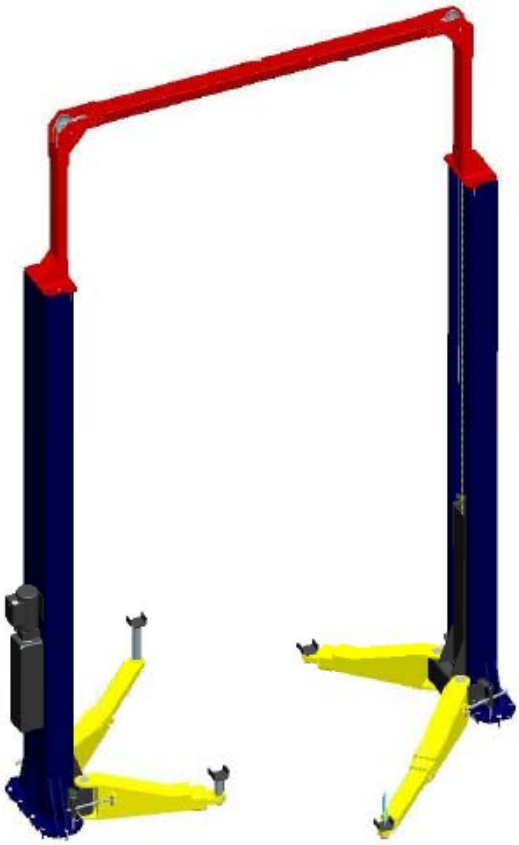
INSTALLATION and OPERATION MANUAL



15K 2-POST
EELR340A

(SYMMETRICAL)

READ THIS INSTRUCTION MANUAL THOROUGHLY BEFORE INSTALLING, OPERATING, SERVICING OR MAINTAINING THE LIFT.
SAVE THIS MANUAL.

Snap-On Tools Corporation
1-800-268-7959

MAY 2011 REV. A 6-3179

Table of Contents

1.0 GENERAL

Attention!

This is a vehicle lift operation manual and no attempt is made or implied herein to instruct the user in lifting methods particular to an individual application. Rather, the contents of this manual are intended as a basis for operation and maintenance of the unit as it stands alone or as it is intended and anticipated to be used in conjunction with other equipment.

Proper application of the equipment described herein is limited to the parameters detailed in the specifications and the uses set forth in the descriptive passages. The user assumes full responsibility for any equipment damage, personal injury or alteration of the equipment described in this manual or any subsequent damages.

WARNING:

Installation of equipment is hazardous. Only qualified personnel should perform installation procedures. Installers should familiarize themselves with equipment and installation procedure before attempting installation.

Decommission and disposal of product must be performed in accordance with local, state and/or federal regulations.

ATTENTION ! THIS LIFT IS INTENDED FOR INDOOR INSTALLATION ONLY. IT IS PROHIBITED TO INSTALL THIS PRODUCT OUTDOORS. OPERATING ENVIRONMENT TEMPERATURE SHOULD BE 41 - 104°F (5 - 40°C). FAILURE TO ADHERE WILL RESULT IN DECERTIFICATION. LOSS OF WARRANTY AND POSSIBLE DAMAGE TO THE EOUIPMENT.

1.1 Owner/Employer Responsibilities

The Owner/Employer shall ensure that lift operators are qualified and that they are trained in the safe use and operation of the lift using the manufacture's operating instructions; ALI/SM 93-1, ALI SAFETY Tips card; ANSI/ALI ALOIM-1994, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; ALI/WL Series, ALI Uniform Warning Label Decals/Placards; and in the case of frame engaging lifts, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts.

The Owner/Employer shall establish procedures to periodically inspect the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM-1994, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and the employer shall ensure that lift inspectors are qualified and that they are adequately trained in the inspection of the lift.
The Owner Employer shall establish procedures to periodically maintain the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM-1994, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and the employer shall ensure that lift maintenance personnel are qualified and that they are adequately trained in the maintenance of the lift.

The Owner/Employer shall maintain the periodic inspection and maintenance records recommended by the manufacturer or ANSI/ALI ALOIM-1994, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance.

The Owner/Employer shall display the lift manufacturer's operating instructions; ALI/SM 93-1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-1994, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and in the case of frame engaging lifts, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts in a conspicuous location in the lift area convenient to the operator.

The Owner/Employer shall provide necessary lockout/tagout means for energy sources per ANSI Z244.1-1982 (R1993), Safety Requirements for the Lockout/Tagout of Energy Sources, before beginning any lift repairs.

The Owner/Employer shall not modify the lift in any manner without prior written consent of the manufacturer.

2.0 SAFETY PRECAUTIONS

Read this Manual and the Safety Precautions thoroughly before operating the lift.

The lift is intended for use by properly trained personnel only.
The safety messages presented in this manual are intended as reminders to trained operators to exercise care when using the unit.

2.1 Use and Misuse of Lift

The lift has been designed for lifting vehicles and holding them at any height within the working parameters of the machine in an enclosed environment.

Any other use is forbidden including but not limited to:

The washing of vehicles
The lifting of persons or use as scaffolding
Exerting pressure
Loading

IMPORTANT WARNINGS:

1. Do not operate the lift unless safety latches are functioning as evidenced by the safety latches dropping into the safety ladder slots during the raising motion.
2. Do not operate the lift if the load tilts or binds during the up or down movement.
3. Always use all four arms when lifting a vehicle and follow the vehicle manufacturer's guidelines for recommended lifting points.

2.2 General Warnings

Stay clear of area if vehicle in danger of falling.

Avoid excessive rocking of vehicle on lift.

Remain clear of lift when raising or lowering vehicle and check for any obstructions.

Keep feet clear of lift while lowering.

Position vehicle with center of gravity midway between adapters.

Do not make unauthorized changes and modifications to the lift.

2.3 General Cautions

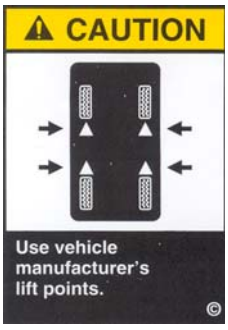
Always use safety stands when removing or installing heavy components.

Lift to be used by trained operator only.

Authorized personnel only in lift area. Never raise vehicle with passengers inside.

Auxiliary adapters may reduce load capacity.

Use height adapters when necessary to ensure good contact.



Use vehicle manufacturer's lift points. Raise the lift until the pads contact the vehicle. Check for secure contact with vehicle and that all arm restraints are properly engaged.

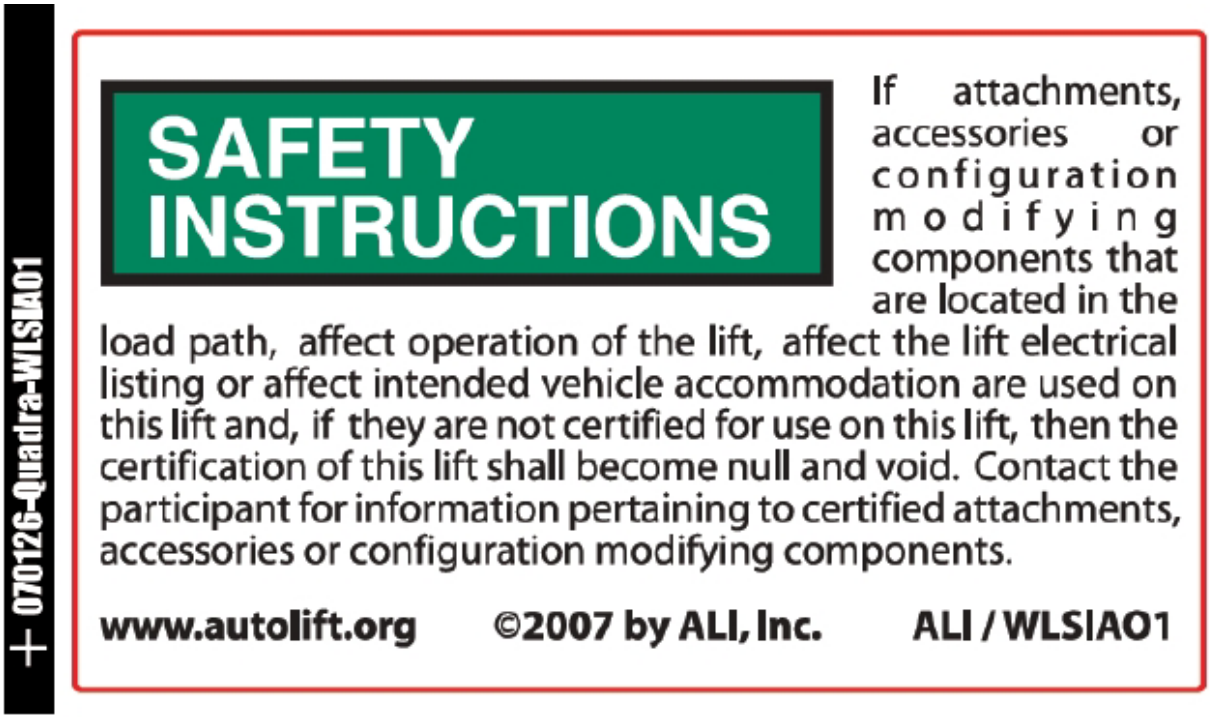
Do not use the lift above the rated load capacity of the lift (Pay attention to any additional load on the vehicle being lifted).

Before driving vehicle between the towers or removing from the lift area, position the arms to the drive-through position to ensure unobstructed clearance. Do not hit or run over arms as this could damage the lift and/or vehicle.

WARNING ! WEAR SAFETY SHOES AND GOGGLES WHILE INSTALLING LIFT.

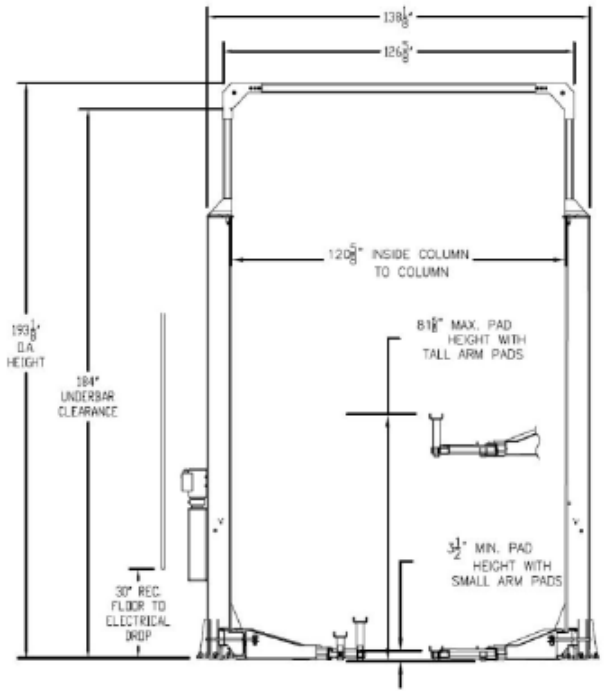
WARNING ! WEAR SAFETY GOGGLES AND PRACTICE CAUTION WHILE WORKING WITH HYDRAULIC AND AIR COMPONENTS.

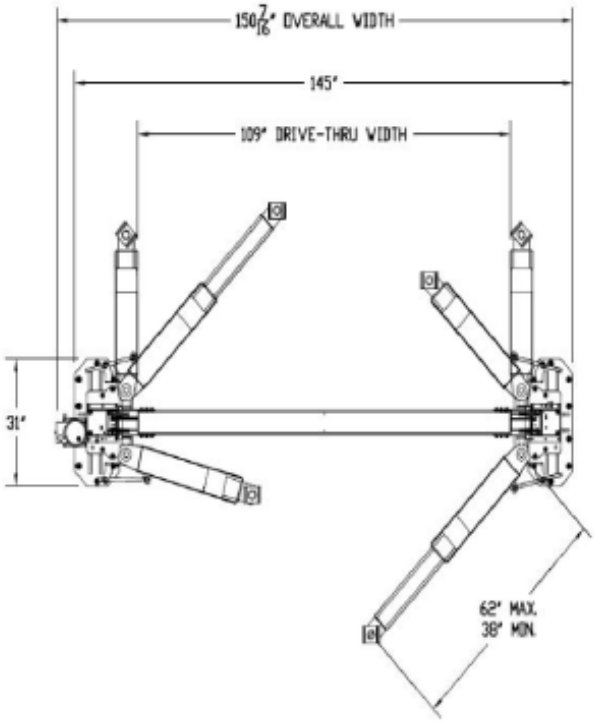
WARNING ! DO NOT REMOVE HYDRAULIC FITTINGS WHILE UNDER PRESSURE.



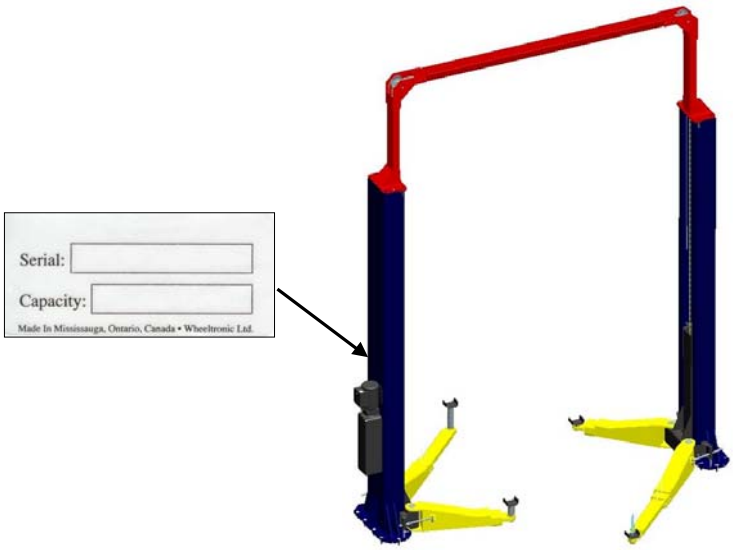
3.0 SPECIFICATIONS

Capacity:	15000 lbs.	6804 kg
Arm Capacity:	3750 lbs	1701 kg
Overall Width:	145 1/8”	3686 mm
Width Between Columns:	120 5/8”	3064 mm
Drive-Thru Width:	108 5/8“	2760 mm
Overall Height:	193 1/8”	4905 mm
Under bar Clearance:	183"	4648 mm
Height to Lowered Lift Pads	3 1/2”	89 mm
Height to Lift Pad (4-1/2” Adapter):	8"	203 mm
Height to Lift Pad (9-1/2” Adapter):	13"	330 mm
Retracted Arm Length:	38"	965 mm
Extended Arm Length:	62"	1575 mm
Maximum Lifting Height (9 1/2” Adapter):	81 5/8"	2073 mm
Lift Time:	45 sec	
Power Ratings:	208-230VAC, 23A, 1 PH, 60 Hz	
Air Requirements:	90 - 120 psi Shop Air	





3.1 Product Identification



4.0 PACKING LIST

The complete lift is contained in two (2) packages:
1. The **main structural components** are packed in a steel frame.
2. The remaining parts are packed in an **accessory box**.

4.1 Main Structural Components

1pc. - Power side tower and carriage assembly
1pc. - Slave side tower and carriage assembly
1pc. - Crossmember

4.2 Accessory Box

4pcs. - Locking Arm Assembly w/arm pins
2pcs. - Safety Covers w/Decals
1pc. - Hardware Package w/Packing List
2pc. - Crossmember Bracket Assembly
1pc. - Hardware Box
1pc. - Power Pack
4pc. - Arm Restraint
9pc. - Hydraulic Hoses (Steel)
3pc. - Hydraulic Hose (Flexible)
2pcs. - Equalizing Cable w/Hex Nuts
1pc. - ALI manual “Lifting It Right”
1pc. - Automotive Lift Safety Tips
1pc. - Automotive Lift, Operation, Inspection and Maintenance manual
1pc. - “ALI” Quick Reference Guide
1pc. - Owner’s Manual
1pc. -Installation Manual

5.0 INSTALLATION REQUIREMENTS AND TOOLS

5.1 Foundation

IMPORTANT: It is the user's responsibility to provide a satisfactory installation area for the lift. Lifts should only be installed on level concrete floors with a minimum thickness of five (5) inches or 130 mm. Concrete must have a minimum strength of 4000 psi or 30 MPa and should be aged thirty (30) days prior to installation. Please consult the architect, contractor or engineer if doubt exists as to the strength and feasibility of the floor to enable proper lift installation and operation.

It is the user's responsibility to provide all wiring for electrical hook-up prior to installation and to insure that the electrical installation conforms to local building codes. Where required, it is the user's responsibility to provide an electrical isolation switch located in close proximity to the lift that will enable emergency stop capability and isolate electrical power from the lift for any servicing requirements.

5.2 Tools

a. Rotary hammer drill with ¾" solid drill bit with carbide tip
b. Level
c. Hand Sledge
d. Pry Bar
e. Tape Measure
f. Chalk line
g. 12' Ladder
h. Shortened 1 1/16" open-end Wrench
i. Vise Grips
j. Snap Ring Pliers
k. 11/16" Open End Wrench
l. 5/8" Open End Wrench
m. 9/16" Socket and suitable ratchet
n. 7/16" Socket and suitable ratchet
o. 1/2" Socket and suitable ratchet
p. 1 1/8" Deep Socket and suitable ratchet
q. 4 Gal. Hydraulic fluid – Citgo A/W 46 or suitable cross-reference
r. **Overhead crane or Forklift**
s. Electrical Wire Fish.
t. Wherever LOCTITE symbol is shown, apply LOCTITE #242 on required fasteners. If fasteners are removed reapply LOCTITE before re-installing.

6.0 INSTALLATION INSTRUCTION

When the lift arrives on site:

- Read the owner's manual thoroughly and make sure the installation instructions are fully understood before installing, operating, servicing, or maintaining the lift.
- Check for any freight damages.
- Check the contents of the accessory and hardware boxes to make sure no parts are missing.
- Gather all the tools listed above.

6.1 Unpacking Procedure

6.1.1 Important! Place the main structural components on wooden blocks so that the steel shipping frames can be removed.

6.1.2 Remove the plastic wrapping.

6.1.3 Remove the crossmember.

6.1.4 Unbolt the steel shipping frames.

6.1.5 Lay each tower on the floor with the carriage side up.

6.1.6 Check the installation area for obstructions. (Lights, Heating Ducts, Ceiling, Floor Drains, etc.)

*** <u>A ceiling height of 195" or more is required to install this lift as it comes stock from the factory.</u>**

If cut down is required follow Section 6.2 - Height Adjustment Procedure.

Otherwise refer to Section 6.3 to begin installation.

NOTE: 20" is the maximum amount that the vertical profile can be lowered using the original cables. If more than this amount is required, contact customer support 1-800-225-5786 for assistance.

6.2 Height Adjustment Procedure (if required)

6.2.1 Vertical Profile Adjustment

To install vertical profiles in less than 195", measure from floor to ceiling (or any obstacle such as light fixtures, heaters, etc.) and subtract the **minimum** of 2" for crossmember clearance.

Next, subtract this measurement from 193". This determines the distance the vertical profiles are to be lowered. (See example below)

Example: Floor to ceiling measurement 190"
- 2"
188" (crossmember clearance)

Factory profile height 193"
- 188"
5" (Amount the vertical profile is to be shortened)

Use a bandsaw or a reciprocating saw to cut down the calculated amount from the top of the vertical profiles.

Using the vertical corner profile assembly as a template, redrill holes. The vertial profile is now ready for installation.

6.2.2 Equalization Cable Adjustment

If the vertical profiles have been shortened, the equalization cables will also need shortening. This is done by shortening the long threaded rod on both cables.

To determine the amount of threaded rod to be cut off, double the amount calculated for the vertical profile cut down.

Example: If the vertical profile was cut down by 5", the threaded rod on the equalization cables must be shortened by 10".

6.2.3 Hydraulic Tube Adjustment

If the vertical profiles have been shortened, the vertical profile hydraulic tubes must also be shortened. This procedure must be completed using a **tube cutter**. DO NOT use a hacksaw.

Each tube that is cut must be flushed with cleaning fluid to prevent debris from entering the hydraulic cylinders and pump. The cut ends must be re-flared with a flaring tool.

Example: If the vertical profile was cut down by 5", the hydraulic tubes must also be shortened by 5".

6.3 Bay Layout

6.3.1 Prepare the bay by selecting the location of the lift relative to the walls.

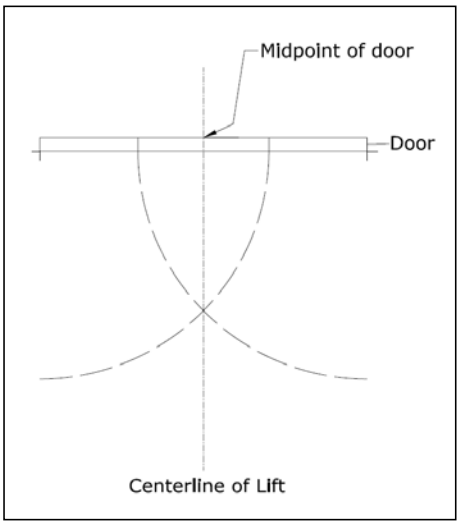
6.3.2 Clear the installation area of all packaging materials to avoid trip hazards.

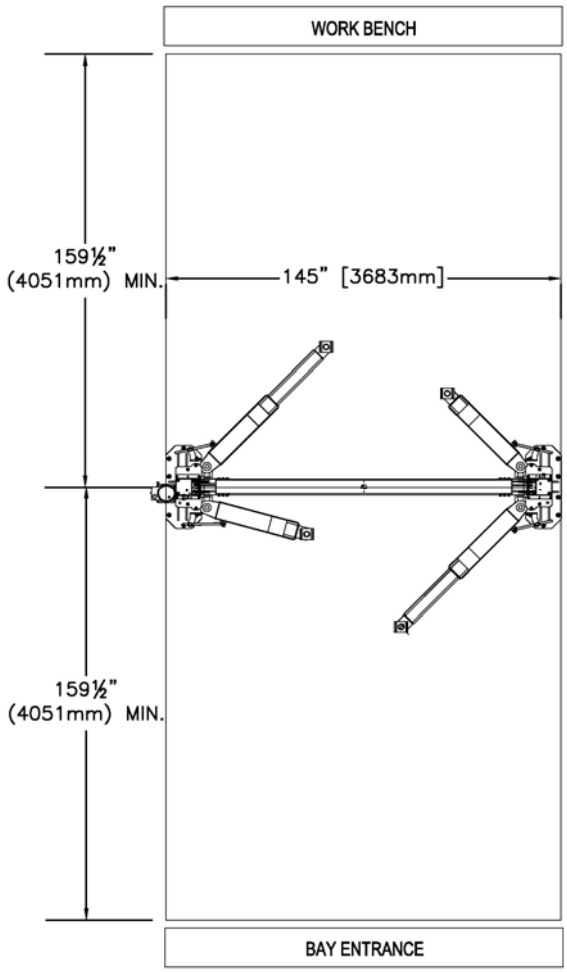
6.3.3 Measure midpoint of door.

6.3.4 Using measuring tape scribe two arcs, equal distance from the midpoint.

6.3.5 The centerline of the lift occurs between the intersection of the arcs and the midpoint of the door.

6.3.6 Measure the specified distance 145" (3683 mm) to draw a second chalk line at 90° for locating the lift towers.

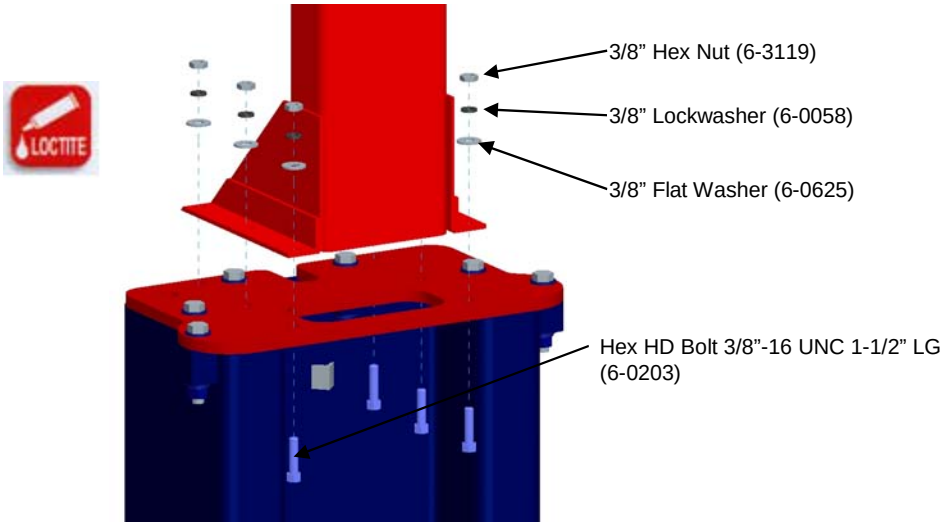




Note: Leave any additional room for any desired aisle or work area. Recommended minimum clearance around the lift is three feet (3ft) and above lift is four inches (4"). Ensure clearance conforms to local building and fire codes.

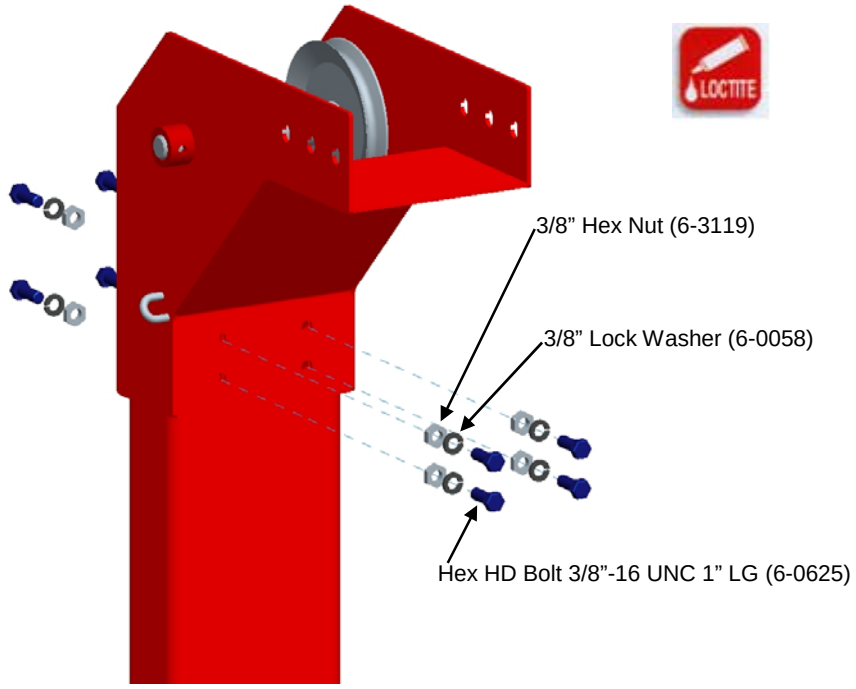
6.4 Tower Extension Bolting

6.4.1 Bolt the tower extensions on both towers using bolts from the hardware kit.



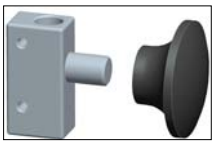
6.5 Crossmember and Bracket Bolting

6.5.1 Bolt the Crossmember and brackets to the tower extension on both towers.

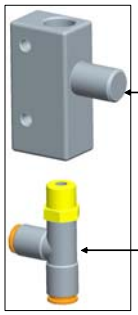


6.6 Air Valve Installation and Bulk Head Fitting

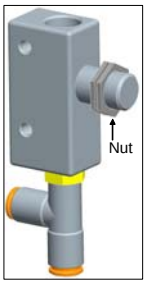
6.6.1 Remove air valve push button.



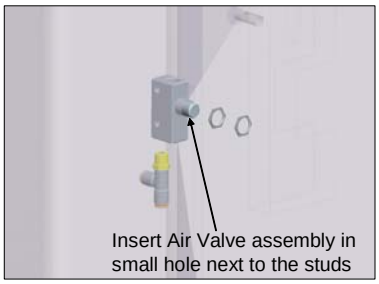
6.6.2 Attach the Tee fitting to the Air Valve.



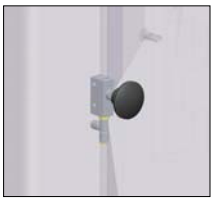
6.6.3 Insert two nuts on the Air Valve.



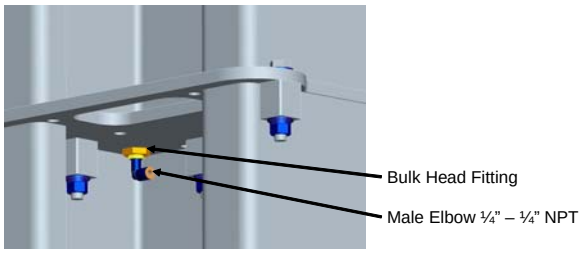
6.6.4 Attach the Air Valve assembly to the driver side tower using two more nuts provided.



6.6.5 Screw air Valve Push button.

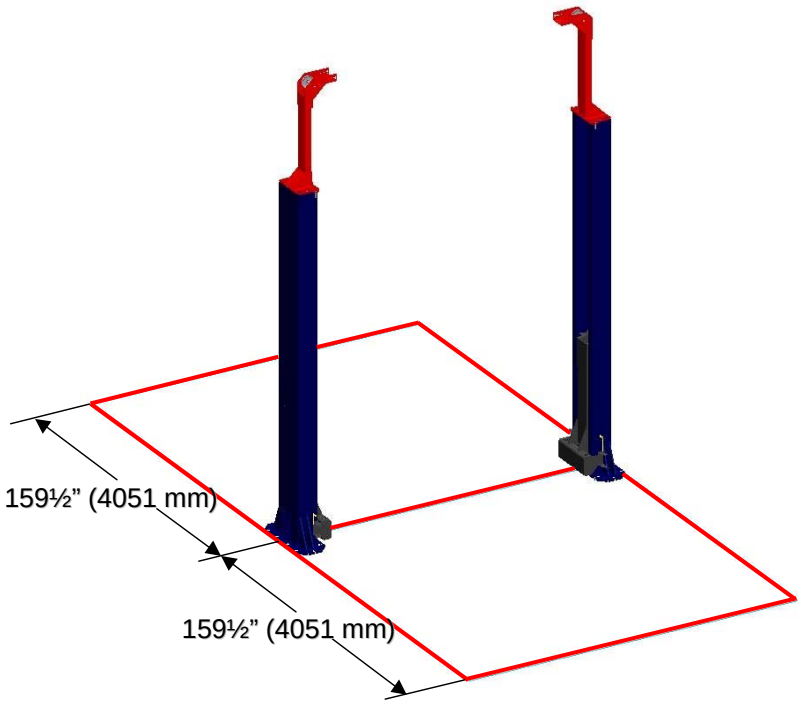


6.6.6 Attach the bulk head fitting to the tower extension and insert the Male pushlock fitting.



6.7 Stand Towers Up

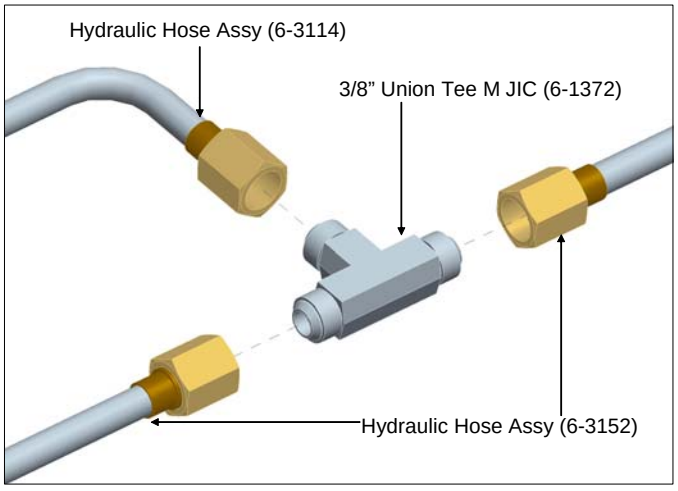
6.7.1 Stand the towers up and position them according to the Bay Layout shown in section 6.3.



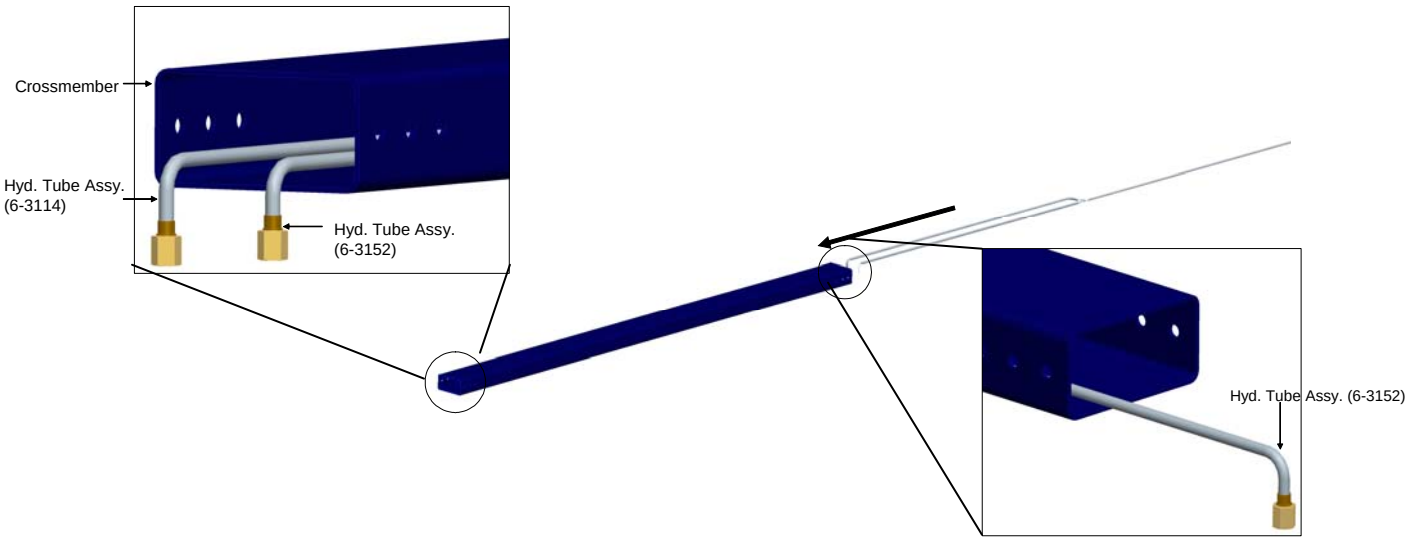
CAUTION ! WHEN USING OVERHEAD CRANE OR FORKLIFT MAKE CERTAIN THAT CHAIN OR ROPE IS SECURELY FASTENED WHEN LIFTING THE TOWERS. POSITION THE CHAIN OR ROPE SO THAT THE TOWERS DO NOT GET DAMAGED.

6.8 Hydraulic Line Routing in Crossmember

6.8.1 Assemble the Hydraulic lines for crossmember as shown.



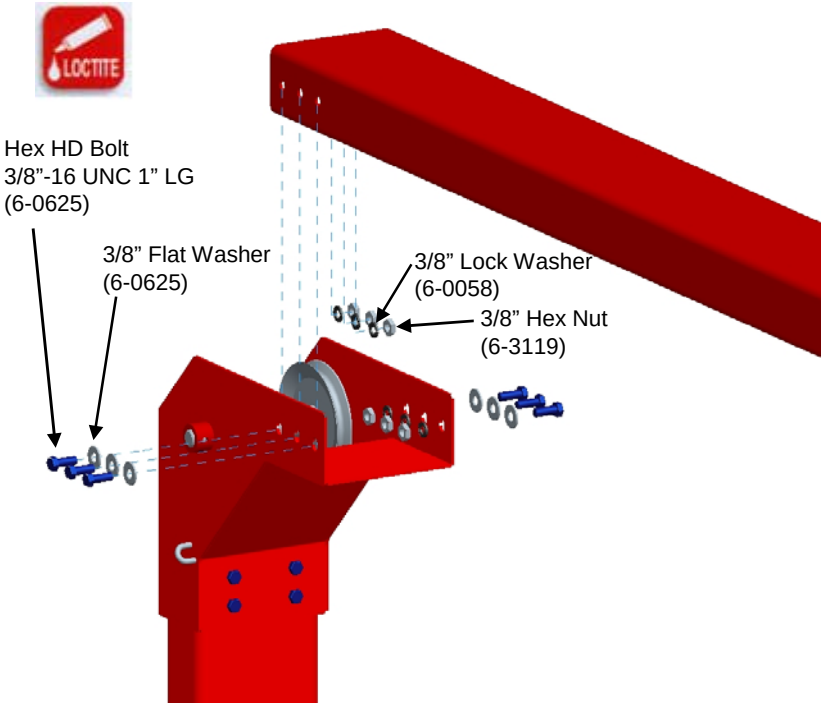
6.8.2 Insert assembled hydraulic lines through crossmember.



Be sure that the double lines are on the Power Pack Tower.

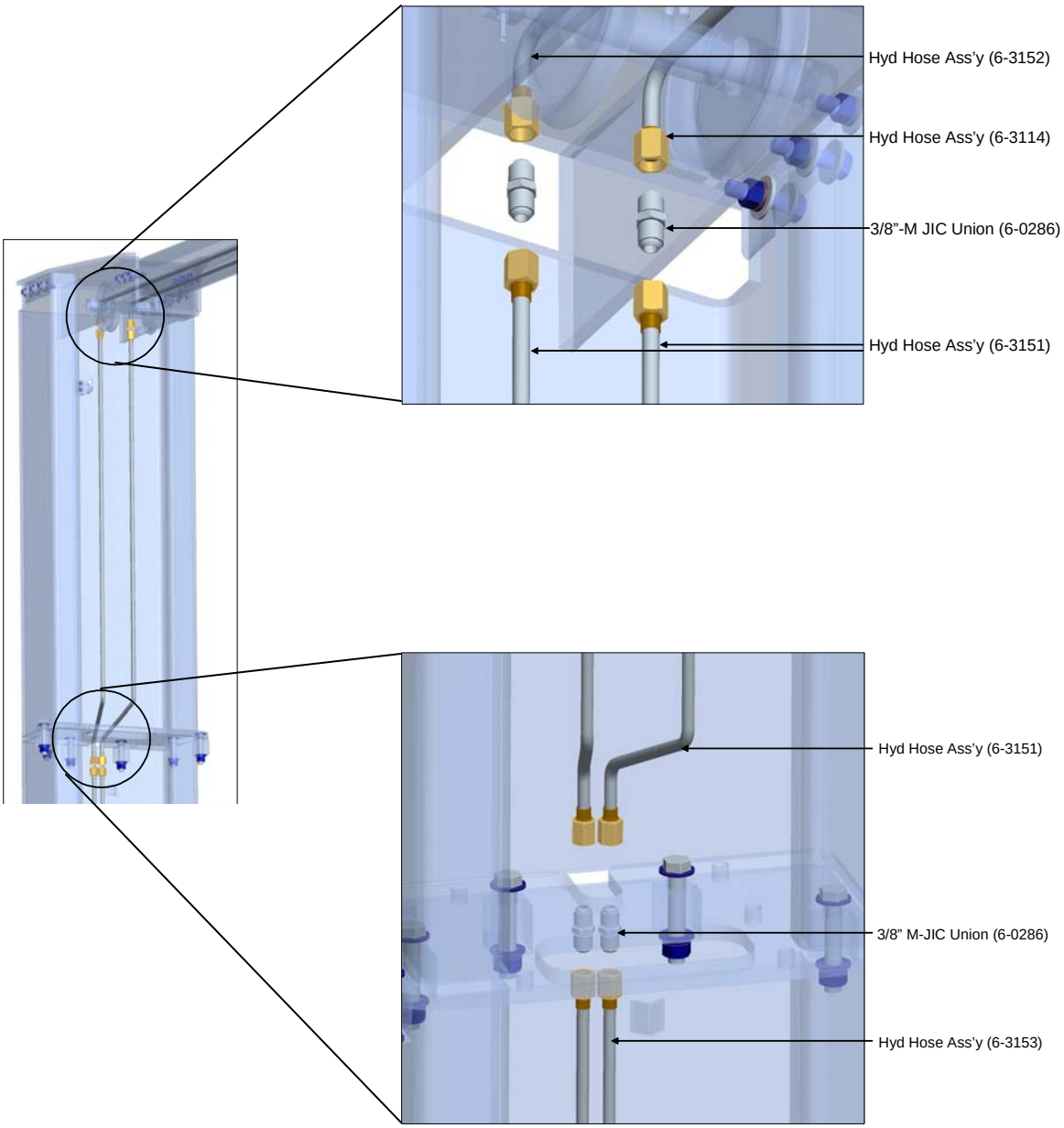
6.9 Bolt Crossmember

6.9.1 Bolt the crossmember to the brackets on both towers.



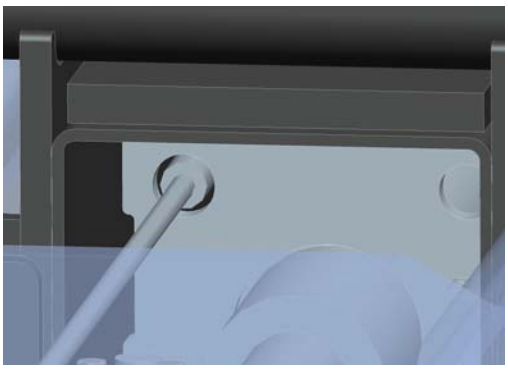
6.10 Connect Hydraulic Lines

6.10.1 Connect the tower hydraulic lines to the crossmember lines using hydraulic hose 6-3151 and 3/8” JIC Union. (tower not exactly as shown)



6.11 Install Equalizing Cables and Adjusting

6.11.1 Insert the short threaded section of the cable (6-3118) through the bottom of the carriage.

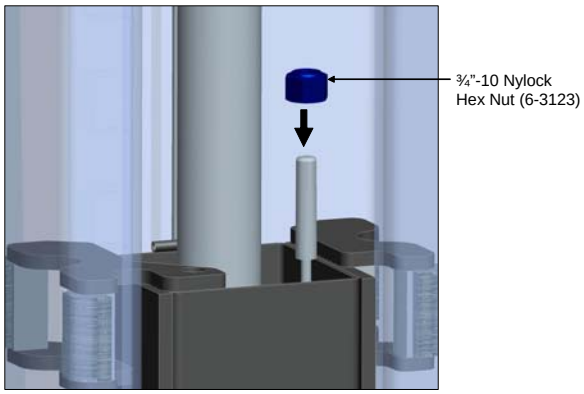


Bottom of Carriage View

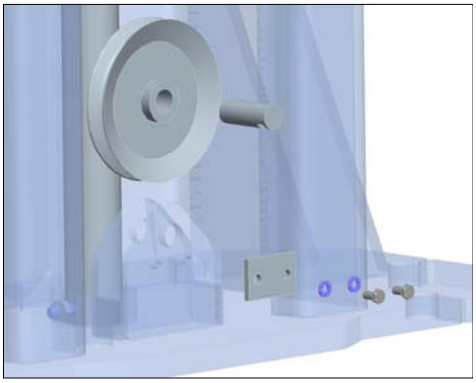
6.11.2 Continue to run the cable up and out the top of the carriage.

6.11.3 Thread the 3/4”-10 Nylock nut **all the way** on the threaded rod.

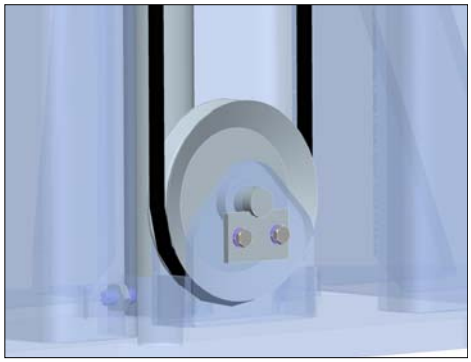
Pull the cable back down to its normal position.



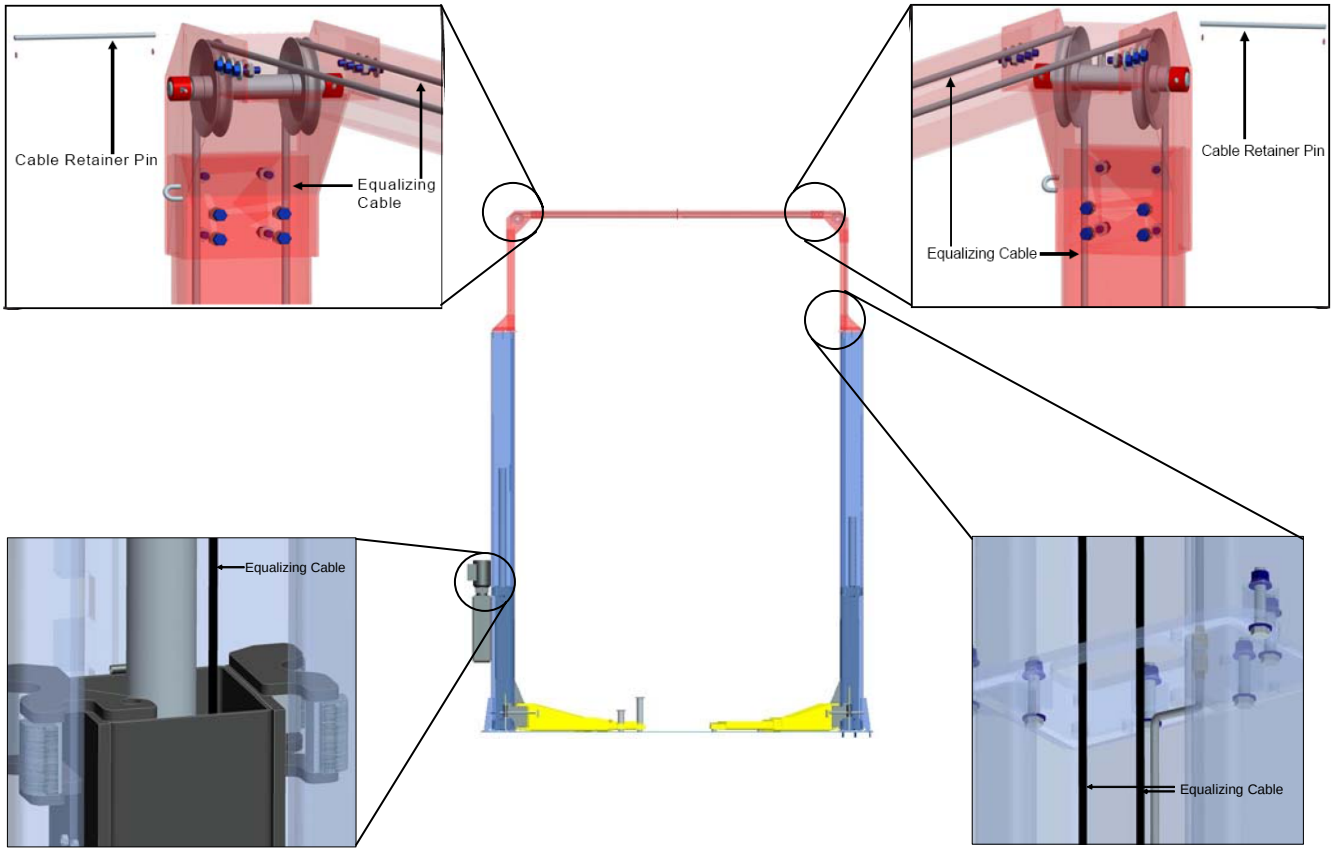
6.11.4 Remove the vertical pulley at the bottom of tower.



6.11.5 Pass the cable around the pulley and reassemble all the parts.

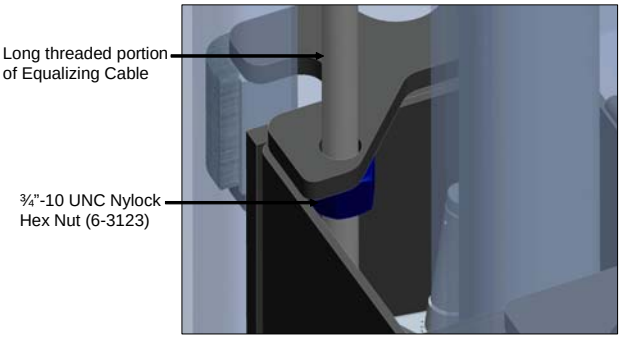


6.11.6 Route Cable as shown.



6.11.7 Insert the long threaded end of the cable through the hole at the top of the carriage.

Only hand tighten 3/4”-10 Nylock nut at this time.



6.11.8 **Repeat the above steps for the second cable.**

6.11.9 To complete tightening of the cables, place a vise grip at least 6” above the 3/4”-10 Nylock nut on the long threaded rod and a 1 1/16” wrench on the 3/4”-10 Nylock nut .

6.11.10 Turn the rod with the vise grip to thread Nylock nut on rod. **Tighten each cable until approximately 1/2” deflection is present midpoint in the cable.**

6.11.11 Install cable retaining pins and secure with spring clips.

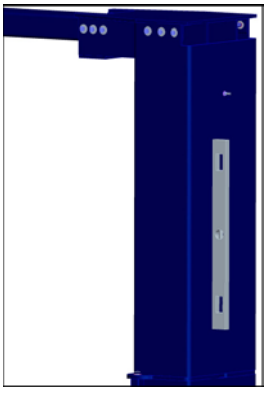
NOTE: Further adjustment may be required if both safety latches do not fall in at the same time.

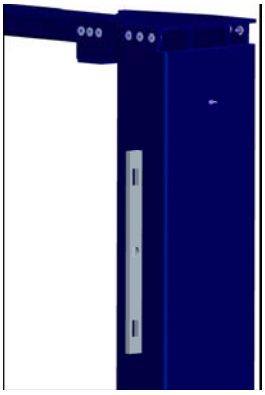
6.12 Level and Anchor Towers

WARNING ! FAILURE TO FOLLOW THESE INSTRUCTIONS MAY CAUSE AN UNSAFE OPERATING CONDITION.

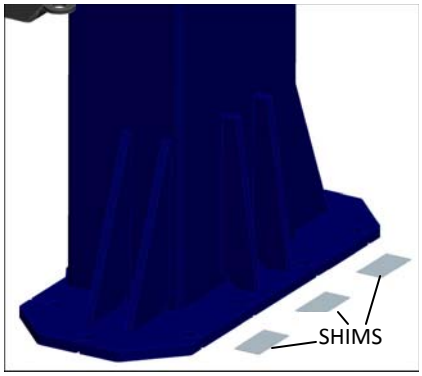
6.12.1 Determine which tower is higher using a level.

6.12.2 Check if high column is level in vertical directions.



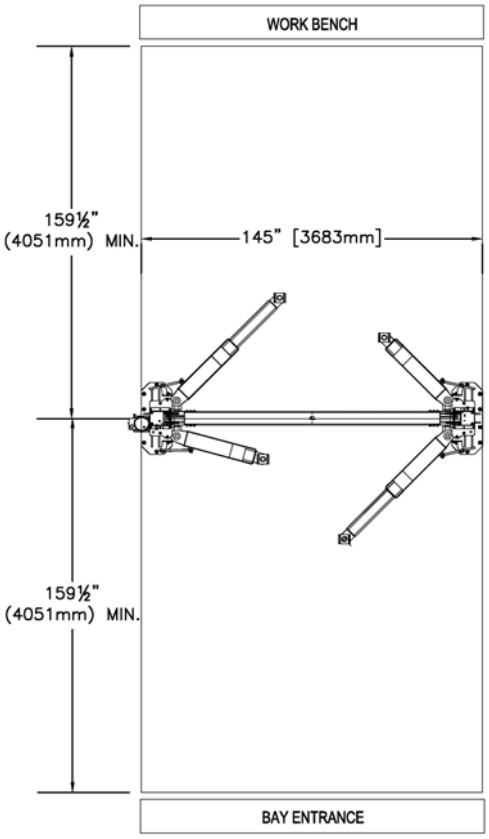


Ensure that the base plate is completely supported by shims including near the center where it does not contact the floor.



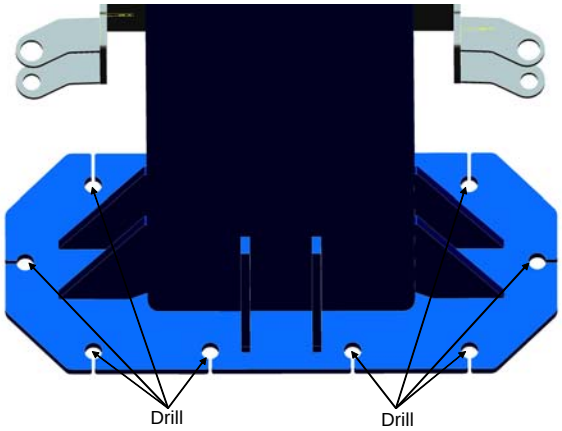
WARNING ! Do not use more than ½" (13mm) of shims. Anchor bolts supplied allow for a maximum of ½" (13mm) of shim. If more than ½" (13mm) of shims are required, DO NOT proceed with installation and contact Product Manufacturer/Supplier for further details.

6.12.3 Refer to Bay Layout to ensure that the column is still in the proper position.

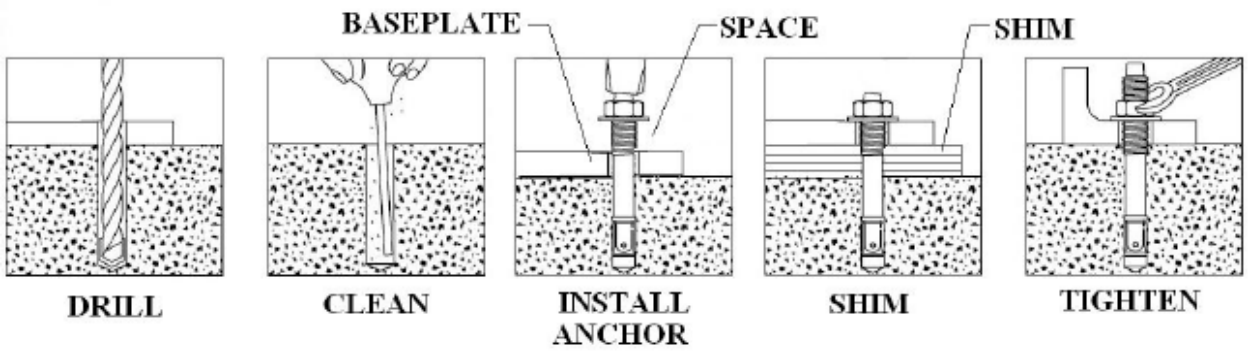


Note: Leave any additional room for any desired aisle or work area. Recommended minimum clearance around and the lift is three feet (3 ft) and above the lift is four inches (4"). Ensure clearance conforms to local building and fire codes.

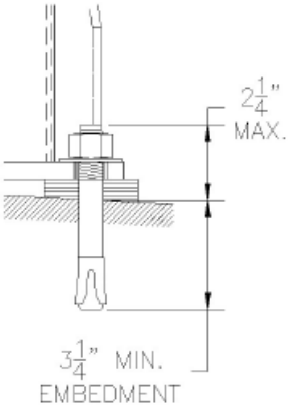
6.12.4 Drill ¾" holes using a hammer drill for the anchor bolts on the high side column.



6.12.5 Clean out the drilling dust from the holes. Assemble the nut and washer onto anchors. A minimum of six threads must be visible below the surface of the nut. Hammer in the anchor bolts until they contact baseplate. **Hand tighten all anchor bolts.**



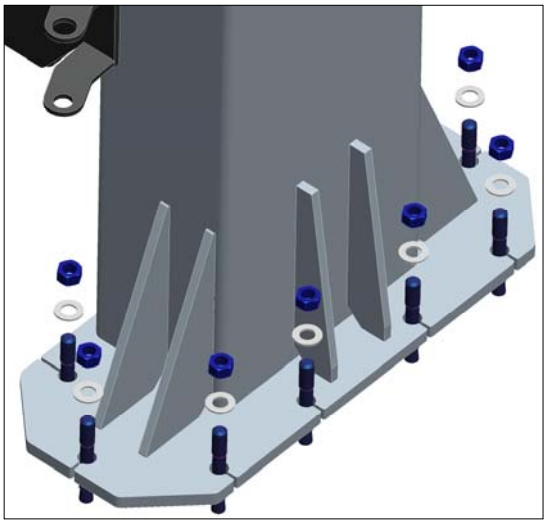
6.12.6 Check the distance from the top of the anchor to the floor. If this dimension exceeds 2¼" due to floor slope, **DO NOT** use the supplied anchors.



Note: The 3/4" x 5 ½" lg. wedge anchor bolts supplied must have a minimum embedment of 3¼" into concrete floor.

Note: Check that the column is level front to rear and side to side. Adjust shims as required.

6.12.7 Torque all anchor bolts to 150 ft-lbs. (203 **Nm)**, continually checking that the column is level as you proceed.



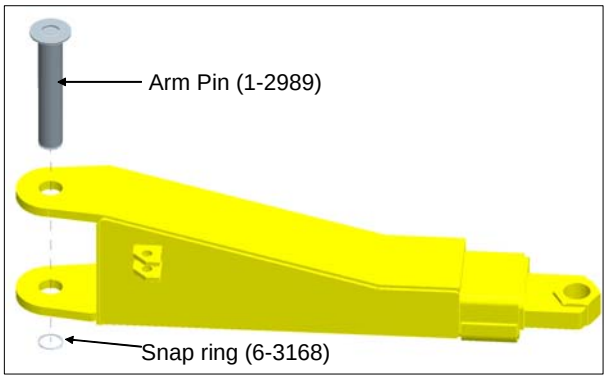
If anchor bolts do not tighten to 150 ft-lbs. OR project more than 2¼" above the concrete surface due to floor slope, the concrete should be replaced by an appropriate concrete pad. (Consult Product Manufacturer / Supplier for further details).

6.12.8 **Repeat above steps (6.12.2-6.12.7) to anchor the second tower.**

6.13 Install Arms

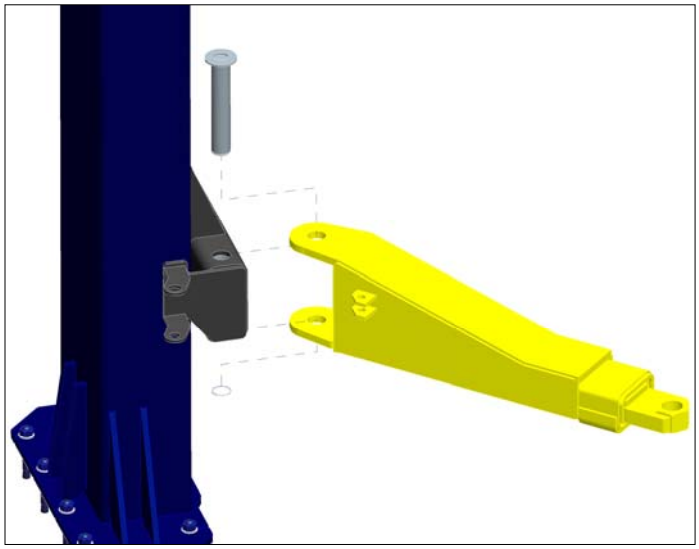
6.13.1 Remove the Arm pin from all four arms using snap ring pliers.

Note: Match the eye bolt bracket for the arm restraint with the brackets on the side of the carriage.



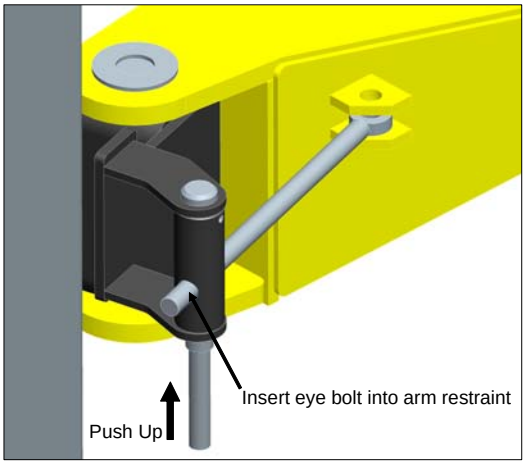
6.13.2 Install the four arms on the carriage using the arm pin and secure with the snap ring.

Note: Grease the Arm pin before installing.

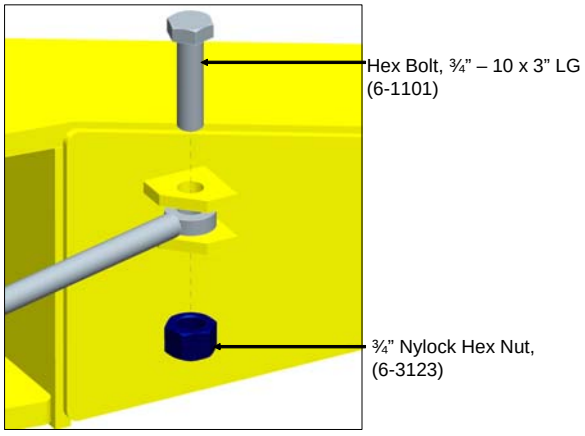


6.14 Install Arm Restraints

6.14.1 Insert the threaded eyebolt into the arm restraint device by pushing up on the arm restraint contact pin.

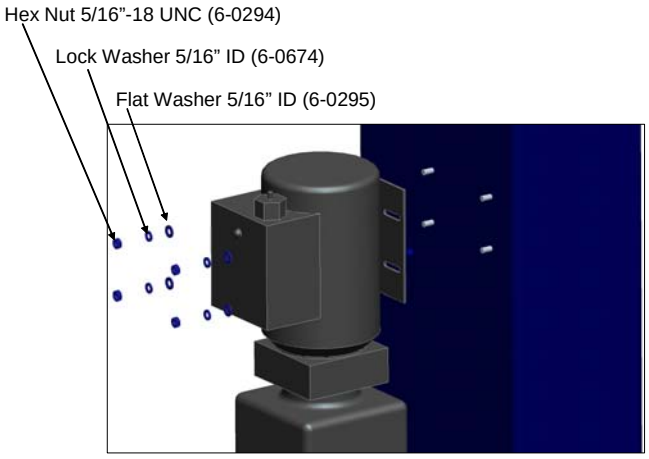


6.14.2 Line up the eye bolt hole with the bracket on arm and insert the 3/4” x 3” LG bolt and secure with 3/4” Nylock nut.

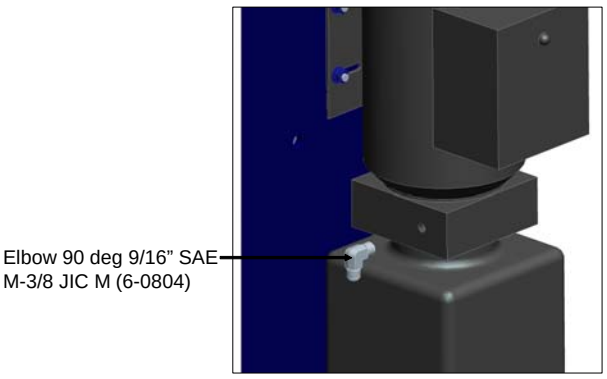


6.15 Bolt Power Pack

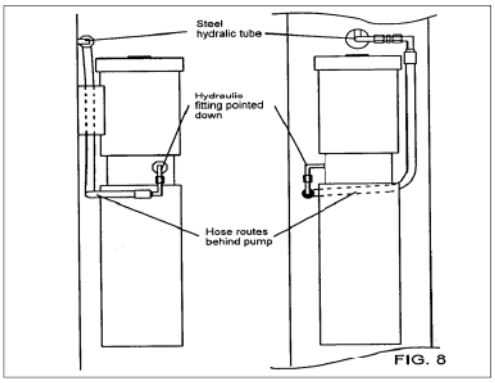
6.15.1 Install the Power Pack using 5/16” hardware.



6.15.2 Install the 90 deg fitting to the power pack making sure that the opening is pointed down.



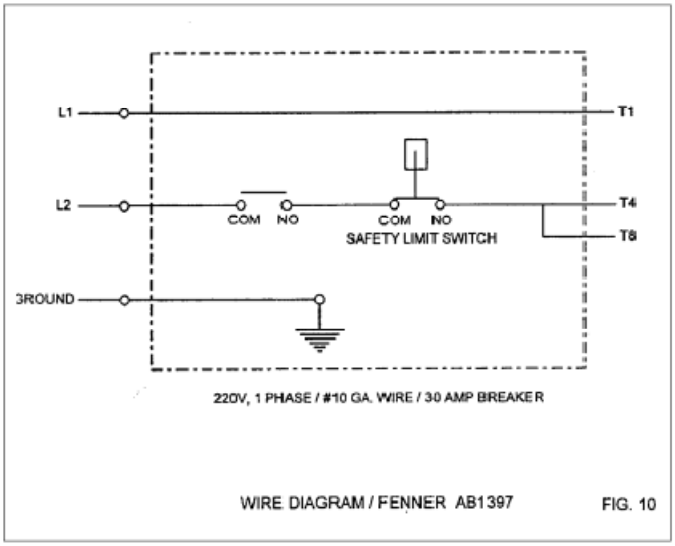
6.15.3 Connect the short flexible hydraulic hose (6-3148) from the elbow fitting on the power pack to the hydraulic hose on the tower using a 3/8" M JIC - 3/8" M JIC adaptor.



6.15.4 Remove filler cap from Power Pack and fill the reservoir with approximately 4.5 Gal. (18L) of ISO32 hydraulic oil (10 wt. hydraulic oil).

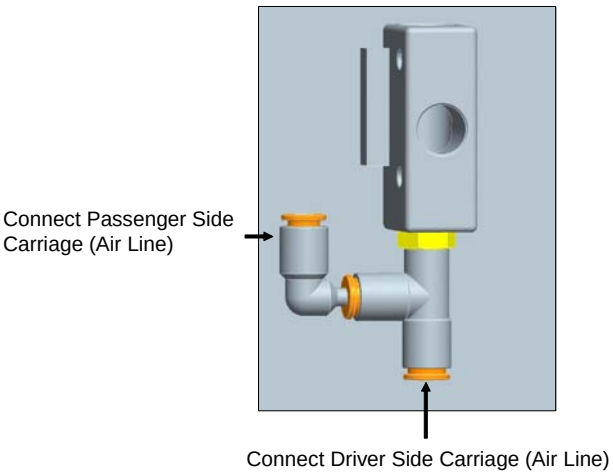
6.16 Electrical Connection

6.16.1 Have a certified electrician connect the power to the lift.

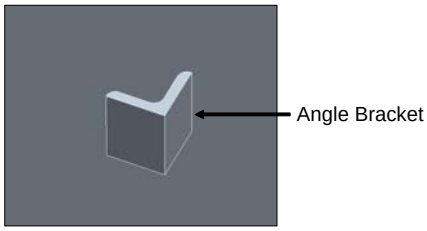


6.17 Air Line Connection

6.17.1 Uncoil the 5/32” air hose that is going to the driver side carriage and attach to the bottom of the Tee located with the Air Valve.

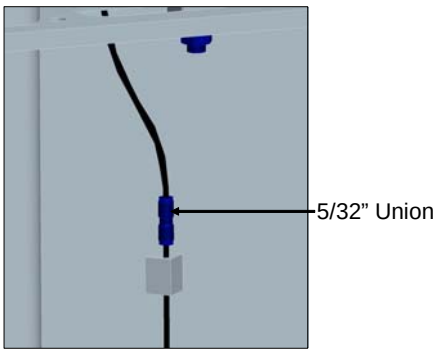


6.17.2 Feed the 5/32” air hose through the angle bracket on the tower and through the center of the tower extension.



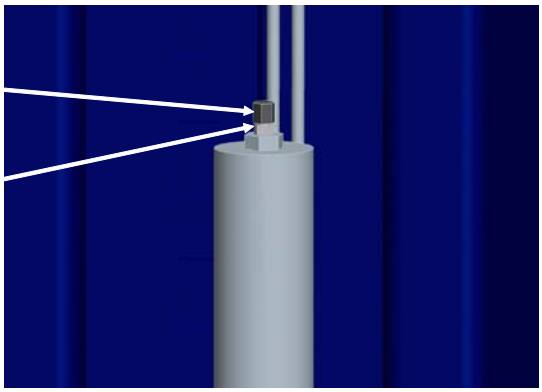
6.17.3 Fish the air hose through the crossmember to the slave tower.

6.17.4 Connect the air hose to the union located after the tower extension on the slave tower.



6.18 Hydraulic System Bleeding

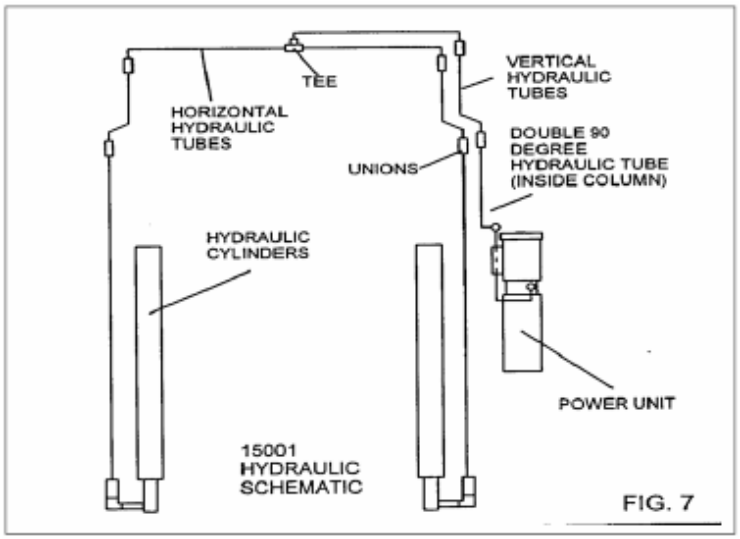
6.18.1 Crack the caps located at the top of both cylinders.



6.18.2 Power up 2"-3". You should hear air escaping around the caps. Repeat 3-4 times or until only oil is coming out of the caps.

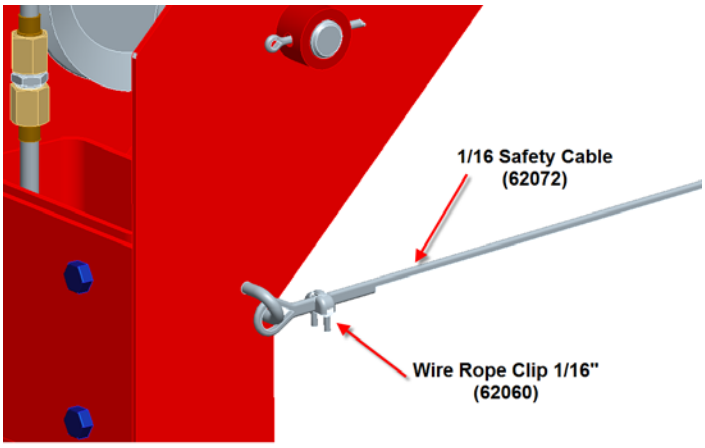
6.18.3 Tighten the caps and lower the lift.

6.18.4 **Be sure that all other hydraulic fittings are tight.**



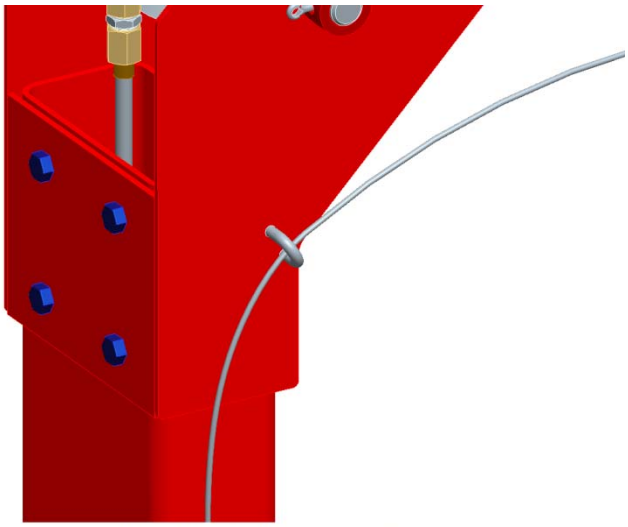
6.19 Install Safety Cable

6.19.1 Attach one end of the safety cable to the loop located at the top of the slave tower using the 1/16” wire rope clip.



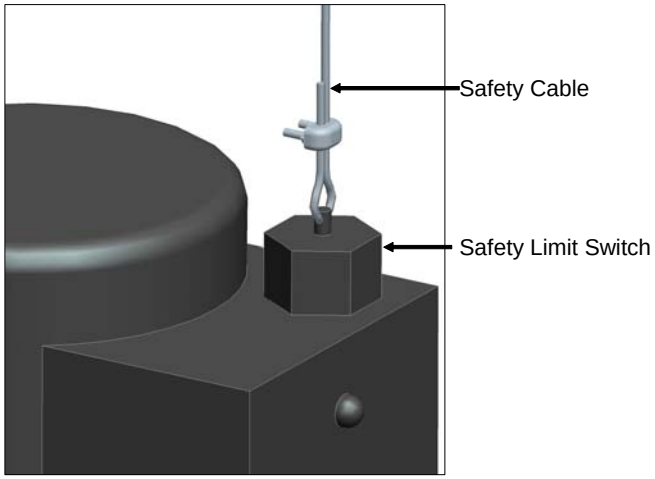
View of Top Profile on Slave Tower

6.19.2 Route the safety cable across the lift to the top of the power tower. Feed the safety cable through the loop located on the top of the tower, and run the cable down the tower towards the power unit.



View of Top Profile on Power Tower

6.19.3 Fasten the safety cable to the safety limit switch activator on power unit with 1/16” wire rope clip.



6.19.4 Adjust the tension in the cable so that there is 1/2” of deflection across the crossmember.

6.20 Additional Instructions

Installation shall be performed in accordance with ANSO/ALI ALIS, Safety Requirements for Installation and Service of Automotive Lifts.

For additional safety instructions regarding lifting, lift types, warning labels, preparing to lift, vehicle spotting, vehicle lifting, maintaining load stability, emergency procedures, vehicle lowering, lift limitations, lift maintenance, good shop practices, installation, operator training and owner/employer responsibilities, please refer to “Lifting It Right” (ALI/SM) and “Safety Tips” (ALI/ST).

For additional instruction on general requirements for lift operation, please refer to “Automotive Lift-Safety Requirements For Operation, Inspection and Maintenance” (ANSI/ALI ALOIM).

6.21 Final Check of Assembled Lift

1. Final dimension check after anchoring. ____
2. Check for air and hydraulic leaks. ____
3. Ensure cables are properly routed and free from obstructions. ____
4. Check jam nuts on cables are tightened. ____
5. Check that LOCTITE has been applied to all hardware where required ____
6. Check adjustment of safety release cable to ensure both sides working properly. ____
7. Re-check level of towers. ____
8. Check torque of anchor bolts. ____
9. Check all fasteners, tighten if necessary. ____
10. Check shut off at top of stroke to ensure lift shuts off. ____
11. Check proper operation of arm restraints. ____
12. Operate lift to full stroke then lower to ground while checking for proper functionality. ____
13. Ensure Customer Care Kit is complete and given to operator.
    a. Operation Manual ____
    b. ANSI / ALI Lift It Right Manual ____
    c. ANSI / ALI Safety Tip Card ____
    d. ANSI / ALI ALIS Safety Requirements for Installation and Service of Automotive Lifts ____
    e. ANSI / ALI Quick Reference Guide ____
14. Train end user on operation of lift. ____

6.22 Operation Test With Vehicle

1. Lower lift to the ground. ____
2. Drive vehicle on to lift and locate the arms as per the “Lift it Right” manual. ____
3. Raise lift to and lower onto 3-4 lock positions during full rise to ensure all locks are working correctly. ____
4. Re-adjust cables if necessary while vehicle is on. ____
5. Check lowering speed and smooth decent rate. ____
6. Lower lift to the ground and drive vehicle off lift. ____

If any problems occur during the final checkout or operation of the lift please contact customer service at 1-800-225-5786.

7.0 Operation and Use

7.1 Caution

1. Do not exceed maximum rated lift capacity.

2. Only trained and authorized personnel should operate this lift. Read, understand and follow all literature supplied with the lift.

3. Make certain lift area is clear of all personnel during lift operations.

4. Always watch the lift during operation.

SPECIAL INSTRUCTIONS for long wheelbase vehicles such as limousines, cargo vans, light trucks with toolboxes, extended and dual cab light trucks, etc.

1. Do not lift without finding the vehicles center of gravity.

2. Do not exceed the stated capacity of the lift.

3. Do not operate the lift if the load is not stable.

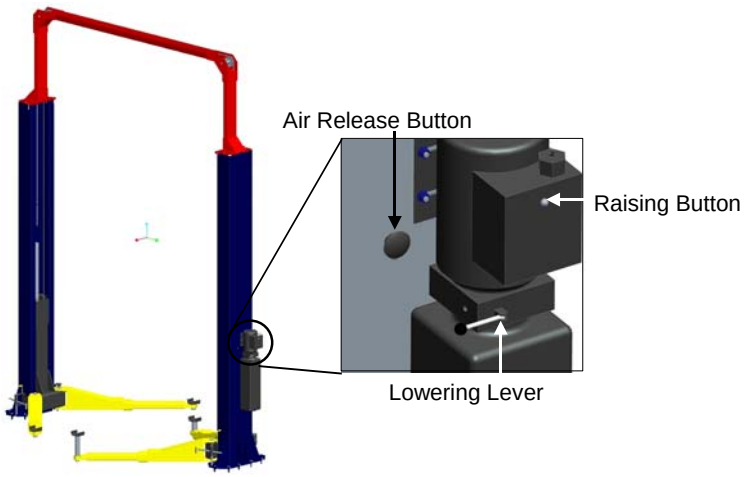
4. Observe overhead clearance for obstructions when lifting light trucks with ladder racks, cranes, campers, etc.

5. Always use all four arms when lifting a vehicle and follow the vehicle manufacturers guidelines for recommended lifting points.

6. Height extenders may be needed for proper frame engagement when lifting light trucks and vans.

7. Do not use wood, bricks, homemade extenders, etc.

7.2 Lift Controls



7.3 Lift Operation

To Raise Vehicles:

1. Read and understand all safety and operation labels on the lift.
2. Position arms to drive-thru position.
3. Refer to supplied literature prior to loading. Center the vehicle between the lift posts.
4. Only lift the vehicle on the manufacturer's recommended lift points. **Refer to the supplied lift points guide.**
5. Locate lift pads on auto manufacture's recommended lift points. Once you have correctly positioned the lift arm ensure that all arm restraints are properly engaged.
6. Raise the vehicle by pushing the up button on the power pack. Once the desired working height is reached, lower onto the mechanical safety using the lowering lever.

To Lower Vehicles:

1. Clear area around and under the lift of obstructions and warn personnel to stand clear.
2. Raise vehicle slightly to remove pressure on the safety latches.
3. Depress air valve and pull release lever on pump.
4. No one must be under the vehicle when lowering as the safeties are released.
5. Lower the lift until arms have bottomed and are clear of the lifting points.
6. Swing the lifting arms from beneath the vehicle and fully retract the arms.
7. Remove the vehicle.

8.0 Maintenance

Only trained personnel who are familiar with the equipment should be allowed to service the lift.

All Maintenance other than the routine tasks outlined below must be carried out by the manufacturer/supplier.

Before starting any maintenance or repairs to the lift make sure the main power switch is locked.

Guidelines to be followed for proper lift maintenance include:

Always use genuine spare parts.
Always use tools and equipment suitable for the work to be carried out.
Follow the scheduled maintenance and check periods shown in this manual.

Refer to manufacturers documentation:

Exploded views for ordering of replacement parts.
The trouble shooting guide contained in this manual.

8.1 Equalization Cable Inspection

Without load, raise the lift in increments that will allow inspection of the entire cable. If the following conditions exist replace the cable:

1. When its diameter is less than 11/32".

2. If 3 or more element wires are broken in a single strand.

3. If 6 or more element wires are broken in a strand lay.

4. Cable is badly deformed or rusted.

5. Broken wires at the connection to threaded rods.

Inspect the lower column and crossmember pulleys for excessive wear in the groove, bushing or axle.

Lubricate the entire cable with light oil annually.

8.2 Inspection and Maintenance Procedures

The schedule is based on conditions found in the usual automotive service environment under normal usage (approximately 1200 cycles per year). In cases of high volume operation or areas with a high density of airborne debris, the schedule must be accelerated.

DAILY:

1. Check all hydraulic lines and fittings for pinch points, damage, cracks or leaks.
2. Check all electrical wiring for pinch points, cracks or damage.
3. Check all moving parts for uneven or excessive wear.
4. Repair or replace all damaged, defective, worn or broken components immediately.
5. Check the telescopic arms for movement. Clean any grease or oil from the lifting adapters.
6. Raise and lower the lift at the beginning of each shift (without a vehicle on) to verify the lift is leveled and operating properly.

EVERY TWO MONTHS:

1. Check the arm restraint rods be sure to keep threads clean and rust free.
2. Clean and re-grease slide block channels inside of both columns.
3. Grease arm pins.

EVERY FOUR MONTHS:

1. Column anchor bolts and re-torque to 150 ft. lbs if required. If unable to tighten suspend use of lift and contact manufacturer.
2. Lubricate cable pulleys.
3 Check equalizing cable adjustment. (see section 6.1)

EVERY SIX MONTHS:

1. Inspect carriage bearings, grease with lithium RP #2. Replace bearings when clearance between bearing mounting plates and column is less than 1/16”.

EVERY YEAR:

1. Inspect lift as per Automotive Lift Operation, Inspection and Maintenance (ALOIM).

EVERY TWO YEARS:

1. Change hydraulic fluid with CITGO AW 46 or equal.

CAUTION ! Always check for floor cracks emulating from under the columns, structural wear or if the lift is visually out of plumb. Contact the manufacturer for assistance.

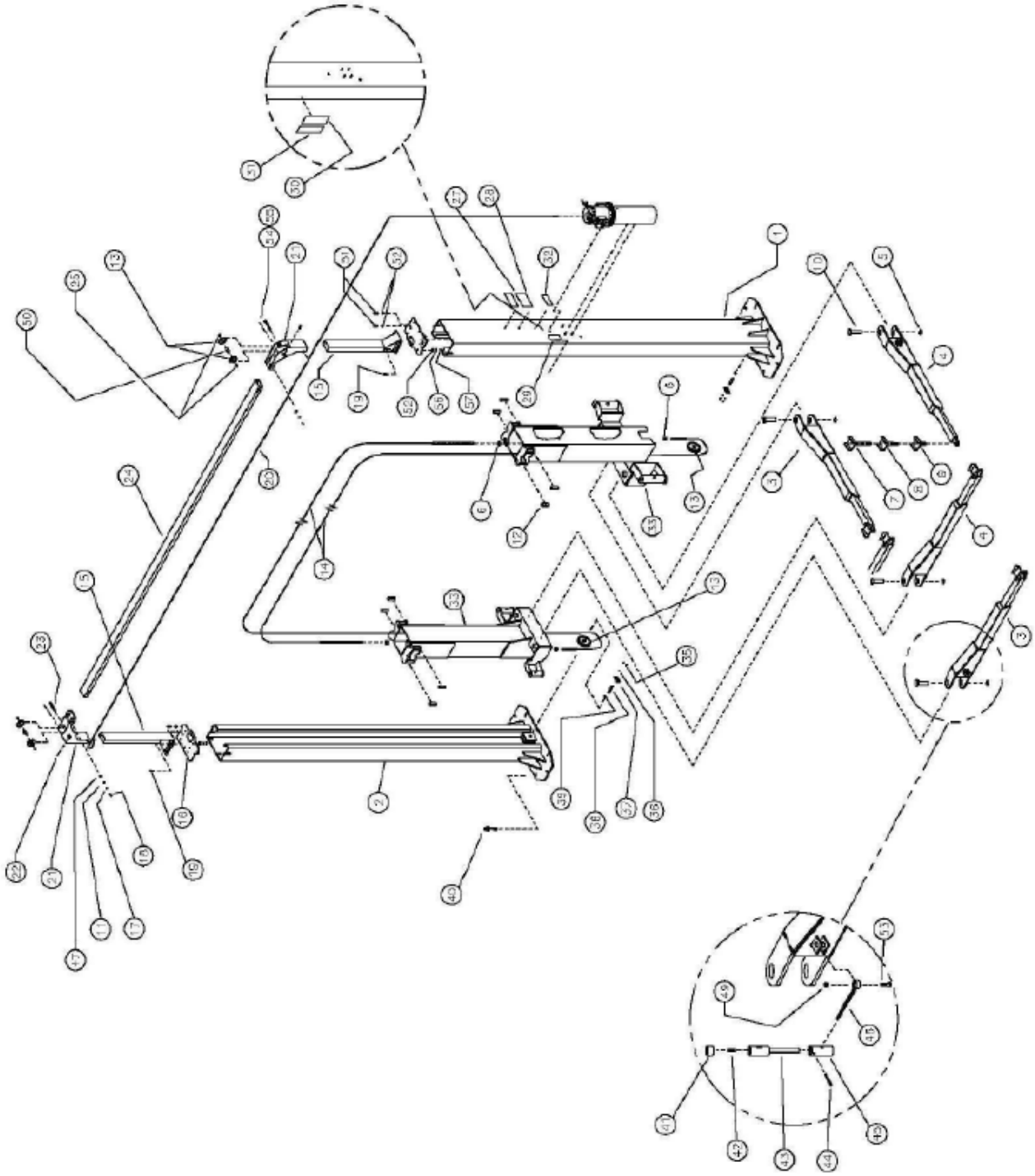
8.3 Maintenance Schedule

Maintenance and Training Performed	Date	By	Notes

9.0 Troubleshooting

PROBLEM	REASON	SOLUTION
Power Pack (Motor) not running.	Bad Fuse or Circuit breaker.	Replace bad fuse or reset circuit breaker.
	Incorrect voltage to motor.	Provide proper voltage to motor.
	Improper wiring.	Have certified electrician check wiring.
	Power Pack up switch not functioning.	Replace Power Pack up switch.
	Overhead Mircoswitch not functioning.	Replace overhead Microswitch.
	Power Pack motor burned out.	Replace motor.
Power Pack (Motor) runs but lift does not go up.	Low oil level.	Fill reservoir with proper hydraulic oil.
	Oil valve remains open.	Repair or replace oil valve.
	Pump sucking air.	Tighten all fittings and suction lines.
Lift goes up slowly or oil coming out from filler cap.	Air in hydraulic fluid lines	Bleed hydraulic lines (Call installer).
Lift doesn't come down.	Dirt in directional valve	Call installer to clean valve. (Do not attempt to open hydraulic lines unless vehicle is secure)
Safety Dog does not engage.	Safety Dog pivot pin jammed.	Oil or replace pin to free Safety Dog.
	Air Cylinder seized	Replace Air Cylinder.
Safety Dog does not disengage.	No air in the system	Check if air is being supplied.
Lift goes up unlevel.	Equalizing cables are loose.	Adjust equalizing cables to correct tension.
	Floor unlevel.	Shim lift to make towers level. (Do not exceed ½" of shimming).
Lift goes up with chatter or does not fully rise.	Low oil level.	Fill reservoir to correct level with proper hydraulic oil.
	Air in hydraulic fluid lines/cylinder.	Bleed hydraulic lines. (Call installer).
Anchor bolts do not stay tight.	Holes are too large.	Relocate lift using proper size drill bit.
	Incorrect concrete floor specification (Thickness and holding strength).	Break existing floor and pour new pad for lift.
Noticeable Deflection of Arm or arm dragging on floor.	Lift out of plumb.	Plumb columns.
	Unlevel floor.	Replace floor of shim columns.
	Worn arm pins.	Replace arm pins.
	Worn arm or carriage holes.	Replace parts.
	Worn carriage slide blocks.	Replace side blocks.
	Bent arm (Overloaded).	Replace arm. Also check damage to carriage.

10.0 Lift Assembly

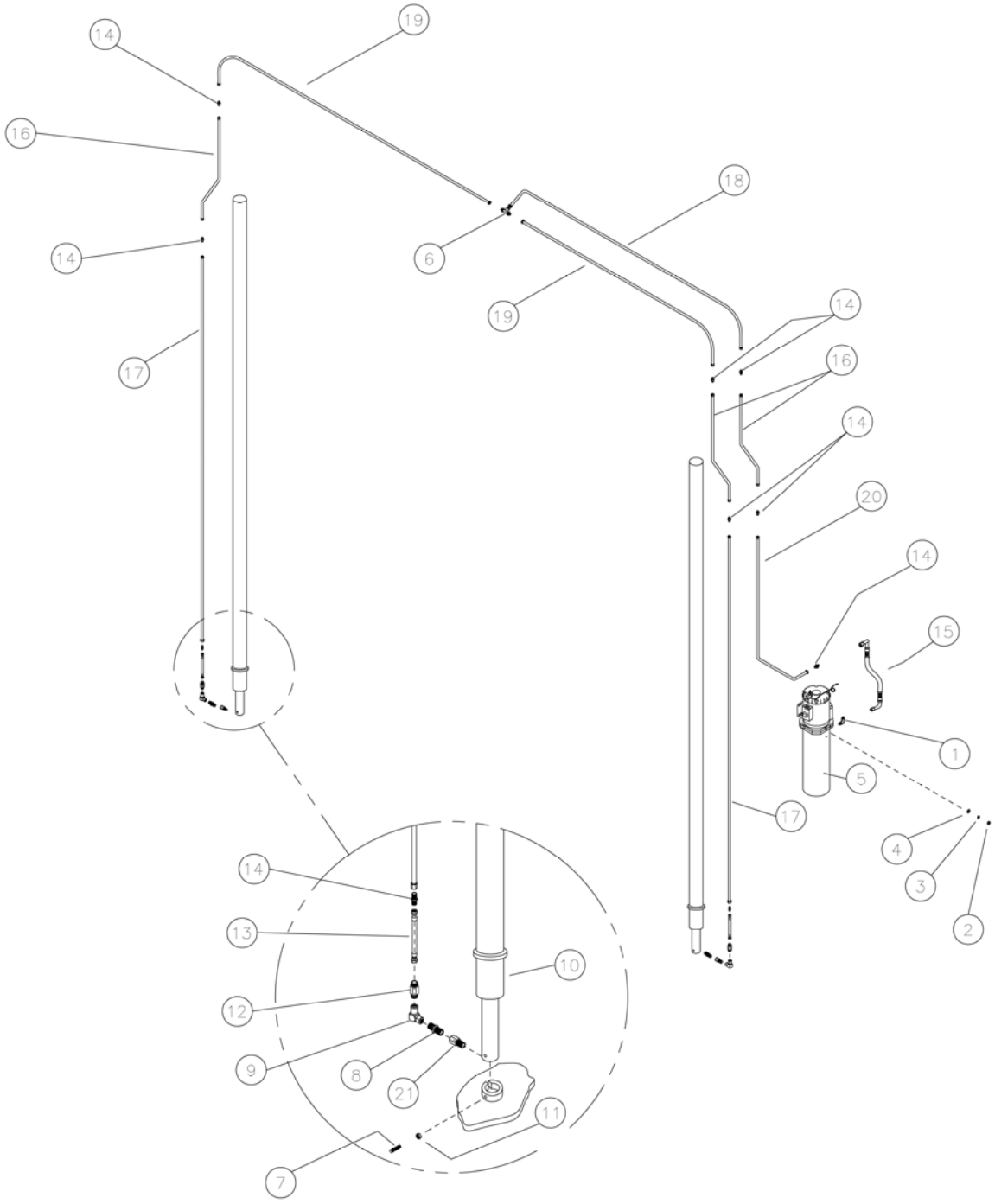


10.1 Lift Assembly Parts List

Item#	Part #	Description	Qty.
1	1	DRIVE COLUMN ASSEMBLY	3-0946
2	1	IDLE COLUMN ASSEMBLY	3-0945
3	2	ARM ASSEMBLY	3-0935
4	2	ARM ASSEMBLY	3-0931
5	4	RETAINING RING 1 3/4”	6-3168
6	4	NYLON LOCKNUT 1/2”-13	6-3169
7	4	ARM PAD EXTENSION ASSEMBLY	2-2285
8	4	ARM PAD EXTENSION ASSEMBLY	2-2284
9	4	ARM PAD ASSEMBLY	2-2283
10	4	ARM MOUNTING PIN WELDMENT	1-2989
11	44	LOCKWASHER 3/8”	6-0058
12	16	BEARING BLOCKS	1-2966
13	6	COLUMN SHEAVE 4 1/2” P.D	1-3019
14	2	3/8” DIA. WIRE ROPE 464” LG	6-3118
15	2	PROFILE PEDESTAL WELDMENT	3-0938
16	2	COLUMN TOP PLATE DRIVE 2 POST AIR RELEASE	2-2462
17	28	WASHER FLAT 3/8” I.D	6-0625
18	28	HEX BOLT 3/8”-16 UNC 1” LG PLT	6-0067
19	12	HEX BOLT 3/8”-16 UNC 1 1/2” LG PLT	6-0203
20	1	WIRE CABLE 1/16” DIA. 256” LG	6-2072
21	2	PROFILE CORNER WELDMENT	3-0941
22	2	COTTER PIN 3/16” X 1 3/4” LG	6-3157
23	2	SHAFT, OVERHEAD PULLEY	2-2252
24	1	TOP PROFILE TUBE	2-2258
25	4	SHEAVE SPACER	1-2971
27	1	CAPACITY DECAL 15000lb / 6800 kg	6-3172
28	1	ALI DECAL / ETL CERTIFICATION	6-2810
29	1	SAFETY INSTRUCTIONS DECAL	6-0594
30	1	WARNING DECAL	6-0595
31	1	CAUTION DECAL	6-0592
32	1	ALI MEMBER DECAL	6-0398
33	2	CARRIAGE ASSEMBLY	3-0943
35	4	HEX BOLT 1/4”-20 UNC 1/2 “ LG GR.5	6-0126
36	4	LOCKWASHER 1/4”	6-0056
37	2	KEEPER PLATE	1-2976
38	2	SHEAVE PIN	1-2975
40	16	CONCRETE ANCHOR	6-1379
41	4	ARM RESTRAINT CAP	1-2965
42	4	ARM LOCK SPRING	6-3112
43	4	PLUNGER WELDMENT	2-2274
44	4	ROLL PIN 1/4” DIA 1 3/4” LG	6-3127
45	4	ARM LOCK HOUSING	1-3015
46	4	ARM RESTRAINT ROD ASSEMBLY	2-2273
47	36	HEX NUT 3/8”-16 UNC	6-3119
49	4	LOCKNUT 3/4”-10 UNC NYLON	6-3123
50	2	SPACER & WASHER ASSEMBLY	1-3017
51	12	HEX BOLT 1/2”-13 UNC 3” LG	6-1381
52	24	WASHER FLAT 1/2” I.D SAE	6-0248

53	4	HEX BOLT 3/4”-10 UNC 3” LG	6-1101
54	2	CABLE RETAINER PIN	1-3496
55	4	SPRING CLIP	6-3613
56	12	LOCKWASHER 1/2"	6-0059
57	12	HEX NUT 1/2" UNC	6-0035

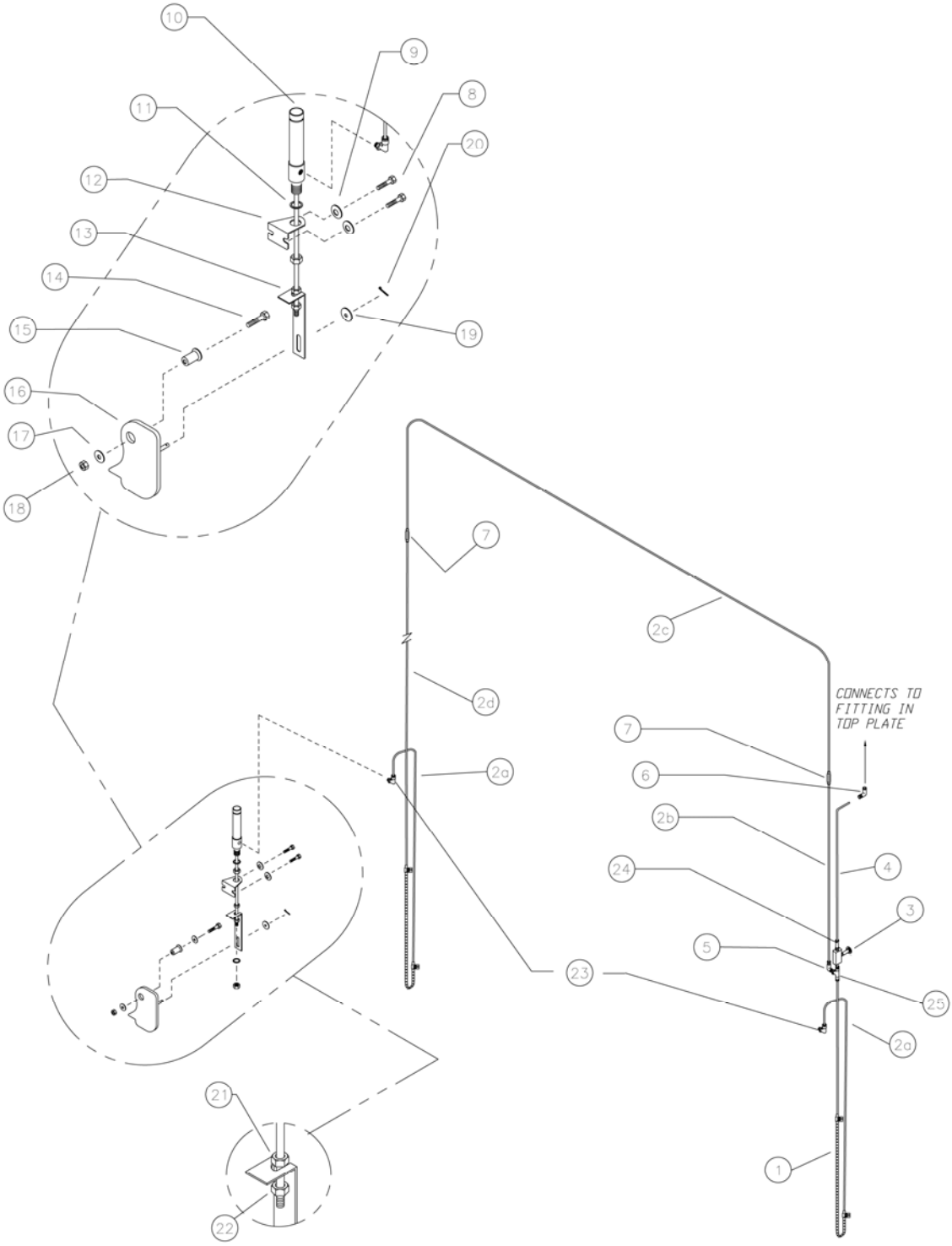
11.0 Hydraulic System



11.1 Hydraulic System Parts List

Item	Part #	Description	Qty
1	6-0804	ELBOW 90 DEG 9/16 SAE M-3/8 JIC M	1
2	6-0294	HEX NUT 5/16”-18 UNC	4
3	6-0674	LOCKWASHER 5/16” I.D	4
4	6-0295	WASHER FLAT 5/16” ID SAE	4
5	6-3150	POWER UNIT	1
6	6-1372	3/8” UNION TEE M JIC	2
7	6-3285	SET SCREW 3/8”-16 1”LG	2
8	6-3876	ADAPTOR 3/8” M NPT – 3/8” M NPT	2
9	6-0006	COUPLING 3/8” F NPT 90 DEG FORGED	2
10	2-2518	HYDRAULIC CYLINDER	2
11	6-3119	HEX NUT 3/8”-16 UNC	11
12	6-1684	VELOCITY FUSE 8GPM	2
13	2-2136	HYDRAULIC HOSE ASSEMBLY	2
14	6-0286	ADAPTOR 3/8” M JIC – 3/8” M JIC	2
15	6-3148	HYDRAULIC HOSE ASSEMBLY	1
16	6-3151	HYDRAULIC TUBING ASSEMBLY	3
17	6-3153	HYDRAULIC TUBING ASSEMBLY	2
18	6-3114	HYDRAULIC TUBING ASSEMBLY	1
19	6-3152	HYDRAULIC TUBING ASSEMBLY	2
20	6-3149	HYDRAULIC TUBING ASSEMBLY	1
21	6-3205	1/4" NPT M - 3/8" NPT F ADAPTOR	2
*	6-3975	SEAL KIT FOR CYLINDER 22518	

12.0 Safety System



12.1 Safety System Parts List

Item	Part #	Description	Qty
1	1-3026	MICRO CABLE CARRIER ASSEMBLY	2
2a	80307	PNEUMATIC TUBING 4mm 127” LG	1
b	"	PNEUMATIC TUBING 4mm 94 3/4” LG	1
c	"	PNEUMATIC TUBING 4mm 222” LG	1
d	"	PNEUMATIC TUBING 4mm 225” LG	1
3	6-3136	AIR VALVE	1
4	8-0141	PNEUMATIC TUBING 1/4” DIA 100” LG	1
5	6-3131	PLUG IN ELBOW 5/32” – 5/32”	2
6	6-3135	MALE ELBOW 1/4” – 1/4” NPT	1
7	6-3133	HOSE TO HOSE COUPLING 5/32” – 5/32”	2
8	6-0027	HEX BOLT 1/4” –20 UNC 1 1/4” LG. PLT	4
9	6-0295	FLAT WASHER 3/8"	4
10	6-3111	AIR CYLINDER 3/4 BX(1.00) STROKE	2
11	6-0663	LOCKWASHER INTERNAL TOOTH 5/8	2
12	6-3110	AIR CYLINDER MTG. BRKT 2 POST AIR RELEASE	2
13	2-2249	SAFETY RELEASE BRKT 2 POST AIR RELEASE	2
14	6-1643	HEX BOLT 7/8”-9 x 3 1/2” LG	2
15	1-2996	SAFETY BLOCK SPACER	2
16	1-3022	SAFETY DOG ASSY & WELDMENT	2
17	6-0725	WASHER FLAT 7/8” I.D	2
18	6-3124	LOCKNUT 7/8”-9 UNC NYLON	2
19	6-0625	WASHER 3/8”	2
20	6-3145	COTTER PIN 3/32” x 1”	2
21	6-3144	HEX JAM NUT 1/4”-28 UNF	4
22	6-1563	LOCKNUT 1/4”-28 NYLON UNF	2
23	6-3129	MALE ELBOW 5/32” –1/8” NPT	2
24	6-3130	MALE CONNECTOR 1/4” - 1/8” NPT	1
25	6-3132	MALE RUN’G TEE 5/32” – 5/32” – 1/8”	1

13.0 Available Accessories

Low Lift Adapters (1-3/8” thread or 2” thread)

Foam Door Protector Kit

Air/Electric Service Station for 2-Post & 4-Post (90-110 psi – 110 Volts Required)

Contact supplier for availability and part numbers.