



AGT INDUSTRIAL PRODUCT MANUAL

Double boom Crane-car
Model:AGT-B1000

Ver.1.1.3

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TO THE OWNERS

GENERAL COMMENTS

Congratulations for having this Double boom Crane-car! Your Double boom Crane-car was carefully designed and manufactured to give you years of dependable service. Your Double boom Crane-car will require some minor maintenance to keep it in top working condition.

Please observe all safety precautions and maintenance procedures as described in this manual.

BEFORE OPERATION

Thoroughly read and understand the instructions given in this manual before operation. Refer to the "Safety Label" section, read all instructions noted on them.

Do not allow anyone to operate his equipment who has not fully read and comprehended this manual and who has not been properly trained in the safe operation of the equipment.

SERVICE

Please remember to use only manufacturer replacement parts. Substitute parts may not meet the standards required for safe, dependable operation.

SAFETY PRECAUTIONS

BEFORE OPERATION

1. The operator must read the operation manual carefully before installation, operation or maintenance. Improper operation will cause the machine damage or the operator death.
2. Read all the safe signs and safe declarations. Follow all the professional safe terms, local laws or the professional directions.
3. Familiar with the Double boom Crane-car about functions, specs and operation. Replace the to-be-damaged parts in time. Make sure all the hydraulic installations and couplings connect firmly, and all the safe signs stick on the suitable positions clearly.



IMPORTANT

1. Operator should be familiar with all functions of the unit.
2. Make sure all guards and shields are in place and secured before operating implement.
3. Keep all persons away from equipment and work area.
4. Dismounting from a moving unit can cause serious injury or death.
5. Keep hands, feet, and clothing away from power-driven parts.
6. Detach and store implement in an area where children normally do not play. Secure implement by using blocks and supports.

Always wear proper safety glasses, goggles, or a face shield when driving pins in or out, or when any operation causes dust, flying debris, or any other hazardous material.

SAFETY PRECAUTIONS

Operator Safety

- ▶ Wear protective clothing and equipment appropriate for the job. Clothing should be snug fitting without fringes and pull strings to avoid entanglement with moving parts.
- ▶ Prolonged exposure to loud noise can cause hearing impairment or hearing loss. Wear suitable hearing protection such as earmuffs or earplugs.
- ▶ Operating equipment safely requires the operators all attention, Avoid wearing radio headphones while operating machinery.

Tool Safety

- ▶ Inspect entire machine before each use. Replace damaged or worn parts.
- ▶ Check for fuel leaks and make sure all fasteners are in place and securely fastened.



SAFETY PRECAUTIONS

Wear Protective Equipment

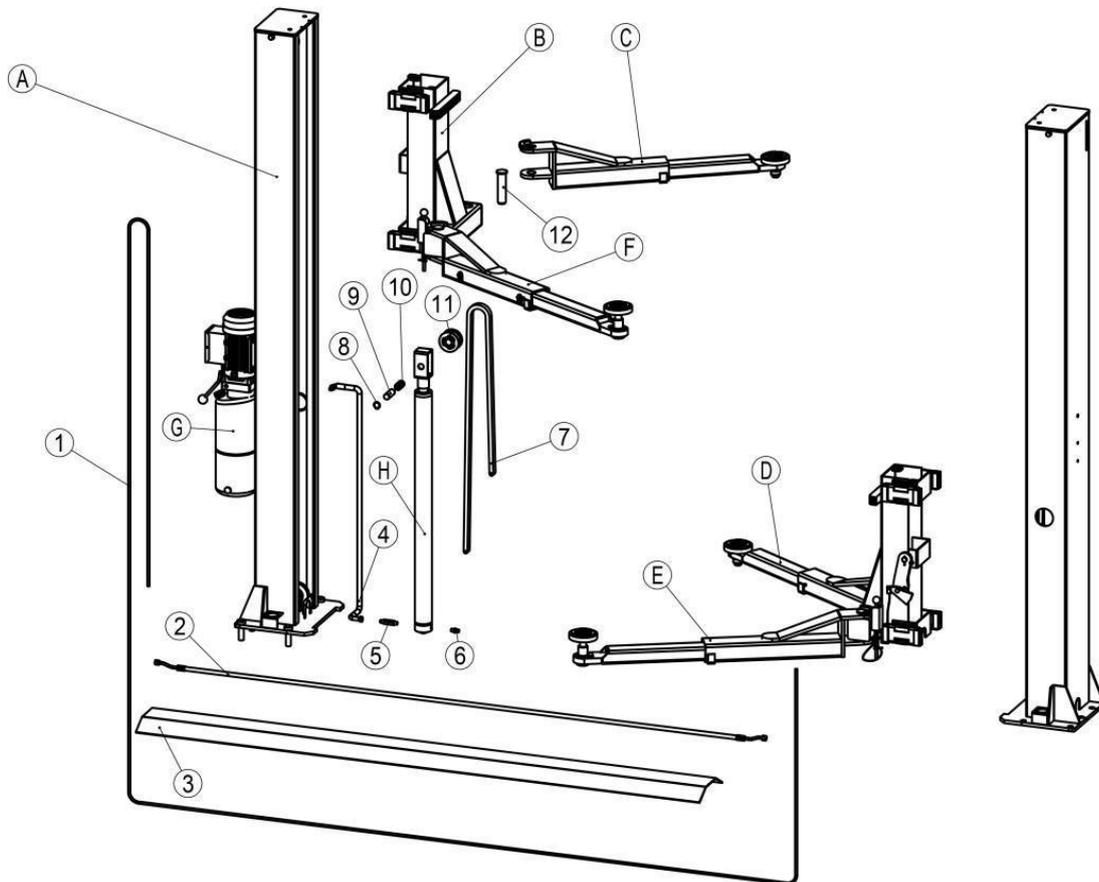
- ▶ Escaping fluid under pressure can penetrate the skin causing serious injury.
- ▶ Avoid the hazard by relieving pressure before disconnecting hydraulic lines or performing work on the system.
- ▶ Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before applying pressure to the system.
- ▶ Use a piece of paper or cardboard, NOT BODY PARTS to check for suspected leaks.
- ▶ Wear protective gloves and safety glasses or goggles when working with hydraulic systems.
- ▶ DO NOT DELAY. If an accident occurs, see a doctor familiar with this type of injury immediately. Any fluid injected into the skin or eyes must be treated within a few hours or gangrene may result.

Transportation and Storing

- ▶ Store machine and fuel where fuel vapors cannot reach sour combustion like, water heaters, electric motors, switches, furnaces, etc.
- ▶ Always secure the machine with tie downs or similar restraints when transporting.
- ▶ The machine be stored in a manner that prevents it from falling, rolling or tipping.



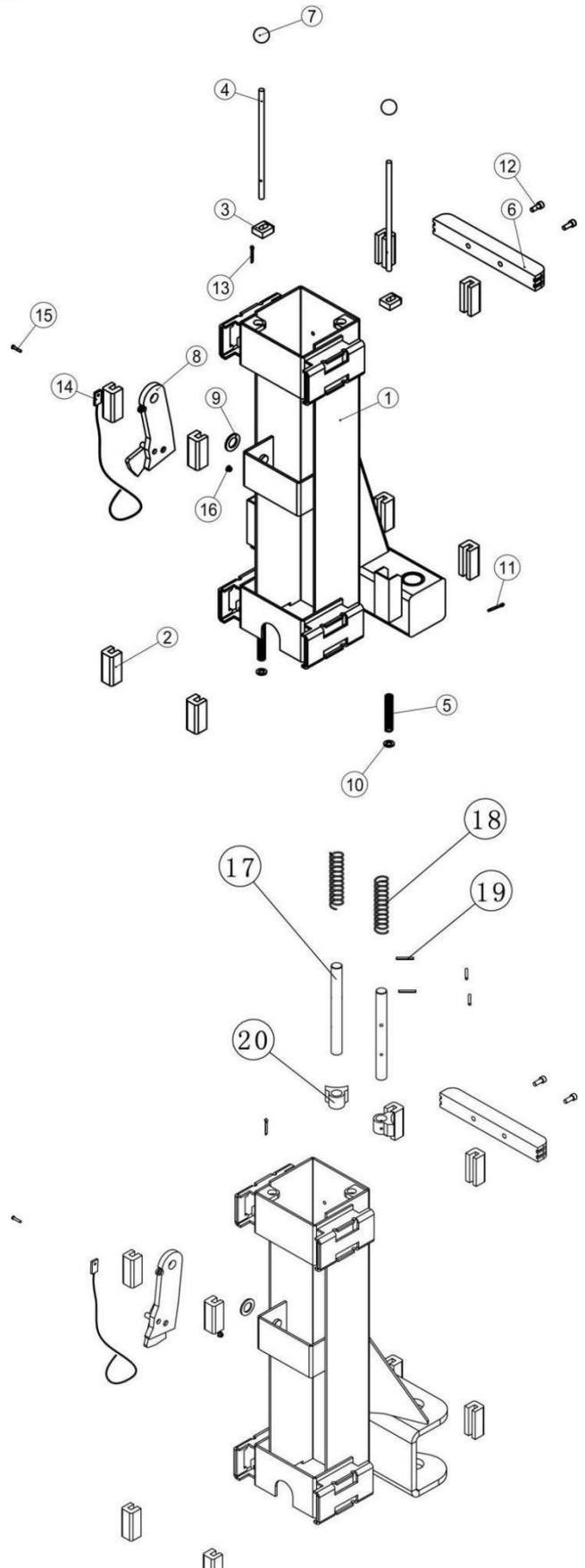
DOUBLE BOOM CRANE-CAR ASSEMBLES



NO.	Name
A	Column
B	Carriage
C	Arm
G	Power Unit
H	Cylinder
1	Cable
2	Hydraulic Hose
3	Baseplate
4	Hydraulic Hose
5	Hose Fitting
6	Hose Fitting
7	Chain
8	Circlip Φ25
9	Oil Free Bearing
10	Chain Wheel Shaft
11	Chain Wheel
12	Arm Fixed Shaft

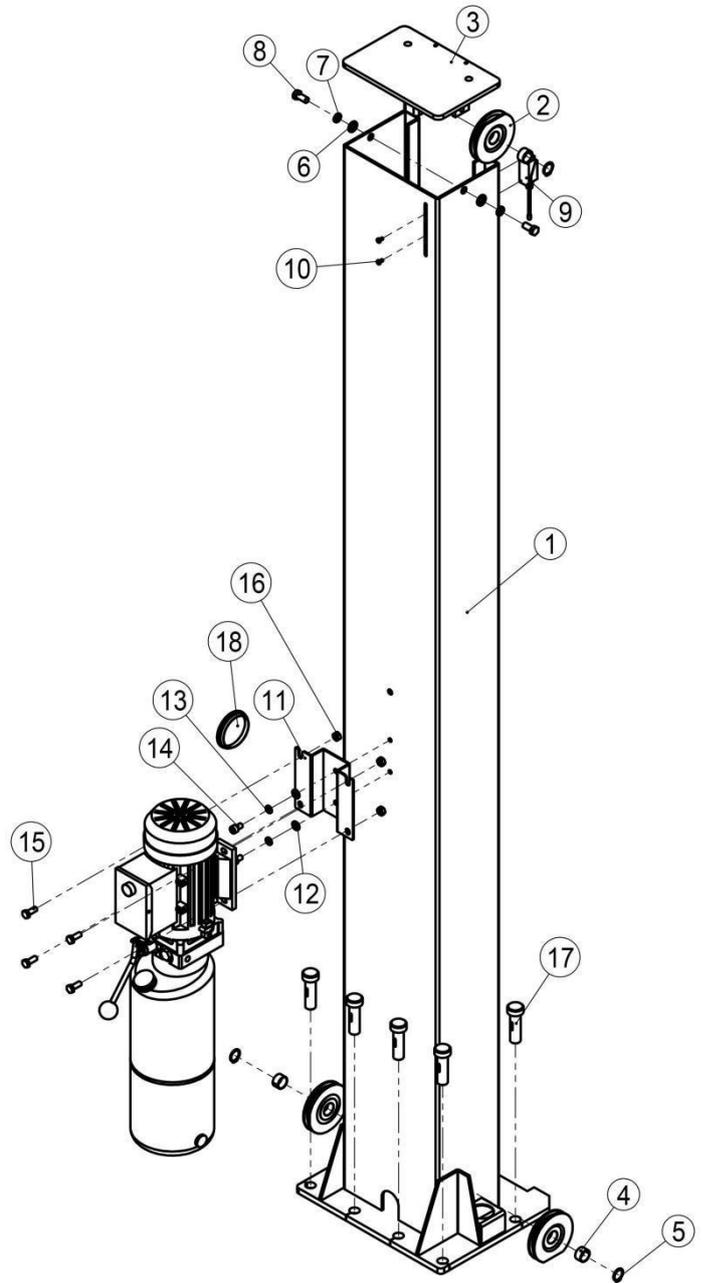
DOUBLE BOOM CRANE-CAR ASSEMBLES

NO.	Name
1	Carriage
2	Slide Block
3	Lock Gear </td
4	Unlocking Lever
5	Unlocking Lever Compression Spring
6	Door Guard
7	Knob
8	Mechanical Lock
9	Washer $\Phi 25$
10	Washer $\Phi 10$
11	Cotter Pin $\Phi 3 \times 30$
12	Bolt $M8 \times 25$
13	B-Shape Circlip
14	Safety Lock Release Cable
15	Hexagon Socket Bolt $M8 \times 20$
16	Nut $M8$
17	Inner Hanging Fork Shaft
18	Spring $\Phi 26/140/\Phi 2$
19	Pin $\Phi 5 \times 32$
20	Inner Hanging Small Arm Lock

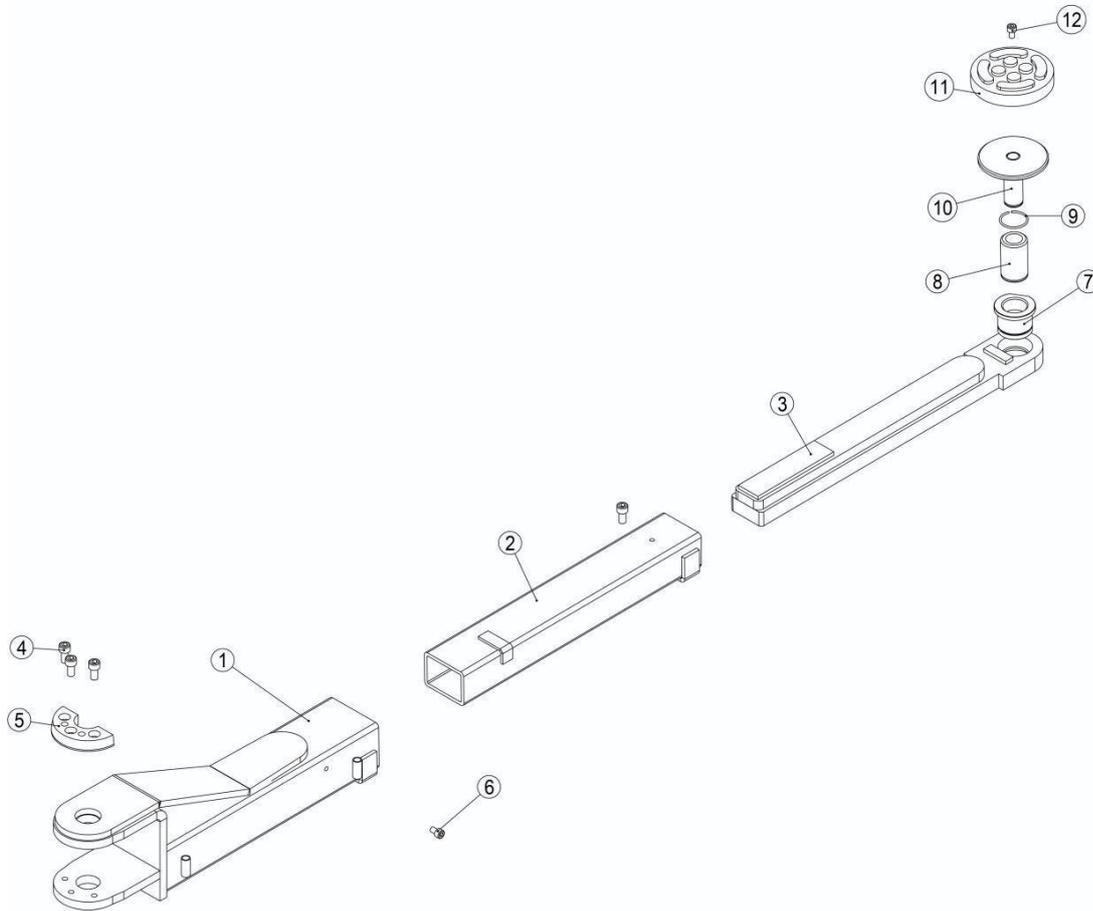


DOUBLE BOOM CRANE-CAR ASSEMBLES

NO.	Name
1	Column
2	Pulley
3	Cover
4	Oil Free Bearing
5	Shaft Circlip $\Phi 25$
6	Flat Washer $\Phi 10$
7	Spring Washer $\Phi 10$
8	Outer Hexagonal Bolt M10X35
9	Top Limiter Switch
10	Bolt M5X10
11	Motor Base Plate
12	Flat washer $\Phi 10$
13	Spring Washer $\Phi 10$
14	Hexagon Socket Bolt M10X12
15	Outer hexagonal Bolt M8X20
16	Nut M8
17	Anchor Bolts
18	Access Window Cover

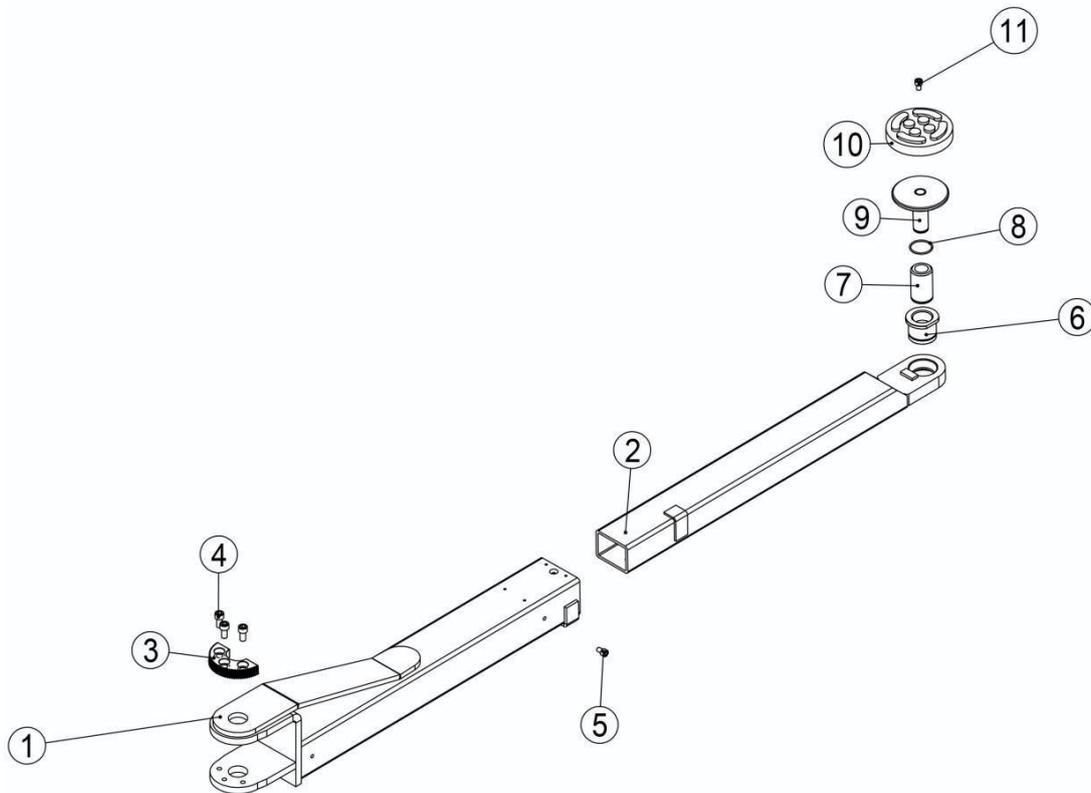


DOUBLE BOOM CRANE-CAR ASSEMBLES



No.	Part#	Name	Qty
1	DNLM-05-01-00	Inner arm of three stage arms	2
2	DNLM-05-02-00	Middle arm of three stage arms	2
3	DNLM-05-03-00	Outer arm of three stage arms	2
4	IH001020	Inside hex bolt M10X20	6
5	DBLM-00-25	Moon gear	2
6	IH000810	Inside hex bolt M8X10	4
7	DBLM-00-26	Sleeve of one stage screwed pad	2
8	DBLM-00-27	Extension	2
9	DBLM-00-28	Stop steel ring external $\Phi 20$	2
10	DBLM-00-29	Screwed pad	2
11	DBLM-00-30	Rubber cover	2
12	IH001020	Inside hex bolt M10X20	2

DOUBLE BOOM CRANE-CAR ASSEMBLES



No.	Part#	Name	Qty
1	DBLM-06-01-00	Inner arm of two stage arms	2
2	DBLM-06-02-00	Outer arm of two stage arms	2
3	DBLM-00-25	Moon gear	2
4	IH001020	Inside hex bolt M10X20	6
5	IH000820	Inside hex bolt M10X10	2
6	DBLM-00-26	Sleeve of one stage screwed pad	2
7	DBLM-00-27	Extension	2
8	DBLM-00-28	Stop steel ring externalΦ20	2
9	DBLM-00-29	Screwed pad	2
10	DBLM-00-30	Rubber cover	2
11	IH001020	Inside hex bolt M10X20	2

OPERATION INSTRUCTIONS

1- Equipment Description

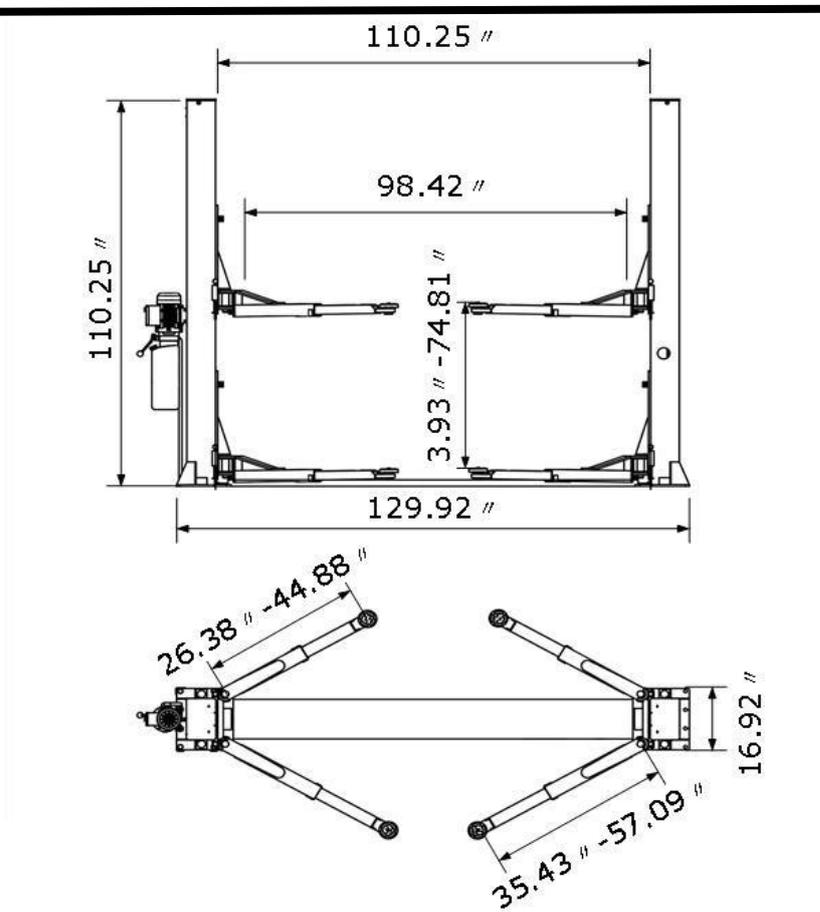
1.1 Description

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

1.2 Technical Specifications

Lift Capacity	4500kg / 10000lbs
Overall Height	2800mm/110.25"
Overall Width	3500mm/137.8"
Maximum Lifting Height W/O Truck Adaptor	1900mm / 74.81"
Minimum Height	100mm / 3.93"
Lifting Time	55s
Outside Column to Outside Column Width	3300mm / 129.92"
Inside Column Width	2800mm / 110.25"
Drive Through	2500mm/98.42"
Column Thickness of Steel	4.75mm / 0.188"
Carriage Thickness of Steel	4.75mm / 0.188"
Arms Thickness of Steel	5.5mm / 0.217"
Cable Diameter	8.2mm / 0.323"
Voltage	220v
Power	2.2kw / 3hp
Breaker	30A
Hydraulic Fluid Requirement	3-5 Gallons AW32/AW46
Equipment Weight	565kg / 1253lbs

OPERATION INSTRUCTIONS



2 - Installation

This 2 Post Floor Plate Lift is the most common equipment for repairing cars. Its installation is not only related to the maintenance efficiency but also to personal safety of the maintenance technicians. Therefore, the installation must be completed by certified installers according to the User Manual, and in accordance with installation regulations. Recommend to use manufacturer supplied anchor bolts.

2.1 Preparation

2.1.1 Foundation

The lift must be installed on a level concrete foundation with a minimum concrete thickness of 6" (7.87" is recommended) and a strength of 3000 psi or more. The newly poured concrete needs to be dried thoroughly before installation. (Fig 2).

***Warning*:** The size and concrete parameters of the foundation are the minimum strength and foundation depth parameters of the installation. The user needs to adjust the thickness and floor space of the foundation according to the maximum weight. It can also be done at the dealer's suggestion.

OPERATION INSTRUCTIONS

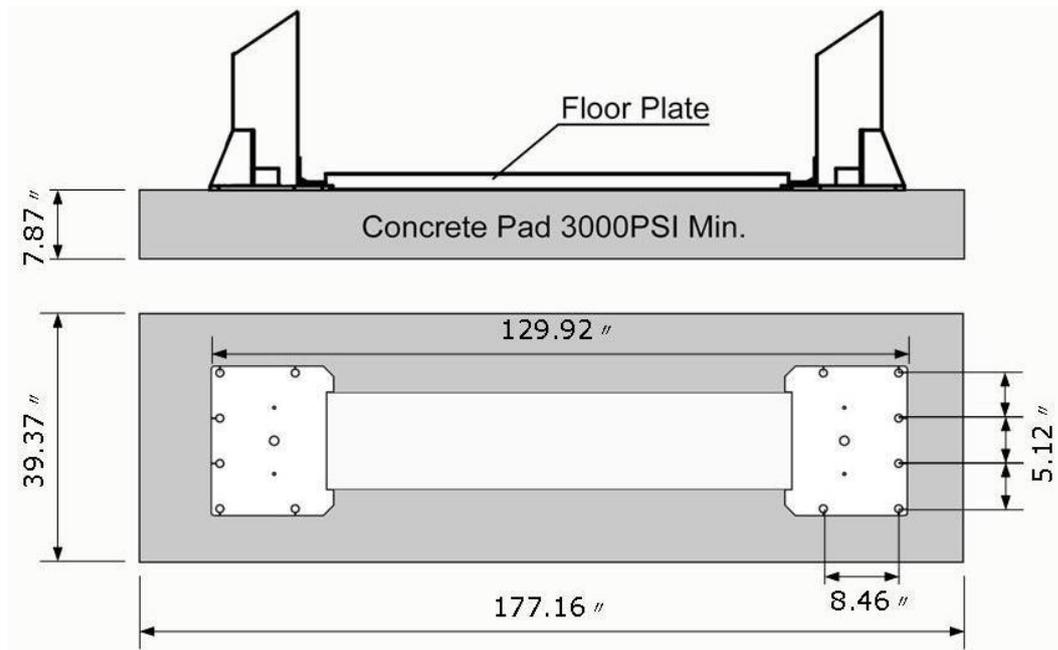


Fig 2 Foundation Requirement

2.1.2 Tools Required

Hammer, Socket Wrench Set, Hex Wrench Set, Adjustable Wrench, Screwdriver, Measuring Tape(16'+), Long-Nose Plier, Circlip Pliers, Electric Rotary Hammer, Drill(3/4"), Safety Glasses, Work Gloves, Safety Helmet, Forklift/Crane or something similar.

2.2 Equipment Installation

2.2.1 Install Columns

Stand up the 2 columns (the column with the power unit base plate is the main column and the other one is the vice column)

Note: Don't drill anchor bolts holes or install anchor bolts now.

2.2.2 Adjust Carriage

Raise the carriage to the 1st locking position located at the bottom of the column(Fig 3).

Note: You can hear "click" once locked (the 1st locking position is about 11.8" from the ground)

OPERATION INSTRUCTIONS

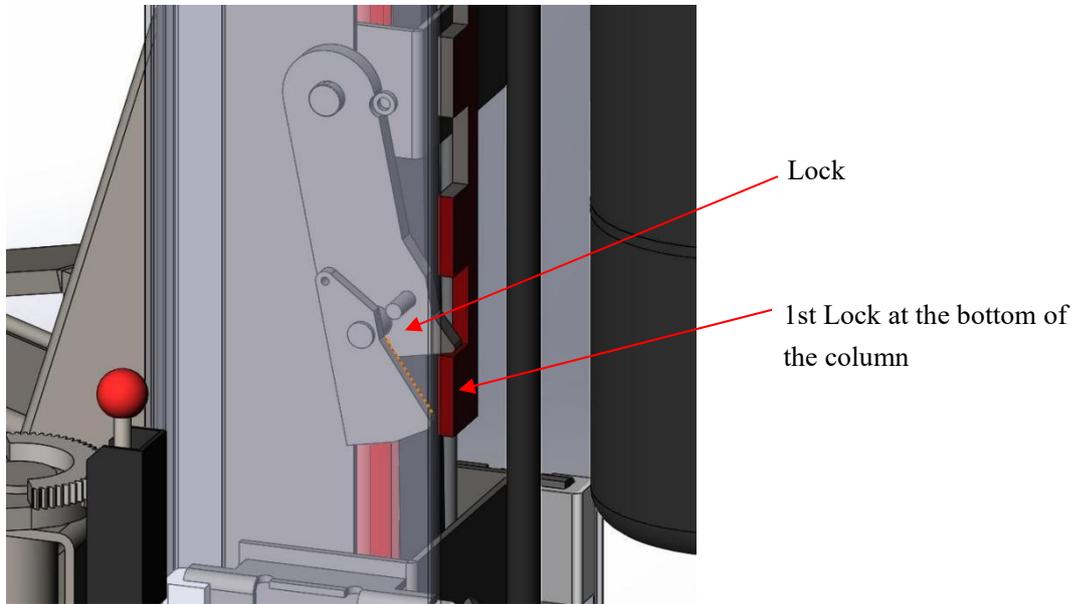


Fig 3 Carriage Position

OPERATION INSTRUCTIONS

2.2.3 Install Cables (2 Cables in total)

Red & Blue color in this Fig are showing how to route the 2 cables (Fig 4)

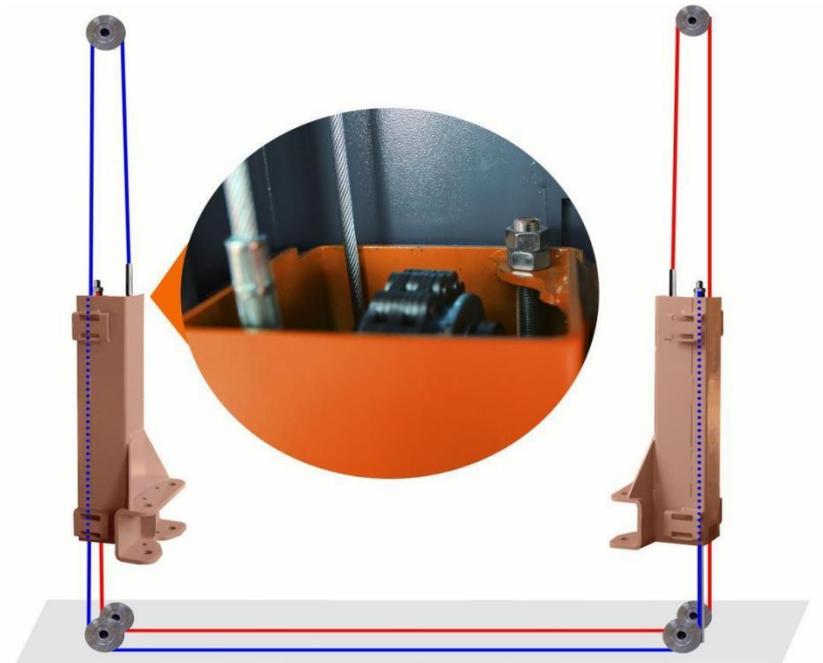


Fig 4 Cable Routing Diagram

2.2.4 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 hand tighten to avoid thread damage, then use hand wrench to fasten completely. (Fig 5)

OPERATION INSTRUCTIONS

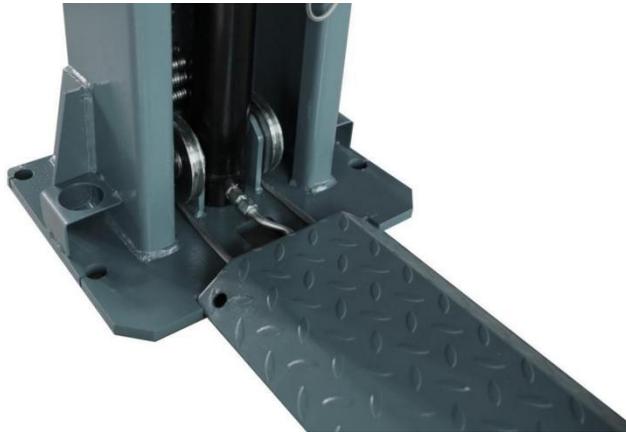


Fig 5 Hydraulic Hose Diagram

2.2.5 Install BasePlate (Fig 6)

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

OPERATION INSTRUCTIONS



**Fig 6 Baseplate Installation
Diagram**

2.2.6 Install Power Unit

Install power unit on the main column with M8 screws (Fig 7).



OPERATION INSTRUCTIONS

Fig 7 Power Unit Installation Diagram

2.2.7 Install Anchor Bolts (Fig 8)

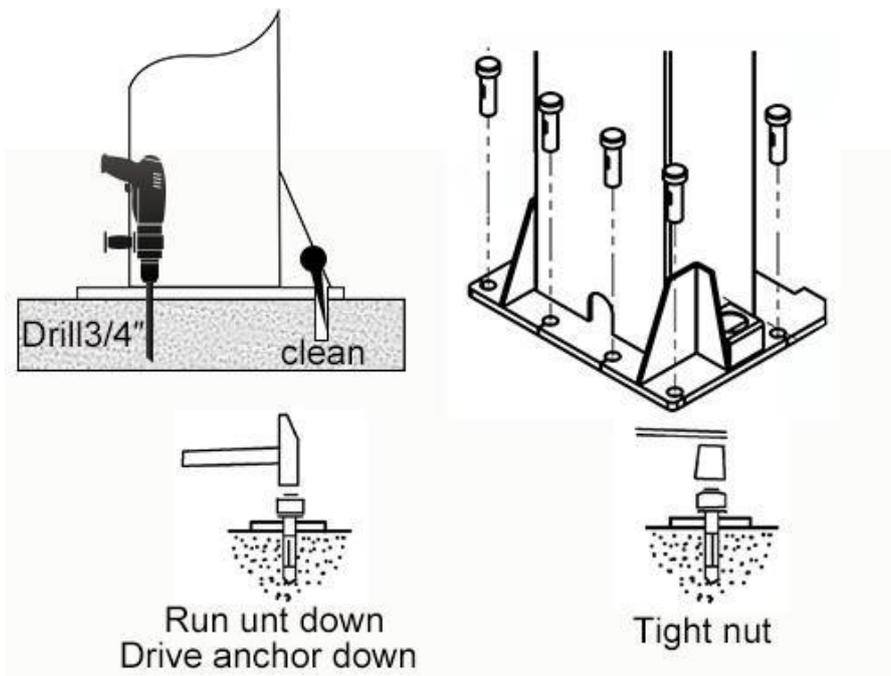
1. Adjust the distance between 2 columns as required dimensions (Fig 1).
2. Adjust the opening direction of the two columns in a straight line (visible).
3. Install Anchor Bolts (Suggest to use 3/4" Drill)

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

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

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

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



OPERATION INSTRUCTIONS

Fig 8 Anchor Bolts Installation Diagram

2.2.8 Install Arms and Pulling Rod

Install arms and pulling rod (Fig 9 and Fig 10).

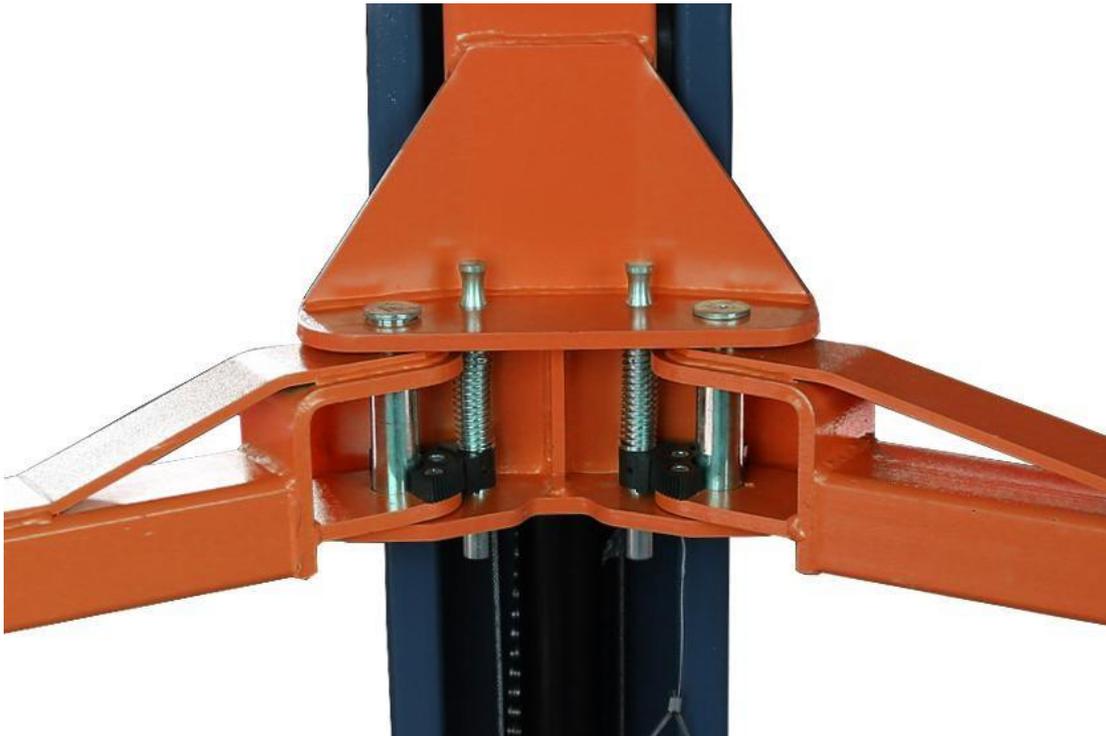


Fig 9 Arm Installation Diagram

OPERATION INSTRUCTIONS

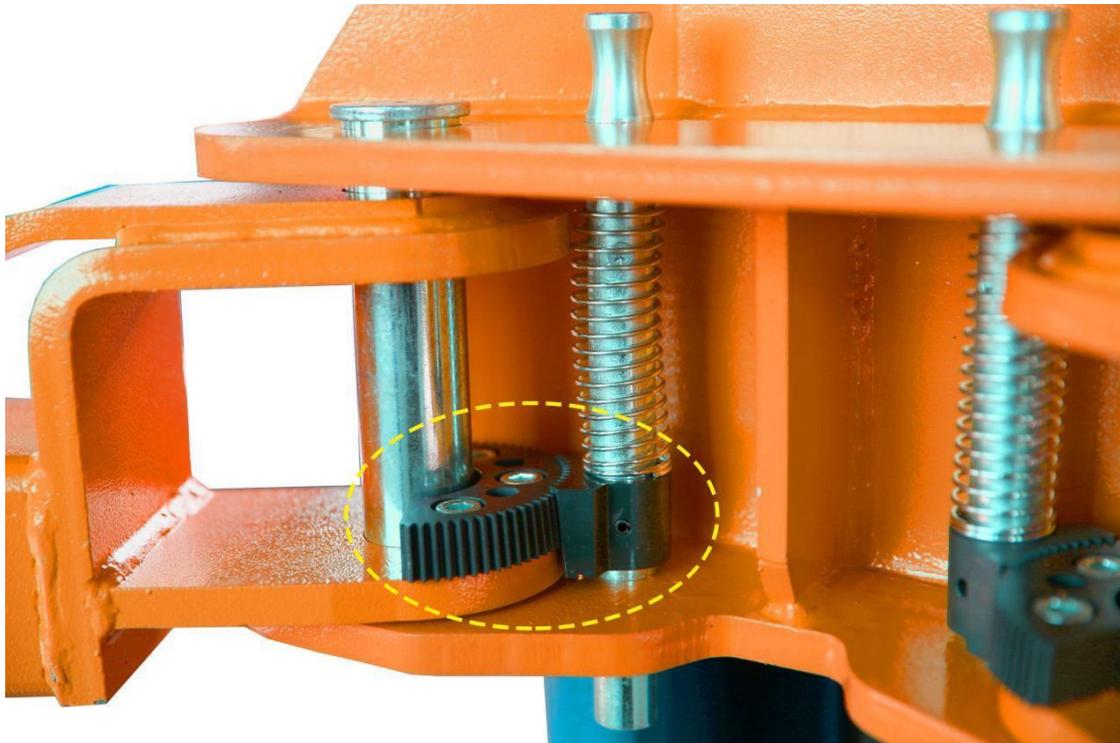


Fig 10 Pulling Rod Installation Diagram

3- Check Before Start

3.1 Mechanical Installation Check

1. Check anchor bolts, nuts, fittings and etc have been installed properly.
2. Check if all moving parts move freely.
3. Make sure inside of the columns is clean and no other objects.
- 4. Supply grease between slide blocks and columns, cables and pulleys.**
5. Check if the arm lock is locked while raising processing, and adjust lock if necessary.

Note: Loose the screw to adjust when necessary(Fig 10).

3.2 Electrical Hook Up Check

Make sure all wiring are same as below circuit diagram (Fig 11).

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).

OPERATION INSTRUCTIONS

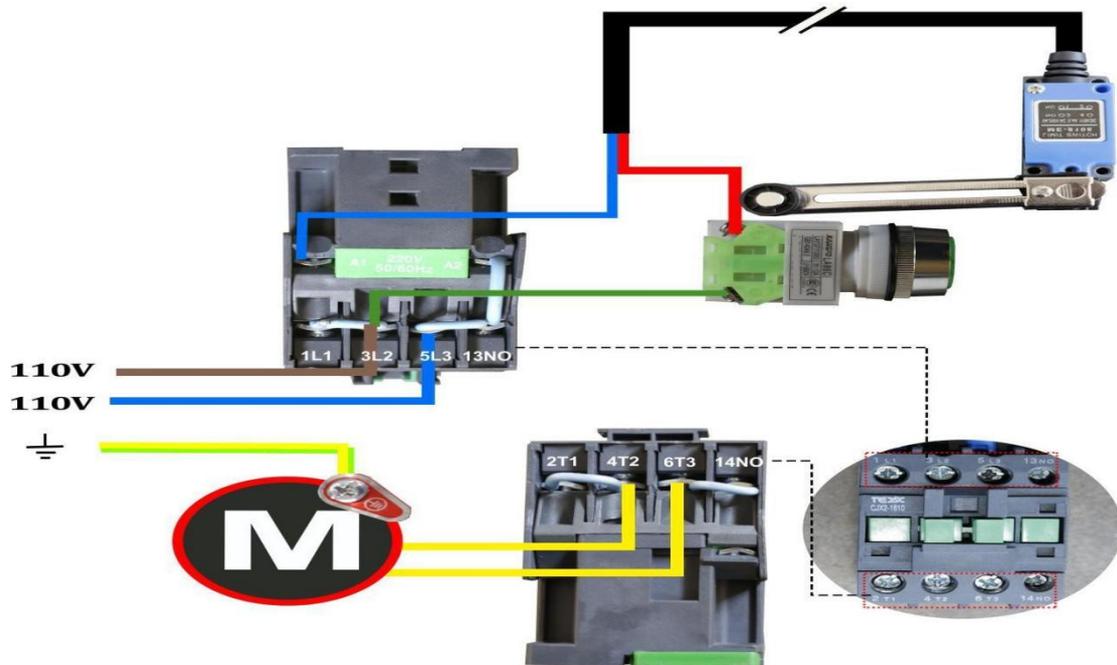


Fig 11 Power Unit Wiring Diagram (Voltage: 220V)

3.3 Hydraulic System Testing

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).
2. Make sure there is no oil leak.
3. Repeatedly raise and lower the lift to bleed trapped air from the cylinders.
4. Power unit testing (Fig 12)

OPERATION INSTRUCTIONS

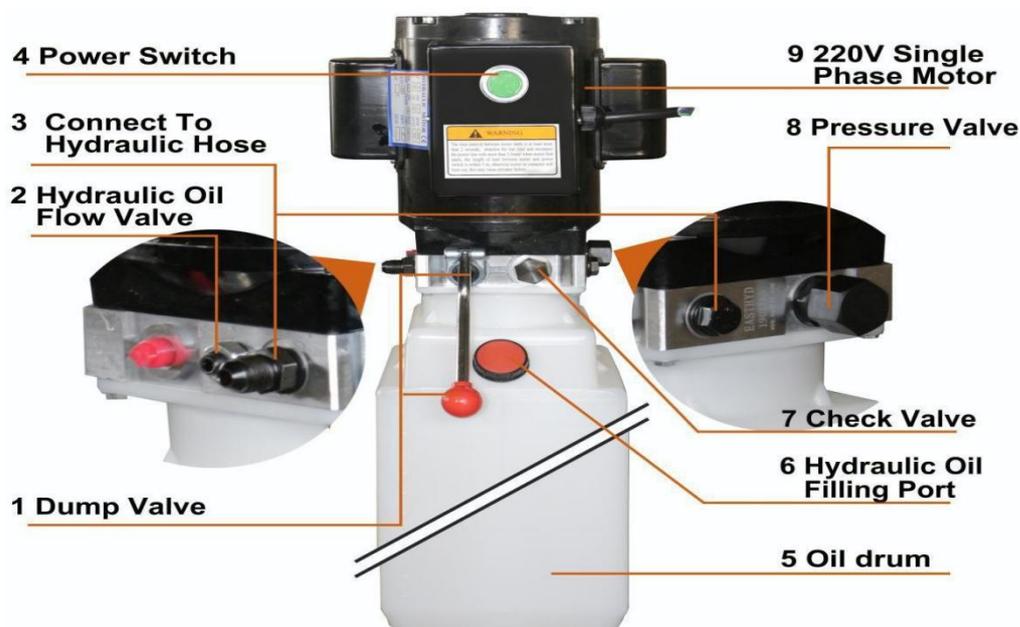


Fig 12 Power Unit Diagram

****Important Information****

7 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.

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

3.4 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.

4 - Operation and Use

4.1 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

OPERATION INSTRUCTIONS

4.2 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, check 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.**

4.3 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.

4.4 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.

5 - 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.

5.1 Important Reminder: Personal and Equipment Safety

1. During vehicle lifting process, operators should be at a safe position/area.
2. Turn off the vehicle engine and manual brake on.
3. Load vehicle correctly (Fig 13).
4. The vehicle CAN NOT exceed the rated lifting capacity and required size.

OPERATION INSTRUCTIONS

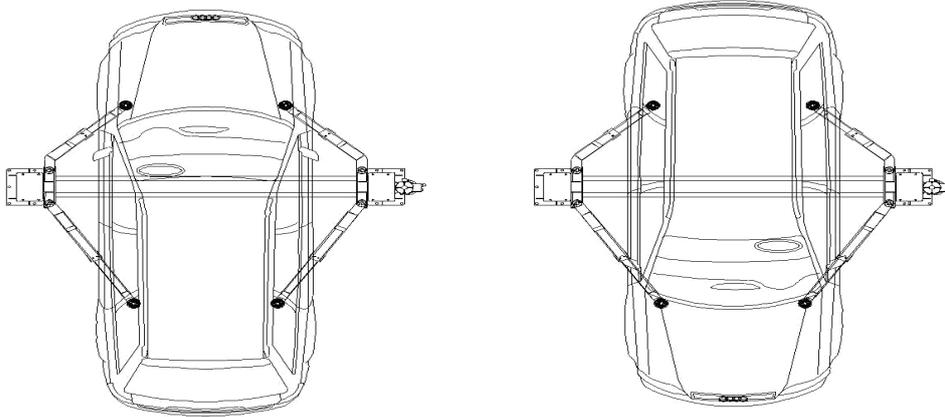


Fig 13 correct way to load vehicle

5.2 Vehicle Position

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

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

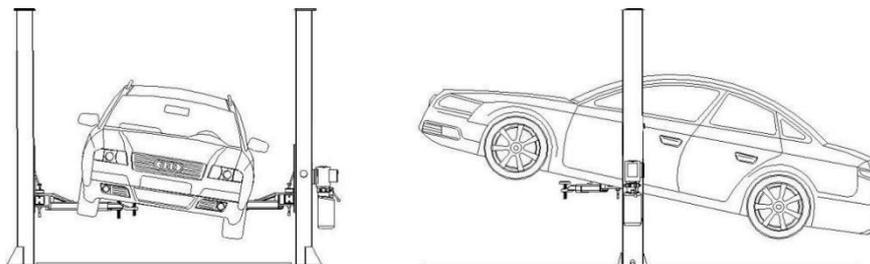


Fig 14 Risk of vehicle falling off

5.3 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 14).

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 15)

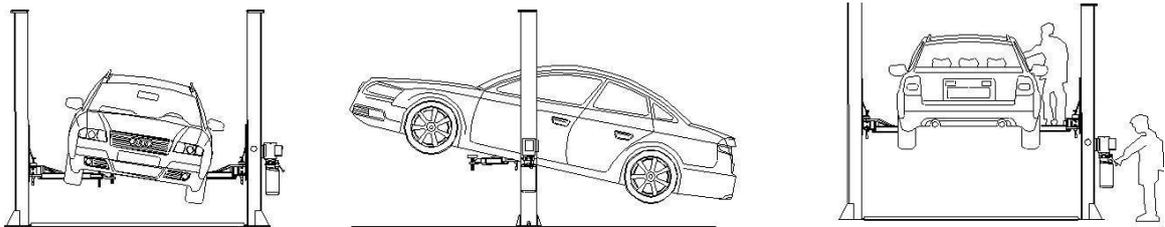


Fig 15 DO NOT do

6 - Maintenance

6.1 Every Month

Hydraulic System

1. Check hydraulic oil level, fill hydraulic oil if necessary.
2. Check the pump, hose and cylinder and see if there is hydraulic oil leaking.

6.2 Every 3 Month

OPERATION INSTRUCTIONS

Safety Maintenance

1. Check the condition of the safety lock and the wear of the stop block.
2. Check the anchor bolts, tighten nuts if necessary.
3. Check if any nuts are loose, tighten nuts if necessary.
4. Check if the arm locking system is working properly.
5. Lubricate/grease all moving parts.
6. Check the tension of the balance cables and check if there is any broken.
7. Check if the 2 carriage on both sides are at the same level.

6.3 Every 6 Month

Hydraulic Pump

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

6.4 Every 12 Month

1. Visually inspect all structural and mechanical parts to make sure there is no abnormalities have occurred.
2. Check and see if there is anything wrong with the motor, wiring, top limiter switch and circuit breaker.

6.5 Regular Lubrication

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

OPERATION INSTRUCTIONS

7 - Troubleshooting Guide

Troubleshooting Guide

Malfunction	Possible reason	Solution
The motor does not work	<ol style="list-style-type: none"> 1. Check the air switch. 2. Check if the voltage is correct. 3. The motor burned. 4. Start switch burned. 5. Top limiter switch burned. 6. AC contactor burned. 	<ol style="list-style-type: none"> 1. Turn off or replace the air switch. 2. User correct power supply. 3. Replace the motor. 4. Replace the start switch. 5. Replace the top limiter switch. 6. Replace the AC contactor.
The motor works but can't lift	<ol style="list-style-type: none"> 1. Pressure valve pressure is too small. 2. Pump station takes in air. 3. Hydraulic oil suction hose is detached or broken. 4. Insufficient hydraulic oil 	<ol style="list-style-type: none"> 1. Colockwise adjust the pressure valve (fine adjustment). 2. Unscrew check valve on the power unit, and then start the motor until hydraulic oil flows out from the check valve, then tighten the check valve. 3. Install/replace the suction hose. 4. Fill more hydraulic oil.
Does not lowering	<ol style="list-style-type: none"> 1. Safety lock engaged 2. Other object inside the columns stops the carriage. 3. The flow valve needs to be adjusted. 	<ol style="list-style-type: none"> 1. Slightly raise the device and then pull the safety lock release cable. 2. Check and remove the objects. 3. Counterclockwise adjust the flow valve (fine adjustment).

OPERATION INSTRUCTIONS

Malfunction	Possible reason	Solution
Self-Lowering	<ol style="list-style-type: none">1. Dump valve failure.2. Hydraulic oil leaks.3. The valve body of the power unit has holes.	<ol style="list-style-type: none">1 Replace the dump valve.2. Check and repair.3. Replace the valve body.
Raise without load, but doesn't raise with load	<ol style="list-style-type: none">1. The voltage is too low.2. Objects in the dump valve.3. The pressure valve pressure is too small.4. Overload.	<ol style="list-style-type: none">1. Install the voltage stabilizer.2. Remove objects from the dump valve.3. Increase pressure properly (fine adjust the pressure valve).4. This operation is prohibited.

NOTES



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