



FP-12L

12,000 LBS. CAPACITY
FOUR-POST LIFT

INSTALLATION & OPERATION MANUAL

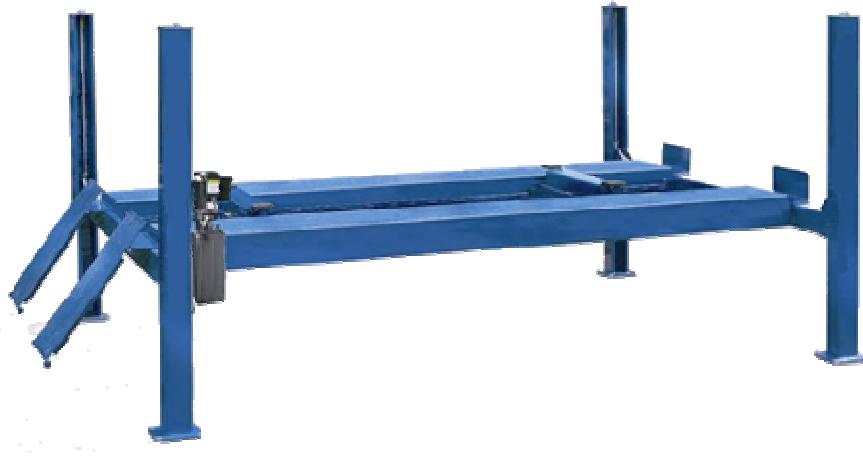
***READ THIS MANUAL BEFORE INSTALLING OR
OPERATING YOUR LIFT***

REV 20160208.SUN01 BD

INSPECT YOUR LIFT UPON DELIVERY. NOTE ANY DAMAGE ON DELIVERY RECEIPT.

Forward this manual to all operators. Failure to operate this equipment as directed in this manual may cause injury.

OPERATION MANUAL



FP-12L

Lifting Capacity: 12,000lbs Lifting Height: 70"

Voltage: Single Phase 220V 60Hz

**Keep this operation manual near the machine at all times.
Make sure that ALL USERS read and fully understand this manual**

TRANSPORTATION

All shipments are F.O.B Greensboro and become the property of the customer when they leave our dock. Eagle Equipment uses common carriers (Fed-Ex Ground, UPS, etc.) and independent freight haulers for shipping. We negotiate the most competitive freight rates possible and pass these savings along to our customers. And we make every effort to minimize freight charges and provide a timely delivery for our customers. We cannot advise customers of exact time-of-delivery. We can provide an Estimated Time of Arrival (ETA), and tracking information.

Customer is responsible for unloading the lift. Eagle Equipment assumes no responsibility for any additional charges due to delayed delivery, or damages that may be incurred unloading product from the delivering carrier's truck. Freight carriers may have restrictions on deliveries to residential addresses and may require pick-up at a freight terminal.

An automotive lift is a heavy piece of equipment. A fork-lift or other similar mechanism is necessary for its loading, off-loading and movement. (Lifts cannot be unloaded with a lift-gate.) Upon arrival, customer is responsible for unloading and receiving the lift from the freight carrier. Customer's site must be accessible to the freight carrier.



INSPECT YOUR LIFT UPON DELIVERY.



NOTE ANY DAMAGE ON DELIVERY RECEIPT.

SHIPPING AND DAMAGE CLAIMS

All shipments must be inspected immediately upon receipt. For your protection, any external damage must be noted on the Bill of Lading at the time of delivery in order to qualify for a claim against the freight carrier.

Concealed damage must be reported to the freight company within three (3) days of delivery. It is the customer's responsibility to file for damage claims against the freight company. Eagle Equipment is not responsible for loss or damages caused by shipping.

Shortages or missing parts must be reported to **Eagle Equipment Customer Service (1-888-207-3391)** within three (3) days of delivery.

INTRODUCTION

Thank you for your purchase.

Your lift is the result of decades of research, testing and development; and represents the most advanced technology on the market.

The care with which you maintain and operate your lift will directly affect its overall performance and longevity.

BE SAFE

Your lift was designed and built with safety in mind. However, safety relies on proper training and thoughtful use on the part of the operator. **DO NOT** operate or repair this equipment without reading this manual and the important safety instructions shown inside.

Keep these instructions accessible, and make sure that ALL USERS read this manual.



READ THIS ENTIRE MANUAL



CAREFULLY AND COMPLETELY

BEFORE INSTALLATION

OR OPERATION OF THE LIFT.

RECORD THE MODEL NUMBER AND THE SERIAL NUMBER

(LOCATED ON THE MAIN POST OF YOUR LIFT)

Model Number: _____

Serial Number: _____

Manufacturing date: _____

THIS INFORMATION WILL BE REQUIRED
SHOULD YOU EVER NEED TO CALL IN
FOR PARTS OR TECHNICAL ASSISTANCE.

For assistance, please call: 1-800-535-0016

UNPACKING



WARNING Failure to follow the Unpacking and Assembly Directions **WARNING**
may cause personal injury and/or impair the operation of this machine.

Please read thoroughly.

- 1] Your lift comes packaged as a single unit. A fork-lift, floor-jack or other heavy-lifting equipment may be necessary to separate the components. Exercise caution when disassembling the packaged lift, as shifting may have occurred during shipping.
- 2] Carefully remove the shipping bands and brackets from the lift. Check for any obvious shipping damage. (Remember to report any shipping damage to the carrier and make a notation on the delivery receipt.) Save all bolts, nuts and washers securing the shipping brackets, as these may be used in the assembly of the lift.
- 3] The unit is composed of several main components. (See Fig. 2, below)
- 4] An Accessory Box is included with the lift, for smaller components.
- 5] Un-strap and remove Power Unit box from packaged lift. (Literature such as the Installation Manual, Warranty Card, and Serial Number Plate is usually included inside this box.) Inspect the power unit, and note any possible shipping damage on the shipping bill.
- 6] Remove Arms from their shipping location inside towers, and set aside.



Shipments must be inspected immediately upon receipt.



External damage must be noted on Bill-of-Lading.

Concealed damages must be reported to freight company within three days of delivery.

Shortages must be reported to Eagle Equipment within three days of delivery.

(1-800-336-2776)

IMPORTANT SAFETY INSTRUCTIONS

Read These Safety Instructions Thoroughly

1. Read and understand all operation & safety warning procedures before operating lift.
2. Keep hands and feet clear. Remove hands and feet from any moving parts. Keep feet clear of lift when lowering. Avoid pinch points.
3. Keep work area clean. Cluttered work areas invite injuries.
4. Consider work area environment. Do not expose equipment to rain. Do not use in damp or wet locations. Keep area well lighted.
5. Only trained personnel should operate this lift. All non-trained personnel should be kept away from the work area. Never let non-trained personnel come in contact with, or operate lift.
6. Use lift correctly. Use lift in the proper manner. Never use lifting adapters other than those provided by the manufacturer, in any manner other than intended.
7. Do not override self-closing controls.
8. Remain clear of lift when raising or lowering vehicle.
9. Clear area if vehicle is in danger of falling.
10. Always insure that the safeties are engaged before any attempt is made to work on or near vehicle.
11. Dress properly. Non-skid, steel-toe foot-wear is recommended when operating lift.
12. Carefully inspect the lift on a regular basis. Perform maintenance according to the maintenance schedule.
13. Guard against electric shock. This lift must be grounded while in use to protect the operator from electric shock. Never connect the ground wire to a live terminal. This is for ground only.
14. **Danger!** The power unit used on this lift contains high voltage. Disconnect power at the receptacle before performing any electrical repairs. Secure plug so that it cannot be accidentally plugged in during service.
15. **Warning!** Risk of explosion. This equipment has internal arcing or sparking parts which should not be exposed to flammable vapors. This machine should not be located in a recessed area or below floor level.
16. Maintain with care. Keep lift clean for better and safe performance. Follow manual for proper lubrication and maintenance instructions. Keep control handles and/or buttons dry, clean and free from grease and oil.
17. Stay alert. Watch what you are doing. Use common sense. Be aware.
18. Check for damaged parts. Check alignment of moving parts, breakage of parts or any condition that may affect its operation. Do not use lift if any component is broken or damaged.
19. Never remove safety related components from the lift. Do not use the lift if safety related components are damaged or missing.

- WORKING TEMPERATURES:**
1. Ambient temperature: 41-104 degrees fahrenheit.
 2. Humidity: 30-95%.
 3. Transportation/Storage temperature: 77-131 degrees fahrenheit;
not exceeding 24 hours at up to 158 degrees fahrenheit.
 4. Installation Altitude max: 1000m.

TABLE of CONTENTS	(page)
TRANSPORTATION	3
SHIPPING and DAMAGE CLAIMS	3
INTRODUCTION	4
MODEL and SERIAL NUMBER INFORMATION	4
UNPACKING	5
IMPORTANT SAFETY INSTRUCTIONS	6
CHAPTER 1: TECHNICAL SPECIFICATIONS	9
1.1 ELECTRIC MOTOR	10
1.2 VEHICLE WEIGHT and SIZE	11
1.3 MAXIMUM DIMENSIONS of VEHICLES to be LIFTED	11
CHAPTER 2: SAFETY INSTRUCTIONS	12
2.1 GENERAL PRECAUTIONS	12
2.2 RISK of ELECTRIC SHOCK	13
2.3 RISKS and PROTECTION DEVICES	13
2.4 IMPORTANT SAFETY INSTRUCTIONS	13
CHAPTER 3: TOOLS REQUIRED	14
CHAPTER 4: INSTALLATION	15
4.1 STEP 1: SELECTING the SITE	15
4.2 STEP 2: FLOOR-REQUIREMENTS	15
4.3 STEP3: SITE LAYOUT	16
4.4 STEP 4: INSTALLING POWER-SIDE COLUMN	16
4.5 STEP 5: CROSSBEAM INSTALLATION	17
4.6 STEP 6: SLIDING RACK INSTALLATION	17
4.7 STEP 7: POST INSTALLATION	18
4.8 STEP 8: POST INSTALLATION (cont.)	18
4.9 STEP 9: CAP INSTALLATION	19
4.10 STEP 10: ANCHOR BOLT INSTALLATION	19
4.11 STEP 11: RUNWAY INSTALLATION	20
4.12 STEP 12: CABLE INSTALLATION	21
4.13 STEP 13: POWER UNIT INSTALLATION	23
4.14 STEP 14: ROUTING HYDRAULIC HOSES	23
4.15 STEP 15: ROUTING AIRLINE	24
4.16 STEP 16: POWER UNIT START-UP	25
4.17 STEP 17: LIFT START-UP	27
4.18 STEP 18: INSTALLING SLACK SAFETY SPRINGS	27
4.19 STEP 19: FINAL ASSEMBLY	28
4.20 STEP 20: EXPERIMENTAL OPERATION	29
4.21 STEP 21: PRECISE ADJUSTMENT	29
4.22 STEP 22: LOAD TEST	29
CHAPTER 5: OPERATION	31
5.1 RAISING the LIFT	31
5.2 LOWERING the LIFT	31
5.3 MAINTENANCE	31

CHAPTER 6:	TROUBLE-SHOOTING	32
6.1	LIFT WILL NOT RAISE	32
6.2	MOTOR WILL NOT RUN	33
6.3	WILL NOT RAISE LOADED LIFT	34
6.4	LIFT WILL NOT STAY UP	35
6.5	LIFT LOWERS SLOWLY or NOT AT ALL	36
6.6	EXTERNAL OIL LEAK	37
6.7	UNUSUAL NOISE	38
	WARRANTY INFORMATION	42

CHAPTER 1 TECHNICAL SPECIFICATIONS

CAPACITY.....	12,000 lbs.
Car max lifting height.....	70"
Runway length.....	191"
Width between post.....	112"
Rise time with single-phase motor.....	≤75sec
Descent time.....	18sec ≤ t ≤ 45sec
Noise.....	≤70db (A) 1m
Operating temperature.....	14-122°F (-10 to 50°C)
Work environment:	closed room
Relative humidity.....	≤90%
Sea level height.....	≤1000m

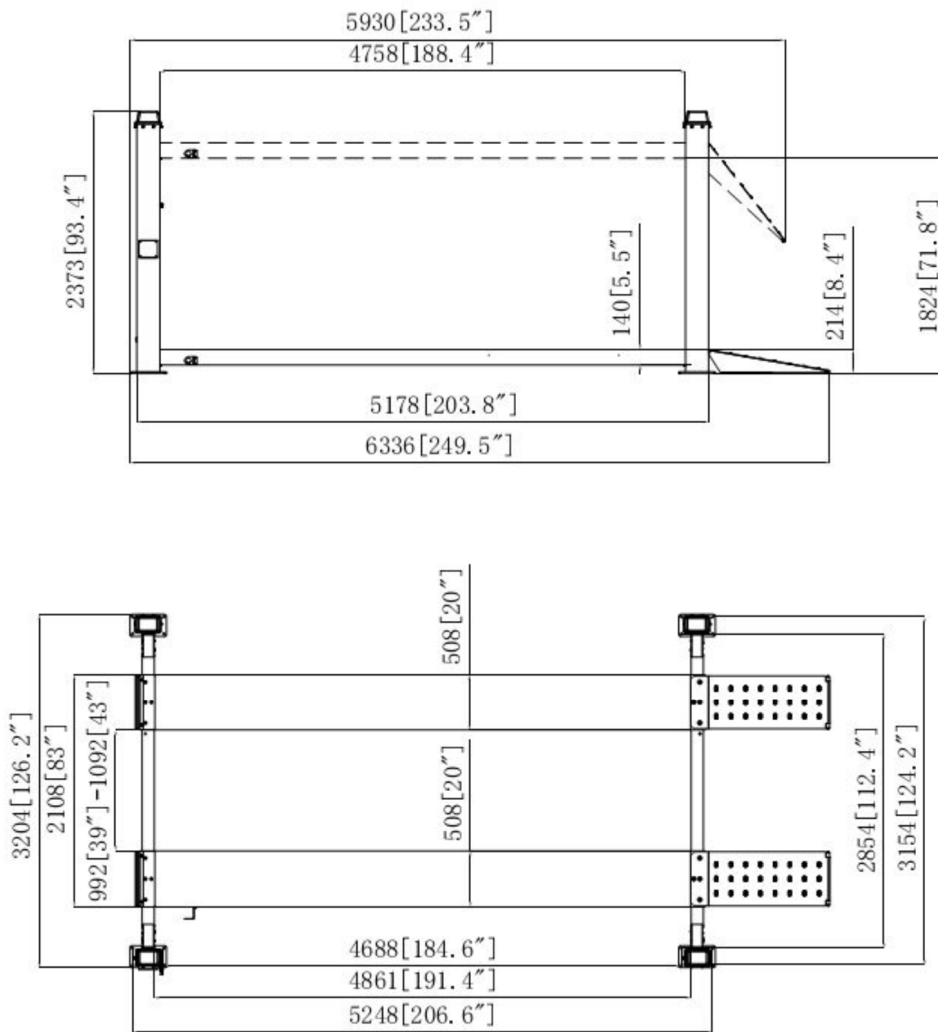
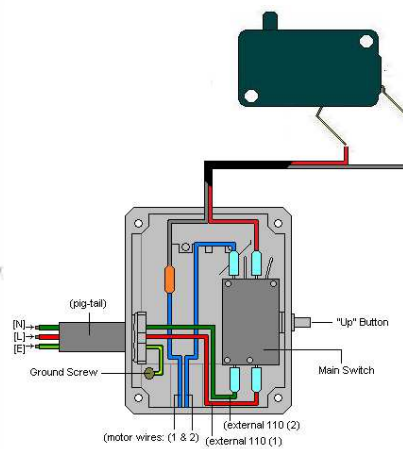
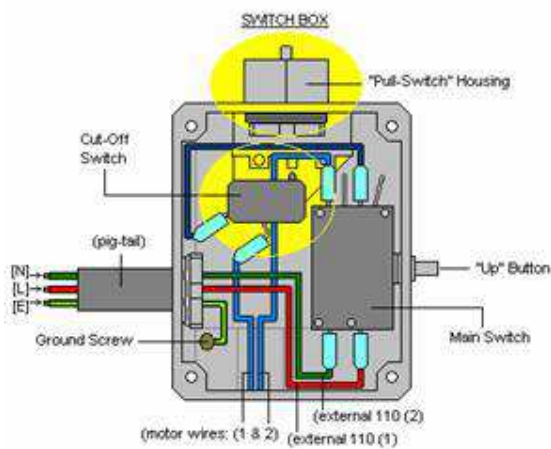
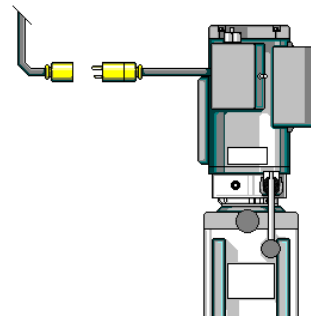
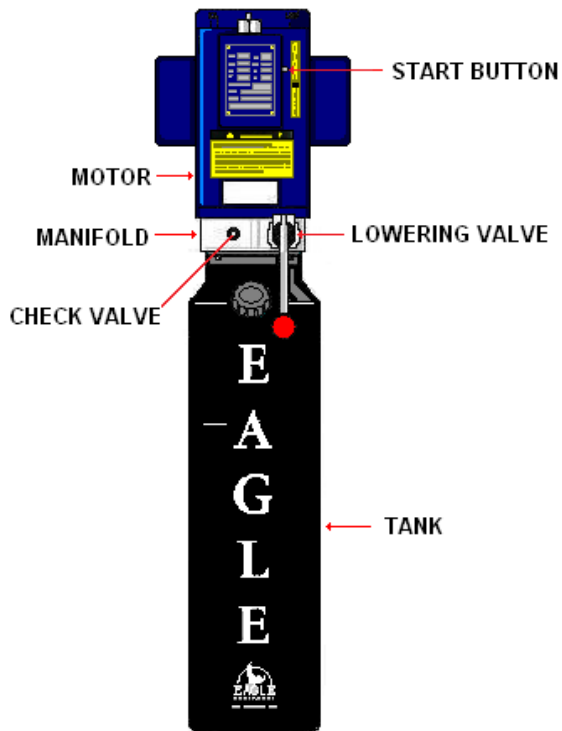


Fig.7 Dimensions and overall clearances

1.1 ELECTRIC MOTOR

Electric motor power rating		2.5 HP
Voltage		220V, 1ph
Frequency		60Hz
Amperage		14.5-16.5A
Speed		3450RPM

The motor must be wired as directed in the attached wiring diagrams.



1.2 VEHICLE WEIGHT AND SIZE

This lift can be used for *most* vehicles no heavier than 12,000 lbs. (5500kg), and of dimensions meeting the following parameters.

1.3 MAXIMUM DIMENSIONS OF VEHICLES TO BE LIFTED

Max width: 112" (2951mm)

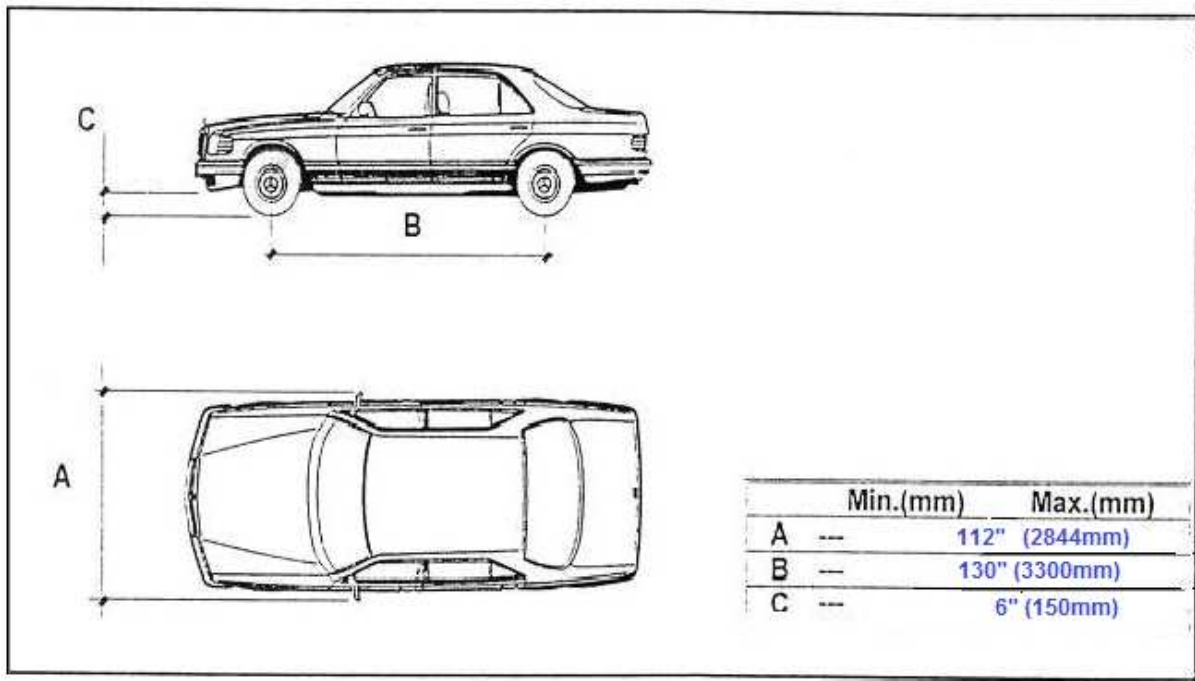
Max wheelbase: 130" (3300mm)

The underbody of cars with low ground clearance may interfere with the structure of the lift. Pay particular attention in the case of low body sports cars.

Always keep the capacity of the lift in mind in the case of vehicles with particular characteristics.

THE SAFETY area will be determined by the dimensions of the vehicle.

The diagram below shows the criteria for vehicle limits in using this lift:



Minimum and maximum dimensions

ALWAYS BE MINDFUL OF MAXIMUM LOAD CAPACITY AND LOAD DISTRIBUTION, ESPECIALLY IN THE CASE OF LARGER VEHICLES.

It is vital to read this manual carefully from beginning to end. It contains important information regarding the risks that the operator(s) and maintenance person(s) may be exposed to if the lift is used incorrectly.

The following regards potential risks that may arise during the operation or maintenance of this lift, and precautions that should be taken.

**WARNING**

Lift is designed and built to lift vehicles and hold them in the elevated position in a closed workshop. All other uses are unauthorized. In particular, this lift is not suitable for:

- Vehicle ashing and painting work;
- Creating raised platforms or lifting personnel;
- Use as a makeshift press for crushing purpose;
- Use as goods lift;
- Use as a jack for lifting part of a vehicle.

THE MANUFACTURE DISCLAIMS ALL LIABILITY FOR INJURY TO PERSONS OR DAMAGE TO VEHICLES AND OTHER PROPERTY CAUSED BY THE INCORRECT AND UNAUTHORISED USE OF THE LIFT.

When raising and lowering the lift, whether with or without a vehicle, the operator must remain at the controls. All other personnel should stay clear of the working area. At no time should anyone be beneath the lift, unless all safety features are in-use and engaged.

DO NOT USE THIS LIFT WITHOUT SAFETY FEATURES OR INHIBIT THE SAFETY FEATURES IN ANY WAY. FAILURE TO COMPLY CAN CAUSE SERIOUS INJURY TO PERSONS, AND IRREPERABLE DAMAGE TO THE LIFT AND/OR THE VEHICLE BEING LIFTED.

CHAPTER 2 SAFETY INSTRUCTIONS BEFORE INSTALLATION

2.1 GENERAL PRECAUTIONS

All operators and maintenance personnel are required to observe local laws and regulations.

Furthermore, operator(s) and maintenance personnel must:

1. Operate in the prescribed work areas.
2. Never remove or deactivate the safety features of this product.
3. Read and understand the warning labels on the lift and the safety information in this manual.

In the manual all safety notices are shown as follows:

DANGER: Indicates imminent danger that can result in serious injury or death.

WARNING: Indicates situations or behaviors that are unsafe and can cause varying degrees of injury or death.

CAUTION: Indicates situations or behaviors that are unsafe and can cause minor injury to persons and /or damage to the lift, the vehicle or other property.

2.2 RISKS OF ELECTRIC SHOCK:

Note warning labels on the lift where the risk of electric shock is present.

2.3 RISKS AND PROTECTION DEVICES

Examine the risks to which the operator(s) and maintenance personnel may be exposed when the vehicle is immobilized in the raised position; as well as the protection devices provided by the manufacture to reduce all such hazards to a minimum.

2.4 IMPORTANT SAFETY INSTRUCTIONS

Read these safety instructions entirely and understand thoroughly before operating the equipment. Failure to operate this equipment as directed may cause injury.

1. READ AND UNDERSTAND all safety warning procedures before operating lift.
2. KEEP HANDS AND FEET CLEAR. Remove hands and feet from any moving parts. Keep feet clear of lift when lowering. Avoid pinch points.
3. KEEP WORK AREA CLEAN. Cluttered work areas invite injuries.
4. CONSIDER WORK AREA ENVIRONMENT. Do not expose equipment to rain. DO NOT use in damp or wet locations. Keep area well lighted.
5. ONLY TRAINED OR AUTHORIZED PERSONNEL should operate this lift. All non-trained personnel should be kept away from working area. Never let non-trained personnel come in contact with, or operate lift.
6. USE LIFT CORRECTLY. Use lift in the proper manner. Never use lifting adapters other than what is approved by the manufacturer.
7. DO NOT override self-closing lift controls.
8. REMAIN CLEAR of lift when raising or lowering vehicle.
9. CLEAR AREA if vehicle is falling.
10. ALWAYS ENSURE that safeties are engaged before any attempt is made to work on or near vehicle.
11. DRESS PROPERLY. Non-skid steel-toe footwear is recommended when operating lift.
12. GUARD AGAINST ELECTRIC SHOCK. This lift must be grounded while in use to protect the operator from electric shock. Never connect the green-and-yellow wire to a live terminal. This is for ground only.
13. DANGER! The power unit used on this lift contains high voltage. Disconnect power at the receptacle before performing any electrical repairs. Secure plug so that it cannot be accidentally plugged in during service.
14. WARNING! RISK OF EXPLOSION. This equipment has internal arcing or sparking parts which should not be exposed to flammable vapors. This machine should not be located in a recessed area or below floor level.
15. MAINTAIN WITH CARE. Keep lift clean for better and safe performance. Follow manual for proper lubrication and maintenance instructions. Keep control handles and/or buttons dry, clean and free from grease and oil.
16. STAY ALERT. Watch what you are doing. Use common sense. Be aware.
17. CHECK FOR DAMAGED PARTS. Check for alignment of moving parts, breakage of parts or any condition that may affect its operation. Do not use lift if any component is broken or damaged.
18. NEVER remove safety related components from the lift. Do not use lift if safety related components are damaged or missing.
19. REGARDING AMBIENT TEMPERATURE, shall be 5°C~40°C; regarding humidity, shall be
20. THE REQUIRED INSTALLATION HEIGHT above sea level is less than 1000m.
21. DO NOT EXCEED the rated lifting capacity declared in the manual.
22. RATED CAPACITY of each lift arm (if present) is not greater than one fourth (1/4) of the overall lifting

capacity.

23. DANGER. Travelling on lift is forbidden.

24. IT IS NECESSARY to read the complete operation manual, especially for trouble-shooting.

25. The range of movement of the lift and its load must be kept free of obstructions.

26. PAY ATTENTION to safely distribute the weight of the vehicle. Check the vehicle after raising a short height to ensure that it is correctly and safely positioned.

27. The lift shall be observed by the operator throughout the whole lifting course.


28. IT SHALL BE FORBIDDEN for people to stand in the field of loading vehicle and of lifting parts during the lifting course.

29. IT IS FORBIDDEN to climb onto the loading vehicle and lifting parts when they are raised unless via a specially designed access.

30. ABOUT HYDRAULIC OILS. Hydraulic and lubricant oils used shall meet EU standard. MSDS shall be provided by the end user at the convenient place. The first supplied oil shall be replaced after 1000 used times. Then it shall be replaced after 3000 times.

31. LIFT ON & LIFT OFF. Use forklift with loading capacity of 5T to load the lift. Note: Special lifting belt shall be used and steel rope or other rope should not as a matter of abrasion of the lift.

32. STORAGE TEMPERATURE. Regarding transportation and storage temperature, shall be between -25~55°C, and short period no exceeding 24 hours at up to 70°C.

 WARNING	<p>THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS, WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS AND MAY CAUSE PERSONAL INJURY OR DEATH. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE THIS MACHINE.</p>
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CHAPTER 3 TOOLS REQUIRED

25' Measuring Tape	Chalk Line
Marker or Floor Crayon	Rotary Hammer Drill
4lbs. Hammer	3/4" (19mm) dia. Masonry Drill Bit
SAE Wrenches & Ratchet Set	Metric Wrenches & Ratchet Set
Torque Wrench	Pry Bar
2' Level	4' Level
12' Ladder	Side Cutters
Vise Grips	Screwdriver Set
Funnel	White Lithium Spray

4" x 4" Wooden Blocks (to assist in unpacking)

Floor-Jack or Dollies (to assist in unpacking)

4 gallons AW-32 Hydraulic Oil

IMPORTANT NOTICE

Do not attempt to install this lift if you have never been trained on basic automotive lift installation procedures. Never attempt to lift components without proper lifting tools such as a forklift or hoist. Stay clear of any moving parts or unsecured components which may fall and cause injury. These instructions must be followed to ensure proper installation and operation of your lift. Failure to comply with these instructions can result in serious bodily harm and void product warranty. Manufacturer will assume no liability for loss or damage of any kind, expressed or implied, resulting from improper installation or use of this product.

PLEASE READ ENTIRE MANUAL PRIOR TO INSTALLATION.

CHAPTER 4 INSTALLATION STEPS

4.1 STEP 1

(Selecting Site)

Before installing your new lift, check the following:

1. **LIFT LOCATION:** Always use architects plans when available. Check layout dimension against floor plan requirements making sure that adequate space is available.
2. **OVERHEAD OBSTRUCTIONS:** The area where the lift will be located should be away from overhead obstructions such as heaters, building supports, electrical lines etc.
3. **DEFECTIVE FLOOR:** Visually inspect the site where the lift is to be installed and check for cracked or defective concrete. All models **MUST** be installed on **6" thick, 3000 PSI, reinforced concrete** (minimum requirement). New concrete must be adequately cured for at least 30 days.

4.2 STEP 2

(Floor Requirements)

This lift must be installed on a solid, even concrete floor (meeting the above requirements) with **less than 3-degrees of slope**. Consider a survey of the site and/or the possibility of pouring a new level concrete slab.



WARNING

"DO NOT install this lift on asphalt or any surface other than concrete.

"DO NOT install this lift on expansion seams or on cracked or defective concrete.

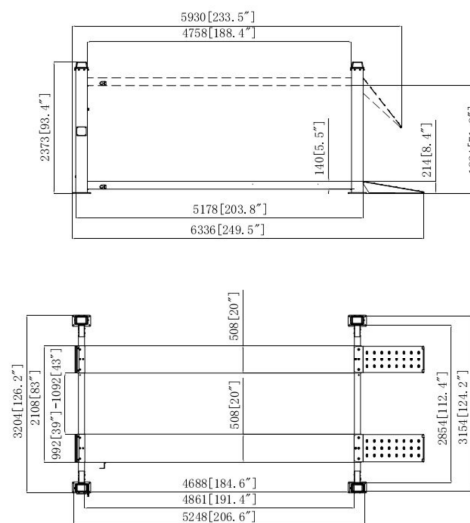
"DO NOT install this lift on a second /elevated floor without first consulting building architect.

"DO NOT install this lift outdoors unless special consideration has been made to protect the power unit from climate weather conditions. (Weather or exposure damage is not covered by warranty.)

4.3 STEP 3

(Site Layout)

1. Determine which side will be the approach site.
2. Now determine which side you prefer the power unit to be located on. The POWERSIDE column has the power-unit mounting bracket attached to the side. (See diagram for power unit location)
3. Once a location is determined, use a carpenter's chalk line to layout a grid for the post locations. Keep all dimensions and squareness within 1/8" or lift malfunction may occur.
4. After the post locations are properly marked, use a chalk or crayon to make an outline of the posts on the floor at each location using the post baseplates as a template.
5. Check all dimensions twice and make sure that the layout is perfectly correct.
6. Before continuing with the installation it is helpful to stand the posts up at their respective locations and get a visual of the shop, aisles and other clearances. Also, this is a good time to drive a vehicle into position and check for adequate clearance



IMPORTANT NOTE

It is important to locate the POWER-SIDE runway (with cylinder) on the SAME SIDE as power unit location. Accessory rails on the side of each runway MUST be installed to the inside. **For the remainder of this instruction we will illustrate the power unit mounted at the DRIVER-SIDE FRONT column.**

4.4 STEP 4

(Installing The POWERSIDE Column)

1. Before proceeding, double check measurements and make certain that the bases of each column are square and in line with the chalk line.
2. Using the baseplate on the POWERSIDE column as a guide, drill each anchor hole on the concrete approximately 6" deep using a Rotary Hammer Drill and 3/4" concrete drill-bit. To assure full holding power, do not ream the hole or allow the drill to wobble.
3. After drilling, remove dust thoroughly out of each hole using compressed air and/or wire brush. Make certain that the column remains aligned with the chalk line during this process.
4. Assemble the washers and nuts on the anchors. If shimming is required, insert the shims as necessary under the baseplate so that when the anchor bolts are tightened, the columns will be plumb.

5. With the shims and anchor bolts in place, tighten by securing the nut to the base then turning 2 -3 full turns clockwise. DO NOT use an impact wrench for this procedure.

4.5 STEP 5

(Cross Beam Installation)

Manually clear the SLACK SAFETY lock devices on the end of each cross tube and slide the cross tubes down until they rest on the safety lock position fourth down from the top of the column. (See Fig. 1)

IMPORTANT INSTALLATION NOTE

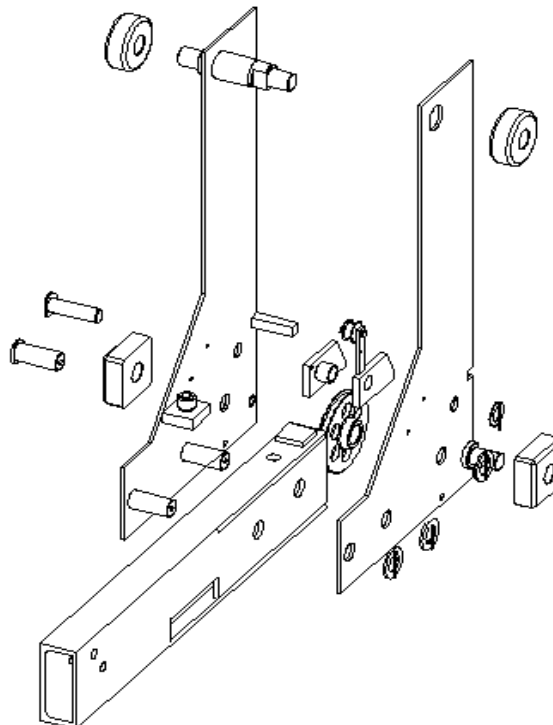
Position cross-tubes in columns making sure to first retract slack safety lock like shown below. Failure to do this will result in damage to the lift.



Fig. 1

4.6 STEP 6

(Sliding Rack Installation)



4.7 STEP 7

(Cross Beam Installation)

Locate the remaining columns at their respective locations according to the chalk line layout (see above). Pay attention to the power unit location. DO NOT BOLT these columns down at this time. Use caution to prevent columns from falling over. Raise the cross tubes (making sure the plastic slide blocks are still in position) and drop down into the top of the columns. The large cut-out holes should be positioned inward following the diagram on page 5. (See Fig. 2)

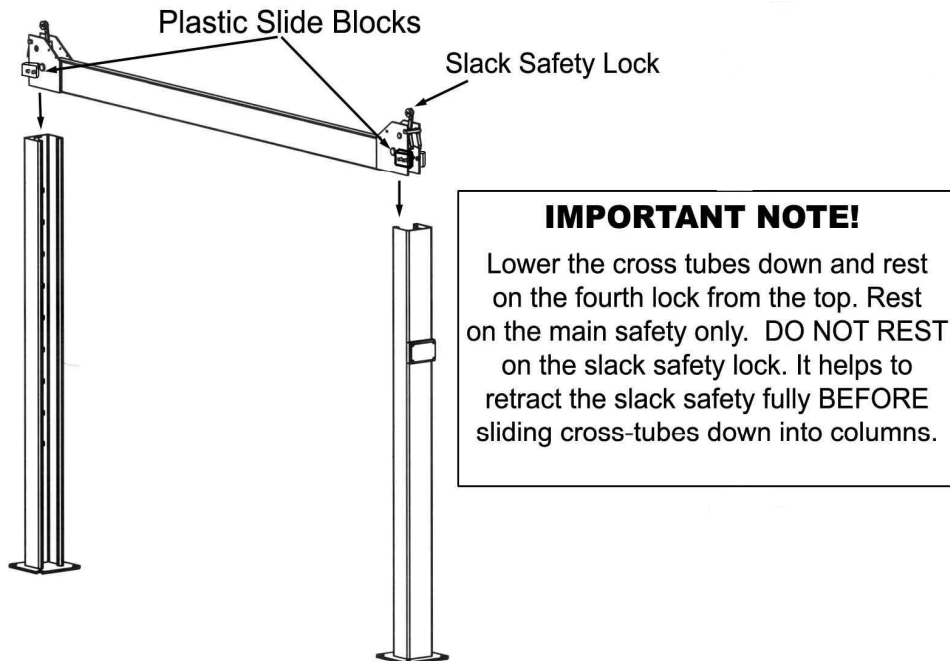


Fig. 2

4.8 STEP 8

(Cross Beam Installation, cont.)

The columns and cross bars will now be in position and spaced properly for the runways. Be very careful not to disturb the columns and cross tubes at this time as they may tip over causing personal injury or harm. (See Fig. 3)

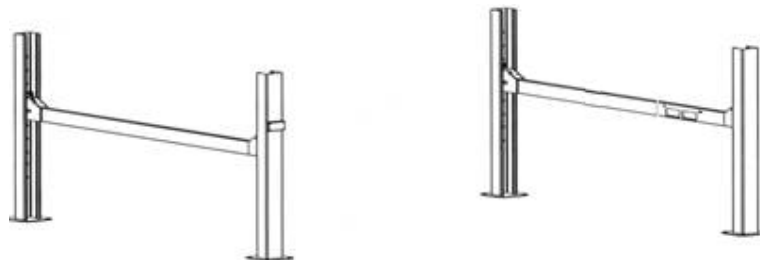


Fig. 3

4.9 STEP 9**(Cap Installation)**

With the columns and cross tubes in place, secure the column TOP CAPS using the 3/8" x 1-1/2" Hex bolt, nut & washer. Be sure to position the cable hole INWARD. (See Fig. 4)

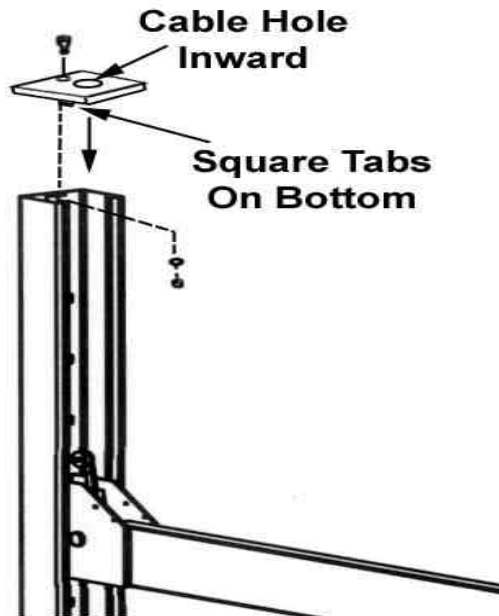


Fig. 4

4.10 STEP 10**(Anchor Bolt Installation)**

1. Before proceeding, double check the measurements and make certain that the bases of each column are square and aligned with the chalk line.
2. Using the baseplate on each column as a guide, drill each anchor hole approximately 6" deep using a rotary hammer drill and 3/4" concrete bit. (See Fig. 5)

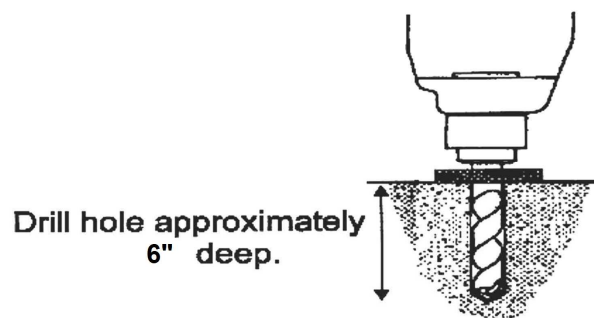


Fig. 5

3. After drilling, remove dust thoroughly from each hole using compressed air and/or wire brush. Make certain that the columns remain aligned with the chalk line. Always wear safety goggles.

4. Assemble the washers and nuts on the anchors then tap into each hole with a hammer until the washer rests

against the baseplate. Be sure that if shimming is required, enough threads are left exposed. (See Fig. 6)

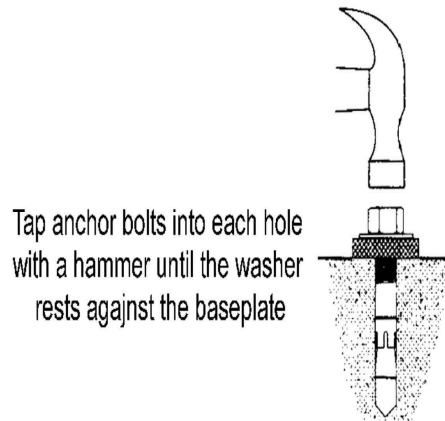


Fig. 6

5.If shimming is required, insert the shims as necessary under the baseplate so that when the anchor bolts are tightened, the columns will be plumb. (See Fig. 7)

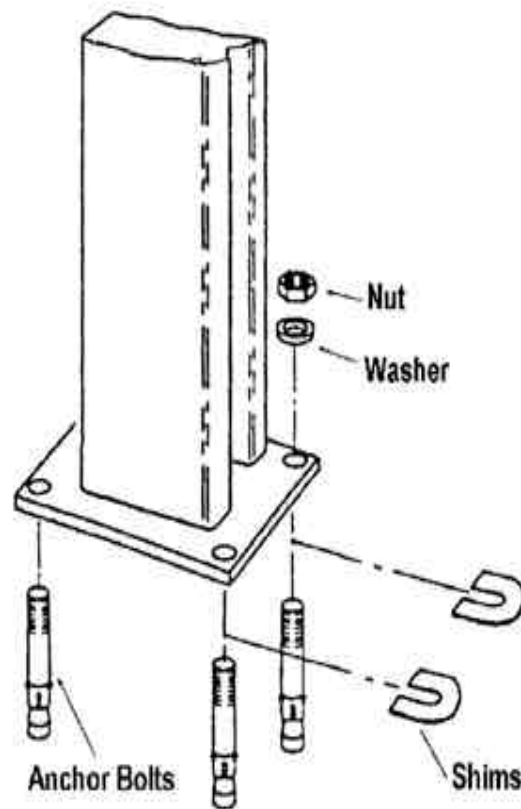


Fig. 7

4.11 STEP 11 **(Runway Installation)**

1. Locate the runway with the cylinder attached underneath. This runway will be located adjacent the column with power unit bracket attached.
2. Position the holes on the side of the runway near the power unit location. (See Fig. 8)

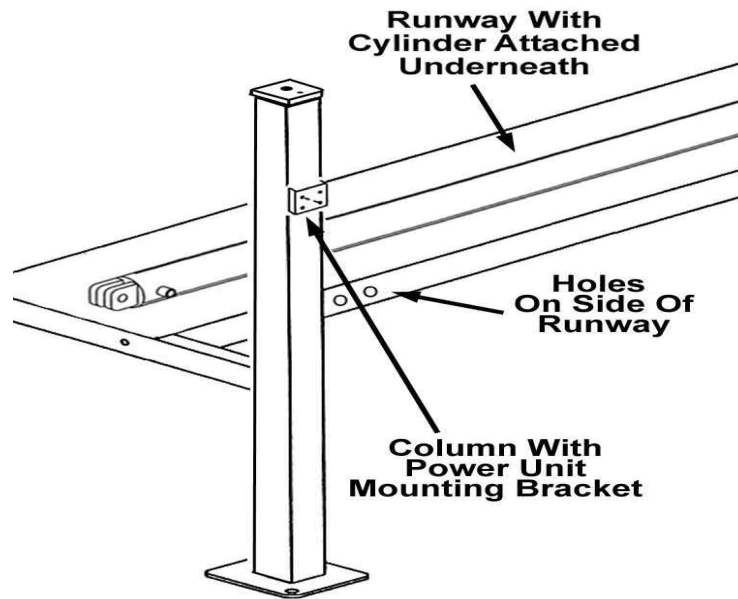


Fig. 8

3. Line up the front of the cylinder runway with the cross bar bolt holes then bolt in position using the 1/2" x 4" hex bolts, nuts and lock washers. (See Fig. 9)

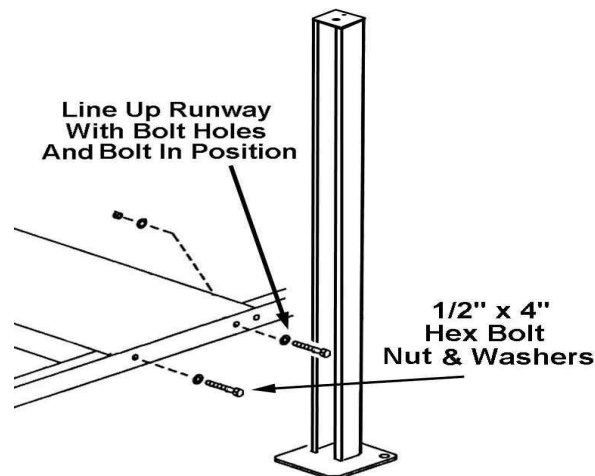


Fig. 9

4. Position the offside runway on top of the cross tubes with the utility rail located inside. Align bolt holes then bolt in position using the 1/2" x 4" hex bolts, nuts and lock washers.

4.12 STEP 12 (Cable Installation)

IMPORTANT!

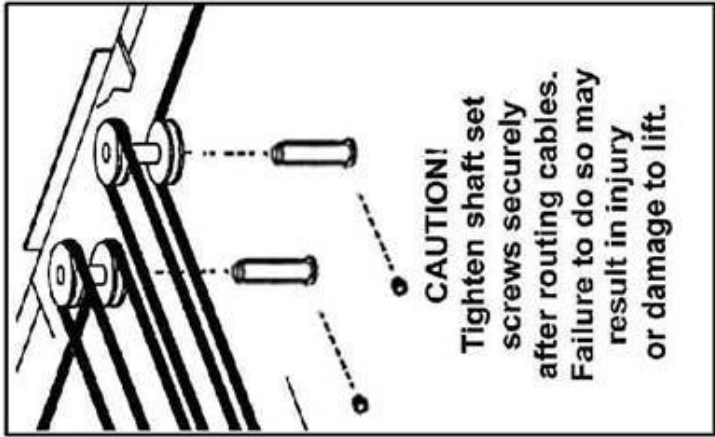
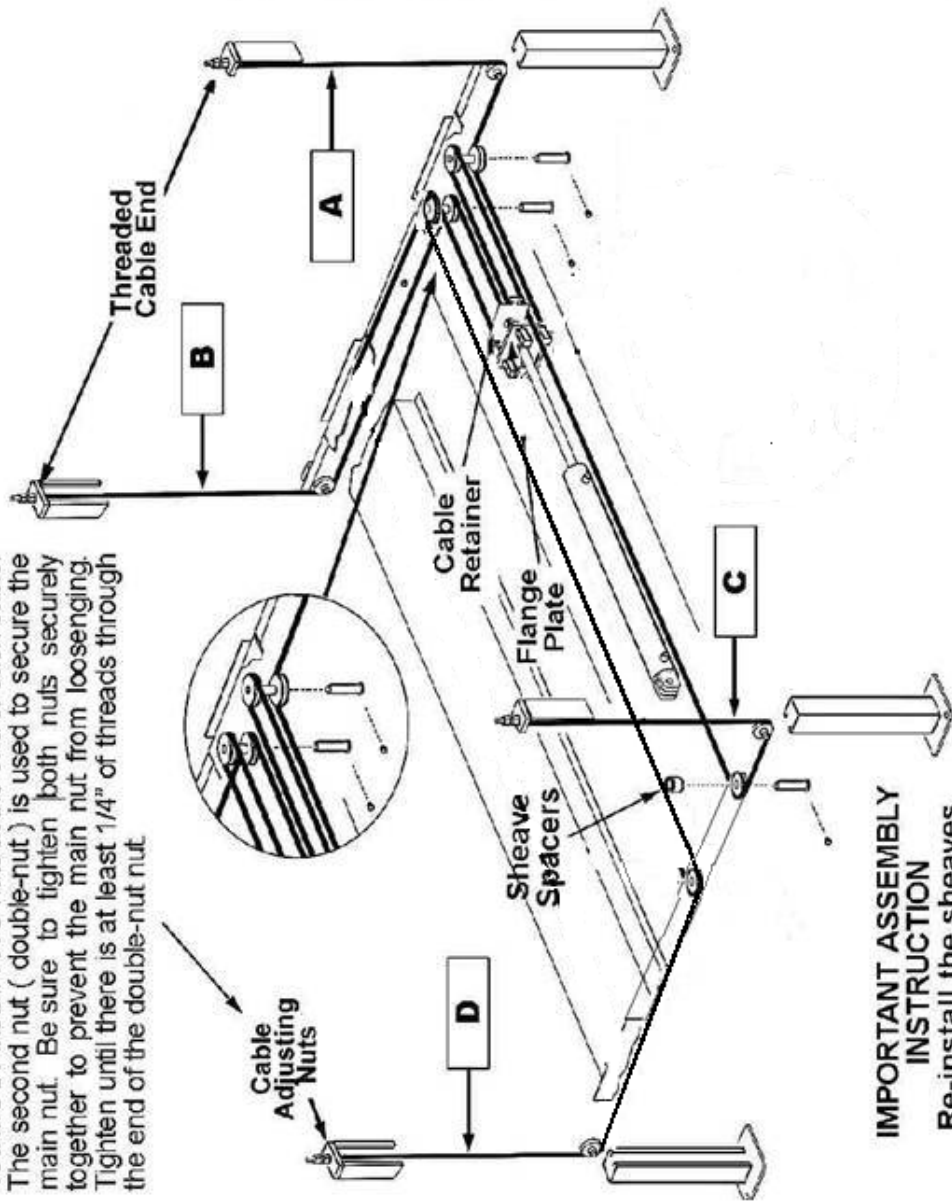
Be careful not to damage the chrome cylinder rod during this operation.

1. Inspect cables to insure proper lengths. All cables should have ID tags showing proper cable lengths.
2. In order to install the cables it is necessary to first extend the hydraulic cylinder. Remove both cylinder port plugs then use an air blow gun or come-along to extend the cylinder.
3. You must reinstall the sheaves, spacers and pins in the same order as they are removed. (See Fig. 10)

CABLE ROUTING

⚠ WARNING

You MUST install TWO nuts at the end of each cable. The second nut (double-nut) is used to secure the main nut. Be sure to tighten both nuts securely together to prevent the main nut from loosening. Tighten until there is at least 1/4" of threads through the end of the double-nut nut.

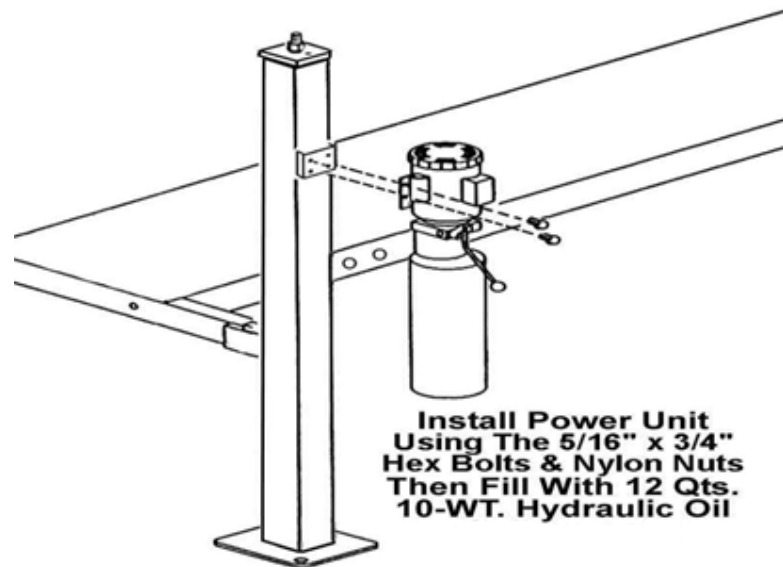


CAUTION!
Tighten shaft set screws securely after routing cables. Failure to do so may result in injury or damage to lift.

IMPORTANT ASSEMBLY INSTRUCTION
Re-install the sheaves, spacers and pins in the same order as they are removed.

4.13 STEP 13**(Power Unit Installation)**

1. Mount the power unit to the mounting bracket using the 5/16" x 3/4" hex bolts and nylon nuts then fill the reservoir with 3-1/2 gallons of AW-32 10-WT hydraulic oil. **(DO NOT USE Automatic Transmission Fluid!)** (See Fig. 11)



. Fig. 11

4.14 STEP 14**(Routing Hydraulic Hoses)**

1. Install the 90 degree hydraulic fitting to the POWER PORT of the power unit and connect the hose as described below. It will be necessary to remove the shipping plug from the port prior to installing fittings.
2. Install the standard bulkhead coupler at the outside of the POWERSIDE RUNWAY adjacent to the power unit. Tighten securely.
3. Install the 90-degree fitting at the cylinder port. On the pipe thread side of the fitting it is recommended to use teflon tape or pipe sealer. **DO NOT USE TEFLON TAPE on JIC flared end.**
4. Connect hydraulic hose as shown below making sure to first pass it through the retaining rings located the underside of the runway. **MAKE SURE HOSE IS KEPT CLEAR OF CABLES.** (See Fig. 12)

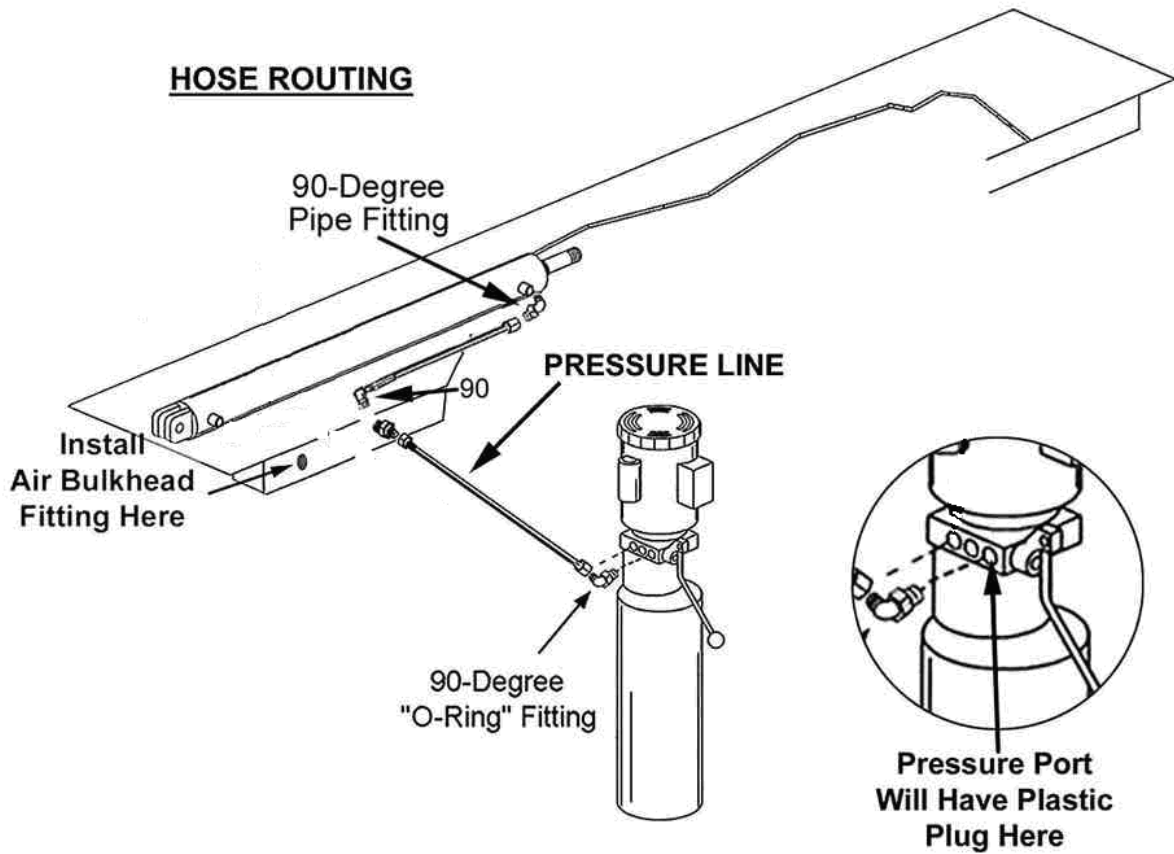


Fig. 12

4.15 STEP 15

(Routing Airline)

Route the airline as shown below making sure to position the push button air valve with the INLET facing towards the AIR SOURCE and the OUTLET facing the direction of the COILED AIR HOSE Pay careful attention to keep airline clear of any pinch points. Improper assembly may result in safety lock failure.

AIR PRESSURE SHOULD BE REGULATED TO 125 PSI MAX. (See Fig. 13)

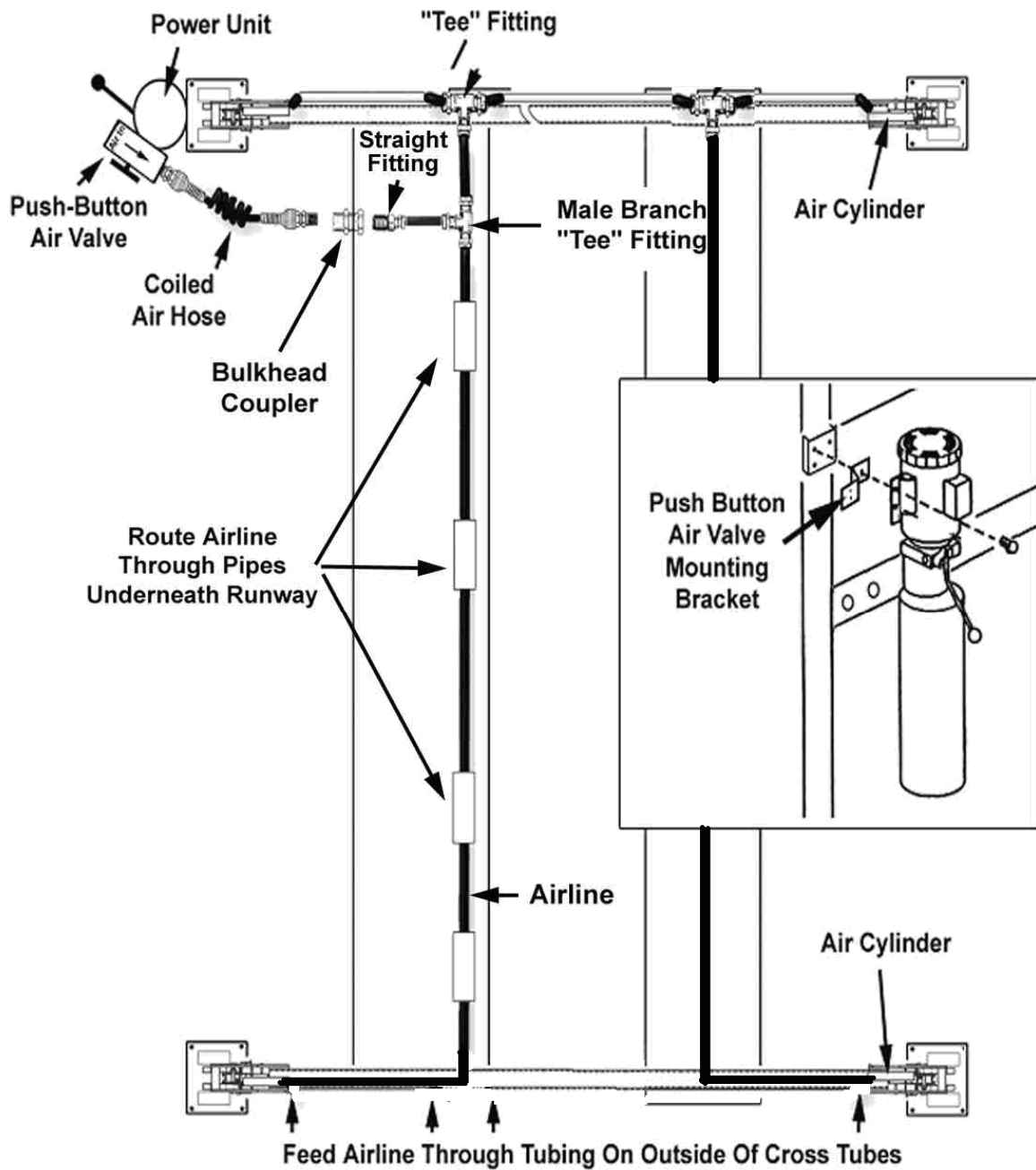


Fig. 13

4.16 STEP 16

(Power Unit Start-Up)

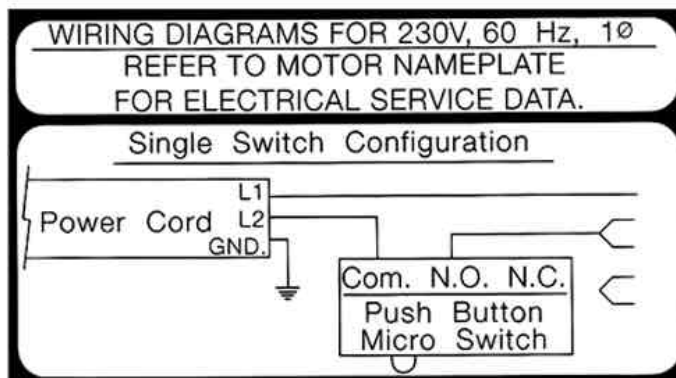
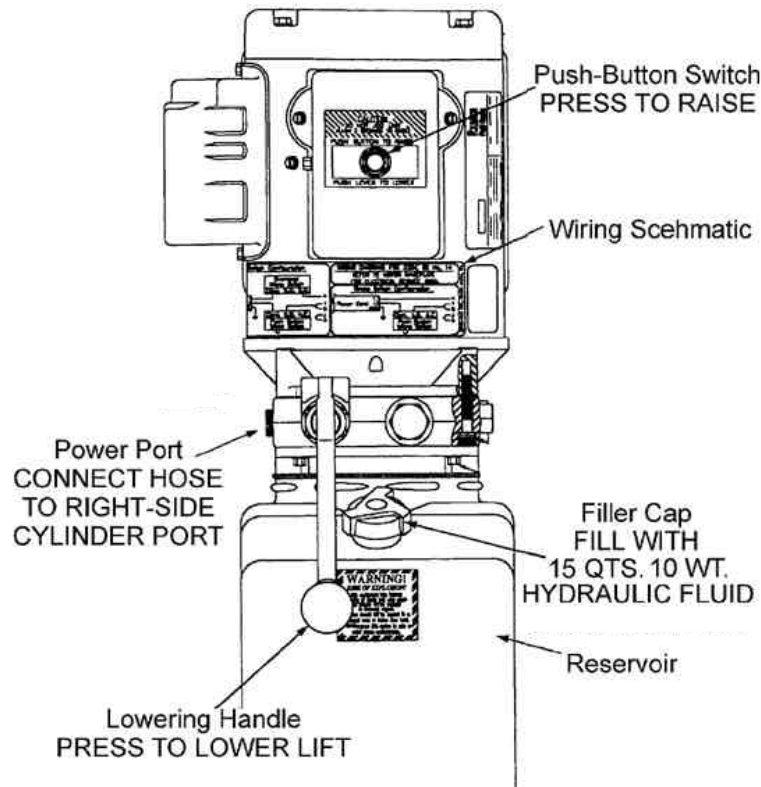
1. Have a certified electrician run 208 - 230 volt single phase 60 HZ power supply to motor. Be sure to size wire for a 25 amp circuit.



RISK OF EXPLOSION!

This equipment has internal arcing or parts that may spark and should not be exposed to flammable vapors. Motor should not be located in a recessed area or below floor level. NEVER expose motor to rain or other damp environments. DAMAGE TO MOTOR CAUSED BY WATER IS NOT COVERED UNDER WARRANTY.

IMPORTANT NOTE: DO NOT USE 110 VOLT POWER SUPPLY for this power unit. damage to motor will occur which is not covered under warranty. You must use a separate circuit breaker for each lift.



4.17 STEP 17**(Lift Start-Up)**

1. Make sure the power unit reservoir is full with 15 quarts of AW-32 hydraulic oil. **(DO NOT USE Automatic Transmission Fluid.)**
2. Spray the inside of the columns where the slide blocks glide with a light lubricant or WD-40.
3. Test the power unit by depressing the push- button switch. If the motor sounds like it is operating properly, raise lift and check all hose connections for leaks. **IF MOTOR GETS HOT OR SOUNDS PECULIAR, STOP IMMEDIATELY AND RE-CHECK ELECTRICAL CONNECTIONS.**
4. Once the lift starts to raise, simultaneously press the power unit lowering handle at the same time you are pressing the raise button. This will allow any air trapped in the cylinder and lines to escape and vent into the fluid reservoir. **Do this for about ten (10) seconds, and stop.**
5. Continue raising the lift slowly until all the slack in the cables is taken out. **RAISE THE LIFT UNTIL THE CYLINDER BOTTOMS OUT AND THE LIFT STOPS. ADJUST EACH CABLE SO THAT THE SAFETY LOCKS REST AT ONE INCH ABOVE THE TOP SAFETY LOCK POSITION.** It may be necessary to tighten or loosen each cable to reach the proper height. **The nylon cable nuts MUST be tightened on each end until there is at least 1/4" of threads through the nylon end of the nut.**

4.18 STEP 18**(Installing Slack Safety Springs)**

The following steps involve the SLACK CABLE SAFETY DEVICE and MAIN SAFETY. Failure to follow these steps could result in serious injury or death in the event of cable failure.

1. Install the SLACK SAFETY LOCK SPRINGS on the REAR CROSS TUBE as shown. Make sure spring ends are secure at both ends. (See Fig. 14)

**Fig. 14**

2. Check all MAIN SAFETY LOCKS to make sure they move freely and spring back to the lock position when released.
3. Lubricate all SAFETY PIVOT points with WD-40 or similar lubricant.

4.19 STEP 19**(Final Assembly)**

1. Tighten the cable adjusting nuts on the top of each column and at the cylinder flange until all remaining safety locks raise to one inch above the top lock position. This will ensure that the cables are adjusted evenly.



The nylon cable nuts MUST be tightened on each end until there is at least 1/4" of threads through the nylon end of the nut. Failure to do so could result in serious injury or death.

2. After connecting the air supply, press the PUSH BUTTON AIR VALVE and check that all safety locks are functioning properly, then lower the lift by pressing the push button air valve and power unit lowering valve simultaneously.

NOTE:

There will be some initial stretching of the cables in the beginning. It will be necessary to re-adjust the cables a week after first use, then every three to six months thereafter.

3. Run the lift up and down a few times to insure that the locks are engaging uniformly and that the safety release mechanisms are functioning properly. Re-adjust if necessary.

4. Install the front tire stops. (See Fig. 15)

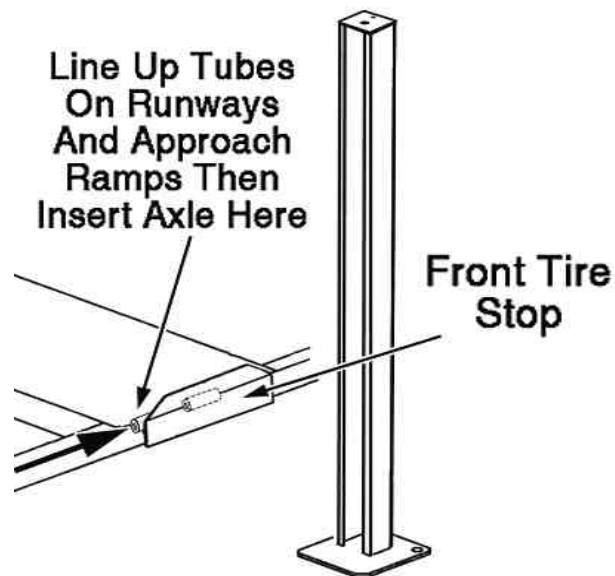


Fig. 15

5. Install the approach ramps on the entry side of the lift. Drive a vehicle onto the lift making sure to set the emergency before exiting the vehicle. Run the lift up and down two times with a vehicle to ensure that the locks are engaging uniformly and that the safety release mechanisms are functioning properly. Re-adjust if necessary.

Post-Installation Check-Off

- Columns Properly Shimmed And Stable
- Anchor Bolts Tightened / If Not Freestanding
- Pivot / Roller Pins Properly Attached
- Electric Power Supply Confirmed
- Cables Adjusted Properly
- Safety Locks Functioning Properly
- Check For Hydraulic Leaks
- Oil Level
- Lubrication of Critical Components
- Check For Overhead Obstructions
- Runways Level
- All Screws, Bolts, and Pins Secured
- Surrounding Area Clean
- Operation, Maintenance and Safety Manuals on Site

4.20 STEP 20

(Experimental Operation)

1. Operate the Lift without load, and adjust the location ,verticality and height of each columns.
2. Adjust the length of the Articulate Bearing connecting with the unlocking cylinder
3. Make sure the equipment operates swimmingly; locking and release work safely, and then fix all the columns with Expansion Bolts.

4.21 STEP 21

(Precise Adjustment)

1. Rise the runway to the proper height where the operator work, and make sure it is locked.
2. Put the Track Level Baron the runway, and adjust the height of the Sliding Bush in every column to make sure the max. Height Error of the runway in every direction is 3 mm.
3. Screw the Fastening bolt of the Sliding Bush and make sure the Sliding Bush is fixed.
4. Lower the runway to the lowest Locking height. and adjust the Adjustment Nut of the Cable to make sure the Tension Degree of each Cable is coincident.

4.22 STEP 22

(Load Test)

1. Inspect every parts of the equipment.
2. Make sure the installation is correct.
3. Make sure there is adequate hydraulic oil in the control unit, and lubricating oil in every sliding and operating components.

Before putting it into use you should make sure the lock system work swimmingly.

NOTE!

1. Only when the lift is on lock condition, should the repairing work be done.
2. Make sure there is adequate oil in the Control Unit(Appropriate volume is 35mm-50mm to the Oil-adding hole)
3. The operators must be trained especially.

About the Power Unit

The standard power unit for your lift is **220 volt, 60HZ and single phase**. All wirings must be performed by qualified electricians only. SEE WIRING INSTRUCTIONS ATTACHED ON MOTOR FOR PROPER WIRING INSTRUCTIONS.

IMPORTANT INSTALLATION NOTES

- **DO NOT run power unit without oil. Damage to pump can occur.**
- **The power unit must be kept dry. Damage to power unit caused by water or other liquids such as detergents, acid etc., is not covered under warranty.**
- **Improper electrical hook-up can damage motor and will not be covered under**
- **Use a separate breaker for each power unit.**
- **Protect each circuit with time delay fuse or circuit breaker.**
- **Regarding 208~230V, single phase, use 15A fuse.**

**WARNING**

RISK OF EXPLOSION!! This equipment has internal arcing or sparking parts that should not be exposed to flammable vapors. Motor should not be located in a recessed area or below floor level.

TRIAL RUNNING AND EXHAUSTING AIR

1. Connect circuit, fill up with lubricate, press down power unit button. The lift raises and cylinder begins to work. The lifting carriage might be creeping during its rising.
2. Let the lift climb to the maximum height. **DO NOT** press the button if the lift rises to the maximum height, or it may result in power unit damage.
3. Keep 5-6 seconds after the maximum height.
4. Withdraw the release cable; press the lowering handle to lower the lift.
5. Repeat the following course.

**WARNING**

During the whole lifting operation, observe all the operational units to check the correctness of operation. **DO NOT** lift vehicle when there is improperness.

CHAPTER 5 WARNING OF OPERATING THE LIFT



WARNING

5.1 TO RAISE LIFT

- Read Installation and operating manuals (this manual) before using the lift.
- Always lift a vehicle according to the manufacturer's recommended lifting points..
- Adjust swing arms so that the vehicle is positioned with the center-of-gravity midway between pads.
- Raise lift by pressing down button until supports contact the bottom of the vehicle. Re-check to make sure that the vehicle is secure.
- After rising to the appropriate position, lock the lift.
- Make sure the safety lock is always available.

5.2 TO LOWER LIFT

- First, raise the lift to the clear safeties.
- Raise safeties by pulling handles on each column.
- Make sure that tool trays, stands or persons are removed or evacuated from under vehicle.
- Lower vehicle by activating lowering handle.
- Before removing vehicle from lift area, position the lift arms and the supports to provide an unobstructed exit.

5.3 REQUIRED MONTHLY UPKEEP

- Check all cable/cable connections, bolts and pins to ensure proper mounting.
- Visually inspect safeties for proper operation.
- Lubricate columns with grease.
- Inspect all anchor bolts and retighten if necessary.
- Check columns for squareness and erectness.
- Check the tensions of cables, adjust if necessary.
- If lift is equipped with overhead cut-off switch, check for proper operation.



WARNING

1. If cement anchor bolts are loose, or any component of the lift is found to be defective, DO NOT USE LIFT.
2. Never operate the lift with any person or equipment below.
3. Never exceed rated capacity (12,000lbs)
4. Always ensure that safeties are engaged before any attempt to work on or near the lift.
5. Never leave lift in an elevated position unless the safeties are engaged.
6. Do not permit electric motor to be damp! Motor damage caused by dampness is not covered under the warranty.

CHAPTER 6 POSSIBLE FAILURE AND REMEDY

6.1 LIFT WILL NOT RAISE

LIFT WILL NOT RAISE

POSSIBLE CAUSE	REMEDY	INSTRUCTION
1 Air in oil (A, C, J & K)	A Check for proper oil level	The oil level should be up to the bleed screw in the reservoir with lift all the way down.
	B Remove check valve and inspect for contamination	Wash check valve in solvent and blow out with air. Re-install check valve.
2 Cylinder binding (M)	C Bleed cylinders	See installation manual.
	D Flush release to get rid of possible contamination	Hold release handle down and start unit allowing it to run for 15 seconds.
3 Cylinder leaks internally (M)	E Dirty oil	Replace oil with clean AW-32 (Do Not Use ATF)
	4 Motor runs backwards under pressure (B)	G Tighten all fasteners
5 Lowering valve leaks (D, E, H, N & O)	H Check for free movement of release handle	If handle does not move freely, replace bracket or handle assembly.
	I Check motor is wired correctly	Compare wiring of motor to electrical diagram on unit.
6 Motor runs backwards (I, & O)	J Check inlet tube length	Replace inlet hose assembly.
	K Oil seal damaged or cocked	Replace oil seal around pump shaft.
7 Pump damaged (M, N, & O)	L Relief valve hung up on cap	To remove relief valve and free up valve.
	M See installation manual	
8 Pump won't prime (A, J, K, M, O & P)	N Replace with new part	
	O Return unit for repair	
9 Relief valve leaks (L, M, N, & O)	P Check pump mounting bolts	Bolts should be 15 to 18 ft lbs.
10 Voltage to motor incorrect (I & M)		

6.2 MOTOR WILL NOT RUN**MOTOR WILL NOT RUN**

POSSIBLE CAUSE	REMEDY	INSTRUCTION
1 Fuse blown (E,B,A,C & D)	A Check for correct voltage	Compare supply voltage with voltage on motor nametag. Check that the wire is sized correctly. N.E.C. table 310 - 12 requires AWG 10 for 30A.
2 Limit switch burned out (A,B,C & D)	B Check motor is wired correctly	Compare wiring of motor to electrical diagram on unit.
3 Microswitch burned out (A,B,C & D)	C Don't use extension cords	According to N.E.C. section 210-6 paragraph D: "The size of the conductors...should be such that the voltage drop would not exceed 3% to the farthest outlet for power...".
4 Motor burned out (A,B,C,D & F)	D Replace with new part	
	E Reset circuit breaker / fuse	
	F Return unit for repair	
5 Voltage to motor incorrect (B & A)	G See installation manual	

6.3 WIL NOT RAISE LOADED LIFT**WILL NOT RAISE LOADED LIFT**

POSSIBLE CAUSE	REMEDY	INSTRUCTION
1 Air in oil (A, B, D & F)	A Check oil level	The oil level should be up to the bleed screw in the reservoir with the lift all the way down.
2 Cylinder binding (G)	B Check/tighten inlet tubes	Replace inlet hose assembly and suction cover.
3 Cylinder leaks internally (G)	D Oil seal damaged or cocked	Replace oil seal and install according to sheet #8.3.2.
4 Lift overloaded (G & H)	E Remove check valve and inspect for contamination	Wash check valve in solvent and blow out with air. Re-install check valve.
	F Bleed cylinders	Refer to installation manual.
	G See installation manual	
5 Lowering valve leaks (I, J, K, A & G)	H Check vehicle weight	Compare weight of vehicle to weight limit of the lift.
	I Flush valve	Hold release handle down and start unit allowing it to run for 15 seconds.
6 Motor runs backwards (E, K & L)	J Replace with new part	
	K Return unit for repair	
7 Pump damaged (G, J & K)	L Check motor is wired correctly	Compare wiring of motor to electrical diagram on unit drawing.
8 Pump won't prime (A, B, D, F, G & K)	M Relief valve hung up	Remove cap and free up, blow out with air.
9 Relief pressure incorrect (G, J & K)		
10 Relief valve leaks (M, J, K & G)		
11 Voltage to motor incorrect (L & G)		

6.4 LIFT WILL NOT STAY UP**LIFT WILL NOT STAY UP**

POSSIBLE CAUSE	REMEDY	INSTRUCTION
1 Air in oil (A, D & F)	A Check oil level	The oil level should be up to the bleed screw in the reservoir with the lift all the way down.
	D Oil seal damaged or cocked	Replace oil seal around pump shaft.
2 Check valve leaks (E, H, I & J)	E Remove check valve and inspect for contamination	Wash check valve in solvent and blow out with air. Re-install check valve.
	F Bleed cylinders	Refer to installation manual.
3 Cylinder leaks Internally (J)	G Flush valve	Hold release handle down and start unit allowing it to run for 15 seconds.
	H Replace with new part	
4 Lowering valve leaks (G, H, I, A & J)	I Return unit for repair	
	J See installation manual	
5 Leaking fittings (K)	K Check complete hydraulic system for leaks	

6.5 LIFT LOWERS SLOWLY OR NOT AT ALL

LIFT LOWERS SLOWLY OR NOT AT ALL

POSSIBLE CAUSE	REMEDY	INSTRUCTION
1 Cylinder binding (A)	A See installation manual	
	B Replace with new part	
	C Return unit for repair	
	D Use only AW-32 Hydraulic Oil	(DO NOT use ATF!)
2 Release valve screen clogged (E, B, D & C)	E Clean release valve screen	Wash release valve in solvent and blow out with air.
Or improper Hydraulic oil used.		

6.6 EXTERNAL OIL LEAK

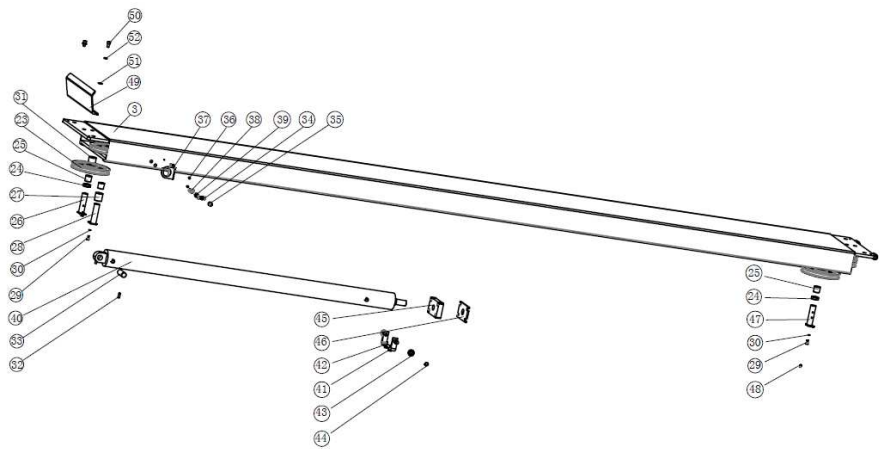
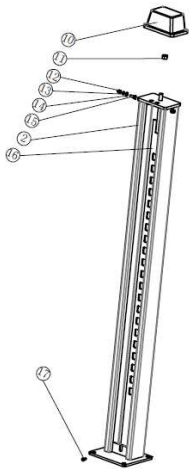
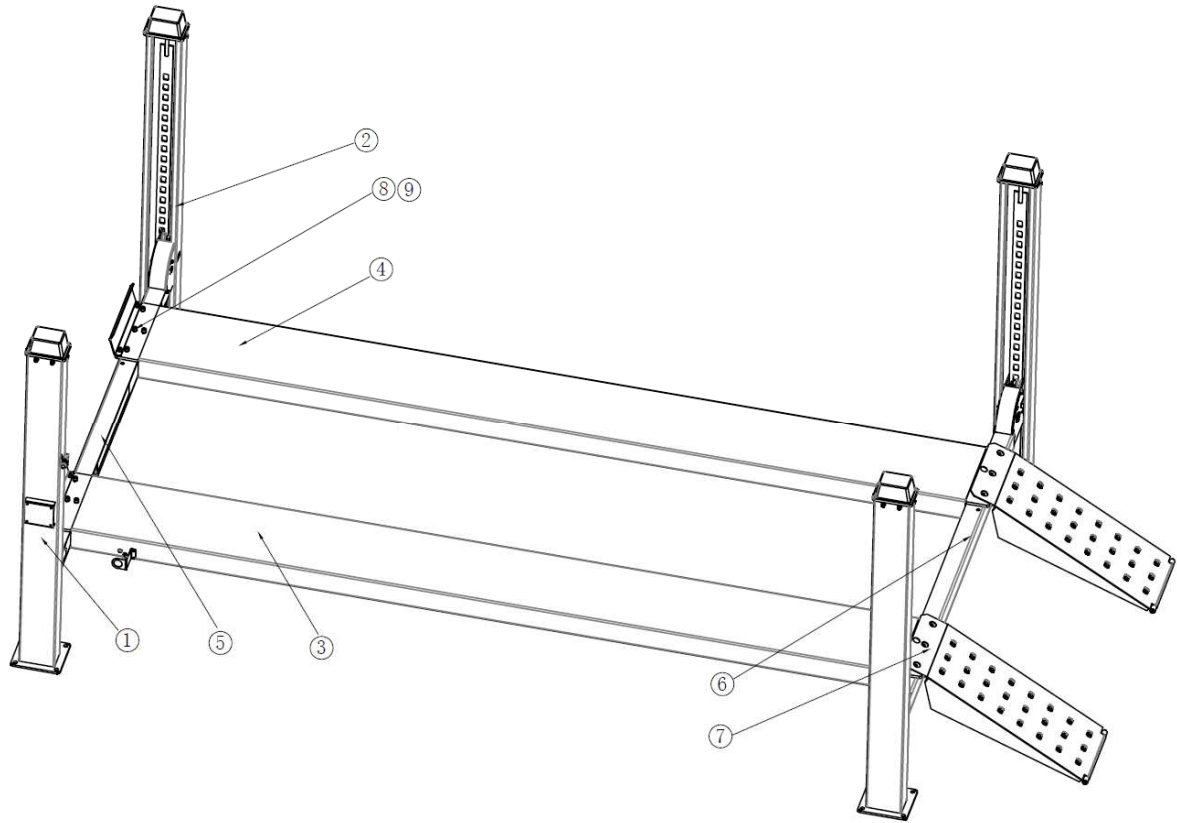
EXTERNAL OIL LEAK

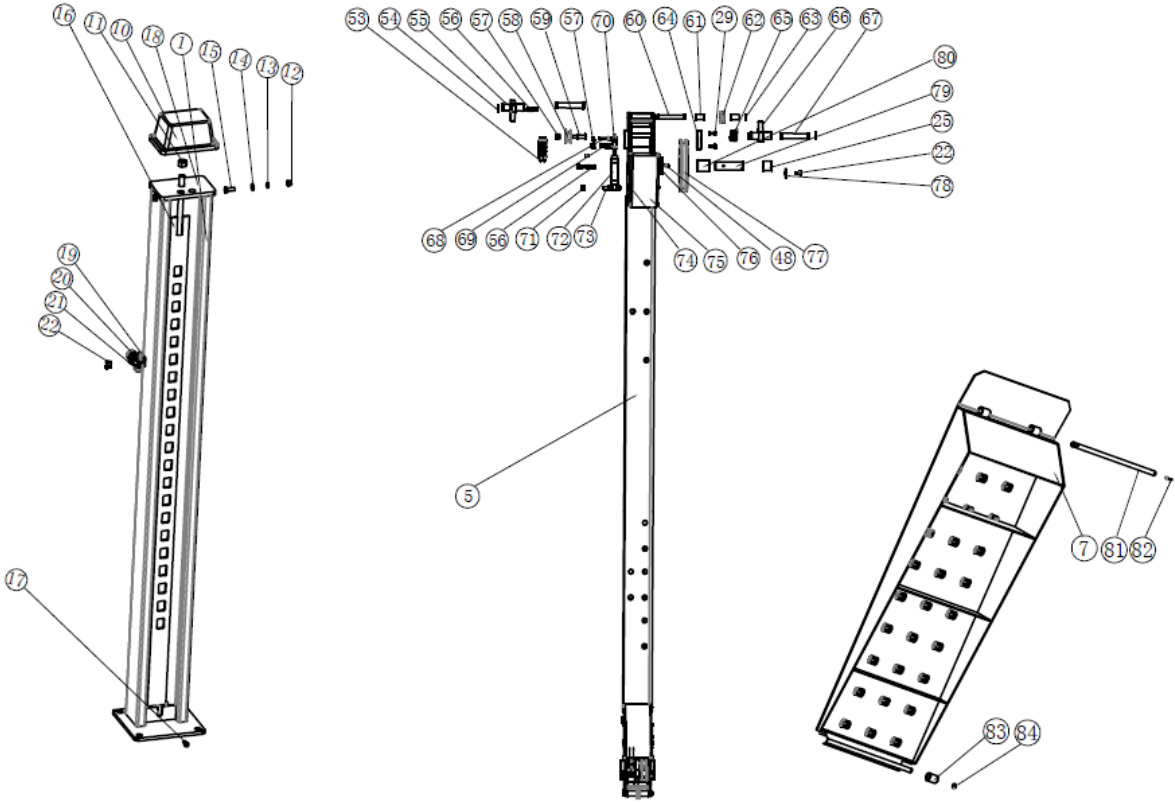
POSSIBLE CAUSE	REMEDY	INSTRUCTION
1 Breather element full of oil (A.B.C&D)	A Check for proper oil level	The oil level should be up to the bleed screw in the reservoir with lift all the way down
	B Replace with new part	
	C See installation manual	
2 Allen plugs loose (E)	D Use clean AW-32 Hydraulic Oil. DO NOT USE ATF	
	E Tighten all plugs	Tighten plugs per engineering specification #2.11.01.
	F Return unit for repair	
3 Loose tank (K)	G Tighten all hydraulic fittings	
	H Check/tighten inlet tube and cover	Replace inlet hose assembly and/or suction cover.
4 Oil comes out breather (A.D.B.C & F)	I Oil seal leaks	Replace oil seal around pump shaft.
	J Bleed cylinder	Refer to installation manual.
	K Tighten tank mounting bolts	Tighten per engineering specification#2.11.01.
5 Oil comes out tank mounting (E)		
6 Hoses/fittings loose (C.G)		
7 Air in oil (H.I.J)		

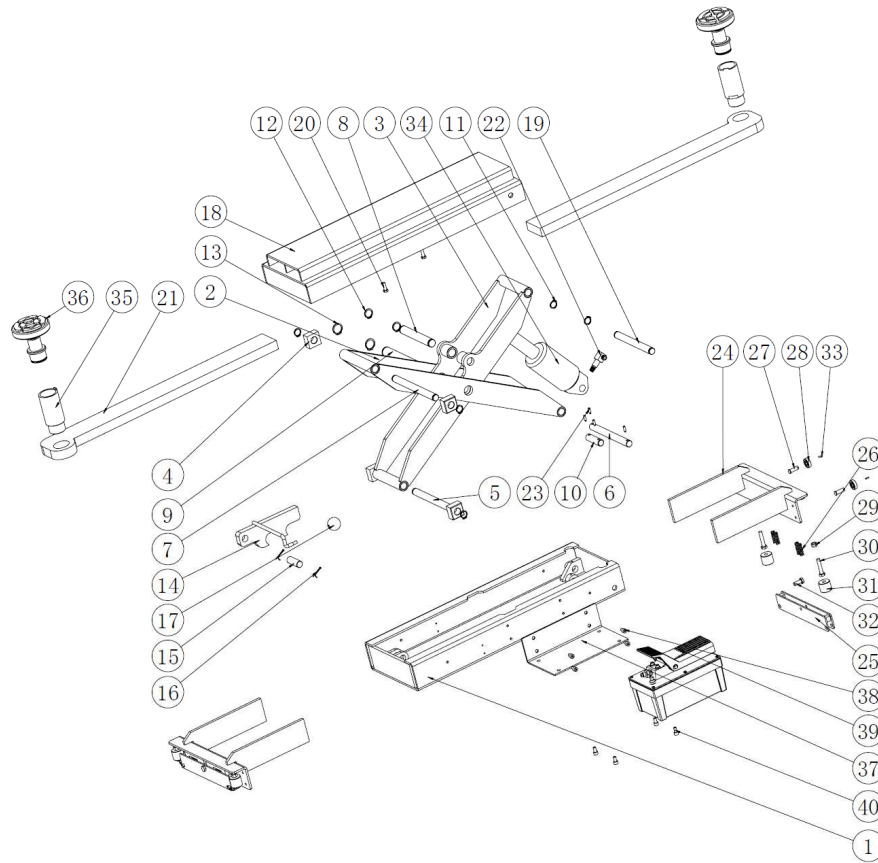
6.7 UNUSUAL NOISE

UNUSUAL NOISE

POSSIBLE CAUSE	REMEDY	INSTRUCTION
1 Air in oil (A.B.D&F)	A Check for proper oil level	The oil level should be up to the bleed screw in the reservoir with lift all the way down.
2 Lift overloaded (G & H)	B Check/tighten inlet tubes	Replace inlet hose assembly and suction cover.
3 Motor burned out (K.I.M.I & J)	D Oil seal damaged or cocked	Replace oil seal around pump shaft
	E Remove check valve and inspect for contamination	Wash check valve in solvent and blow out with air. Re-install check valve.
4 Motor mounting bolts loose (N)	F Bleed cylinders	Refer to installation manual.
5 Motor runs backwards (L.E& J)	G Check vehicle weight	Compare weight of vehicle to weight limit on the lift.
	H See installation manual	
6 Pump damaged (H.I & J)	I Replace with new part	
	J Return unit for repair	
	K Check for correct voltage	Compare supply voltage with voltage on motor instruction. Check that the wire is sized correctly. N.E.C. table 310-12 requires Awe 10 for 30A.
7 Pump won't prime (A.B.D.E.H.I& P)	L Check motor is wired correct	Compare wiring of motor to electrical diagram on unit drawing.
8 Relief valve leaks (H.I.J & O)	M Don't use extension cords	According to N.E.C. section 210-6
9 Voltage to motor incorrect (I.& H)	N Tighten all fasteners	Tighten fasteners per engineering specification#2.11.01.
	O Relief valve hung up	Remove relief valve and blow relief out with air.
	P Pump bolts loose	Tighten fasteners per engineering specification#2.11.01.







Eagle Equipment Lift Warranty

Eagle Equipment warrants to the original retail purchaser of an Eagle Automotive Lift that it will replace without charge any part found under normal use, in the United States or Canada, to be defective in materials or workmanship, **for a period of one (1) year from date of purchase**. Warranty covers parts only; purchaser is responsible for any and all labor requirements.

Exclusions

This warranty will not apply to any machine:

1. Which has not been operated or maintained according to specifications
2. Which has been abused, misused, altered, or improperly maintained
3. Which has been improperly installed or assembled

Other limitations

This warranty does not cover:

1. Parts needed for normal maintenance.
2. Wear parts, which include but are not limited to, cables, hoses, slider blocks, chains and rubber pads.
3. On-site labor.

Eagle Equipment reserves the right to make improvements and/or design changes to its equipment without any obligation to previously sold, assembled or fabricated equipment.

There is no other express warranty on the Eagle Automotive Lift equipment and this warranty is exclusive of and in lieu of all other warranties, expressed or implied, including all warranties of merchantability and fitness for a particular purpose.

To the fullest extent allowed by law, Eagle Equipment shall not be liable for loss of use, inconvenience, lost time, commercial loss or other incidental or consequential damages

Some States do not allow exclusion or limitation of consequential damages or how long an implied warranty lasts, so that the above limitations and exclusions may not apply. This warranty gives you specific legal rights and you may have other rights, which may vary from State to State.



Eagle Equipment, a division of **Standard Tools and Equipment Co.**, is a leading distributor of automotive repair and garage service equipment. Established in 1954, Eagle has provided quality equipment at competitive prices for 60 years, carrying a full line of automotive lifts: two-post lifts, four-post lifts, alignment lifts, scissors lifts, low-rise and mid-rise lifts, as well as models of movable service/storage lifts and our MOBILEMAN[®]. We also stock wheel service equipment including: wheel balancers, tire changers, and brake lathes. We offer a full line of parts, as well as technical support. Visit us at: www.eagleequip.com



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**Delivering Excellence to the Automotive and Painting Industries.
Every Product. Every Customer. Every Day.**

Standard Tools and Equipment Co. was founded in 1996 to provide tools and equipment to the automotive aftermarket industry. They began manufacturing paint booth systems in 1997. Having built over 10,000 paint spray booths for various industries, Standard Tools is among the country's largest suppliers. Tools USA was acquired in 1996 and became a part of the Standard Tools and Equipment family of brands. In 2005, Eagle Equipment, a 50-year-old company joined Standard Tools to provide automotive lifts and tire equipment to the repair industry.