

INSTALLATION and OPERATION MANUAL



10K 2-POST 1969SAE / 1969SAE14

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



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- 1. When using this lift, basic safety precautions should always be followed, including the following.
- 2. Read all instructions in this manual and on the lift thoroughly before installing, operating, servicing or maintaining the lift.
- 3. Inspect lift daily. Do not operate if it malfunctions or problems have been encountered.
- 4. Never attempt to overload the lift. The manufacturer's rated capacity is shown on the identification label on the power side column. Do not override the operating controls or the warranty will be void.
- 5. Before driving vehicle between the towers, 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.
- 6. Only trained and authorized personnel should operate the lift. Do not allow customers or bystanders to operate the lift or be in the lift area.
- 7. Position the lift support pads to contact the vehicle manufacturers recommended lifting points. Raise the lift until the pads contact the vehicle. Check pads for secure contact with the vehicle. Check all arm restraints and insure they are properly engaged. Raise the lift to the desired working height.
- 8. Some pickup trucks may require an optional truck adapter to clear running boards or other accessories.
- 9. **NOTE:** Always use all 4 arms to raise and support vehicle.
- 10. Caution! Never work under the lift unless the mechanical safety locks are engaged.
- 11. Note that the removal or installation of some vehicle parts may cause a critical load shift in the center of gravity and may cause the vehicle to become unstable. Refer to the vehicle manufacturer's service manual for recommended procedures.
- 12. Always keep the lift area free of obstruction and debris. Grease and oil spills should always be cleaned up immediately.
- 13. Never raise vehicle with passengers inside.
- 14. Before lowering check area for any obstructions.
- 15. Before removing the vehicle from the lift area, position the arms to the drive thru position to prevent damage to the lift and or vehicle.
- 16. Do not remove hydraulic fittings while under pressure.

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).

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



ATTENTION! This lift is intended for indoor installation only. It is prohibited to install this product outdoors. Operating environment temperature range should be 41 - 104 °F (5 - 40 °C). Failure to adhere will result in decertification, loss of warranty, and possible damage to the equipment.

		If attachments accessories of configuration modifying
load path, affect op listing or affect inter this lift and, if they a certification of this li	peration of the lift, affended vehicle accommon ore not certified for use of ft shall become null and mation pertaining to cert	components that are located in the ct the lift electrica dation are used or on this lift, then the d void. Contact the
participant for inform accessories or confic	uration modifying cor	ponents.

1.0 SPECIFICATIONS

Capacity: Capacity per arm: Overall Width: Width Between Columns: Drive-Thru Width: Overall Height (12FT): **Overall Height (14FT):** Under bar Clearance: Under bar Clearance: Height to Lowered Lift Pads Height to Lift Pad (3" Adapter): Height to Lift Pad (6" Adapter): Front Arm Retracted Length: Front Arm Extended Length: Rear Arm Retracted Length: Rear Arm Extended Length: Maximum Lifting Height (6" Adapter): Lift Time: Power Requirements (Standard):

10000 lbs.	4536 kg		
2500 lbs	1134 kg		
143 ¾"	3651 mm		
120"	3048 mm		
98 ³ ⁄4"	2508 mm		
144"	3658 mm		
168"	4267 mm		
140"	3556 mm		
164"	4165 mm		
4 1⁄2"	114 mm		
7 ½"	191 mm		
10 ½"	267 mm		
23 1⁄2"	622 mm		
44 1⁄2"	1130 mm		
36 ½"	836 mm		
57 ½"	1454 mm		
79 ¼"	2013 mm		
45 seconds			
230 Volts AC, 1 Ph., 60 Hz.			
20 Amps			





Figure 2 - Top View

NOTE: Layout is for reference views only.

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**.

3.1 Main Structural Components

- 1pc. Power side tower and carriage assembly
- 1pc. Slave side tower and carriage assembly
- 1pc. Crossmember
- 1pc. Actuator Bar w/ foam

3.2 Accessory Box

- 4pcs. Locking Arm Assembly w/arm pins
- 2pcs. Safety Covers w/Decals
- 1pc. Hardware Package w/Packing List
- 1pc. Actuator Extension
- 1pc. Actuator Mounting Bracket
- 2pc. Foam Protectors
- 1pc. Power Pack
- 4pc. Arm Restraint
- 4pc. Stack Pad Assembly
- 4pc. Stack Pad Adapter (3")
- 4pc. Stack Pad Adapter (6")
- 1pc. Safety Release Cable
- 1pc. Hydraulic Hose (Long)
- 1pc. Hydraulic Hose (Short)
- 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. Safety Shut-off Microswitch Assembly (Components)

2.0 INSTALLATION REQUIREMENTS AND TOOLS

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 four and a quarter inches (4¼") or 108 mm. Concrete must have a minimum strength of 3000 psi or 21 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.

2. TOOLS REQUIRED

- a. 16ft. Measuring Tape
- b. Chalk Line
- c. Rotary Hammer Drill
- d. 3/4" diameter Masonry Drill Bit
- e. Hammer
- f. SAE Wrenches and Ratchet Set
- g. 2ft. Level
- h. 4ft. Level
- i. Crow Bar
- j. 12ft. or 14ft. Step Ladder
- k. Side Cutters
- I. Screwdrivers
- m. 4" x 4" Wooden Blocks (for unpacking)
- n. Wherever LOCTITE symbol is shown, apply LOCTITE #242 on required fasteners. If fasteners are removed reapply LOCTITE before re-installing.



3.0 INSTALLATION INSTRUCTIONS

When the lift arrives on site:

- Read the owner's manual and make sure the installation instructions are fully understood.
- 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.

1. UNPACKING PROCEDURE

- 3.1.1 **Important!** Place the main structural components on wooden blocks so that the steel shipping frames can be removed.
- 3.1.2 Remove the plastic wrapping.
- 3.1.3 Remove the crossmember, and the actuator bar.
- 3.1.4 Unbolt the steel shipping frames.
- 3.1.5 Lay each tower on the floor with the carriage side down.
- 3.1.6 Check the installation area for obstructions. (Lights, Heating Ducts, Ceiling, Floor Drains, etc.)

2. BAY LAYOUT

- 3.2.1 Prepare the bay by selecting the location of the lift relative to the walls.
- 3.2.2 Clear the installation area of all packaging materials to avoid trip hazards.
- 3.2.3 Measure midpoint of door.
- 3.2.4 Using measuring tape scribe two arcs, equal distance from the midpoint.
- 3.2.5 The centerline of the lift occurs between the intersection of the arcs and the midpoint of the door.

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



Figure 3. Chalk line

- 3.2.6 Measure the specified distance (126") to draw a second chalk line at 90° for locating the lift towers. Refer to Figure 3.
- 3.2.7 The lift is centered between the door and the walls of the area.



Figure 4. Bay Layout

3. POWER PACK INSTALLATION

3.3.1 Remove the **red** plastic cap located at the rear of the power pack, and install the "T" fitting located in the hardware kit.

Elbow (6-0804)



3.3.2 Bolt power pack to the mounting bracket on the power side tower before standing up the tower using hardware from the kit.





Hydraulic / Electrical Parts Lists

NOTE: DO NOT ADD HYDRAULIC FLUID AT THIS TIME

4. CROSSMEMBER INSTALLATION



3.4.2 Stand towers in the position shown.





5. SAFETY SHUT-OFF BAR INSTALLATION

The safety shut off will disconnect the power to the power pack when an obstruction touches the padded bar or the carriages reach their maximum height. The safety shut off switch is factory pre-wired.



3.5.1 Attach the Actuator Mounting Bracket (1-1378) to the crossmember





3.5.3 Slide Safety Shut-Off Microswitch Assembly over the open end of actuator bar.



Bolt the assembly to the crossmember.



6. ROUTING OF EQUALIZATION CABLE

3.6.1 Remove safety release polybag from Hardware kit. Install parts for electric safety as shown below



NOTE: After installing the safety mechanism, the carriages need to be raise to lock before running the cables.

- 3.6.2 Remove equalizing cables (1-1786) from the accessory kit box, and 8 ¹/₂"-13UNC nuts from a polybag in the hardware kit box.
- 3.6.3

Insert the short threaded stud through the 9/16"dia. hole at the bottom of the carriage.



Pass the cable until it reaches the opening above the arm support.. Tighten a $\frac{1}{2}$ -13UNC nut to the center of the stud, and then **firmly tighten** a second nut up against it using two wrenches.



3.6.4 Pull the cable back down on to the carriage bottom plate.

3.6.5 At the bottom of the column, remove the hitch pin, pulley pin and pulley from the base plate.





3.6.6 Route equalizing cable around pulley and reassemble the pulley to the base plate. IMPORTANT – Hitch pin must be installed securely.



3.6.7 Route cable as shown.



Route Up through column.

Insert stud through top of carriage.

Use a wrench to hold the top of the threaded - stud to prevent it from rotating.

Hand tighten (2) ½"-13 UNC nuts onto the threaded stud enough to remove all visible cable slack



3.6.9

Hold the top of the threaded studusing wrench. Tighten the first nut approximately 1 ½" to tension cable. 3.6.10 Tighten the second nut firmly against the first one.

3.6.11 Repeat steps for other cable.

7. ARM INSTALLATION

3.7.1 Remove the Arm Pins from all four Arms.

5/16"-18UNC x 3/4"LG. hex head bolt (6-0423) /



3.7.2 Install the four arms on the carriages by inserting the arm pins. Note: The longer arms must be installed towards the rear of the longest arms

NOTE: The longest arms must be installed towards the rear of the lift.



3.7.3 Install Arm Restraint Gear. Refer to illustration below to locate the gears in the correct the configuration.

5/16"-18UNC x 1 ¼" LG. hex head bolt (6-2059)



5/16" Flat Washers (6-0295)

Arm Restraint Gear (1-2618)





8. ARM RESTRAINT INSTALLATION

3.8.1

Insert arm restraint handle weldment(1-2914) through holes in carriage weldment.





3.8.2 **Repeat above steps for all arms**.

3.8.3 Slide arm restraint spring over outboard leg of arm lock handle (leg which is nearest tower).



Arm restraint Spring (1-2942)-

3.8.4 Hammer a spring retainer cap to the end of the arm lock leg.



9. SOLENOID CABLE AND PENDANT CONTROL ROUTING 3.9.1 SOLENOID CABLE ROUTING

- Power Side From Control Box, route cable up and over the tower and down along the inside of the column. Figure 10.1a. Use supplied latching duct (3 per side) to secure the cables to the inside of the tower. Figure 10.1b.
- 2. Route cable through rectangle hole closest to the electric solenoid. **Figure 10.1c.**
- 3. Slave Side From Control Box, route cable above and across crossmember and down the inside of the column as above.







Figure 10.1b



Figure 10.1c

 Connect leads from solenoid to cables. Use cable ties to secure cable in crossmember and at the solenoid keeping the cable running down the tower tight. Figure 10.1-c.

3.9.2 PENDANT CABLE ROUTING

- 1. The pendant cables are held to the top of each tower using a cable strap, cable clamp and supplied hardware. Figure 10.2a. (See Section 8: Hydraulic Parts List).
- 2. The bottom of the pendant must be a minimum of 18" from ground level, adjust cable holder to suite. **Figure 10.2b.**
- 3. Use Cable ties to secure any excess cable to crossmember.





10. HYDRAULIC PLUMBING INSTALLATION

3.10.1 Connect long hose to the top port on "T" fitting



3.10.4 Remove the plastic cap from the bottom of the slave side cylinder and connect the long hose to the cylinder.



A certified electrician must connect the 230Volt/1Ph power to the motor.



Electrical Diagram

11. HYDRAULIC SYSTEM BLEEDING

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



- 3.11.2 Power up 2"-3". Make sure E-Stop is released on both remotes. You should hear air escaping around the caps. Repeat 3 4 times or until only oil is coming out of the caps.
- 3.11.3 Tighten the caps and lower the lift.



12. ADJUSTMENT OF ELECTRIC SAFETY RELEASE SOLENOID

If no damage is visible on the carriage surface after inspection step 2, proceed with adjustment.

If damage is visible, Tag lift out of service until components are repaired or replaced.

- 3.12.1 Remove the black plastic protective housing located half way up the tower.
- 3.12.2 Remove the jam nut retaining the electric solenoid and add a few drops of Loctite® #242 to the threads. Tighten and make sure it is secure.
 ** Ensure that the application of the Loctite® is clean and any access is removed promptly.
- 3.12.3 Remove the linkage bolt and add a few drops of Loctite® #242 to the starting threads only **DO NOT PUT LOCTITE ON THE LINKAGE**. (Ensure clean application). Tighten the bolt so that the head is flush with the side of the safety dog. Ensure that the linkage arm between the solenoid and safety dog is free to move. A tight linkage arm can cause the safety dog to bind.
- **3.12.4** Inspect that the Safety Dog rotates freely on the pivot pin. If not, apply lubricant and manually rotate the safety dog up and down allowing the lubricant to work in-between the Pin and Safety Dog.

3.12.5 DO NOT PUT LUBRICANT IN THE ELECTRIC SOLENOID.

- 3.12.6 Hold the release button on the remote hand control, check that the safety dog rises to contact the stop bar. If adjustment is required, follow the procedure below.
 - a. Back off the self-tapping screws until the solenoid bracket slides up and down freely. **Figure 1a.**
 - b. Manually disengage the safety dog until it rotates against the stop bar.
 - c. Hold the safety dog against stop bar. Figure 1b.
 - d. Re-position the solenoid-mounting bracket until the solenoid shaft bottoms out in the solenoid, Let the linkage fall freely, DO NOT push the linkage up. Ensure that the safety dog is still contacting the stop bar. **Figure 1c.**
 - e. Tighten the screws and check the function of the release lock. (Make certain the bracket is straight.) **Figure 1d.**







Figure 1b





Figure 1c

Figure 1d

NOTE: WHEN ADJUSTED, THE SCREWS ARE APPROXIMATELY CENTERED ON THE BRACKET.

- f. Operate the lift up so that carriage safety position 1, 2 or 3 is in view. (Stop the lift allowing clearance for lock dog to rotate fully.)
- g. Check function of the lock release confirming clearance between the disengaged safety lock dog and the lifting carriage.
- h. Re-check function of lock release by depressing the safety lock release button on the remote hand control. (If lock does not release re-check adjustment step 5 a thru e.)
- 3.12.7 Repeat steps 1 through 5 for adjustment of the opposite tower.
- 3.12.8 Re-check function of lock release with hand control with lift loaded. Ensure clearance between safety lock dog and lifting carriage when lowering.
- 3.12.9 Re-install safety covers. (Do not pinch solenoid wires when installing covers.)

Additional Instructions

- 1 It is the user's responsibility to insure that the lift and electrical installation conforms to local building codes.
- 2 If required an electrical schematic can be found within the installation service manual or by contacting Snap-on Equipment Technical Support.
- 3 Check wiring connections at solenoid. (Wires must not be pinched by covers)
- 4 Check wiring connections, function and operation of remote hand control.
- 5 Confirm hand control is positioned at min. 18" above the floor, adjust if necessary
- 6 When all electrical items have been check and confirmed to be function properly follow remaining steps 6 thru 8 of the Adjustment Procedure section above.
- 7 While raising the lift, activate the emergency stop on the had control to verify function. The motor should stop immediately. Repeat this check for the other hand control.
- 8 Deactivate the emergency stop and check its function while lowering. Repeat this check for the other hand control.

Note:

- 1. This inspection should be done in conjunction with your standard lift inspection as outlined in ANSI/ALI ALOIM standard. (Reference Appendix C and D of the ALOIM standard.)
- 2. Copies of all Inspection Reports, Inspection Certificates, Training, Planned Maintenance and Repair Logs should be retained on file at customer's location for each lift.

13. TOWER POSITIONING AND ANCHORING

WARNING! Failure to follow these instructions may cause an unsafe operating condition.

WARNING! Before proceeding with installation, review Section 4: Installation & Tools.



- 3.13.3 Refer to Bay Layout to ensure that the column is still in the proper position.
- 3.13.4 Prior to installing anchors, assemble the nut and washer onto anchors. A minimum of six threads must be visible below the surface of the nut. Refer to the figure below while reading through the following instructions.



3.13.5 Using a ³/₄" concrete drill bit and rotary hammer drill, drill ³/₄" holes for the anchor bolts on the high side column. Drill through the concrete floor. (In case longer anchors are required, supplied anchors can be hammered through concrete).



3.13.6 Clean out the drilling dust from the holes and hammer in the anchors until they make contact with the baseplate. **Hand tighten all anchor bolts.**

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

3.13.7 Torque all anchor bolts to 150 ft-lbs. (203 Nm), continually





checking that the column is level as you proceed.

NOTE:

The $3/4" \times 5 \frac{1}{2}"$ lg. wedge anchor bolts supplied must have a minimum embedment of $3\frac{1}{4}"$ into concrete floor. If anchor bolts do not tighten to 150 ft-lbs. OR project more than 2 ¼" 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).

14. POSITION AND ANCHORING OF REMAINING TOWER

3.14.1 Level the low side column by shim underneath the baseplate.



Ensure that the baseplate is completely supported by shims where it does not contact the floor.

- 3.14.2 Refer to Bay Layout to ensure that the column is still in the proper position.
- 3.14.3 Prior to installing anchors, assemble the nut and washer onto anchors. A minimum of six threads must be visible below the surface of the nut. Refer to the figure below while reading through the following instructions.



3.14.4 Using a ³/₄" concrete drill bit and rotary hammer drill, drill ³/₄" holes for the anchor bolts on the high side column. Drill through the concrete floor. (In case longer anchors are required, supplied anchors can be hammered through concrete).



3.14.5 Clean out the drilling dust from the holes and hammer in the anchors until they make contact with the baseplate. **Hand tighten all anchor bolts.**

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

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





NOTE:

The $3/4" \times 5 \frac{1}{2}"$ lg. wedge anchor bolts supplied must have a minimum embedment of $3\frac{1}{4}"$ into concrete floor.

If anchor bolts do not tighten to 150 ft-lbs. OR project more than 2 ¼" 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).

3.14.7 Verify that the entire lift is level both horizontally and vertically to ensure optimum lifting performance. **NOTE: Perform a monthly inspection and torque all anchor bolts to 150 ft-lbs. (203 Nm).**



15. SAFETY SHUT-OFF BAR ADJUSTMENT

- 3.15.1 When the lift is fully installed, leveled and operational, extend the carriages to their full upper limit.
- 3.15.2 Lower the carriages about $\frac{1}{4}$ " to $\frac{1}{2}$ ".
- 3.15.3 Attach a ¼ bolt and nut to actuator extension.





3.15.4 Bolt the Actuator Extension onto the open end of actuator bar.



Actuator Bar

3.15.5 Adjust the $\frac{1}{4}$ " NC x 2" Ig. hex bolt so that the end of the bolt is in contact with the carriage. Tighten the $\frac{1}{4}$ " NC hex nut on the bolt.



16. INSTALLATION OF DOOR GUARDS

- 3.16.1 Door guards must be installed on both sides of the towers a approximately 12" from the base of the tower. **Figure 16a**.
- 3.16.2 Ensure that the door guards are installed with the chamfered side towards the outside of the lift. **Figure 16b**.



Figure 16a

Figure 16b

17. FINAL CHECK OF ASSEMBLED LIFT

1.	Final dimension check after anchoring.			
2.	Check for 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 electric safety release system and ensure both sides are 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	11. Review the function of the safety release mechanism. Ensure that the safety dog is completely disengaged when the release button at the pendent is pressed. Adjust if necessary.			
12	. Check proper operation of arm restraints.			
13	. Operate lift to full stroke then lower to ground while checking for proper functionality.			
14	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			
	 ANSI / ALI ALIS Safety Requirements for Installation _ and Service of Automotive Lifts 			
	e. ANSI / ALI Quick Reference Guide			
15	. Train end user on operation of lift.			

18. OPERATION TEST WITH VEHICLE

- 1. Lower lift to ground.
- 2. Drive vehicle on to lift and locate the arms as per the "Lift it Right" manual.
- 3. Raise lift to 3-4 lock positions. During full rise to ensure all locks are working correctly.
- 4. Verify all lock are working
- 5. Check lowering speed and smooth decent rate.
- 6. Lower lift to ground and drive vehicle off lift.

If any problems occur during the final checkout or operation of the lift please contact customer service at 1-800-268-7959

4.0 LIFT MAINTENANCE GUIDELINES

4.1.1 <u>OPERATIONAL INSPECTION OF THE MECHANICAL SAFETY</u> <u>SYSTEM</u>

INSPECTION 1

This 2 post lift is equipped with an electrically activated linear solenoid that is used to disengage the mechanical safety dog from the lifting carriage. This inspection is required in order to ensure that the electric solenoid is adjusted within its operating range and all components are present.

NOTE: This inspection must be performed without a vehicle on lift.

- 1. Ensure that the lift is at its lowest position.
- 2. The safety mechanism is located under the black plastic protective housing approximately half way up the towers. Remove the two retaining screws and remove the cover to gain access to the safety system.
- 3. Inspect the safety system for any missing or damaged components, pay close attention to the mounting bracket hardware and stop bar. (Compare with Figure 1)
- 4. If the stop bar does not exist, insert the roll pins supplied.
- 5. Verify that the solenoid mounting bracket hardware is tight.
- 6. Verify that the jam nut on the solenoid is tight.
- 7. Press the safety release button on the hand control and observe the motion of safety release mechanism. The electric solenoid should smoothly pull the safety lock dog to contact the stop bar for full disengagement of the lock. IF THE SOLENOID DOES NOT DISENGAGE, CHECK THE VOLTAGE AT THE SAFETY SOLENOID AS INSTRUCTED BELOW
 - Using a voltmeter set to inspect 24VDC, record the voltage at the terminal strip connector in the vicinity of the safety release solenoid. A minimum of 21 VDC is required at this connection.
 - If voltage at the solenoid is lower than 21V, an electrician is required to review input voltage to the lift and electrical setup from the main panel. Adjust the solenoid as instructed in the "ADJUSTMENT OF ELECTRIC SAFETY RELEASE SOLENOID" and recheck the operation of the release solenoid.
 - If the voltage is 21V to 24V then adjust the solenoid as instructed in the section "ADJUSTMENT OF ELECTRIC SAFETY RELEASE SOLENOID"
- 8. Repeat operation inspection for opposite tower.

9. <u>If any of the components are damaged, broken, missing or out of adjustment,</u> <u>discontinue using the lift immediately until repairs and/or adjustments have</u> <u>been completed.</u>



Figure 1: 2 post safety system identification of components

Damage may occur if the solenoid and/or mounting bracket have not been installed correctly or if adjustment is required.

Damage resulting from incorrect installation or adjustment will not be considered as warranty under the terms of the warranty policy.

INSPECTION 2 : <u>VISUAL INSPECTION OF CARRIAGE LOCK CUT-OUTS</u>

NOTE: This inspection must be performed without a vehicle on the lift. Extra care must be taken to ensure that the safety dogs are clearing the carriage prior to lowering the lift, it is highly recommended that INSPECTION 1 be completed first and any adjustments or fixes occur prior to performing this inspection.

1. Remove the black plastic protective housing approximately half way up the posts to access the inspection windows.

- Locate the inspection windows on either side of the safety mechanism. (Refer to figure 2)
- While pressing the up button on the hand control, use a flashlight to look inside the tower windows to inspect for any visible deformations on each carriage safety position. Pay close attention to safety positions 1, 2 & 3. The visible surface of the carriage must be flat without any dents or deformation.
- 4. Record all findings.
- 5. To lower, raise the lift until the safety dog has cleared the carriage. Press the safety release button to activate the release solenoid, visually confirm that the safety dogs have released to their maximum position as identified in INSPECTION 1.
- 6. Press the down button to lower the lift while holding the safety release button.
- 7. Repeat inspection for opposite tower.
- 8. Once inspection is complete, re-install plastic housing onto tower.



Figure 2: Inspection window



Figure 3: Possible locations of carriage damage

4.1.2 SAFETY INSTRUCTIONS

Read operating and safety manuals before using any lift. Do not operate a lift that has been damaged or is in disrepair. Proper inspection and maintenance is necessary for safe operation.

4.1.3 PERIODIC MAINTENANCE

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. With the lift lowered. Inspect the operation of the mechanical safety release by viewing it from inside the tower. Press the safety release button on the remote pendants to ensure that the safety dog is fully disengaged. If the safety dog is not fully disengaged, perform an adjustment as detailed in section 4.9.2. [Add a picture of the view of the inside of the tower]
- 7. 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. Clean and re-grease slide block channels inside of both columns
- 2. Grease arm pins
- 3. Lubricate safety dogs and check function of electric safety release.
- 4. Check arm restraints and lubricate
- 5. Check anchor bolts and re-torque if required
- 6. Remove and check safety release cable adjustment.

EVERY FOUR MONTHS:

- 1. Dismantle and clean inner arms
- 2. Lubricate cable pulleys
- 3. Check equalizing cable adjustment

EVERY YEAR:

- 1. Inspect lift as per Automotive Lift Operation, Inspection and Maintenance (ALOIM)
- 2. Clean and re-grease

EVERY TWO YEARS:

1. Change hydraulic fluid

LUBRICATION:

Where grease is required> multi-purpose lithium greaseWhere lubricating oil is required> multi-purpose SAE 30 lubricating oilWhere hydraulic oil is required> ISO 32 10W - non detergent hydraulic oil

5.0 SAFETY AWARENESS

AUTOMOTIVE LIFT INSTITUTE (ALI)



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7.2 ASSEMBLY PARTS LIST

Item#	Part #	Description	Qty.
1	4-1125	Tower Weldment, Power Side	1
2	4-1013	Tower Weldment, Slave Side	1
3	1-3063	Crossmember Bracket Cover	2
4	2-2304	Symmetric Crossmember Brkt	2
5	2-2323	Crossmember	1
6	2-1143	Limit Switch Mounting Bracket	1
7	1-3178	Common Pulley Pin	2
8	6-0978	Cotter Pin 1/8" DIA X 1 1/2" I G	2
ğ	6-0738	Flat Washer 3/" ID	22
10	1-3495	Cable Retainer	4
11	1-1898	PULLEY ASSEMBLY	6
12	1-1626	Crossmember Pulley Pine 1 ³ /" G	2
12	1-1887	HEADED PIN	2
1/	2-2202	Safety Dog Weldment	2
15	1-2337		2
16	1-2337		2
10	2-0772		2
10	2-0772 1 1115 6	Telescopie Arm Assy c/w Arm Postraint Din El	1
10	2-2206		1
20	2-2230		2
20	2-2202	Inner Arm Weldment	2
21	2-2219	Outor Arm Woldmont	2
22	3 0024	Inner Arm Woldment (Long)	2
23	1 2624	Stack Dad Assembly	2
24 25	6-0000	Grasse Nipple	4
20	6 19/1	Uitch Din. 1/9" DIA	4
20	6-0248	Flat Washer 1/2" ID SAE	16
28	6-0059	Lock Washer 1/2"	16
20	6-0035	NUT 1/2-13 UNC HEX	16
20	6-0046	Her Bolt $\frac{1}{2}$ -13 LINC x 1 $\frac{1}{2}$ LG	8
31	6-2445	Snan Ring $3/2$ FXT	4
32	6-0808	3/4 FLAT WASHER	8
33	6-0169	SELE-TAPPING SCREW #10 X 3/8" LG	2
35	6-1134	SELE TAPPING SCREW, #10 X 0/0 LG	6
36	6-0206	Shoulder Bolt 3/8" DIA X 1" LG	3
37	1-0415	SAFETY CABLE PULLEY	2
38	1-1116	SAFETY CABLE PULLEY	2
39	6-0069	Shoulder Bolt 3/8" DIA X 5/8" I G	2
40	6-0294	Hex Nut 5/16"-18UNC	6
40	6-0801	Shoulder Bolt $3/8^{\circ} \times 1.4^{\circ}$ LG	2
42	6-2074	Thimble 5/32"	1
43	1-2618	Arm Restraint Gear	4
43	2-1594	Arm Pin	4
45	6-0423	Hex Bolt 5/16" - 18UNC x ¾" LG	4
46	1-2914	ARM LOCK HANDLE WELDMENT	4
40	1-2942	HANDLE SPRING	4
48	6-3086	Spring Retainer Can	4
40	6-0925	Flatwasher 5/16"	8
50	6-2059	Hex HD Bolt 5/16"-18UNC x 1 1/4" LG	8
51	6-0062	Flat Washer 3/8" ID SAF	4
52	6-0030	Hex Bolt 3/8 UNC x 3/7 LG	-т Д
53	1-1378	Actuator Mounting Bracket	
54	1-2012	Stack Pad Adapter Holder	2
55	1-1439	Actuator Bar	- 1
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56	6-1404	Foam Guard	1
57	0-0203	Safety Cover c/w Decals. Slave Side	1
58	0-0204	Safety Cover c/w Decals. Power Side	1
59	1-1993	Stack Pad Adapter 3"	1
60	2-1580	Stack Pad Adapter 6"	1
61	6-0056	Lock Washer 1/4" I D	10
62	6-1353	Round HD MACH Screw 1/4"-20 x 3/8" I G	10
63	6-0536	Tube Clamp 1/2"	6
64	6-1759	Flectrical Cable Clip. 5/8" ID	3
65	6-0916	Microswitch	1
66	6-1403	Electrical Litility Box	1
67	6-1466	6/32 Screw (Electrical Box)	2
68	1-21/3	Actuator Extension	1
60	6-0027	Here HD Bolt $1/2$ " NC x 1 $1/2$ " LG	2
70	6-0027	Hex Nut $1/4$ "-201 NC	7
70	6 07/1	Hex HD, Polt $1/$ " NC x 2" LC	1
71	6 0205	Hex HD. Dolt 1/2 NC x 2 LG.	1
12	0-0205	Rex RD. Doll 1/4 NC X 1 1/2 LG.	1
73	1-1113	Salety Release Handle	1
74 75	6-1135	Plastic Knop	1
75 70	6-13/9	vvedge Anchor 3/4" x 5 1/2" LG. (c/w wasners & Nuts)	10
/6	6-0/3/		10
//	6-11/3	Elec. Cable 12/3 x 117" LG.	1
79	6-0291	Hex Bolt,1/2"-13UNC X 1 1/2 LG.	8
80	6-0178	Hex Bolt, $\frac{1}{4}$ " x $\frac{3}{4}$ " LG.	1
81	3-0621	Hydraulic Cylinder Assembly	2
82	6-2055	Power Pack, 208-230 V, 1 PH	1
83	6-0295	Flat Washer, 5/16" I.D.	4
84	6-0674	Lock Washer, 5/16" I.D.	4
85	6-0293	Hex Bolt, 5/16"-18UNC x 1" LG.	4
86	6-2095	Male Nipple, ¼" NPT	2
87	6-0280	1/8 NPT to ¼" NPT	2
88	6-1884	1/4" JIC Cap	2
89	6-1506	Branch Tee	1
90	6-1510	Flow Control	2
91	6-1766	Capacity Decal	1
92	6-1111	Serial Number Plate	1
93	6-2094	Lift Operations Decal	1
94	2-1993	Rectangular Pad Weldment	1
95	3-0872	Rubber Pad	1
96	1-2039	Equalizing Cable	2
97	6-1133	Cable Connector	1
98	6-2060	Wire Rope Clip 1/16"	2
99	1-2040	Hydraulic Hose (Long)	1
100	2-1230	Hydraulic Hose (Short)	1
100	1-2058	Safety Release Cable	1
107	6-0008	Her Bolt 1/2" x 1" LG	2
102	1-11/6-6		1
103	2-2300		1
104	2-2300 1-1125 B		ו ס
100	6-2160		2
100	6 1124		<u>ک</u>
107	1 2027		4
100	1-3027		2
109	0-0423		2
110	1-3UZO		2
111	0-0437		2
11Z	6-3161	COMPRESSION SPRING	2



NOTE:

*Item #10 to be mounted on right side of power unit.

7.4 HYDRAULIC PARTS LIST

ltem	Part #	Description	Qty
1	2-2634	Hydraulic Tube Assy	1
2	2-2635	Hydraulic Tube Assy (12ft)	1
	2-2636	Hydraulic Hose Assy (14ft)	1
3	6-1372	Branch Tee 3/8" JIC	1
4	6-2095	Male Nipple, ¼" NPT	2
5	6-1510	Flow Control	2
6	3-0621	Hydraulic Cylinder Assy	2
7	2-1255	Cylinder Tube	2
8	6-3666	Bleeder Valve	2
9	1-1467	Piston	2
10	0-0337	Piston Seal Kit	2
11	0-0338	Gland Kit	2
12	6-2460	Latching Duct	6
13	6-3182	Cable Strap	2
14	6-3181	Cable Clamp	2
15	6-1094	#8-32 Screw x 1" Lg.	2
16	6-0816	#10 Flat Washer	2
17	6-1095	#8-32 Nut	2
18	6-0294	Hex Nut, 5/16"-18UNC	4
19	6-0674	Lock Washer, 5/16" I.D.	4
20	6-0295	Flat Washer, 5/16" I.D.	4
21	6-0293	Hex Bolt, 5/16"-18UNC x 1" LG.	4
22	6-2055	Power pack, 208-230V, 1PH	1
23	2-1978	Contactor Bracket	1
24	6-3252	Contactor Box	1
25	8-0030	Cable	16 Ft
26	8-0030	Cable	27 Ft
27	6-3158	Pendant Control (up/down/yellow/e-stop)	2
28	2-2136	Hose	1
*	6-3830	Spare Keys for Pendant Control (set of 2)	
29	6-0804	Elbow 90 degree	1
NOTE:	If required,	Power unit replacement part number is 6-3867	

which includes:

6-3867

1	6-2055	Power pack, 208-230V, 1PH	1
2	6-2129	Vi cartridge	1
3	6-2128	Coil (Square) 24V Renum	1



7.6 POWER PACK PARTS LIST

46.832.17.0004 230 V / 1 PH / 60 HZ

ltem	Part #	Description	Qty
1	6-3442	PUMP 6.7G, 17 GEAR	1
2	6-3443	SUCTION PIPE 3/8"	1
3	6-3444	SUCTION FILTER 3/8" FEMALE 15 L/MIN	1
4	6-3445	RETURN PIPE	1
5	6-3446	PLASTIC TANK 12L	1
6	6-3447	MOTOR SHAFT COUPLING PUMP	1
8	6-3452	START UP VALVE	1
9	6-3449	TANK BRACKET WITH SCREWS	1
10	6-3450	MOTOR BRACKETS	1
11*	6-3451	PUSH BUTTON WITH MICROSWITCH	

***NOT SHOWN IN DIAGRAM**

8	AVAILABLE	ACCESSORIES	8	
Flip Pad A	ccessories			
		Poly Pad Adapter (set of 4)		High Lift Truck Extension Mid- Rise / 2-Post (set of 2)
3000 lb ma	ax capacity each		2500 lb max capacity each	
Stack Pad	Accessories			
		Stack Pad Adapter w/ Checker Plate Top (set of 4)	-	Stack Pad Ass'y w/ 3" &6" Adapters (set of 1)
3000 lb ma	ax capacity each		3000 lb max capacity each	
		1 ¹ ⁄ ₂ " Stack Pad Assembly Kit		4 ½" Stack Adapter Kit
3000 lb ma	ax capacity each		3000 lb max capacity each	
Common	Accessories			•
		Tool Tray Kit for 2-Post		Secondary Adapter Pad Kit (Used On Outer Arms)
	Air / Electric	E Foor	n Door	24" Towor
	Service Station for 2- Post & 4-Post (90-110 psi 110 Volts Required)	Prote	ector Kit	Extension

Accessories may not be available for all models. Contact supplier for availability and part numbers. Max capacity is for 12,000 Lb Lifts. Do not exceed rated capacity of lift.