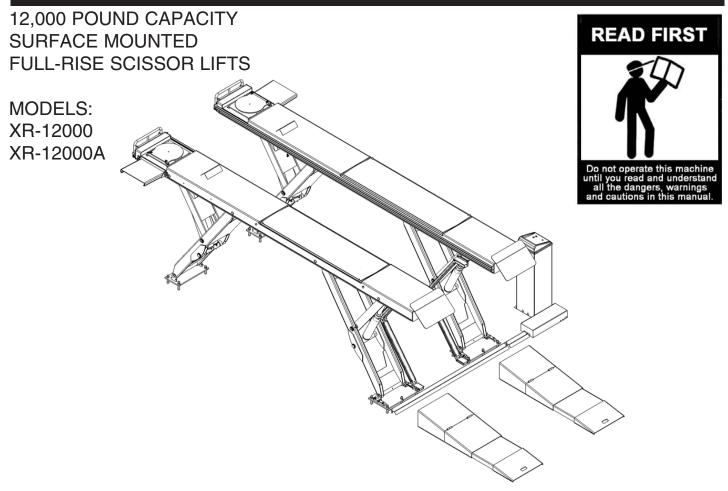


#### IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

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 OPER-ATE THIS EQUIPMENT AS DIRECTED MAY CAUSE INJURY OR DEATH. MAN REV B 01-11-12 P/N 5900050

#### **INSTALLATION AND OPERATION MANUAL**



#### **RECEIVING**

The shipment should be thoroughly inspected as soon as it Your new lift was designed and built with safety in mind. 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

However, your overall safety can be increased with proper training and thoughtful operation on the part of the operator. DO NOT operate or repair this equipment without reading this manual and the important safety instructions shown inside. Keep this operation manual near the lift at all times. Make sure that ALL USERS read and understand this manual.



1645 Lemonwood Dr. Santa Paula, CA. 93060, USA Toll Free 1-800-253-2363

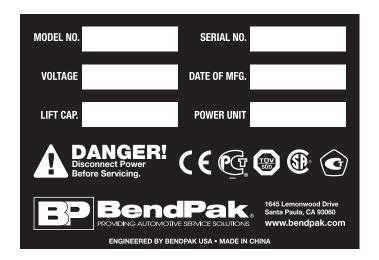
Tel: 1-805-933-9970 Fax: 1-805-933-9160 wwwbendpak.com

#### 12,000 POUND CAPACITY SURFACE MOUNTED FULL-RISE SCISSOR LIFTS

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

READ THIS ENTIRE MANUAL BEFORE INSTALLATION & OPERATION BEGINS.

RECORD THE LIFT AND POWER UNIT INFORMATION HERE. YOU MAY FIND THIS INFORMATION LOCATED ON THE SERIAL NUMBER DATA PLATE AND POWER UNIT DATA PLATE



This information will be required when calling for parts or warranty issues.

Only replace parts with BendPak approved parts.

#### PRODUCT WARRANTY

BendPak scissor lifts are covered under warranty for five years on equipment structure, to be free of defects in material and workmanship. Power units, hydraulic cylinders, and all other assembly components (such as cables, chains, valves, switches etc.) are warrantied for one year against defects in material or workmanship under normal use. BendPak Inc. shall repair or replace at its discretion, within the warranty period, those parts returned to the factory freight, prepaid, which prove upon inspection to be defective. BendPak Inc. will pay labor costs for the first 12 months only on parts returned as previously described.

The warranty does not extend to...

- defects caused by ordinary wear, abuse, misuse, negligence, shipping damage, improper installation, voltage or lack of required maintenance;
- damages resulting from purchaser's neglect or failure to operate products in accordance with instructions provided in the owner's manual(s) and/or other accompanying instructions supplied;
- normal wear items or service normally required to maintain the product in a safe operating condition;
- any component damaged in shipment;
- other items not listed but may be considered general wear parts;
- damage caused by rain, excessive humidity, corrosive environments or other contaminants.

THESE WARRANTIES DO NOT EXTEND TO ANY COSMETIC DEFECT NOT INTERFERING WITH EQUIPMENT FUNCTIONALITY OR ANY INCIDENTAL, INDIRECT, OR CONSEQUENTIAL LOSS, DAMAGE, OR EXPENSE THAT MAY RESULT FROM ANY DEFECT, FAILURE, OR MALFUNCTION OF A BENDPAK INC. PRODUCT OR THE BREACH OR DELAY IN PERFORMANCE OF THE WARRANTY.

WARRANTY IS NOT VALID UNLESS WARRANTY CARD IS RETURNED.

#### **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:

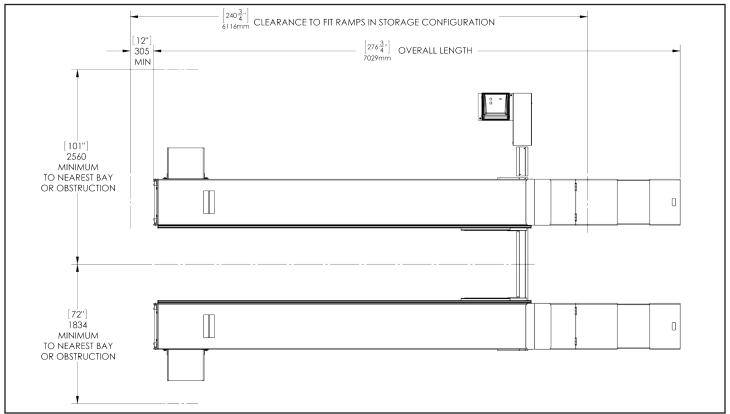
- Follow all installation and operation instructions.
- Make sure installation conforms to all applicable Local, State, and Federal Codes, Rules, and Regulations; such as State and Federal OSHA Regulations and Electrical Codes.
- ♦ Carefully check the lift for correct initial function.
- ♦ Read and follow 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.

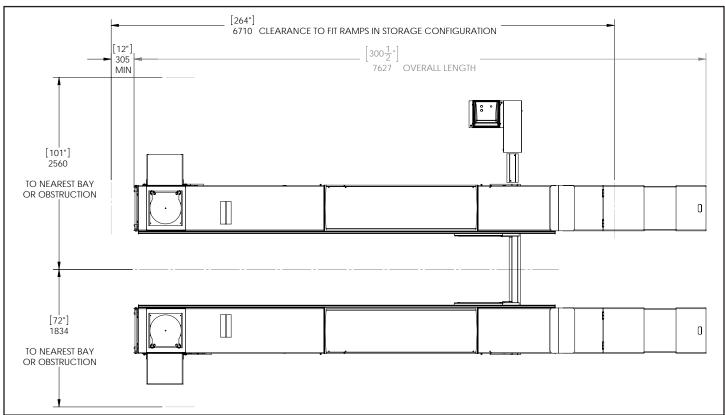
IT IS DIFFICULT TO COLLECT FOR LOSS OR DAMAGE AFTER YOU HAVE GIVEN THE CARRIER A CLEAR RECEIPT. Support claim with copies of the bill of lading, freight bill, invoice, and photographs, if available. BendPak's willingness to assist in helping you process your claim does not make BendPak responsible for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

#### CLEARANCES XR-12000



LIFT HEIGHT CLEARANCE NOTE: There must be a 1" MIN distance from top of the loaded vehicle to the nearest obstruction when the lift is in a raised position.

#### XR-12000A



LIFT HEIGHT CLEARANCE NOTE: There must be a 1" MIN distance from top of the loaded vehicle to nearest obstruction when the lift is in a raised position.

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

- ♦ I have visually inspected the site where the lift is to be installed and verified the concrete to be in good condition and free of cracks or other defects. I understand that installing a lift on cracked or defective concrete could cause lift failure resulting in personal injury or death.
- ♦ I understand that a level floor is required for proper installation and level lifting.
- ♦ I understand that I am responsible if my floor is of questionable slope and that I will be responsible for all charges related to pouring a new level concrete slab if required and any charges.
- ♦ I understand that BendPak lifts are supplied with concrete fasteners meeting the criteria of the American National Standard "Automotive Lifts Safety Requirements for Construction, Testing, and Validation" ANSI/ALI ALCTV-2006, and that I will be responsible for all charges related to any special, regional, structural, and/or seismic anchoring requirements specified by any other agencies and/or codes such as the Uniform Building Code (UBC) and/or International Building Code (IBC).
- ♦ I will assume full responsibility for the concrete floor and condition thereof, now or later, where the above equipment model is to be installed. Failure to follow Danger, Warning, and Caution instructions may lead to serious personal injury or death to operator or bystander or damage to property.
- ♦ I understand that BendPak lifts are designed to be installed in indoor locations only. Failure to follow installation instructions may lead to serious personal injury or death to operator or bystander or damage to property or lift.





Failure to follow Danger, Warning, and Caution instructions may lead to serious personal injury or death to operator or bystander or damage to property.



Please read 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. Everyday eyeglasses only have impact resistant lenses, they are not safety glasses. Back belts provide support



during lifting activities and are also helpful in providing worker protection. Consideration should also be given to the use of hearing protection if service activity is performed in an enclosed area, or if noise levels are high.



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

#### INTRODUCTION

- 1. Carefully remove the crating and packing materials. **CAUTION!** Be careful when cutting steel banding material as items may become loose and fall causing personal harm or injury.
- 2. Check the voltage, phase and proper amperage requirements for the motor shown on the motor plate. Wiring should be performed by a certified electrician only.

#### **IMPORTANT SAFETY INSTRUCTIONS!**

Read these safety instructions entirely!

#### **IMPORTANT NOTICE!**

Do not attempt to install this lift if you have never been trained on basic automotive lift installation procedures. Never attempt to lift components without proper lifting tools such as forklift or cranes. Stay clear of any moving parts that can fall and cause injury.

- 1. READ AND UNDERSTAND all safety warning procedures before operating lift.
- 2. **KEEP HANDS AND FEET CLEAR**. Remove hands and feet from any moving parts. Keep feet clear of lift when lowering. Avoid pinch points.
- 3. KEEP WORK AREA CLEAN. Cluttered work areas invite injuries.
- 4. Consider work area environment. Do not expose equipment to rain. DO NOT use in damp or wet locations. Keep area well lighted.
- 5. ONLY TRAINED OPERATORS should operate this lift. All non-trained personnel should be kept away from work area. Never let non-trained personnel come in contact with, or operate lift.
- 6. **USE LIFT CORRECTLY**. Use lift in the proper manner. Never use lifting adapters other than what is approved by the manufacturer.
- 7. **DO NOT** override self-closing lift controls.
- **REMAIN CLEAR** of lift when raising or lowering vehicle.
- **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 eyeglasses only have impact resistant lenses, they are not safety glasses
- 22. SAVE THESE INSTRUCTIONS.

#### TOOLS REQUIRED

- ♦ Rotary Hammer Drill or Similar
- ♦ 3/4" Masonry Bit
- ♦ Hammer
- ♦ 4 Foot Level
- Open-End Wrench Set: SAE/Metric
- ♦ Socket And Ratchet Set: SAE/Metric
- Hex-Key / Allen Wrench Set

- Large Crescent Wrench
- Large Pipe Wrench
- ♦ Crow Bar
- ♦ Chalk Line
- Medium Flat Screwdriver
- ♦ Tape Measure: 25 Foot Minimum
- Needle Nose Pliers

#### 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 architectural plans when available. Check the layout dimension against the floor plan requirements making sure that adequate space if available.
- 2. OVERHEAD OBSTRUCTIONS: The area where the lift will be located should be free of overhead obstructions such as heaters, building supports, electrical lines etc.
- 3. DEFECTIVE FLOOR: Visually inspect the site where the lift is to be installed and check for cracked or defective concrete.
- 4. Your new BendPak Scissor lift is designed for INDOOR INSTALLATION ONLY.

## STEP 2 (Floor Requirements)

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



A level floor is suggested for proper use and installation and level lifting. If a floor is of questionable slope, consider a survey of the site and/or the possibility of pouring a new level concrete slab.



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

#### CONCRETE SPECIFICATIONS

LIFT MODEL XR-12000 XR-12000A CONCRETE REQUIREMENTS 4" Min. Thickness / 3,000 PSI 4" Min. Thickness / 3,000 PSI



#### **DANGER!**

ALL MODELS MUST BE INSTALLED ON 3000 PSI CONCRETE ONLY CONFORMING TO THE MINIMUM REQUIREMENTS SHOWN ABOVE. NEW CONCRETE MUST BE ADEQUATELY CURED FOR A MINIMUM OF 28 DAYS.

#### **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-2006. 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).

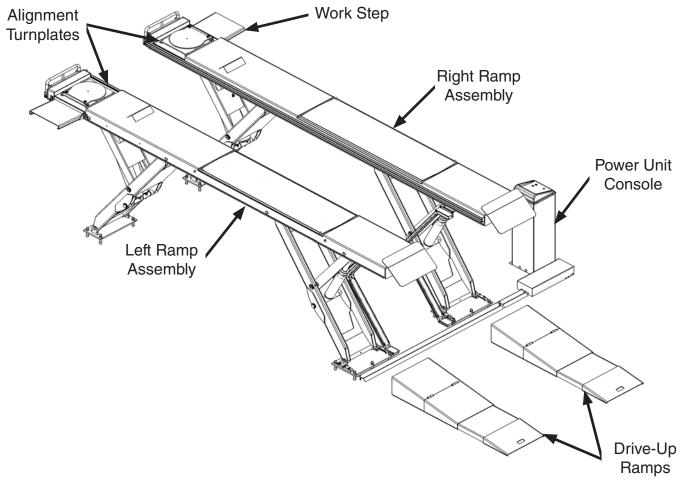


When removing the lift from shipping angles, pay close attention as the ramps can slide and can cause injury. Prior to removing the bolts make sure the ramps are held securely by a fork lift or some other heavy lifting device.

#### PARTS INVENTORY

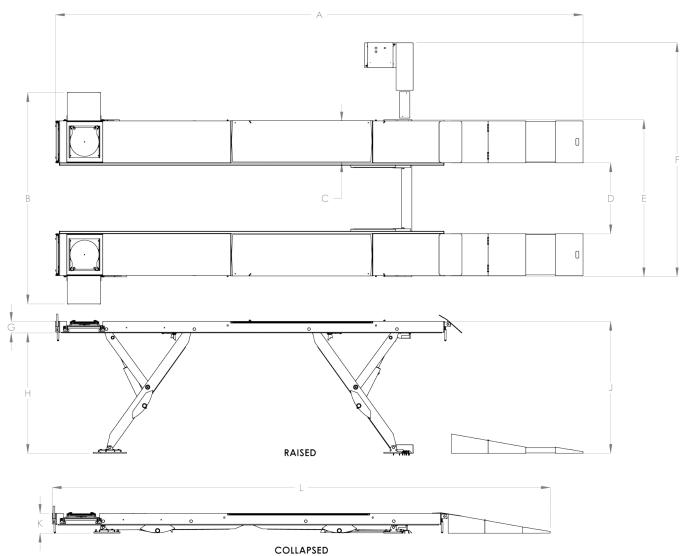
Be sure to take a complete inventory of parts prior to beginning installation.

Description	Qty
Power Unit Console	1
Left Ramp Assembly	1
Right Ramp Assembly	1
Drive-Up Ramps	2
Alignment Turnplate (XR-12000A only)	2
Work Step	2
Parts Box (Packing List Enclosed)	1
Parts Bag (Packaged in Part Box)	1



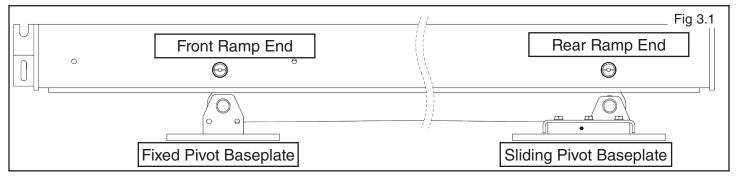
\*Note: For reference only. Not assembly instruction

#### FLOOR PLAN / GENERAL SPECIFICATIONS



Measurement	XR-12000	XR-12000A
A - Overall Extended Length	276.7" / 7029mm	300.3" / 7627mm
B - Width w/ Steps	120.4" / 3057mm	120.4" / 3057mm
C - Ramp Width	23.8" / 604mm	23.8" / 604mm
D - Between Ramps	40.5" / 1028mm	40.5" / 1028mm
E - Overall Width (Baseplate to Baseplate)	89.5" / 2272mm	89.5" / 2272mm
F - Overall Width w/ Console	133.3" / 3385mm	133.3" / 3385mm
G - Ramp Height	6.6" / 168mm	6.6" / 168mm
H - Underramp Height	68.5" / 1741mm	68.5" / 1741mm
J - Raised Height	75.2" / 1910mm	75.2" / 1910mm
K - Collapsed Height	11.75" / 298mm	11.75" / 298mm
L - Overall Collapsed Length	257.5" / 6547mm	283.5" / 7201mm
Minimum 4 Wheel Alignment Wheelbase*	n/a	100" / 2540mm
Maximum 4 Wheel Alignment Wheelbase*	n/a	165" / 4191mm
Maximum 2 Wheel Alignment Wheelbase*	n/a	172" / 4369mm
Minimum General Wheelbase*	140" / 3556mm	140" / 3556mm
Maximum General Wheelbase*	178" / 4521mm	178" / 4521mm
(*) May vary depending on wheel size		

#### **LAYOUT**



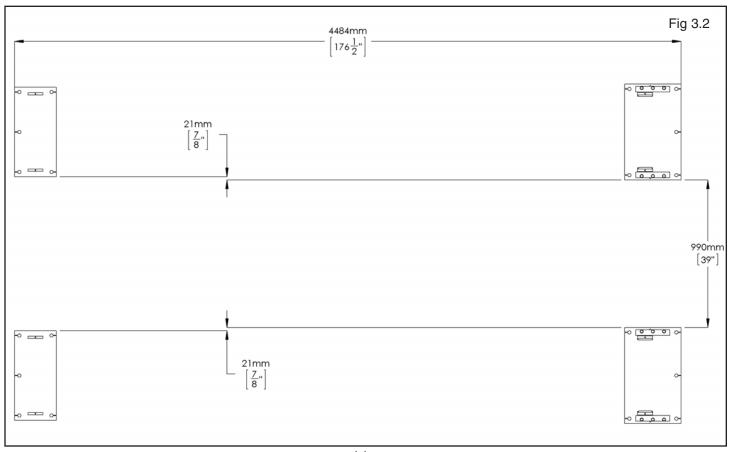
## STEP 3 (Site Layout)

- 1. Select an appropriate site for where to install your new state-of-the-art BendPak lift using the chart on page 10.
- 2. Now determine which direction you would like the lift to face. A vehicle will approach the lift from the Rear Ramp End and drive forward to the Front Ramp End. (See Fig 3.1)
- 3. Once a location is determined, use a carpenters chalk line to layout a grid for the Sliding Pivot Baseplate locations. Make sure to snap the chalk line long enough for the entire length of the ramp. This is needed to provide a reference line for the Fixed Pivot Baseplates, as the these baseplates are narrower.

- 4. Keep all dimensions square within 1/8" (3mm) or malfunction of the lift can occur.
- 5. CHECK ALL DIMENSIONS TWICE and make sure that the layout is perfectly square.

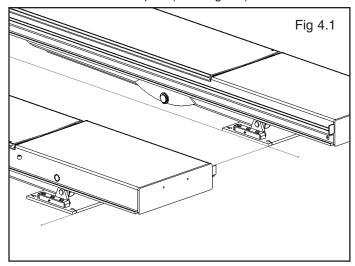


WARNING!
KEEP ALL DIMENSIONS SQUARE WITHIN 1/8" OR
MALFUNCTION OF LIFT MAY OCCUR

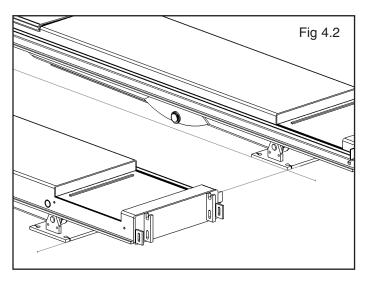


## STEP 4 (Aligning the Ramp Assemblies)

- 1. Lift the Left Ramp Assembly and Right Ramp assembly into position and set the ramps down on to the layout created in Step 4
- 2. Align the Sliding Pivot Baseplates with the chalklines that were drawn in Step 4. (See Fig 4.1)



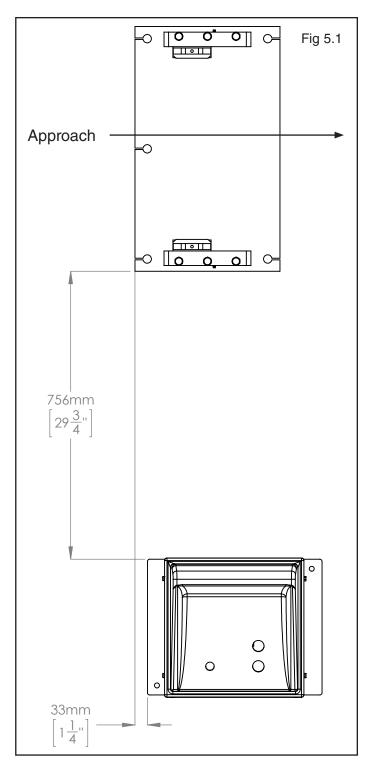
3. Align the Fixed Pivot Baseplates with the chalklines that were drawn in Step 4, using care so that the Sliding Pivot Baseplates do not shift during alignment. (See Fig 4.2)



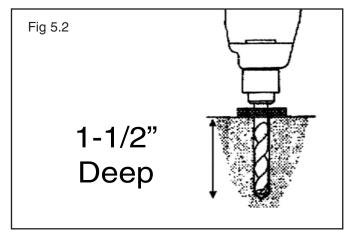
4. DO NOT attempt to bolt down the ramp assemblies at this time.

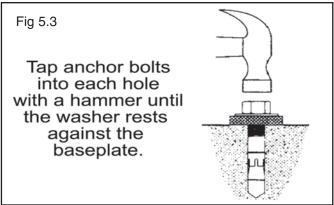
## STEP 5 (Power Unit Console Installation)

1. Place the Power Unit Console next to the Right Ramp Assembly's Sliding Pivot Baseplate and align it using the measurements as shown in Figure 5.1

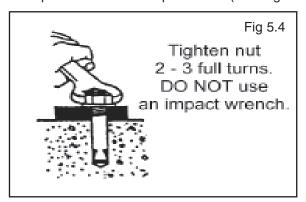


- 2. Using the console's baseplate as a guide drill two 3/8" holes into the concrete floor 1-1/2" deep making sure not to let the drill wobble. DO NOT ream the holes after drilling. (See Fig 5.2)
- 3. After drilling, remove dust thoroughly from each hole.
- 4. Assemble the washers and nuts on the anchors then tap into each hole with a hammer until the washer rests against the base plate. If shimming is required be sure that enough threads are left exposed. (See Fig. 5.3)



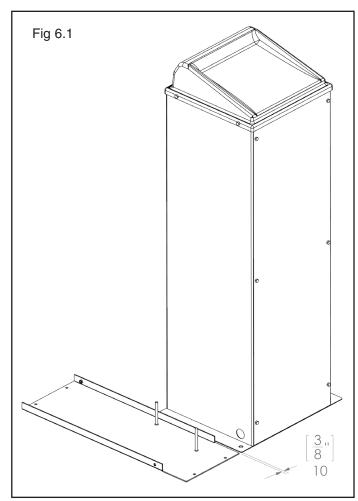


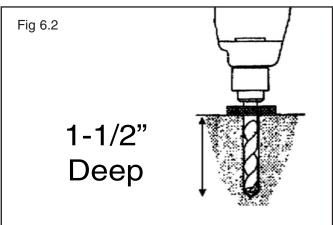
5. With anchor bolts in place, tighten by securing the nut to the base then turning 2-3 full turns clockwise. DO NOT use an impact wrench for this procedure. (See Fig. 5.4)



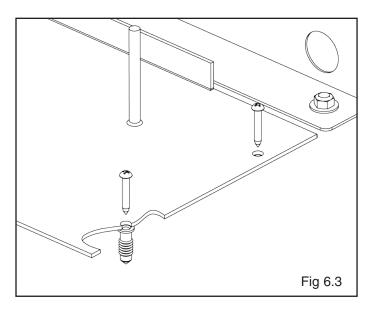
## STEP 6 (Valve Floor Plate Installation)

- 1. Insert the two provided M8 screws into the chamfered holes in the Valve Floor Plate and place the Valve Floor Plate in line with the front of the Power Unit Console and leave a 3/8" gap between the two components. (See Fig 6.1)
- 2. Using the Valve Floor Plate as a template, mark the four mounting holes on the concrete underneath and set aside the Valve Floor Plate.
- 3. Drill four holes at the locations marked with a 5/16" drill to a depth of 1-1/2". (See Fig 6.2)



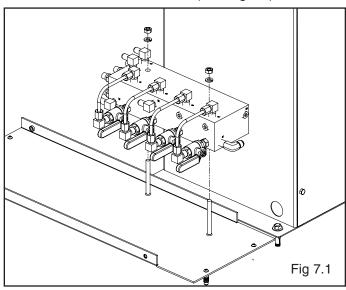


- 4. After drilling remove dust thoroughly, insert four plastic concrete anchors in to the holes that were drilled.
- 5. Replace the Valve Floor Plate so that the anchors line up with the mounting holes on the Valve Floor Plate. Make sure the Flat Head Screws are still mounted in the Floor Plate as they will be needed to mount the Valve Block assembly, and also make sure the Valve Floor Plate is oriented so that the "notched" side faces away from the lift. Install four M5 Pan Head sheet metal screws to fasten the Valve Floor Plate to the concrete. (See Fig 6.3)



## STEP 7 (Valve Block Installation)

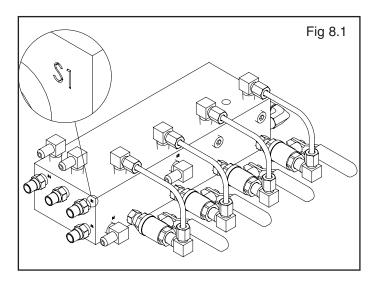
1. Align the through holes of the Valve Block Assembly with the screw studs that are protruding from the Valve Plate and set the Valve Block down on to the plate. Using two M8 Spring Lock washers and two M8 nuts, affix the Valve Block to the Valve Plate. (See Fig 7.1)



2. DO NOT overtighten bolts.

## STEP 8 (Hydraulic Hose Connection)

- 1. Your new lift has been pre-plumbed with hydraulic hoses. Connect the pre-marked hose ends to the corresponding marked port on the valve block assembly. (Ex. S1 is connected to S1) (See Fig 8.1)
- 2. Check your lift's hose routing against the hose routing diagram on page 15 to determine all hoses are properly connected.





#### **CAUTION!**

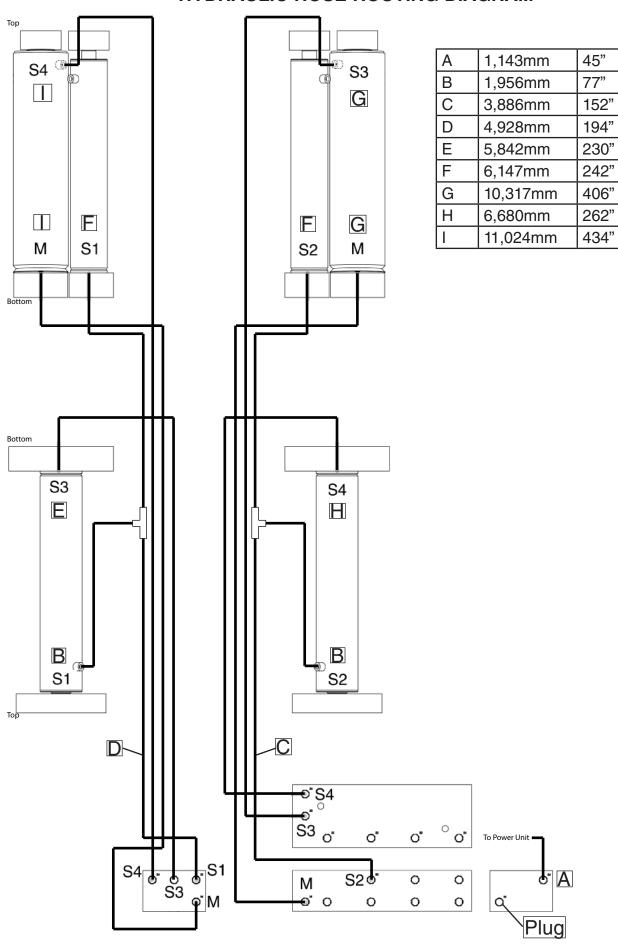
DURING HOSE INSTALLATION, LOOSE HOSES POSE A TRIPPING HAZARD. BE AWARE OF LOOSE HOSES IN THE WORKSPACE TO AVOID INJURY.

3. Cover the grouping of hoses temporarily with the long hose cover to prevent tripping over the hoses. Align the cutouts of the cover to the hose troughs so that the hoses may pass through in the cut outs. The coverplate will be anchored at a later time.

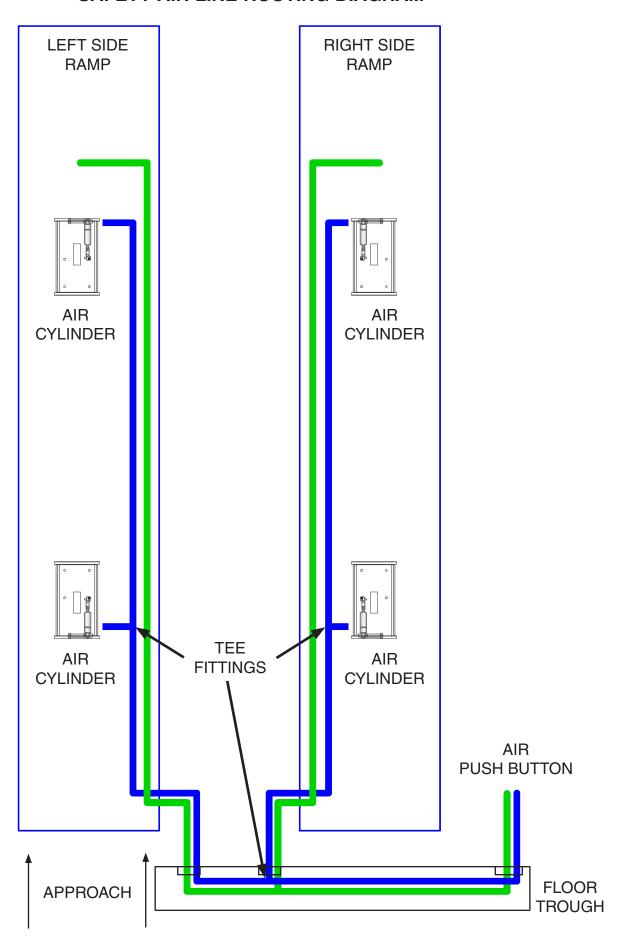
## STEP 9 (Safety Air Line Connection)

- 1. Your new lift has been pre-plumbed with 1/4" Poly-Flo air line hoses. Uncoil the air line hoses for both the Left and Right ramp assemblies. (See Page 16 for routing diagram)
- 2. Starting with the air line on the Left Ramp Assembly, follow the same route with the air line as that of the hydraulic hoses.
- 3. Once the air line hose route has reached the center of the Right Ramp Assembly's hose trough, cut the air line hose, and connect a Tee fitting to the air line end.
- 4. Route the Right Ramp Assembly's air line hose to the same Tee fitting as the one connected in Item 3.
- 5. Cut the air line hose to the length needed and connect to the Tee fitting.
- 6. Connect another length of Poly-Flo air line hose to the Tee and route the air line hose using the same route as the hydraulic hoses.
- 7. Route the hose over the Valve Block Assembly and into the Power Unit Console.

#### **HYDRAULIC HOSE ROUTING DIAGRAM**

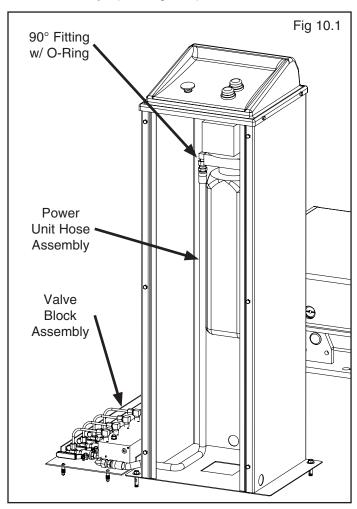


#### **SAFETY AIR LINE ROUTING DIAGRAM**

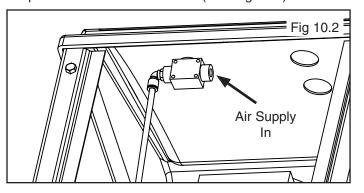


## STEP 10 (Power Unit Hose Connection)

- 1. Remove front panel from Power Unit Console to access power unit and controls.
- 2. Remove Power Port plug from Power Unit and install the 90° Fitting w/ O-ring into the Power Port on the Power Unit. Connect the Power Unit Hose Assembly to the 90° Fitting. (See Fig 10.1)
- 3. Connect the Power Unit Hose Assembly to the Valve Block Assembly. (See Fig 10.1)



4. Connect the Poly-Flo air line hose that was routed in Step 10 to the Air Push Button. (See Fig 10.2)



5. Connect the Air Push Button to your compressed air supply. Be sure that your compressed air supply does not exceed 125 PSI.

## STEP 11 (Power Unit Electrical Connection)

- 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.
- 2. Route Power Cable through the hole in Rear of Power Unit Console.



#### **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.

#### **WARNING!**

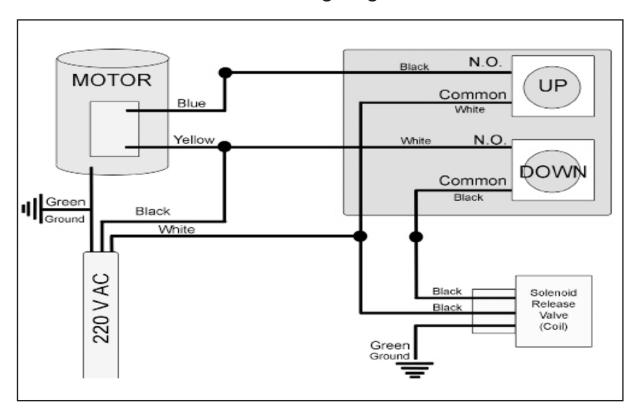
DO NOT RUN POWER UNIT WITHOUT OIL. DAMAGE TO POWER UNIT PUMP CAN OCCUR. THE POWER UNIT MUST BE KEPT DRY. DAMAGE TO POWER UNIT CAUSED BY WATER OR OTHER LIQUIDS SUCH AS DETERGENTS, ACID ETC., IS NOT COVERED UNDER WARRANTY.

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.

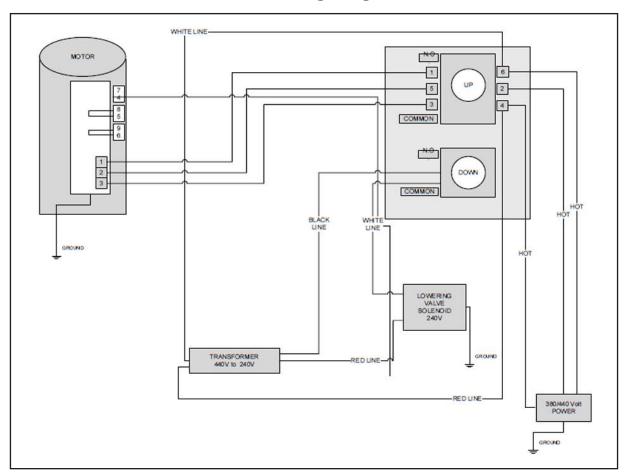
USE A SEPARATE CIRCUIT BREAKER FOR EACH POWER UNIT. PROTECT EACH CIRCUIT WITH TIME DELAY FUSE OR CIRCUIT BREAKER.

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.

#### 220V Wiring Diagram



#### 380V Wiring Diagram





#### **DANGER!**

DO NOT PERFORM ANY MAINTENANCE OR INSTALLATION OF ANY COMPONENTS WITH OUT 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 without oil. Damage to pump can occur.
- The power unit must be kept dry. Damage to power unit caused by water or other liquids such as detergents, acid etc., is not covered under warranty.
- Improper electrical connection 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 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.

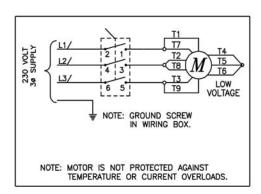
DO NOT attempt to raise vehicle until a thorough operation check has been completed.

All wiring must be performed by a certified electrician only.

#### Single Phase

# COMMON - RAISE - N.O.

#### Three Phase



SEE WIRING INSTRUCTIONS AFFIXED TO MOTOR FOR PROPER WIRING INSTRUCTIONS.

## STEP 12 (Anchoring the Ramps)

#### **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-2006. LIFT BUYERS ARE RESPONSIBLE FOR ANY SPECIAL REGIONAL STRUCTURAL AND/OR SEISMIC ANCHORING REQUIREMENTS SPECIFIED BY ANY OTHER AGENCIES AND/OR CODES SUCH AS THE UNIFORM BUILDING CODE (UBC) AND/OR INTERNATIONAL BUILDING CODE (IBC).

1. Before proceeding, make certain the lift is positioned with proper clearances around and overhead.

#### **NOTE:**

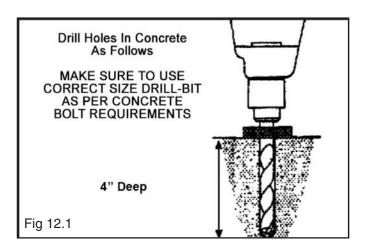
A LEVEL FLOOR IS SUGGESTED FOR PROPER INSTALLATION. SMALL DIFFERENCES IN FLOOR SLOPE MAY BE COMPENSATED FOR BY PROPER SHIMMING. ANY MAJOR SLOPE DIFFERENCES WILL AFFECT LEVEL LIFTING. IF A FLOOR IS OF QUESTIONABLE SLOPE, (MORE THAN 1" SIDE TO SIDE OR 2" WITHIN THE FULL LENGTH OF THE LIFT) CONSIDER POURING A NEW CONCRETE SLAB.



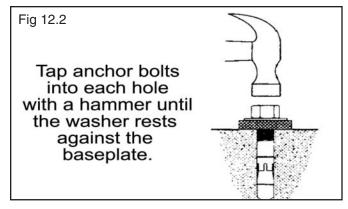
#### **WARNING!**

WHERE IT IS DESIRED TO RAISE THE BASE OF THE LIFT TO ACHIEVE LEVEL, THE ENTIRE FOOTPRINT OF THE BASE FRAME MUST BE FULLY SUPPORTED UNDERNEATH WITH STEEL PLATES OR CONCRETE. FAILURE TO DO SO WILL DAMAGE THE LIFT. THIS LIFT WAS DESIGNED TO BE A FLOOR MOUNT.

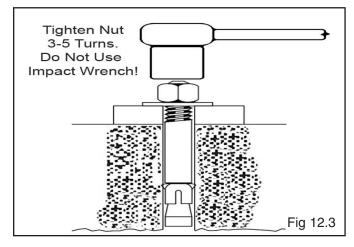
2. Using the base of the frame as a guide, drill each anchor hole in the concrete approximately 4" deep using a rotary hammer drill and 3/4" concrete drill-bit. (See Fig 12.1)



- 3. After drilling the anchor holes, remove the dust thoroughly from each hole using compressed air and/or wire brush. ALWAYS WEAR SAFETY GOGGLES.
- 4. Assemble the washers and nuts on the anchors then tap into each hole with a hammer until the washer rests against the base. Be sure that if shimming is required, enough threads are left exposed. (See Fig. 12.2)

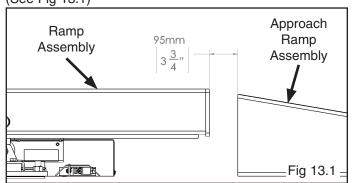


5. With the shims and Anchor Bolts in place, tighten nut three to five turns past finger tight. DO NOT use an impact wrench for this procedure. (See Fig. 12.3)

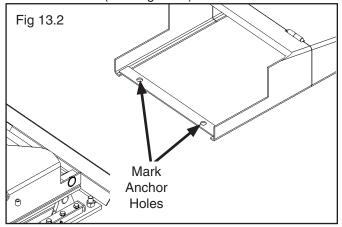


## STEP 13 (Installing Approach Ramps)

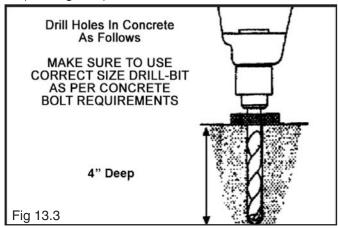
1. With the ramps in the collapsed position, place the Drive-Up ramps centered with the Left and Right ramp assemblies making sure there is a 3-3/4" gap in between each respective ramp assembly and Approach Ramp. (See Fig 13.1)



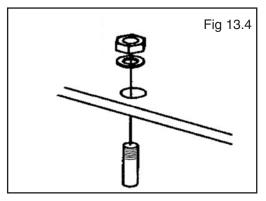
2. Using chalk or crayon, mark the floor anchor bolt holes on the concrete. (See Fig. 13.2)



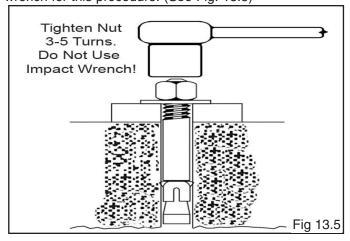
3. Remove the approach ramps and drill each anchor hole for the approach ramps in the concrete approximately 4" deep using a rotary hammer drill and 3/4" concrete drill-bit. (See Fig 13.3)



- 4. After drilling the anchor holes, remove the dust thoroughly from each hole using compressed air and/or wire brush. ALWAYS WEAR SAFETY GOGGLES.
- 5. Replace the approach ramps and align the holes that were drilled in the concrete with the anchor holes on the approach ramps.
- 6. Assemble the washers and nuts on the anchors then tap into each hole with a hammer until the washer rests against the base. (See Fig. 13.4)

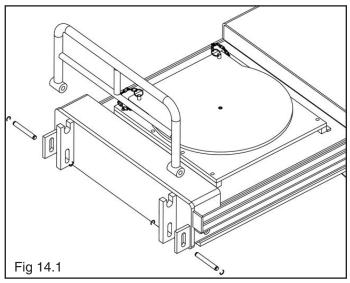


6. With the shims and Anchor Bolts in place, tighten nut three to five turns past finger tight. DO NOT use an impact wrench for this procedure. (See Fig. 13.5)

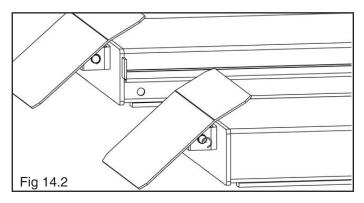


## STEP 14 (Installing Accessories)

- 1. Place the Turnplates in the Turnplate pockets (Alignment Model Only). Level the Turnplate Pockets as show in Step 18 on page 26.
- 2. Install the Front Tire stops using the Hinge Pins and C-clips as shown. (See Fig. 14.1)



3. Install the Flip Up Ramps using the Flip Up ramp Bracket Pins and C-clips as shown. (See Fig. 14.2)



## STEP 15 (Final Assembly)

- 1. Tighten all assembly and Anchor Bolts securely.
- 2. Run the lift up and down a few times to be sure that the locks are engaging uniformly and that the safety release mechanisms are functioning properly.

  Re-adjust if necessary.
- 3. Drive a vehicle onto the lift making sure to set the emergency brake before exiting the vehicle.
- 4. Cycle the lift up and down two times with a vehicle loaded on the ramps to ensure that the locks are engaging uniformly and that the safety release mechanisms are functioning properly. Re-adjust if necessary.

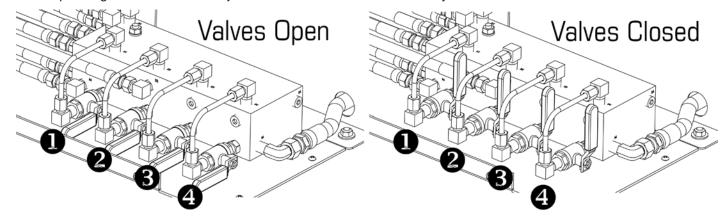
#### POST INSTALLATION CHECKLIST

- Ramp Assemblies Properly Shimmed And Stable
- Anchor Bolts Tightened
- Pivot Pins Properly Secure
- Electric Power Supply Confirmed
- Equalizing Procedure Complete
- Safety Locks Functioning Properly
- Check For Hydraulic Leaks
- Lubrication of Critical Components
- All Screws, Bolts, and Pins Secured
- Operation and Safety Manuals On Site
- Perform an Operational Test With a Typical Vehicle

## STEP 16 (General Start-Up and Equalization)



- To avoid personal injury, DO NOT ATTEMPT the following start-up and pre-leveling procedures with a vehicle on the runways.
- NEVER ATTEMPT any valve block adjustments with a vehicle on the runways at any time the lift is in operation.
- Never go under the lift runways or near any moving components until each scissor mechanism is securely blocked or the safety locks are fully engaged at all four corners to prevent accidental lowering of the lift.
- To avoid personal injury, stand clear of scissor leg mechanism while lift is in motion.
- ALWAYS use jack stands for any service or maintenance. NEVER go under or reach under the lift unless jack stands are securely in place and power to the lift has been disconnected to prevent others from inadvertently operating the lift. NEVER use jack stands with a load on the runways.



(Important Note: Never open block valves while simultaneously depressing the power console LOWER button unless specifically stated to do so.)

#### STEP ONE

#### Initial Start-RAISE / Priming the Hydraulic Cylinders

- Position all four handles on the valve block to the OPEN position.
- Depress the RAISE button on the power console.
- When the power side of the lift (the side with four hydraulic cylinders) begins to rise, immediately position #1 and #2 handles on the valve block to the CLOSED position.
- Commence raising lift until it reaches maximum height and the lift stops.
- Continue holding the RAISE button on the power console for two seconds to fully prime and pressurize the cylinders.
- Position #3 and #4 handles on the valve block to the CLOSED position.
- Depress the LOWER button on the power console and lower the lift until it reaches ground level and stops.
- Position all four handles on the valve block to the OPEN position.
- Depress the LOWER button on the power console for 3-5 minutes to allow air to bleed out of the system and the cylinder pressure to equalize.
- Repeat process for a second time.
- After fulfilling the above procedures twice,

- position all handles on the valve block to the CLOSED position.
- Proceed to STEP TWO.

NOTE: During initial start-up procedures, the runways may raise unevenly. This is normal.

### STEP TWO First Rise

- Position #3 and #4 handles to the OPEN position.
- Raise lift approximately 24".
- Position all four handles on the valve block to the CLOSED position.
- Commence raising lift until it reaches maximum height and the lift stops.
- Continue depressing the RAISE button on the power console for 2 seconds.
- Position #3 and #4 handles on the valve block to the OPEN position then immediately back to the CLOSED position.
- Lower lift to ground level.
- Proceed to STEP THREE.

#### STEP THREE

#### **Removing Pressure from Front Small Cylinders**

- Depress the LOWER button on the power console then simultaneously OPEN valve #2 - wait 5 seconds then CLOSE.
- Depress the LOWER button on the power console then simultaneously OPEN valve #1 - wait 5 seconds then CLOSE.
- Release the LOWER button.
- Proceed to STEP FOUR.

#### STEP FOUR

#### **Equalizing Front to Back**

- OPEN valves #3 and #4 wait 5 seconds then CLOSE.
- OPEN valves #1 and #2 wait 5 seconds then CLOSE.
- OPEN valves #3 and #4 wait 5 seconds then CLOSE.
- OPEN valves #1 and #2 wait 5 seconds then CLOSE.
- Proceed to STEP FIVE.

#### STEP FIVE

#### **Testing All Corners / Lifting Evenly and Level**

- Raise lift approximately 24" check for level
- Raise lift mid rise check for level.

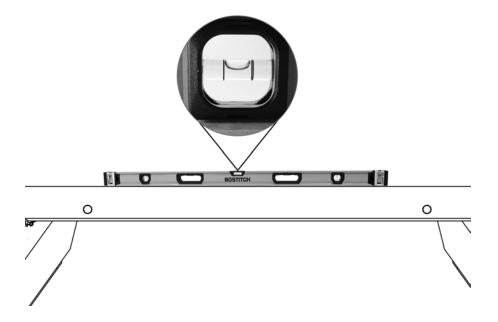
- If all corners are lifting evenly proceed to STEP SIX.
- If the runways rise unevenly in either direction, OPEN valve #3 and #4 wait 5 seconds then CLOSE.
- Lower the lift until it reaches ground level and stops.
- Repeat steps.
- When all corners are lifting evenly proceed to STEP SIX.

NOTE: If all current processes have failed to equalize the lift, consult the troubleshooting guide on the following page. If troubleshooting options still fail, repeat process from the beginning.

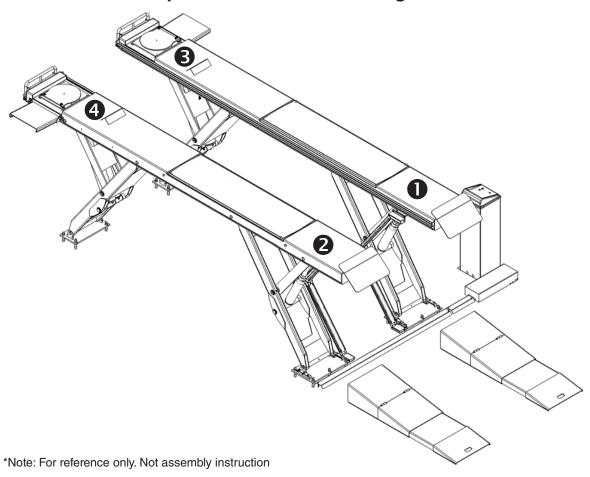
#### STEP SIX

#### Final Height and Equalization Check

- Raise lift to full height.
- Find a point of reference equal on all four corners and measure lift height using the base plates as a point of reference.
- If the lift was installed properly on a level surface, all four corners should be equal height.
- The optimum variance between corners is ½" or less.
- If unequal height, consult troubleshooting guide.



#### **Equalization Troubleshooting Guide**



#### Corners 3 and 4 are unequal with 1 and 2 during lifting

- Lower the lift until it reaches ground level.
- OPEN valves #3 and #4.
- Raise lift approximately 24".
- Close valves.
- Lower the lift until it reaches ground level.
- Raise lift approximately 24".
- OPEN valves #3 and #4.
- Wait 5 seconds close valves and lower lift to the floor.
- Repeat these steps until the runways lift evenly, or proceed to next option.

#### Corners 3 and 4 are out of level at full rise.

- Raise lift to full height.
- Continue holding the RAISE button for 3-5 seconds to fully prime and pressurize the cylinders.
- Release the RAISE button.
- OPEN valves #3 and #4 close both.
- OPEN valves #1 and #2 close both.
- Depress the RAISE button for 3-5 seconds to pressurize the cylinders.
- OPEN valves #3 and #4 close both.
- · Lower the lift until it reaches ground level.

NOTE: By adding pressure, it is possible to pressure lock the cylinders. When attempting to lower lift, if nothing happens, quickly open valves #1 and #2 then close quickly. If this troubleshooting option is used, it may be necessary to repeat steps 3-6 of General Start-Up and Equalization procedures.

#### **Individual Corner Pressure**

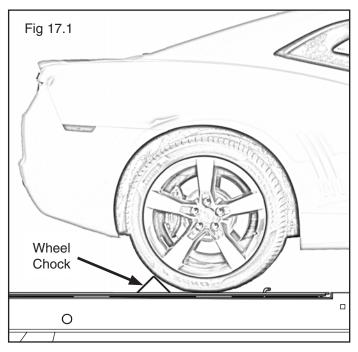
- EXAMPLE If corner #3 is lower than other corners.
  - o With the lift on the floor, OPEN valve #3 and raise lift until corner #3 become even with the other corners.
  - o CLOSE valve #3, lower lift and re-check.
- EXAMPLE If corner #4 is lower than other corners.
  - o With the lift on the floor, OPEN valve #4 and raise lift until corner #4 become even with the other corners.
  - o CLOSE valve #4, lower lift and re-check.
- Repeat these steps for corners #1 and #2 if necessary.

NOTE: This process will be based on trial and error and visual acuity. It will take careful attention to determine when the corners have become level with one another.

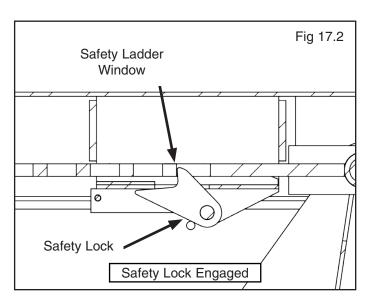
## STEP 17 (Operation)

#### 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. (See Fig. 17.1)



- 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.
- 5. After vehicle is raised to the desired height, <u>lower the lift onto the nearest safety lock</u>. ALWAYS MAKE SURE THAT ALL SAFETY LOCKS ARE ENGAGED before entering work area. (See Fig. 17.2)





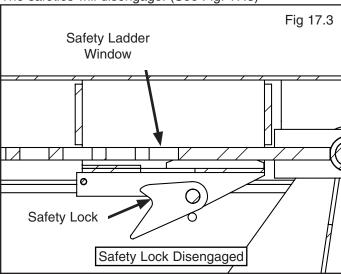
#### **DANGER!**

WHEN LOWERING THE LIFT PAY CLOSE
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 A SAFETY LOCK ENGAGES INADVERTENTLY
UPON DESCENT, THE LIFT MAY MALFUNCTION
CAUSING THE LOADED VEHICLE TO SHIFT
UNDESIRABLY AND MAY CAUSE PERSONAL INJURY
AND/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. Be sure that all tools and equipment have been cleared from under the lift.
- 2. Raise the lift off of the Safety Locks by pressing the push button on the Power Console. Make sure the lift is raised by at least two inches to allow adequate clearance for the locks to clear.

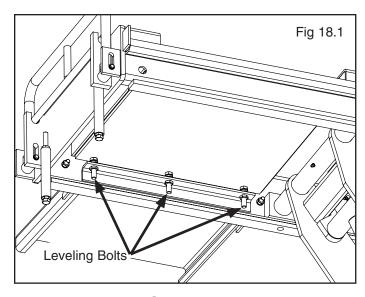
3. Press the Push Button Air Safety Valve and HOLD. The safeties will disengage. (See Fig. 17.3)



4. Push the LOWERING BUTTON on the Power Unit Console until the lift has descended to the desired height and release the Push Button Air Safety Valve.

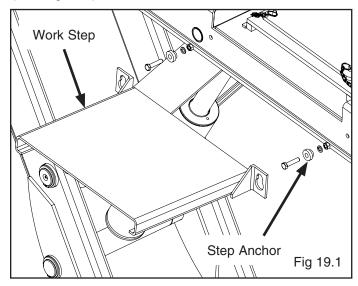
# \*ALIGNMENT MODELS ONLY (Turnplate Pocket Adjustment)

- 1. After the lift installation, operation check and leveling of the lift has been completed.
- 2. Lower the lift onto the safeties at a convenient height.
- 3. Adjust the Turnplate pockets to level using the six adjustment bolts. (See Fig. 18.1)



## STEP 19 (Work Step Installation)

1. Install the Step Anchors in the desired locations on the ramp assemblies using the provided M10 hardware. (See Fig 19.1)



- 2. Align the Step Anchors with the keyhole slots on the Work Step. Fit the keyhole slots over the Step Anchors and drop the step into place.
- 3. To remove the Work Step, push the Work Step upwards so that the keyhole slots will be able to fit over the Step Anchors and pull the Work Step away from the ramp. Leave the Step Anchors in place for ease of installation of the Work Step for the next use.
- 4. To re-install, repeat Step 19 Item 2.



#### **DANGER!**

PRIOR TO WORKING UNDERNEATH THE LIFT, MAKE CERTAIN SAFETY LOCKS ARE ENGAGED TO PREVENT LIFT FROM UNEXPECTEDLY LOWERING

## STEP 20 (Hose Cover Installation)

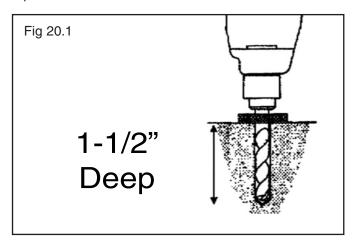
1. Raise ramps to provide ease of installation for this step.



#### **CAUTION!**

BE AWARE OF RAMP POSITION AND PARTS PROTRUDING FROM RAMPS. INATTENTIVENESS MAY RESULT IN PERSONAL INJURY.

- 2. Check fitment of the two floor troughs by placing them over the hose bundles. The Under Ramp Floor Trough should be placed under the ramps, with the cutouts facing the base plates as the hoses from the ramps will be mounted through them. The shorter Floor Trough should be placed in between the Under Ramp Floor Trough and the Valve Floor Plate Assembly.
- 3. Once the two troughs are in place, use the Under Ramp Floor Trough as a template, mark the four mounting holes on the concrete underneath with chalk or crayon and set aside the floor troughs.
- 4. Drill four holes at the locations marked with a 5/16" drill to a depth of 1-1/2". (See Fig 20.1) Pay attention to hose positions. DO NOT damage or pierce the hydraulic or pneumatic hoses.



- 5. After drilling remove dust thoroughly, insert four plastic concrete anchors in to the holes that were drilled.
- 6. Replace the floor troughs so that the anchors line up with the mounting holes on the two floor troughs. Install four M5 Pan Head sheet metal screws to fasten the floor troughs to the concrete.

#### **WEEKLY MAINTENANCE**

- Lubricate all pivot pins with general purpose grease at specified locations found on page 31.
- Check all component connections, bolts and pins to insure proper mounting.
- Lubricate safety lock pivot points with general purpose light spray-oil.

#### **MONTHLY MAINTENANCE**

- Check safety locks to insure they are in good operating condition.
- 2. Check all hoses for excessive signs of wear.
- 3. Make a visual inspection of ALL MOVING PARTS and check for excessive signs of wear.
- Replace ALL FAULTY PARTS before lift is put back into operation.



- ♦ NEVER EXCEED THE RATED CAPACITY of lift.
- DO NOT USE LIFT if any component is found to be defective or worn.
- ♦ NEVER OPERATE LIFT with any person or equipment below.
- ALWAYS STAND CLEAR of lift when lowering or raising.
- ALWAYS INSURE SAFETY LOCKS ARE ENGAGED before entering work area.
- ♦ NEVER LEAVE LIFT IN ELEVATED CONDITION unless all safety locks are engaged.

#### **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

#### Safe Lift Operation (Cont'd)

- ♦ Prior to being raised, make sure there is no one standing closer than six feet from the lift
- ♦ After positioning the vehicle on the lift runways, set the emergency brake, make sure the ignition is off, the doors are closed, overhead obstructions are cleared, and the transmission is in neutral.
- ♦ Double check that the automatic chock devices are in position and then when the lift is raised, observe the chocks
- Put pads or adapters in the right position under the contact points that have been recommended
- ♦ The lift should be raised just until the vehicle's wheels are about one foot off the ground. If contact with the vehicle is uneven or it appears that the vehicle is not sitting secure, carefully lower the lift and readjust.
- ♦ Always consider potential problems that might cause a vehicle to slip, i.e., heavy cargo, undercoating, etc.
- ♦ Pay attention when walking under a vehicle that is up on the hydraulic lift.



- ♦ **DO NOT** leave the controls while the lift is still in motion.
- ♦ **DO NOT** stand directly in front of the vehicle or in the bay when vehicle is being loaded or driven into position.
- ♦ **DO NOT** Go near vehicle or attempt to work on the vehicle when being raised or lowered.
- ◆ REMAIN CLEAR of lift when raising or lowering vehicle.
- ♦ **DO NOT** rock the vehicle while on the lift or remove any heavy component from vehicle that may cause excessive weight shift.
- ♦ **DO NOT** lower the vehicle until people, materials, and tools are clear
- ♦ ALWAYS INSURE that the safeties are engaged and lowered on to the safety locks 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)

	EMEDY Check for proper oil level	INSTRUCTION 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 AW32 hydraulic oil.
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)
- Microswitch burned out, (1,2,3,4)
- 4. Motor burned out, (1,2,3,4,6)
- Voltage to motor incorrect, (2,1,8) 5.

KEN	VIEDY	INSTRUCTION
1.	Check for correct voltage	Compare suppl

ly 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.

should be such that the voltage drop would not exceed 3% to the farthest outlet for power..." Do not run motor at 115 VAC - damage to the motor will occur.

4.

5.

Return unit for repair . . . . . . . . . . . . . . Return unit for repair. 6.

See Installation Manual . . . . . . . . . . . . . . . . . . See Installation Manual .

Check wall outlet voltage and wiring . . . . . . . . . . Make sure unit and wall outlet is wired properly. Motor

must run at 208/230 VAC.

#### LIFT LOWERS SLOWLY OR NOT AT ALL

#### **POSSIBLE CAUSE**

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

REMEDY	INSTRUCTION

See Installation Manual . . . . . . . . . . . . . Contact BendPak Customer Support. 1.

Replace with new part . . . . . . . . . . . . . . . Replace with new part. 2.

3. 

4. replace with clean hydraulic oil and flush entire system. ed.

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)

		MEDY Check oil level	The oil	JCTION level should be up to the bleed screw in the bir with the lift all the way down.
	2.	Check/Tighten inlet tubes	Replace	e inlet hose assembly.
	3.	Oil seal damaged or cocked	Replace	e oil seal and install.
	4.	Bleed cylinders	See Ins	stallation Manual.
	5.	See Installation Manual	. Contac	t BendPak Customer Support.
	6.	Check vehicle weight	Compa	re weight of vehicle to weight limit of the lift.
	7.	Flush release valve		lease handle down and start unit allowing it to 15 seconds.
	8.	Replace with new part	. Replac	ce with new part.
	9.	Return unit for repair	. Return	unit for repair.
- 1	10. on	Check motor is wired correctly		Compare wiring of motor to electrical diagram power unit drawing.
	11.	Inlet screen clogged	Clean i	nlet screen or replace.
	12.	Check wall outlet voltage and wiring		Make sure unit and wall outlet is wired properly.

#### LIFT WILL NOT STAY UP

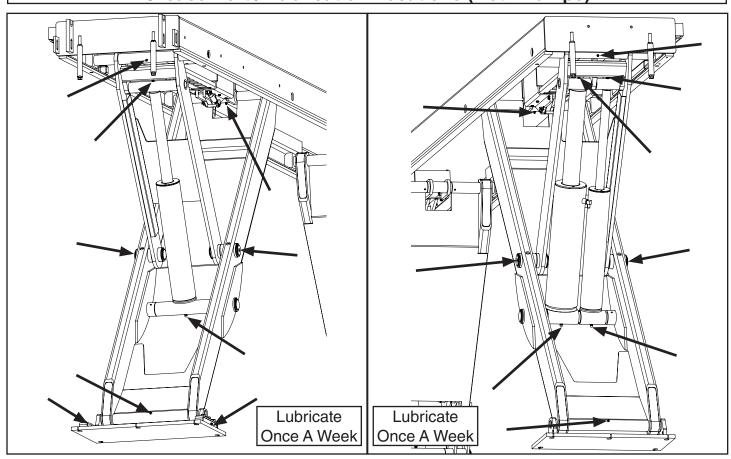
#### POSSIBLE CAUSE

- 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)

run for 15 seconds.

8. Check complete hydraulic system for leaks. . . . . . . . . . Tighten all hydraulics fittings and inspects all hoses.

#### **Grease Port / Lubrication Locations (Both Ramps)**

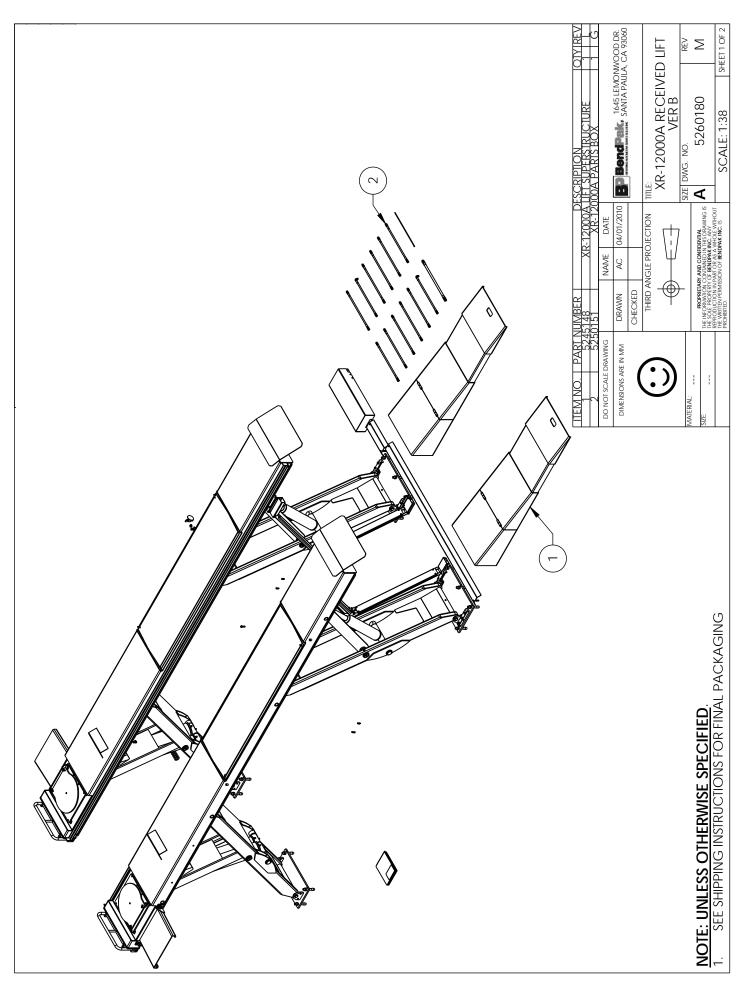


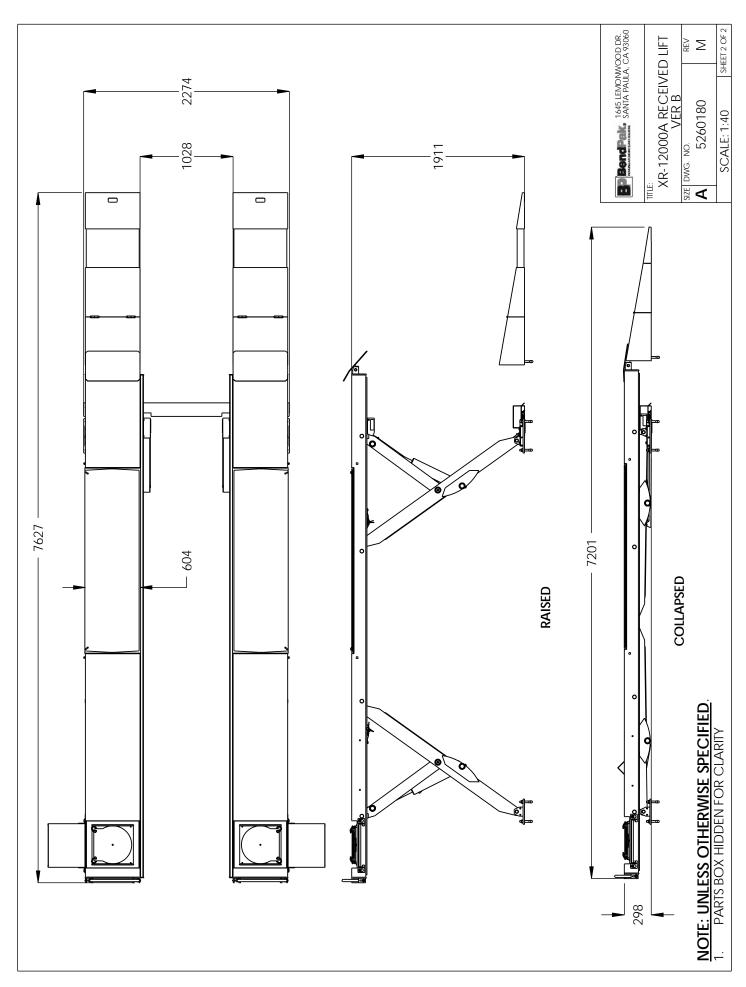
#### **MAINTENANCE RECORDS**

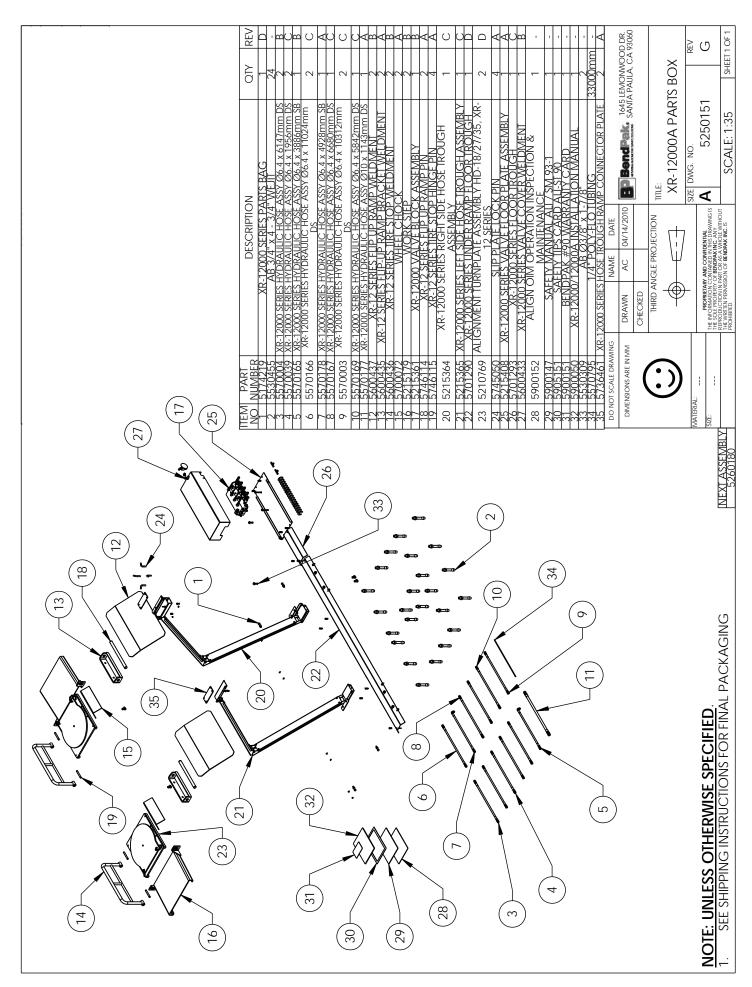

#### **MAINTENANCE RECORDS**

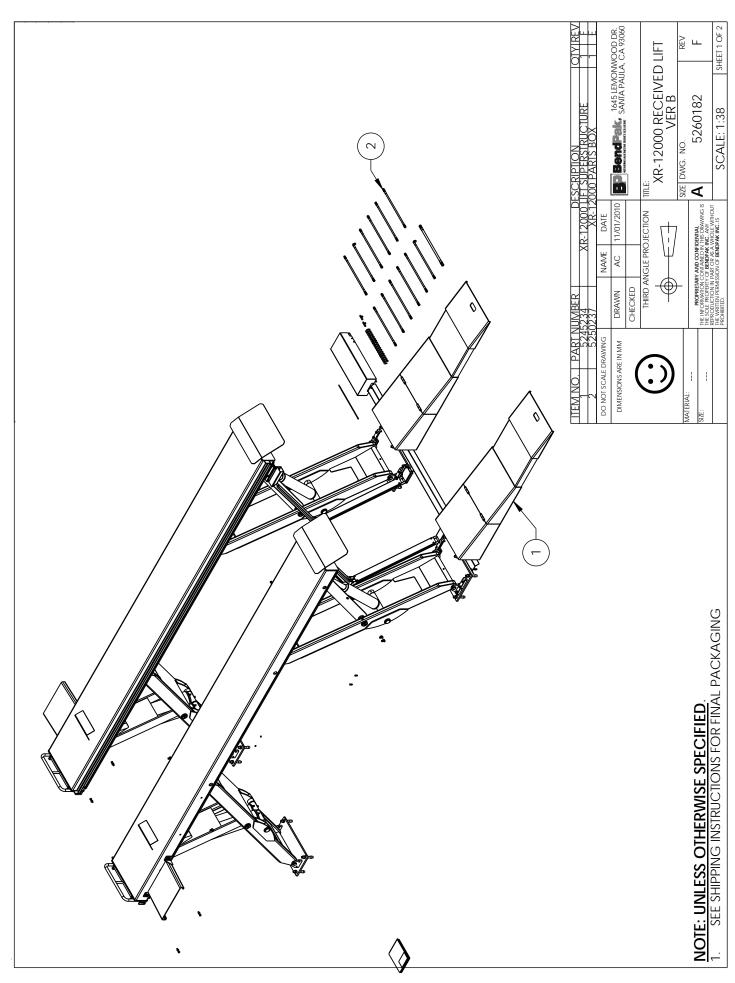

#### INSTALLATION FORM

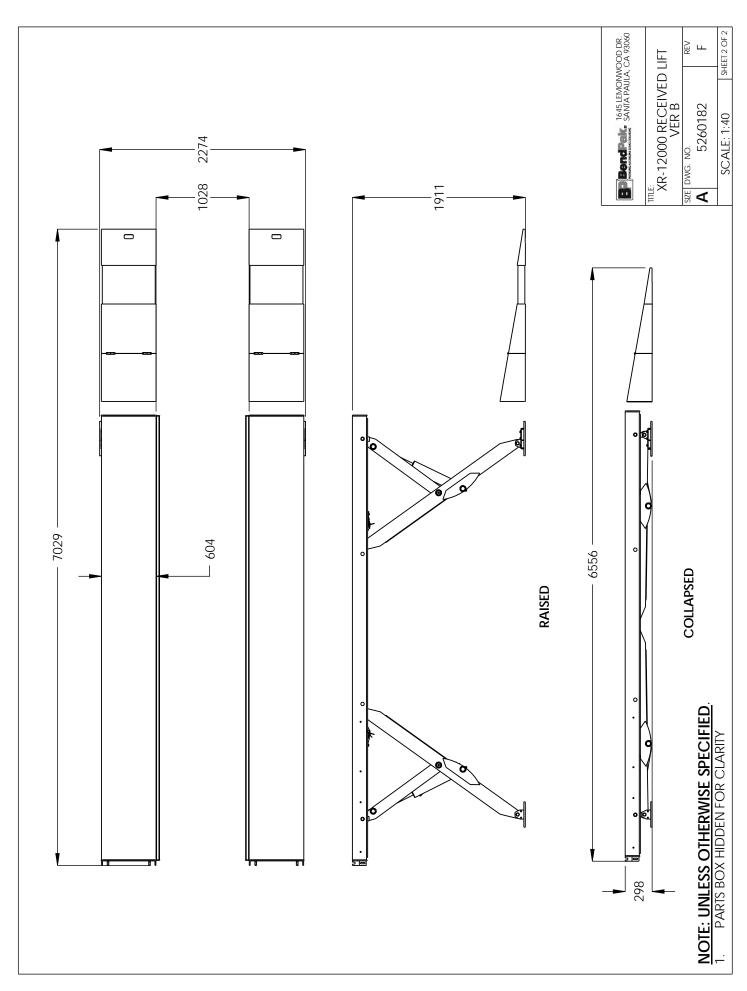
Customer Name: Date of Installation:					
Company Name:					
Street Address:					
City:	State:		Zip:		
Phone:		Fax:	B - 25		
	Pre-In	stall Agreement			
I, (the undersigned) acting as the owner of the business listed above assume responsibility for any permits required, either state or county mandated, related to the installation and/or operation of this equipment. I assume responsibility for the concrete floor and condition thereof, now or later, where the above equipment model(s) are installed. I will assume all liability for losses, damages (including loss of use), expenses, demands, claims, and judgments in connection with or arising out of any personal injury or alleged damage to property, sustained or alleged to have been sustained in connection with, or to have arisen out of the condition and/or drilling of the concrete near or adjacent to the equipment model(s) listed above. If my employee(s) offer assistance of any kind during installation of the above equipment model(s) I hold the manufacturer and installation company harmless of all liability for losses, damages, expenses, claims, and judgments in connection with or arising out of any personal injury or alleged damage to property, sustained or alleged to have been sustained in connection with the installation of the above equipment model(s).					
I understand that the lifts above are su "Automotive Lifts - Safety Requirement responsible for all charges related to a other agencies and/or codes such as the	ts for Construction, on special regional s	Festing, and Validation" ANSI structural and/or seismic anch	/ALI ALCTV-1998, and that I will be oring requirements specified by any		
Customer Signature:	Print	Name:	Date:		
	Post-Ins	tallation Check-Off			
☐ Base and Columns Properly Shimme	☐ Base and Columns Properly Shimmed And Stable ☐ Lubrication of Critical Components				
Anchor Bolts Tightened		Lift Adapters			
Runways Properly Attached and Sec	Runways Properly Attached and Secured Check For Overhead Obstructions				
☐ Electric Power Supply Confirmed		Runways Level			
☐ Cables / Chains Adjusted Properly		All Screws, Bolts, an	d Pins Secured		
☐ Safety Locks Functioning Properly		Surrounding Area an	d Lift Clean In Appearance		
☐ Check For Hydraulic Leaks		Proper Operation, M	aintenance and Safety Explained		
Oil Level		Operation and Safet	y Manual(s) Left at Site		
I, (the undersigned) confirm that the above installation procedure(s) were completed. I understand that I will be responsible for maintaining this equipment as outlined in the accompanied <i>Installation and Operation Manual</i> and <i>ANSI/ALI ALOIM Safety Requirements for Operation, Inspection and Maintenance</i> . I understand that personal injury and/or damage to property can occur if the above equipment model(s) are not maintained or used improperly and take full responsibility for training my employees on proper use and maintenance of this equipment. I hold the manufacturer and installation company harmless of all liability for losses, damages (including loss of use), expenses, demands, claims, and judgments in connection with or related to improper use, improper training, or lack of required maintenance. I understand that the warranty does not cover replacement of parts worn or damaged due to normal use or lack of required maintenance					
Customer Signature:	Print	Name:	Date:		
Installer Signature:	Installer Signature: Print Name: Date:				
Installer Company Name:					
Street Address:					
City:		State:	Zip:		
Phone:		Phone ( Other ):			

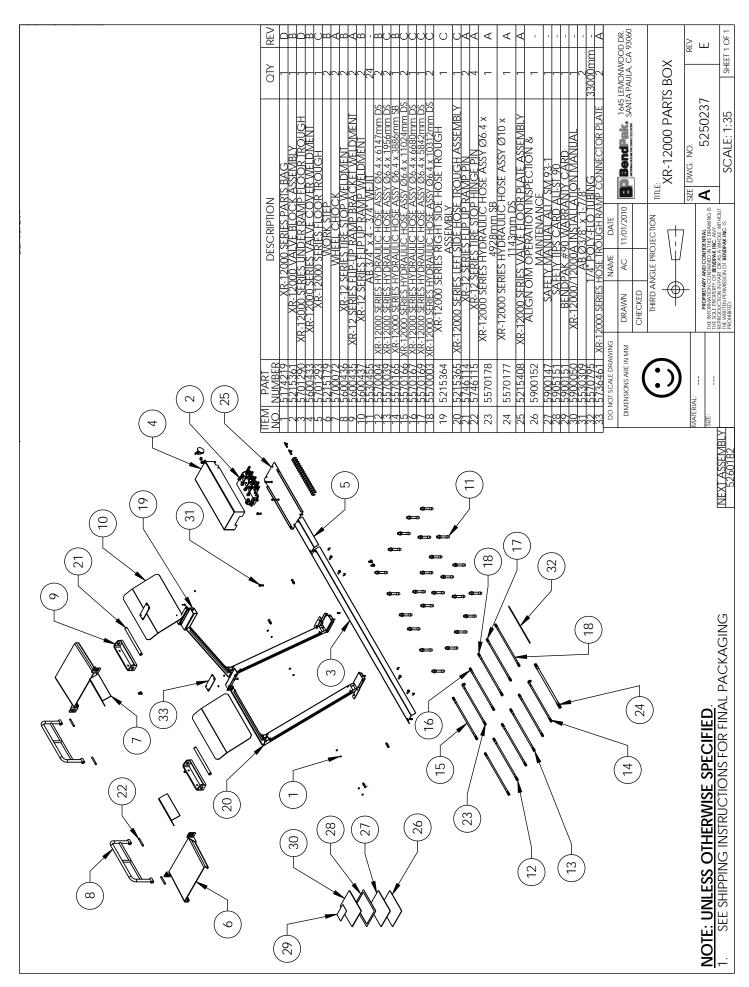














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