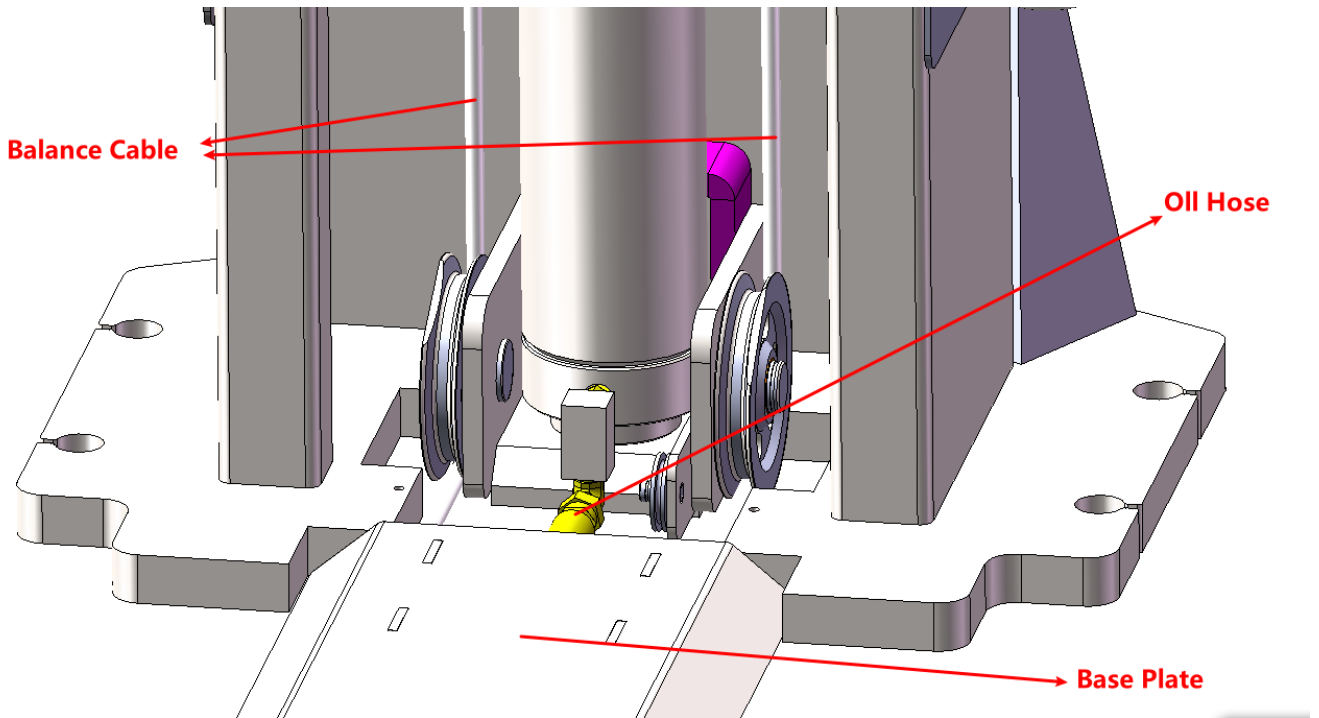


Fig 14

2. Install protection cover (Fig 15)

NOTE: The protection cover on the extension column for safety lock release cable & hose & top limiter switch you need to install the protection cover on column.

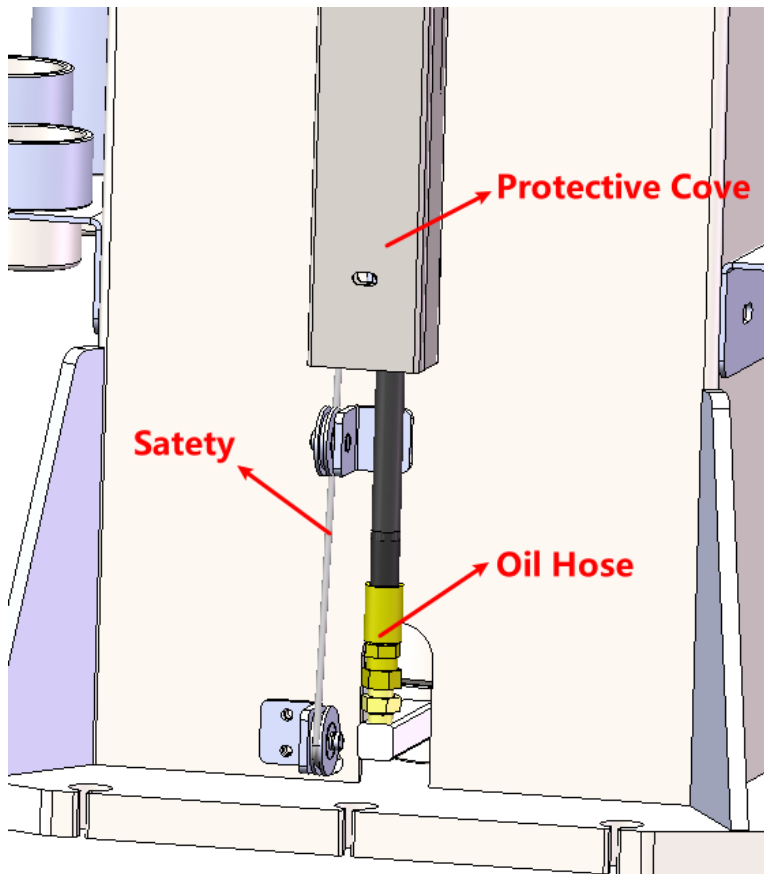
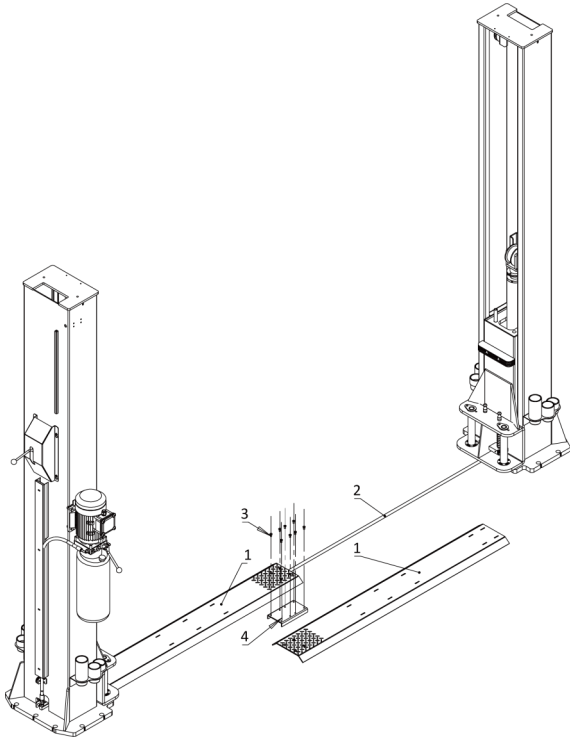


Fig 15

Step 11: Install Base Plate (Fig 16)

Place the Baseplate inside the columns slots.(No screws needed).

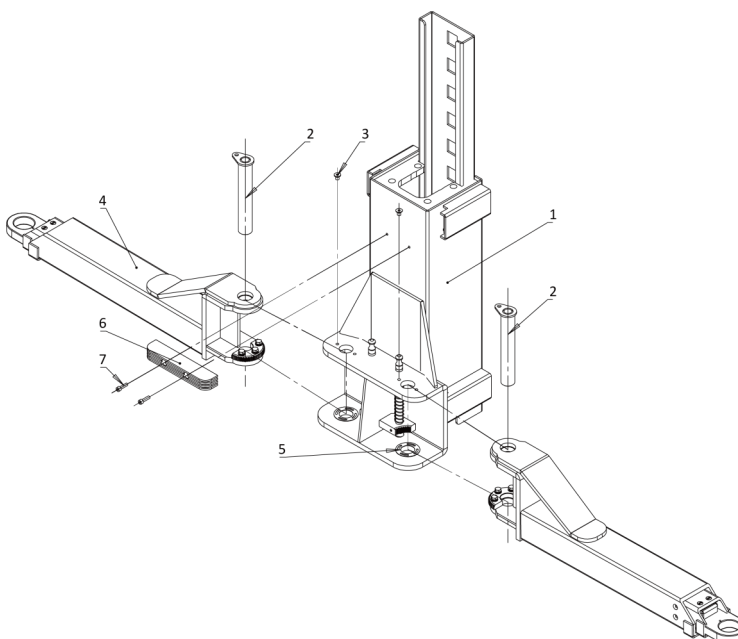


No.	Name	Qty.
1	Approach board welding	2
2	Hose 2	1
3	Phillips round head screws M8×10	8
4	Approach board connecting board	1

Step12: Install lifting arms. (See Fig 17)

Connect the lifting arm and the carriage. The arm pin shafts must be greased at the installation Ensure the arm lock can engage and release effectively. .

Attention: Install Lifting arms and fix feet protection bars ONLY after the complete assembly has been erected and anchored.



No.	Name	Qty.
1	Carriage welding	1
2	Arm shaft	2
3	Flat head hexagon socket screw M10×15	2
4	Three-section support arm	2
5	Arm washer	2
6	Anti-collision tape	1
7	Socket head cap screws M8×30	2

4-Check Before Start

4. 1-Mechanical Installation Check

4.1.1-Check anchor bolts, nuts, fittings and etc have been installed properly.

4.1.2-Check if all moving parts move freely.

4.1.3-Make sure inside of the columns is clean and no other objects.

4.1.4-Supply grease between slide blocks and columns, cables and pulleys.

4.1.5.-Check if the arm lock is locked while raising processing, and adjust lock if necessary.

Note: Loose the screw to adjust when necessary .

4.2-Electrical Hook Up Check

Make sure all wiring are same as below circuit diagram (Fig 18).

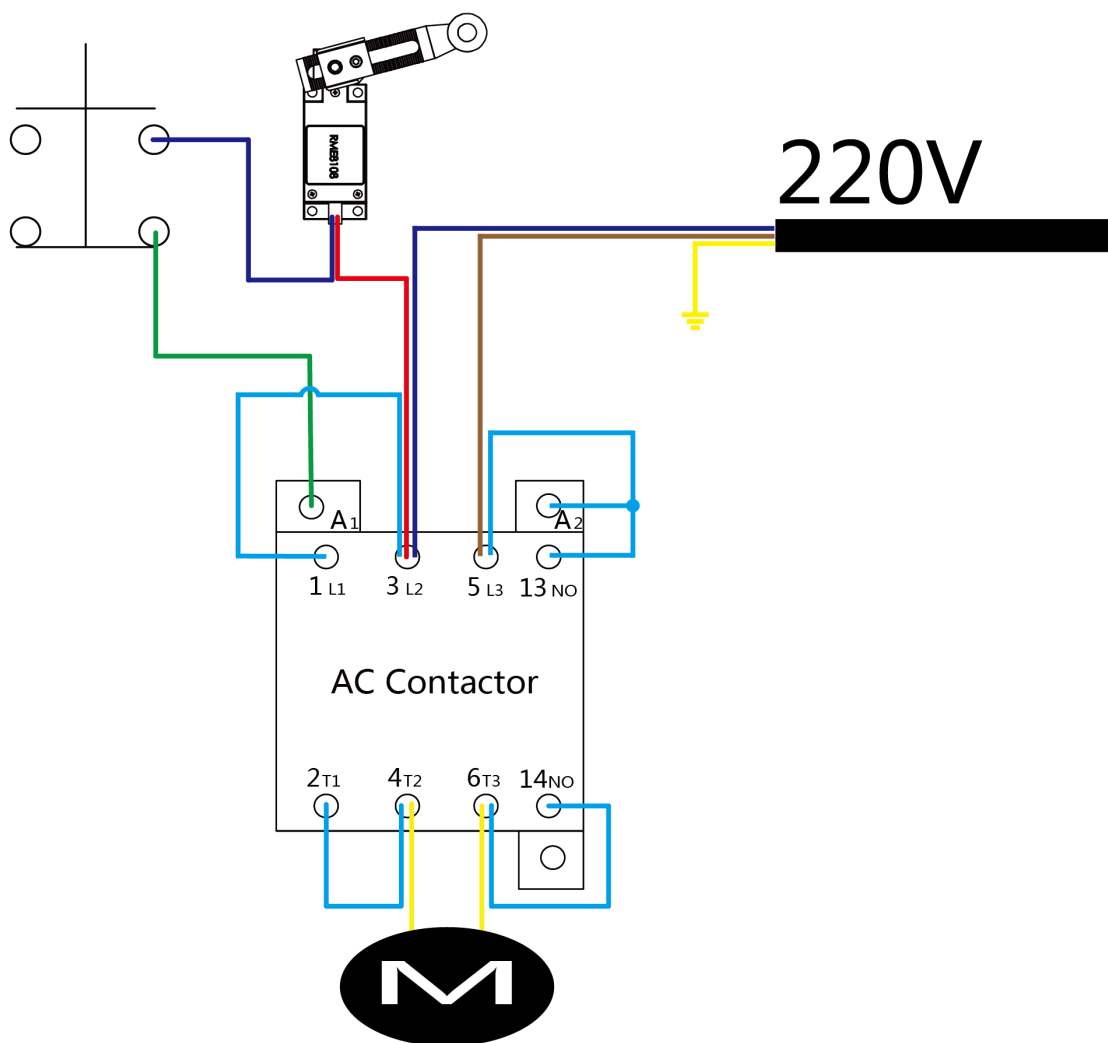


Fig 18 Power Unit Wiring Diagram (Voltage:220V)

Attention: electrical system connection must be done by licensed electrician.

Warning: When installing the power cord for the first time, remove the test cable (short wire) from the motor and replace it with a cable (wire) less than #12 gauge. The time interval between motor starts is at least more than 2 seconds. Otherwise the motor or AC contactor may be burnt out.

Suggest to use min 30A breaker (not higher than the wire load).

4.3-Hydraulic System Testing

4.3.1- Add about 2.5 gallons of hydraulic oil to the hydraulic fluid reservoir, AW32 during winter time (cold weather), and AW46 during summer time (hot weather).

4.3.2-Make sure there is no oil leak.

4.3.3-Repeatedly raise and lower the lift to bleed trapped air from the cylinders.

4.3.4-Power unit testing (Fig 21).

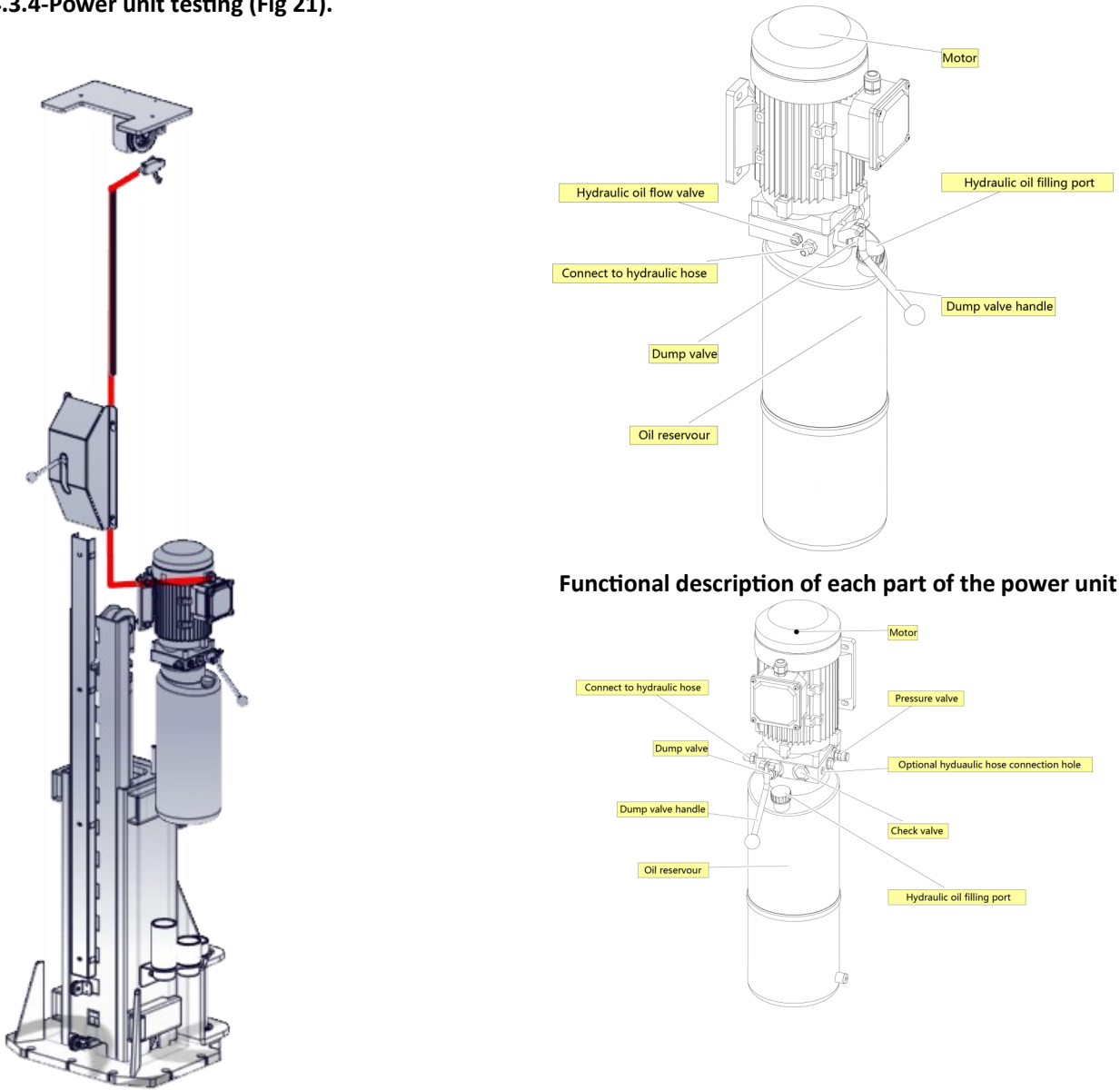


Fig 21 Power Unit Diagram

****Important Information****

Pressure Valve: Clockwise adjustment increases pressure to make the power unit to have more power, counterclockwise adjustment decreases pressure to make the power unit to have less power.

Hydraulic Fluid Flow Valve: Clockwise adjustment to speed up, counterclockwise adjustment to slow down.

4.4-Load Test

Before testing, check anchor bolts to make sure they are completely tightened, and also make sure 2 carriage on both sides are at the same level (height difference should be less than 10mm/0.39"). Adjust the cable nut on the shorter carriage to make sure 2 carriage height at the same level and the 2 cables are similar tension.

5-Operation and Use

5.1-Operation

Place the lifting arm at the support point specified by the vehicle and adjust the rubber tray to the same height.

Check the position of the rubber tray under the vehicle chassis before each single raising or when vehicle is lowered to the ground and need to raise again.

5.2-Raising/ Lifting

Press the power switch until the vehicle reaches desired height. When the vehicle is raised, the safety lock automatically engaged.

During raising/lifting, whether the arm lock has been locked, it can be visually checked when it is raised to a certain height (stop and check).

***Danger*:** Unlocked arms can cause vehicle fall off from the lift.

5.3-Stopping

After raising to desired height, press the lower lever and the lift will automatically lower to a safe position, the safety lock will be engaged and the lift will be locked.

5.4-Lowering

The safety lock must be released before lowering.

1. Press the power switch to raise the car by approximately 30mm/1.2".
2. Pull the safety lock release cables on both sides to unlock.
3. Press the lower lever to start lowering process, the arm lock will be automatically released and allow the arm rotating when the vehicle is completely lowered to the ground.

6-Safety

Please read this manual carefully as it contains important safety information that the operators need to know.

***WARNING*:** The design and construction of this lift is only suitable for lifting whole vehicle. All other uses are unauthorized, this lift **CAN NOT** be used to : wash vehicles, build lifting platforms, lifting personnel, use as cargo lifts and use as lifting partial of the vehicles.

6.1-Important Reminder: Personal and Equipment Safety

6.1.1-During vehicle lifting process, operators should be at a safe position/area.

6.1.2.-Turn off the vehicle engine and manual brake on.

6.1.3-Load vehicle correctly (Fig 22).

6.1.4.-The vehicle **CAN NOT** exceed the rated lifting capacity and required size.

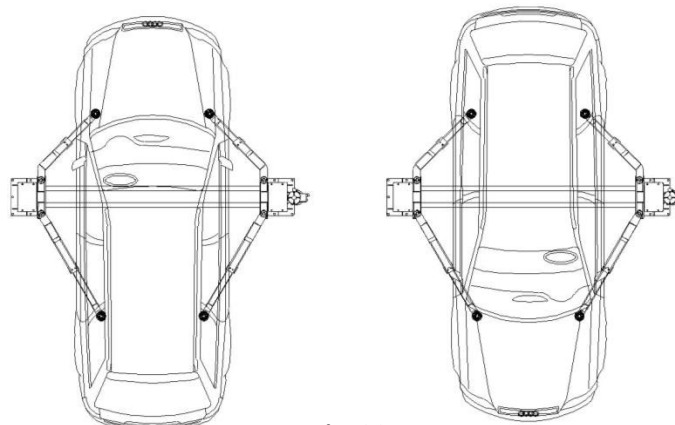


Fig 22

6.2-Vehicle Position

Once the vehicle is raised, vehicle CAN NOT be moved backwards or forwards as it may cause falling.

***WARING*:** Do not attempt to move the vehicle while it is parked on the lift.

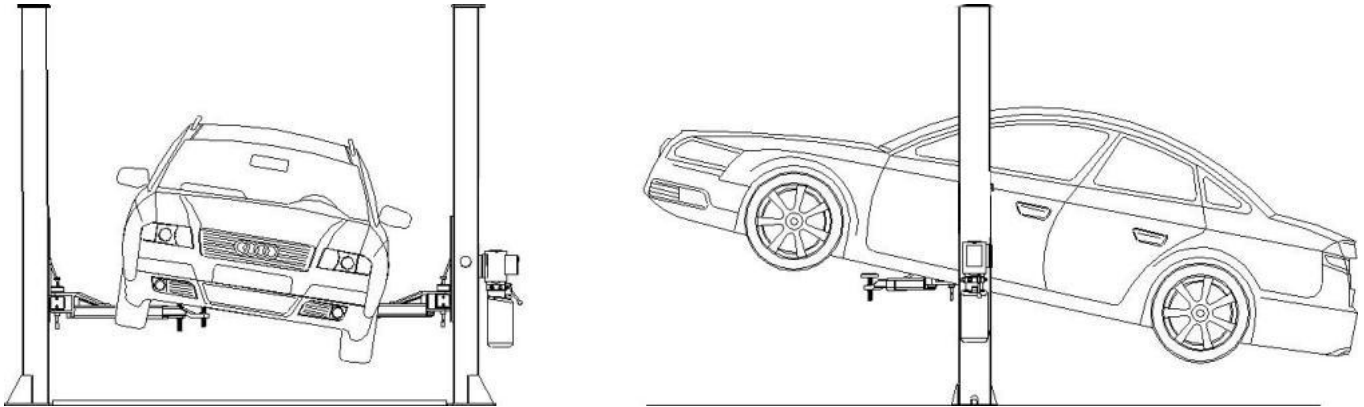


Fig 23

6.3-Risk of Vehicle falling off from the lift

Note that when positioning the vehicle on the lift, incorrect center of gravity of the vehicle can cause the vehicle falling off from the lift (Fig 23).

Important Note: Make sure that the front and rear of the vehicle need to be balanced and the cables on both sides also need to be balanced. Do not board/step on the vehicle or the lift when the lift is raised.

Below actions may cause the vehicle fall off from the lift (Fig 24)

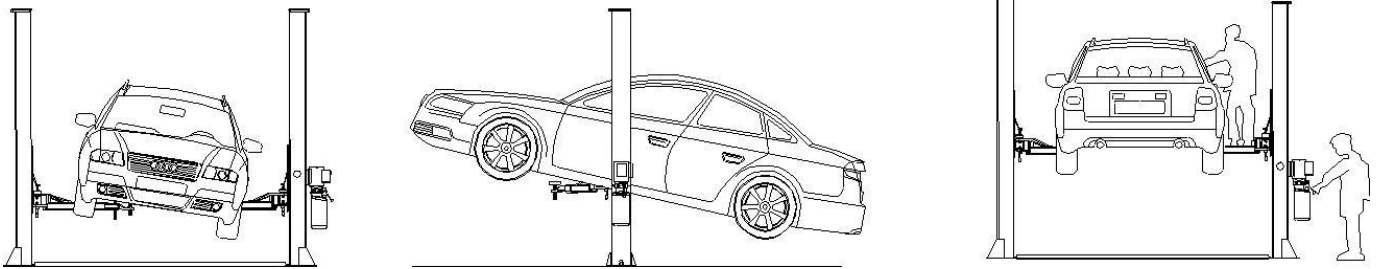


Fig 24 DO NOT do

7-Maintenance

7.1-Every Month

Hydraulic System

7.1. 1-Check hydraulic oil level, fill hydraulic oil if necessary.

7.1.2-Check the pump, hose and cylinder and see if there is hydraulic oil leaking.

7.2-Every 3 Month

Safety Maintenance

7.2.1- Check the condition of the safety lock and the wear of the stop block.

7.2.2- Check the anchor bolts, tighten nuts if necessary.

7.2.3- Check if any nuts are loose, tighten nuts if necessary.

7.2.4- Check if the arm locking system is working properly.

7.2.5- Lubricate/grease all moving parts.

7.2.6- Check if the arm locking system is working properly.

7.2.7- Check if the 2 carriage on both sides are at the same level.

7.3-Every 6 Month

Hydraulic Pump

7.3.1-Check the condition and aging of the hydraulic fluid. Unqualified hydraulic fluid is the main reason to cause valve failure and reduces the life of the gear pump.

7.3.2-Check the noise variation of the motor and gear pump while normal operating.

7.4-Every 12 Month

7.4.1- Visually inspect all structural and mechanical parts to make sure there is no abnormalities have occurred.

7.4.2- Check and see if there is anything wrong with the motor, wiring ,top limiter switch and circuit breaker.

7.5-Regular Lubrication

Use high quality grease to regularly lubricate all moving parts of this lift.

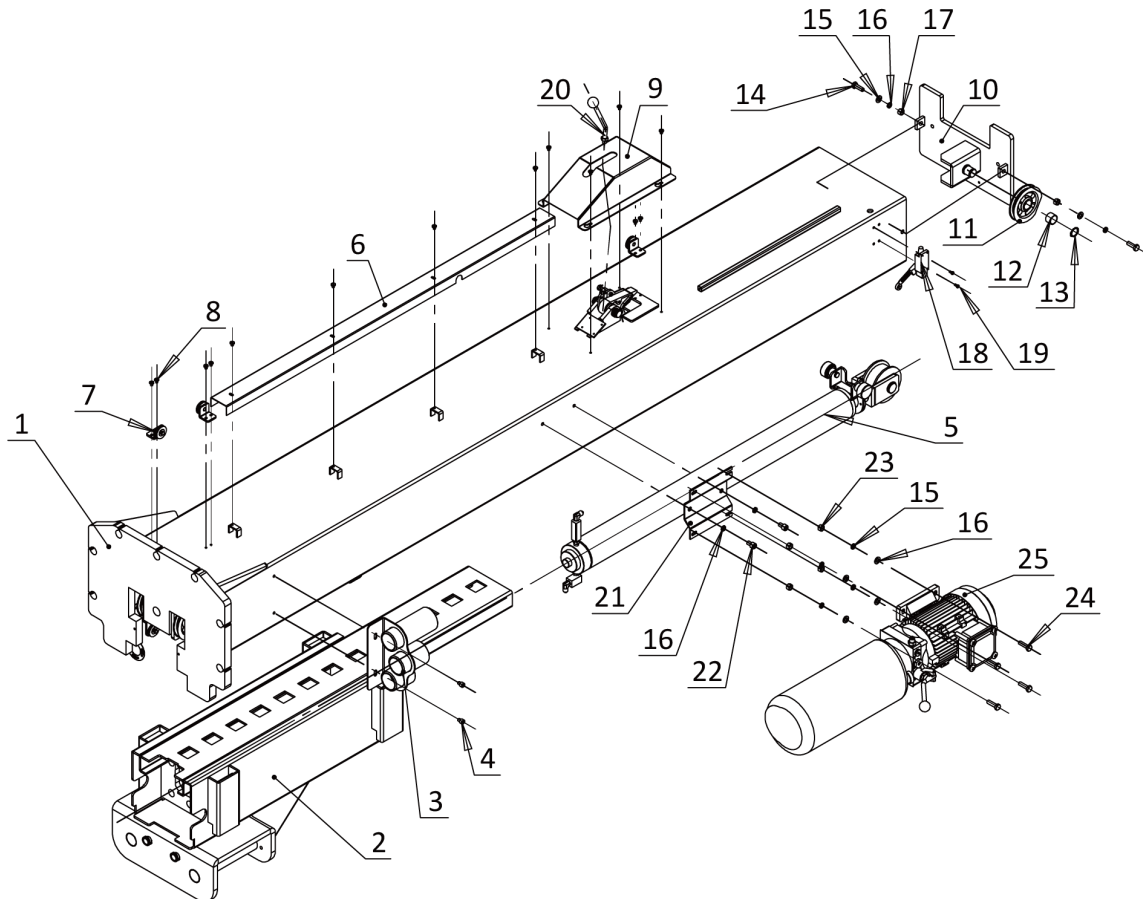
8-Troubleshooting Guide

Troubleshooting Guide

Malfunction	Possible reason	Solution
The motor does not work	Check the air switch.	Turn off or replace the air switch.
	Check if the voltage is correct.	User correct power supply.
	The motor burned.	Replace the motor.
	Start switch burned.	Replace the start switch.
	Top limiter switch burned.	Replace the top limiter switch.
	AC contactor burned.	Replace the AC contactor.
The motor works but can't lift	Pressure valve pressure is too small.	Clockwise adjust the pressure valve(fine adjustment).
	Pump station takes in air.	Unscrew check valve on the power unit, and then start the motor until hydraulic oil flows out from the check valve.
	Hydraulic oil suction hose is detached or broken.	Install/replace the suction hose.
	Insufficient hydraulic oil.	Fill more hydraulic oil.
Does not lowering	Safety lock engaged.	Slightly raise the device and then pull the safety lock release cable.
	Other object inside the columns stops the carriage.	Check and remove the objects.
	The flow valve needs to be adjusted.	Counterclockwise adjust the flow valve (fine adjustment).
Self-Lowering	Dump valve failure.	Replace the dump valve.
	Hydraulic oil leaks.	Check and repair.
	The valve body of the power unit has holes.	Replace the valve body.
Raise without load, but doesn't raise with load	The voltage is too low.	Install the voltage stabilizer.
	Objects in the dump valve.	Remove objects from the dump valve.
	The pressure valve pressure is too small.	Increase pressure properly(fine adjust the pressure valve).
	Overload.	This operation is prohibited.
Lifting is not leveled	The cables are not balanced.	Balance cables by adjusting the cable's length.
Loud motor noise	After raising to the highest point, the motor is still working and the top limiter switch is disabled.	Replace the top limiter switch.
	Hydraulic oil pollution.	Replace the hydraulic oil.
	Overload.	This operation is prohibited.

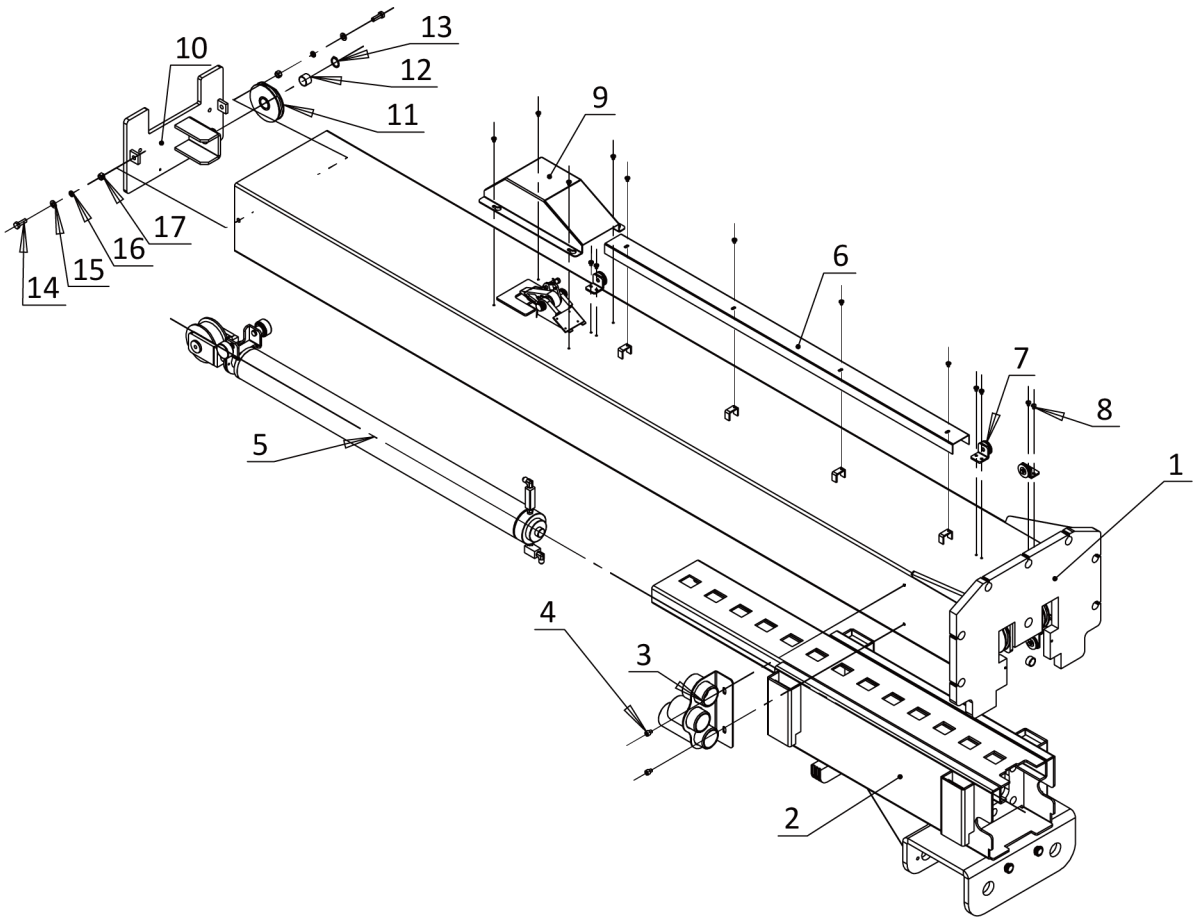
9-Structure and Parts List

9.1-Main column assembly



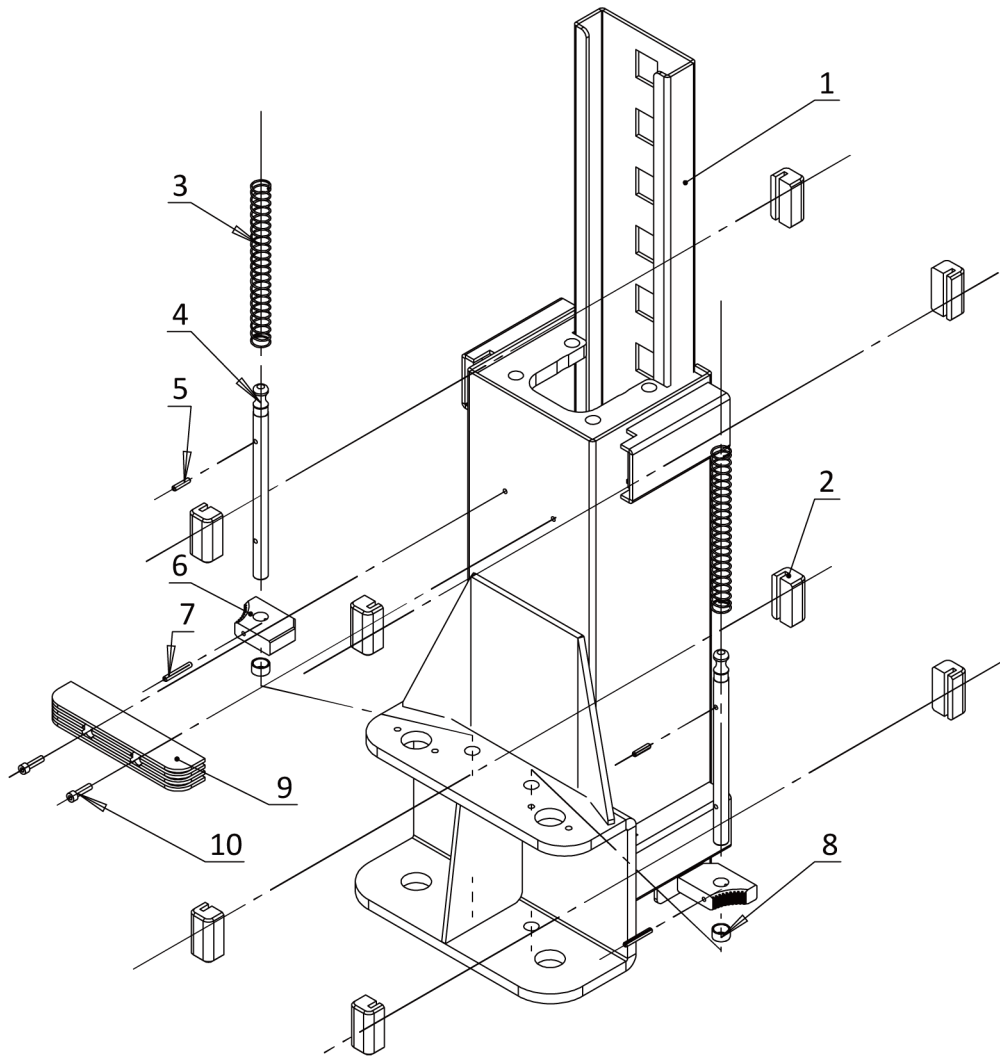
No.	Name	Qty.	No.	Name	Qty.
1	Main column assembly	1	14	Hex bolts M10×35	2
2	Carriage assembly	1	15	Spring cushion Φ10	6
3	Heightening set of bracket combination	1	16	Flat pad Φ10	8
4	Socket head cap screws M8×10	2	17	Hex nuts M10	2
5	Hydraulic cylinder	1	18	Limit switch 8108	1
6	Column buckle cover	1	19	Phillips round head screws M5×10	2
7	Unlock the sheave seat combination	3	20	Unlock lever	1
8	Phillips round head screws M6×8	14	21	Power unit backpack	1
9	Safety lock cover (opening)	1	22	Socket head cap screws M10×16	2
10	Upper cover welding	1	23	Hex nuts M10	4
11	Rope wheel	1	24	Hex bolts M10×35	4
12	Oil-free bearing	1	25	Power unit	1
13	Circlip Φ25	1			

9.2-Sub-column assembly



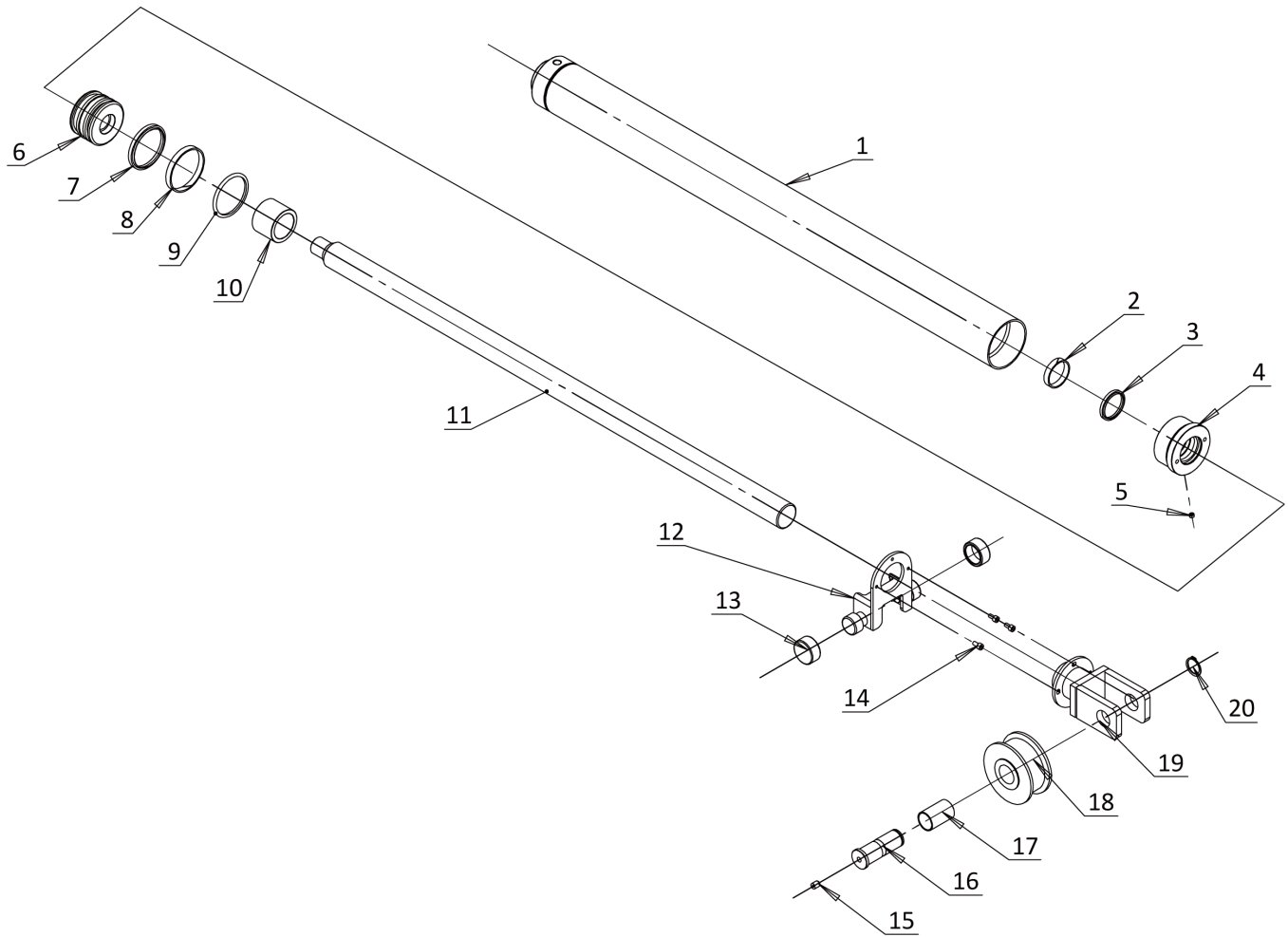
No.	Name	Qty.	No.	Name	Qty.
1	Sub-column assembly	1	10	Upper cover welding	1
2	Carriage assembly	1	11	Rope wheel	1
3	Heightening set of bracket combination	1	12	Oil-free bearing	1
4	Socket head cap screws M8×10	2	13	Circlip Φ25	1
5	Hydraulic cylinder	1	14	Hex bolts M10×30	2
6	Column buckle cover	1	15	Spring cushion Φ10	2
7	Unlock the rope seat combination	3	16	Flat pad Φ10	2
8	Phillips round head screws M6×8	14	17	Hex nuts M10	2
9	Safety lock cover	1			

9.3-Carriage assembly



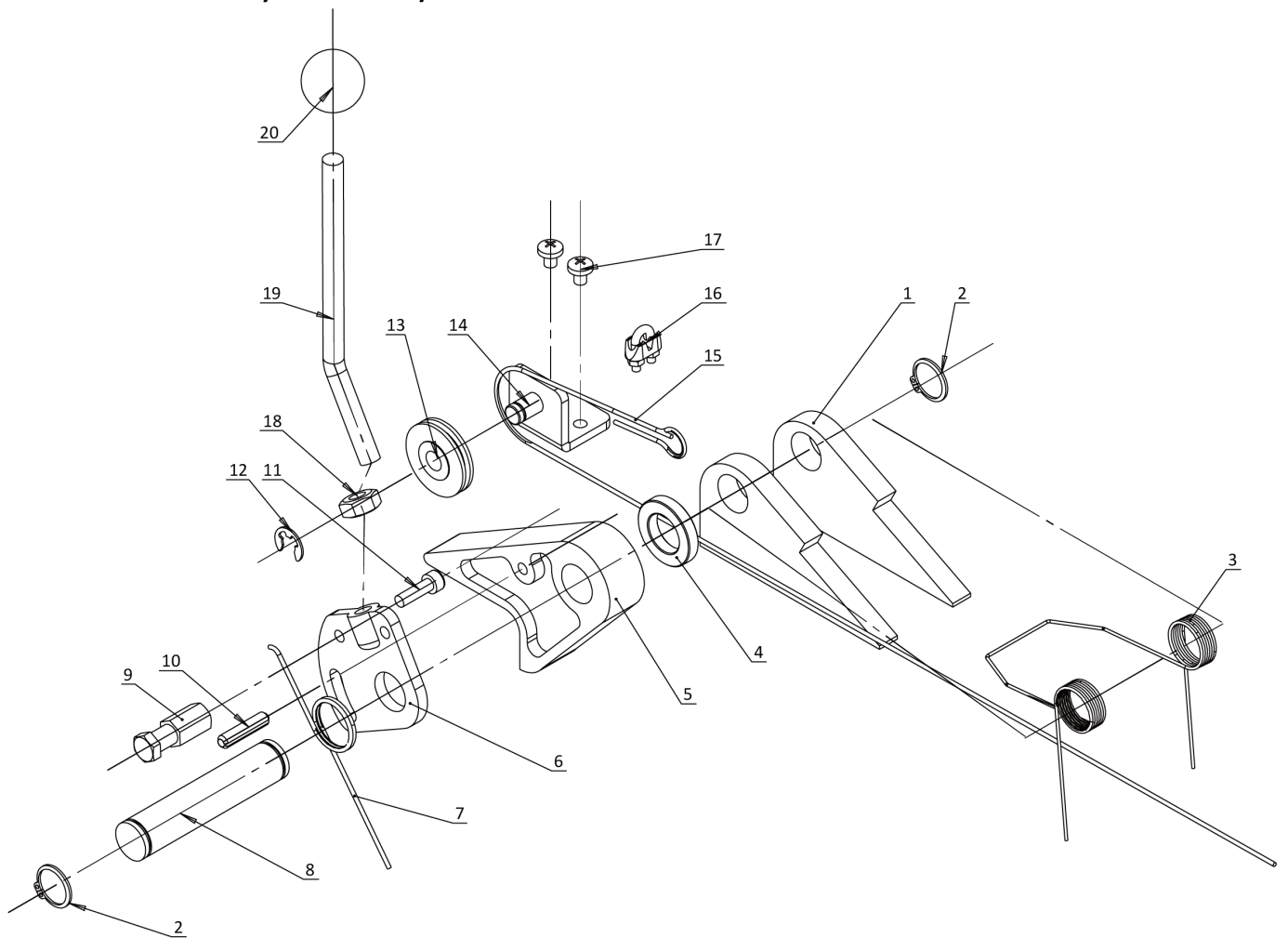
NO.	Name	Qty.
1	Carriage welding	1
2	Nylon slider	8
3	Arm lock spring	2
4	Arm lock shaft	2
5	Elastic cylindrical pin $\Phi 6 \times 22$	2
6	Square lock tooth	2
7	Elastic cylindrical pin $\Phi 6 \times 50$	2
8	Square gear shaft washer	2
9	Anti-collision tape	1
10	Socket head cap screws M8 \times 30	2

9.4-Hydraulic cylinder assembly



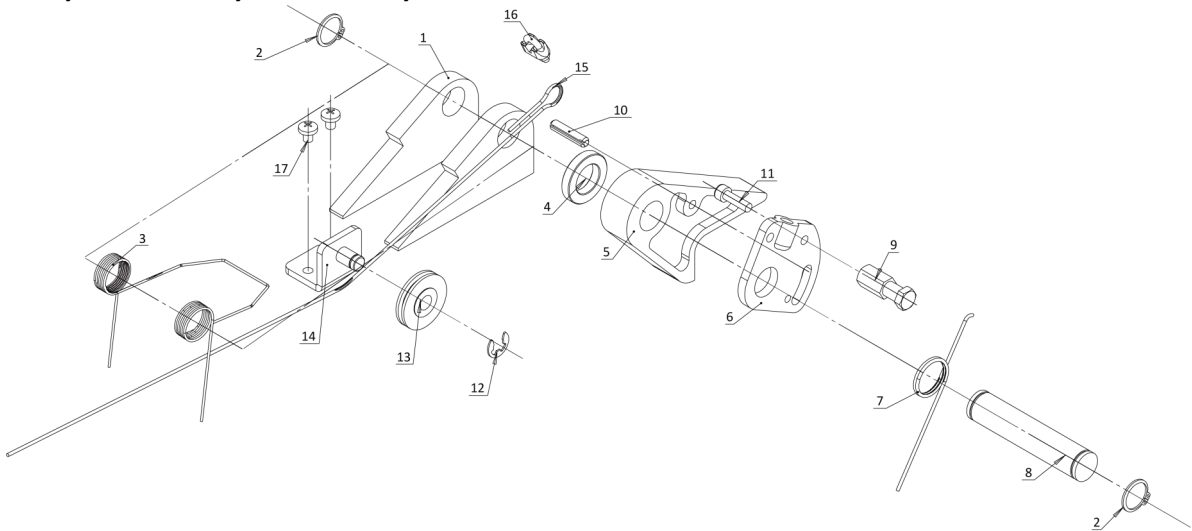
No.	Name	Qty.	No.	Name	Qty.
1	Welding of hydraulic cylinder	1	11	Cylinder piston rod	1
2	Liquid guide belt 10×2.5×160	1	12	Sprocket frame sleeve welding	1
3	Liquid dust ring DH45×5.3×5×6.5	1	13	Guide rollers	2
4	Cylinder head	1	14	Hexagon socket screw M6×12	3
5	Oil cylinder head filter	1	15	Grease cup	1
6	Cylinder piston	1	16	Sprocket shaft	1
7	Sealing ring UN70×80×10	1	17	Oil-free bearing	1
8	Liquid guide belt 10×2.5×270	1	18	Sprocket	1
9	O type rubber ring D69×5.7	1	19	Sprocket frame welding	1
10	Cylinder limit sleeve	1	20	Circlip Φ30	1

9.5-Main column safety lock assembly



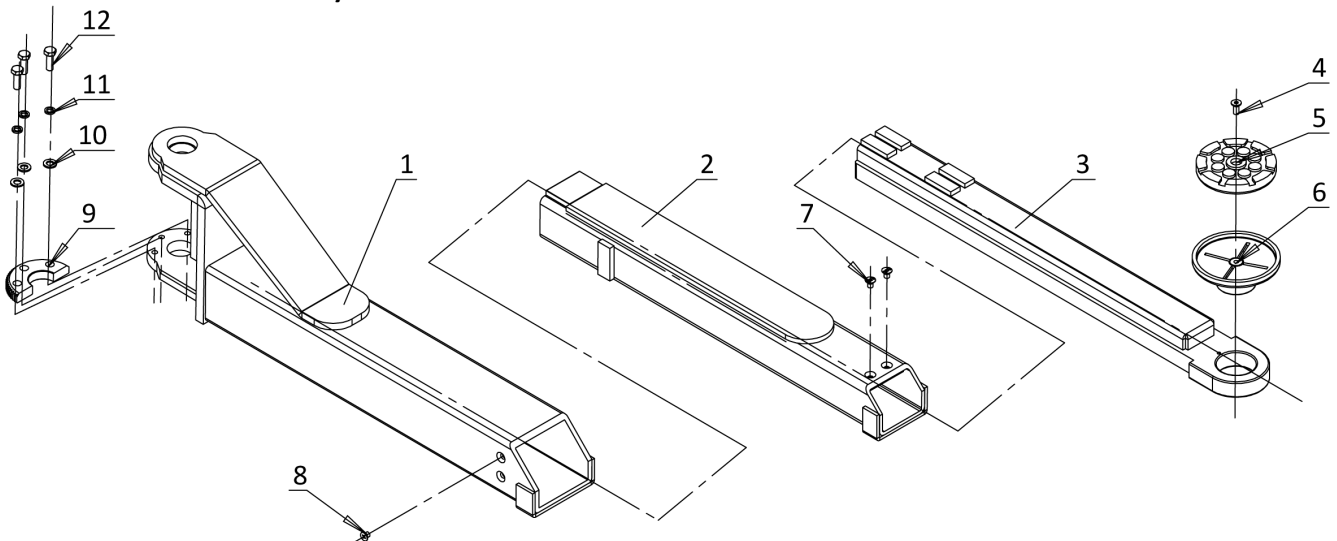
No.	Name	Qty.	No.	Name	Qty.
1	Security lock ears	2	11	Socket head cap screws M6×20	1
2	Circlip Φ20	2	12	Circlip Φ10	1
3	Door spring	1	13	Unlock the sheave	1
4	Security lock spacer	1	14	Unlock the sheave seat	1
5	Safety tip lock	1	15	Unlock the thin wire rope	1
6	Unlock the handle seat	1	16	U-shaped chuck	1
7	Torsion spring	1	17	Phillips round head screws M6×8	2
8	Safety lock shaft	1	18	Hex nuts M10	1
9	Unlock the rope seat	1	19	Unlock lever	1
10	Elastic cylindrical pin Φ6×30	1	20	Handball	1

9.6-Secondary column safety lock assembly



No.	Name	Qty.	No.	Name	Qty.
1	Security lock ears	2	10	Elastic cylindrical pin $\Phi 6 \times 30$	1
2	Circlip $\Phi 20$	2	11	Socket head cap screws M6 \times 20	1
3	Door spring	1	12	Circlip $\Phi 10$	1
4	Security lock spacer	1	13	Unlock the sheave	1
5	Safety tip lock	1	14	Unlock the sheave seat	1
6	Unlock the handle seat	1	15	Unlock the thin wire rope	1
7	Torsion spring	1	16	U-shaped chuck	1
8	Safety lock shaft	1	17	Phillips round head screws M6 \times 8	2
9	Unlock the rope seat	1			

9.7-Three-section arm assembly



NO.	Name	Qty.	No.	Name	Qty.
1	Three-section support arm big arm welding	1	7	Flat head hexagon socket screw M8 \times 10	2
2	Three-section support arm middle arm welding	1	8	Socket head cap screws M10 \times 12	1
3	Three-section support arm forearm welding	1	9	Moon teeth	1
4	Flat head hexagon socket screw M8 \times 16	1	10	Flat pad $\Phi 10$	3
5	Round rubber pad	1	11	Spring cushion $\Phi 10$	3
6	Pallet welding	1	12	Hex bolts M10 \times 30	3

