

WARNING

PLEASE READ THE ENTIRE CONTENTS OF THIS MANUAL PRIOR TO INSTALLATION AND OPERATION. BY PROCEEDING 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.

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

REV E 09-01-08

INSTALLATION AND OPERATION MANUAL

**12,000 POUND CAPACITY
FULL-RISE SCISSORS
ALIGNMENT LIFT**

**MODEL:
XR-12AE**



READ FIRST



Do not operate this machine until you read and understand all the dangers, warnings and cautions in this manual.



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

SHIPPING DAMAGE CLAIMS

When this equipment is shipped, title passes to the purchaser upon receipt from the carrier. Consequently, claims for the material damaged in shipment must be made by the purchaser against the transportation company at the time shipment is received.

BE SAFE

Your new lift was designed and built with safety in mind. However, your overall safety can be increased by 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.



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Santa Paula, CA. 93060, USA
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www.bendpak.com






12,000 POUND CAPACITY FULL-RISE SCISSORS ALIGNMENT LIFT

This instruction manual has been prepared especially for you.
Your new lift is the product of over 35 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

  		
1645 Lemonwood Dr., Santa Paula, CA 93060 USA Tel: 1-805-933-9970 Fax: 1-805-933-9160 www.bendpak.com		
Model No.	Lifting Capacity	Serial No.
Date of Mfg.	Power Unit No.	Voltage / Amperage

Power Unit Model # _____
 Power Unit Date Of Mfg. _____
 Power Unit Serial # _____

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

PRODUCT WARRANTY

BendPak XR-12AE Lifts are covered under warranty for one year on equipment structure, to be free of defects in material and workmanship. Power units, hydraulic cylinders, and all other assembly components such as turnplates, slip plates, cables, chains, valves, switches etc. are covered under warranty for one year against defects in material or workmanship under normal use. BendPak Inc. shall repair or replace at their option for 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, 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 contaminant's.

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 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: It Means: Immediate hazards which will result in severe personal injury or death.



WARNING

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



CAUTION

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

OWNER'S RESPONSIBILITY

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

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

BEFORE YOU BEGIN

Receiving:

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

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

IT IS DIFFICULT TO COLLECT FOR LOSS OR DAMAGE AFTER YOU HAVE GIVEN THE CARRIER A CLEAR RECEIPT. File your claim with the carrier promptly. Support your claim with copies of the bill of lading, freight bill, invoice, and photographs, if available. Our willingness to assist in helping you process your claim does not make BendPak 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 entire manual prior to installation. Do not operate this machine until you read and understand all the dangers, warnings and cautions in this manual. For additional copies or further information, contact:

BendPak Inc. / Ranger Products

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

**INSTALLER / OPERATOR
PROTECTIVE EQUIPMENT**

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

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



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



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

INTRODUCTION

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

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

IMPORTANT SAFETY INSTRUCTIONS

Read these safety instructions entirely!

IMPORTANT NOTICE !

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

1. **READ AND UNDERSTAND** all safety warning procedures before operating lift.

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

3. **KEEP WORK AREA CLEAN.** Cluttered work areas invite injuries.

4. Consider work area environment. Do not expose equipment to rain. **DO NOT** use in damp or wet locations. Keep area well lighted.

5. **ONLY TRAINED OPERATORS** should operate this lift. All non-trained personnel should be kept away from work area. Never let non-trained personnel come in contact with, or operate lift.

6. **USE LIFT CORRECTLY.** Use lift in the proper manner. Never use lifting adapters other than what is approved by the manufacturer.

7. **DO NOT** override self-closing lift controls.

8. **REMAIN CLEAR** of lift when raising or lowering vehicle.

9. **CLEAR AREA** if vehicle is in danger of falling.

10. **ALWAYS INSURE** 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.

TOOLS REQUIRED

- ▶ Rotary Hammer Drill Or Similar
- ▶ 3/4" Masonry Bit
- ▶ Hammer
- ▶ 4 Foot Level
- ▶ Open-End Wrench Set: 7/16" - 1-1/8"
- ▶ Socket And Ratchet Set: 7/16" - 1-1/8"
- ▶ Hex-Key / Allen Wrench Set
- ▶ Medium Crescent Wrench
- ▶ Medium Pipe Wrench
- ▶ Crow Bar For Shim Installation
- ▶ Chalk Line
- ▶ Medium Flat Screwdriver
- ▶ Tape Measure: 25 Foot Minimum
- ▶ Needle Nose Pliers

IMPORTANT NOTICE !

Do not attempt to install this lift if you have never been trained on basic automotive lift installation procedures. Never attempt to lift components without proper lifting tools such as forklift or cranes. Stay clear of any moving parts that can fall and cause injury. These instructions must be followed to 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 CONCRETE:** Visually inspect the site where the lift is to be installed and check for cracked or defective concrete.



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

5. Lift is designed for **INDOOR INSTALLATION ONLY.**

STEP 2 (Floor Requirements)



Specifications of concrete must be adhered to. Failure to do so could cause lift failure resulting in personal injury or death.

A level floor is suggested for proper installation. Small differences in floor slopes may be compensated for by proper shimming. 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 this lift on any asphalt surface or any surface other than concrete.
- ▶ DO NOT install this lift on expansion seams or on cracked or defective concrete.
- ▶ DO NOT install this lift on a second or elevated floor without first consulting building architect.
- ▶ DO NOT install this lift outdoors.

CONCRETE SPECIFICATIONS

LIFT MODEL	CONCRETE REQUIREMENT
XR-12AE	4" Min. Thickness / 2500 PSI



NOTE:

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

GENERAL SPECIFICATIONS

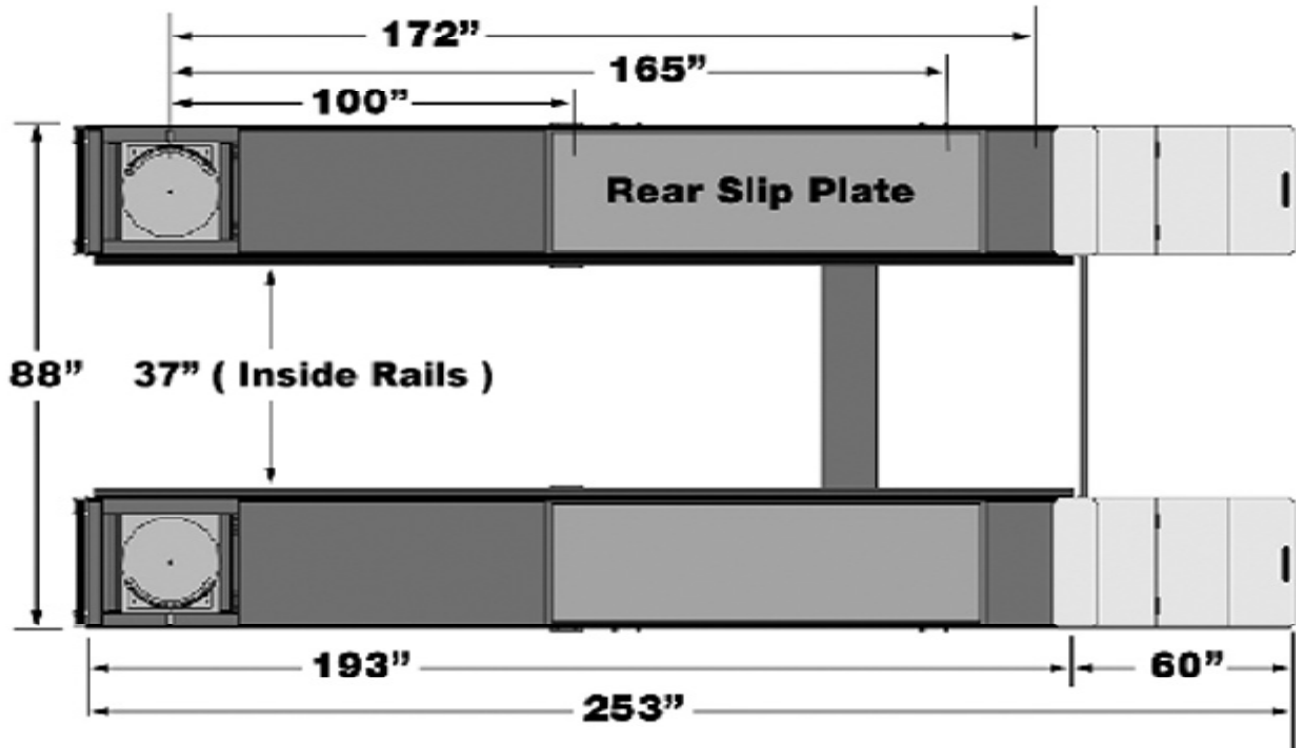
MODEL	XR-12AE
Style:	Extended Wheelbase
Lifting Capacity:	12,0000 Lbs. / 5443 Kg.
Lifting Height:	70" / 1778 mm.
Lowered Height:	12" / 305 mm.
Lifting Time:	75 Seconds
Overall Length: (Including Approach Ramps)	253" / 6426 mm.
Overall Width:	88" / 2235 mm.
Runway Width:	25" / 635 mm.
Minimum 4 Wheel Alignment (*)	100" / 2540 mm.
Maximum 4 Wheel Alignment (*)	165" / 4191 mm.
Maximum 2 Wheel Alignment (*)	172" / 4369
Maximum General Wheelbase (*)	178" / 4445 mm.
Minimum General Wheelbase (*)	140" / 3556 mm.
Motor (**)	220 VAC / 60 Hz. / 1 Phase.

* May vary depending on wheel size.

** Special voltages available upon request.

The design, material and specification are subject to change without notice.

FLOOR PLAN LAYOUT



IMPORTANT NOTE:

The lift should be installed by qualified lift installers only who are familiar with this particular lift model and the requirements thereof. The frame on this lift **MUST NOT** be twisted, bent or otherwise misaligned by un-level floors or improper anchoring. Misalignment will cause damage to the lift.

Maximum out-of-level at anchors should not exceed 1" side to side or 2" front to rear.

Shim at anchors if floor is crowned more than 1/2" between front to rear anchors.



CAUTION!

Your new lift was designed primarily for performing two wheel or four wheel alignments on passenger vehicles and light trucks. The lift is a "Scissors" type whereas the lift is raised by a scissors actuating lifting system.

No forward or rearward movement takes place unlike "Parallelogram" style lifts which move forward during the lifting process.

The lift is powered by four hydraulic cylinders located within the runway assemblies.

The motor assembly or power unit is a self contained electric/hydraulic motor and pump assembly that incorporates a push button switch for raising and push button switches for lowering the lift.

The lift has multiple locking positions that should be engaged before any attempt is made to work on or near vehicle.

PARTS INVENTORY

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

Refer to illustrations on page 27 of this manual.



DANGER!

When removing the lift from shipping angles pay close attention as the components can slide and can cause injury.

Prior to removing the bolts make sure the posts are held securely by a fork lift or some other heavy lifting device.

STEP 3

(Positioning The Ramp Assemblies)

1. Remove the straps holding the two Ramp Assemblies together keeping your hands and feet clear of any pinch points. Place the Ramp Assemblies on the floor. **DO NOT** bolt the Ramps down at this time. The Ramps should be bolted down after the leveling procedure has taken place. After positioning the Ramps on the floor check for clearance around the lift and make sure proper consideration has been made for the Approach Ramps that will be installed later.

IMPORTANT NOTE:

The hydraulic hoses have been pre-installed for your convenience. BE CAREFUL not to cut the Hydraulic Hoses during the installation process. The Hoses were pre-routed for a DRIVER SIDE / LEFT SIDE POWER CONSOLE installation. The POWER CONSOLE can be located on either the LEFT SIDE or RIGHT SIDE. If you desire a PASSENGER SIDE / RIGHT SIDE POWER CONSOLE installation it will be necessary to re-route the main POWER HOSE. Follow the HOSE ROUTING instructions on the following page for proper Hose routing.

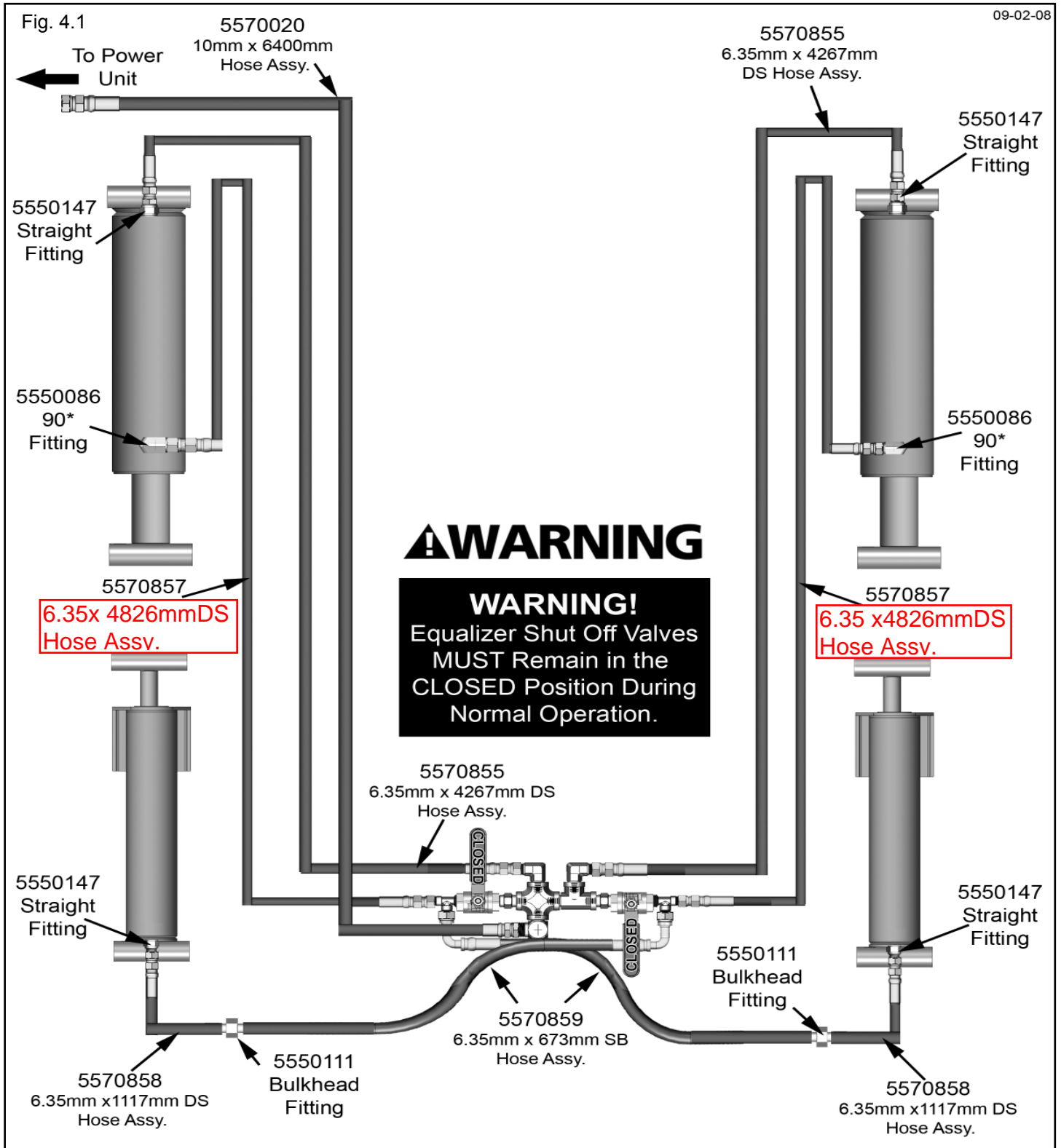
STEP 4

(Connecting the Hydraulic Hose Assemblies)

Connect the Hydraulic Hoses as described below.
It is not necessary to use Teflon tape on any of the JIC connections.

IMPORTANT NOTE:

DO NOT anchor the lift frames to the floor until the lift assembly is completed and is raised and lowered at least six times to check for squareness. IF THE LIFT binds or the frames twist when the lift is raised then make adjustments accordingly before anchoring to the floor.



STEP 5

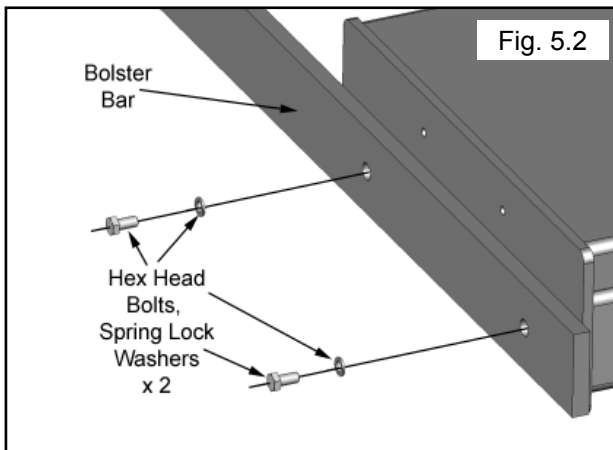
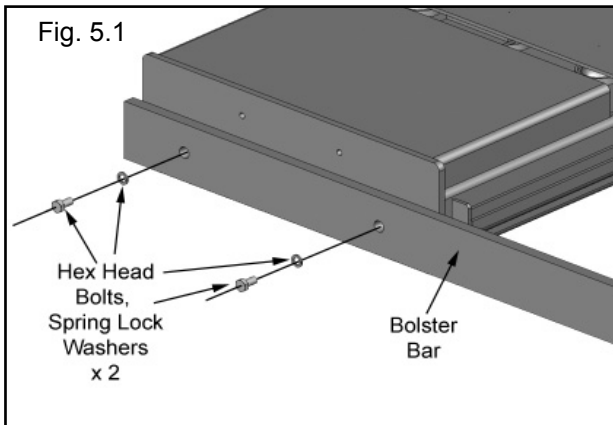
(Attaching the Bolster Bars)

1. The lift MUST be installed with the Rear Bolster Bar (the bar connecting the Runways together) attached at the REAR of the lift.

IMPORTANT NOTE

A level floor is suggested for proper installation. Small differences in floor slope may be compensated for by proper shimming. Any major slope change will affect the lifts level lifting performance. 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.

2. Attach the Rear Bolster Bar as shown below making sure to keep the base frames square. (See Fig. 5.1 & 5.2)

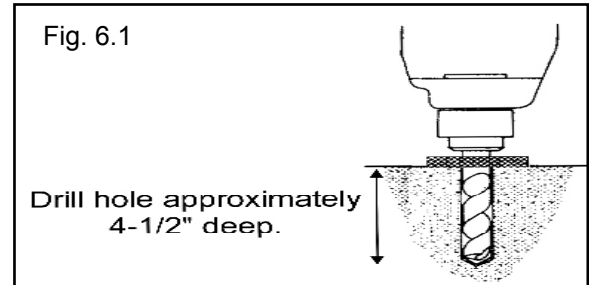


STEP 6

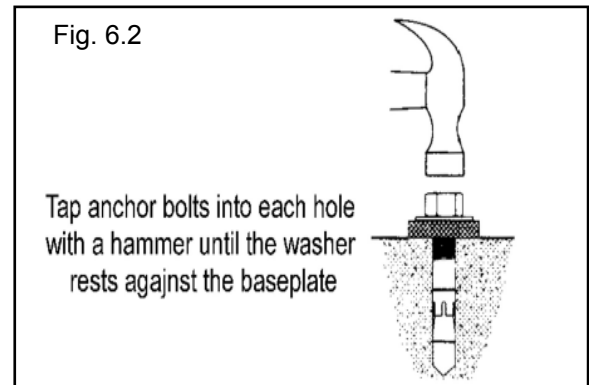
(Mounting The Hydraulic Power Console)

1. Select a position that is best suited for the Power Console installation.

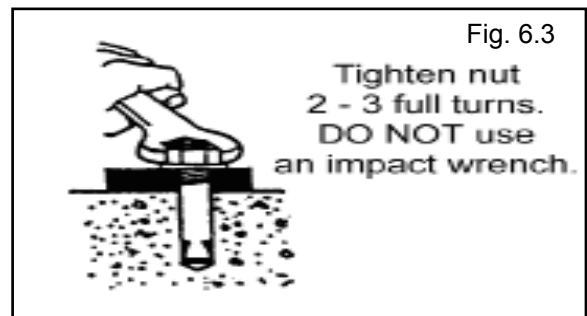
2. Using a 3/4" concrete drill bit, drill the floor to a depth of 4.5" using the two holes in the Power Console as a guide. (See Fig. 6.1)



3. Assemble the washers and nuts on the Anchor Bolts then tap into each hole with a hammer until the washer rests against the base. (See Fig. 6.2)



4. Install the 3/4" Anchor Bolts and tighten two to three turn past finger tight. (See Fig. 6.3)



STEP 7

(Electrical Connections)



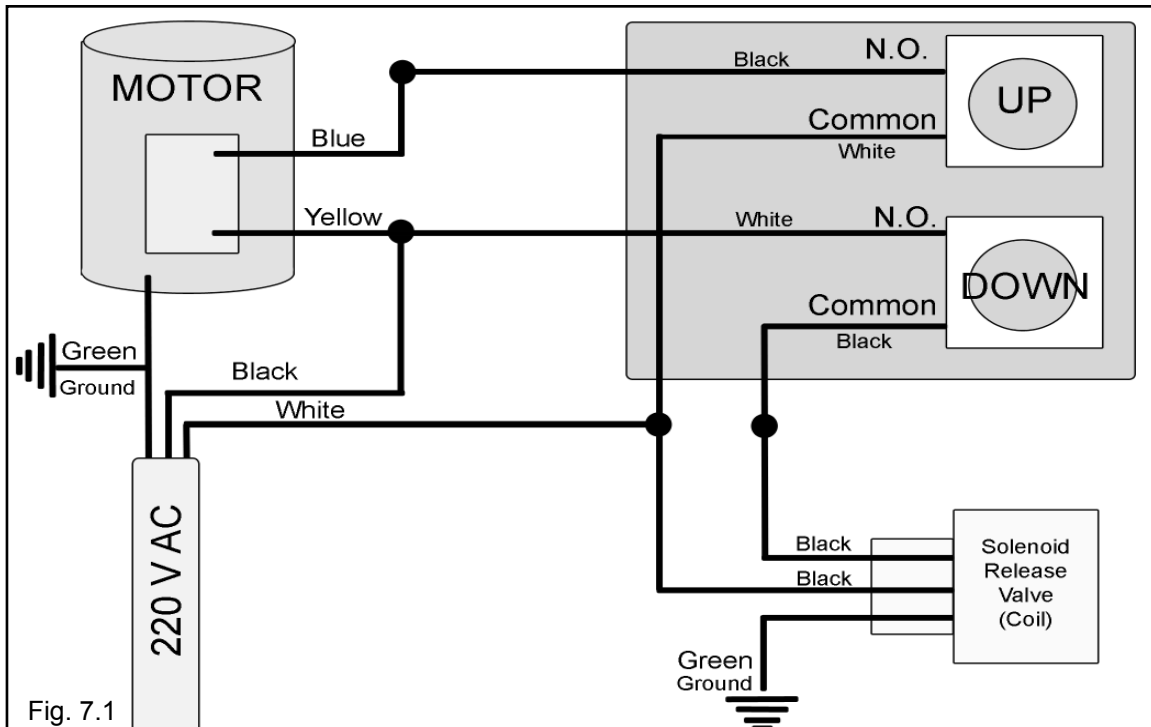
DANGER !
ALL WIRING MUST BE PERFORMED
BY A LICENSED ELECTRICIAN.



1. The standard electric motor used on your lift requires a 220 volt, 60HZ, single phase hook-up. See motor operating data plate for power and amperage ratings. Wire Power Console as indicated below. (See Fig. 7.1)

2. All wiring must be performed by a certified electrician only. SEE WIRING INSTRUCTIONS AFFIXED TO MOTOR FOR PROPER WIRING INSTRUCTIONS.

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.



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.

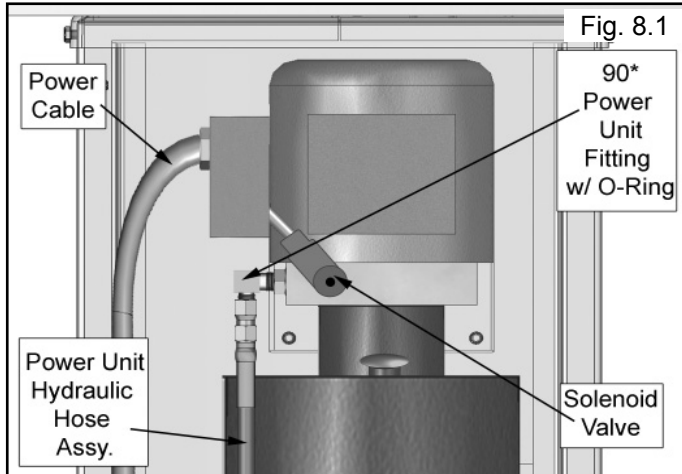
“ For 208-230 volt, three phase, use a 20 amp fuse.

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

STEP 8

(Connecting the Hydraulic Power Console)

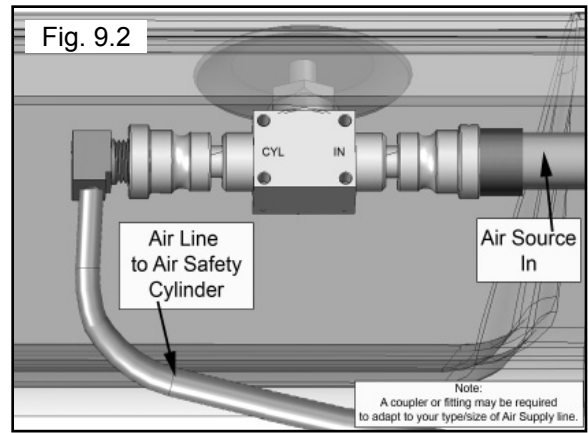
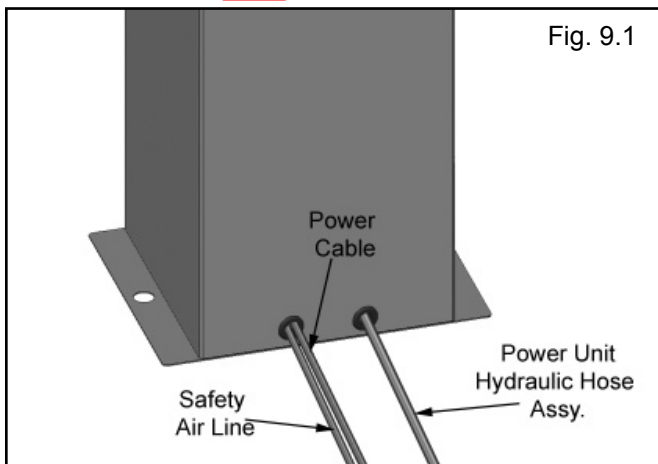
1. Remove the front panel cover on the Power Console to access the Power Unit and control components.
2. **Fill the reservoir with AW-32 Hydraulic Oil ONLY.** approximately four gallons. Make sure the funnel used to fill the power unit is clean.
2. Remove plug from Power Unit and install the 90° Fitting w/ O-ring into the power port on the Power Unit. Connect the Power Unit Hose Assembly to the 90° Fitting. (See Fig 8.1)



STEP 9

(Power Console Hose Routing)

1. Route the Power Unit Hydraulic Hose Assy. through the hole at the back of the Power Console.
2. Connect the main Hydraulic Hose Assy. and air supply to the Power Console fittings as shown below. (DO NOT EXCEED **125** PSI) (See Fig. 9.1 & 9.2)



STEP 10

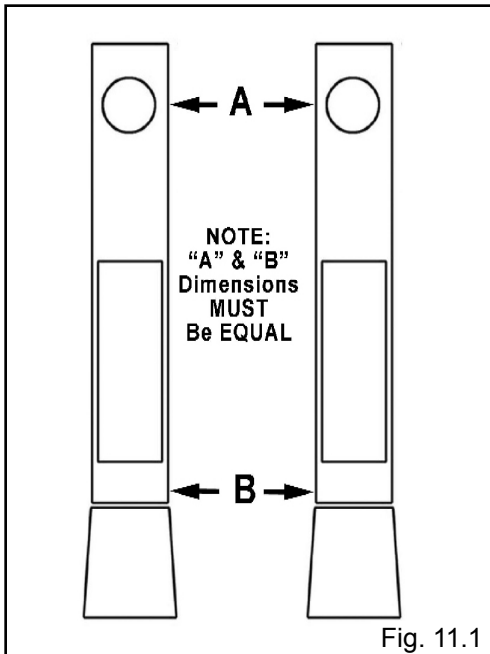
(Lift Start Up)

1. Make sure the Power Unit reservoir is full with 16 quarts of AW-32 Hydraulic Oil.
2. Lubricate all friction points on the lift with a 90-WT Gear Oil.
3. Test the power unit by depressing the push-button switch. If the motor sounds like it is operating properly, raise the lift and check all hose connections for leaks. **IF MOTOR GETS HOT OR SOUNDS PECULIAR, STOP IMMEDIATELY AND RE-CHECK HOSE AND ELECTRICAL CONNECTIONS.**
4. Continue raising the lift slowly until **THE LIFT CYLINDERS REACH THEIR FULLEST EXTENSION.**
5. Press the AIR SAFETY release button and the LOWER BUTTON simultaneously to lower the lift to the floor.
6. Repeat this process at least three times to equalize the oil pressure in each cylinder.

STEP 11

(Leveling The Lift Frames)

BEFORE PROCEEDING POSITION THE RUNWAYS MAKING SURE THEY ARE PARALLEL AND SQUARE AS SHOWN BELOW. (See Fig 11.1)

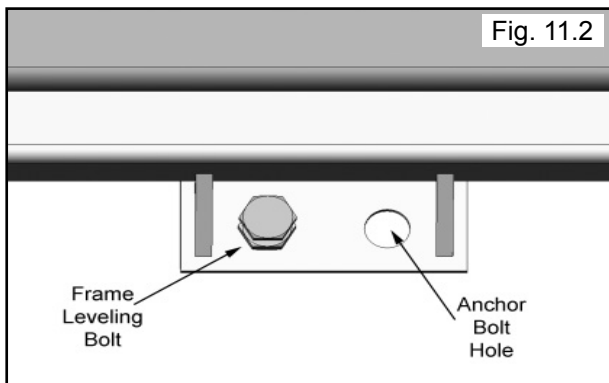


1. The lift will be leveled to the highest point on the floor.
2. To find the highest point, use a four foot level across the base frame or on top off each Runway.
3. Beginning at the corner closest to the highest point, shim at each bolt hole location until each Runway is level.

INSTALLATION NOTE:

An adjustment bolt located on the base frames near each Anchor Bolt location can be used to raise the frames for shimming / leveling purposes.

(See Fig. 11.2)



NOTE:

Be sure to use slotted shims around each Anchor Bolt location so that the concrete surrounding the Anchor Bolts remains compressed. This will help prevent the concrete from cracking near the Anchor Bolts.

4. Continue shimming each Runway until they are level front to back.

5. Once the runways are level front to back, level the inside and outside rails of each Runway to make sure each Runway is level laterally as well as front to back.

IMPORTANT NOTE

Before anchoring the lift to the floor, first raise the lift up and down and check for proper operation and squareness of frames and runways.

STEP 12

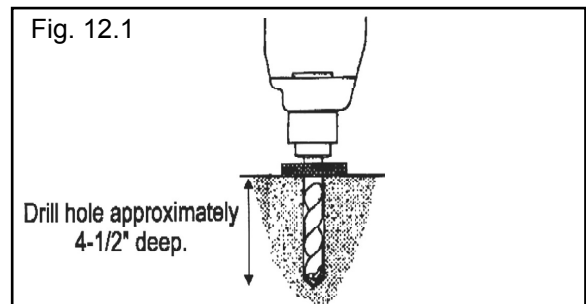
(Anchoring The Lift Frames)

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

IMPORTANT NOTE !

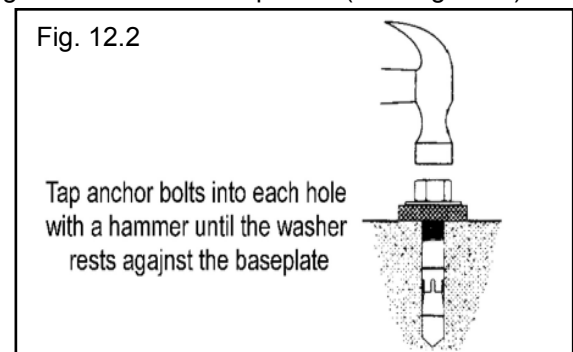
A level floor is suggested for proper installation. Small differences in floor slope may be compensated for by proper shimming. Any major slope changes will affect level lifting. If a floor is of questionable slope, (more than 1" side to side or 2" within the full length of the lift) consider pouring a new concrete slab.

2. Using the base of the frame as a guide, drill each anchor hole in the concrete approximately 4-1/2" deep using a rotary hammer drill and 3/4" concrete drill-bit. (See Fig 12.1)

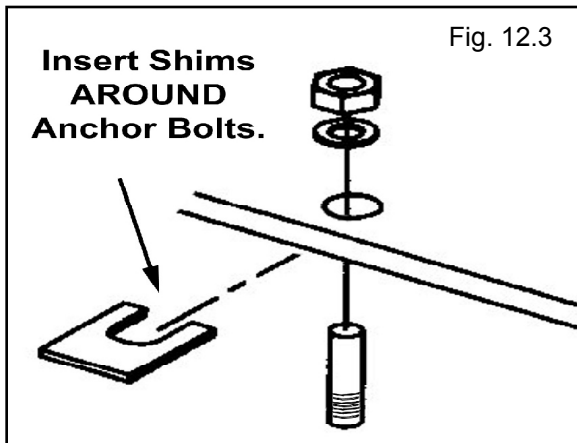


3. After drilling the anchor holes, remove the dust thoroughly from each hole using compressed air and/or wire brush. ALWAYS WEAR SAFETY GOGGLES.

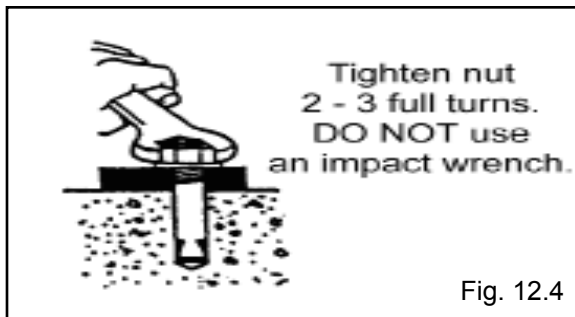
4. Assemble the washers and nuts on the Anchors then tap into each hole with a hammer until the washer rests against the base. Be sure that if shimming is required, enough threads are left exposed. (See Fig. 12.2)



5. If shimming is required, insert the shims as necessary around each Anchor Bolts. (See Fig. 12.3)

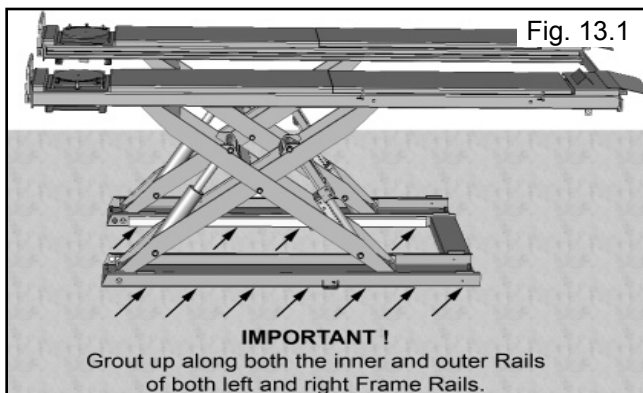


6. With the shims and Anchor Bolts in place, tighten nut two to three turns past finger tight. **DO NOT** use an impact wrench for this procedure. (See Fig. 12.4)



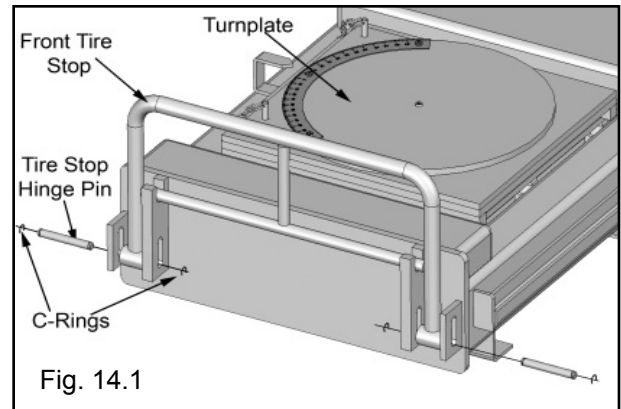
STEP 13 (Grouting The Lift Frames)

1. After the lift frames are anchored and checked for levelness, fill in any spaces that exist after shimming under the entire length of the frame rails. Use grout (Quickcrete® or other similar grout compound) and spread evenly up under the frame rails. (See Fig. 13.1)

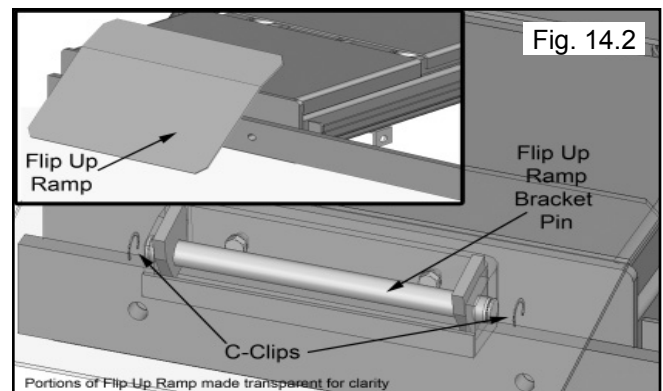


STEP 14 (Installing Accessories)

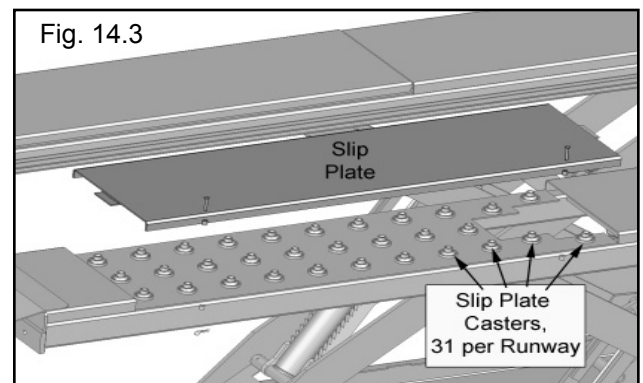
1. Place the Turnplates in the Turnplate pockets.
2. Install the Front Tire stops using the Hinge Pins and C-clips as shown. (See Fig. 14.1)



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



4. Remove the Slip Plates. Install the Slip Plate Casters into the sockets in the Runways. (See Fig. 14.3)



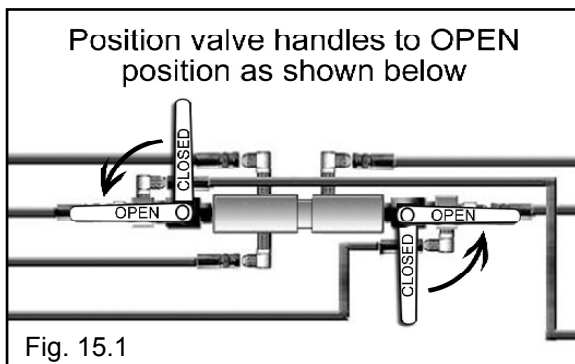
STEP 15 (Equalizing Procedure)



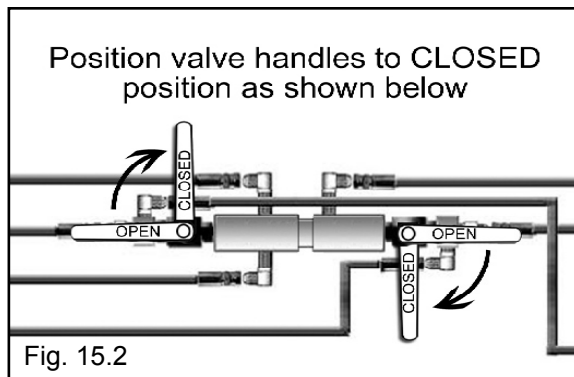
WARNING!
EQUALIZER VALVES MUST REMAIN IN THE CLOSED POSITION DURING NORMAL OPERATION. FAILURE TO CLOSE VALVES DURING NORMAL OPERATION MAY DAMAGE LIFT STRUCTURE.

To maintain equal and level lifting, the following procedure should be performed once a month.

1. Position the handles on the Equalizing Valve assembly until both handles are PARALLEL with the valve body.
(See Fig 15.1)



2. Next, raise the lift all the way WITH NO LOAD. The ramps may raise unevenly during this time.
3. Raise the lift until both Runways reach full height and the cylinders bottom out. Once the lift stops raising, continue pressing the power unit button for 15 seconds to flood all the cylinders with hydraulic oil.
4. After the Cylinders are flooded, position the handles on the valve body back to the closed position- PERPENDICULAR WITH THE VALVE BODY.
(See Fig 15.2)



5. Lower the lift all the way to the floor.
6. Raise the lift midway and lock at even Safety Lock positions.
7. After a visual confirmation that both sides are on the SAME LOCK POSITION, open the valve handles. (Position the handles so that the handles are PARALLEL with the valve body.) You may hear a “swoosh” as the fluid in all four cylinders equalizes. Once this is done (about 10-seconds later) close the valve handles.
8. Your lift should now be equalized. **Be sure to repeat this procedure every 30-days.**

STEP 16 (Final Assembly)

1. Be sure concrete grout is applied to the underside of the lift platform rails.
2. Tighten all assembly and Anchor Bolts securely.
3. Run the lift up and down a few times to insure that the locks are engaging uniformly and that the safety release mechanisms are functioning properly.
Re-adjust if necessary.
4. Once the concrete grout has dried, drive a vehicle onto the lift making sure to set the emergency brake before exiting the vehicle.
5. Run the lift up and down two times with a vehicle to ensure that the locks are engaging uniformly and that the safety release mechanisms are functioning properly.
Re-adjust if necessary.
6. Install the Valve Assy. Safety Hose Cover and the Power Unit Hydraulic Hose Assy. Cover after checking locks for proper operation.

POST INSTALLATION CHECKLIST

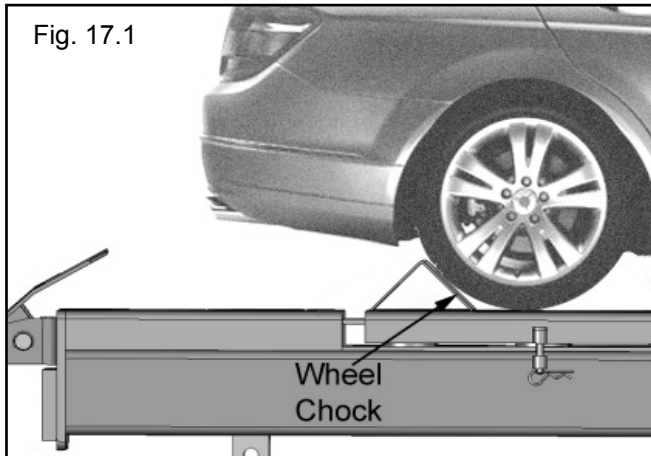
- ▶ Lift Frames Properly Shimmed And Stable
- ▶ Lift Frames Properly Grouted
- ▶ Anchor Bolts Tightened
- ▶ Pivot Pins Properly Secure
- ▶ Electric Power Supply Confirmed
- ▶ Equalizing Procedure Complete
- ▶ Safety Locks Functioning Properly
- ▶ Check For Hydraulic Leaks
- ▶ Lubrication of Critical Components
- ▶ All Screws, Bolts, and Pins Secured
- ▶ Operation and Safety Manuals On Site

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)



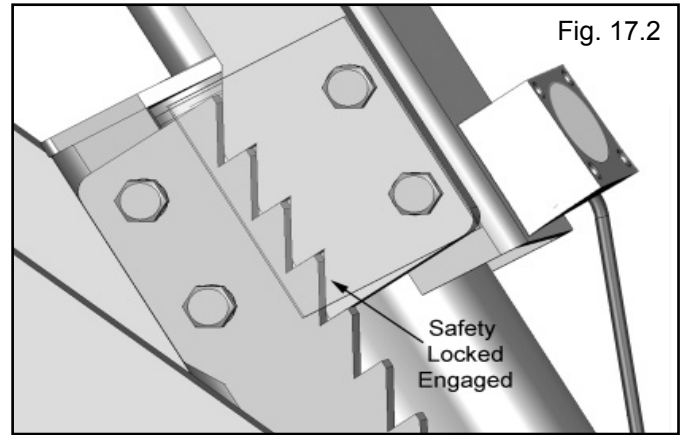
3. Before raising vehicle, be sure all personnel are clear of the lift and surrounding area. Pay careful attention to overhead clearances.
4. Raise the lift to the desired height by pressing the push button on the power unit.

⚠ DANGER

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

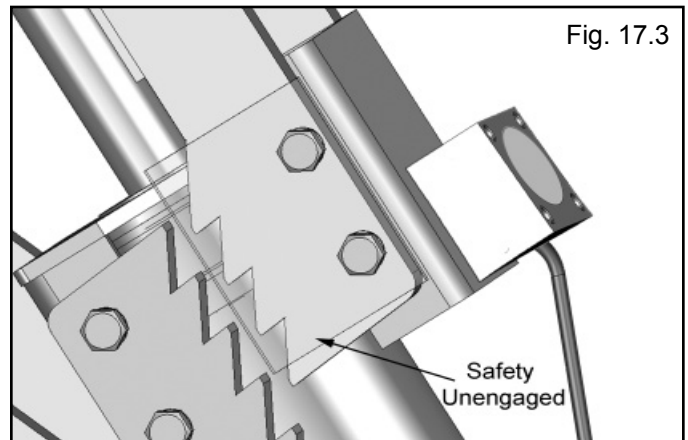
Hydraulic components on this lift are intended to raise and lower lift only and are not meant to be load holding devices. Remain clear of elevated lift unless visual confirmation is made that all primary safety locks are fully engaged and the lift is LOWERED onto the safety locks. Refer to installation / operation manual for proper safety lock procedures and /or further instruction.

5. After vehicle is raised to the desired height, **lower the lift onto the nearest safety lock. ALWAYS INSURE ALL SAFETY LOCKS ARE ENGAGED** before entering work area. (See Fig. 17.2)



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. Insure 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 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. The Safety will raise up. (See Fig. 17.3)



4. Push the LOWERING HANDLE on the power unit until the lift has descended completely.

⚠ DANGER

When lowering the lift PAY CAREFUL ATTENTION that all personnel and objects are kept clear. ALWAYS keep a visual line of site on the lift AT ALL TIMES. ALWAYS make sure that all LOCKS are disengaged. If one of the locks inadvertently locks on descent the lift and/or vehicle may disrupt causing personal injury or death.

WEEKLY MAINTENANCE

1. Lubricate all rollers with general purpose oil or WD-40.
2. Check all component connections, bolts and pins to insure proper mounting.
3. Lubricate safety lock pivot points with general purpose oil or WD-40.

MONTHLY MAINTENANCE

1. 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.
4. Replace ALL FAULTY PARTS before lift is put back into operation.

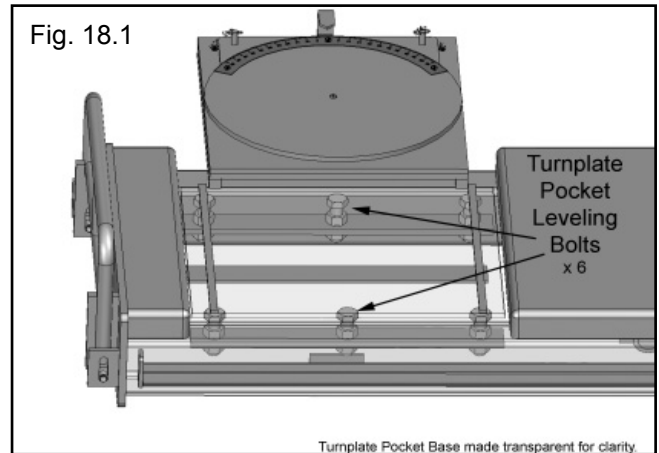


- ◆ **NEVER EXCEED THE RATED CAPACITY** of lift.
- ◆ **DO NOT USE LIFT** if any component is found to be defective or worn.
- ◆ **NEVER OPERATE LIFT** with any person or equipment below.
- ◆ **ALWAYS STAND CLEAR** of lift when lowering or raising.
- ◆ **ALWAYS INSURE SAFETY LOCKS ARE ENGAGED** before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

STEP 18

(Turnplate Pocket Adjustment)

1. After the lift installation, operation check and leveling of the lift has been completed. The Turnplate pockets should be adjusted to level using the 6 adjustment bolts. (See Fig. 18.1)



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.



- ◆ **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)

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 AW-32 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 motor is wired correctly. | Compare wiring of motor to electrical diagram on drawing. |
| 8. Oil seal damaged or cocked | Replace oil seal around pump shaft. |
| 9. See Installation Manual | Consult Lift Manufacturer. |
| 10. Replace with new part | Replace with new part. |
| 11. Return unit for repair | Return unit for repair. |
| 12. Check pump-mounting bolts | Bolts should be 15 to 18 ft. lbs. |
| 13. Inlet screen clogged | Clean inlet screen or replace. |
| 14. Check wall outlet voltages and wiring | Make sure unit and wall outlet are wired properly. |

MOTOR WILL NOT RUN

POSSIBLE CAUSE

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

REMEDY

- 1. Check for correct voltage
- 2. Check motor is wired correctly
- 3. Don't use extension cords
- 4. Replace with new part
- 5. Reset circuit breaker/fuse
- 6. Return unit for repair
- 7. See Installation Manual
- 8. Check wall outlet voltage and wiring

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.
- .Compare wiring of motor to electrical diagram on drawing.
- .According to N.E.C. : “ The size of the conductors... should be such that the voltage drop would not exceed 3% to the farthest outlet for power...” Do not run motor at 115 VAC – damage to the motor will occur.
- .Replace with new part.
- .Reset circuit breaker/fuse.
- Return unit for repair.
- .See Installation Manual.
- Make sure unit and wall outlet is wired properly. Motor must run at 208/230 VAC.

LIFT LOWERS SLOWLY OR NOT AT ALL

POSSIBLE CAUSE

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

REMEDY

- 1. See Installation Manual
- 2. Replace with new part
- 3. Return for repair
- 4. Check oil.
- 5. Clean release valve
- 6. Replace fitting with short thread lead

INSTRUCTION

- Consult Lift Manufacturer.
- Replace with new part.
- Return for repair.
- Use clean AW-32 Hydraulic Oil only. If oil is contaminated, replace with Clean oil and clean out entire system.
- Wash release valve in solvent and blow out with air.
- 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

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

INSTRUCTION

LIFT WILL NOT STAY UP

POSSIBLE CAUSE

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

REMEDY

1. Check oil level
2. Oil seal damaged and cocked
3. Bleed cylinder
4. Flush release valve
5. Replace with new valve
6. Return unit for repair
7. See Installation Manual
8. Check complete hydraulic system for leaks.

INSTRUCTION

- The oil level should be up to the bleed screw in the reservoir with the lift all the way down.
- Replace oil seal around pump shaft.
- Refer to Installation Manual.
- Hold release handle down and start unit allowing it to run for 15 seconds.
- Replace with new valve.
- Return unit for repair.
- Consult Lift Manufacturer.
- Tighten all hydraulics fittings and inspect all hoses.

INSTALLATION FORM

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

Pre-Install Agreement

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

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

Customer Signature: _____ Print Name: _____ Date: _____

Post-Installation Check-Off

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

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

Customer Signature: _____ Print Name: _____ Date: _____

Installer Signature: _____ Print Name: _____ Date: _____

Installer Company Name: _____

Street Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ Phone (Other): _____



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