



EUROPEAN USERS

400V 50Hz SUPPLY DETAILS ARE INCLUDED WITH ELECTRICAL CONTROL BOX. DISREGARD SUPPLY WIRING DETAILS IN THIS MANUAL

IMPORTANT SAFETY INSTRUCTIONS SAVE THESE 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 MANUAL. FORWARD THIS MANUAL TO ALL OPERATORS. FAILURE TO OPERATE THIS EQUIPMENT AS DIRECTED MAY CAUSE INJURY OR DEATH.

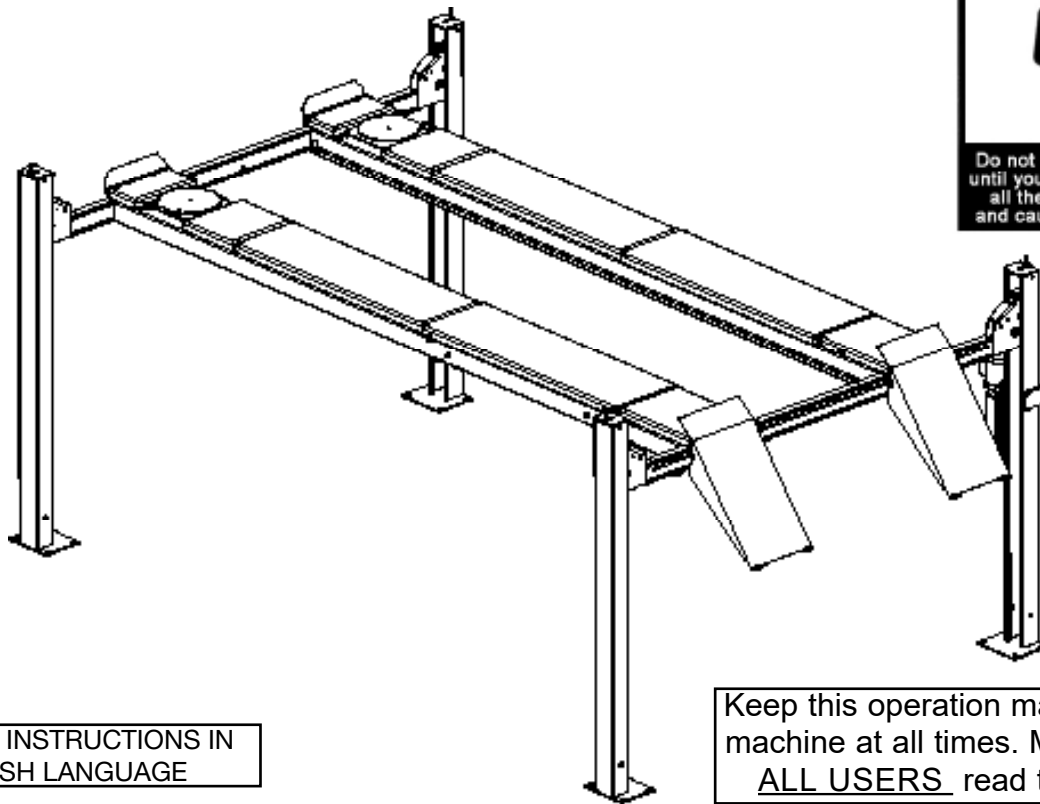
Manual Revision D6 - March 2020

Manual Part Number 5900175

INSTALLATION AND OPERATION MANUAL

9,000 POUND CAPACITY
COMMERCIAL GRADE
FOUR-POST LIFTS

MODELS:
HD-9AE



ORIGINAL INSTRUCTIONS IN
ENGLISH LANGUAGE

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
www.bendpak.com

9,000 POUND CAPACITY, COMMERCIAL GRADE FOUR POST ALIGNMENT 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 # _____
Maximum Operating
Hydraulic Pressure 2,460 PSI

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

BP BendPak Santa Paula, CA USA www.bendpak.com	
MODEL NUMBER	
DESCRIPTION	
LIFT CAPACITY	DATE OF MFG.
ROLLING JACK MAX CAP.	MAX PSI / BAR
VOLTAGE ☐ 110-240V, 50-60 Hz, 1 Ph ☐ 208-240V, 50-60 Hz, 1 Ph ☐ 380-415V, 50-60 Hz, 3 Ph ☐ 208-440V, 50-60 Hz, 3 Ph	SERIAL NUMBER
UPC	
DANGER! ENEC Discontinued Product Safety Warning	
WARRANTY VOID IF DATA PLATE IS REMOVED PH 900562	

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/>

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 a forklift or cranes. Stay clear of any moving parts that can fall and cause injury. These instructions must be followed to insure 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:



DANGER !

Watch for this symbol as it means: Immediate hazards which will result in severe personal injury or death.



WARNING !

Watch for this symbol as it means: Hazards or unsafe practices which could result in severe personal injury or death.



CAUTION !

Watch for this symbol as 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

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. Support claim with copies of the bill of lading, freight bill, invoice, and photographs, if available. BendPak's willingness to assist in helping you process your claim does not make BendPak responsible for collection of claims or replacement of lost or damaged materials.

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



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 the entire manual prior to installation. Do not operate this machine until you have read and have understood all of the Danger, Warning and Caution alerts in this manual. For additional copies or further information, contact:

BendPak Inc.

1645 Lemonwood Dr.

Santa Paula, CA. 93060

1-805-933-9970

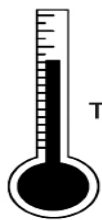
www.bendpak.com

**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 the technician's hands when handling parts. Sturdy leather steel-toe work shoes 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.



CAUTION

The safe operating temperature range for this product is 41° F. - 104 °F.



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. Electrical work should be performed only by a certified electrician.

IMPORTANT SAFETY INSTRUCTIONS

Read these safety instructions entirely. 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 may fall and cause injury. When using your garage equipment, basic safety precautions should always be followed, including the following:

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.

17. **CHECK FOR DAMAGED PARTS.** Check for alignment of moving parts, breakage of parts or any condition that may affect its operation. Do not use lift if any component is broken or damaged.

18. **NEVER** remove safety related components from the lift. Do not use lift if safety related components are damaged or missing.

19. 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 eye-glasses 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
- ◆ Medium Crescent & Pipe Wrenches
- ◆ Torque Wrench
- ◆ Crow Bar
- ◆ Chalk Line
- ◆ Medium Flat Screwdriver
- ◆ Tape Measure: 25 Foot Minimum
- ◆ Needle Nose Pliers

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 insure 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.



5. Lift is designed for **INDOOR INSTALLATION ONLY**. Outdoor use is prohibited. 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° 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.
- ◆ **DO NOT** install this lift outside. It is only approved for indoor installations.
- ◆ Refer to ANSI/ALI ALIS Standard (R2015) *Safety Requirements for Installation and Service* for more information about safely installing your Lift.

CONCRETE SPECIFICATIONS

LIFT MODEL

HD-9AE

CONCRETE REQUIREMENTS

4.25" Min. Thickness / 3,000 PSI



DANGER !

All models **MUST** be installed on 3,000 PSI concrete only conforming to the minimum requirements shown above. New concrete must be adequately cured by at least 28 days minimum.

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).

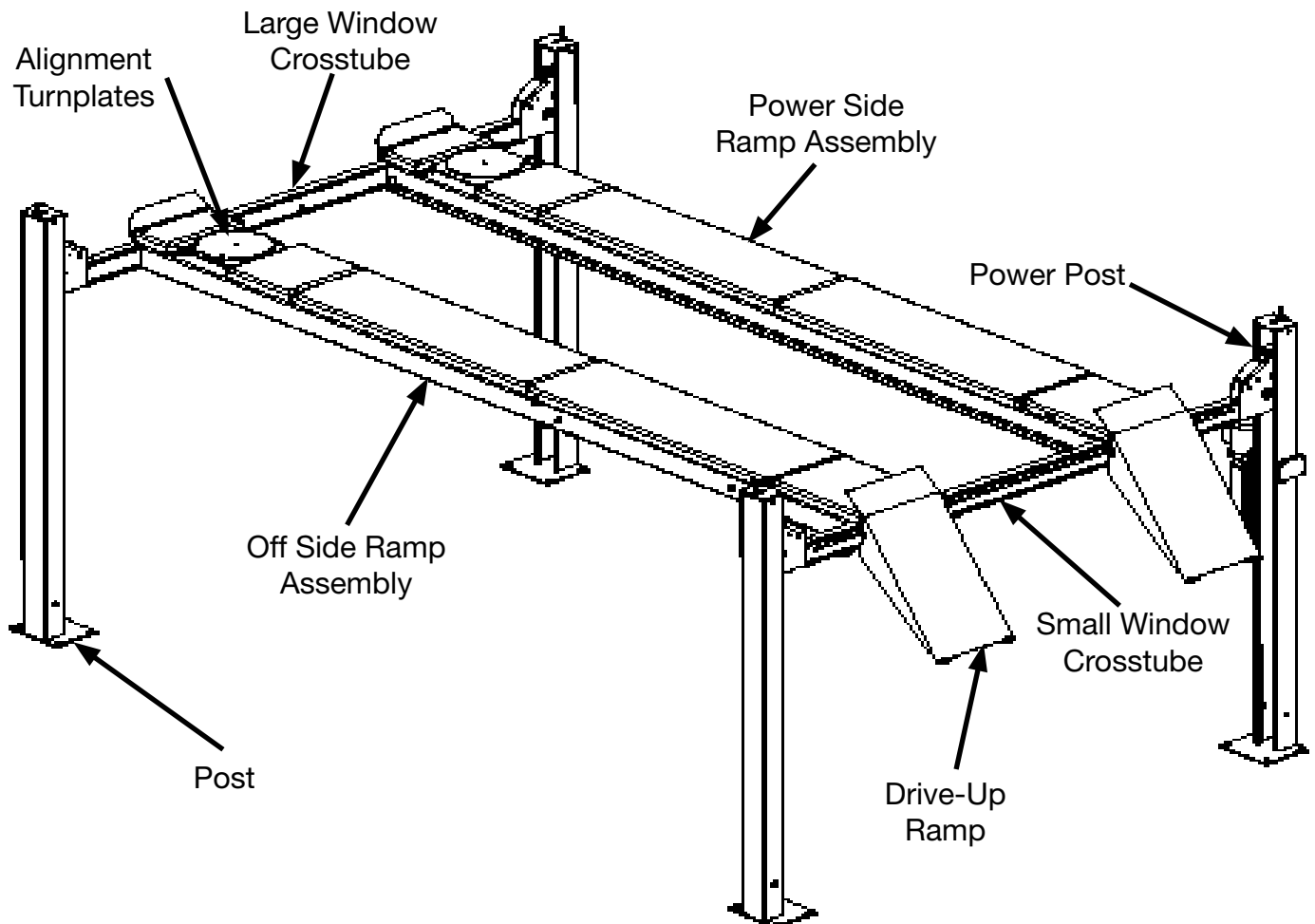


When removing the lift from shipping angles, pay close attention as the ramps can slide and can cause injury. Prior to removing the bolts make sure the ramps are held securely by a fork lift or some other heavy lifting device.

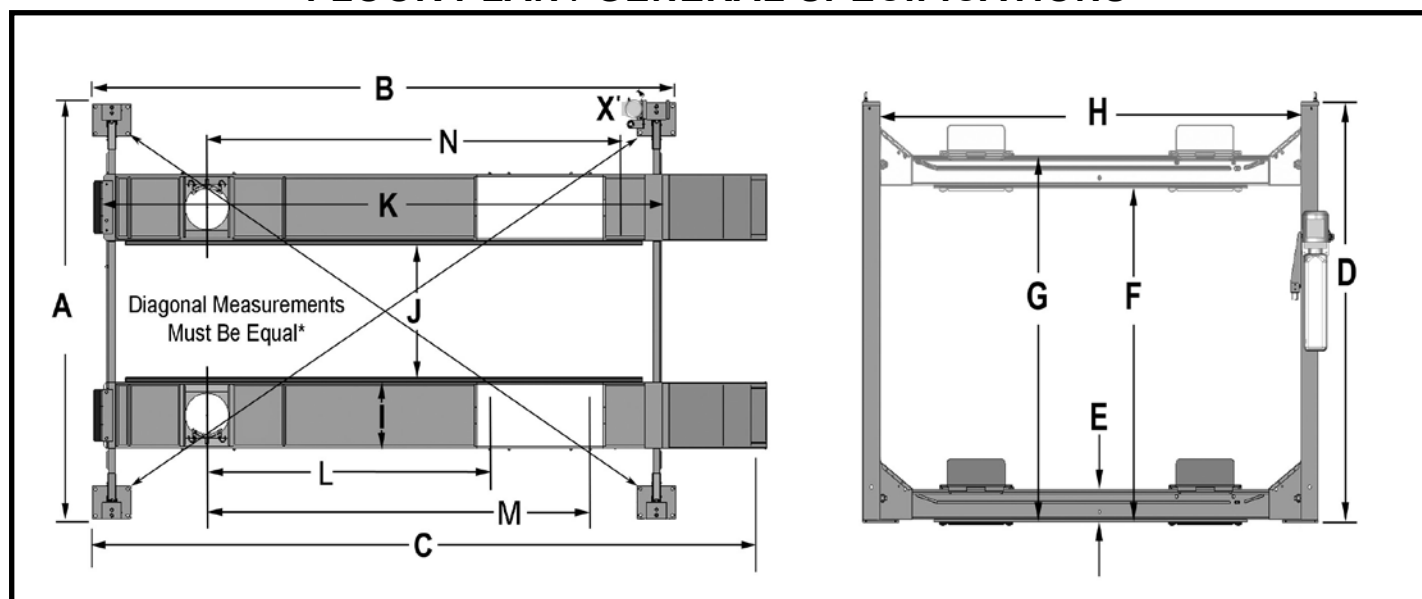
PARTS INVENTORY

Be sure to take a complete inventory of parts prior to beginning installation.

Description	Qty
Small Window Crosstube	1
Large Window Crosstube	1
Power Post	1
Post	3
Off Side Ramp Assembly	1
Power Side Ramp Assembly	1
Drive-Up Ramps	2
Alignment Turnplate	2
Power Unit	1
Parts Box (Packing List Enclosed)	1
Parts Bag (Packaged in Part Box)	1



FLOOR PLAN / GENERAL SPECIFICATIONS

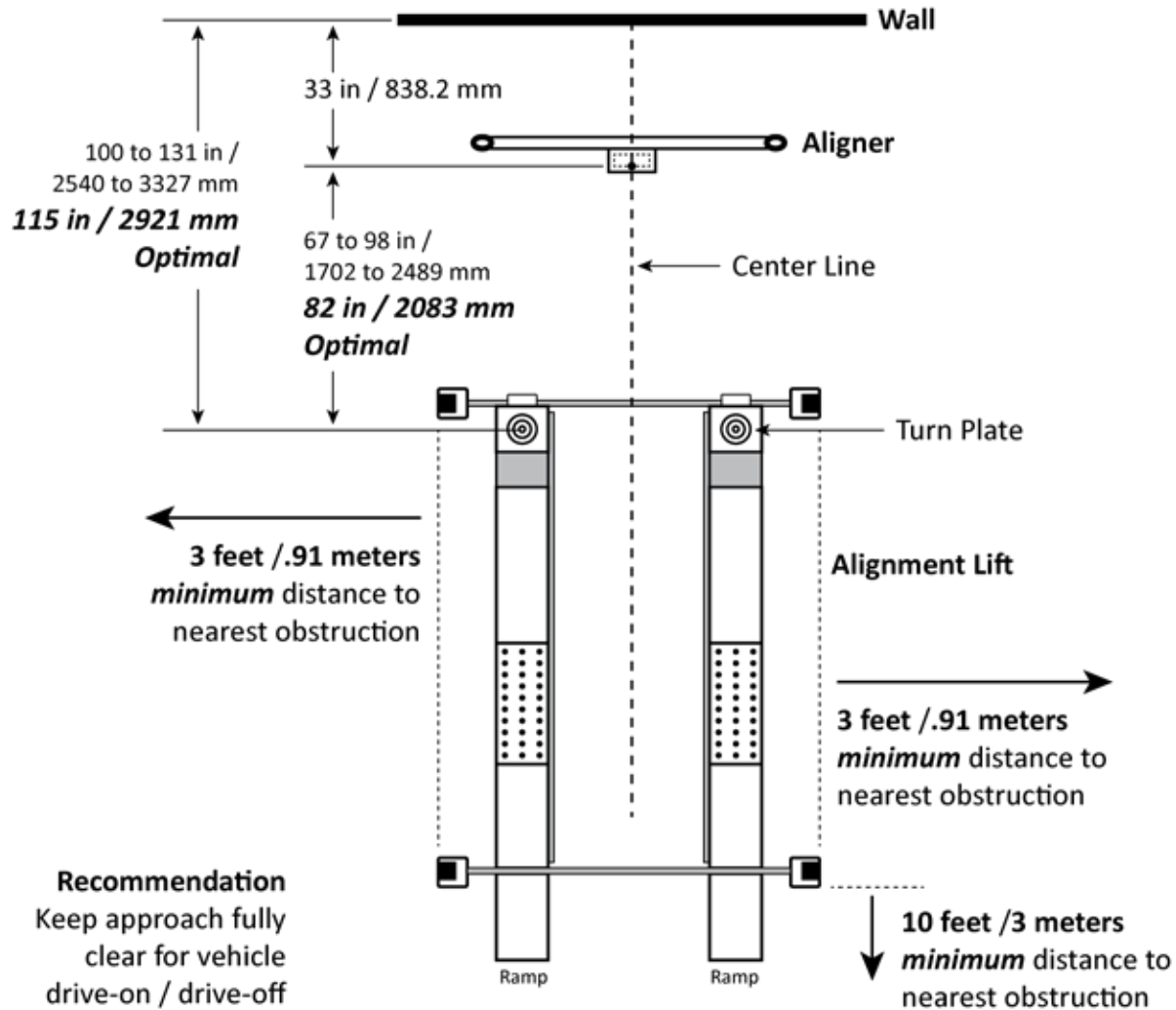


NOTE:

TO CHECK IF LIFT IS SQUARE, DIAGONAL MEASUREMENTS OF POSTS AS SHOWN ABOVE MUST BE EQUAL

HD-9AE	
Lifting Capacity	9,000 lbs / 4082 Kg.
Max capacity / front axle	4,500 lbs. / 2,041 kg
Max capacity / rear axle	4,500 lbs. / 2,041 kg
A - Overall Width	127" / 3,226 mm
B - Outside Length	198" / 5,028 mm
C - Overall Length	224" / 5,695 mm
D - Height of Columns	88" / 2,232 mm
E - Min. Runway Height	6.9" / 125 mm
F - Max. Rise	70" / 1,778 mm
G - Max Lifting Height	76.9" / 1,953 mm
H - Width Between Columns	117" / 2,972 mm
I - Runway Width	19" / 483 mm
J - Width Between Runways(*)	40" / 1017 mm
K - Length of Runways	188.5" / 4788 mm
L - Min. 4- Wheel Alignment (**)	89.5" / 2275 mm
M - Max. 4 Wheel Alignment (**)	144.7" / 3675 mm
N - Max. 2 Wheel Alignment (**)	159.7" / 4056 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	14
Lock Spacing	Every 4" / 102 mm
Lifting Time	45 Seconds
Standard Motor (**)	220 VAC / 60Hz 1 Ph.
Emission sound pressure at Operator Position < 70 dB(A)	
* This dimension may be limited with the addition of rolling jacks. See Rolling Jack Specifications on Separate page.	
** For CE compliant countries see errata sheet included with control panel.	
The design, material and specifications are subject to change without notice.	

CLEARANCES



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.

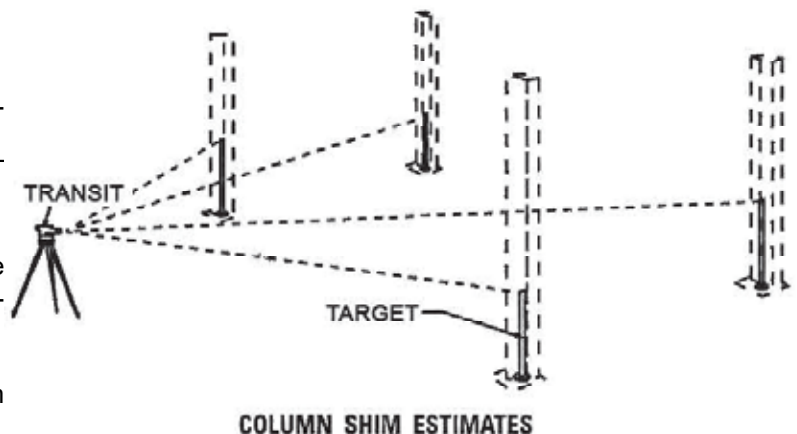
2. Ceiling or overhead clearance must be 80" plus height of tallest vehicle.

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

- Mark locations where lift columns will be positioned in bay.
- Place target on floor at column positions (NOT on column base plates) and record readings.
- Find the highest of the four locations. Find the difference between the readings at each of the remaining three columns and the highest reading.
- The difference is the estimated amount of shim thickness needed at each column.

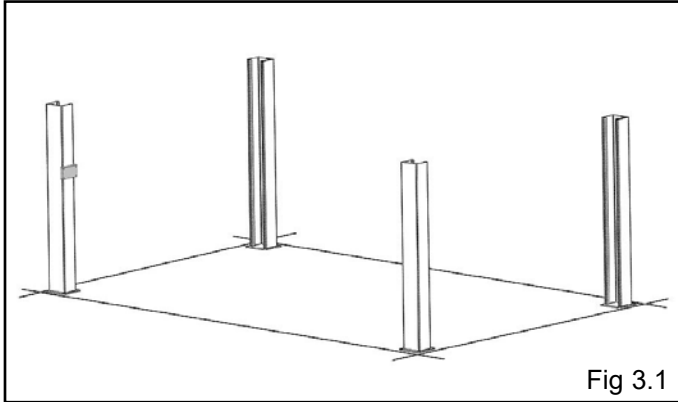
Note: Maximum shim thickness is 1/2" per column using shims and anchors provided with lift.

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



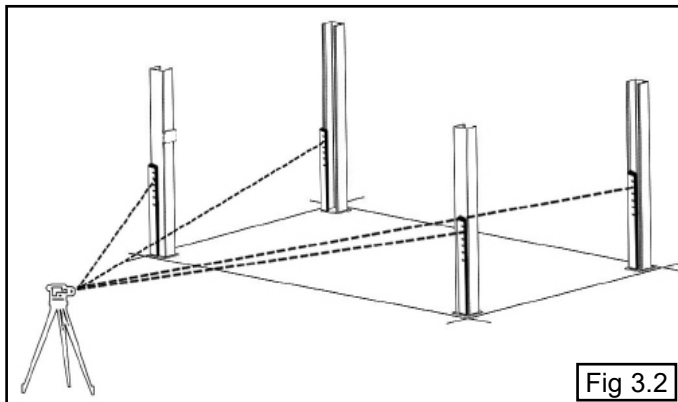
STEP 3 (Post & Crosstube Installation)

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



(If not bolting lift to the floor, skip to Item 3.)

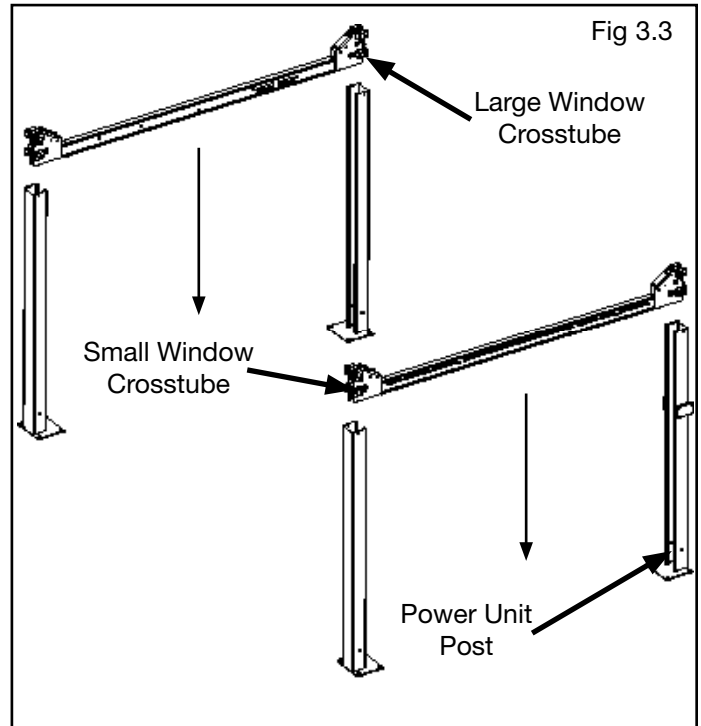
2. To estimate the shim requirements, place a target on floor at each post position and record the readings. Find the highest of the four locations then find the difference between each of the remaining posts. This difference is the estimated amount of shim thickness that will be required at each post.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



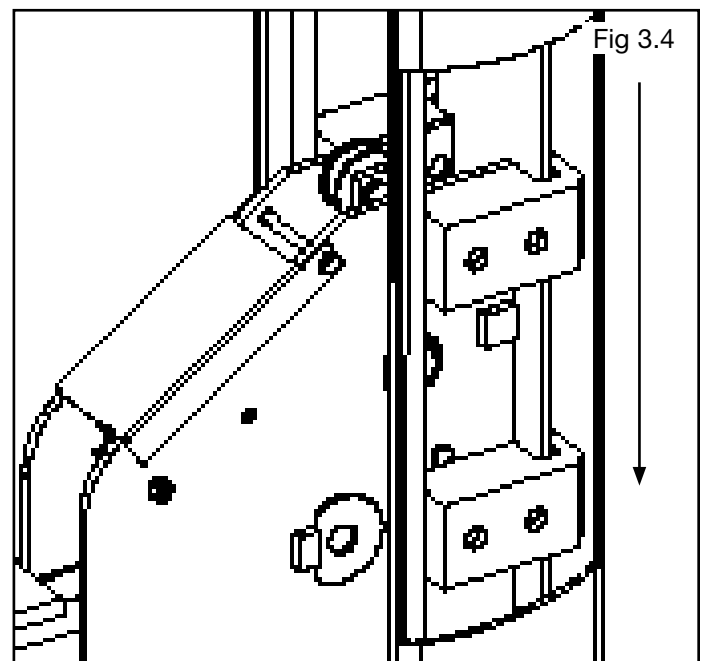
NOTE:

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. CONTACT YOUR AUTHORIZED BENDPAK DISTRIBUTOR FOR ORDERING INFORMATION.

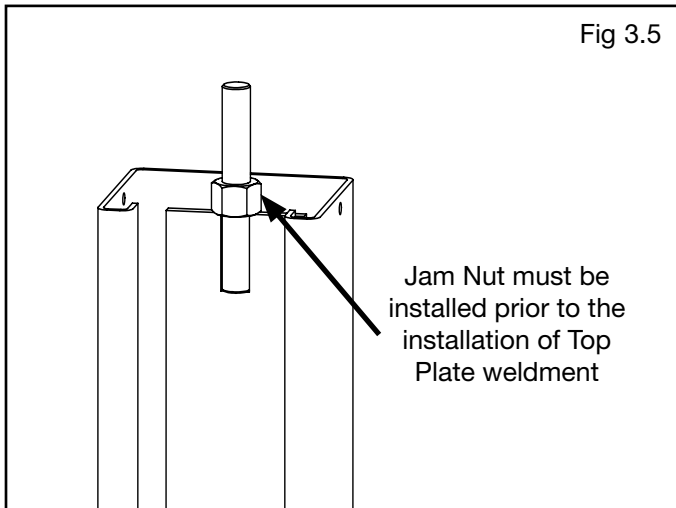
3. Using a forklift or crane, raise the cross tubes (*put the Slide Blocks into position first*) and then drop the cross tubes down into the top of the posts. NOTE: The Sheave Windows must be positioned inward and adjacent to the Power Unit Post. (See Fig. 3.3)



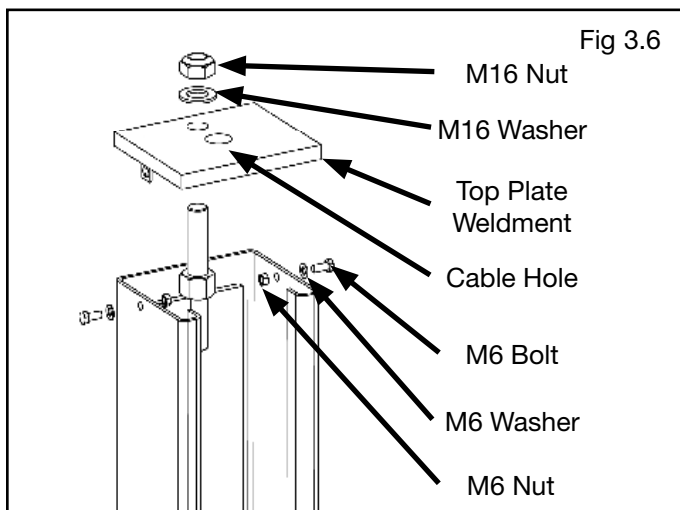
4. With the posts standing and the cross tubes in position, install the Safety Ladders. Pass the ladders through the post openings and drop down through the Slide Block guide slots on the crosstubes until the ladders come to rest on the base plates. If bolting, DO NOT BOLT posts down at this time. (See Fig. 3.4)



5. Install an M16 jam nut on to ladder bolt prior to the installation of the Top Plate weldment. (See Fig 3.5)

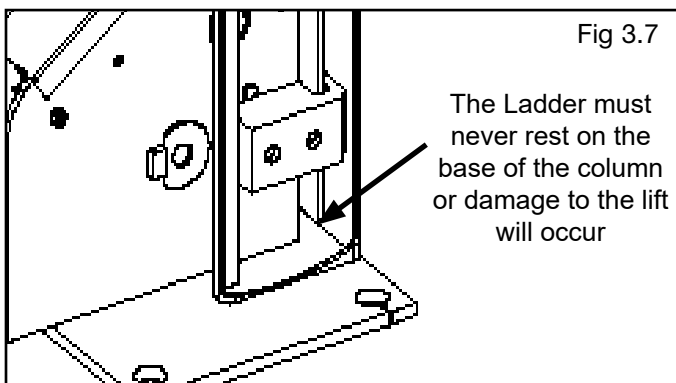


6. Install the post TOP PLATES using the M6 hex bolts, nuts & washers. Install the nut on each safety ladder until at least 1/2" of threads are exposed and the ladder is raised at least 1/2" off of the base plate. Be sure to position the cable hole INWARD. (See Fig. 3.6 - 3.7)

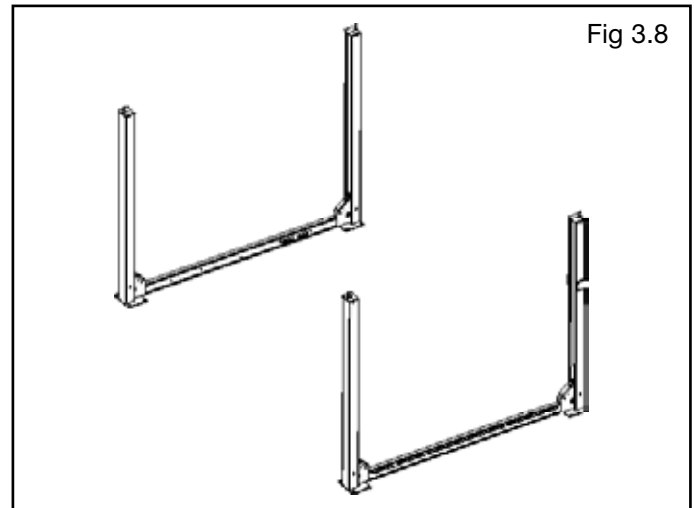


WARNING!

RAISE THE SAFETY LADDER AT LEAST 1/2" ABOVE THE BASE PLATE OR DAMAGE TO THE LIFT WILL OCCUR.



7. The posts and crosstubes are now in position for ramp installation. (See Fig 3.8)



DANGER!

BE CAREFUL NOT TO DISTURB THE POSTS AND CROSSTUBES AS THEY MAY TIP OVER CAUSING PERSONAL INJURY OR HARM.

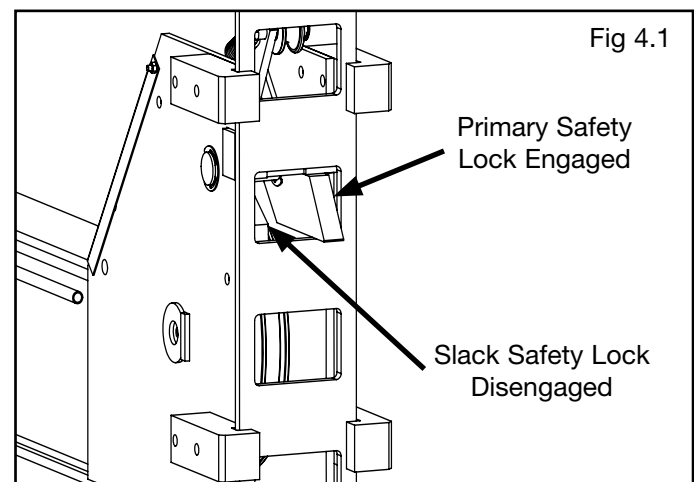
STEP 4 (Raising The Crosstubes)

1. Crosstubes must be raised off the ground to facilitate cable routing and ramp assembly.

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 third or fourth lock position or approximately 24" off the ground. It is important that the SLACK SAFETY LOCK IS DISENGAGED. The Slack Safety Locks must NEVER rest on the Safety Ladders. (See Fig. 4.1 - 4.4)



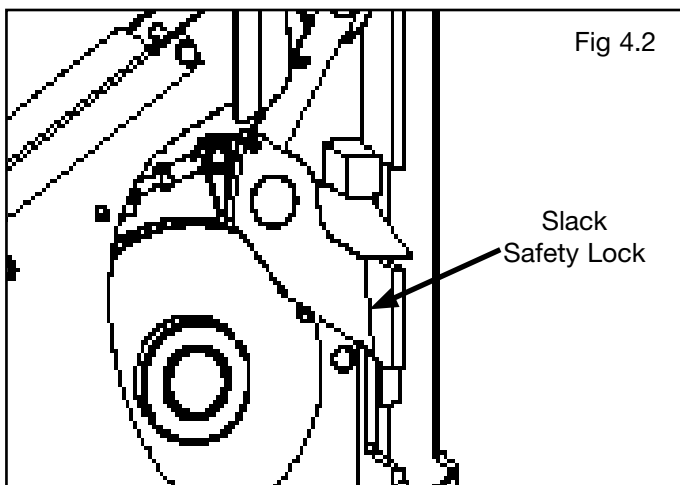


Fig 4.2

Slack
Safety Lock

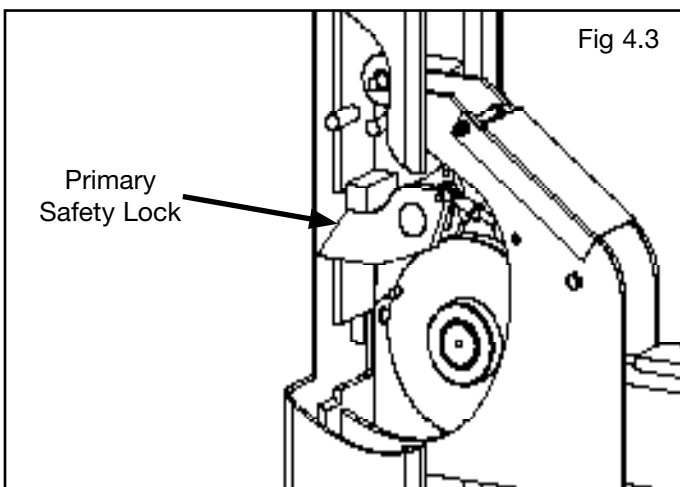


Fig 4.3

Primary
Safety Lock

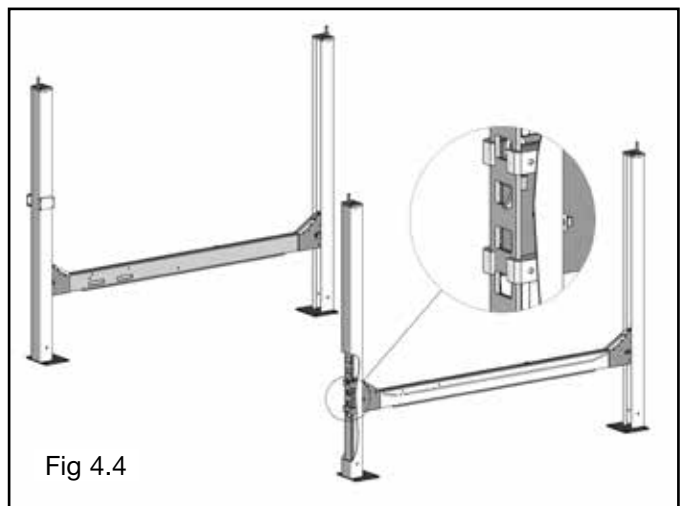


Fig 4.4

3. The posts and crosstubes will now be in position and spaced properly for the ramps. Be very careful not to disturb the posts and crosstubes at this time as they may tip over causing personal injury or harm.

STEP 5 (Power Side Ramp Installation)

1. Locate the POWER SIDE RAMP easily identified by the cylinder and sheaves assembled in the ramp or the sheave roller mounting plates welded on the underside. The Power Side Ramp will be positioned on the side of the lift where the Power Unit is installed. (See Fig. 5.1)

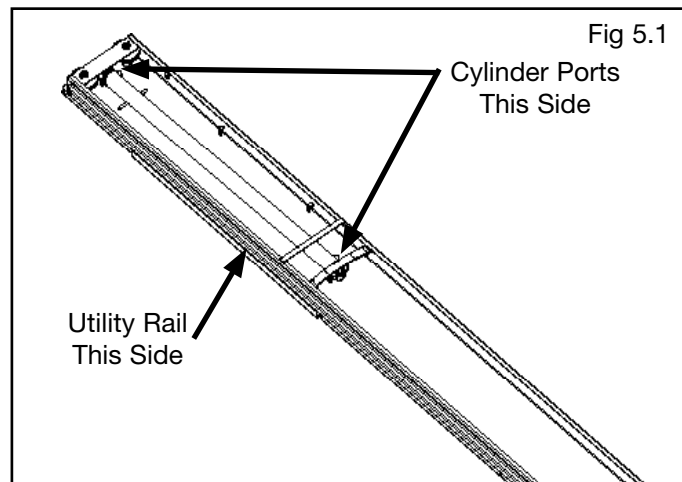


Fig 5.1

Cylinder Ports
This Side

Utility Rail
This Side

2. Check that the cylinder ports are facing away from the utility rail side of the Power Side Ramp. (See Fig 5.1)

3. Remove any pre-installed CABLE SHEAVES from the POWER SIDE RAMP making sure to and pay attention to the order in which they are removed. (This will help at the time of re-installation.) First remove the Socket Head Cap Screw, then press the sheave axle through the ramp completely until the sheaves are removed. (See Fig. 5.2)

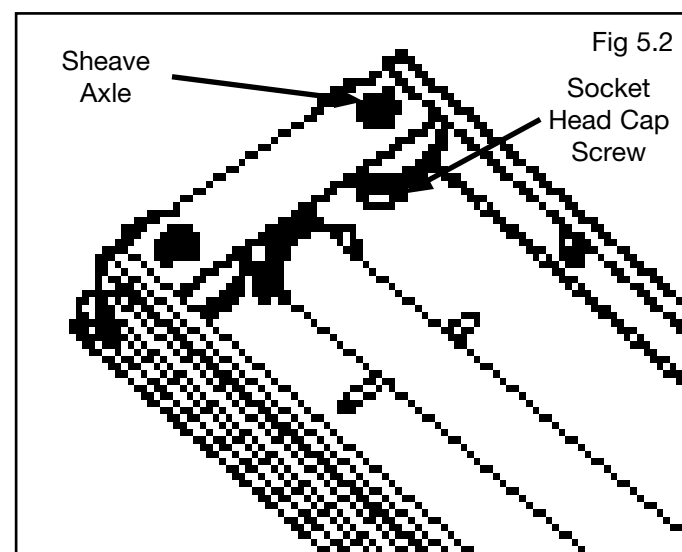
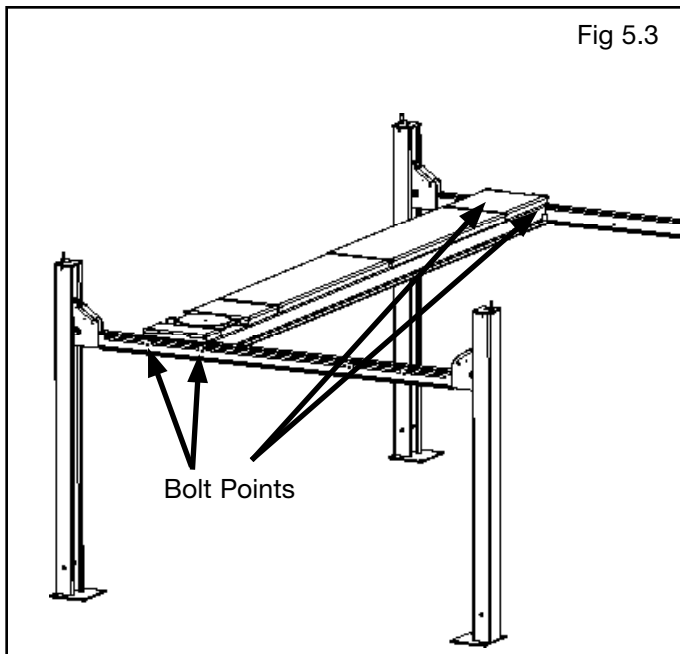


Fig 5.2

Sheave
Axle

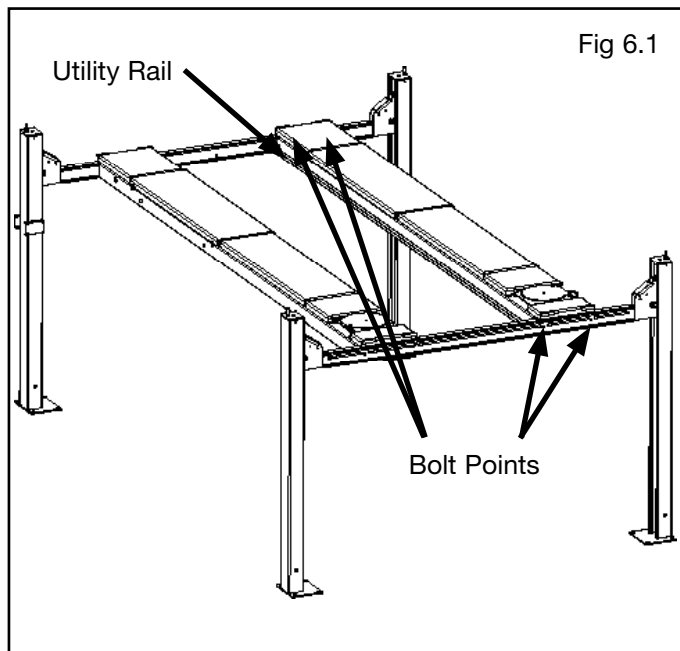
Socket
Head Cap
Screw

4. Position the POWER SIDE RAMP on top of the cross-tubes with the UTILITY RAIL towards the center. Align the holes in the ramp with the holes on the crosstubes and bolt together using four M12 x 1.75 hex bolts, nuts, and washers. (See Fig. 5.3)



STEP 6 (Off Side Ramp Installation)

3. Position the OFF SIDE RAMP on top of the cross-tubes with the UTILITY RAIL located inside. Align the holes in the ramp with the holes on the cross-tubes and bolt together (torque to 35-45 Ft/lbs) using four M12 x 1.75 hex bolts, nuts, and washers. (See Fig. 6.1)



STEP 7 (Cable / Sheave Installation)

1. Inspect cables to ensure proper lengths. All CABLES should have ID tags showing proper cable lengths.

! DANGER

DANGER !

DO NOT PROCEED WITH CABLE INSTALLATION OR GO NEAR THE LIFT WORK AREA UNLESS VISUAL CONFIRMATION IS MADE OF ALL SAFETY LOCKS BEING ENGAGED. ALL LOCKS MUST BE ENGAGED BEFORE PROCEEDING. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN SEVERE PERSONAL INJURY OR DEATH. (SEE PAGE 28)

! WARNING

WARNING!

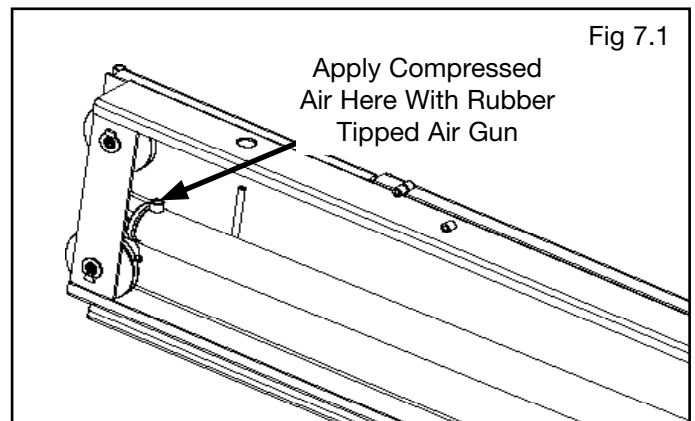
WHEN THE CABLE ADJUSTING NUTS BOTTOM OUT ON THE THREADED END OF THE CABLE CONNECTOR AND THERE IS STILL SLACK IN THE CABLES, THE CABLES HAVE STRETCHED BEYOND THE SAFE USEFUL LENGTH AND NEED TO BE REPLACED WITH FACTORY APPROVED CABLE ASSEMBLIES. DO NOT PLACE WASHERS, SPACERS OR OTHER DEVICES TO "SHORTEN" THE EFFECTIVE CABLE LENGTH AS DAMAGE TO THE LIFT OR INJURY TO PERSONS MAY OCCUR.

2. In order to install the cables, it is necessary to first extend the HYDRAULIC CYLINDER. Remove both cylinder port plugs, then use an rubber tipped air gun or ratcheting pull-strap to extend the cylinder. **IMPORTANT!** Be careful not to damage the chrome rod during this step. (See Fig. 7.1)

! WARNING

WARNING!

IF USING RUBBER-TIPPED AIR GUN, DO NOT EXCEED 50 PSI. IF CYLINDER DOES NOT MOVE, IMMEDIATELY DISCONTINUE USE OF AIR GUN AND USE RATCHETING PULLSTRAP OR OTHER PULLING DEVICE. KEEP HANDS CLEAR.



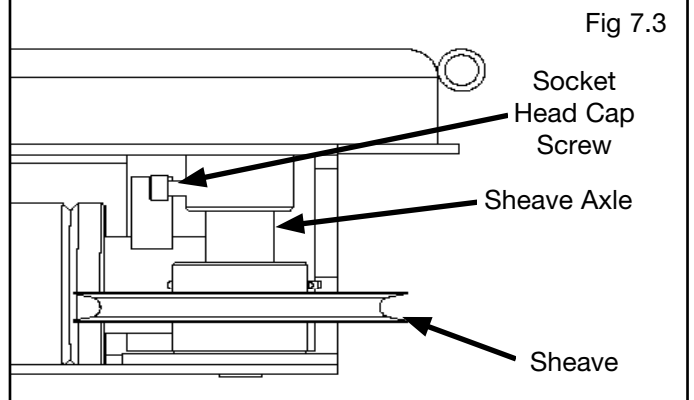
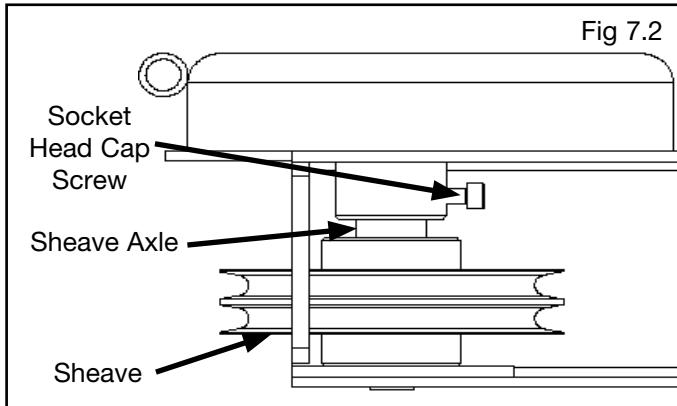


WARNING

WARNING!

WHEN THE CABLE ADJUSTING NUTS BOTTOM OUT ON THE THREADED END OF THE CABLE CONNECTOR AND THERE IS STILL SLACK IN THE CABLES, THE CABLES HAVE STRETCHED BEYOND THE SAFE USEFUL LENGTH AND NEED TO BE REPLACED WITH FACTORY APPROVED CABLE ASSEMBLIES. DO NOT PLACE WASHERS, SPACERS OR OTHER DEVICES TO "SHORTEN" THE EFFECTIVE CABLE LENGTH AS DAMAGE TO THE LIFT OR INJURY TO PERSONS MAY OCCUR.

3. You must reinstall the SHEAVES AND PINS in the same order as they are removed. (See Fig. 7.2-7.3)

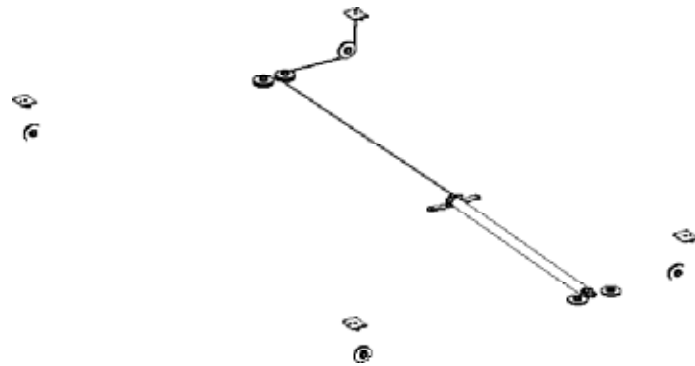


HELPFUL TIP

INSTALL THE SHEAVES AND CABLES IN THE ORDER AS SHOWN BELOW STARTING FROM THE SHORTEST (A) TO THE LONGEST (D).

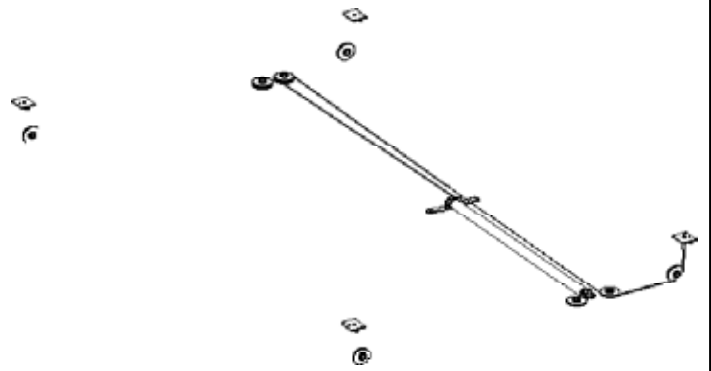
Cable "A"

Fig 7.4



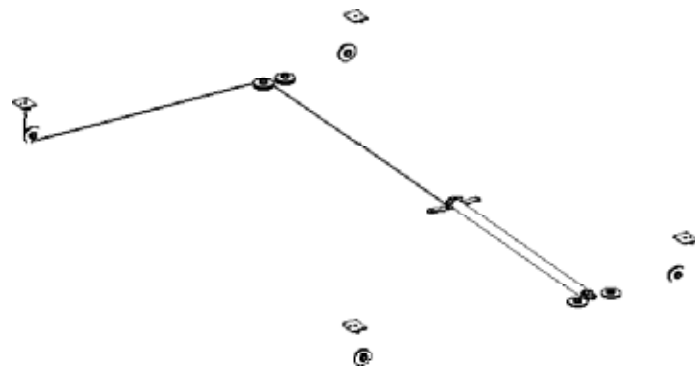
Cable "C"

Fig 7.5



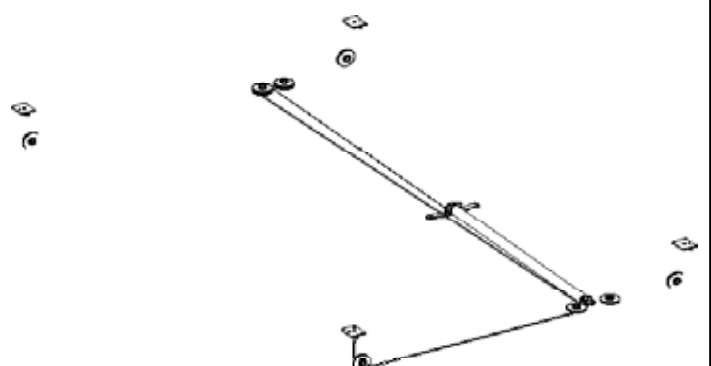
Cable "B"

Fig 7.6



Cable "D"

Fig 7.7





DANGER

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 30)

Cable Routing

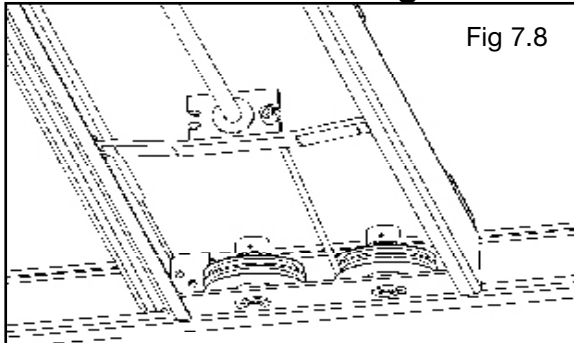


Fig 7.8

Cable "A"

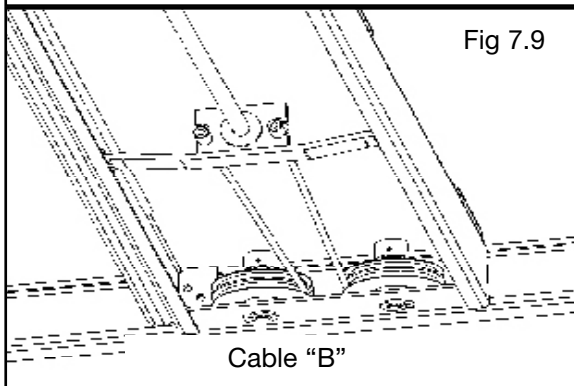


Fig 7.9

Cable "B"

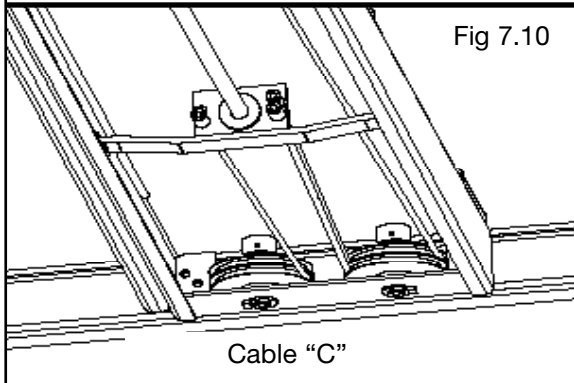


Fig 7.10

Cable "C"

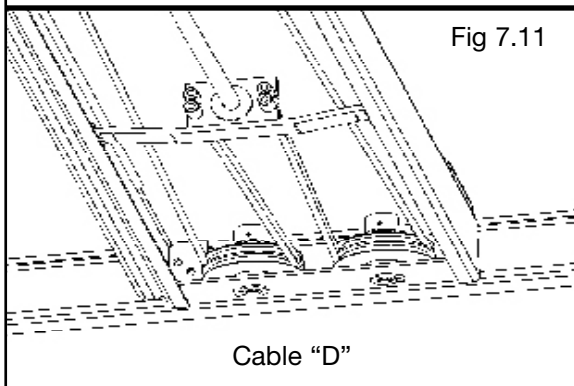


Fig 7.11

Cable "D"

4. With the cables properly routed, hold the sheaves in position and install the sheave axle. (See Fig. 7.12)

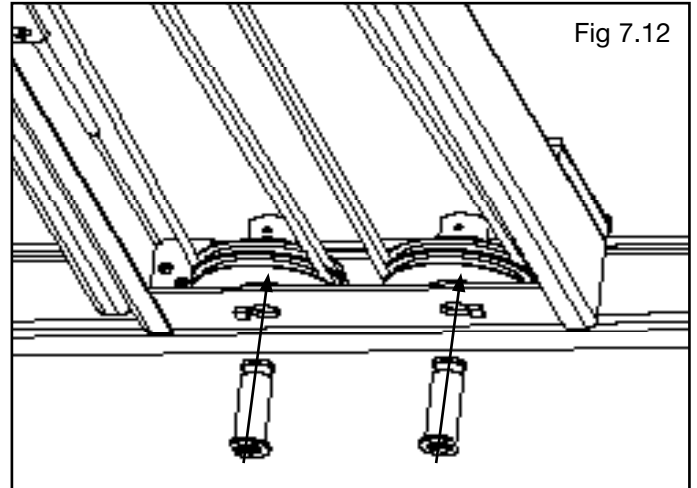


Fig 7.12

5. Install the Socket Head Cap Screws through the Sheave Axle Collars. (See Fig. 7.13)

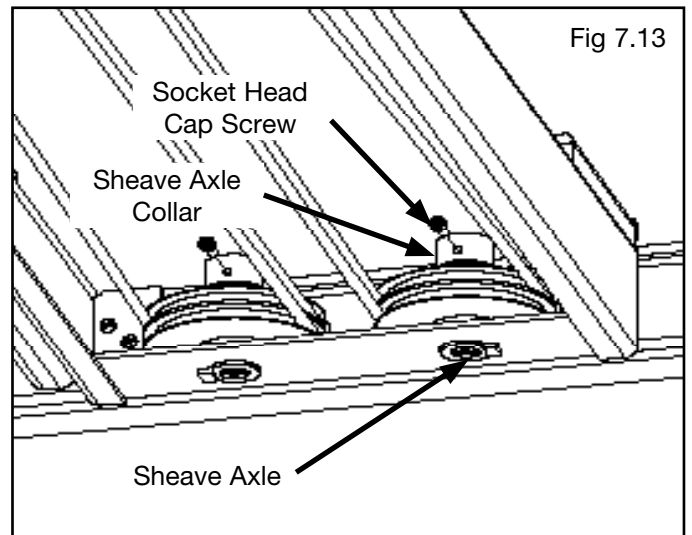


Fig 7.13

6. Repeat the same procedure at the other end of the lift.

7. Each cable must be installed through the CABLE RETAINER first to keep the cables stowed in their proper position on the Cable Block. Install the Cylinder Nut so that it is no more than 1/8" away from the retaining C-clip. (See Fig. 7.14)

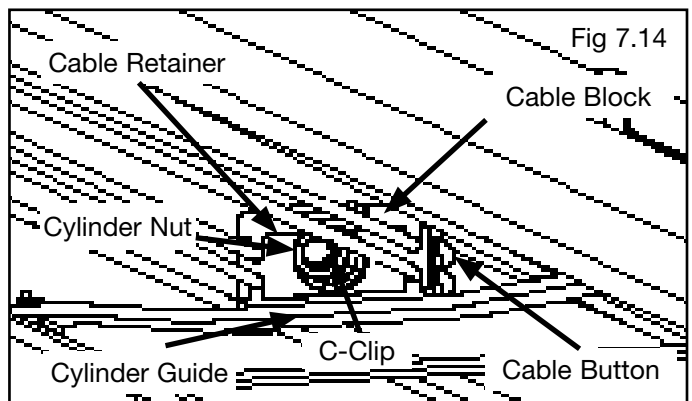
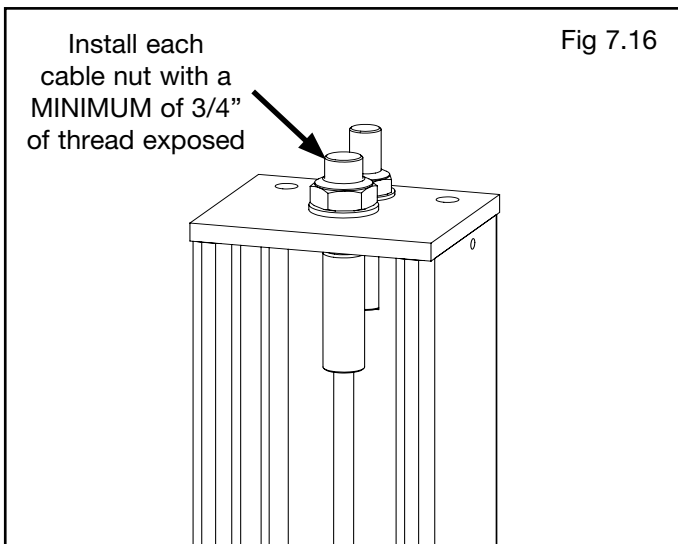
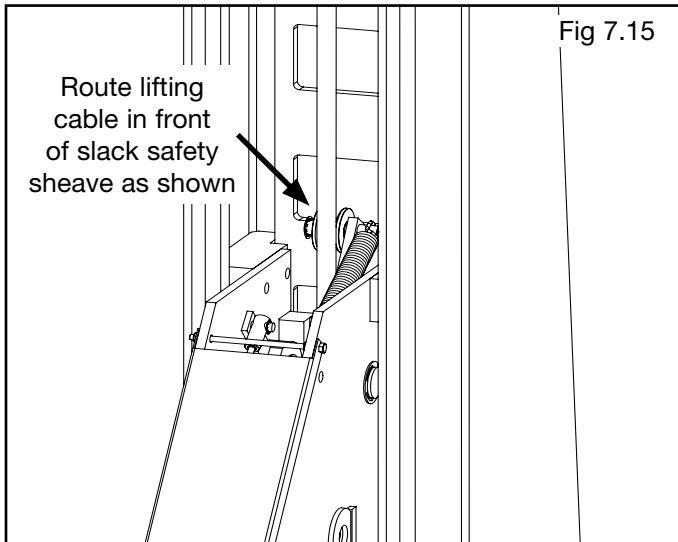
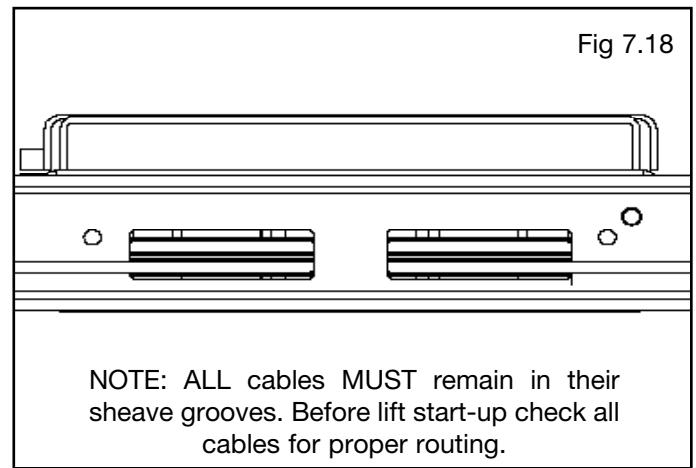
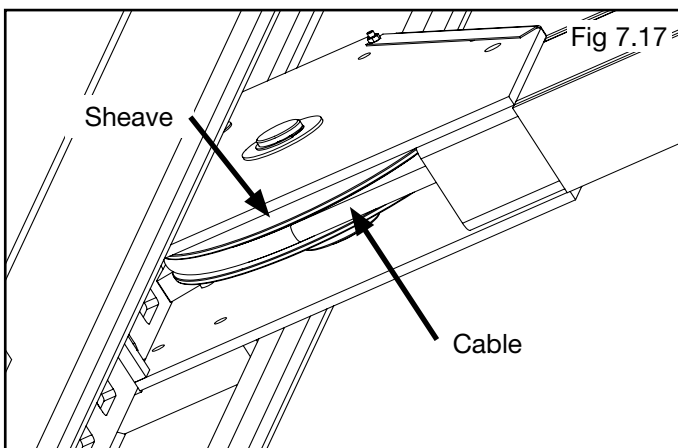


Fig 7.14

8. Route the cable ends through the ends of each cross-tube, over the SLACK SAFETY SHEAVE then to the top of each column. Secure using the M18 hex nuts and flat washers. Tighten each nut until there is at least 3/4" of threading protruding through the top of the nut. The cables will remain loose until start up and final cable adjustments are made. (See Fig. 7.15 - 7.16)



9. After routing the cables, make sure all cables are properly positioned and REMAIN WITHIN THE GROOVES of ALL Sheaves. (See Fig. 7.17 - 7.18)



! DANGER

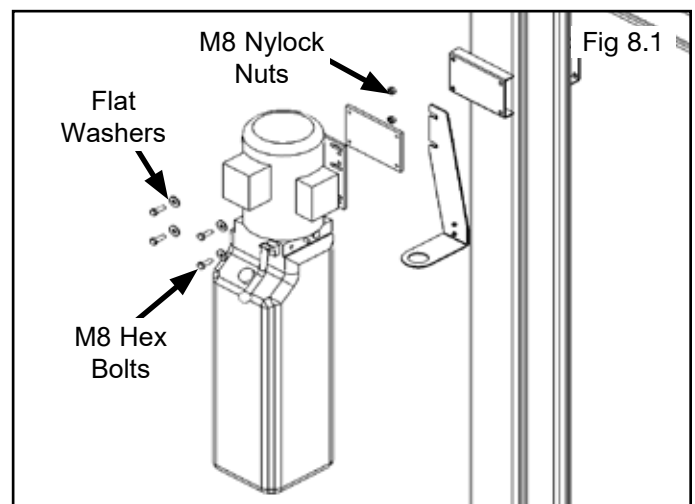
DANGER!
LIFTING CABLES ROUTED THROUGH THE CROSSTUBES MUST RUN BELOW THE CROSSTUBE MOUNTING BOLTS. SERIOUS DAMAGE OR INJURY CAN OCCUR IF CABLES ARE NOT ROUTED CORRECTLY.

! DANGER

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 (Mounting the Hydraulic Power Unit)

1. Mount the POWER UNIT to the Mounting Bracket using the Hex Bolts and Nylock nuts. Then FILL THE RESERVOIR with 21 quarts of 10-WT hydraulic oil or Dexron III automatic transmission fluid. (See Fig. 8.1)



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.



WARNING !

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.
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.

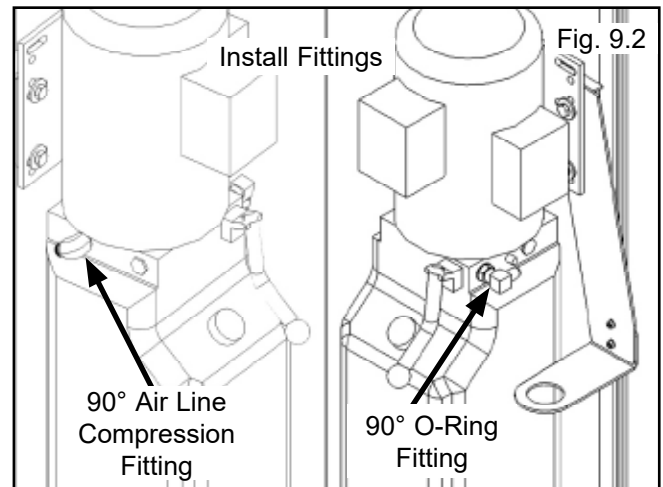
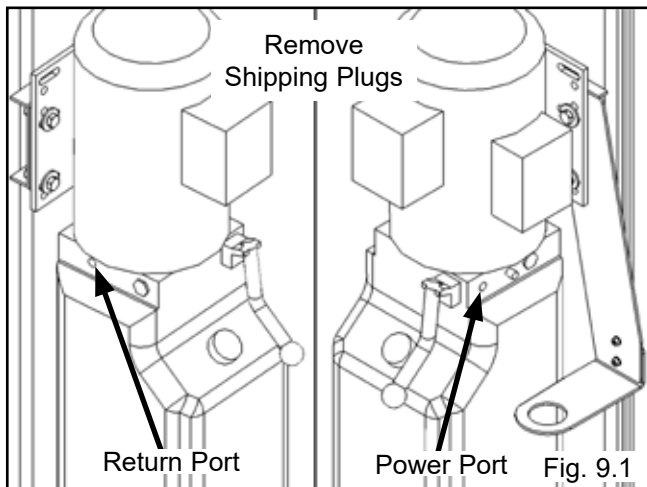
For 208-230 volt, single phase, use a 25 amp fuse.

For 208-230 volt, three phase, use a 20 amp fuse.

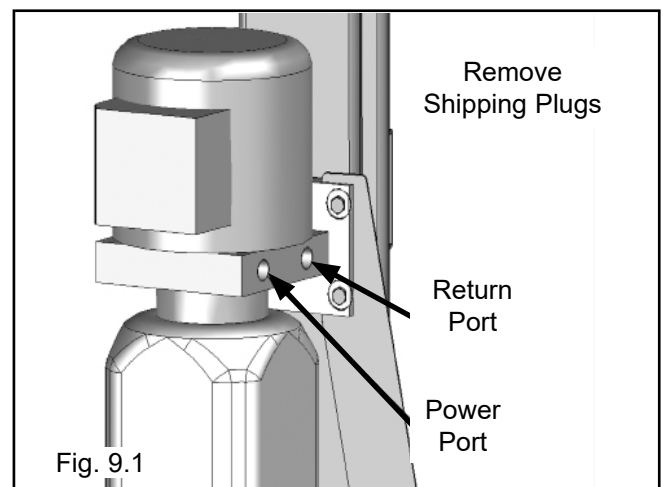
For 380-440 volt, three phase, use a 15 amp fuse.

STEP 9 (Routing Hydraulic Hoses)

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. 9.1 - 9.2)

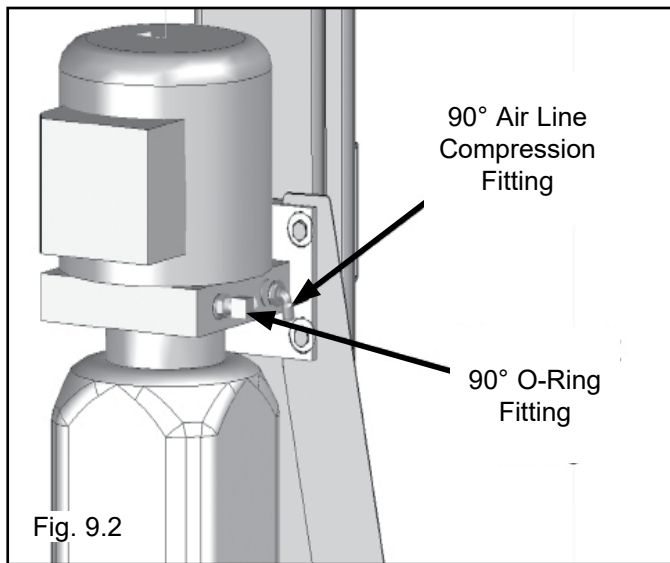


NOTE: Return Port may be on the same side as the Power Port on some models.

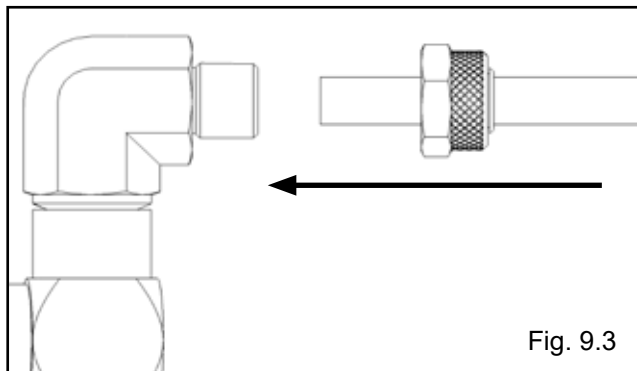


NOTE:

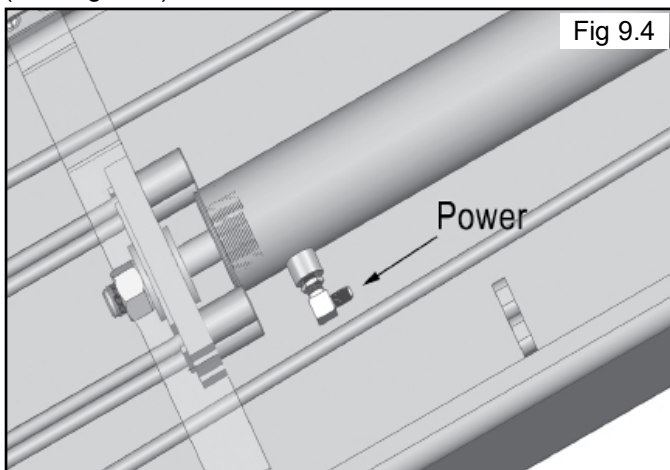
Check the Power Unit to determine proper connection ports for Power and Return lines. It will be necessary to remove shipping plugs from both ports prior to installing Fittings.



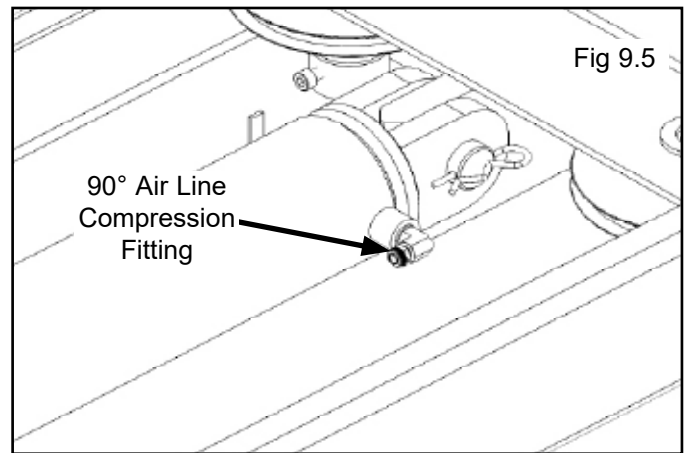
2. Remove the captive nut on the Compression Fitting. Insert the Plastic Air line through the alignment sleeve and into the end of the fitting until it bottoms out. Then tighten the nut on the fitting. (See Fig 9.3)



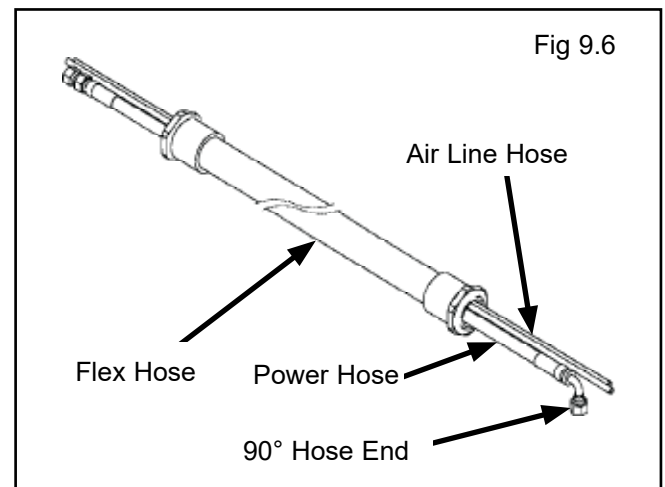
3. Install the 90-degree Hydraulic Fitting in the port at the ram end of the Cylinder. On the pipe thread side of the Fitting it is recommended to use Teflon Tape or pipe sealer. **DO NOT USE TEFLON TAPE** on the JIC flared end. (See Fig. 9.4)



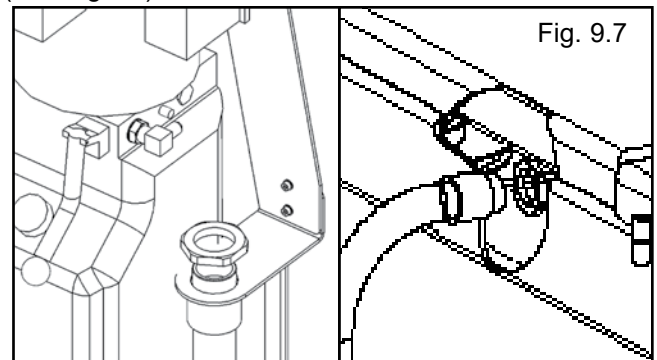
4. Install the 90-degree Air Line Compression Fitting in the port at the base, pinned end of the Cylinder. On the pipe thread side of the Fitting, it is recommended to use Teflon Tape or pipe sealer. (See Fig. 9.5)



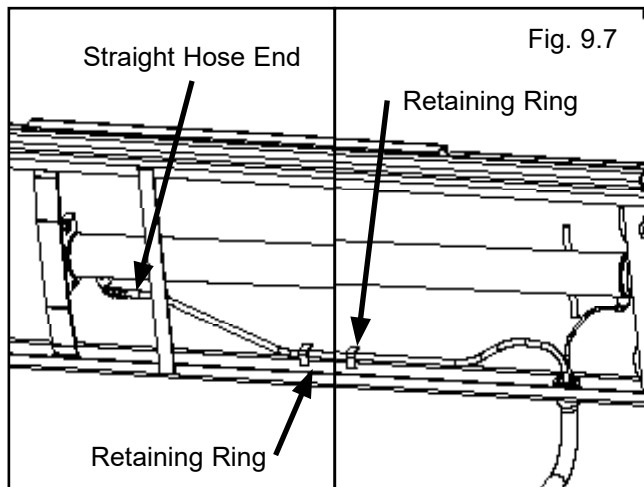
5. Route both the Power Unit Hydraulic Hose and TWO (2) lengths of Air Line through the Flex Hose. (See Fig. 9.6)



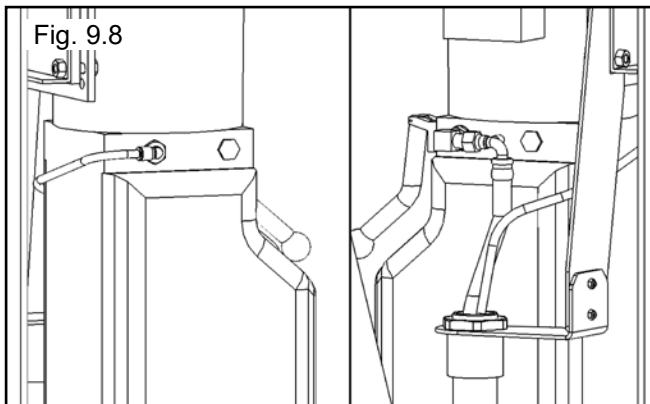
6. **Install the end of Flex Hose with the Straight Fitting on the Hydraulic Hose into the hole in the Powerside Runway adjacent to the Power Unit. Install the end of the Flex Hose with the 90° Fitting on the Hydraulic Hose in the Flex Hose Bracket Assy. Tighten the plastic nuts securely.** (See Fig 9.7)



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 19 for Compression Fitting instructions. (See Fig. 9.8)

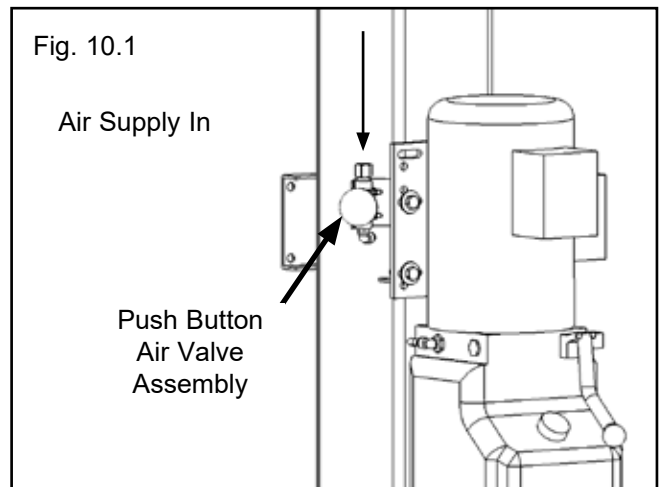


8. Connect the straight end of the Power Unit Hydraulic Line to the 90° Power Unit Fitting. Connect the Return Air Line to the 90° Air Fitting. There will be one air line hose left unconnected at this time. This air line hose will be used to activate the pneumatic safety locks on the next page. (See Fig. 9.9)

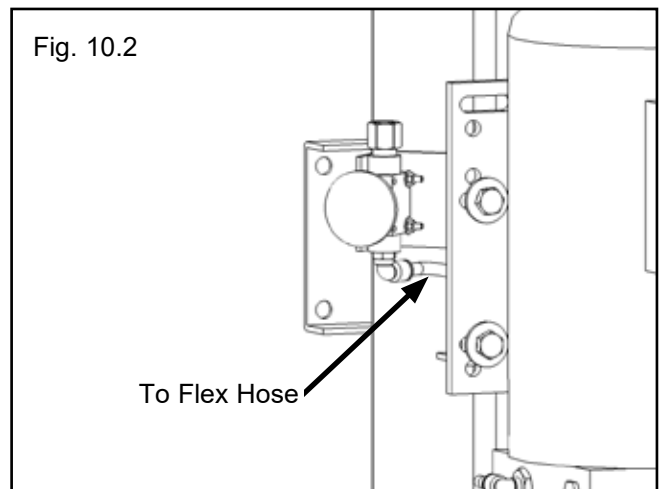


STEP 10 (Routing Air Lines)

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 10.1)



2. Route the air line that was left unconnected in Step 9 to the 90° Air Line Compression Fitting of the Push Button Air Valve Assembly. (See Fig 10.2)



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 20 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.

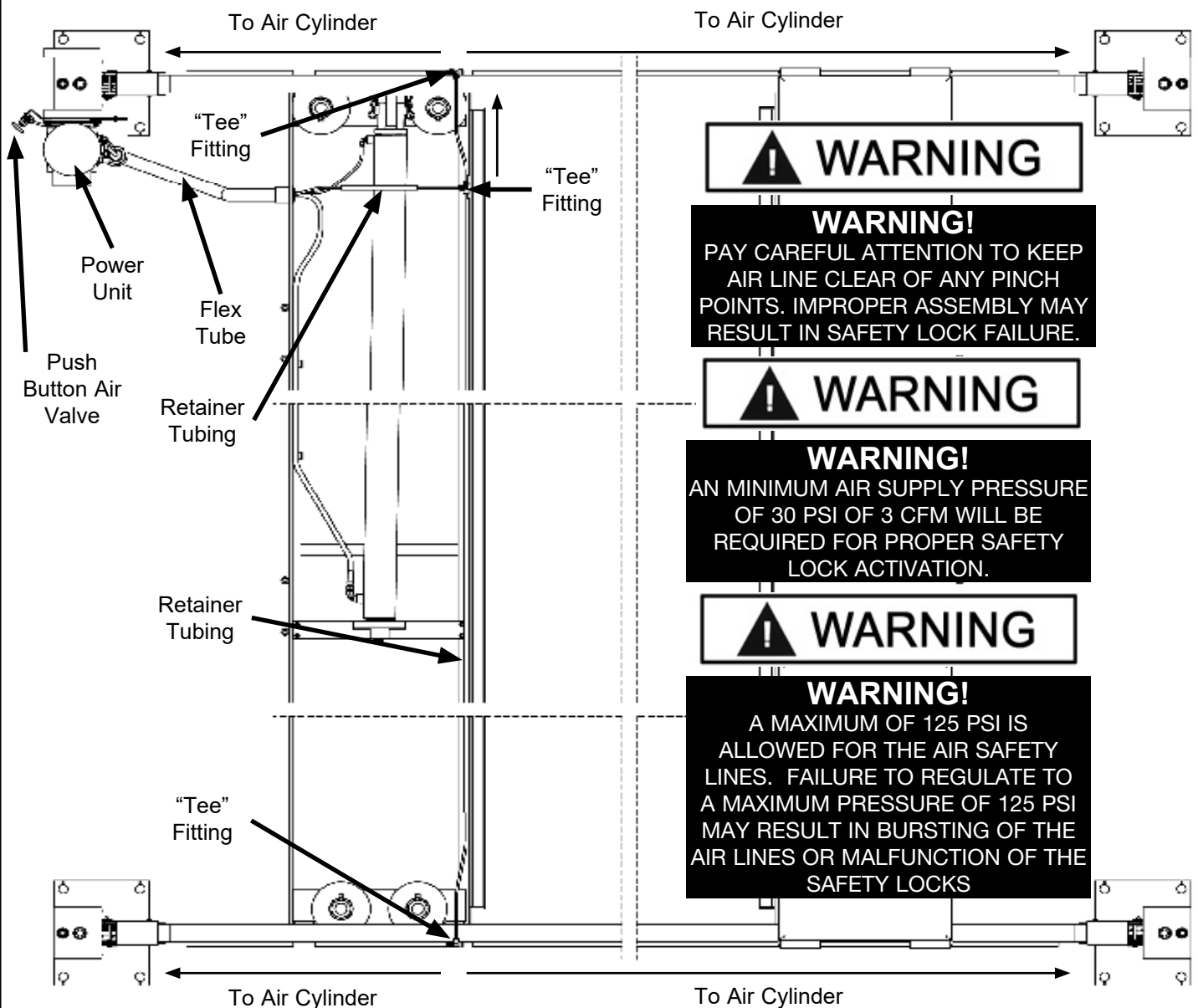
AIR TUBING ASSEMBLY:

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

AIR TUBING DISASSEMBLY:

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



WARNING

WARNING!

PAY CAREFUL ATTENTION TO KEEP AIR LINE CLEAR OF ANY PINCH POINTS. IMPROPER ASSEMBLY MAY RESULT IN SAFETY LOCK FAILURE.



WARNING

WARNING!

AN MINIMUM AIR SUPPLY PRESSURE OF 30 PSI OF 3 CFM WILL BE REQUIRED FOR PROPER SAFETY LOCK ACTIVATION.



WARNING

WARNING!

A MAXIMUM OF 125 PSI IS ALLOWED FOR THE AIR SAFETY LINES. FAILURE TO REGULATE TO A MAXIMUM PRESSURE OF 125 PSI MAY RESULT IN BURSTING OF THE AIR LINES OR MALFUNCTION OF THE SAFETY LOCKS

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



DANGER!

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.

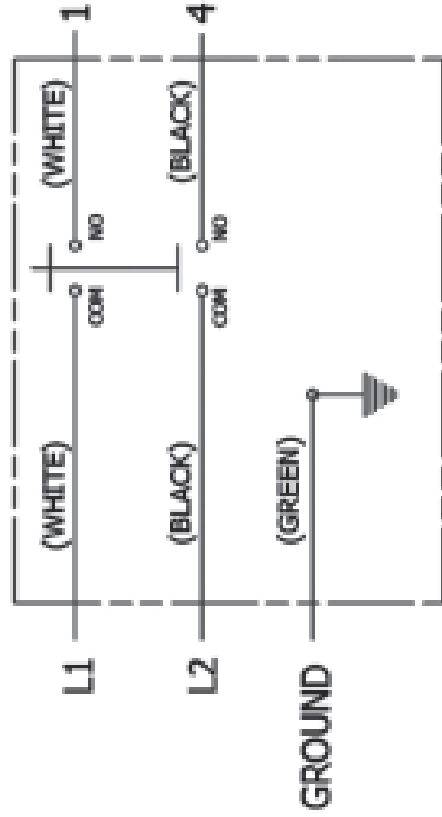
All wiring must be performed by a certified electrician only.

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.**

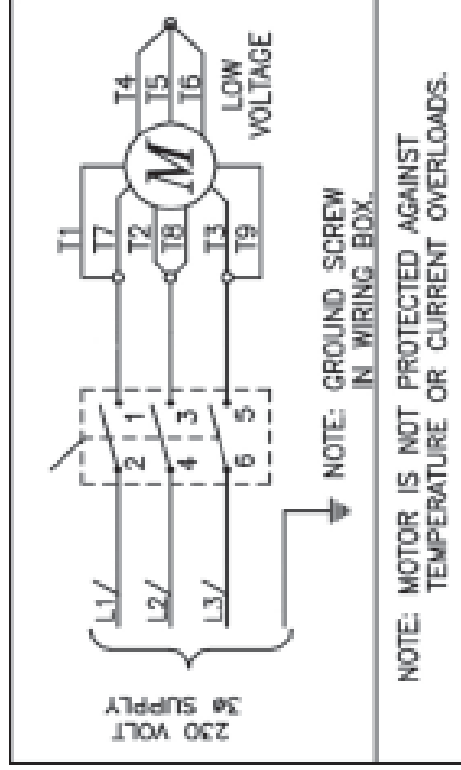
"S" MODEL

Single Phase 220V



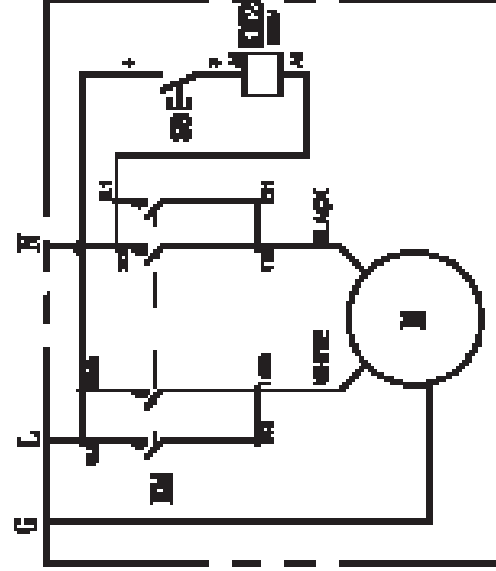
"S" MODEL

Three Phase 220V



"E" or "F" MODEL

Single Phase 220V



STEP 11 (Power Unit Electrical Connection)



DANGER !

ALL WIRING MUST BE PERFORMED
BY A LICENSED ELECTRICIAN.



DANGER!

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.

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



WARNING!

DO NOT RUN POWER UNIT WITHOUT OIL. DAMAGE TO
POWER UNIT 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 THE MOTOR.

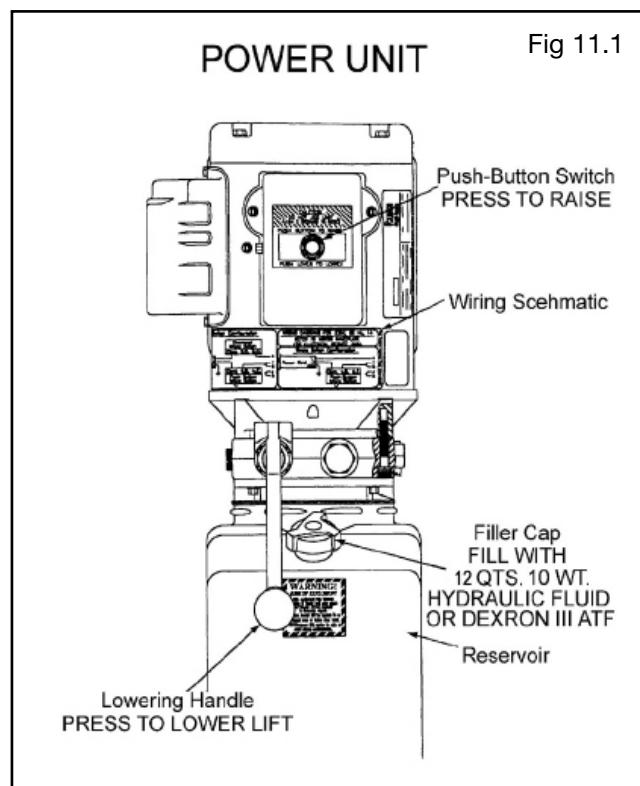
USE A SEPARATE CIRCUIT BREAKER FOR EACH POWER
UNIT. PROTECT EACH CIRCUIT WITH TIME DELAY FUSE
OR CIRCUIT BREAKER.

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.



DANGER!

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.



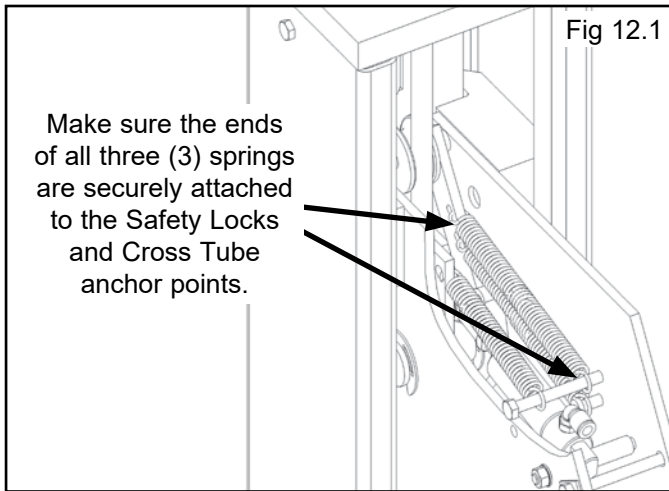
STEP 12 (Slack Safety Spring Inspection)



DANGER!

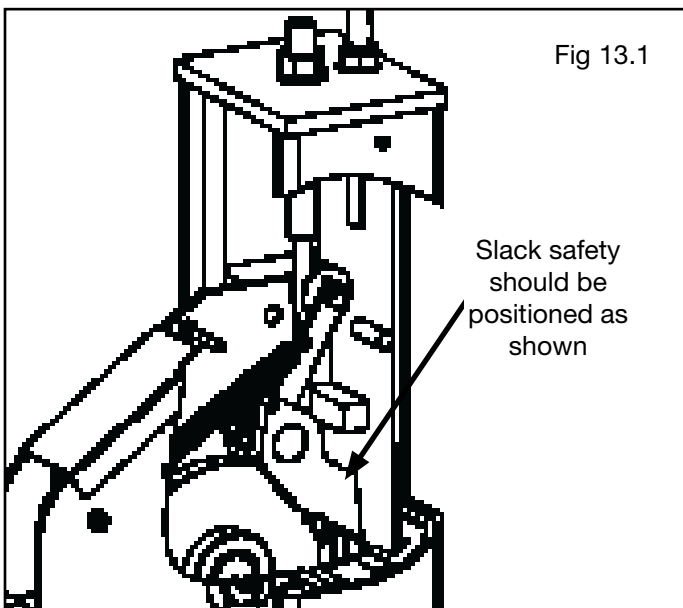
FAILURE TO FOLLOW THIS STEP MAY LEAD THE
SERIOUS PERSONAL INJURY OR DEATH IN THE
EVENT OF CABLE FAILURE.

1. Inspect the ends of 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 TOWARDS THE LADDERS BY
THE CABLES. (See Fig. 12.1)



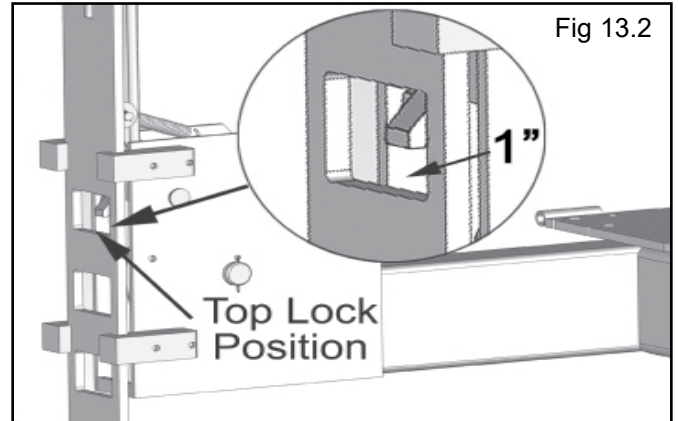
STEP 13 (Lift Start Up / Final Adjustments)

1. Make sure the Power Unit Reservoir is full with four (4) gallons of 10-WT hydraulic oil or Dexron-III automatic transmission fluid.
2. Spray the inside of the posts where the Slide Blocks glide with a light spray-oil.
3. Test the Power Unit by pressing the push-button switch on the motor. 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, make sure all cables are properly positioned within the grooves of ALL sheaves. Make sure all Cable Sheave Retaining Clips and or Screws are secure.
5. Check to make sure that all slack safety locks are cleared and free. (See Fig. 13.1)



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

7. RAISE LIFT UNTIL THE CYLINDER BOTTOMS OUT AND THE LIFT STOPS. ADJUST EACH CABLE SO THAT EACH SAFETY LOCK RESTS AT ONE INCH ABOVE THE TOP SAFETY LOCK POSITION. It may be necessary to tighten or loosen each Cable to reach the proper height. The Cable Nuts **MUST** be tightened until there is at least one inch of threads protruding through the nut. (See Fig. 13.2)



WARNING!

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 in the beginning 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 simulta-



WARNING!

KEEP HANDS AND FEET CLEAR. REMOVE HANDS AND FEET FROM ANY MOVING PARTS. KEEP FEET CLEAR OF LIFT WHEN LOWERING. AVOID PINCH POINTS.

neously.

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.

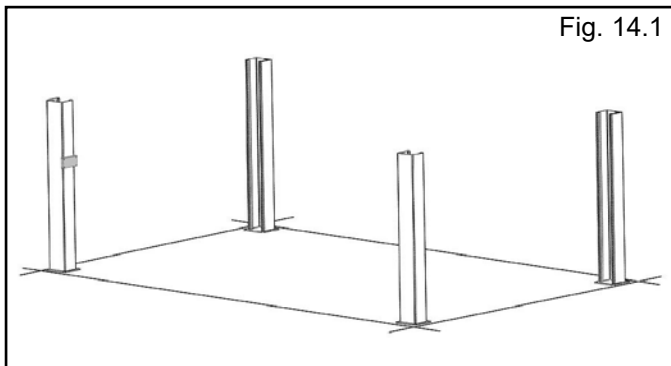
10. Run the lift up and down a few times to ensure that the locks are engaging uniformly and that the safety release mechanisms are functioning. Re-adjust if necessary.

STEP 14 (Optional - Anchoring the Posts)

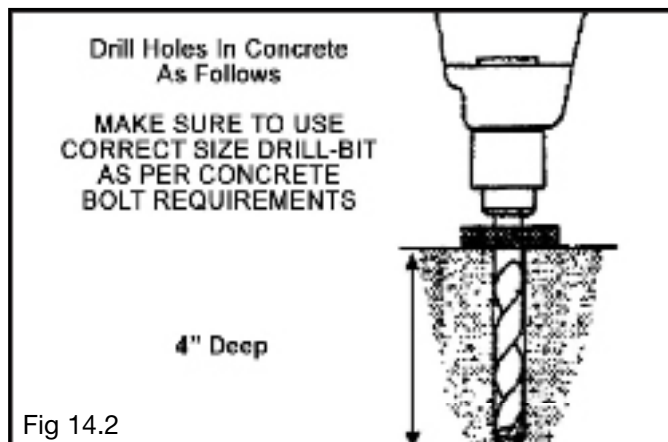
1. Before proceeding, make certain the lift is positioned

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).



with proper clearances around and overhead. (See Fig 14.1)
2. Using the base of the frame as a guide, drill each anchor hole in the concrete approximately 4" deep using a rotary hammer drill and 3/4" concrete drill-bit.



(See Fig 14.2)

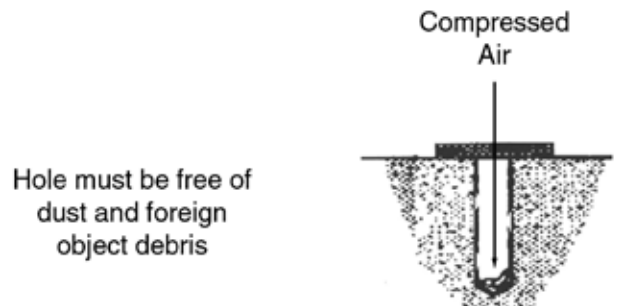


CAUTION!

SAFETY GLASSES SHOULD ALWAYS BE WORN WHEN DRILLING INTO CONCRETE. FAILURE TO WEAR SAFETY GLASSES COULD RESULT IN PERSONAL INJURY.

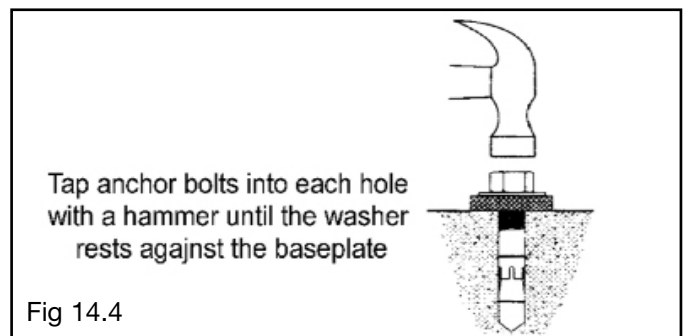
3. After drilling the anchor holes, remove the dust thoroughly from each hole using compressed air and/or wire

Fig. 14.3



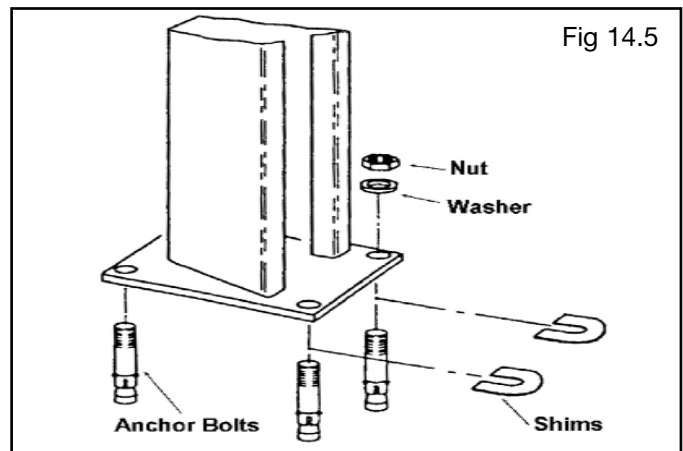
brush. (See Fig 14.3)

4. Assemble the washers and nuts on the anchors then tap into each hole with a hammer until the washer rests against the base. Be sure that enough threads are left

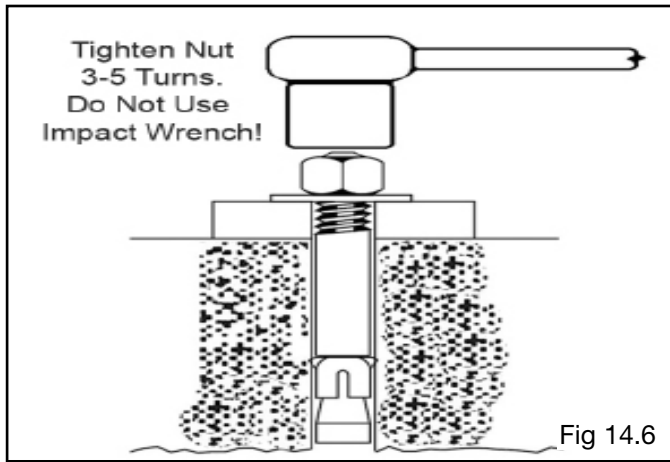


exposed, if shimming is required. (See Fig. 14.4)

5. If shimming is required, insert the shims as necessary



around each anchor bolt. (See Fig. 14.5)

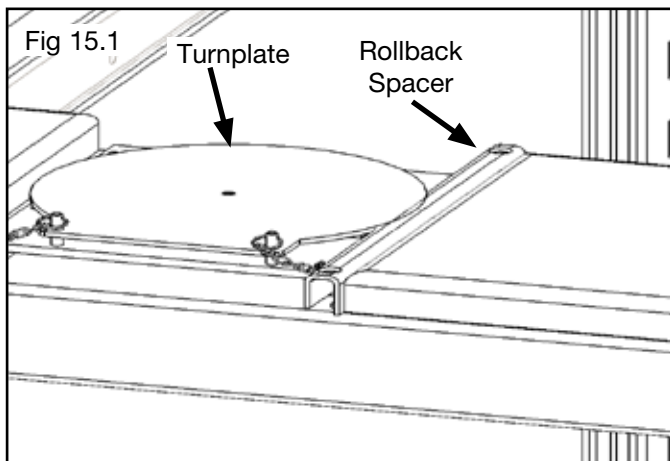


6. With the Shims and Anchor Bolts in place, tighten Nut three to five turns past finger tight. Do not use an Impact Wrench for this procedure. (See Fig. 14.6)

IMPORTANT !

If Anchor Bolts do hold when torqued to required 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.

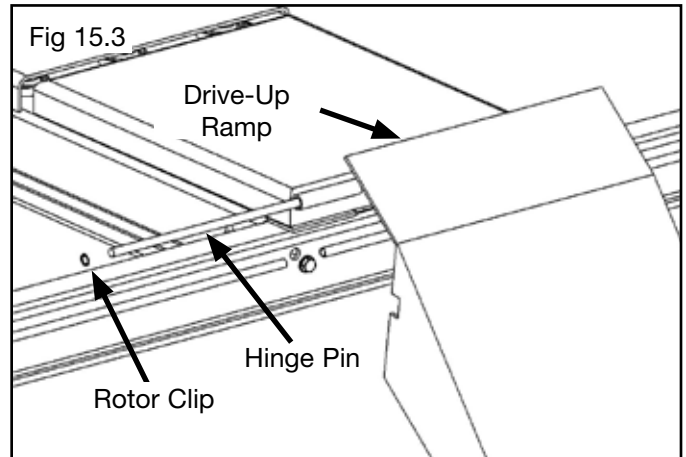
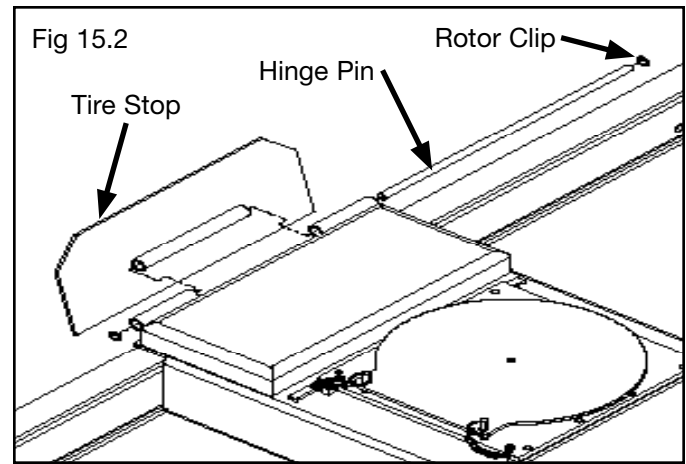
STEP 15 (Installing Accessories)



1. Place the Turnplates in the Turnplate pockets. Insert the Rollback Spacer Bars between the Turnplate and risers as needed for alignment procedures. (See Fig 15.1)

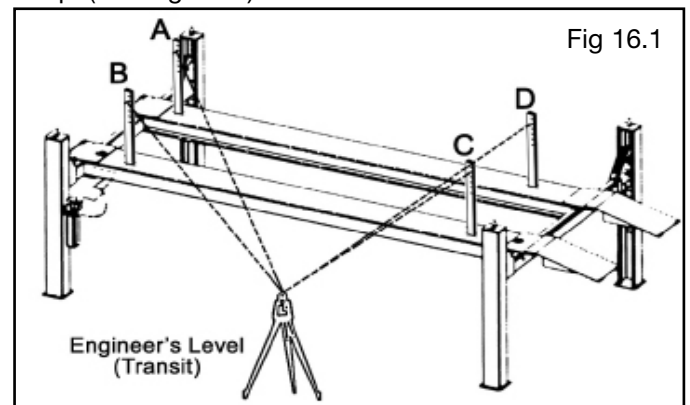
2. Install the Front Tire Stops using the Hinge Pins and rotor-clips as shown. (See Fig. 15.2)

3. Install the Drive-Up Ramps using the Hinge Pins and rotor-clips as shown. (See Fig. 15.3)



STEP 16 (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 completely resting on the same Safety Ladder position on all Safety Ladders.
4. Place a Level target on the right/front corner of the ramp. (See Fig. 16.1)



5. Beginning with the “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 crosshairs of the Level. (See Fig. 16.1)

NOTE:

USE A PENCIL, MARKING PEN, OR ATTACH A PAPER CLIP ON TO THE TARGET SCALE AT THE CROSS HAIR REFERENCE

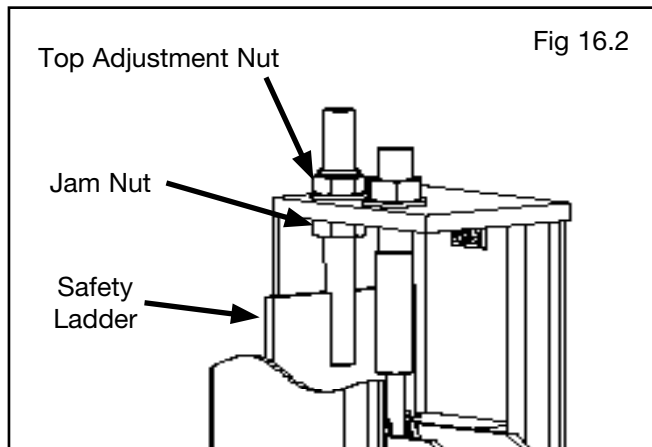
6. Next, move the target and place it at point “B” on the ramp. (See Fig. 16.1)

7. Rotate the Level and focus on the target scale.

8. Adjust the Adjustment Nut on the Safety Ladder at the top of the post at “B” until the crosshairs of the Level align to reference mark on the target scale. (See Fig. 16.1)

9. Repeat steps locating the target assembly at points “C” and “D” and adjusting Safety Ladders at each corresponding post until the reference mark on the target scale is on the crosshairs of the Level. The ramps are now level at all four points. (See Fig. 16.1)

10. To complete the leveling procedures, lock each Safety Ladder jam nut tightly against bottom of Post Top Plate. (See Fig. 16.2)



11. Next, load vehicle onto the lift.

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

NOTE:

SAFETY LOCKS MAY NOT ENGAGE AT EXACTLY THE SAME TIME WHEN VEHICLES ARE BEING RAISED, BUT 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 17 (Bleeding the Cylinder)

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 low. 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, raise 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.

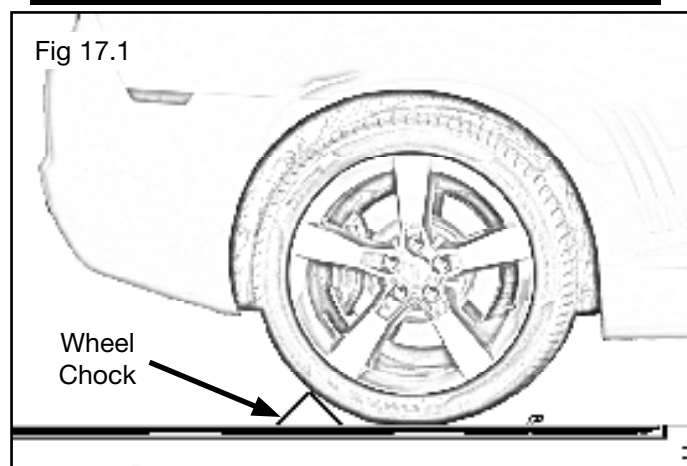


WARNING

WARNING!

Wheels Chock must be used on the rear wheels.
(See Fig 17.1)

Fig 17.1



POST-INSTALLATION CHECKLIST

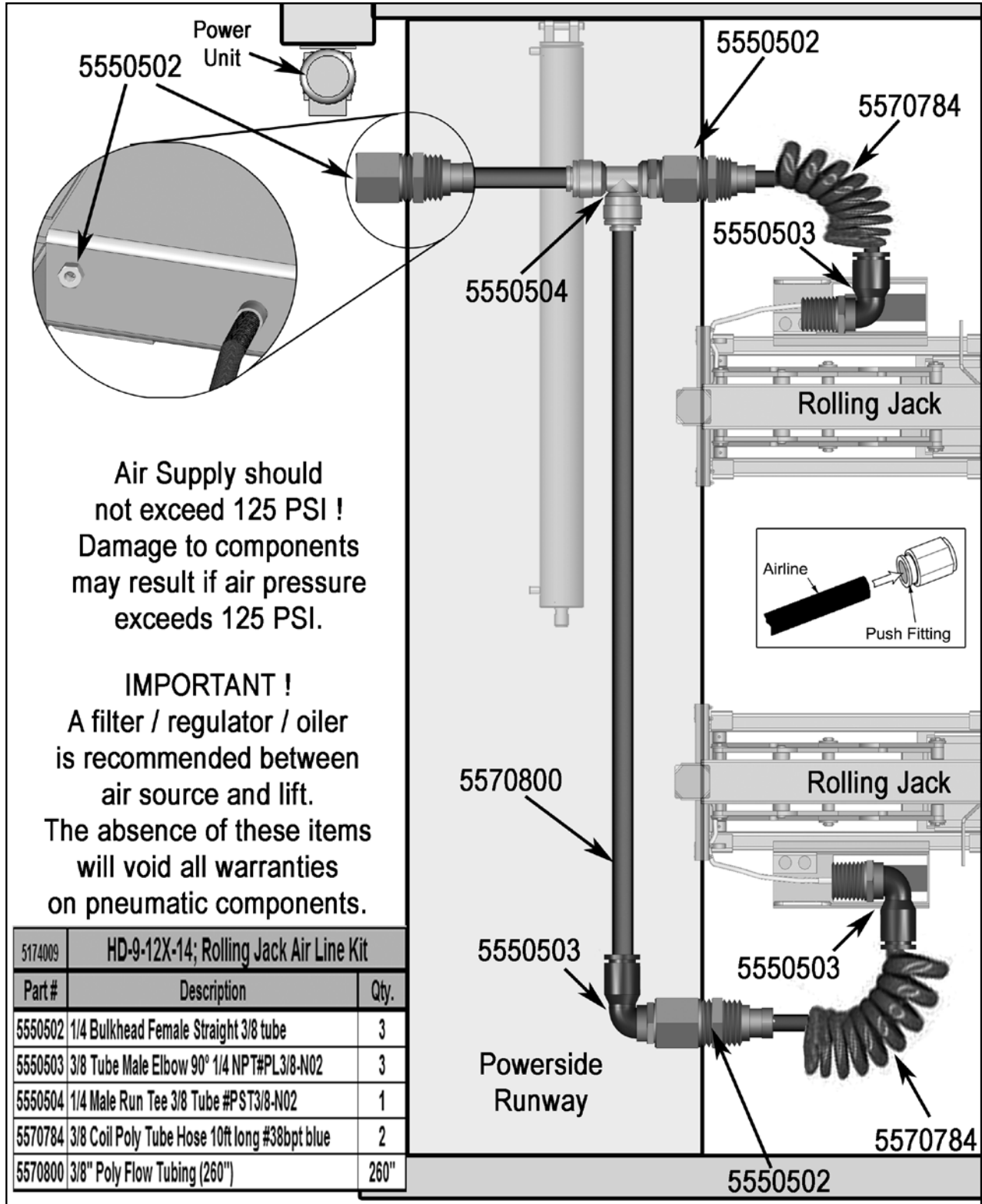
- Columns properly shimmed and stable
- Anchor Bolts tightened
- Pivot / Sheave Pins properly attached
- Electric power supply confirmed
- Cables adjusted properly
- Safety Locks functioning properly
- Check for hydraulic leaks
- Oil level
- Lubrication of critical components
- Check for overhead obstructions
- 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

OPTIONAL EQUIPMENT INSTALLATION

Rolling Jack maximum weight capacity for use with
HD-9 is 4,500 lb (2,041 kg) per unit.

HD-9-12X-14 Rolling Jack Air Line Kit Installation Part # 5174009

REV 01-06-09



Utility Air-Electric Workstation

Utility Station may be mounted on the vertical column of the lift or on a wall.

IMPORTANT: Check State or Local codes for any height requirements for the electrical outlets before mounting.

Adapter Plate Required for HD-9,12,14; HDS-14

To mount the Utility Station on a Lift Column, use the Box as a template, mark and drill 11/32" diameter holes. Use 5/16" diameter bolts and lock nuts to secure to the side of the lift.

IMPORTANT: The hole locations are critical to avoid interference with the carriage slide blocks.

For Wall mounting, mount in the same fashion, use appropriate hardware for either sheet rock or concrete.

IMPORTANT: All electrical wiring shall comply with all State and Local Codes.

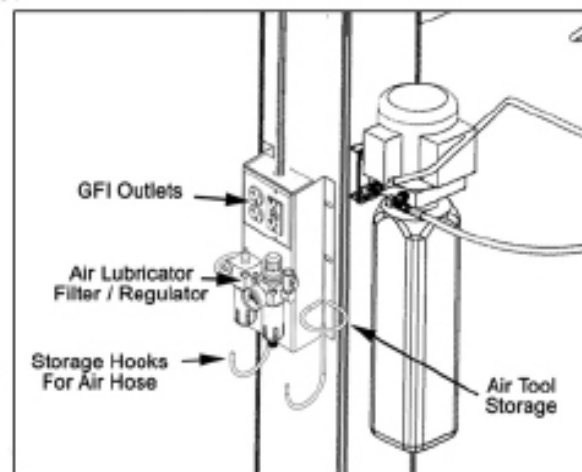
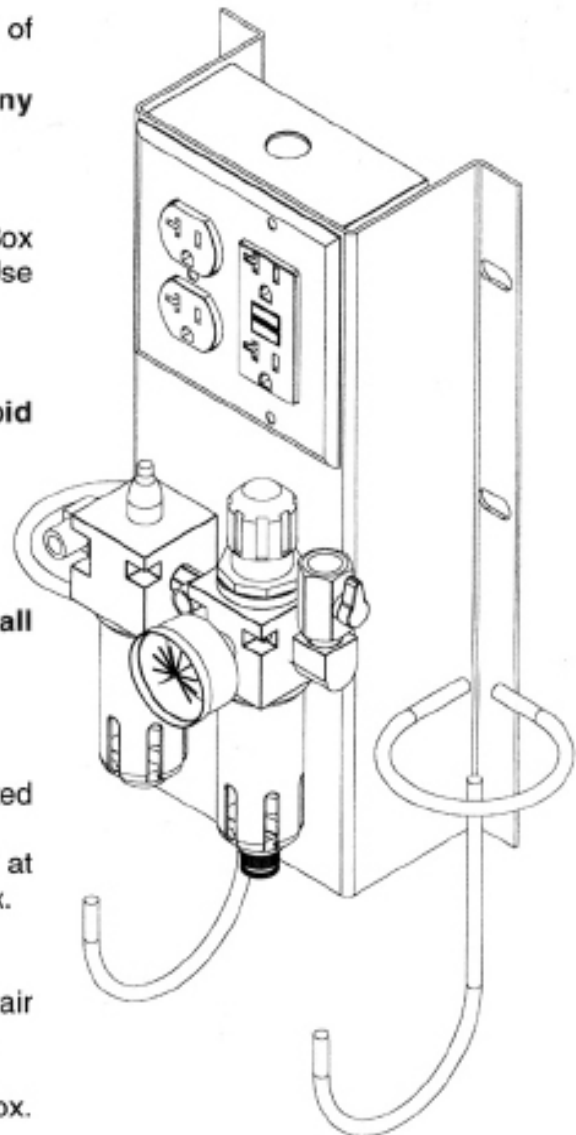
Connect electrical wiring to single phase, 60Hz 115 volt electrical supply using suitable conduit (not supplied). The duplex receptacle must be connected through the GFCI with the input line to the box connected to a circuit breaker or time delay fuse rated at 20 amps. Both receptacles must be grounded to the box.

Connect main air supply to 1/4" ball valve inlet on the Utility Station (Run 1/2" line from compressor or main air system to Utility Station.)

Install Quick Couplers to the 1/4" male fittings on the box. The air supply between the filter and the lubricator will be non-lubricated, used for tire inflation or blowing off. The air outlet on the left side will be lubricated for air tool use.

Regulator Instructions

- Regulate pressure by raising the knob, then turning clockwise to increase and counterclockwise to decrease. Push knob down to lock setting.
- Adjust the oil mist using the screwdriver slot located on top of the lubricator.
- To fill the lubricator, first depressurize the air system, remove the slotted screw plug in the body. Replace the screw before repressurizing.



Adapter Plate Required for HD-9,12,14; HDS-14

STEP 18

(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

STEP 19

(Lift Operation Safety)



WARNING!

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.

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.



- **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.

LIFT OPERATION SAFETY (CONT'D)

- **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:

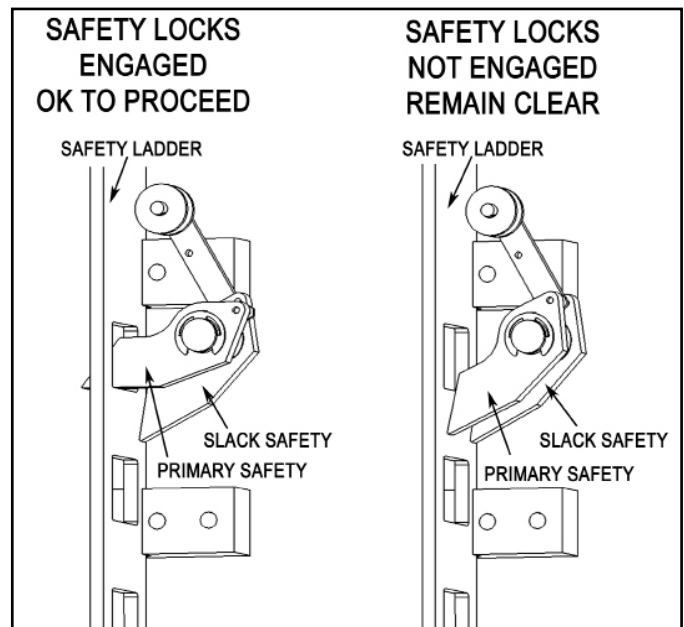
ALLOW (2) SECONDS BETWEEN MOTOR STARTS. FAILURE TO COMPLY MAY CAUSE MOTOR BURNOUT.

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.



DANGER!

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.



WARNING!

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.

LIFT OPERATION SAFETY (CONT'D)

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.



CAUTION!

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.

- 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 Pound Feet.
- 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.

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.

WIRE ROPE INSPECTION AND MAINTENANCE



◆ Lifting cables should be replaced every three to 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 internally and externally. 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.

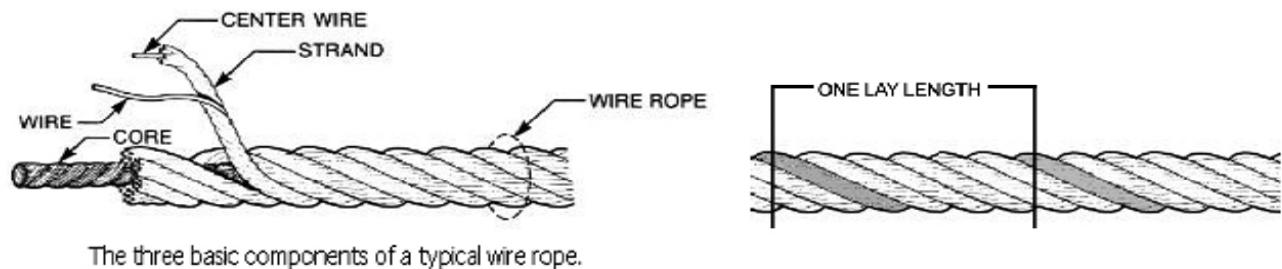
HOW OFTEN TO INSPECT

◆ 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 cable that has met the criteria for removal from service 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.

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 customer's vehicles. By operating lifts safely you can insure 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.

Safe Lift Operation (Cont'd)



- ◆ **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 INSURE** 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 if 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 | Contact BendPak Customer Support. |
| 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

- | | |
|--|---|
| 1. Check for correct voltage | INSTRUCTION
.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
ductors...
not exceed
Do not run motor
occur. | According to N.E.C. : " The size of the conductors should be such that the voltage drop would be 3% to the farthest outlet for power..." 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
Motor | Make sure unit and wall outlet is wired properly. 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

- | | |
|---|--|
| 1. See Installation Manual | INSTRUCTION
Contact BendPak Customer Support. |
| 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

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 | Contact BendPak Customer Support. |
| 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 32-33 and 40. 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

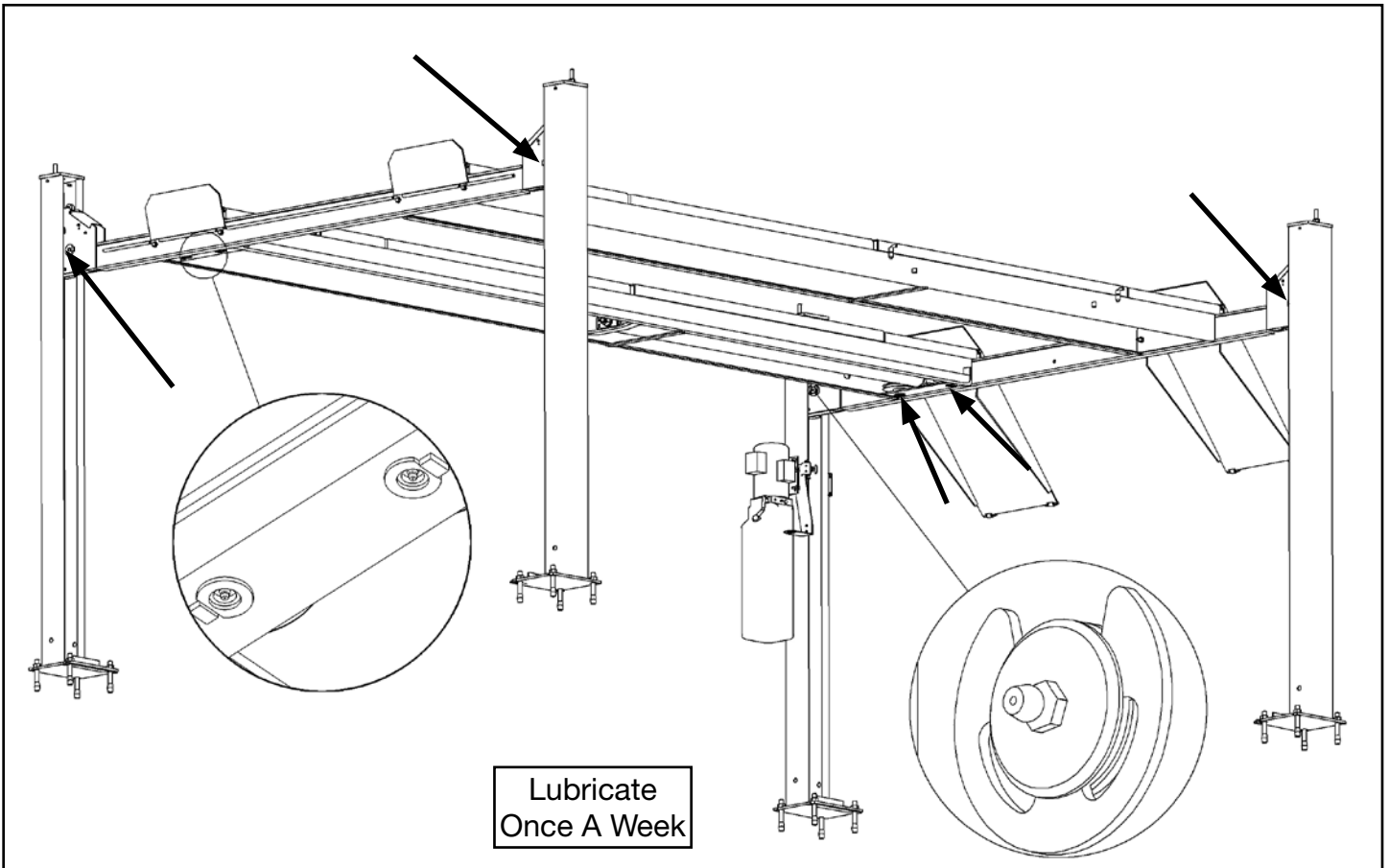
1. Air in oil, (1,2,3)
2. Check valve leaks, (6)
3. Cylinders leak internally, (7)
4. Lowering valve leaks, (4,5,1,7,6)
5. Leaking fittings, (8)

REMEDY

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. 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 | Contact BendPak Customer Support. |
| 8. Check complete hydraulic system for leaks. | Tighten all hydraulic fittings and inspect all hoses. |

Grease Port / Lubrication Locations



Torque Recommendations

VALUES ARE STATED IN FOOT POUNDS (ft-lb)

					
		SAE 0-1-2	SAE Grade 5	SAE Grade 8	SOCKET HEAD CAP SCREW
		CLASS 4.8	CLASS 8.8	CLASS 10.9	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			

A

B

C



⚠ DANGER

VISUALLY CONFIRM THAT ALL PRIMARY SAFETY LOCKS ARE ENGAGED BEFORE ENTERING WORK AREA.

Temporaneamente sospeso dalla BP fino alla verifica del nome e della data di scadenza dei dispositivi di sicurezza. Non usare il sollevatore se i dispositivi di sicurezza non sono conformi alle norme. Assicurarsi che il sollevatore sia in sicurezza. Consultare il manuale per le procedure di sicurezza e le istruzioni supplementari.

VÉRIFIER VISUELLEMENT QUE TOUS LES VERROUS DE SÉCURITÉ PRIMAIRES SONT ENGAGÉS AVANT D'ENTRER DANS LA ZONE DE TRAVAIL.

Les composants de suspension de cet élévateur sont destinés à élever et abaisser l'ascenseur, ce ne sont pas des dispositifs de maintien de la charge. Ne pas entrer dans la zone de travail avant d'avoir vérifié visuellement que tous les verrous de sécurité sont engagés. Consultez le manuel pour les procédures de serrage de sécurité et les instructions supplémentaires.

⚠ WARNING

Wire Rope Inspection and Maintenance

- Inspect the wire rope for wear or damage to prevent such as excessive broken strands, kinks, fraying, or areas of heavy bending.
- Keep the rope in a well-lubricated condition at all times. Wire rope is only fully protected when such conditions are lubricated, both internally and externally. Damaged areas should be replaced immediately. Do not use rope lubricant that contains oil or grease and provides long-term lubrication. Lubrication should be applied to the rope every three months during normal operation.
- All sheaves and guide rollers in contact with the moving wire rope should be given regular visual checks for surface wear and lubrication. Replace any that are worn. This should be done at least every three months during normal operation. For sheaves only, use standard wheel bearing grease. For all other wire rope guide rollers, use 30-WT grease or a similar heavy lubricant applied by every member before beginning the next inspection. Inspect, handle, and maintain.

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

⚠ ATTENTION

Inspection et maintenance des câbles

- Inspectez les câbles de levage et l'état des rouleaux pour éviter les dommages tels que des brins cassés, des nœuds, des franges ou des zones de forte déformation.
- Conservez les câbles dans un état bien lubrifié. Les câbles ne sont entièrement protégés que lorsqu'ils sont lubrifiés à l'intérieur et à l'extérieur. Les zones endommagées doivent être remplacées immédiatement. Ne pas utiliser de lubrifiant qui contient de l'huile ou du graisse et qui fournit une lubrification à long terme. Utilisez un lubrifiant standard pour les rouleaux à roulement à billes. Pour tous les autres rouleaux à câble, utilisez une graisse 30-WT ou une graisse similaire appliquée par tous les membres avant de commencer la prochaine inspection. Inspectez, manipulez et maintenez.
- Vérifiez les rouleaux et les guides de câble en contact avec le câble mobile. Vérifiez régulièrement l'usure de surface et lubrifiez-les. Remplacez-les s'ils sont usés. Cela doit être fait au moins tous les trois mois pendant une utilisation normale. Pour les rouleaux à roulement à billes, utilisez une graisse standard pour roulement à billes. Pour tous les autres rouleaux à câble, utilisez une graisse 30-WT ou une graisse similaire appliquée par tous les membres avant de commencer la prochaine inspection. Inspectez, manipulez et maintenez.

Utilize e comprenez ces instructions avant d'utiliser l'ascenseur. Ne pas lire, comprendre et suivre ces instructions peut provoquer des blessures graves, voire mortelles.

IMPORTANT

OPERATION / MAINTENANCE INSTRUCTIONS - PLEASE READ

TO RAISE LIFT

- 1. Position vehicle front of the vehicle in work position.
- 2. Set parking brake and chock wheels to prevent vehicle movement.
- 3. Release safety catch and move lift control lever to the "UP" position.
- 4. Move the control lever to the "UP" position and the lift will rise.
- 5. When the vehicle is raised, move the control lever to the "DOWN" position.
- 6. When the vehicle is lowered, move the control lever to the "DOWN" position.
- 7. When the vehicle is lowered, move the control lever to the "DOWN" position.

TO LOWER LIFT

- 1. Move the control lever to the "DOWN" position.
- 2. When the vehicle is lowered, move the control lever to the "DOWN" position.
- 3. When the vehicle is lowered, move the control lever to the "DOWN" position.
- 4. When the vehicle is lowered, move the control lever to the "DOWN" position.
- 5. When the vehicle is lowered, move the control lever to the "DOWN" position.
- 6. When the vehicle is lowered, move the control lever to the "DOWN" position.
- 7. When the vehicle is lowered, move the control lever to the "DOWN" position.

REQUIRED MONTHLY MAINTENANCE

- 1. Visual inspection of the lift control lever and the lift control lever.
- 2. Visual inspection of the lift control lever and the lift control lever.
- 3. Visual inspection of the lift control lever and the lift control lever.
- 4. Visual inspection of the lift control lever and the lift control lever.
- 5. Visual inspection of the lift control lever and the lift control lever.
- 6. Visual inspection of the lift control lever and the lift control lever.
- 7. Visual inspection of the lift control lever and the lift control lever.

⚠ WARNING

Following the use of the lift, the user must ensure that the lift is in a safe condition and that the lift is not used until it is in a safe condition.

⚠ ATTENTION

Après l'utilisation de l'ascenseur, l'utilisateur doit s'assurer que l'ascenseur est en sécurité et qu'il ne doit pas être utilisé jusqu'à ce qu'il soit en sécurité.

⚠ CAUTION

Lift to be used by trained operator only.

⚠ CAUTION

Automatic platform only to lift area.

⚠ WARNING

Clear area of vehicle in danger of falling.

⚠ WARNING

Barriers clear of lift when entering or leaving vehicle.

⚠ WARNING

Keep clear of pinch points when lift is moving.

⚠ WARNING

Keep feet clear of lift while lowering.

⚠ WARNING

Do not operate self-lifting in corners.

⚠ WARNING

Check wheel to prevent vehicle movement.

NOTICE

Read operating and safety manuals before using lift.

NOTICE

Proper maintenance and inspection is necessary for safe operation.

NOTICE

Do not operate a damaged lift.

NOTICE

The lift should be inspected before use and after use. If the lift is damaged, it should not be used until it is repaired.

NOTICE

The lift should be inspected before use and after use. If the lift is damaged, it should not be used until it is repaired.

D

⚠ DANGER

THE MAXIMUM LIFTING CAPACITY FOR THIS LIFT IS DESCRIBED BELOW

Maximum Lifting Capacity
9,000 lbs. / 4,082 kg
Max. Lifting Cap. / Front of Lift Center
4,500 lbs. / 2,041 kg
Max. Lifting Cap. / Rear of Lift Center
4,500 lbs. / 2,041 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.

LA CAPACITÉ DE LEVAGE MAXIMUM POUR CE LEVAGE EST DÉCRIT CI-DESSOUS

Capacité de Levage Maximale
9,000 lbs. / 4,082 kg
Max. Capacité De Levage. / Avant du centre de relèvement
4,500 lbs. / 2,041 kg
Max. Capacité De Levage. / Arrière du centre de levage
4,500 lbs. / 2,041 kg

Le dépassement de la capacité de poids de cet élévateur peut endommager l'ascenseur et / ou les biens et peut causer des dommages corporels, des blessures voire la mort aux opérateurs et / ou aux passants. Tous les véhicules DOIVENT être placés sur l'élévateur avec le CENTRE DE GRAVITÉ à mi-chemin entre les adaptateurs et / ou au centre des pistes. Dommages à soulever dus à la surcharge ou une mauvaise utilisation N'EST PAS couverte par la garantie.

US 130445

G

NOTICE

If attachments, accessories, or configuration modifying components used on this lift are located in the load path and affect operation of the lift, affect the lift electrical listing, or affect intended vehicle accommodation; and if they are not certified for use on this lift, then the certification of this lift shall become null and void. Contact the participant for information pertaining to certified attachments, accessories, or configuration modifying components.

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H

CERTIFIED AUTOMOTIVE LIFT

ALI CERTIFIED
To the provisions of
ANSI/ALI ALCVT-2011
SAFETY REQUIREMENTS FOR
CONSTRUCTION, TESTING
AND VALIDATION

Automotive Lift Institute, Inc. | Colford, NY 13045

MET LISTED
Conforms to
ANSI/UL 201
SAFETY STANDARD FOR
GARAGE EQUIPMENT

MET LISTED
MET®
US
MET Laboratories, Inc.
BALTIMORE, MD 21230

Certification Label Serial Number
AL00617000J

E

⚠ ATTENTION ⚠

**MAXIMUM LIFTING CAPACITY
CAPACITÉ DE LEVAGE MAXIMUM**

**9000 Lbs.
4082 Kg.**

F 21 000477

I

BP BendPak. Santa Paula, CA USA
www.bendpak.com

MODEL NUMBER	
DESCRIPTION	
LIFT CAPACITY	DATE OF MFG.
ROLLING JACK MAX. CAP.	MAX PSI / BAR
VOLTAGE	SERIAL NUMBER
☐ 110-240V, 50-60 Hz, 1 Ph ☐ 208-240V, 50-60 Hz, 1 Ph ☐ 380-415V, 50-60 Hz, 3 Ph ☐ 208-440V, 50-60 Hz, 3 Ph	UPC

⚠ DANGER! ⚠ ENE
Before Servicing

WARRANTY VOID IF DATA PLATE IS REMOVED PN 5095952

F

BP BendPak. PROVIDERS AUTOMOTIVE SERVICE SOLUTIONS
SANTA PAULA, CA USA
WWW.BENDPAK.COM
PN 5095942

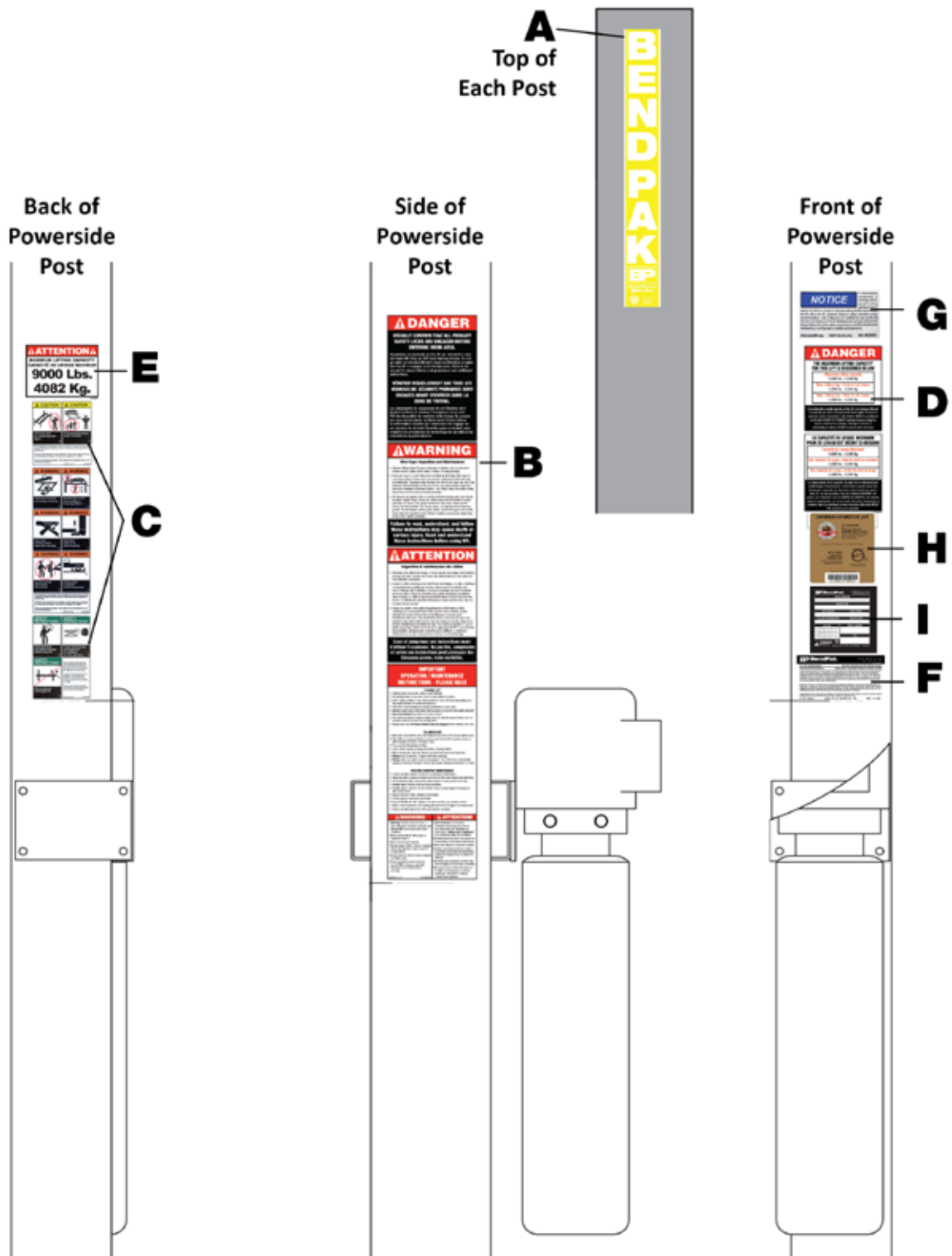
LIFT TYPE: SURFACE MOUNT MFG. B/PK SEE DATA PLATE FOR PRODUCT DETAILS
POWER: ELECTRIC/HYDRAULIC INSTALLATION - SEE OWNERS GUIDE OR CONTACT FACTORY

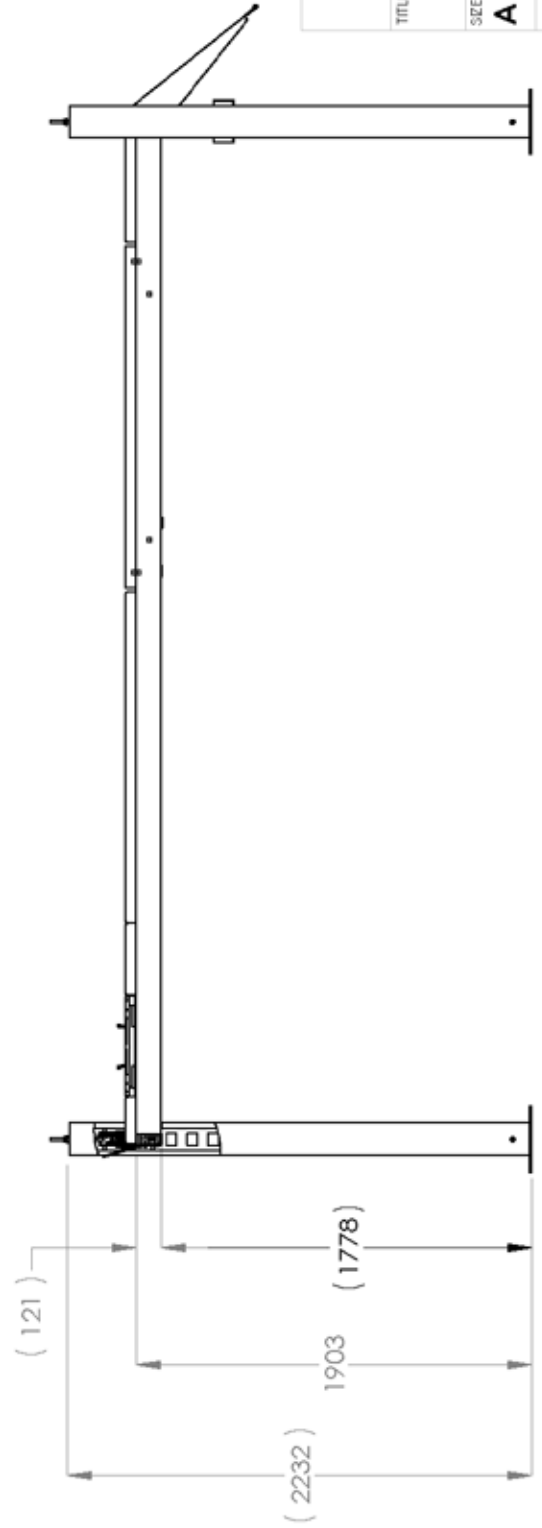
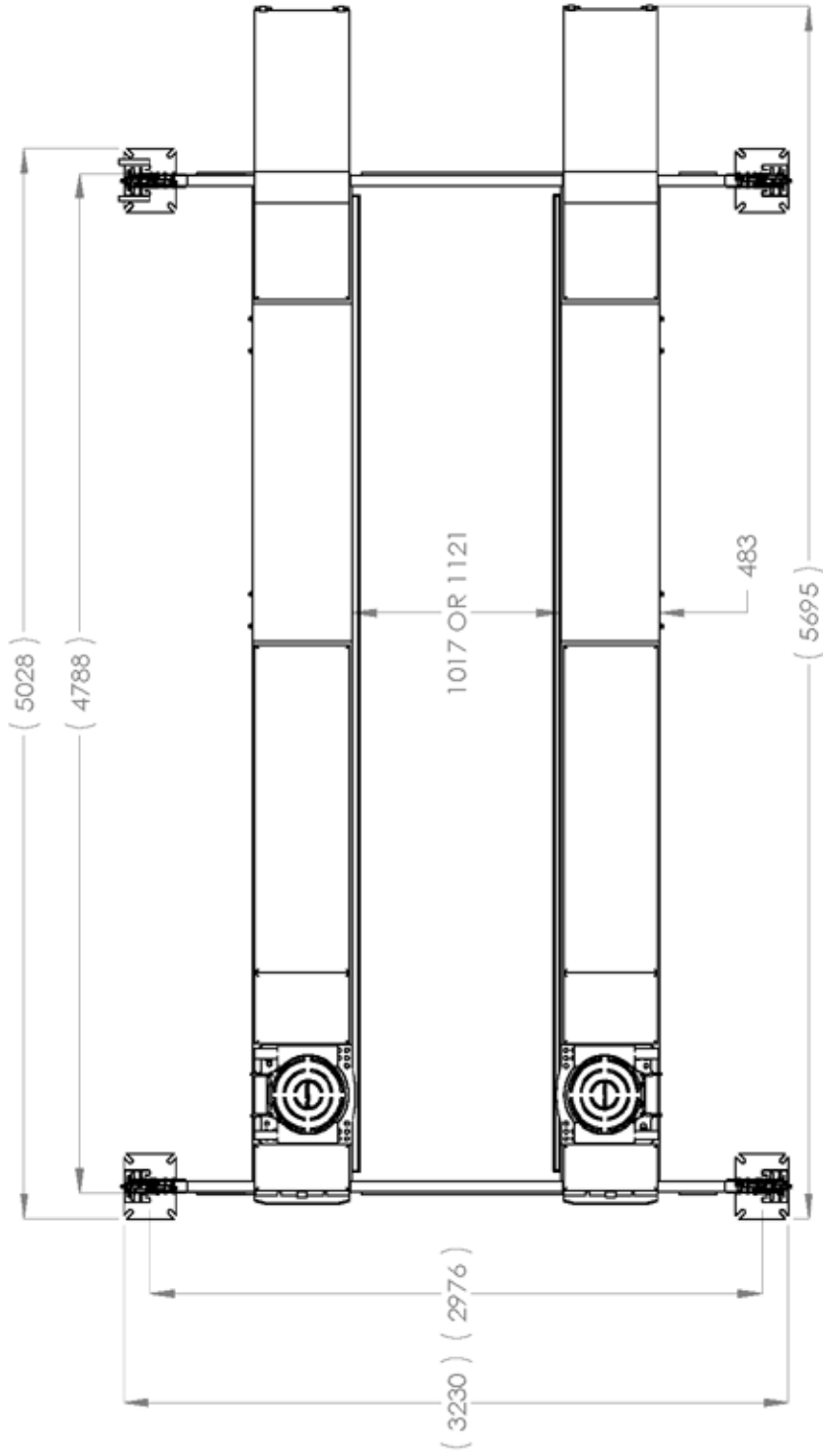
SAFETY INSTRUCTIONS: IF ATTACHMENTS, ACCESSORIES OR CONFIGURATION MODIFYING COMPONENTS THAT ARE LOCATED IN THE LOAD PATH, AFFECT OPERATION OF THE LIFT, AFFECT THE LIFT ELECTRICAL LISTING OR AFFECT INTENDED VEHICLE ACCOMMODATION ARE USED ON THIS LIFT AND IF THEY ARE NOT CERTIFIED FOR USE ON THIS LIFT, THEN THE CERTIFICATION OF THIS LIFT SHALL BECOME NULL AND VOID. CONTACT THE PARTICIPANT FOR INFORMATION PERTAINING TO CERTIFIED ATTACHMENTS, ACCESSORIES OR CONFIGURATION MODIFYING COMPONENTS.

BENDPAK LIFTS ARE SUPPLIED WITH CONCRETE FASTENERS MEETING THE CRITERIA AS PRESCRIBED BY ASTM E488 - 96(2003). 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).

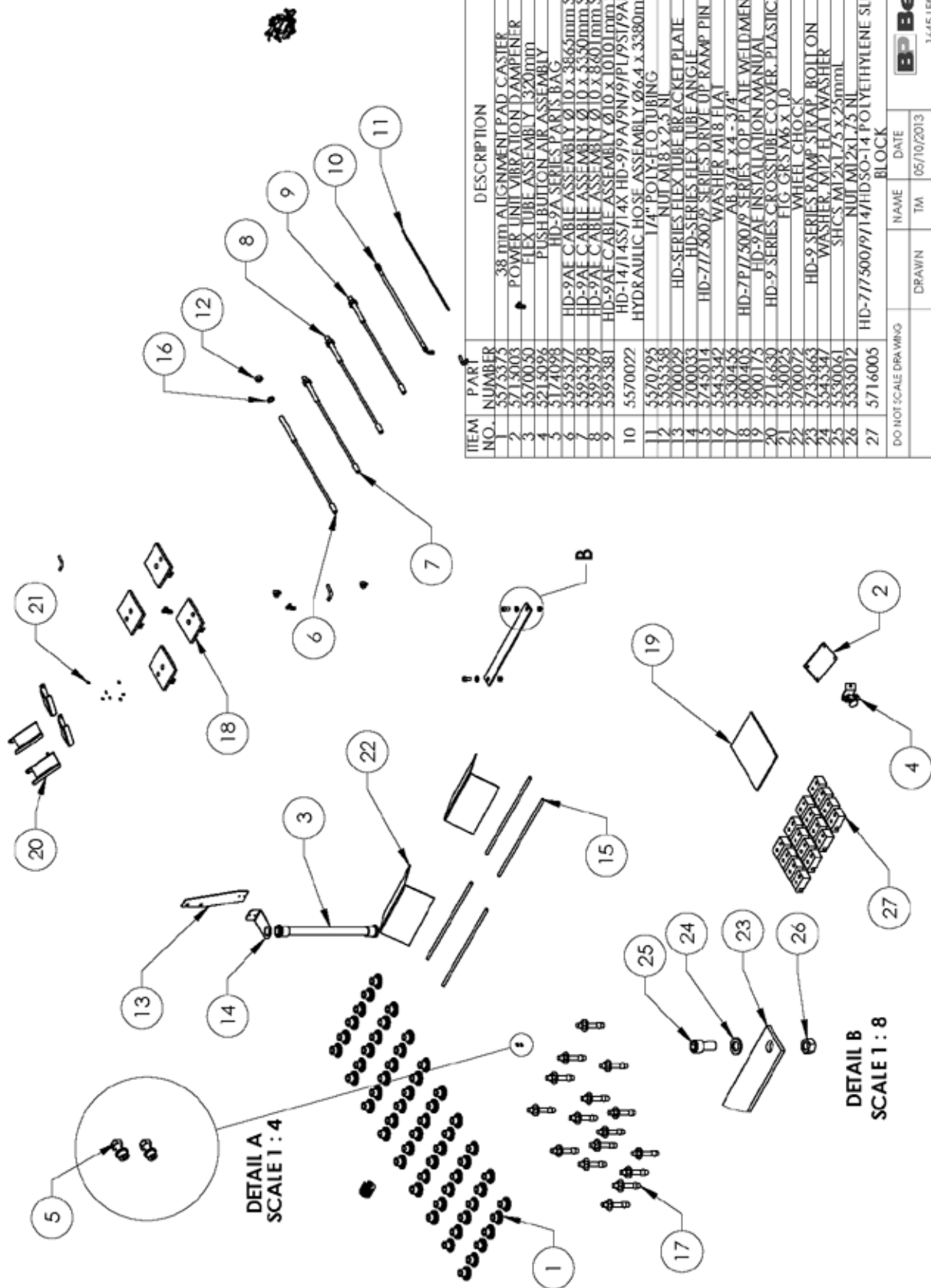
THE MANUFACTURE, USE, SALE OR IMPORT OF THIS PRODUCT MAY BE SUBJECT TO ONE OR MORE UNITED STATES PATENTS, OR PENDING APPLICATIONS, OWNED BY BENDPAK, INC.

DO NOT REMOVE ENGINEERED BY BENDPAK INC. USA MADE IN CHINA





BendPak. 1645 LEMONWOOD DR. SANTA PAULA, CA 93060	
TITLE:	HD-9AE PRODUCTION LIFT VER D (CE CERT)
SIZE	DWG. NO.
A	5260527
REV	X
SCALE: 1:35	
SHEET 2 OF 2	



ITEM NO.	PART NUMBER	DESCRIPTION	QTY	REV
1	5570795	38 mm ALIGNMENT PAD CASIER	34	-
2	5573375	POWER UNIT VIBRATION DAMPENER	1	B
3	5713003	FLEX TUBE ASSEMBLY 1/320mm	1	B
4	5570030	PUSH BULION AIR ASSEMBLY	1	G
5	5215096	HD-9AE SERIES PARTS BAG	1	D
6	5593377	HD-9AE CABLE ASSEMBLY Ø10 x 3865mm ST	1	B
7	5593378	HD-9AE CABLE ASSEMBLY Ø10 x 3350mm ST	1	B
8	5593379	HD-9AE CABLE ASSEMBLY Ø10 x 3300mm ST	1	B
9	5593381	HD-9AE CABLE ASSEMBLY Ø10 x 1010mm ST	1	B
10	5570022	HD-14/14SS/14X HD-979A/9N/97PL/9SI/9AE	1	G
11	5570795	HYDRAULIC HOSE ASSEMBLY Ø6.4 x 3380mm	1	G
12	5570795	1/4" POLY-FLO TUBING	17000*mm	-
13	5573378	NUT M18 x 2.5 NI	4	-
14	5700028	HD-SERIES FLEX TUBE BRACKET PLATE	1	F
15	5700033	HD-SERIES FLEX TUBE ANGLE	1	F
16	5700033	HD-7775007 SERIES DRIVE RAMP PIN	4	B
17	5700033	WASHER M18 FLAT	4	-
18	5570795	AB 3/4 x 4 x 3/4	16	-
19	5570795	HD-7775007 SERIES TOP PLATE WELDMENT	4	C
20	5700033	HD-9AE INSTALLATION MANUAL	4	-
21	5700033	HD-9AE SERIES CROSS TUBE COVER PLASTIC	4	A
22	5700033	FIG. GRS M6 x 1.0	8	-
23	5700033	WHEEL CHOCK	2	B
24	5733663	HD-9 SERIES RAMP STRAP ROLL ON	1	B
25	5733663	WASHER M12 FLAT WASHER	2	B
26	5570030	SHCS M12 x 1.75 x 25mm	2	-
27	5570030	NUT M12 x 1.75 NI	2	-
28	5570030	HD-7775007/14/HD50-14 POLYETHYLENE SLIDE	16	L

BendPak.

1645 LEMONWOOD DR.
SANTA PAULA, CA 93050

PARTS BOX HD-9AE

SIZE DWG. NO. A

5250193

REV N

SCALE: 1:25

SHEET 1 OF 1

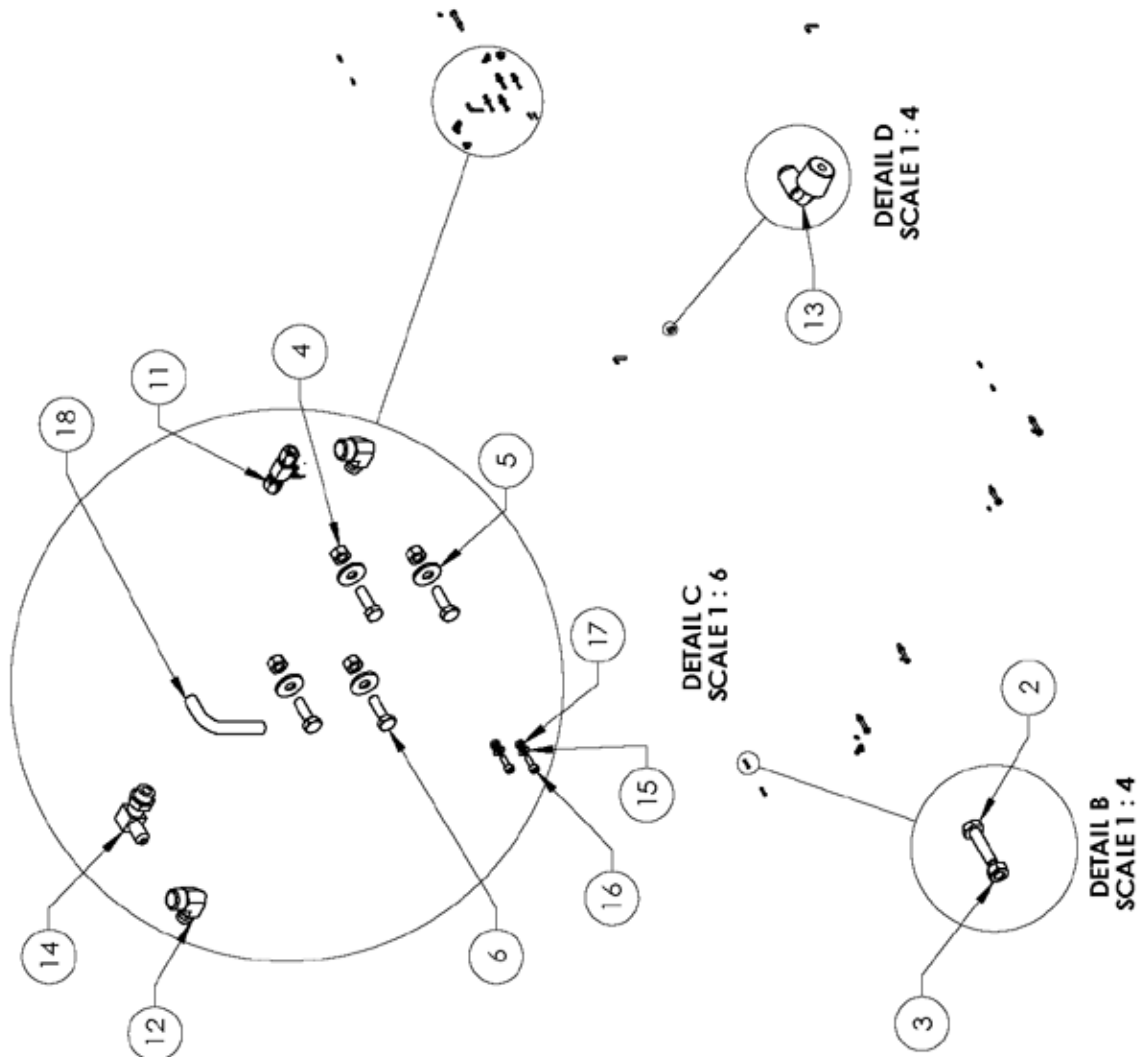


DIMENSIONS ARE IN MM

THIRD ANGLE PROJECTION



RESERVED AND CONTAINED
THE INFORMATION OF BENDPAK INC.
REPRODUCTION IN PART OR A WHOLE WITHOUT
THE WRITTEN PERMISSION OF BENDPAK INC. IS
PROHIBITED.



ITEM NO.	PART NUMBER	DESCRIPTION	QTY	REV
1	5303031	ROTOR CLIP 12mm SS	8	-
2	5303036	HRB M6 x 1 x 2.5	8	-
3	5303037	NUT M6 x 1.0 NI	8	-
4	5303040	NUT M6 x 1.25 NI	4	-
5	5303041	WASHER M6 x 2.4 FLAT	4	-
6	5303042	HRB M6 x 1.25 x 2.5	4	-
7	5303043	HRB M6 x 1.25 x 2.5 CL8.8	8	-
8	5303044	WASHER M6 x 2.4 FLAT	8	-
9	5303045	WASHER M6 x 2.4 FLAT	8	-
10	5303046	NUT M12 x 1.75	8	-
11	5303047	FIG TEE -04 COMP X-04 COMP X-04 COMP	2	-
12	5303048	FIG ELB -04 COMP X-06 NPT	2	-
13	5303049	FIG ELB -04 JIC -06 NPT	1	-
14	5303050	FIG ELB -04 JIC -06 ORB	1	-
15	5303051	WASHER 04.3 x 0.9mm x 0.8mm	2	-
16	5303052	SHCS M4 x 0.7 x 1.2 BOC	2	-
17	5303053	NUT M4 x 0.7	2	-
18	5303054	SLIP FLAT LOCK PIN	4	-
19	5303055	C WASHER SHIM FOR LIPS	20	-

DO NOT SCALE DRAWING	NAME	DATE
DRAWN	AC	08/08/2008
CHECKED		

THIRD ANGLE PROJECTION	TITLE
	HD-9A SERIES PARTS BAG

MATERIAL: ---	SIZE DWG. NO.	REV
SIZE: ---	A	5174098
		D

BendPak 1445 LEMONWOOD DR. SANTA PAULA, CA 93060	
SHEET 1 OF 1	

[illegible]

[illegible]



EC Type-Examination Certificate

(Fm 210-017, Rev.10)



For the requirements of the Machinery Directive 2006/42/EC

For Annex IV machinery

Certificate No.: CE-C-20120209-01-02-5B
Date of first issue: 2014.01.27
Date of last review: 2019.01.27
Date of next review: 2024.01.26

NAME AND ADDRESS OF THE MANUFACTURER: Bendpak Inc.
1645 E. Lemonwood Drive, Santa Paula, CA, United States of America

PRODUCT DESCRIPTION/ TYPE AND MODEL: HD-9AE 4 Post Vehicle Servicing Lifts 9000lb (4032kg) Capacity
With Wheel Alignment Platforms

APPLICABLE STANDARDS: EN1493:2010 Vehicle Lifts
EN 60204-1:2006+A1:2009 Safety of machinery - Electrical equipment
of machines - Part1:General requirements

A COPY IS AVAILABLE FROM: CCQS UK Ltd., 5 Harbour Exchange, London, E14 9GE, UK

SUBJECT TO THESE CONDITIONS: A Rolling Jack is not included in this certification.

RE-ISSUE HISTORY
CE-C-20120209-01-02-5A first issue
CE-C-20120209-01-02-5B this issue – Review of original certification

The technical file, accompanying documentation and the equipment which they describe have been found to be in compliance with the requirements of the Machinery Directive 2006/42/EC.

The responsible person defined above has responsibility for ensuring that all future serial manufacture of the machinery conforms to the sample submitted for EC type-examination referenced above.

Any changes to the design of the machinery certified here must be advised to CCQS UK Ltd. for re-assessment.

A CE marking should not be fixed to the equipment until the requirements of all relevant directives have been met.

Approved by: Owen Bian – Office Manager

Date: 2019.01.27

Appointed by UK Government
as a Notified Body
for CE Marking No. 1105

CCQS UK Ltd.,
5 Harbour Exchange, Canary Wharf,
London, E14 9GE, UK
Tel: +44 (0) 20 7868 1509
Email info@ccqs.co.uk

If in any doubt about the integrity of this certificate,
please verify it on our website at
<http://www.ccqs.co.uk>



Declaration of Conformity

The equipment which accompanies this declaration is in conformity with EU Directive:
2006/42/EC Machinery Directive

Manufacturer
BendPak Inc.
1645 Lemonwood Dr.
Santa Paula, CA 93060,
USA

A copy of the technical file for this equipment is available from:
CCGS UK Ltd.,
level 7, Westgate House, Westgate Rd.,
London W5 1YY UK

Description of Equipment

Vehicle Servicing Lifts

Model	Capacity (lb)	Design	Width(in)	Legth(in)	Max Lift(in)
HD-9AE	9,000	4 Post Alignment	127	224	70

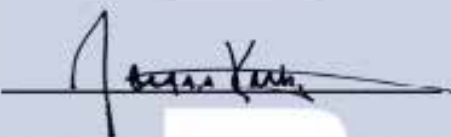
A sample of this machinery has been presented to Notified Body number 1105.
CCGS UK Ltd., level 7, Westgate House, Westgate Rd., London W5 1YY UK
Who have issued an EC-type examination certificate
Number CE-GB-20120209-01-02-5A dated 2014.01.27

The equipment in respect of which this declaration is made conforms to the example
to which that certificate relates, and that certificate remains valid.

The following harmonised standards have been used:-
EN 1493:2010 Vehicle Lifts

Authorised signatory of manufacturer

Signature:



Name of signatory: Jeff Kritzer
Position in company: SVP Sales/Marketing

Place signed: Santa Paula CA
Date signed: 11.6.2013





The best automotive service equipment on the planet.

**For Parts Or Service
Contact:**

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

**Tel: 1-805-933-9970
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Fax: 1-805-933-9160**

www.bendpak.com

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