

IMPORTANT SAFETY INSTRUCTIONS

PLEASE READ THE ENTIRE CONTENTS OF THIS MANUAL PRIOR TO INSTALLATION AND OPERATION. BY PROCEEDING WITH LIFT INSTALLATION AND OPERATION YOU AGREE THAT YOU FULLY UNDERSTAND AND COMPREHEND THE FULL CONTENTS OF THIS DOCUMENT. FORWARD THIS MANUAL TO ALL OPERATORS. FAILURE TO OPERATE THIS EQUIPMENT AS DIRECTED MAY CAUSE INJURY OR DEATH

Rev. K1, 08-10-2017
P/N 5900041

INSTALLATION AND OPERATION MANUAL

7,000 POUND CAPACITY FOUR-POST PARKING LIFTS

MODELS:

- HD-7P VERSION E
- HD-7W VERSION D
- HD-7PXW VERSION E



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

RECEIVING

The shipment should be thoroughly inspected as soon as it is received. The signed Bill of Lading is acknowledgement by the shipping carrier as receipt of this product as listed in your invoice as being in a good condition of shipment. If any of these goods listed on this Bill of Lading are missing or damaged, do not accept goods until the shipping carrier makes a notation on the freight bill of the missing or damaged goods. Do this for your own protection.

BE SAFE

Your new lift was designed and built with safety in mind. However, your overall safety can be increased with proper training and thoughtful operation 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 this operation manual near the lift at all times. Make sure that ALL USERS read and understand this manual.



1645 Lemonwood Dr.
Santa Paula, CA. 93060, USA
Toll Free 1-800-253-2363
Tel: 1-805-933-9970
Fax: 1-805-933-9160
www.bendpak.com

7,000 POUND CAPACITY, COMMERCIAL GRADE FOUR POST LIFT

This instruction manual has been prepared especially for you.
Your new lift is the product of over 40 years of continuous research, testing and development;
it is the most technically advanced lift on the market today.

READ THIS ENTIRE MANUAL BEFORE INSTALLATION & OPERATION BEGINS

RECORD HERE THE LIFT AND
POWER UNIT INFORMATION WHICH IS LOCATED
ON THE SERIAL NUMBER
DATA PLATES ON THE LIFT AND
ON THE POWER UNIT

Power Unit Model # _____
Power Unit Date Of Mfg. _____
Power Unit Serial # _____
Max Operating Pressure 3,100 PSI

**This information is required when
calling for parts or warranty issues.**

BP BendPak PROVIDING AUTOMOTIVE SERVICE SOLUTIONS		Santa Paula, CA USA www.bendpak.com
Model Number	Lifting Capacity	Serial Number
Date of Manufacture	Power Unit Number	Volt. / Ph. / Freq. / Amp.
Description	Rolling Jack Max.	Air Pressure Max.
Cable Dia.	Conn. Dia.	Cable Lengths
		A
		C
		B
		D

PRODUCT WARRANTY

Our comprehensive product warranty means more than a commitment to you; it's also a commitment to the value of your new BendPak lift. For full warranty details and to register your new lift contact your nearest BendPak dealer or visit :

[http:// www.bendpak.com/ support/ warranty/](http://www.bendpak.com/support/warranty/)

For additional copies of this manual
or further information, contact:

BendPak Inc. / Ranger Products

1645 Lemonwood Dr.

Santa Paula, CA. 93060

1-805-933-9970

www.bendpak.com

En Español: www.bendpak.com.mx

NOTE:

Every effort has been taken to ensure complete and accurate instructions have been included in this manual, however, possible product updates, revisions and or changes may have occurred since this printing. BendPak-Ranger reserves the right to change specifications without incurring any obligation for equipment previously or subsequently sold. Not responsible for typographical errors.

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 forklift or cranes. Stay clear of any moving parts that can 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.

DEFINITIONS OF HAZARD LEVELS

Identify the hazard levels used in this manual with the following definitions and signal words:



Watch for this symbol: It Means: Immediate hazards which will result in severe personal injury or death.



Watch for this symbol: It Means: Hazards or unsafe practices which could result in severe personal injury or death.



Watch for this symbol: It Means: Hazards or unsafe practices which may result in minor personal injury, product or property damage.

OWNER'S RESPONSIBILITY

To maintain the lift and user safety, the responsibility of the owner is to read and follow these instructions:

- ◆ Follow all installation and operation instructions.
- ◆ Make sure installation conforms to all applicable Local, State, and Federal Codes, Rules, and Regulations; such as State and Federal OSHA Regulations and Electrical Codes.
- ◆ Carefully check the lift for correct initial function.
- ◆ Read and follow the safety instructions. Keep them readily available for machine operators.
- ◆ Make certain all operators are properly trained, know how to safely and correctly operate the unit, and are properly supervised.
- ◆ Allow unit operation only with all parts in place and operating safely.
- ◆ Carefully inspect the unit on a regular basis and perform all maintenance as required.
- ◆ Service and maintain the unit only with authorized or approved replacement parts.
- ◆ Keep all instructions permanently with the unit and all decals on the unit clean and visible.

BEFORE YOU BEGIN

Receiving:

The shipment should be thoroughly inspected as soon as it is received. The signed bill of lading is acknowledgement by the carrier of receipt in good condition of shipment covered by your invoice. If any of the goods called for on this bill of lading are shorted or damaged, do not accept them until the carrier makes a notation on the freight bill of the shorted or damaged goods. Do this for your own protection.

NOTIFY THE CARRIER AT ONCE if any hidden loss or damage is discovered after receipt and request the carrier to make an inspection. If the carrier will not do so, prepare a signed statement to the effect that you have notified the carrier (on a specific date) and that the carrier has failed to comply with your request.

IT IS DIFFICULT TO COLLECT FOR LOSS OR DAMAGE AFTER YOU HAVE GIVEN THE CARRIER A CLEAR RECEIPT. File your claim with the carrier promptly. Support your claim with copies of the bill of lading, freight bill, invoice, and photographs, if available. Our willingness to assist in helping you process your claim does not make BendPak Inc. responsible for collection of claims or replacement of lost or damaged materials.

TABLE OF CONTENTS

Contents	Page No.
Warranty / Serial Number Information	2
Definitions of Hazard Levels	3
Owner's Responsibility	3
Before You Begin	3
Installer Operator/ Protective Equipment.	5
Introduction	6
Safety / Warning Instructions	6
Tools Required	7
Step 1 / Selecting Site	7
Step 2 / Floor Requirements	7
Concrete Specifications	7
Assembly View / Description of Parts	8
Floor Plan / Specifications	9
Clearances	10
Power Unit Location	11
Step 3 / Column and Cross Tube Installation	12-13
Step 4 / Raising the Cross Tubes	14
Step 5 / Powerside Runway Installation	15
Step 6 / Offside Runway Installation	15
Cable Routing Information	16-17
Step 7 / Sheave Installation	18
Step 8 / Cable Installation	18-19
Step 9 / Power Unit Installation	19-20
Step 10 / Routing Hydraulic Hoses	20-22
Step 11 / Routing Air Lines	22
Safety Air Line Routing	23
Step 12 / Power Unit Hook Up	24-26
Step 13 / Inspecting Slack Safety Springs	26
Step 14 / Lift Start Up / Final Adjustments	26-27
Step 15 / Anchoring The Columns	27-28
Step 16 / Attaching Approach Ramps / Tire stops	28
Step 17 / Leveling / Synchronizing	29
Step 18 / Bleeding	29-30
Step 19 / Operation Instructions	30
Step 20 / Lift Operation Safety	30-32
Maintenance	32-35
Troubleshooting Guide	36-41
Grease Port Locations	42
Maintenance Records	43-44
Installation Form	45
Part Number Lists	46-51

**INSTALLER / OPERATOR
PLEASE READ AND FULLY
UNDERSTAND THAT
BY PROCEEDING YOU AGREE TO
THE FOLLOWING:**

- ◆ I have visually inspected the site where the lift is to be installed and verified the concrete to be in good condition and free of cracks or other defects. I understand that installing a lift on cracked or defective concrete could cause lift failure resulting in personal injury or death.
- ◆ I understand that a level floor is required for proper installation and level lifting.
- ◆ I understand that I am responsible if my floor is of questionable slope and that I will be responsible for all charges related to pouring a new level concrete slab if required and any charges.
- ◆ I understand that the lifts are supplied with concrete fasteners meeting the criteria of the American National Standard "Automotive Lifts - Safety Requirements for Construction, Testing, and Validation" ANSI/ALI ALCTV-1998, and that I will be responsible for all charges related to any special regional structural and/or seismic anchoring requirements specified by any other agencies and/or codes such as the Uniform Building Code (UBC) and/or International Building Code (IBC).
- ◆ I will assume full responsibility for the concrete floor and condition thereof, now or later, where the above equipment model(s) are to be installed. Failure to follow danger, warning, and caution instructions may lead to serious personal injury or death to operator or bystander or damage to property.
- ◆ I understand that BendPak lifts are designed to be installed in indoor locations only. Failure to follow installation instructions may lead to serious personal injury or death to operator or bystander or damage to property or lift.



Failure to follow danger, warning, and caution instructions may lead to serious personal injury or death to operator or bystander or damage to property.



Please read entire manual prior to installation. Do not operate this machine until you read and understand all the dangers, warnings and cautions in this manual. For additional copies or further information, contact:

BendPak Inc. / Ranger Products

1645 Lemonwood Dr.
Santa Paula, CA. 93060
1-805-933-9970
www.bendpak.com

**INSTALLER / OPERATOR
PROTECTIVE EQUIPMENT**

Personal protective equipment helps makes installation and operation safer. However, it does not take the place of safe operating practices. Always wear durable work clothing during any installation and/or service activity. Shop aprons or shop coats may also be worn. However, loose fitting clothing should be avoided. Tight fitting leather gloves are recommended to protect technicians' hands when handling parts. Sturdy leather work shoes with steel toes and oil resistant soles should be used by all service personnel to help prevent injury during typical installation and operation activities.

Eye protection is essential during installation and operation activities. Safety glasses with side shields, goggles, or face shields are acceptable. Back belts provide support during lifting activities and are also helpful in providing worker protection. Consideration should also be given to the use of hearing protection if service activity is performed in an enclosed area, or if noise levels are high.



THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH IF NOT FOLLOWED COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OR YOURSELF AND OTHERS AND CAN CAUSE PERSONAL INJURY OR DEATH. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE THIS MACHINE.

INTRODUCTION

1. Carefully remove the crating and packing materials. **CAUTION!** Be careful when cutting steel banding material as items may become loose and fall causing personal harm or injury.

2. Check the voltage, phase and proper amperage requirements for the motor shown on the motor plate. Wiring should be performed by a certified electrician only.

IMPORTANT SAFETY INSTRUCTIONS

Read these safety instructions entirely

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 forklift or cranes. Stay clear of any moving parts that can fall and 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 OPERATORS** should operate this lift. All non-trained personnel should be kept away from 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 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 in danger of falling.

10. **ALWAYS ENSURE** that the 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 power cord 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 safer 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.

18. **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. Keep hair, loose clothing, fingers, and all parts of body away from moving parts

20. Use only as described in this manual. Use only manufacturer's recommended attachments

21. **ALWAYS WEAR SAFETY GLASSES.** Everyday eyeglasses only have impact resistant lenses, they are not safety glasses



22. **SAVE THESE INSTRUCTIONS.**

TOOLS REQUIRED

- ◆ Rotary Hammer Drill or Similar
- ◆ 3/4" Masonry Bit
- ◆ Hammer
- ◆ 4 Foot Level
- ◆ Open-End Wrench Set: SAE/Metric
- ◆ Socket And Ratchet Set: SAE/Metric
- ◆ Hex-Key / Allen Wrench Set
- ◆ Large A-Frame Ladder
- ◆ Medium Crescent Wrench
- ◆ Medium Pipe Wrench
- ◆ Crow Bar
- ◆ Chalk Line
- ◆ Medium Flat Screwdriver
- ◆ Tape Measure: 25 Foot Minimum
- ◆ Needle Nose Pliers

NOTE: An air supply (30 PSI Min / 3 CFM Min.) will be required for the safety-lock mechanisms. See Step 11.

IMPORTANT NOTICE

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

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 free of 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.
4. **OPERATING TEMPERATURE:** Operate lift only between temperatures of 41° -104° F.



5. Lift is designed for **INDOOR INSTALLATION ONLY**. Outdoor use permitted only if covered and dry. Always follow warnings illustrated on equipment labels.

STEP 2



(Floor Requirements)

This lift must be installed on a solid level concrete floor with no more than 3-degrees of slope. Failure to do so could cause personal injury or death.

A level floor is suggested for proper use and installation and level lifting. If a floor is of questionable slope,



consider a survey of the site and/or the possibility of pouring a new level concrete slab.

- ◆ **DO NOT** install or use this lift on any asphalt surface or any surface other than concrete.
- ◆ **DO NOT** install or use this lift on expansion seams or on cracked or defective concrete.
- ◆ **DO NOT** install or use this lift on a second / elevated floor without first consulting building architect.

CONCRETE SPECIFICATIONS

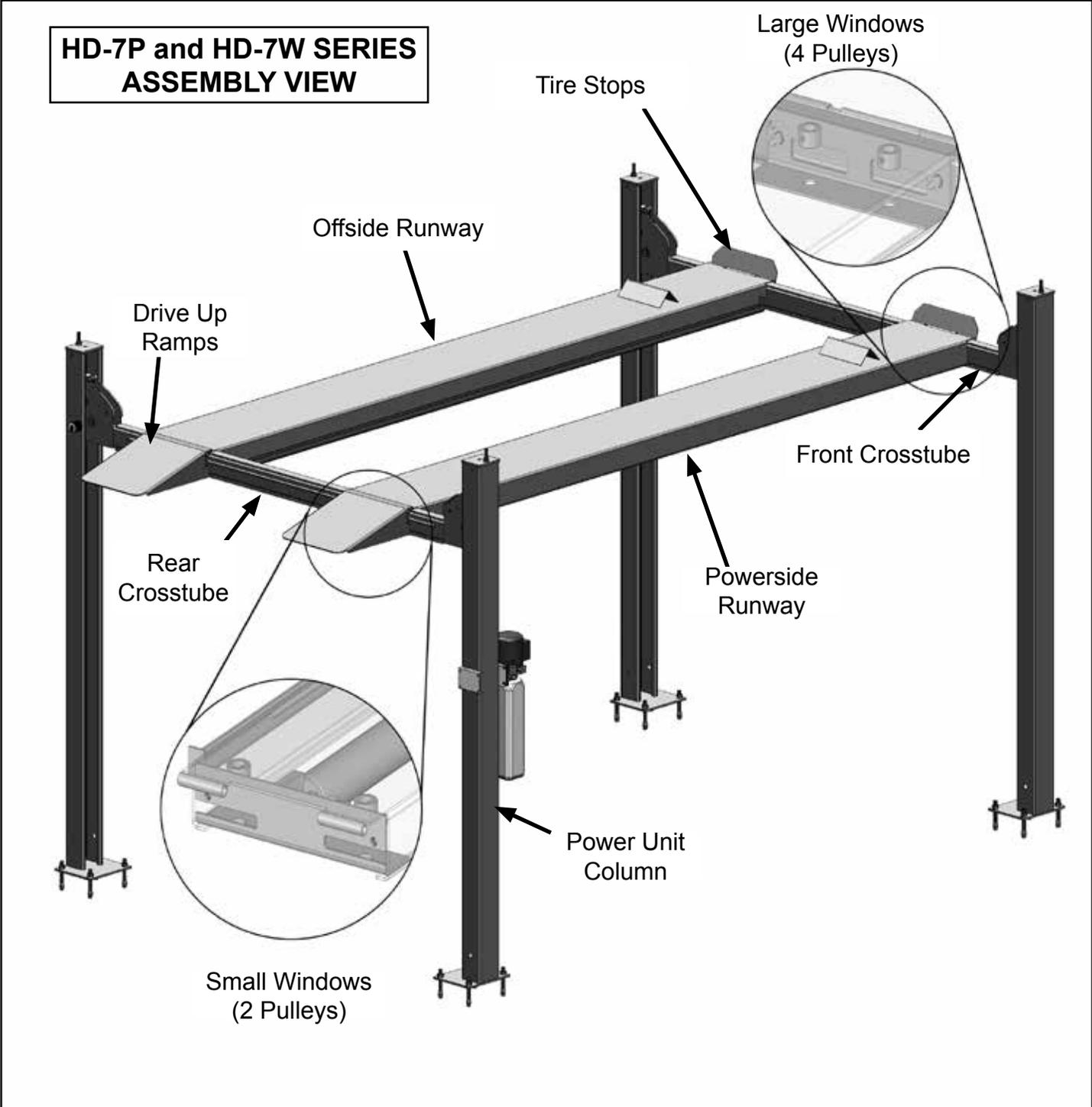
LIFT MODEL	CONCRETE REQUIREMENTS
HD-7P	5" Min. Thickness / 2,500 PSI
HD-7W	5" Min. Thickness / 2,500 PSI
HD-7PXW	5" Min. Thickness / 2,500 PSI



All models **MUST** be installed on 2500 PSI concrete only conforming to the minimum requirements shown above. New concrete must be adequately cured for at least 28 days minimum.



When removing the lift from shipping angles, pay close attention as the posts can slide and can cause injury. Prior to removing the bolts, make sure the posts are held securely by a fork lift or some other heavy lifting device.



**HD-7PXW SERIES
ASSEMBLY VIEW**

Large Windows
(4 Pulleys)

Tire Stops

Stiffener
Bar

Offside
Runway

Drive Up
Ramps

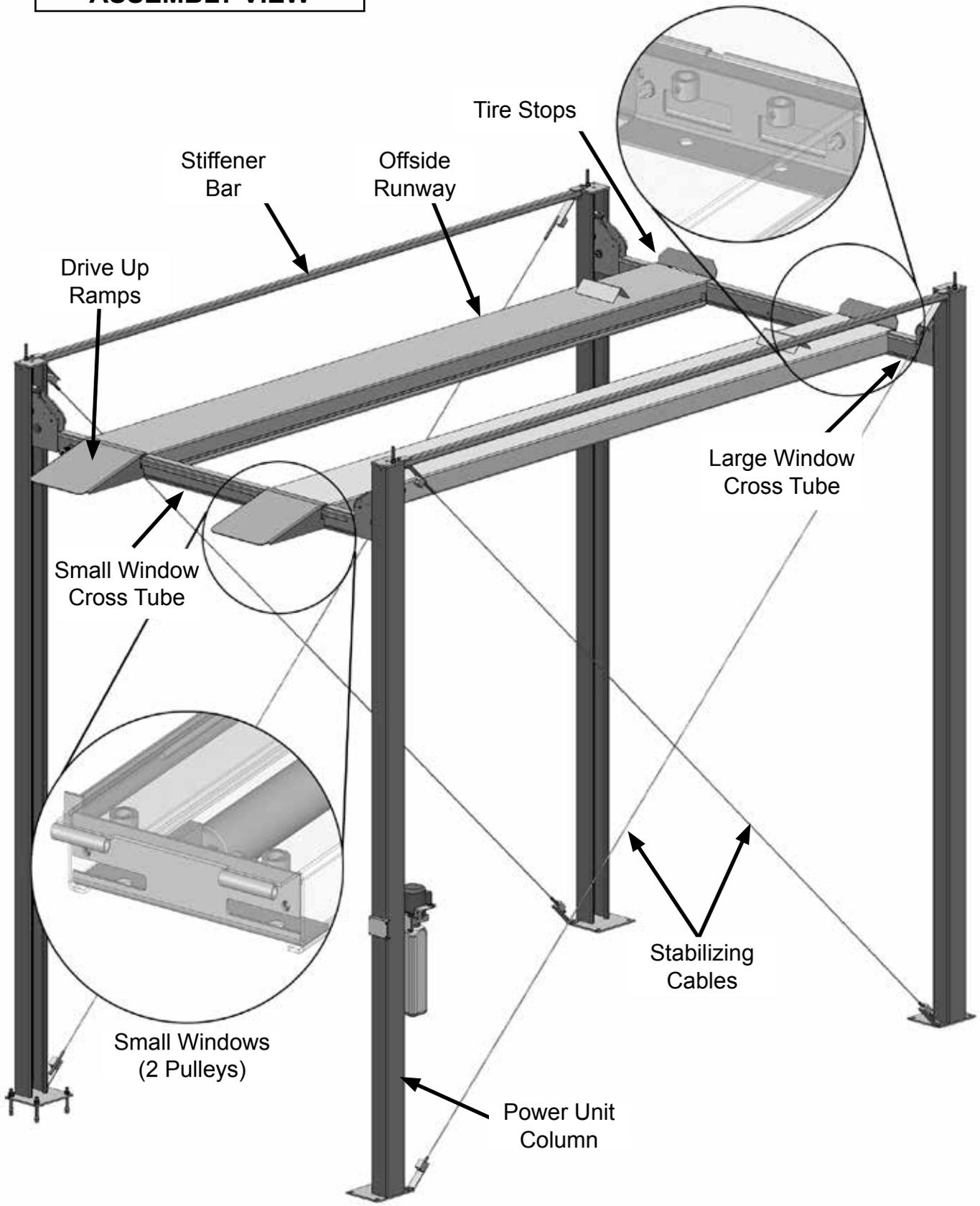
Large Window
Cross Tube

Small Window
Cross Tube

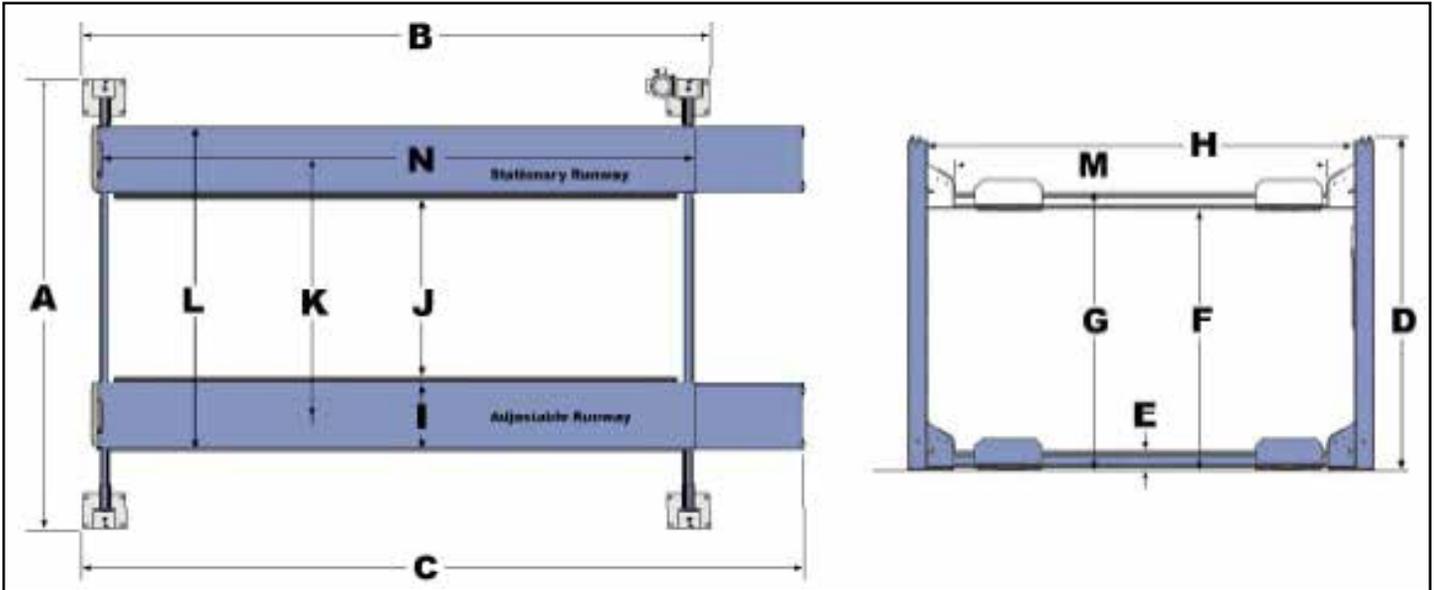
Stabilizing
Cables

Small Windows
(2 Pulleys)

Power Unit
Column



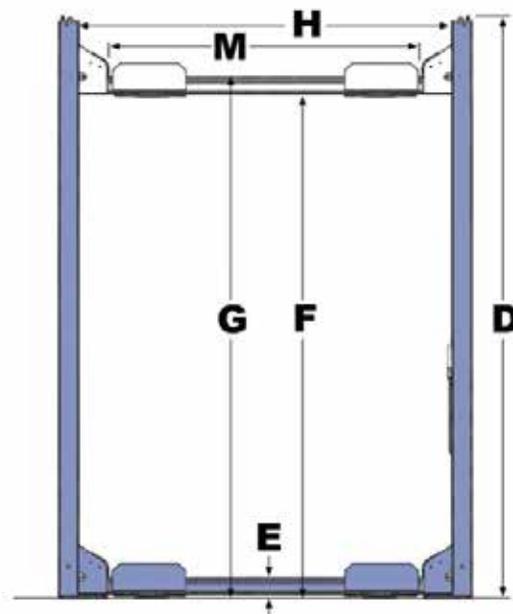
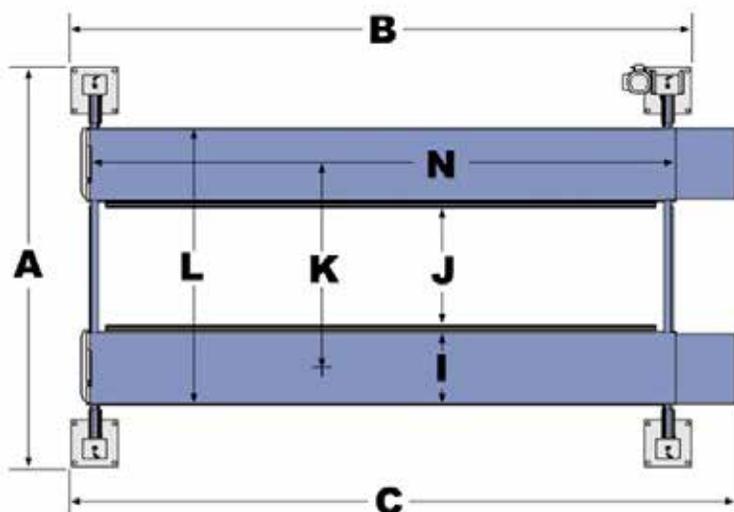
FLOOR PLAN



IMPORTANT NOTE
Check Diagonal Measurements
To Ensure Square Layout Diagonal Measurements Must Be Equal.

MODEL	HD-7P	HD-7W
Lifting Capacity	7,000 Lbs / 3,175 Kg	7,000 Lbs. / 3,175 Kg
A Overall Width	100" / 2,540 mm	110" / 2,800 mm
B Outside Length	174" / 4,420 mm	174" / 4,420 mm
C Overall Length	200" / 5080 mm	200" / 5080 mm
D Height of Columns	100" / 2,540 mm	100" / 2,540 mm
E – Min. Runway Height	4-1/2" / 114 mm	4-1/2" / 114 mm
F – Max. Rise	82" / 2083 mm	82" / 2083 mm
G Max. Lifting Height	86-1/2" / 2197 mm	86-1/2" / 2197 mm
H Width Between Columns	89-3/4" / 2,280 mm	100-1/4" / 2,555 mm
I Runway Width	19" / 483 mm	19" / 483 mm
J Width Between Runways (*) NARROW SETTING	37-1/2" / 952 mm	37-1/2" / 952mm
J Width Between Runways (*) WIDE SETTING	n/a	44-3/8" / 1127 mm
K Runway Centerline (*) NARROW SETTING	56-1/2" / 1435 mm	56.1/2" / 1435mm.
K Runway Centerline (*) WIDE SETTING	n/a	63-3/8" / 1610 mm.
L Outside Edge of Runways (*) NARROW SETTING	75-1/2" / 1918 mm	75-1/2" / 1918 mm.
L Outside Edge of Runways (*) WIDE SETTING	n/a	82-3/8" / 2092 mm.
M Drive Thru Clearance	76-1/2" / 1943 mm.	86-1/2" / 2197 mm.
N Length of Runways	164" / 4166 mm	164" / 4166 mm
Min. Wheelbase @ Rated Capacity	115" / 2921 mm.	115" / 2921 mm.
Min. Wheelbase @ 75% Capacity	100" / 2540 mm.	100" / 2540 mm.
Min. Wheelbase @ 50% Capacity	85" / 2159 mm.	85" / 2159 mm.
Min. Wheelbase @ 25% Capacity	70" / 1778 mm.	70" / 1778 mm.
Locking Positions	15	15
Lock Spacing	Every 4" / 102 mm	Every 4" / 102 mm
Lifting Time	35 Seconds	35 Seconds
Standard Motor(**)	220 VAC / 60Hz 1 Ph.	220 VAC / 60Hz 1 Ph.
* This dimension may be limited with the addition of rolling jacks. See Rolling Jack Specifications on Separate page.		
** Special Voltages Available upon Request.		
The design, material and specifications are subject to change without notice.		

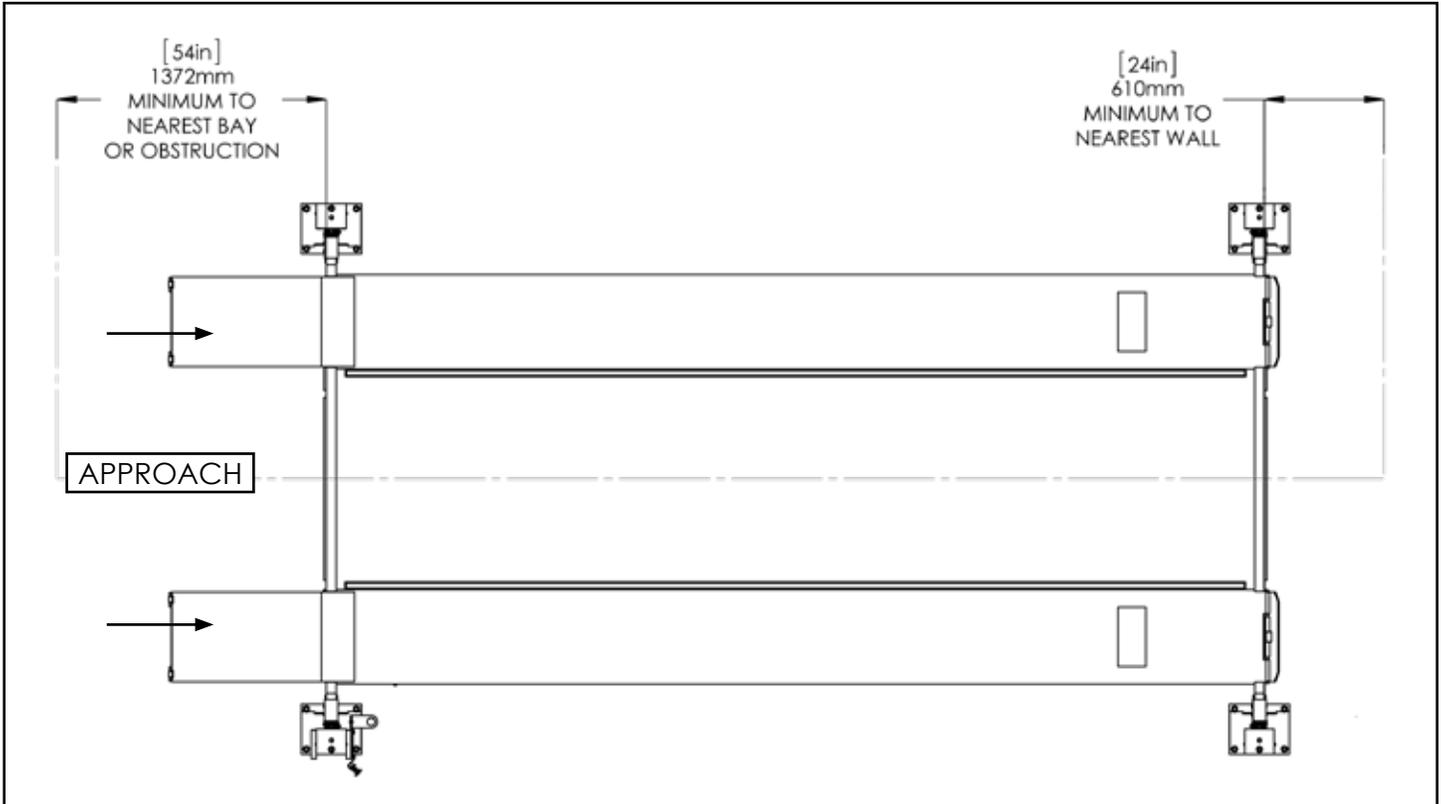
FLOOR PLAN



IMPORTANT NOTE
 Check Diagonal Measurements
 To Ensure Square Layout Diagonal Measurements Must Be Equal.

MODEL	HD-7PXW
Lifting Capacity	7,000 Lbs. / 3,175 Kg
A Overall Width	110 1/4" / 2,800 mm
B Outside Length	198" / 5,029 mm
C Overall Length	213" / 5,410 mm
D Height of Columns	158" / 4,011 mm
E – Min. Runway Height	4 1/2" / 114 mm
F – Max. Rise	140" / 3556 mm
G Max. Lifting Height	145" / 3,685 mm
H Width Between Columns	100 1/4" / 2,555 mm
I Runway Width	19" / 483 mm
J Width Between Runways (*) NARROW SETTING	37 1/2" / 952 mm
J Width Between Runways (*) WIDE SETTING	44 3/8" / 1127 mm
K Runway Centerline (*) NARROW SETTING	56 1/2" / 1435 mm
K Runway Centerline (*) WIDE SETTING	63 3/8" / 1610 mm
L Outside Edge of Runways (*) NARROW SETTING	75 1/2" / 1918 mm
L Outside Edge of Runways (*) WIDE SETTING	82 3/8" / 2092 mm
M Drive Thru Clearance	86 1/2" / 2197 mm
N Length of Runways	188" / 4,775 mm
Min. Wheelbase @ Rated Capacity	135" / 3429 mm
Min. Wheelbase @ 75% Capacity	115" / 2921 mm
Min. Wheelbase @ 50% Capacity	95" / 2413 mm
Min. Wheelbase @ 25% Capacity	80" / 2032 mm
Locking Positions	30
Lock Spacing	Every 4" / 102 mm
Lifting Time	60 Seconds
Standard Motor (**)	220 VAC / 60Hz 1 Ph.
* This dimension may be limited with the addition of rolling jacks. See Rolling Jack specifications on separate page.	
** Special voltages available on request.	
The design, material and specifications are subject to change without notice.	

CLEARANCES HD LIGHT DUTY



1. Lift Location: Use architects plan and Engineers automatic level (transit) when available to locate lift. The above shows clearances of a typical bay layout. Lift floor area should be level.

2. Ceiling or overhead clearance must be 80" plus height of tallest vehicle.

3. Estimating Column Shim requirements:
In the following section, the terms "highest" and "lowest" refer to elevation of floor.

A. Mark locations where lift columns will be positioned in bay.

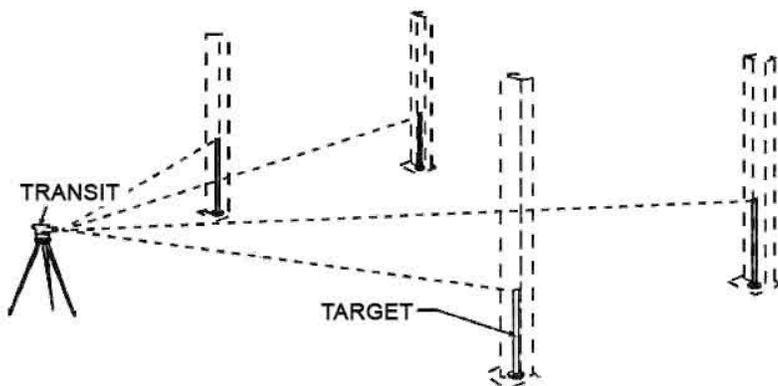
B. Place target on floor at column positions (NOT on column base plates) and record readings.

C. Find the highest of the four locations. Find the difference between the readings at each of the remaining three columns and the highest reading.

D. The difference is the estimated amount of shim thickness needed at each column.

Note: Maximum shim thickness is 1/2" per column using shims and anchors provided with lift.

If no transit is available, floor slope can be determined by using a chalk line and level.



COLUMN SHIM ESTIMATES

POWER UNIT LOCATION

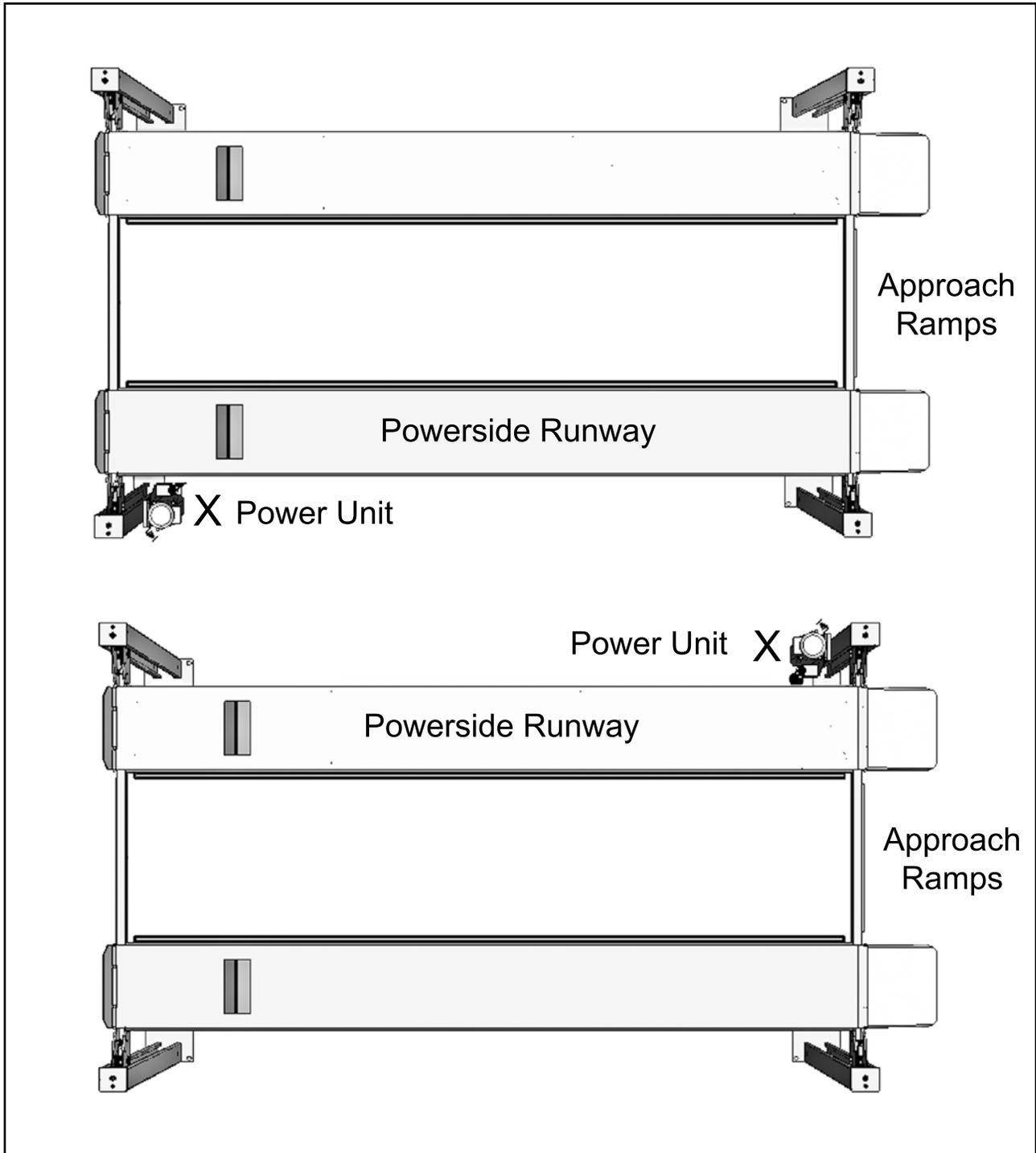
IMPORTANT NOTE:

The Power Unit can be located at either "X" location shown below. It is important to locate the POWERSIDE Runway (with Cylinder) on the SAME SIDE as the power unit location.

Utility 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 PASSENGER-SIDE (RIGHT) REAR Column - TOP ILLUSTRATION.

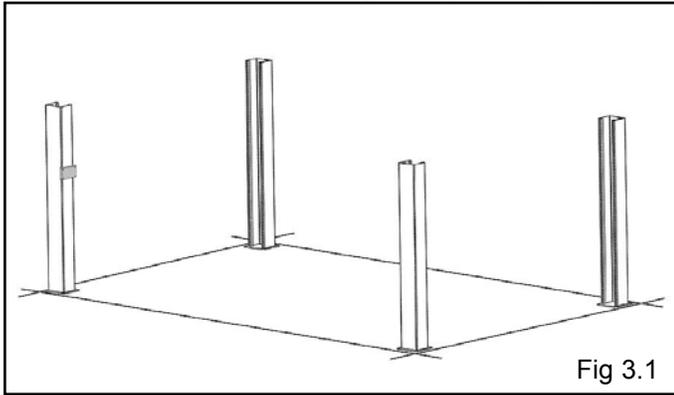
For Power Unit at Left front, rotate lift 180° leaving Approach Ramps and Front Tire Stops in original position.



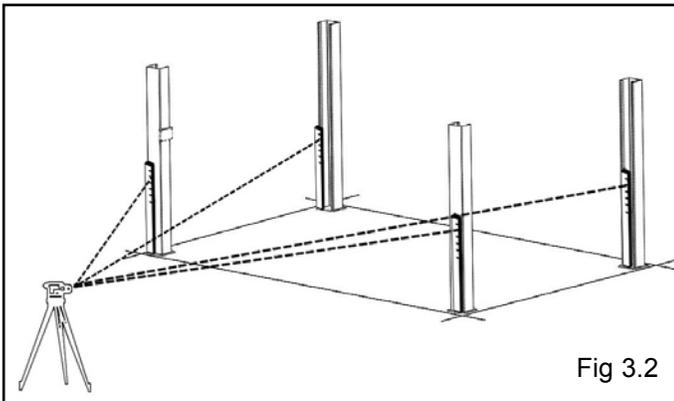
STEP 3

(Column & Cross Tube Installation)

1. Place a chalk line on the floor according to the floor plan layout. Pay attention to the Power Unit location. Locate and stand the Columns at their respective locations. DO NOT BOLT Columns down at this time. Use caution to prevent the Columns from falling over. (See Fig. 3.1)

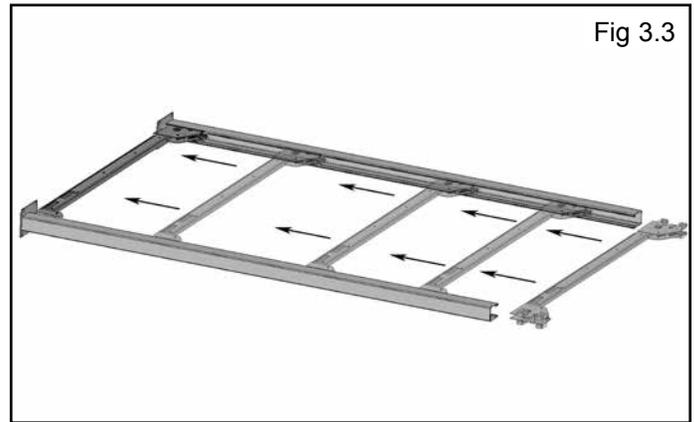


2. To estimate the shim requirements, place a target on floor at each Column position and record the readings. Find the highest of the four locations then find the difference between each of the remaining Columns. This difference is the estimated amount of shim thickness that will be required at each Column. (See Fig. 3.2)

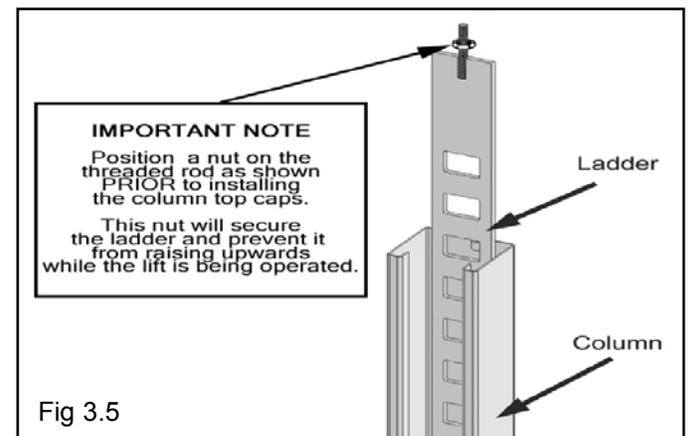
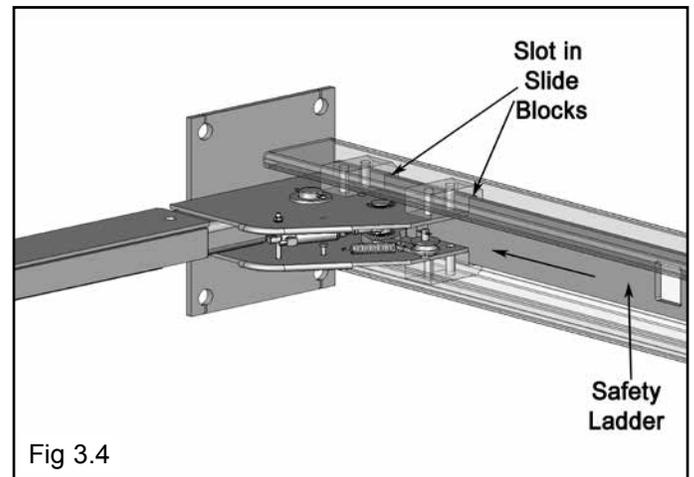


Note: The maximum shim thickness recommended by the factory is no more than 1/2" per Column using shims and anchors provided with the lift. A maximum shim thickness of 2" is possible by ordering optional shim plates. Please contact your authorized BendPak Distributor for ordering information.

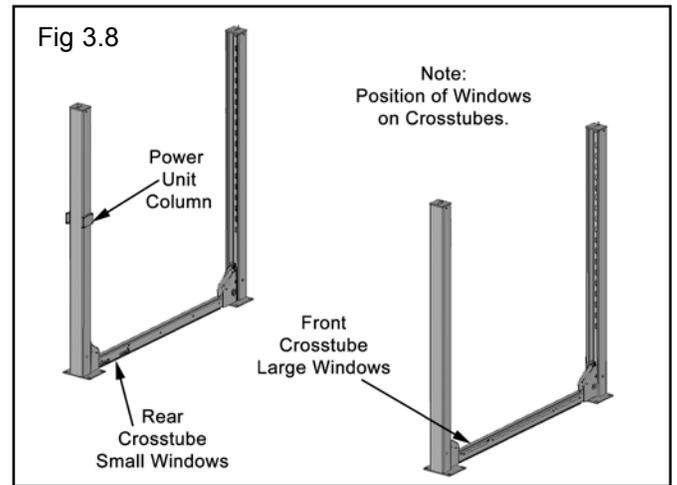
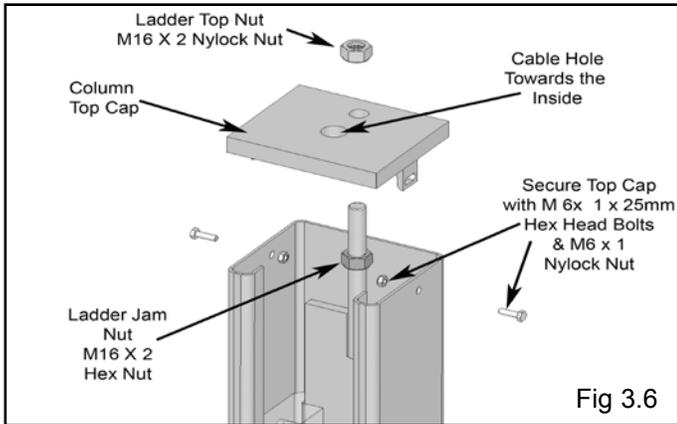
3. Lay the columns down, and slide the Cross Tubes into the Columns (making sure the Plastic Slide Blocks are still in position). NOTE: The Sheave Windows should be positioned inward and adjacent the Power Unit Column. Refer to the Assembly View illustration on page 8 to ensure the proper location and orientation of the Cross Tubes and sheave windows. (See Fig. 3.3)



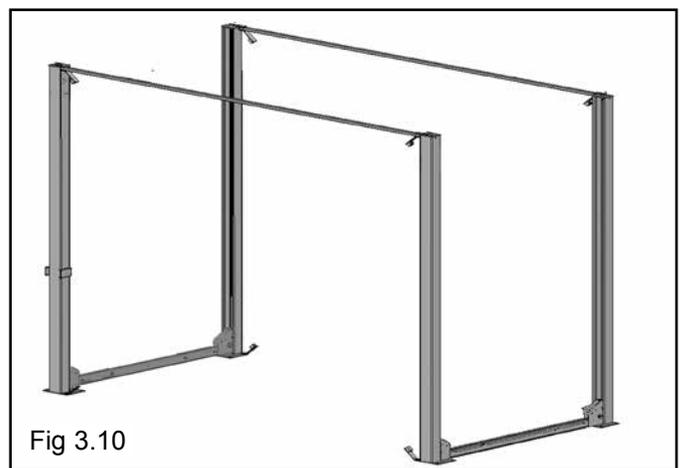
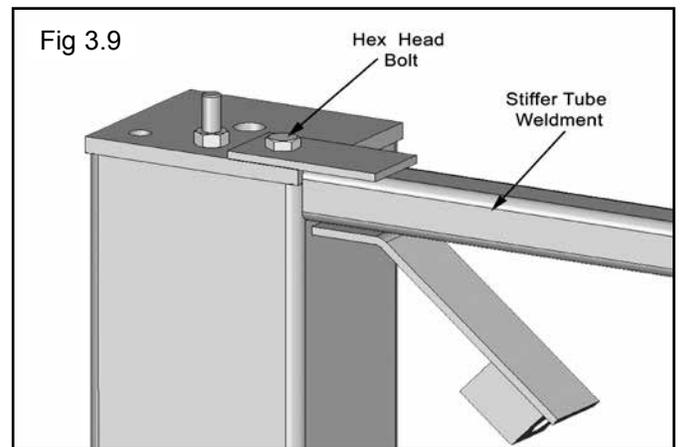
4. Install the Safety Ladders. Pass the Ladders through the Column openings and drop down through the Slide Block guide slots on the Cross Tube until the Ladders come to rest on the Base Plates. (See Fig. 3.4 - 3.5)



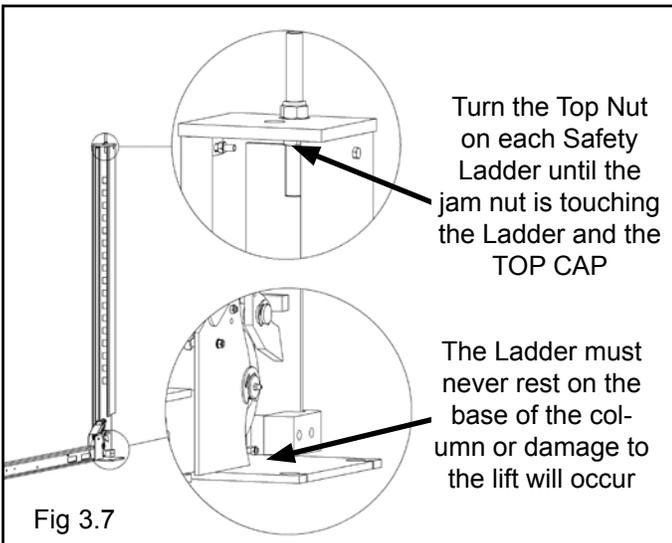
5. Thread the jam nut all the way to the Ladder. Install the column TOP CAPS using the M16 x 2 Hex Bolts, nuts & washers. Turn the Top Nut on each Safety Ladder until the jam nut is touching the Ladder and the TOP CAP.
NOTE: The Ladder must never rest on the base of the column or damage to the lift will occur. Be sure to position the cable hole INWARD. (See Fig. 3.6 - 3.7)



7. For HD-7PXW models: Bolt both Stiffener Tubes to the Top Caps with the Hex Head Bolts and Nuts. (See Figs 3.8 and 3.9)



8. The Columns and Cross Tubes will now be in position and spaced properly for the Runways.



6. Tilt up the Column and Cross Tube assemblies, lining the base plates up with the chalk lines made earlier. **DO NOT BOLT DOWN THE COLUMNS AT THIS TIME.** (See Fig 3.8)



Be careful not to disturb the Columns and Cross Tubes as they may tip over causing personal injury or harm.

STEP 4

(Raising The Cross Tubes)

1. Before proceeding, it will be necessary to first raise the Cross Tubes off the ground to facilitate Cable routing and final assembly.

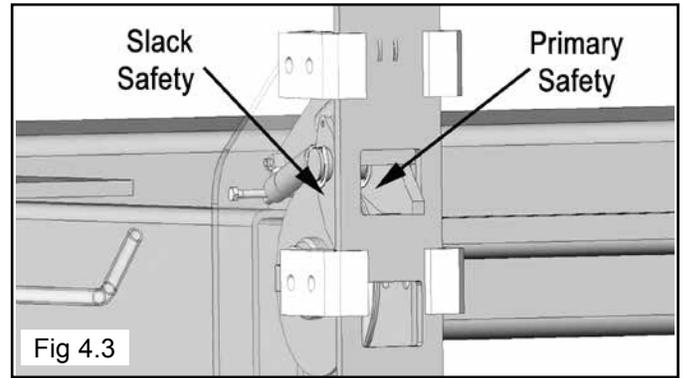
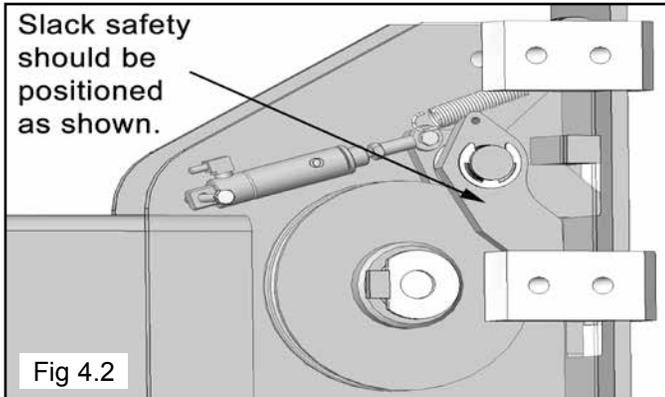
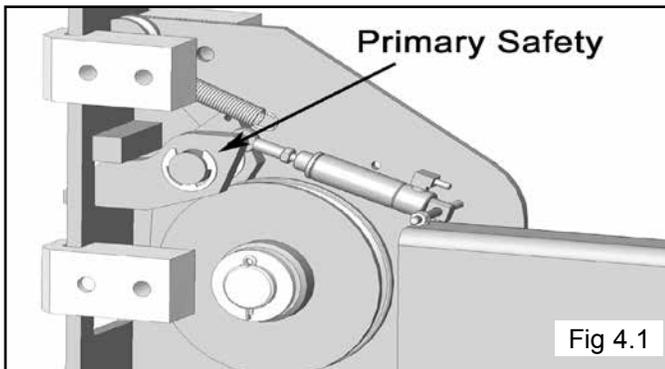


Be careful not to disturb the Columns and Cross Tubes as they may tip over causing personal injury or harm

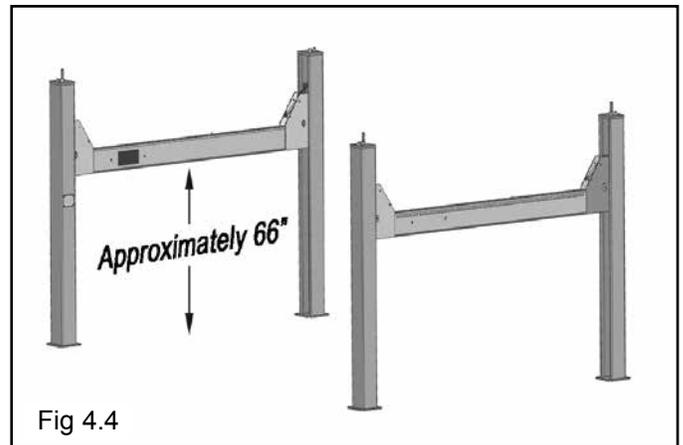
IMPORTANT NOTE

It is important that the **SLACK SAFETY LOCK IS CLEARED**. The Slack Safety Lock must never rest on the Safety Ladder.

2. Manually raise the Cross Tubes until the Primary Safety Locks engage and rest on the lock position second down from the top of the Ladder or approximately 66" off the ground. It is important that the SLACK SAFETY LOCK IS CLEARED. The Slack Safety Lock must never rest on the Safety Ladder. To prevent this, manually hold the Slack Safety in the disengaged position while lowering the Cross Tube ends. (See Fig. 4.1-4.3)



3. The Columns and Cross Tubes 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. 4.4)



FOR TECHNICAL SUPPORT, PLEASE CALL:
1-(800) 253-2363 Ext. 196

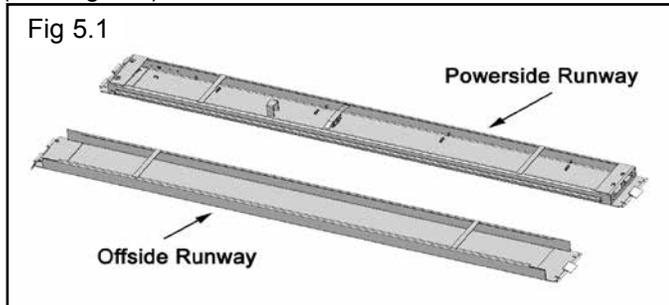
TO ORDER PARTS, PLEASE CALL:
1-(800) 253-2363 Ext. 191

STEP 5

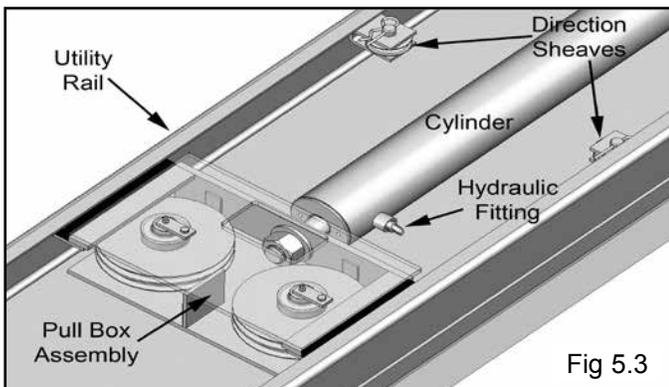
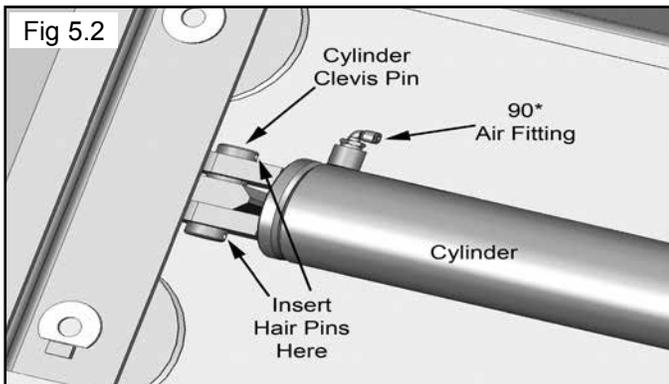
(Powerside Runway Installation)

1. Locate the Powerside Runway easily identified by the Cylinder and Sheave roller mounting structures welded on the underside. The Powerside Runway will be positioned on the side of the lift where the power unit is installed.

(See Fig. 5.1)

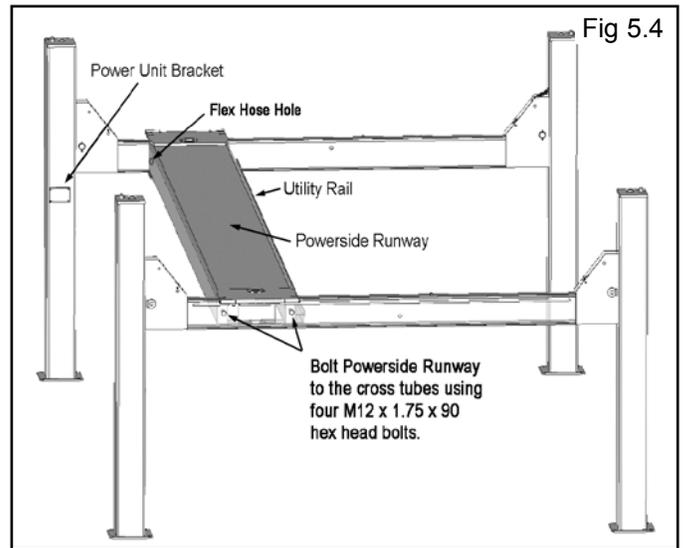


2. Install Cylinder and Pull Box Assy. as shown. Make sure the Pull Box Assy. with the window for the retaining nut and Zerk fittings are facing down. (See Fig. 5.2 - 5.3)



3. Remove any pre-installed Cable Sheaves from the Powerside Runway making sure to pay attention to the order in which they are removed. (This will help at the time of re-installation.) (See Page 14)

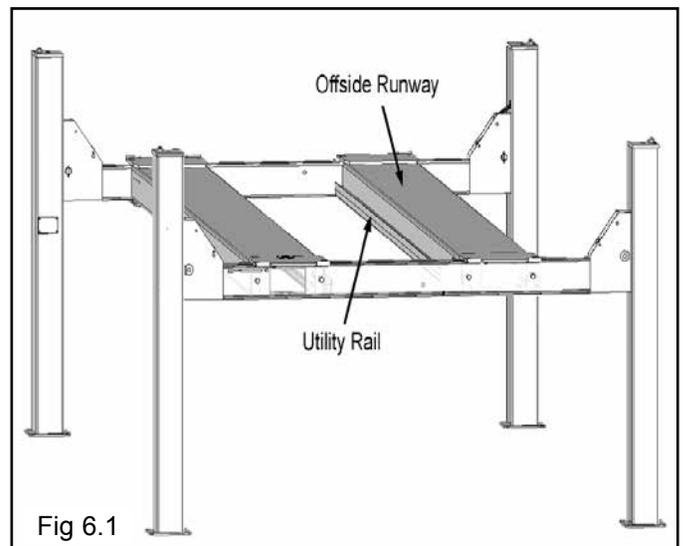
4. Position the Powerside Runway on top of the Cross Tubes with the utility rail towards the center. The Flex Tube Holes located at the side of the Powerside Runway should be adjacent to the Power Unit Column. Align the holes in the Runway with the holes on the Cross Tubes and bolt together using four M12 x 1.75 x 90 Hex Head Bolts and Washers. (See Fig. 5.4)



STEP 6

(Offside Runway Installation)

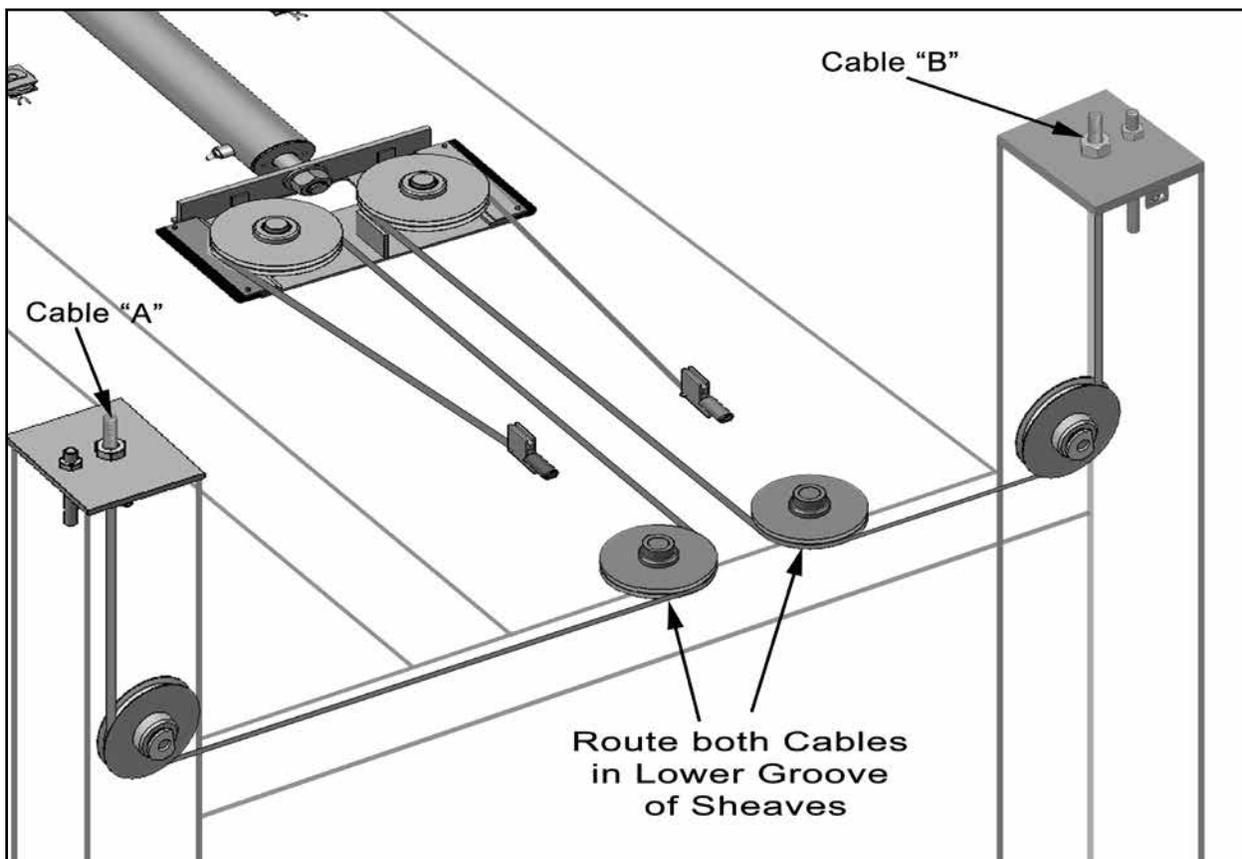
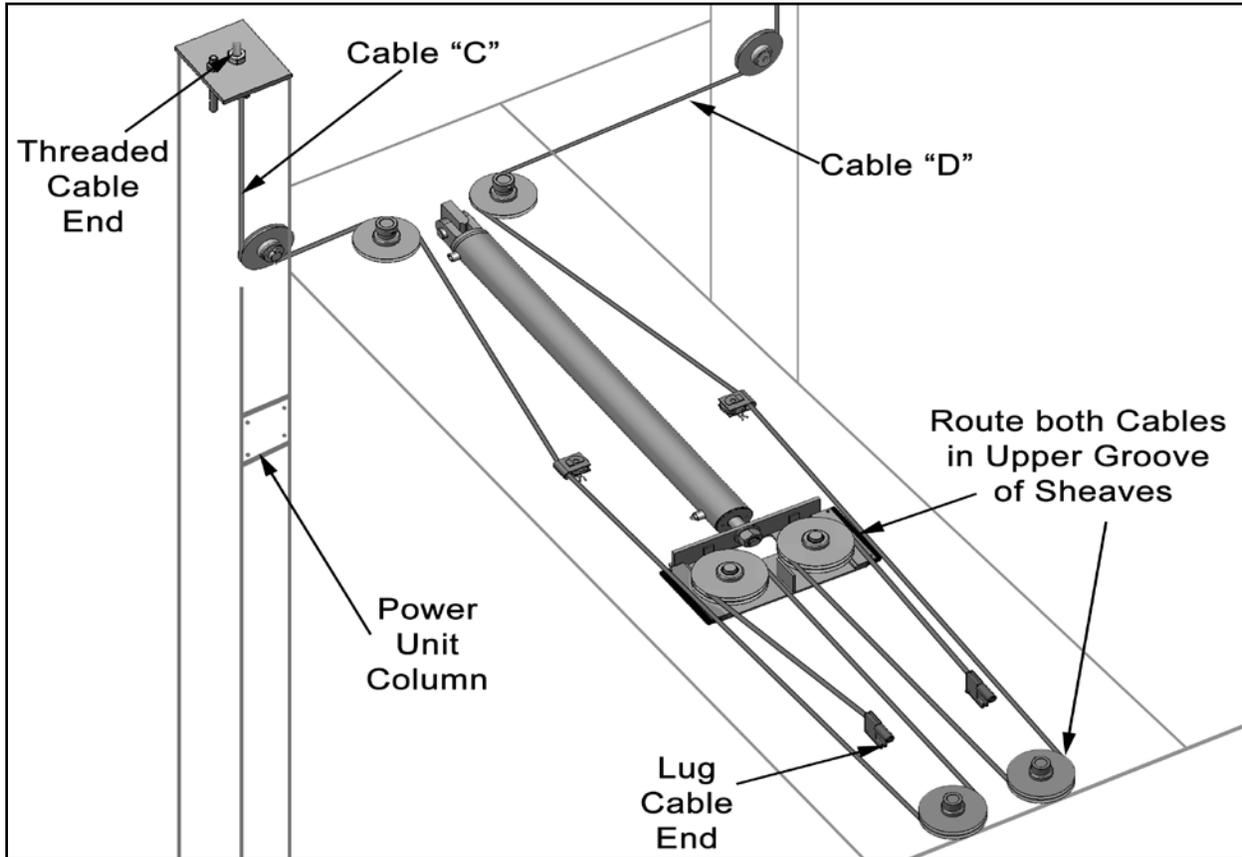
1. Position the Offside Runway on top of the Cross Tubes with the Utility Rail located inside. Determine the desired location of the Offside Runway. Align the holes in the Runway with the desired holes on the Cross Tubes and bolt together using four M12 x1.75 x 90 Hex Head Bolts and Washers. Lubricate bolt with WD-40 or equivalent and torque to 55 ft/lbs . (See Fig. 6.1)



DO NOT PROCEED with Cable installation or go near the lift work area unless visual confirmation is made of ALL Safety Locks. ALL locks MUST be engaged before proceeding. Failure to comply with these instructions may result in severe personal injury or death.
(See page 10)

Cable Routing Diagrams

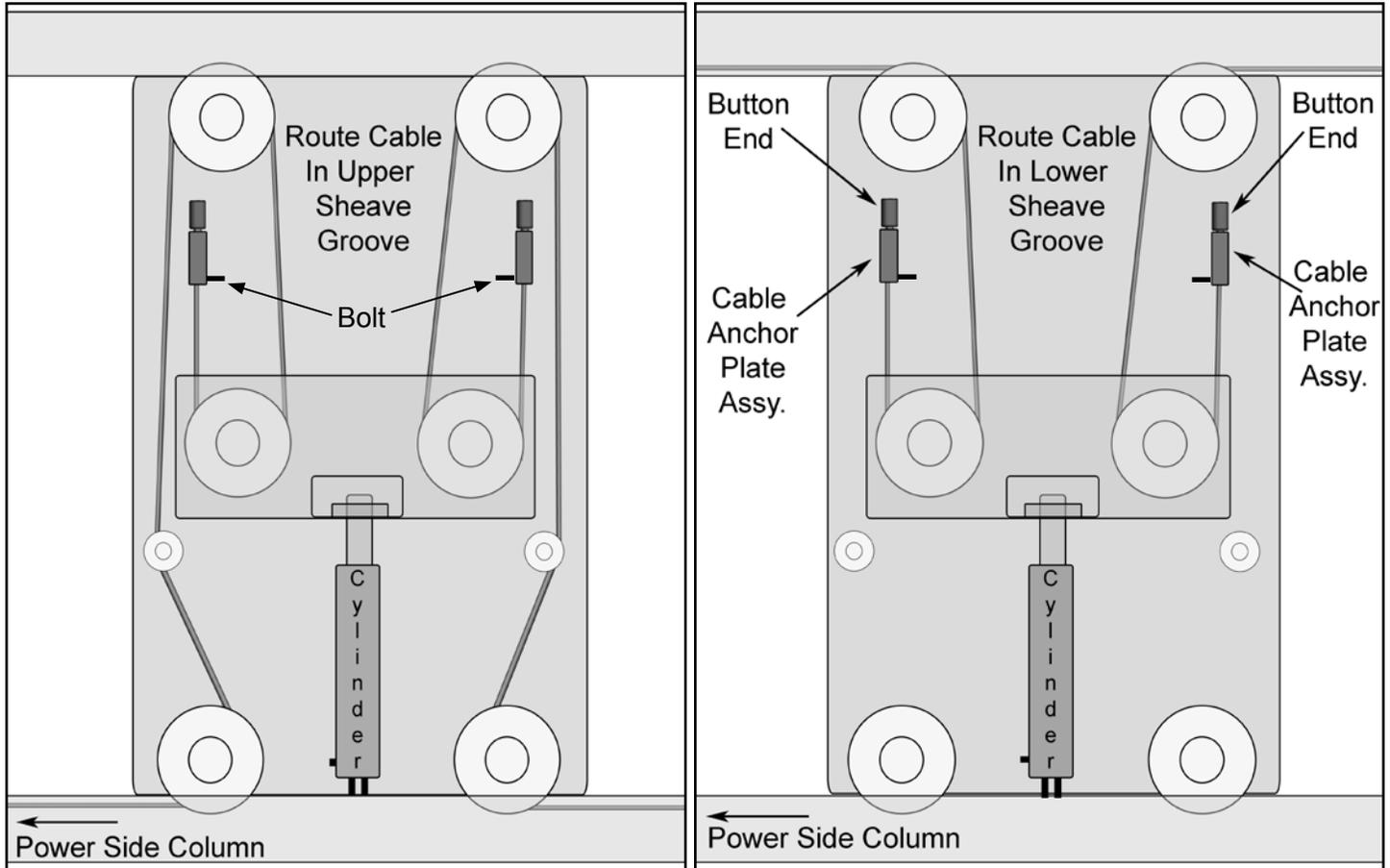
Please review the following diagrams and Cable List.
Install Lifting Cables "C" and "D" in the upper grooves of the Sheaves first.



Cable Routing Diagrams

Please review the following diagrams and Cable List.
Install Lifting Cables "C" and "D" in the upper grooves of the Sheaves first.

Note: Cable views are from below, looking up.



Note: Make sure to install bolt to keep Cable Anchor Plate Assembly in place.

Cable Identification List

Please review the following Cable List. Identify each Cable prior to installation.

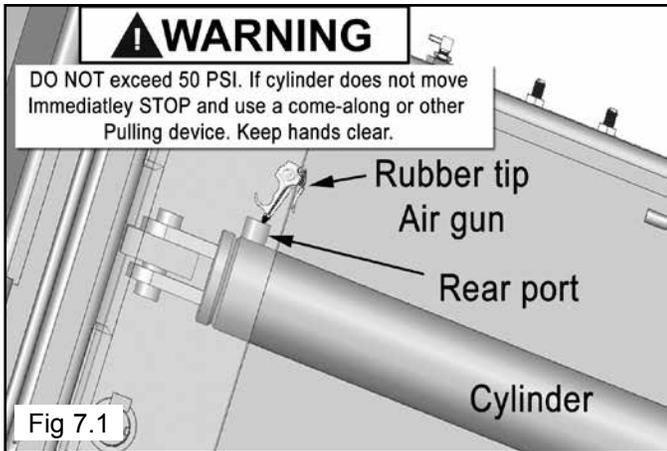
Model	Part #	Description	Type	Qty
HD-7P	5595014	Cable Assembly 10mm x 5,086mm; "A"	Lifting Cable	1
HD-7P	5595015	Cable Assembly 10mm x 6,494mm; "B"	Lifting Cable	1
HD-7P	5595012	Cable Assembly 10mm x 9,290mm; "C"	Lifting Cable	1
HD-7P	5595013	Cable Assembly 10mm x 10,674mm; "D"	Lifting Cable	1
HD-7W	5595473	Cable Assembly 10mm x 5,124mm; "A"	Lifting Cable	1
HD-7W	5595454	Cable Assembly 10mm x 6,734mm; "B"	Lifting Cable	1
HD-7W	5595917	Cable Assembly 10mm x 9,328mm; "C"	Lifting Cable	1
HD-7W	5595022	Cable Assembly 10mm x 10,897mm; "D"	Lifting Cable	1
HD-7PXW	5595467	Cable Assembly 10mm x 5,704 mm; "A"	Lifting Cable	1
HD-7PXW	5595053	Cable Assembly 10mm x 7,301 mm; "B"	Lifting Cable	1
HD-7PXW	5595469	Cable Assembly 10mm x 10,484 mm; "C"	Lifting Cable	1
HD-7PXW	5595055	Cable Assembly 10mm x 12,072 mm; "D"	Lifting Cable	1
HD-7PXW	5595032	Cable Assembly 6mm x 5,770 mm DT	Stiffening Cable	4

STEP 7

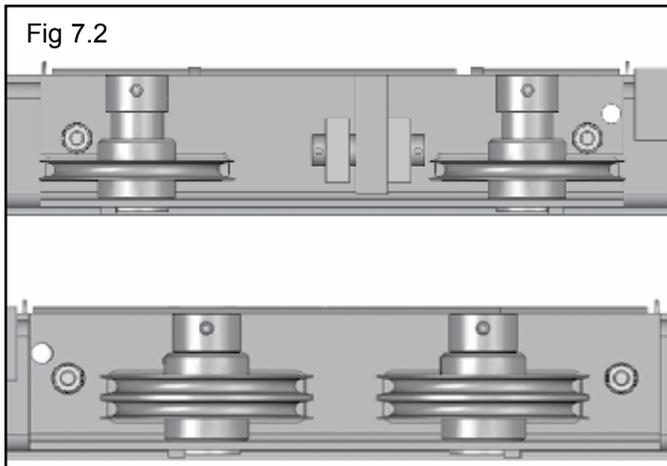
(Sheave Installation)

1. Inspect Cables to ensure 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 a rubber tipped air gun or come-along to extend the Cylinder. (See Fig. 7.1)

IMPORTANT: Be careful not to damage the chrome rod during this step.



3. You must reinstall the Sheaves and Pins in the same order as they were removed. (See Fig. 7.2)



! DANGER

DO NOT PROCEED unless visual confirmation is made of ALL Safety Locks. ALL locks MUST be engaged before proceeding. Failure to comply with these instructions may result in severe personal injury or death. (See page 10)

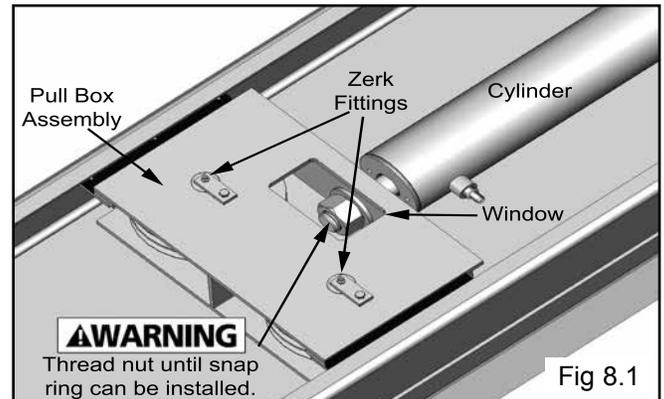
! DANGER

Failure to route Lifting Cables as described may lead to serious personal injury and/or death to operator or bystander and/or may cause damage to property.

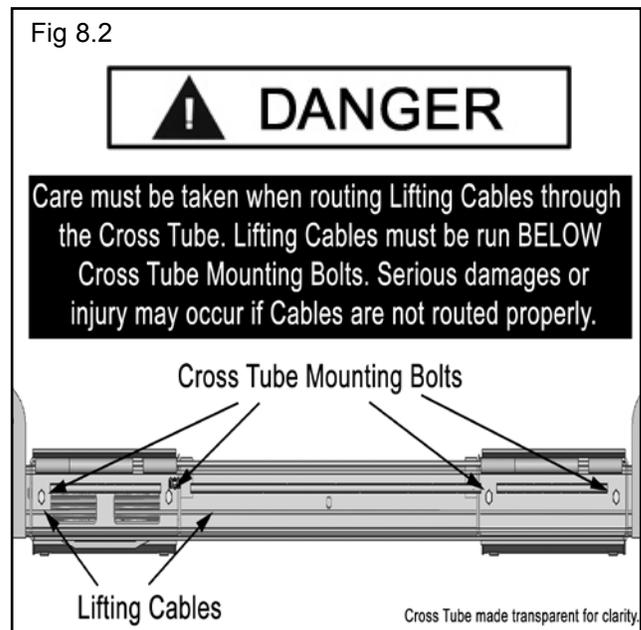
STEP 8

(Cable Installation)

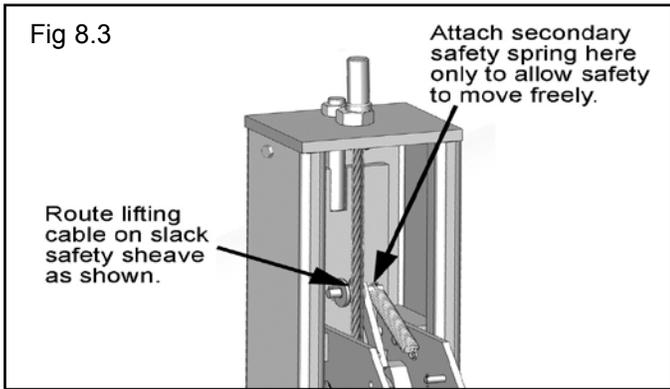
1. Make sure the Pull Box Assy. with the window for the retaining nut and Zerk fittings are facing down. (See Fig. 8.1)



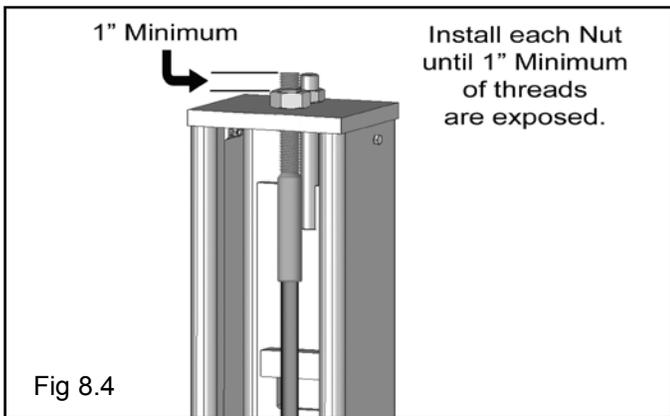
2. Route the threaded Cable ends through the ends of each Cross Tube. Care must be taken when routing the Lifting Cables to ensure they are routed **below** the Cross Tube Mounting Bolts. (See Fig 8.2)



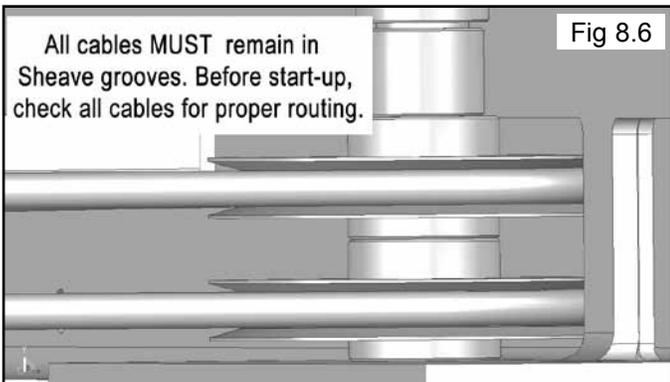
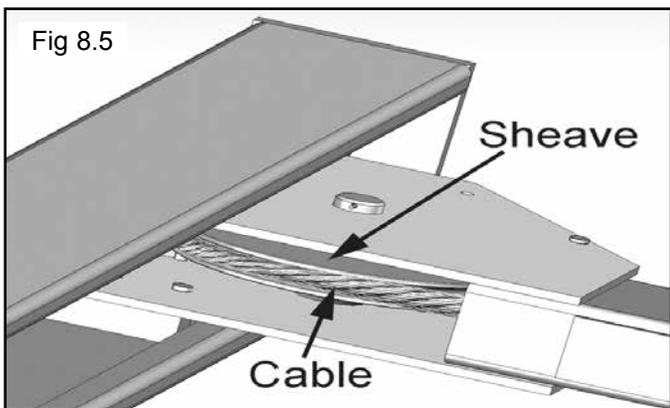
3. Route Cables over the Slack Safety Sheaves then to the top of each Column. Secure using the M18 Hex Head Nuts and Flat Washers. (See Fig. 8.3)



4. Tighten each Nut until there is at least one inch of threads protruding through the top of the nut. The Cables will remain loose until start up and final Cable adjustments are made. (See Fig. 8.4)



5. After routing the Cables double-check to make sure all are properly positioned and remain within the grooves of ALL Sheaves. (See Fig. 8.5 - 8.6)

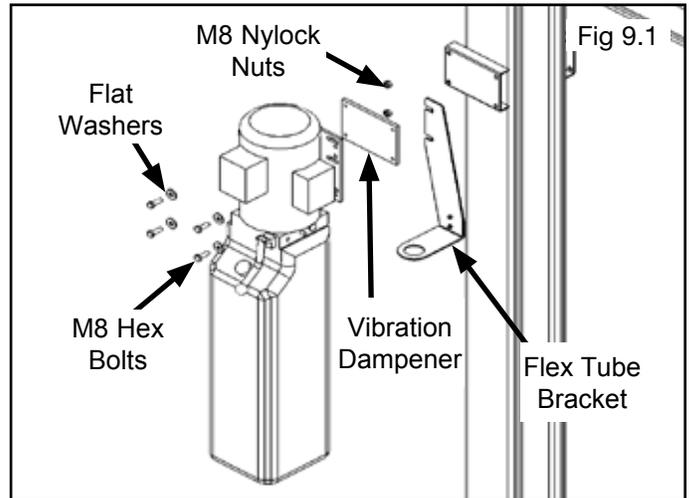


STEP 9

(Power Unit Installation)

Note: For model HD-7PXW, refer to Page 22, Figure 9.2 for Power Unit / Flex Hose configuration referred to in Steps 9 and 10.

1. Mount the Power Unit to the Mounting Bracket using the M8 Hex Head Bolts and Nylock Nuts. Then fill the reservoir with 12 quarts of 10-WT hydraulic oil or Dexron III automatic transmission fluid. (See Fig. 9.1)



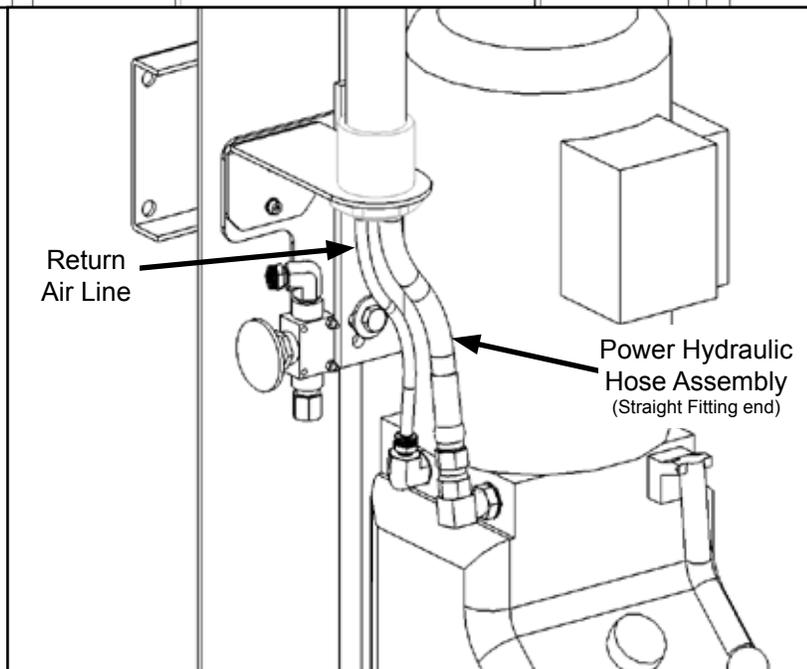
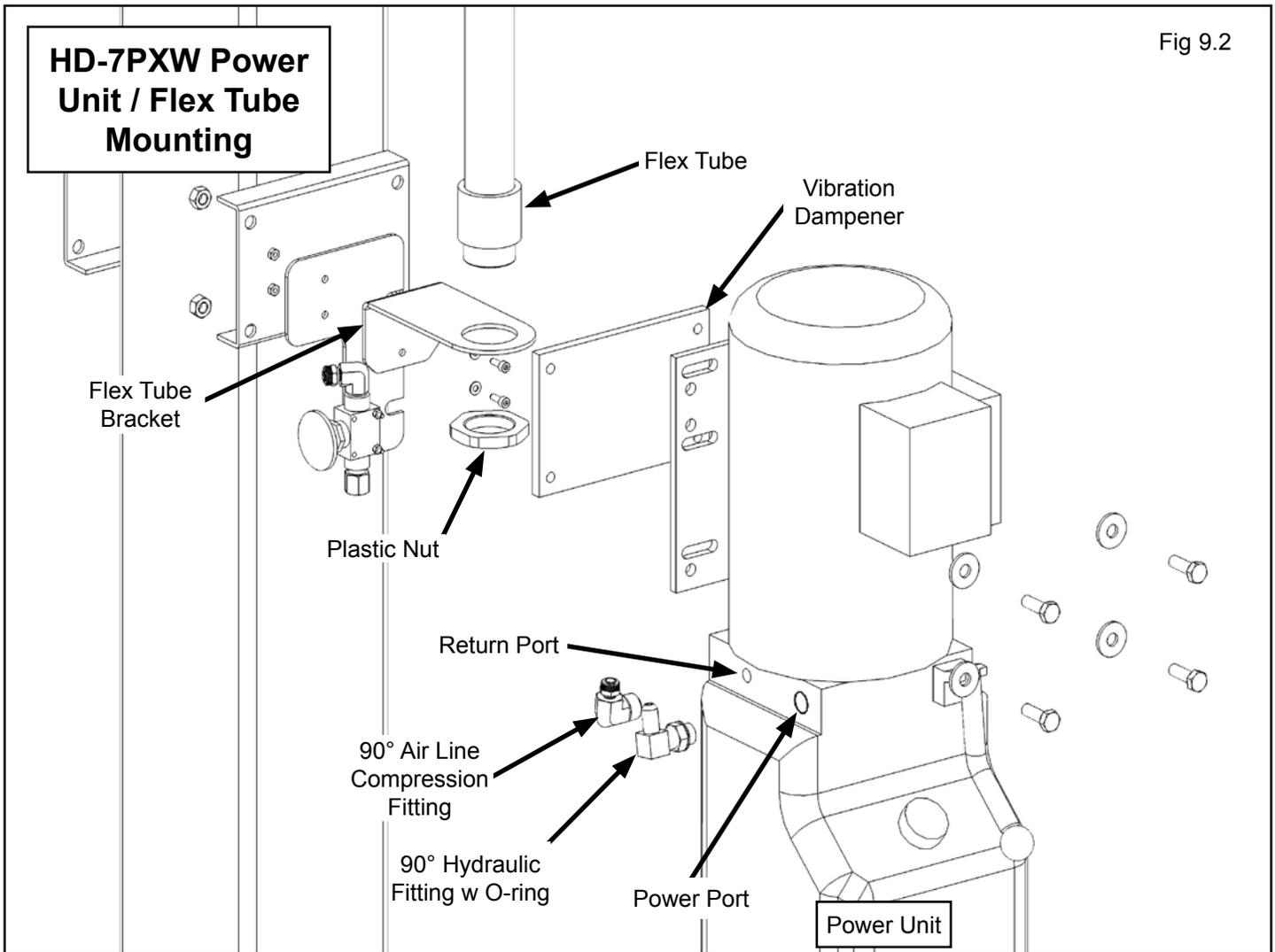
ALL WIRING MUST BE PERFORMED BY A LICENSED ELECTRICIAN.



DO NOT PERFORM ANY MAINTENANCE OR INSTALLATION OF ANY COMPONENTS WITHOUT FIRST ENSURING THAT ELECTRICAL POWER HAS BEEN DISCONNECTED AT THE SOURCE OR PANEL AND CANNOT BE RE-ENERGIZED UNTIL ALL MAINTENANCE AND/OR INSTALLATION PROCEDURES ARE COMPLETED.

**Model HD7PXW
Power Unit/ Flex Hose Configuration.**

Fig 9.2



AIR TUBING ASSEMBLY:
SEE PAGE 25 FOR ASSEMBLY OF AIR LINE TUBING INTO FITTING.

The standard Power Unit for your lift is 220 volt, 60HZ, single phase. All wiring must be performed by a certified electrician only.
SEE WIRING INSTRUCTIONS AFFIXED TO MOTOR FOR PROPER WIRING INSTRUCTIONS.



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.
Operate lift only between temperatures of 41 ° - 104° F.

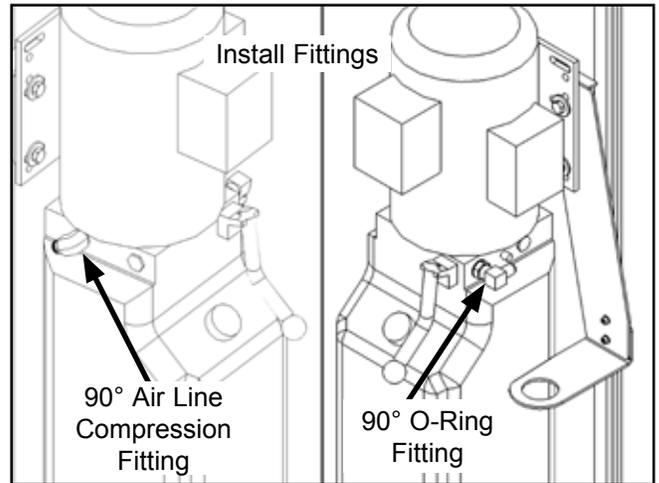
Improper electrical hook-up can damage motor and will not be covered under warranty.
Motor can not run on 50HZ without a physical change in motor.
Use a separate breaker for each Power Unit.
Protect each circuit with time delay fuse or circuit breaker.
For 208-230 volt, single phase, use a 25 amp fuse.
For 208-230 volt, three phase, use a 20 amp fuse.
For 380-440 volt, three phase, use a 15 amp fuse.

STEP 10

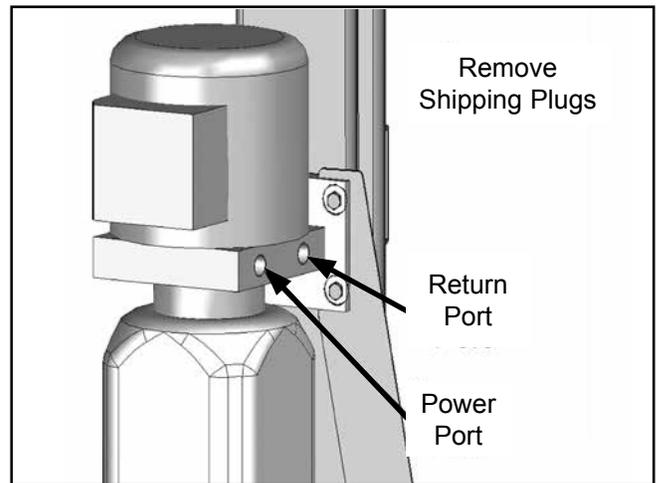
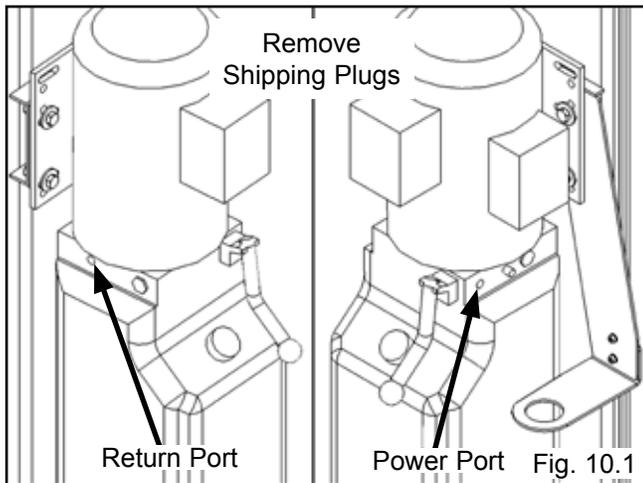
(Routing Hydraulic Hoses)

Note: For model HD-7PXW, refer to Page 22, Figure 9.2 for Power Unit / Flex Hose configuration referred to in Steps 9 and 10.

1. Install the 90-degree Hydraulic Fitting to the POWER PORT and the 90° Air Line Compression Fitting to the RETURN PORT of the Power Unit and connect the Hoses as described below. It will be necessary to remove the shipping plugs from both ports prior to installing the Fittings. (See Fig. 10.1 - 10.2)

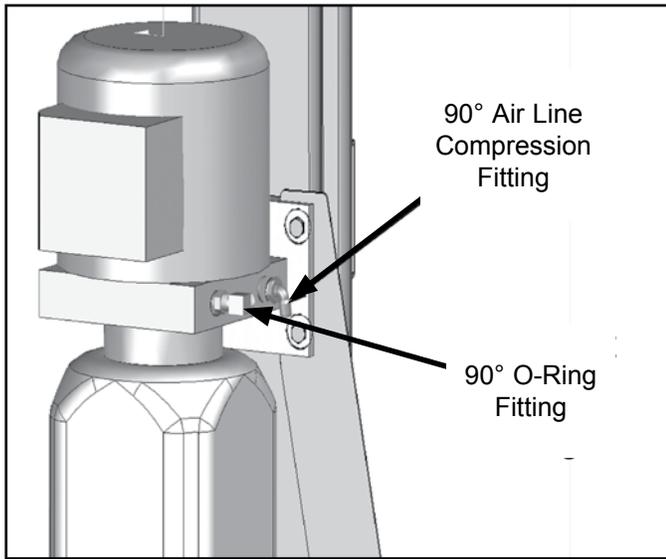


NOTE: Return Port may be on the same side as the Power Port on some models.

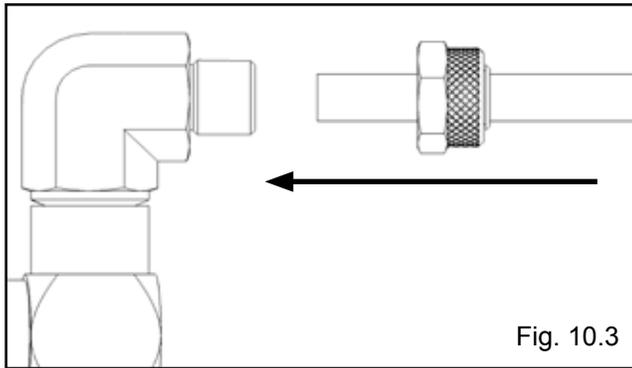


NOTE:

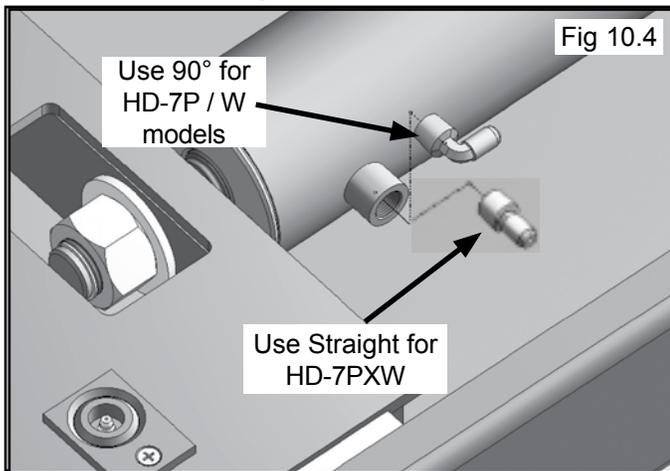
Check the Power Unit to determine proper connection ports for Power and Return lines. It will be necessary to remove shipping plugs from both ports prior to installing Fittings.



2. Remove the captive nut on the Compression Fitting. Insert the Plastic Air line through the alignment sleeve and into the end of the fitting until it bottoms out. Then tighten the nut on the fitting. (See Fig 10.3)

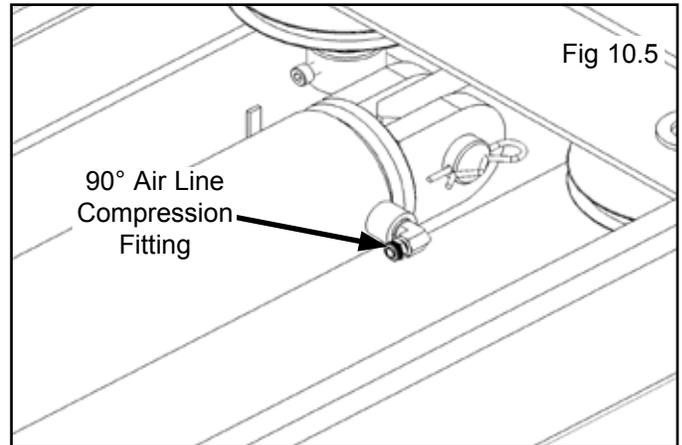


3. For the HD-7P/W models, install the 90-degree Hydraulic Fitting in the port at the ram end of the Cylinder. for the HD-7PXW, install the Straight Hydraulic Fitting. On the pipe thread side of the Fitting it is recommended to use Teflon Tape or pipe sealer. DO NOT USE TEFLON TAPE on the JIC flared end. (See Fig. 10.4)

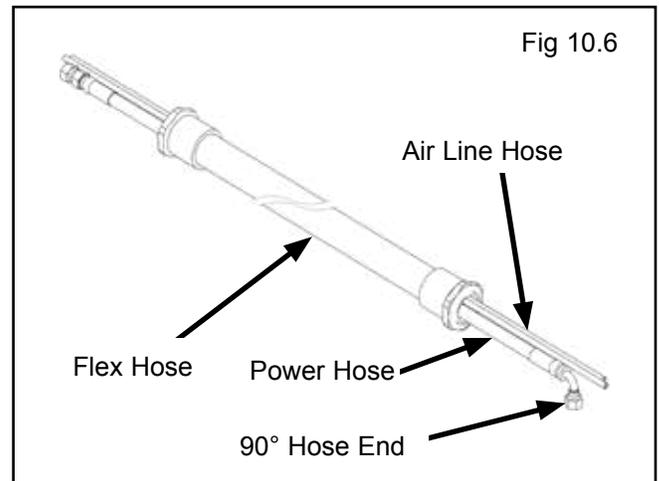


4. Install the 90-degree Air Line Compression Fitting in the port at the base, pinned end of the Cylinder.

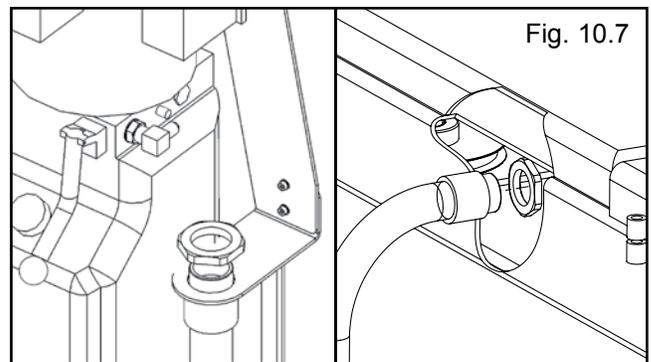
On the pipe thread side of the Fitting, it is recommended to use Teflon Tape or pipe sealer. (See Fig. 10.5)



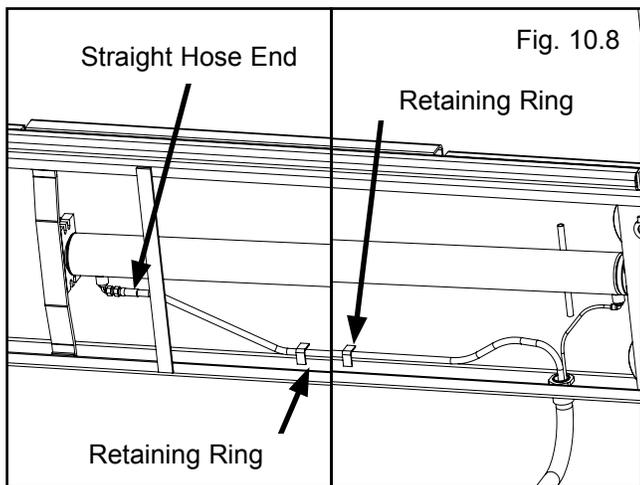
5. Route both the Power Unit Hydraulic Hose and TWO (2) lengths of Air Line through the Flex Hose. (See Fig. 10.6)



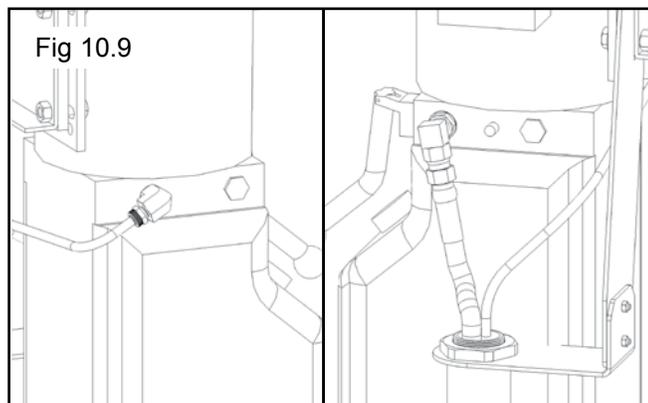
6. Install the end of Flex Hose with the Straight Fitting on the Hydraulic Hose into the hole in the Powerside Runway adjacent to the Power Unit. Install the end of the Flex Hose with the 90° Fitting on the Hydraulic Hose in the Flex Hose Bracket Assy. Tighten the plastic nuts securely. (See Fig 10.7)



7. Connect the hydraulic hose and air line as shown below making sure the hydraulic hose passes through the retaining rings. **MAKE SURE HOSES ARE KEPT CLEAR OF CABLES.** There will be one air line hose left unconnected in this step. This air line will be used to activate the pneumatic safety locks in the next step. See page 21 for Compression Fitting instructions. (See Fig. 10.8)



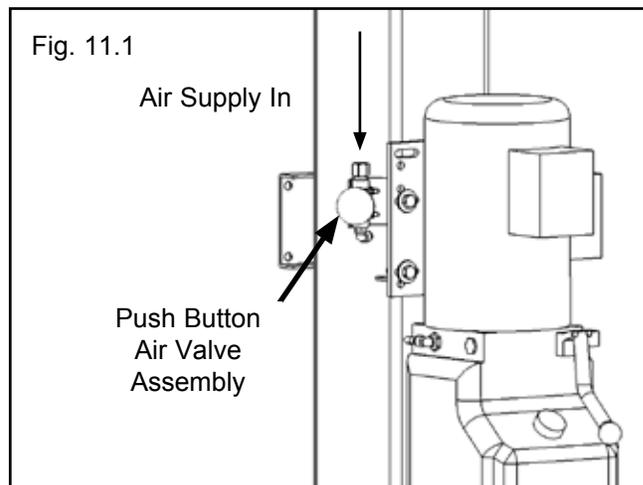
8. Connect the straight end of the Power Unit Hydraulic Line to the 90° Power Unit Fitting. Connect the Return Air Line to the 90° Air Fitting. There will be one air line hose left unconnected at this time. This air line hose will be used to activate the pneumatic safety locks on the next page. (See Fig. 10.9).



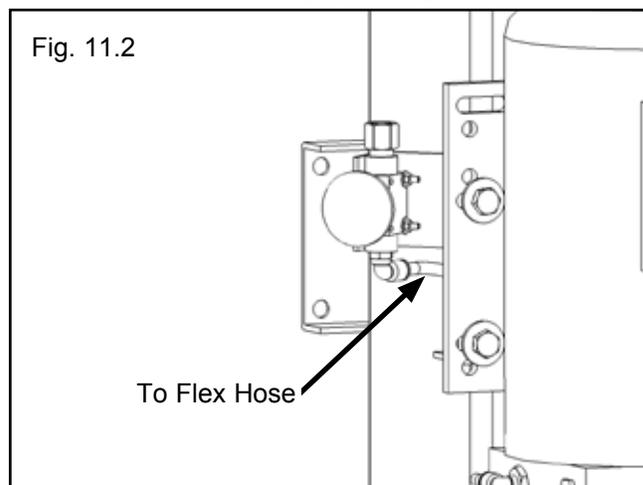
STEP 11

(Routing Air Lines)

1. Mount the Push Button Air Valve Assembly on to the power unit mounting bracket. The Push Button Air Valve should be positioned away from the Power Side Ramp on the “out” side of the lift for operator safety. (See Fig 11.1)



2. Route the air line that was left unconnected in Step 10 to the 90° Air Line Compression Fitting of the Push Button Air Valve Assembly. (See Fig 11.2)



3. Once the air line has been connected with the Push Button Air Valve, cut the air lines to length by following the Safety Air Line Routing diagram located on Page 25 and connect female branch “tee” fittings where needed.

NOTE:

MAKE SURE THE PUSH BUTTON AIR VALVE PORT MARKED “INLET” IS FACING TOWARDS THE SOURCE OF COMPRESSED AIR.

NOTE:

A FILTER/REGULATOR/LUBRICATOR MUST BE INSTALLED ON AIR SUPPLY AT LIFT. FAILURE TO DO SO WILL VOID THE WARRANTY.

SAFETY AIR LINE ROUTING

NOTE:

CUT THE PROVIDED 1/4" AIR LINE TUBING WITH A SHARP BLADE TO LENGTHS AS REQUIRED. TUBING MUST BE CUT SQUARE WITH ALL PLASTIC BURRS REMOVED.

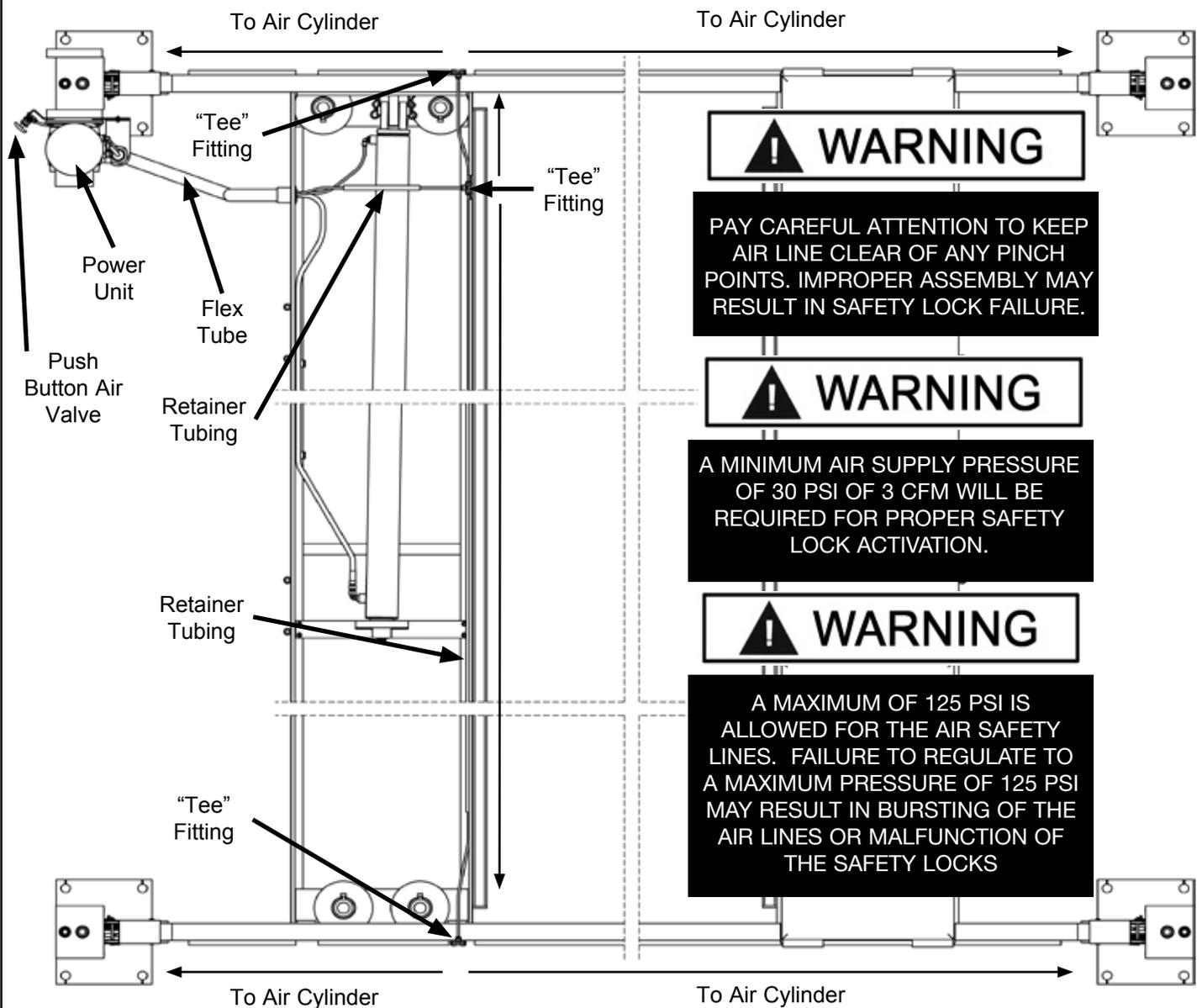
AIR TUBING ASSEMBLY:

SEE PAGE 19 FOR ASSEMBLY OF AIR LINE TUBING INTO FITTING.

CAUTION:

REMOVING THE AIR TUBING FROM THE COMPRESSION FITTINGS WILL CAUSE DAMAGE TO THE TUBING ITSELF. USE OF A DAMAGED AIR LINE MAY RESULT IN SAFETY LOCK FAILURE.

NOTE: FEED AIR LINE TUBING THROUGH THE RETAINER TUBING ON THE INSIDE OF THE POWER SIDE RAMP



NOTE: FEED AIR LINE TUBING THROUGH THE RETAINER TUBING ON THE OUTSIDE OF THE CROSSTUBES



DO NOT PERFORM ANY MAINTENANCE OR INSTALLATION OF ANY COMPONENTS WITHOUT FIRST ENSURING THAT ELECTRICAL POWER HAS BEEN DISCONNECTED AT THE SOURCE OR PANEL AND CANNOT BE RE-ENERGIZED UNTIL ALL MAINTENANCE AND / OR INSTALLATION PROCEDURES ARE COMPLETED.

IMPORTANT POWER UNIT INSTALLATION NOTES

- DO NOT run power unit with no 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 warranty.
- Motor can not run on 50HZ without a physical change in motor.
- Use a separate breaker for each power unit.
- Protect each circuit with time delay fuse or circuit breaker.
- For 208-230 volt, single phase, use a 25 amp fuse.
- For 208-230 volt, three phase, use a 20 amp fuse.
- For 380-440 volt, three phase, use a 15 amp fuse.

Installation and adjustment.

DO NOT attempt to raise vehicle until a thorough operation check has been completed.

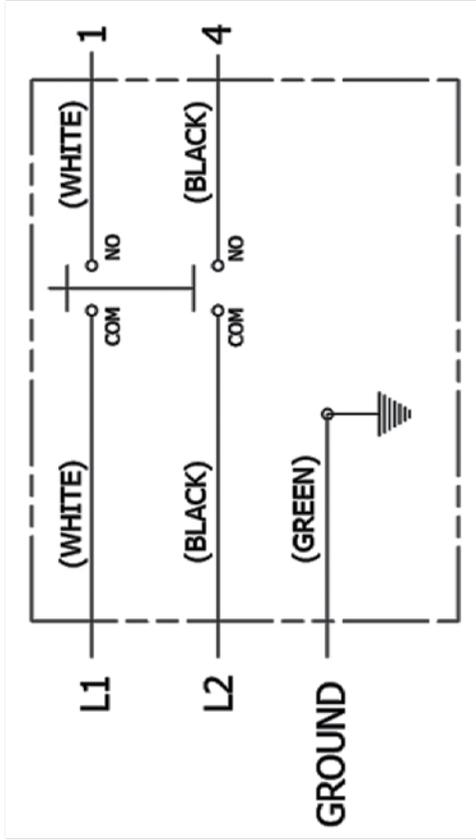
ALL WIRING MUST BE PERFORMED BY A CERTIFIED ELECTRICIAN ONLY

Identify which Power Unit the lift was shipped with by looking on the data tag affixed to the Power Unit motor head. If the model number begins with the letter “S” then use the “S” wiring diagrams. If the model number begins with the letter “E” or “F” then use the “E” or “F” wiring diagrams.

**SEE WIRING INSTRUCTIONS AFFIXED TO MOTOR FOR PROPER
WIRING INSTRUCTIONS.**

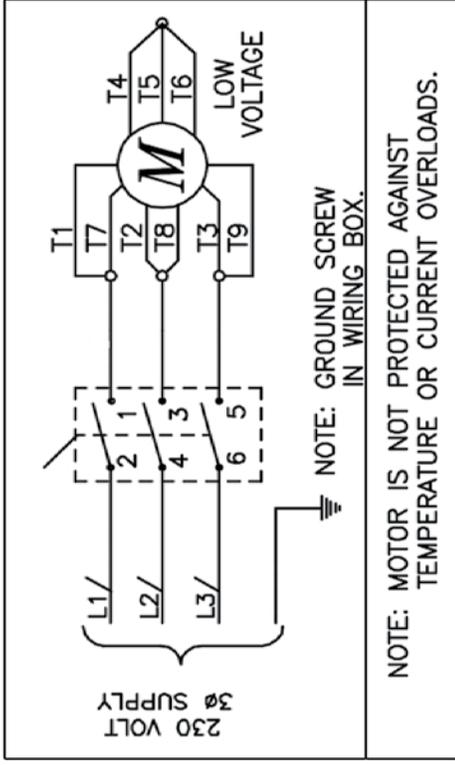
“S” MODEL

Single Phase 220V



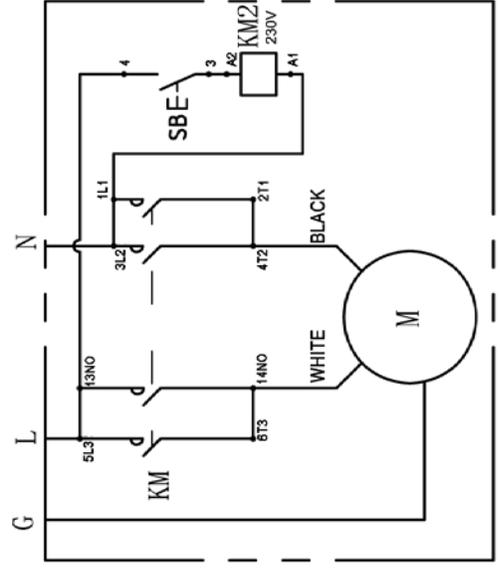
“S” MODEL

Three Phase 220V



“E” or “F” MODEL

Single Phase 220V



STEP 12

(Power Unit Hook Up)

1. Have a certified electrician run the power supply to motor. Refer to the data plate found on the motor for proper power supply and wire size.



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:

CAUTION Never operate the motor on line voltage less than 208V. Motor damage may occur which is not covered under warranty. Have a certified electrician run appropriate power supply to motor. Size wire for 25amp circuit. See Motor Operating Data Table.

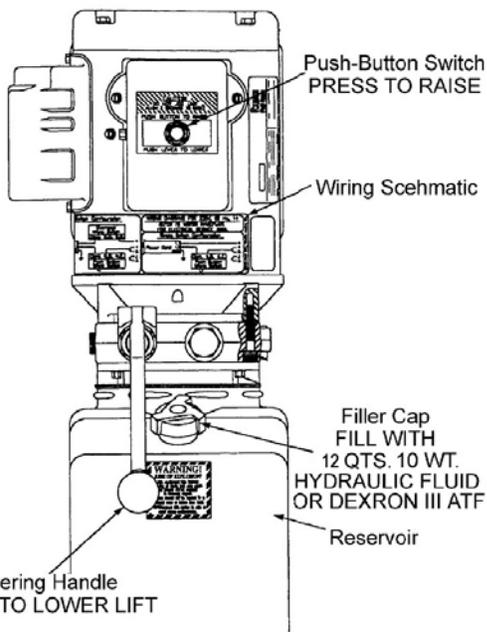
IMPORTANT: Use separate circuit for each power unit.

Protect each circuit with time delay fuse or circuit breaker. For single phase 208-230V, use 25 amp fuse.

Three phase 208-230V, use 20 amp fuse. For three phase 400V and above, use 15 amp fuse. All wiring must comply with NEC and all local electrical codes.

Fig. 12.1

POWER UNIT



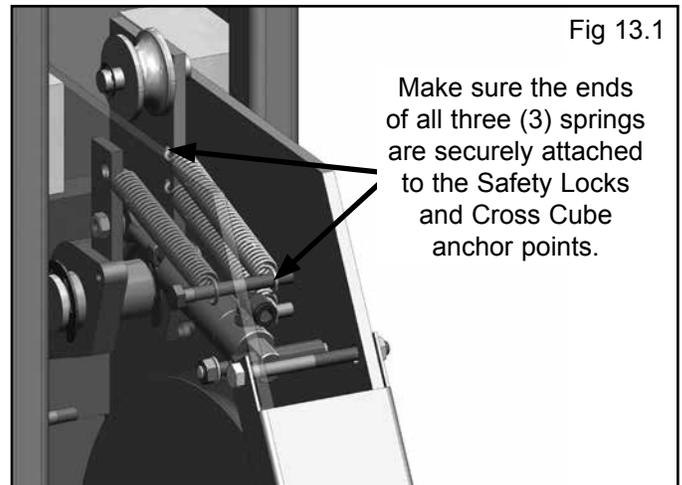
STEP 13

(Inspecting The 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. Inspect the ends of the ALL SAFETY LOCK SPRINGS as shown. Make sure the spring ends are secure at both ends. **DO NOT ATTEMPT TO RAISE THE LIFT UNTIL THE SLACK SAFETY SPRINGS ARE ATTACHED AND THE ROLLERS ARE PULLED CLEAR FROM THE LADDER.** (See Fig. 13.1)



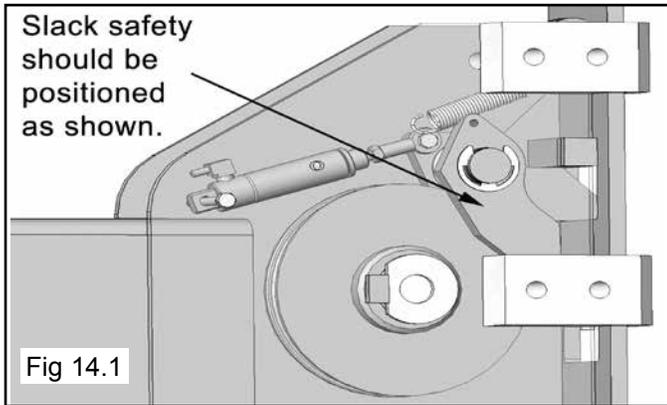
2. Repeat this step for each corner of the lift.

STEP 14

(Lift Start Up / Final Adjustments)

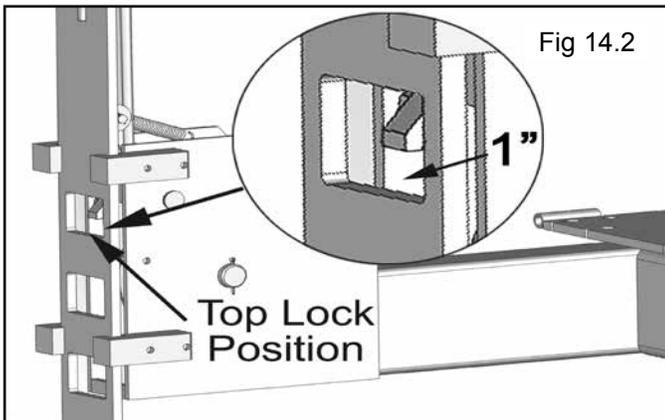
1. Make sure the Power Unit reservoir is full with 12 quarts of 10-WT hydraulic oil or Dexron-III automatic transmission fluid.
2. Spray the inside of the Columns where the Slide Blocks glide with a light lubricant or WD-40.
3. Test the Power Unit by pressing the push-button switch. If the motor sounds like it is operating properly, raise the lift and check all Hose connections for leaks. If the motor gets hot or sounds peculiar, stop and check all electrical connections.
4. Before proceeding, double-check to make sure all cables are properly positioned within the grooves of ALL Sheaves. Make sure all Cable Sheave retaining Pins and/or Clips are secure.

5. Check to make sure that all slack safety locks are cleared and free. (See Fig. 14.1)



6. Continue pressing the raise button until the Cables are taut and the lift starts to move.

7. Raise lift until the lift stops then lower until the safeties begin to engage the top locking position. Adjust each ladder so that each topmost window rests on the safety lock. Then adjust each Cable Nut so that each safety lock is at least ONE INCH above the Top Lock Position. The Cable Nuts MUST be tightened until there is at least one inch of threads protruding through the nut. (See Fig. 14.2)



All cable nuts MUST be tightened on each end until there is at least one inch of threads protruding through the nut. Failure to do so could result in serious injury or death.

NOTE:
THERE WILL BE INITIAL STRETCHING OF THE CABLES AND/OR WITH INCREASED LOADS. ADJUST THE CABLES AS OUTLINED ABOVE A WEEK AFTER FIRST USE, THEN EVERY THREE TO SIX MONTHS THEREAFTER DEPENDING ON USAGE AND/OR TO COMPENSATE FOR STRETCH.

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



KEEP HANDS AND FEET CLEAR. Remove hands and feet from any moving parts. Keep feet clear of lift when lowering. Avoid pinch points.

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

10. Run the lift up and down a few times to ensure the Locks are engaging uniformly and that the safety release mechanisms are functioning. Re-adjust if necessary.

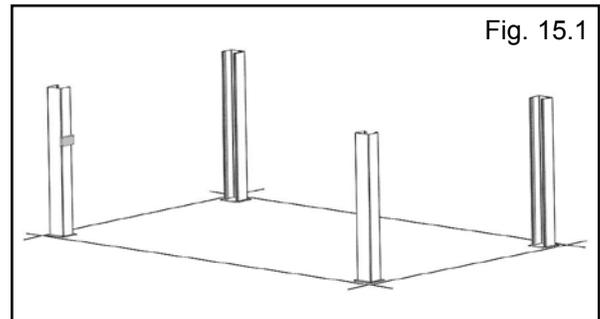
STEP 15

(Anchoring The Columns)

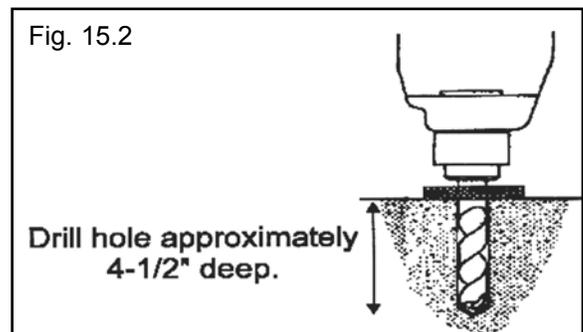
Proceed to Step 16 if Not Anchoring to Floor, HD-7PXW must be anchored.

IMPORTANT NOTE:
BendPak lifts are supplied with installation instructions and concrete fasteners meeting the criteria as prescribed by the American National Standard "Automotive Lifts - Safety Requirements for Construction, Testing, and Validation" ANSI/ALI ALCTV-2011. Lift buyers are responsible for any special regional structural and/or seismic anchoring requirements specified by any other agencies and/or codes such as the Uniform Building Code (UBC) and/or International Building Code (IBC).

1. Before proceeding, check the measurements and make certain the bases of each Column are square and aligned with the chalk line. Raise the lift up and down and make sure it operates properly at the locations prescribed by the markings on the floor. (See Fig. 15.1)



2. Using the Base plate on each Column as a guide, drill each anchor hole approximately 4-1/2" deep using a rotary hammer drill and 3/4" concrete bit. (See Fig. 15.2)

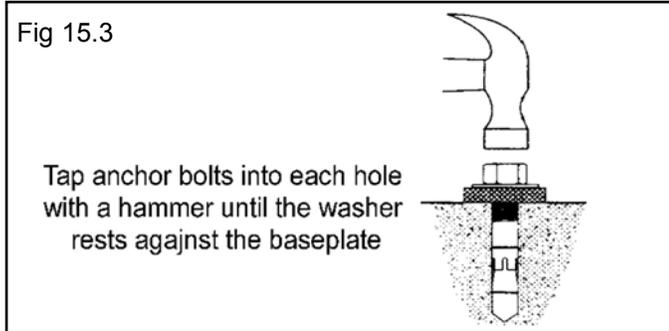


3. After drilling, remove dust thoroughly from each hole using compressed air and/or bristle brush. Make certain that the Columns remain aligned with the chalk line.

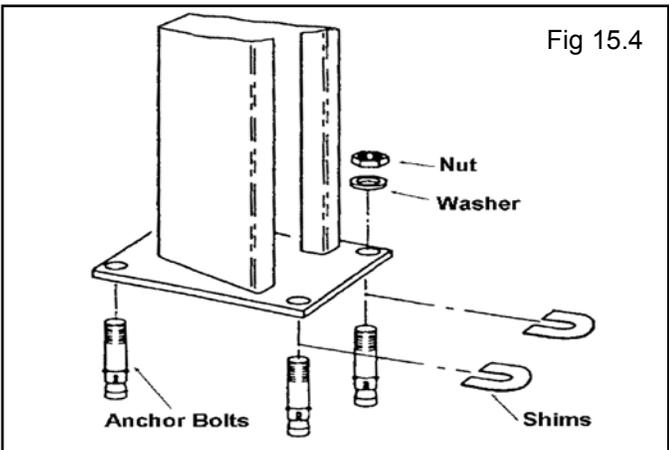


ALWAYS WEAR SAFETY GOGGLES.

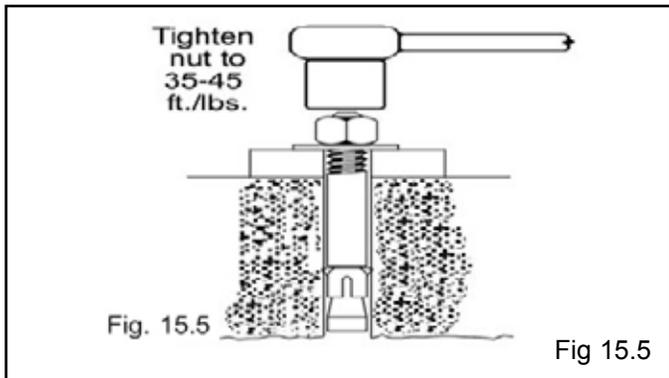
4. Assemble the Washers and Nuts on the anchors then tap each hole with a hammer until the washer rests against base plate. Be sure that if shimming is required, enough threads are left exposed. (See Fig. 15.3)



5. If shimming is required, insert the shims as necessary under the base plate so that when the anchor bolts are tightened, the columns will be plumb. (See Fig. 15.4)



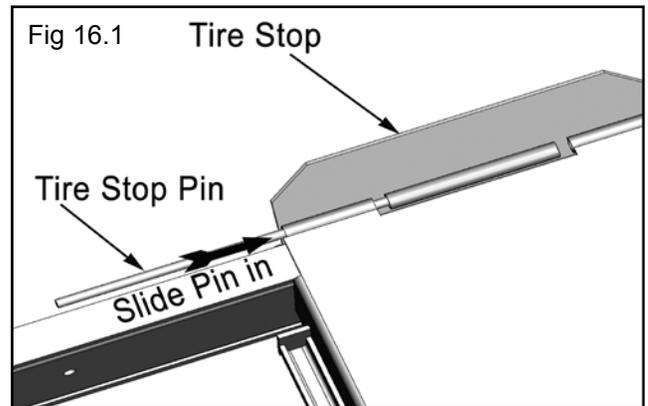
6. After any necessary shims are installed, tighten each nut 3-5 turns past hand tight. **IMPORTANT** - If anchor bolts do not hold when tightened to indicated amount, concrete must be replaced. Saw cut and remove 24" x 24" square area each column base then re-pour with reinforced 2500 PSI concrete to a depth of six inches minimum, keying new concrete under existing floor. (See Fig. 15.5)



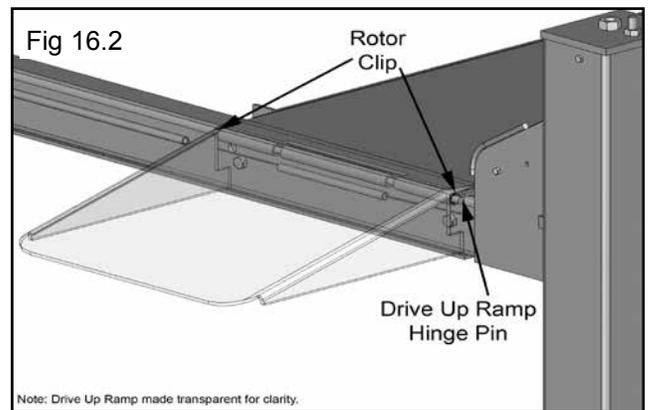
STEP 16

(Attaching the Approach Ramp /Tire Stops)

1. Install the Front Tire Stops at the forward side of the lift. Slide the Tire Stop Pin through the Ramp and the Tire Stop and secure with Rotor Clips. (See Fig. 16.1)



2. Install the Approach Ramps on the entry side of the lift and secure using the remaining Rotor Clips. (See Fig. 16.2)



FOR TECHNICAL SUPPORT, PLEASE CALL:

1-(800) 253-2363 Ext. 196

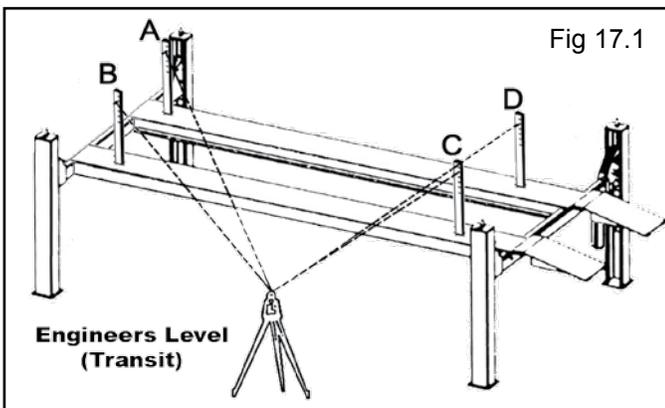
TO ORDER PARTS, PLEASE CALL:

1-(800) 253-2363 Ext. 191

STEP 17

(Leveling / Synchronizing)

1. Using an engineer's automatic Level (transit), locate the Level at a convenient location in the shop that allows an unobstructed view of all four corners of the runways.
2. Follow the Level manufacturer's instructions for proper setup of the Level. Be sure it is adjusted level in all directions.
3. Raise the lift approximately 30"- 40". Then lower the lift until all primary safeties are engaged in each column and the runways are completely resting on the primary safeties.
4. Place a Level target on the right/front corner of the runway. (See Fig. 17.1)



5. Beginning with "A" position, sight the level to the target and mark the number or the graduation on the inch scale of the target that aligns to the cross hairs of the Level. (See Fig. 17.1)

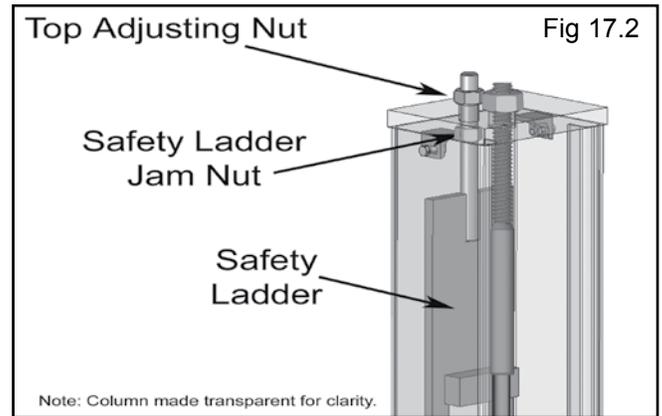
Note:

Use a pencil, marking pen or attach a paper clip onto the target scale at the cross hair reference.

6. Next, move the target and place it at point "B" on the runway. (See Fig. 17.1)
7. Rotate the Level and focus on the target scale.
8. Adjust the adjustment nut on the safety ladder bar at the top of the Column at "B" until the cross hairs of the Level align to reference mark on the target scale. (See Fig. 17.1)
9. Repeat steps locating the target assembly at points "C" and "D" and adjusting Safety Ladders at each corresponding Column until the reference mark on the target scale is on the cross hairs of the Level. The Runways are now level at all four points. (See Fig. 17.1)

10. To complete the leveling procedures, lock each Safety Ladder Jam nut tightly against bottom of Column Top Plate. (See Fig. 17.2)

11. Next, load vehicle onto the lift.



12. Raise the lift to full height. Listen and watch as the primary safeties engage the safety ladder. Synchronize by adjusting the cables so that all four latches click at same time. Make necessary adjustments to the cables allowing compensation for stretch.



Safety locks may not engage at exactly the same time when vehicles are being raised. They should be close. Be sure that all four corners have passed the SAME Safety Ladder Bar slot before lowering lift on the safety locks. NEVER lower lift on different Safety Lock position or damage to the lift may result.

STEP 18

(Bleeding)

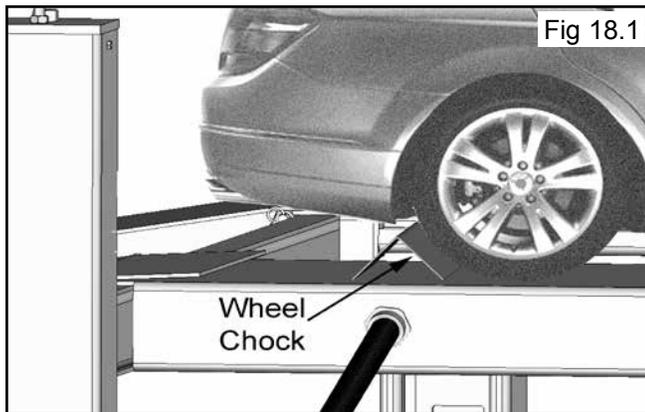
1. Lift must be fully lowered before changing or adding fluid.
2. Raise and lower lift six times. The Cylinder is self-bleeding. After bleeding system, fluid level in Power Unit reservoir may be down. Add more fluid if necessary to raise lift to full height. It is only necessary to add fluid to Raise lift to full height.
3. To pressure test, run lift to full rise and run motor for approximately 3 seconds after lift stops. This will put pressure on the hydraulic system. Stop and check all fittings and hose connections. Tighten or reseal if required.

POST-INSTALLATION CHECK-OFF

- Columns properly shimmed and stable
- Anchor Bolts tightened
- Pivot / Sheave 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
- All Screws, Bolts, and Pins securely fastened
- Surrounding area clean
- Operation, Maintenance and Safety Manuals on site.
- Perform an Operational Test with a typical vehicle



Wheel Chocks must be used on the rear wheels.
(See Fig 18.1)



STEP 19
(Operation Instructions)

OWNER/EMPLOYER RESPONSIBILITIES

The Owner/Employer:

- Shall ensure that lift operators are qualified and that they are trained in the safe use and operation of the lift using the manufacturer's operating instructions; ALI/SM01-1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; ALI/WL Series, ALI Uniform Warning Label Decals/Placards; and in the case of frame engaging lifts, ALI/LP-GUIDE,

Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts.

- Shall establish procedures to periodically inspect the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and The Employer shall ensure that lift inspectors are qualified and that they are adequately trained in the inspection of the lift.
- Shall establish procedures to periodically maintain the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and The Employer shall ensure that lift maintenance personnel are qualified and that they are adequately trained in the maintenance of the lift.
- Shall maintain the periodic inspection and maintenance records recommended by the manufacturer or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance.
- Shall display the lift manufacturer's operating instructions; ALI/SM 93-1, ALI Lifting It Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and in the case of frame engaging lifts, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts; in a conspicuous location in the lift area convenient to the operator.
- Shall provide necessary lockout/tagout means for energy sources per ANSI Z244.1-1982 (R1993), Safety Requirements for the Lockout/Tagout of Energy Sources, before beginning any lift repairs.
- Shall not modify the lift in any manner without the prior written consent of the manufacturer.

STEP 20
(Lift Operation Safety)



TO AVOID PERSONAL INJURY AND/OR PROPERTY DAMAGE, PERMIT ONLY TRAINED PERSONNEL TO OPERATE LIFT. AFTER REVIEWING THESE INSTRUCTIONS, PRACTICE USING LIFT CONTROLS BY RUNNING THE LIFT THROUGH A FEW UNLOADED CYCLES BEFORE LOADING VEHICLE ON LIFT. NEVER RAISE JUST ONE END, ONE CORNER, OR ONE SIDE OF VEHICLE.

- **DAILY** inspect your lift. Never operate if it malfunctions or if it has broken or damaged parts. Use only qualified lift service personnel and genuine BendPak parts to make repairs.

- **THOROUGHLY** train all employees in use and care of lift, using manufacturer's instructions and "Lifting It Right" and "Safety Tips" supplied with the lift.



- **NEVER** allow unauthorized or untrained persons to position vehicle or operate lift.
- **PROHIBIT** unauthorized persons from being in shop area while lift is in use.
- **DO NOT** permit anyone on lift or inside vehicle when it is either being raised or lowered.
- **ALWAYS** keep area around lift free of tools, debris, grease and oil.
- **NEVER** overload lift. Capacity of lift is shown on nameplate affixed to the lift.
- **DO NOT** stand in front of the vehicle while it is being positioned in lift bay.
- **DO NOT** block open or override self-closing lift controls; they are designed to return to the "Off" or Neutral position when released.
- **ALWAYS** remain clear of lift when raising or lowering vehicles.
- **ALWAYS** use safety stands when removing or installing heavy components.
- **DO NOT** go under raised vehicle if safety locks are not engaged.
- **NEVER LEAVE LIFT IN ELEVATED CONDITION** unless all Safety Locks are engaged.

- **AVOID** excessive rocking of vehicle while on lift.
- **ALWAYS CLEAR AREA** if vehicle is in danger of falling.
- **ALWAYS REMOVE** tool trays, stands, etc. before lowering lift.
- **ALWAYS RELEASE** safety locks before attempting to lower lift.
- **DO NOT** position yourself between a wall and the lift. If the vehicle falls in that direction, you may be severely injured or killed.

To Raise Lift;

1. Position vehicle tires in the center of each Runway.
2. Set parking brake and use Wheel Chocks to hold vehicle in position.
3. Before raising vehicle, be sure all personnel are clear of the lift and surrounding area. Pay careful attention to overhead clearances.
4. Raise the lift to the desired height by pressing the push button on the power unit.

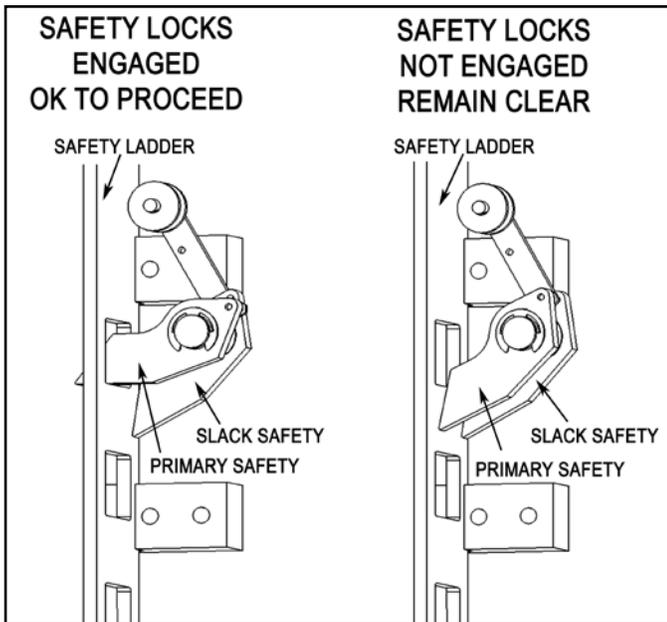
NOTE:
ALLOW (2) SECONDS BETWEEN MOTOR STARTS.
FAILURE TO COMPLY MAY CAUSE MOTOR BURNOUT.

5. After vehicle is raised to the desired height, lower the lift onto the nearest Safety Lock. Do not allow Cables to become slack. **ALWAYS ENSURE ALL SAFETY LOCKS ARE ENGAGED** before entering work area.



VISUALLY CONFIRM THAT ALL PRIMARY SAFETY LOCKS ARE ENGAGED BEFORE ENTERING WORK AREA. SUSPENSION COMPONENTS USED ON THIS LIFT ARE INTENDED TO RAISE AND LOWER LIFT ONLY AND ARE NOT MEANT TO BE LOAD HOLDING DEVICES. REMAIN CLEAR OF ELEVATED LIFT UNLESS VISUAL CONFIRMATION IS MADE THAT ALL PRIMARY SAFETY LOCKS ARE FULLY ENGAGED AND THE LIFT IS LOWERED ONTO THE SAFETY LOCKS, REFER TO INSTALLATION/OPERATION MANUAL FOR PROPER SAFETY LOCK PROCEDURES AND/OR FURTHER INSTRUCTION.

LIFT OPERATION SAFETY (CONT'D)



WHEN LOWERING THE LIFT PAY CAREFUL ATTENTION THAT ALL PERSONNEL AND OBJECTS ARE KEPT CLEAR. ALWAYS KEEP A VISUAL LINE OF SIGHT ON THE LIFT AT ALL TIMES. ALWAYS MAKE SURE THAT ALL LOCKS ARE DISENGAGED. IF ONE OF THE LOCKS INADVERTENTLY LOCKS UPON DESCENT THE VEHICLE MAY DISMOUNT CAUSING PERSONAL INJURY OR DEATH.

To Lower Lift;

1. Before lowering vehicle, be sure all personnel are clear of the lift and surrounding area. Pay careful attention to overhead clearances. Ensure all tools and equipment have been cleared from under the lift.
2. Raise the lift off of the Safety Locks by pressing the push button on the Power Unit. Make sure you raise the lift by at least two inches to allow adequate clearance for the locks to clear.
3. Press the push button air safety valve and HOLD.
4. Push the LOWERING HANDLE on the Power Unit until the lift has descended completely.



IF YOU ARE NOT COMPLETELY FAMILIAR WITH AUTOMOTIVE LIFT MAINTENANCE PROCEDURES; STOP AND CONTACT THE MANUFACTURER FOR INSTRUCTIONS. TO AVOID PERSONAL INJURY, PERMIT ONLY QUALIFIED PERSONNEL TO PERFORM MAINTENANCE ON THIS EQUIPMENT.

DAILY MAINTENANCE

1. Make a visual inspection of ALL MOVING PARTS and check for excessive signs of wear.
2. Check safety locks to ensure they are in good operating condition.
3. Check cables and sheaves for wear. Replace worn parts as required with genuine BendPak parts.
4. Inspect adapters for damage or excessive wear. Replace as required with genuine BendPak parts.

WEEKLY MAINTENANCE

1. Lubricate all Sheave and rollers with general purpose oil.
2. Check all Cable connections, bolts and pins to ensure proper mounting.
3. Lubricate Safety Lock pivot points with general purpose oil or WD-40.

MONTHLY MAINTENANCE

1. Check Safety Locks to ensure they are in good operating condition. Lubricate locking latch shafts. Push release arm several times for oil to penetrate pivot points.
 2. Check equalizer cable tension. Adjust per lift installation instructions.
 3. Check all Cables for excessive signs of wear.
 4. Make a visual inspection of ALL MOVING PARTS and check for excessive signs of wear.
- Always call local service representative if electrical problems develop.
 - Always replace ALL FAULTY PARTS before lift is put back into operation.
 - Every 3 Months: Check anchor bolt torque. Anchors should be torqued to 90 ft/lbs.
 - Semi-Annually: Check fluid level of lift power unit and refill if required per lift installation instructions.
 - Replace all caution, warning or safety related decals on the lift if unable to read or missing. Reorder labels from BendPak.
 - Refer to ANSI/ALI ALOIM booklet for periodic inspection checklist and maintenance log sheet.



WIRE ROPE INSPECTION AND MAINTENANCE

◆ Lifting cables should be replaced every three - five years or when visible signs of damage are apparent. **DO NOT USE LIFT WITH DEFECTIVE / WORN CABLES.**

◆ Lifting cables should be maintained in a well-lubricated condition at all times. Wire rope is only fully protected when each wire strand is lubricated both internal and external. Excessive wear will shorten the life of the wire rope. The factory suggested wire rope lubricant that penetrates to the core of the rope and provides long-term lubrication between each individual strand is 90-WT gear oil or ALMASOL® Wire Rope Lubricant. In order to make sure that the inner layers of the rope remain well lubricated, lubrication should be carried out at intervals not exceeding three months during operation.

◆ All sheaves and guide rollers in contact with the moving rope should be given regular visual checks for surface wear and lubricated to make sure that they run freely. This operation should be carried out at appropriate intervals generally not exceeding three months during operation. For all sheave axles, the factory recommends standard wheel bearing grease. For all sheaves and/or guide rollers, the factory recommends 90-WT gear oil or similar heavy lubricant applied by any method including pump / spray dispensing, brush, hand and/or swabbing.

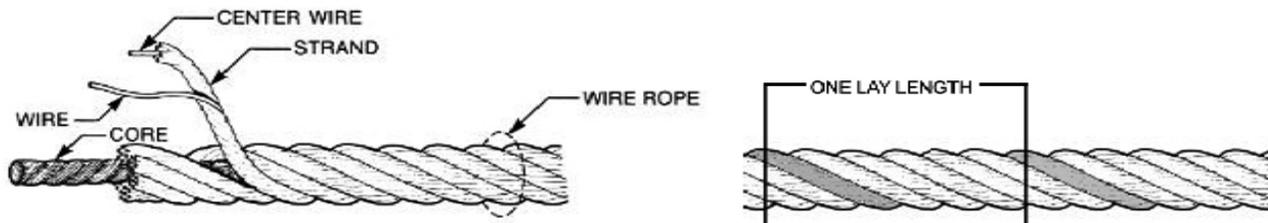
HOW OFTEN TO INSPECT

◆ Lifting cables should be visually inspected at least once each day when in use, as suggested by American Petroleum Institute (API) RP54 guidelines.

◆ Any lifting cables that have met the criteria for removal must be immediately replaced.

WHEN TO REPLACE LIFTING CABLES DUE TO BROKEN WIRES

◆ Lifting cables should be removed from service when you see six randomly distributed broken wires within any one lay length, or three broken wires in one strand within one lay length.



The three basic components of a typical wire rope.

OTHER REASONS TO REPLACE LIFTING CABLES

- ◆ Corrosion that pits the wires and/or connectors.
- ◆ Evidence of kinking, crushing, cutting, bird-caging or a popped core.
- ◆ Wear that exceeds 10% of a wire's original diameter.
- ◆ Evidence of heat damage.

HOW TO FIND BROKEN WIRES

◆ The first step is to relax your rope to a stationary position and move the pick-up points off the sheaves. Clean the surface of the rope with a cloth — a wire brush, if necessary — so you can see any breaks.

◆ Flex the rope to expose any broken wires hidden in the valleys between the strands.

◆ Visually check for any broken wires. One way to check for crown breaks is to run a cloth along the rope to check for possible snags.

◆ With an awl, probe between wires and strands and lift any wires that appear loose. Evidence of internal broken wires may require a more extensive rope examination.

⚠ WARNING

WIRE ROPE INSPECTION AND MAINTENANCE

- Lifting cables should be replaced every three years or when visible signs of damage are apparent. **DO NOT USE LIFT WITH DEFECTIVE / WORN CABLES.**
- Wire rope should be maintained in a well-lubricated condition at all times. Wire rope is only fully protected when each wire strand is lubricated both internal and external. Excessive wear will shorten the life of the wire rope. The factory suggested wire rope lubricant that penetrates to the core of the rope and provides long term lubrication between each individual strand is AMSOIL Synthetic Open Gear and Wire Rope Compound or 90-W1 gear oil or similar heavy lubricant. In order to make sure that the inner layers of the rope remain well lubricated, lubrication should be carried out at intervals not exceeding three months during operation.
- All sheaves and guide rollers in contact with the moving rope should be given regular visual checks for surface wear and lubricated to make sure that they run freely. This operation should be carried out at appropriate intervals generally not exceeding three months during operation. For all sheave axles, the factory recommends standard wheel bearing grease. For all sheaves and/or guide rollers, the factory recommends 90-W1 gear oil or similar heavy lubricant applied by any method including pump / spray dispensing, brush, hand and/or swabbing.

Failure to read, understand, and follow these instructions may cause death or serious injury.
Read and understand these instructions before using lift.

⚠ DANGER

THE MAXIMUM LIFTING CAPACITY FOR THIS LIFT IS DESCRIBED BELOW

Maximum Lifting Capacity

7000 Lbs. / 3175 Kg.

Maximum Lifting Capacity / Front Axle

3500 Lbs. / 1588 Kg.

Maximum Lifting Capacity / Rear Axle(s)

3500 Lbs. / 1588 Kg.

Exceeding the weight capacity of this lift can damage lift and/or property and may cause personal harm, injury or death to operators and/or bystanders. All vehicles MUST be positioned on lift with CENTER OF GRAVITY midway between adapters and/or centered on runways. Damage to lift due to overloading or misuse IS NOT covered under warranty.

⚠ WARNING

Clear area if vehicle is in danger of falling.

©

⚠ WARNING

Remain clear of lift when raising or lowering vehicle.

©

⚠ WARNING

Keep clear of pinch points when lift is moving.

©

⚠ WARNING

Keep feet clear of lift while lowering.

©

⚠ WARNING

Do not override self-closing lift controls.

©

⚠ WARNING

Chock wheel to prevent vehicle movement.

©

The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style

Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indialantic, FL 32903.

They are protected by copyright. Set of labels may be obtained from ALI or its member companies.

© 1992 by ALI, Inc. ALI/WL200w

SAFETY INSTRUCTIONS

Read operating and safety manuals before using lift.

©

SAFETY INSTRUCTIONS

Proper maintenance and inspection is necessary for safe operation.

©

SAFETY INSTRUCTIONS

Do not operate a damaged lift.

©

The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.

Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indialantic, FL 32903.

They are protected by copyright. Set of labels may be obtained from ALI or its member companies.

© 1992 by ALI, Inc. ALI/WL200s

⚠ CAUTION

Lift to be used by trained operator ONLY.

©

⚠ CAUTION

Authorized personnel only in lift area.

©

The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.

Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 33116 Indialantic, FL 32903.

They are protected by copyright. Set of labels may be obtained from ALI or its member companies.

© 1992 by ALI, Inc. ALI/WL200c

Safe Lift Operation

Automotive and truck lifts are critical to the operation and profitability of your business. The safe use of this and other lifts in your shop is critical in preventing employee injuries and damage to customers' vehicles. By operating lifts safely, you can ensure that your shop is profitable, productive and safe.

Safe operation of automotive lifts requires that only trained employees should be allowed to use the lift.

TRAINING SHOULD INCLUDE, BUT NOT LIMITED TO:

- ◆ Proper positioning of the vehicle on the runway. (See manufacturers minimize wheel base loading requirements.)
- ◆ Use of the operating controls.
- ◆ Understanding the lift capacity.
- ◆ Proper use of jack stands or other load supporting devices.
- ◆ Proper use, understanding and visual identification of safety lock devices and their operation.
- ◆ Reviewing the safety rules.
- ◆ Proper housekeeping procedures (lift area should be free of grease, oil, tools, equipment, trash, and other debris).
- ◆ A daily inspection of the lift should be completed prior to its use. Safety devices, operating controls, lift arms and other critical parts should be inspected prior to using the lift.
- ◆ All maintenance and repairs of the lift should be completed by following the manufacturer's requirements. Lift repair parts should meet or exceed OEM specifications. Repairs should only be completed by a qualified lift technician.
- ◆ The vehicle manufacturer's recommendations should be used for spotting and lifting the vehicle.

LIFT OPERATION SAFETY

- ◆ It is important that you know the load limit. Be careful that you do not overload the lift . If you are unsure what the load limit is, check the data plate found on one of the lift columns or contact the manufacturer.
- ◆ The center of gravity should be followed closely to what the manufacturer recommends.
- ◆ Always make sure you have proper overhead clearance. Additionally, check that attachments, (vehicle signs, campers, antennas, etc.) are not in the way.
- ◆ Be sure that prior to the vehicle being raised, the doors, trunk, and hood are closed securely.
- ◆ Prior to being raised, make sure there is no one standing closer than six feet from the lift.
- ◆ After positioning the vehicle on the lift runways, set the emergency brake, make sure the ignition is off, the doors are closed, overhead obstructions are cleared, and the transmission is in neutral.
- ◆ Double check that the automatic chock devices are in position and then when the lift is raised, observe the chocks.
- ◆ Put pads or adapters in the right position under the contact points that have been recommended.
- ◆ The lift should be raised just until the vehicle's wheels are about one foot off the ground. If contact with the vehicle is uneven or it appears that the vehicle is not sitting secure, carefully lower the lift and readjust.
- ◆ Always consider potential problems that might cause a vehicle to slip, i.e., heavy cargo, undercoating, etc.
- ◆ Pay attention when walking under a vehicle that is up on the hydraulic lift.



- ◆ **DO NOT** leave the controls while the lift is still in motion.
- ◆ **DO NOT** stand directly in front of the vehicle or in the bay when vehicle is being loaded or driven into position.
- ◆ **DO NOT** Go near vehicle or attempt to work on the vehicle when being raised or lowered.
- ◆ **REMAIN CLEAR** of lift when raising or lowering vehicle.
- ◆ **DO NOT** rock the vehicle while on the lift or remove any heavy component from vehicle that may cause excessive weight shift.
- ◆ **DO NOT** lower the vehicle until people, materials, and tools are clear.
- ◆ **ALWAYS ENSURE** that the safeties are engaged and lowered on to the safety ladders before any attempt is made to work on or near vehicle.
- ◆ Some vehicle maintenance and repair activities may cause the vehicle to shift. Follow the manufacturer's guidelines when performing these operations. The use of jack stands or alternate lift points may be required when completing some repairs.
- ◆ **READ AND UNDERSTAND** all safety warning procedures before operating lift.
- ◆ **KEEP HANDS AND FEET CLEAR.** Remove hands and feet from any moving parts. Keep feet clear of lift when lowering. Avoid pinch points.
- ◆ **ONLY TRAINED OPERATORS** should operate this lift. All non-trained personnel should be kept away from work area. Never let non-trained personnel come in contact with, or operate lift.
- ◆ **USE LIFT CORRECTLY.** Use lift in the proper manner. Never use lifting adapters other than what is approved by the manufacturer.
- ◆ **DO NOT** override self-closing lift controls.
- ◆ **CLEAR AREA** if vehicle is on danger of falling.
- ◆ **STAY ALERT.** Watch what you are doing. Use common sense. Be aware.
- ◆ **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.
- ◆ **NEVER** remove safety related components from the lift. Do not use lift if safety related components are damaged or missing.
- ◆ When the lift is being lowered, make sure everyone is standing at least six feet away.
- ◆ Be sure there are no jacks, tools, equipment, left under the lift before lowering.
- ◆ Always lower the vehicle down slowly and smoothly.

LIFT WILL NOT RAISE

POSSIBLE CAUSE

1. Air in oil, (1,2,8,13)
2. Cylinder binding, (9)
3. Cylinder leaks internally, (9)
4. Motor run backward under pressure, (11)
5. Lowering valve leaks, (3,4,6,10,11)
6. Motor runs backwards, (7,14,11)
7. Pump damaged, (10,11)
8. Pump won't prime, (1,8,13,14,3,12,10,11)
9. Relief valve leaks, (10,11)
10. Voltage to motor incorrect, (7,14,11)

REMEDY

INSTRUCTION

- | | |
|--|--|
| 1. Check for proper oil level. | The oil level should be up to the bleed screw in the reservoir with the lift all the way down. |
| 2. Bleed cylinders. | See Installation Manual. |
| 3. Flush- Release valve to get rid of.
possible contamination | Hold release handle down and start unit allowing it to run for 15 seconds. |
| 4. Dirty oil. | Replace oil with clean Dexron ATF. |
| 5. Tighten all fasteners. | Tighten fasteners to recommended torques. |
| 6. Check for free movement of release. | If handle does not move freely, replace bracket or handle assembly. |
| 7. Check motor is wired correctly. | Compare wiring of motor to electrical diagram on drawing. |
| 8. Oil seal damaged or cocked | Replace oil seal around pump shaft. |
| 9. See Installation Manual | Consult Lift Manufacturer. |
| 10. Replace with new part | Replace with new part. |
| 11. Return unit for repair | Return unit for repair. |
| 12. Check pump-mounting bolts | Bolts should be 15 to 18 ft. lbs. |
| 13. Inlet screen clogged | Clean inlet screen or replace. |
| 14. Check wall outlet voltages and wiring | Make sure unit and wall outlet are wired properly. |

MOTOR WILL NOT RUN

POSSIBLE CAUSE

1. Fuse blown, (5,2,1,3,4)
2. Limit switch burned out, (1,2,3,4)
3. Microswitch burned out, (1,2,3,4)
4. Motor burned out, (1,2,3,4,6)
5. Voltage to motor incorrect, (2,1,8)

REMEDY

- | REMEDY | INSTRUCTION |
|---|--|
| 1. Check for correct voltage | .Compare supply voltage with voltage on motor name tag. Check that the wire is sized correctly. N.E.C. table 310-12 requires AWG 10 for 25 Amps. |
| 2. Check motor is wired correctly | .Compare wiring of motor to electrical diagram on drawing. |
| 3. Don't use extension cords | .According to N.E.C. : " The size of the conductors... should be such that the voltage drop would not exceed 3% to the farthest outlet for power..." Do not run motor at 115 VAC – damage to the motor will occur. |
| 4. Replace with new part | .Replace with new part. |
| 5. Reset circuit breaker/fuse | .Reset circuit breaker/fuse. |
| 6. Return unit for repair | Return unit for repair. |
| 7. See Installation Manual | .See Installation Manual. |
| 8. Check wall outlet voltage and wiring | Make sure unit and wall outlet is wired properly. Motor must run at 208/230 VAC. |

LIFT LOWERS SLOWLY OR NOT AT ALL

POSSIBLE CAUSE

1. Cylinders binding, (1)
2. Release valve clogged, (5,4,2,3)
3. Pressure fitting too long, (6)

REMEDY

- | REMEDY | INSTRUCTION |
|---|--|
| 1. See Installation Manual | .Consult Lift Manufacturer. |
| 2. Replace with new part | .Replace with new part. |
| 3. Return for repair | Return for repair. |
| 4. Check oil. | Use clean 10-WT hydraulic oil or Dexron-III automatic transmission fluid only. If ATF is contaminated, replace with clean ATF and clean entire system. |
| 5. Clean release valve | Wash release valve in solvent and blow out with air. |
| 6. Replace fitting with short thread lead | Replace fitting with short thread lead. |

WILL NOT RAISE LOADED LIFT

POSSIBLE CAUSE

1. Air in oil, (1,2,3,4)
2. Cylinder binding, (5)
3. Cylinder leaks internally, (5)
4. Lift overloaded, (6,5)
5. Lowering valve leaks, (7,8,1,5,9)
6. Motor runs backwards, (10,12,9)
7. Pump damaged, (5,9)
8. Pump won't prime, (1,2,3,4,5,11,9)
9. Relief valve leaks, (8,5,9)
10. Voltage to motor incorrect, (10,12,5)

REMEDY

- | REMEDY | INSTRUCTION |
|--|---|
| 1. Check oil level | The oil level should be up to the bleed screw in the reservoir [with the lift all the way down. |
| 2. Check/Tighten inlet tubes | Replace inlet hose assembly. |
| 3. Oil seal damaged or cocked | Replace oil seal and install. |
| 4. Bleed cylinders | See Installation Manual. |
| 5. See Installation Manual | Consult Lift Manufacturer. |
| 6. Check vehicle weight | Compare weight of vehicle to weight limit of the lift. |
| 7. Flush release valve | Hold release handle down and start unit allowing it to run for 15 seconds. |
| 8. Replace with new part | Replace with new part. |
| 9. Return unit for repair | Return unit for repair. |
| 10. Check motor is wired correctly | Compare wiring of motor to electrical diagram on power unit drawing. |
| 11. Inlet screen clogged | Clean inlet screen or replace. |
| 12. Check wall outlet voltage and wiring | .Make sure unit and wall outlet is wired properly. |

IMPORTANT

If vehicle becomes stranded in the air, follow all operation instructions as shown on pages 32 and 39. If after observing that all mechanical locks are released and the lift still fails move following all standard operating procedures, immediately stop using the lift and contact factory or factory approved service center for further instructions.

LIFT WILL NOT STAY UP

POSSIBLE CAUSE

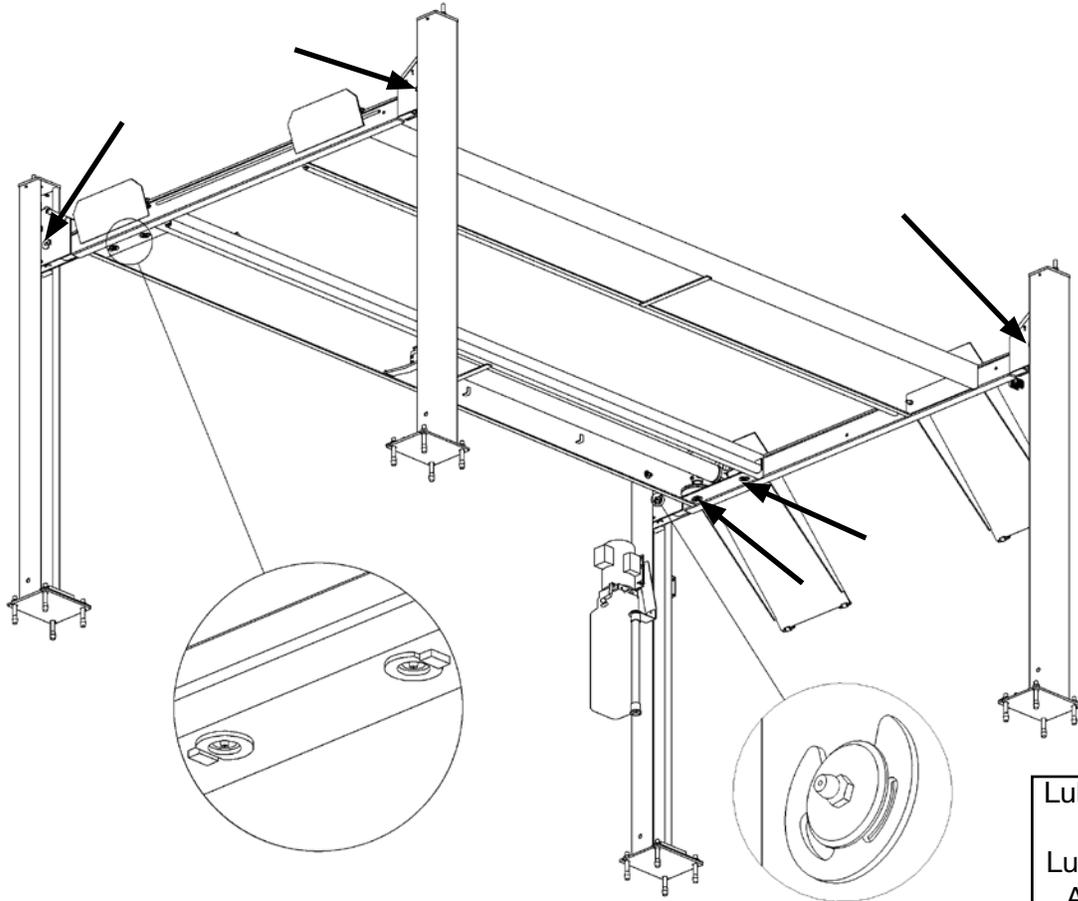
- 1. Air in oil, (1,2,3)
- 2. Check valve leaks, (6)
- 3. Cylinders leak internally, (7)
- 4. Lowering valve leaks, (4,5,1,7,6)
- 5. Leaking fittings, (8)

REMEDY

- 1. Check oil level The oil level should be up to the bleed screw in the reservoir with the lift all the way down.
- 2. Oil seal damaged and cocked Replace oil seal around pump shaft.
- 3. Bleed cylinder Refer to Installation Manual.
- 4. Flush release valve Hold release handle down and start unit allowing it to run for 15 seconds.
- 5. Replace with new valve Replace with new valve.
- 6. Return unit for repair Return unit for repair.
- 7. See Installation Manual Consult Lift Manufacturer.
- 8. Check complete hydraulic system for leaks. Tighten all hydraulics fittings and inspects all hoses.

INSTRUCTION

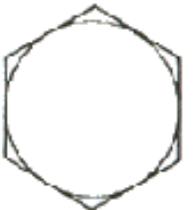
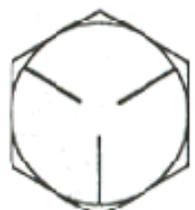
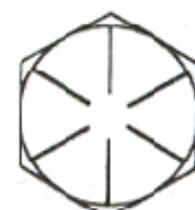
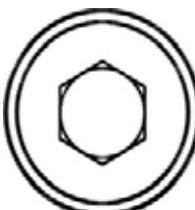
Grease Port / Lubrication Locations



Lubricate Once A Week.
Lubricar Una Vez A La Semana.

Torque Recommendations

VALUES ARE STATED IN FOOT POUNDS (ft-lb)

					
		SAE 0-1-2 CLASS 4.8	SAE Grade 5 CLASS 8.8	SAE Grade 8 CLASS 10.9	SOCKET HEAD CAP SCREW CLASS 12.9
Bolt Size (SAE)	Bolt Size (Metric)				
1/4-20	M6 x 1.0	6	10	14	13
5/16-18	M8 x 1.25	12	19	29	31.4
3/8-16	M10 x 1.50	20	33	47	62
7/16-14		32	54	78	
1/2-13	M12 x 1.75	47	78	119	108
9/16-12	M14 x 2.00	69	114	169	173
5/8-11	M16 x 2.00	96	154	230	269
3/4-10	M18 x 2.50	155	257	380	372
7/8-9	M22 x 2.50	206	382	600	716
3/4 Anchor Bolts		75 MIN 110 MAX			

INSTALLATION FORM

Customer Name:		Date of Installation:
Company Name:		
Street Address:		
City:	State:	Zip:
Phone:	Fax:	

Pre-Install Agreement

I, (the undersigned) acting as the owner of the business listed above assume responsibility for any permits required, either state or county mandated, related to the installation and/or operation of this equipment. I assume responsibility for the concrete floor and condition thereof, now or later, where the above equipment model(s) are installed. I will assume all liability for losses, damages (including loss of use), expenses, demands, claims, and judgments in connection with or arising out of any personal injury or alleged damage to property, sustained or alleged to have been sustained in connection with, or to have arisen out of the condition and/or drilling of the concrete near or adjacent to the equipment model(s) listed above. If my employee(s) offer assistance of any kind during installation of the above equipment model(s) I hold the manufacturer and installation company harmless of all liability for losses, damages, expenses, claims, and judgments in connection with or arising out of any personal injury or alleged damage to property, sustained or alleged to have been sustained in connection with the installation of the above equipment model(s).

I understand that the lifts above are supplied with concrete fasteners meeting the criteria of the American National Standard "Automotive Lifts - Safety Requirements for Construction, Testing, and Validation" ANSI/ALI ALCTV-1998, and that I will be responsible for all charges related to any special regional structural and/or seismic anchoring requirements specified by any other agencies and/or codes such as the Uniform Building Code (UBC) and/or International Building Code (IBC).

Customer Signature: _____ Print Name: _____ Date: _____

Post-Installation Check-Off

- | | |
|--|--|
| <input type="checkbox"/> Base and Columns Properly Shimmed And Stable
<input type="checkbox"/> Anchor Bolts Tightened
<input type="checkbox"/> Runways Properly Attached and Secured
<input type="checkbox"/> Electric Power Supply Confirmed
<input type="checkbox"/> Cables / Chains Adjusted Properly
<input type="checkbox"/> Safety Locks Functioning Properly
<input type="checkbox"/> Check For Hydraulic Leaks
<input type="checkbox"/> Oil Level | <input type="checkbox"/> Lubrication of Critical Components
<input type="checkbox"/> Lift Adapters
<input type="checkbox"/> Check For Overhead Obstructions
<input type="checkbox"/> Runways Level
<input type="checkbox"/> All Screws, Bolts, and Pins Secured
<input type="checkbox"/> Surrounding Area and Lift Clean In Appearance
<input type="checkbox"/> Proper Operation, Maintenance and Safety Explained
<input type="checkbox"/> Operation and Safety Manual(s) Left at Site |
|--|--|

I, (the undersigned) confirm that the above installation procedure(s) were completed. I understand that I will be responsible for maintaining this equipment as outlined in the accompanied **Installation and Operation Manual** and **ANSI/ALI ALOIM Safety Requirements for Operation, Inspection and Maintenance**. I understand that personal injury and/or damage to property can occur if the above equipment model(s) are not maintained or used improperly and take full responsibility for training my employees on proper use and maintenance of this equipment. I hold the manufacturer and installation company harmless of all liability for losses, damages (including loss of use), expenses, demands, claims, and judgments in connection with or related to improper use, improper training, or lack of required maintenance. I understand that the warranty does not cover replacement of parts worn or damaged due to normal use or lack of required maintenance

Customer Signature: _____ Print Name: _____ Date: _____

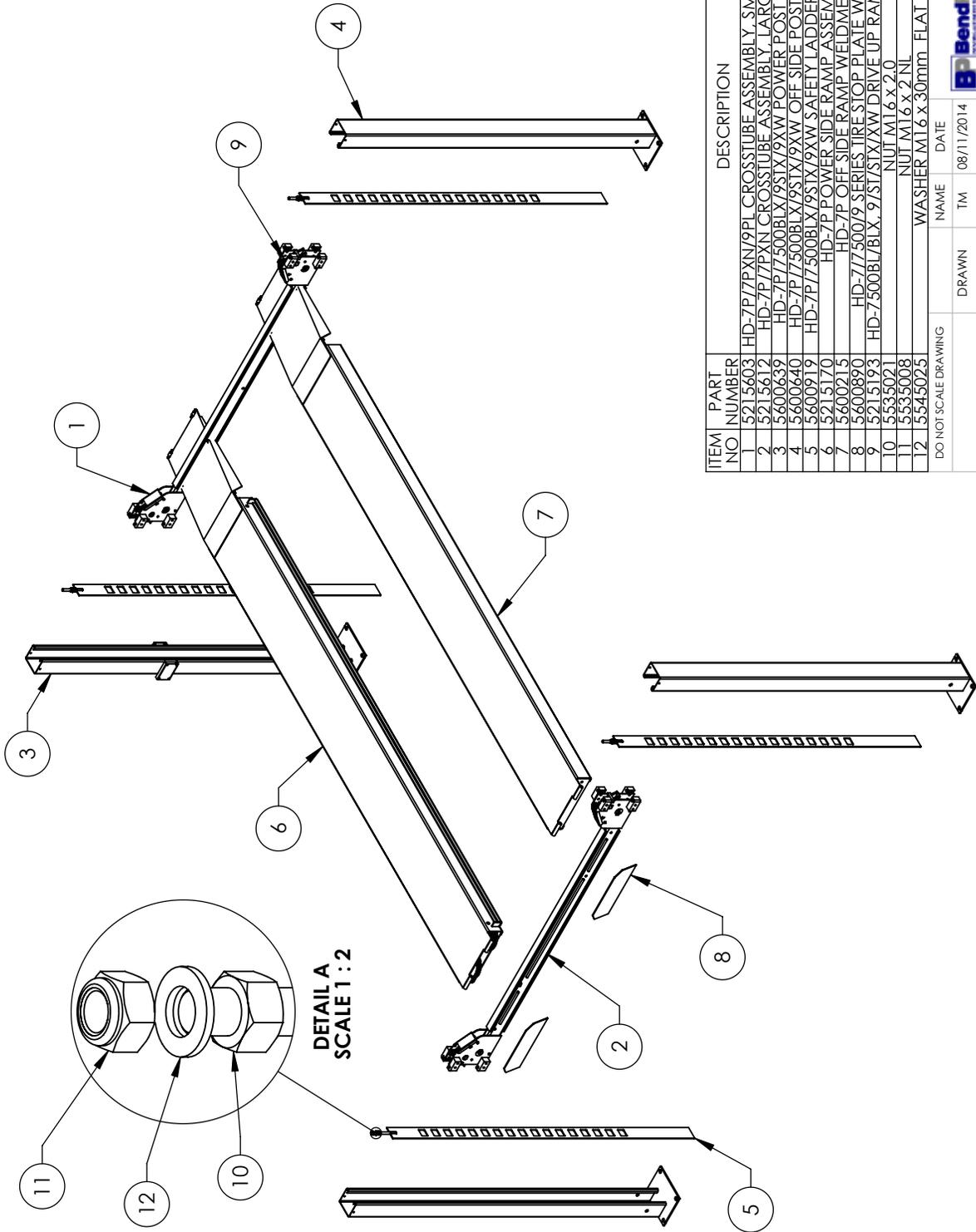
Installer Signature: _____ Print Name: _____ Date: _____

Installer Company Name: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Phone (Other): _____



ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5215603	HD-7P/7PXN/9PL CROSS-TUBE ASSEMBLY, SMALL WINDOW	1	E
2	5215612	HD-7P/7PXN CROSS-TUBE ASSEMBLY, LARGE WINDOW	1	E
3	5600639	HD-7P/7500BLX/9STX/9XW POWER POST WELDMENT	1	C
4	5600640	HD-7P/7500BLX/9STX/9XW OFF-SIDE POST WELDMENT	3	C
5	5600919	HD-7P/7500BLX/9STX/9XW SAFETY LADDER WELDMENT	4	A
6	5215170	HD-7P POWER SIDE RAMP ASSEMBLY	1	L
7	5600215	HD-7P OFF-SIDE RAMP WELDMENT	1	D
8	5600890	HD-7/7500/9 SERIES TIRE STOP PLATE WELDMENT	2	F
9	5215193	HD-7500BLX/9STX/9XW DRIVE UP RAMP ASSEMBLY	2	F
10	5535021	NUT M16 x 2.0	4	-
11	5535008	NUT M16 x 2.0	4	-
12	5545025	WASHER M16 x 30mm FLAT	4	-

DO NOT SCALE DRAWING

NAME	DATE
DRAWN TM	08/11/2014
CHECKED CA	08/31/2015

1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

BendPak
HYDRAULIC JACKS & LIFTS

TITLE: HD-7P LIFT SUPERSTRUCTURE

SIZE DWG. NO. A 5245388

REV C

SCALE: 1:40

SHEET 1 OF 1

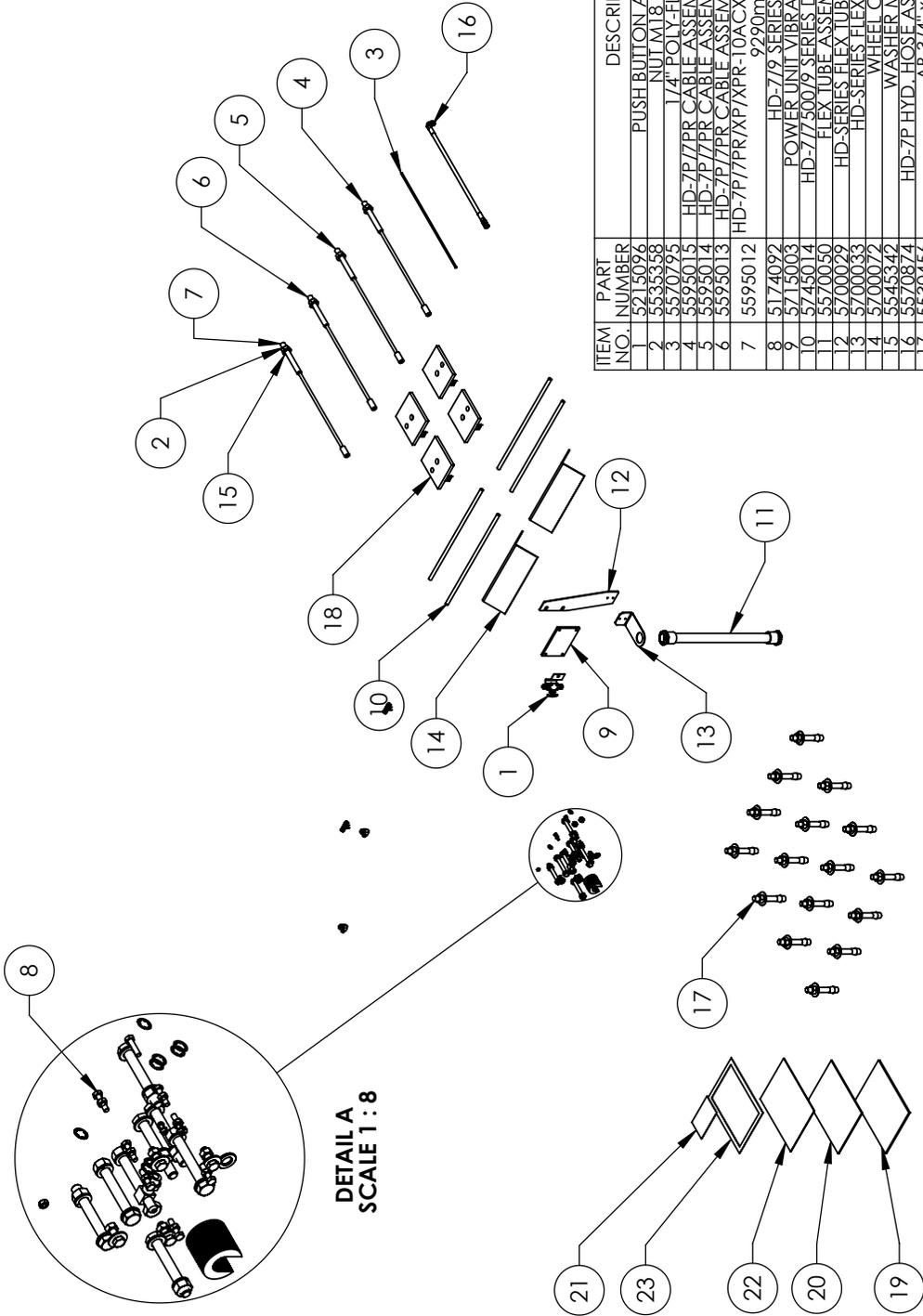
THIRD ANGLE PROJECTION

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF BENDPAK INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT PERMISSION OF BENDPAK INC. IS PROHIBITED.

DIMENSIONS ARE IN MM

NOTE: UNLESS OTHERWISE SPECIFIED, SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING

1. THREAD M16 HARDWARE ONTO LADDER BOLTS AS SHOWN



DETAIL A
SCALE 1 : 8

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	REV
1	52150926	PUSH BUTTON/AIR ASSEMBLY	1	F
2	5535358	NUT M18 X 2.5 NI	4	-
3	5570795	1/4" POLY-FLO TUBING	17000*mm	-
4	5595015	HD-7P/7PR CABLE ASSEMBLY Ø10 x 6494mm ST	1	E
5	5595014	HD-7P/7PR CABLE ASSEMBLY Ø10 x 5086mm ST	1	E
6	5595013	HD-7P/7PR CABLE ASSEMBLY Ø10 x 10674mm ST	1	E
7	5595012	HD-7P/7PR/XP/10ACX CABLE ASSEMBLY Ø10 x 9290mm ST	1	E
8	5174092	HD-7/9 SERIES PARTS BAG	1	E
9	5715003	POWER UNIT VIBRATION DAMPENER	1	B
10	5745014	HD-7/7500/9 SERIES DRIVE UP RAMP PIN	4	B
11	5570050	FLEX TUBE ASSEMBLY 1320mm	1	B
12	5700029	HD-SERIES FLEX TUBE BRACKET PLATE	1	F
13	5700033	HD-SERIES FLEX TUBE ANGLE	1	E
14	5700072	WHEEL CHOCK	2	A
15	5545342	WASHER M18 FLAT	4	-
16	5570874	HD-7P HYD. HOSE ASSY Ø6.4 x 2492mm	4	D
17	5530456	AB 3/4" x 4 - 3/4"	16	-
18	5600405	HD-7P/7500/9 SERIES TOP PLATE WELDMENT	4	C
19	5900041	HD-7 SERIES INSTALLATION MANUAL	1	-
20	5900047	SAFETY MANUAL ALL / SM 93-1	1	-
21	5900151	BENDIPAK #90 WARRANTY CARD	1	-
22	5900152	ALIGN OIM OPERATION INSPECTION & MAINTENANCE	1	-
23	5905151	SAFETY TIPS CARD ALL-ST 90	1	-

DO NOT SCALE DRAWING

NAME DATE
DRAWN TM 05/09/2013
CHECKED CA 08/31/2015

THIRD ANGLE PROJECTION

PROPRIETARY AND CONFIDENTIAL
THIS DRAWING IS THE SOLE PROPERTY OF BENDIPAK INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE PERMISSION OF BENDIPAK INC. IS PROHIBITED.

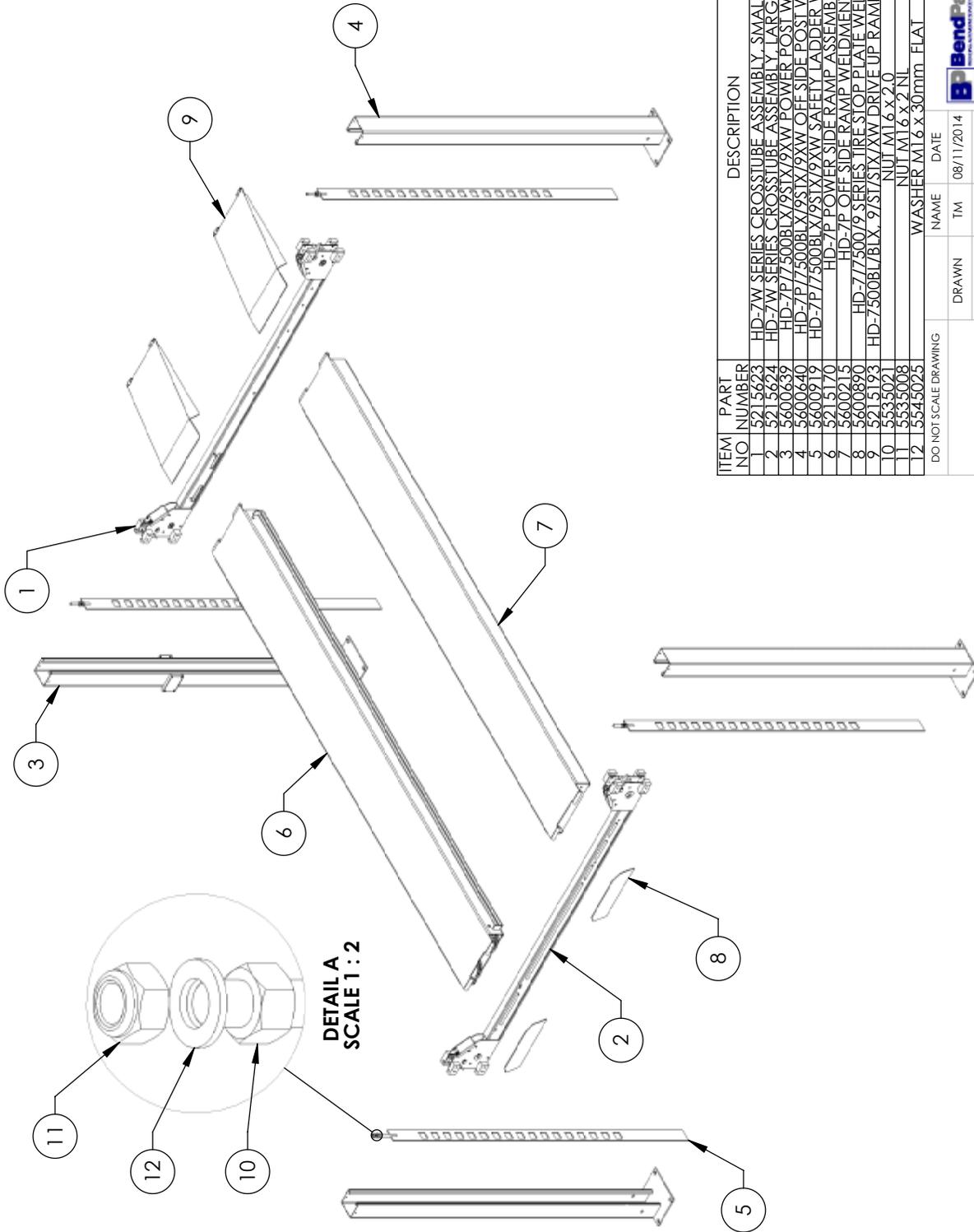
TITLE: PARTS BOX HD-7P

SIZE DWG. NO. A 5250184 REV D

SCALE: 1:25 SHEET 1 OF 1

NOTE: UNLESS OTHERWISE SPECIFIED,

- SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
- INSERT PARTS BAG INTO PARTS BOX FOR SHIPMENT
- THREAD 5535358 WITH 5545342 ONTO CABLES FOR SHIPMENT
- HOSES AND CABLES IN REPRESENTATIONAL FORM
- (*) LENGTH FOR REFERENCE ONLY



DETAIL A
SCALE 1 : 2

ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5215623	HD-7W SERIES CROSS-TUBE ASSEMBLY - SMALL WINDOW	1	E
2	5215624	HD-7W SERIES CROSS-TUBE ASSEMBLY - LARGE WINDOW	1	E
3	5600639	HD-7P/7500BLX/95TX/9XW POWER POST WELDMENT	1	C
4	5600640	HD-7P/7500BLX/95TX/9XW OFF-SIDE POST WELDMENT	3	C
5	5600919	HD-7P/7500BLX/95TX/9XW SAFETY LADDER WELDMENT	4	A
6	5215170	HD-7P POWER-SIDE RAMP ASSEMBLY	1	D
7	5600215	HD-7P OFF-SIDE RAMP WELDMENT	1	D
8	5600890	HD-7/7500/9 SERIES TIE-STOP PLATE WELDMENT	2	F
9	5215193	HD-7/500BL/BIX, 9/51/51X/RAW DRIVE UP RAMP ASSEMBLY	2	F
10	5535021	NUT M16 x 2.0	4	-
11	5535008	NUT M16 x 2.0	4	-
12	5545025	WASHER M16 x 30mm FLAT	4	-

DO NOT SCALE DRAWING

NAME	DATE
TM	08/11/2014
CA	08/31/2015

DRAWN: TM
CHECKED: CA

1645 LEMONWOOD DR.
BendPak, SANTA PAULA, CA 93060

TITLE: HD-7W LIFT SUPERSTRUCTURE

SIZE: DWG. NO. A 5245384

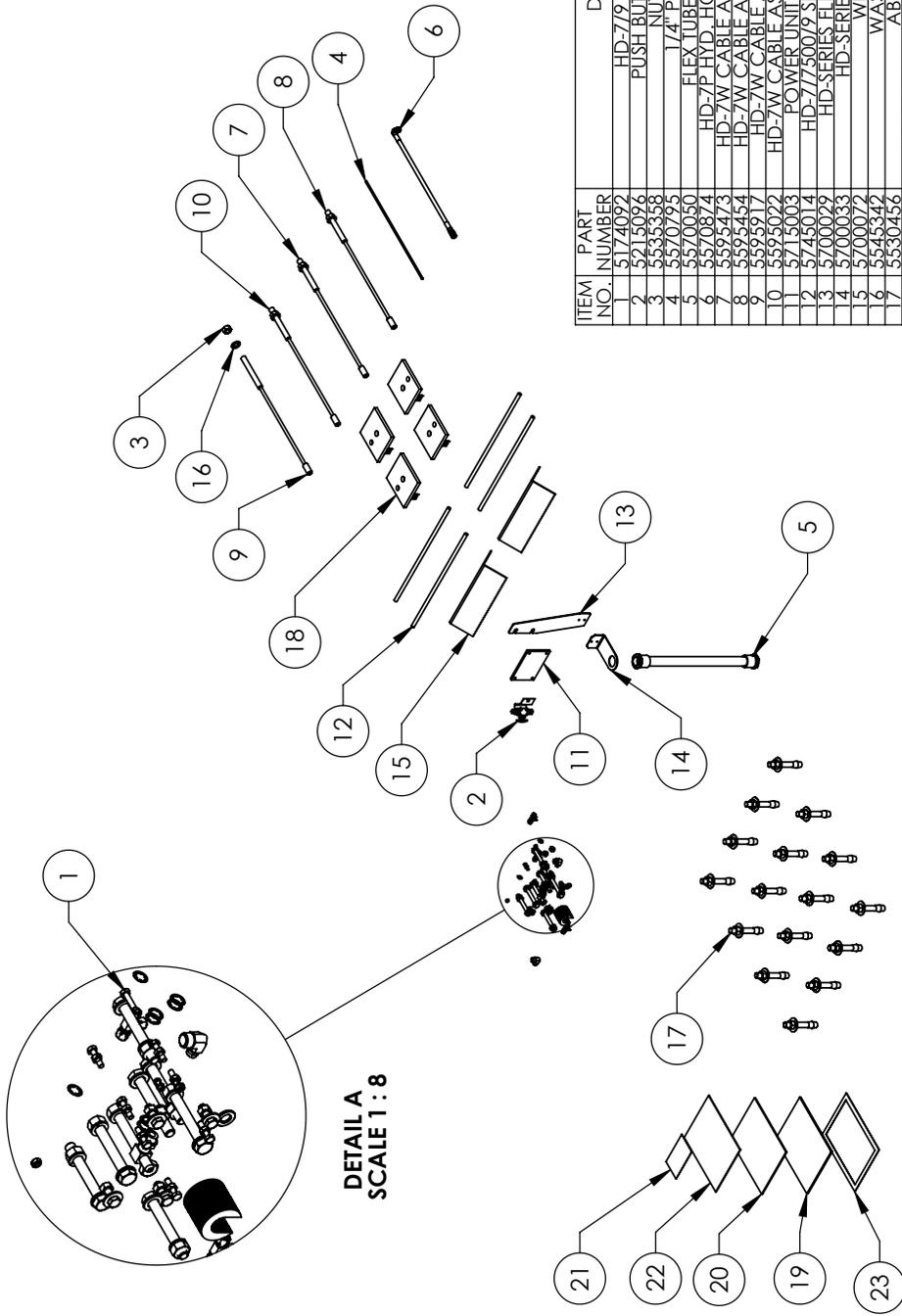
REV: C

SCALE: 1:40

THIRD ANGLE PROJECTION

PROPRIETARY AND CONFIDENTIAL
THE PAGE CONTENTS ARE THE SOLE PROPERTY OF BENDPAK INC. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF BENDPAK INC. IS PROHIBITED.

NOTE: UNLESS OTHERWISE SPECIFIED,
 1. SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
 2. THREAD M16 HARDWARE ONTO LADDER BOLTS AS SHOWN



DETAIL A
SCALE 1 : 8

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	REV
1	5174092	HD-7/9 SERIES PARTS BAG	1	F
2	5215092	PUSH BUTTON AIR ASSEMBLY	1	F
3	5535358	1/4" NUT M18 X 2.5 IN.	4	-
4	5570795	1/4" POLY-FLO TUBING	17000*	mm
5	5570050	FLEX TUBE ASSEMBLY 1320mm	1	B
6	5570874	HD-7P HYD. HOSE ASSY Ø6.4 x 2.492mm	1	D
7	5595473	HD-7W CABLE ASSEMBLY Ø10 x 5099mm ST	1	B
8	5595454	HD-7W CABLE ASSEMBLY Ø10 x 6724mm ST	1	C
9	5595917	HD-7W CABLE ASSEMBLY Ø10 x 9271mm	1	D
10	5595022	HD-7W CABLE ASSEMBLY Ø10 x 10897mm ST	1	H
11	5715003	POWER UNIT VIBRATION DAMPENER	1	B
12	5745014	HD-7/7500/9 SERIES DRIVE UP RAMP PIN	4	B
13	5700029	HD-SERIES FLEX TUBE BRACKET PLATE	4	F
14	5700033	HD-SERIES FLEX TUBE ANGLE	2	E
15	5700072	WHEEL CHOCK	2	A
16	5545342	WASHER M18 FLAT	4	-
17	5530456	AB 3/4" x 4" - 3/4"	16	-
18	5600405	HD-7P/7500/9 SERIES TOP PLATE WELDMENT	4	C
19	5900041	HD-7 SERIES INSTALLATION MANUAL	4	-
20	5900147	SAFETY MANUAL ALL / SM 93-1	1	-
21	5900151	BENDPAK #90 WARRANTY CARD	1	-
22	5900152	ALIGN OIM OPERATION INSPECTION & MAINTENANCE	1	-
23	5905151	SAFETY TIPS CARD ALL-ST 90	1	-

DO NOT SCALE DRAWING

DRAWN TM 05/07/2013
CHECKED CA 08/31/2015

THIRD ANGLE PROJECTION

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF BENDPAK INC. NO REPRODUCTION OR PART OF THIS DRAWING WITHOUT THE WRITTEN PERMISSION OF BENDPAK INC. IS PROHIBITED.

SMILEY FACE

DIMENSIONS ARE IN MM

1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

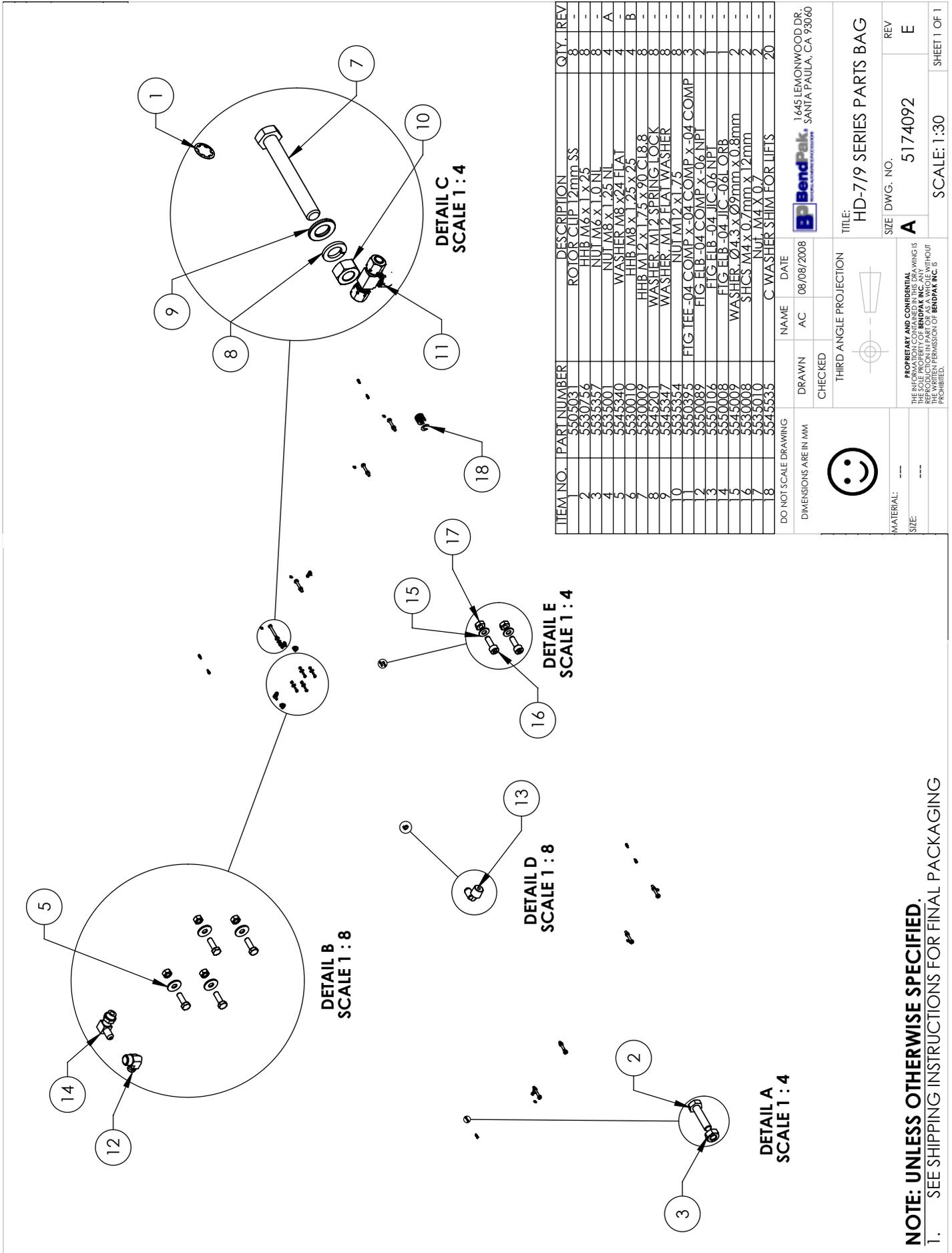
BendPak
www.bendpak.com

TITLE: PARTS BOX HD-7W

SIZE DWG. NO. A 5250164 REV D

SCALE: 1:25 SHEET 1 OF 1

- NOTE: UNLESS OTHERWISE SPECIFIED.**
- SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING
 - INSERT PARTS BAG INTO PARTS BOX FOR SHIPMENT
 - THREAD 5535358 WITH 5545342 ONTO CABLES FOR SHIPMENT
 - HOSES AND CABLES IN REPRESENTATIONAL FORM
 - (*) LENGTH FOR REFERENCE ONLY



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	REV
1	5505031	ROTOR CLIP 12mm SS	8	-
2	5530756	HHB M6 x 1 x 25	8	-
3	5535357	NUT M6 x 1.0 NL	8	-
4	5535001	NUT M8 x 1.25 NL	4	A
5	5545340	WASHER M8 x 24 FLAT	4	B
6	5530010	HHB M8 x 1.25 x 25	8	-
7	5530009	HHB M12 x 1.75 x 90 C18.8	8	-
8	5545201	WASHER M12 SPRING LOCK	8	-
9	5545341	WASHER M12 FLAT WASHER	8	-
10	5535354	NUT M12 x 1.75	8	-
11	5530394	FIG TEE 04 COMP X-04 COMP X-04 COMP	3	-
12	5550035	FIG FLB-04 COMP X-06 NPT	2	-
13	5550087	FIG FLB-04 JIC-06 NPT	1	-
14	5550106	FIG ELB-04 JIC-06L ORB	1	-
15	5550008	WASHER 04.3 x 09mm x 0.8mm	2	-
16	5545009	SHCS M4 x 0.7mm x 12mm	2	-
17	5530008	NUT M4 X 0.7	2	-
18	5545535	C WASHER SHIM FOR LIFTS	20	-

DO NOT SCALE DRAWING

NAME AC DATE 08/08/2008

DRAWN AC

CHECKED

THIRD ANGLE PROJECTION

SMILEY FACE

MATERIAL: ---

SIZE: ---

PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF BENDPAK INC. REPRODUCTION IN PART OR AS A WHOLE WITHOUT PERMISSION OF BENDPAK INC. IS PROHIBITED.

BP BendPak
1645 LEMONWOOD DR.
SANTA PAULA, CA 93060

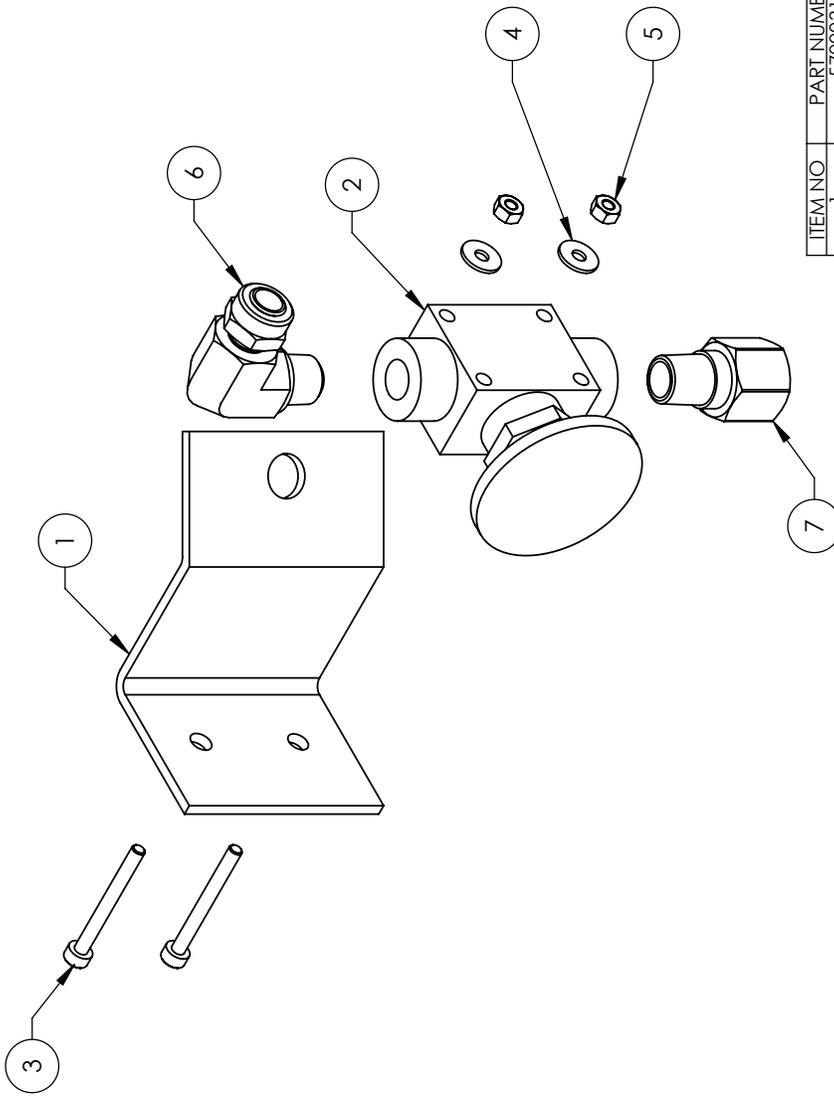
TITLE: HD-7/9 SERIES PARTS BAG

SCALE: 1:30

REV E

SHEET 1 OF 1

NOTE: UNLESS OTHERWISE SPECIFIED, SEE SHIPPING INSTRUCTIONS FOR FINAL PACKAGING



ITEM NO	PART NUMBER	DESCRIPTION	QTY	REV
1	5700031	ZERO ANGLE MTG BRACKET	1	C
2	5590175	PUSH BUTTON AIR VALVE	1	A
3	5530043	SHCS M3 x 0.5 x 30	2	-
4	5545024	WASHER M3 x 9mm	2	-
5	5535020	NUT M3 x 0.5 NL	2	-
6	5550087	FIG. ELB-.04 COMP x .02 NPT	1	-
7	5550486	FIG NPL-.02 NPT X-.04 F NPT	1	-

DO NOT SCALE DRAWING		NAME	DATE
DRAWN	AC	AC	3/14/2008
CHECKED	CA	CA	09/02/2015

THIRD ANGLE PROJECTION

PROPRIETARY AND CONFIDENTIAL
 THE INFORMATION CONTAINED IN THIS DRAWING IS
 THE SOLE PROPERTY OF BENDPAK INC. ANY REPRODUCTION
 OR TRANSMISSION OF THIS DRAWING WITHOUT
 THE WRITTEN PERMISSION OF BENDPAK INC. IS
 PROHIBITED.

16445 LEMONWOOD DR.
 BENDPAK, SANTA PAULA, CA 93060

TITLE: PUSH BUTTON AIR ASSEMBLY

SIZE DWG. NO. A 521 5096 REV F

SCALE: 2:3 SHEET 1 OF 1

NOTE: UNLESS OTHERWISE SPECIFIED,
 1. ASSEMBLE ITEMS AS SHOWN



The Benchmark of Quality

For Parts Or Service Contact:

**BendPak Inc. / Ranger Products
1645 Lemonwood Dr.
Santa Paula, CA. 93060**

**Tel: 1-805-933-9970
Toll Free: 1-800-253-2363
Fax: 1-805-933-9160**

www.bendpak.com

pn# 5900041

