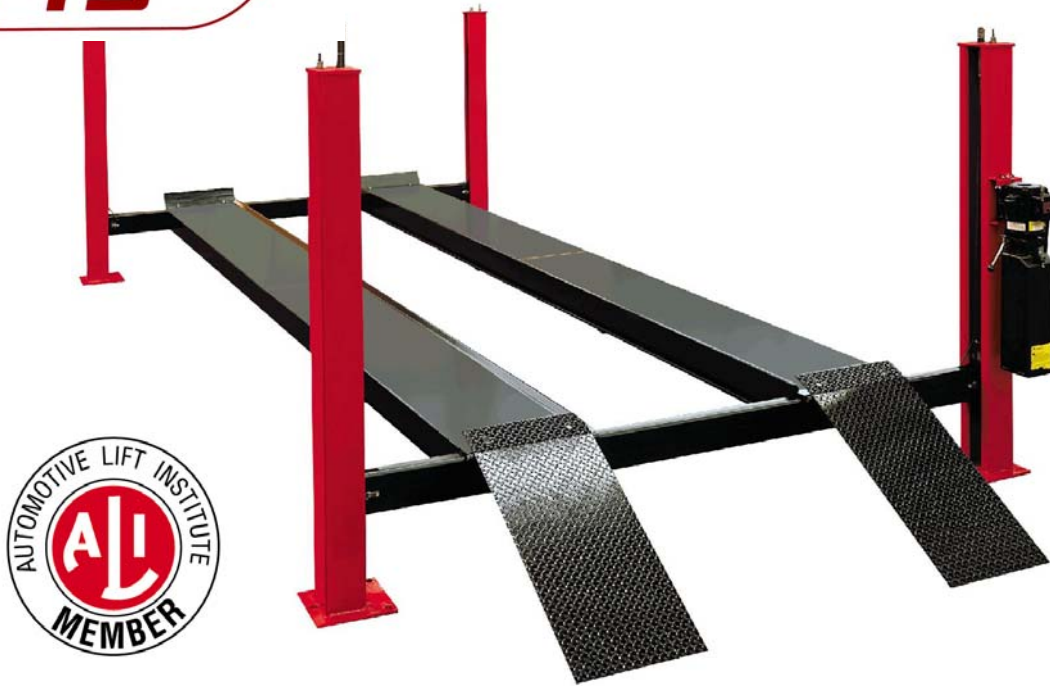




# INSTALLATION and OPERATION MANUAL



**12K CLOSED FRONT 4 POST  
SERVICE 172"/210" W/B  
S412C  S    - S/X,0/2,R/B/M,1/3  
OR  
S412CSSE2R1 (172" W/B)**

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



## THE FOLLOWING APPLIES TO ALL LIFTS

### IMPORTANT SAFETY INSTRUCTIONS

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. 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.
6. **Caution! Never work under the lift unless the mechanical safety locks are engaged.**
7. Always keep the lift area free of obstruction and debris. Grease and oil spills should always be cleaned up immediately.
8. Never raise vehicle with passengers inside.
9. Before lowering check area for any obstructions
10. To protect against the risk of fire, do not operate lift in the vicinity of open containers of flammable liquids.
11. Adequate ventilation should be provided when working on internal combustion engines.
12. Do not remove hydraulic fittings while under pressure.

### SAVE THESE INSTRUCTIONS

+ 070126-Quadra-WLSIA01

## SAFETY INSTRUCTIONS

If attachments, accessories or configuration modifying components that are located in the

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

[www.autolift.org](http://www.autolift.org)

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ALI / WLSIA01

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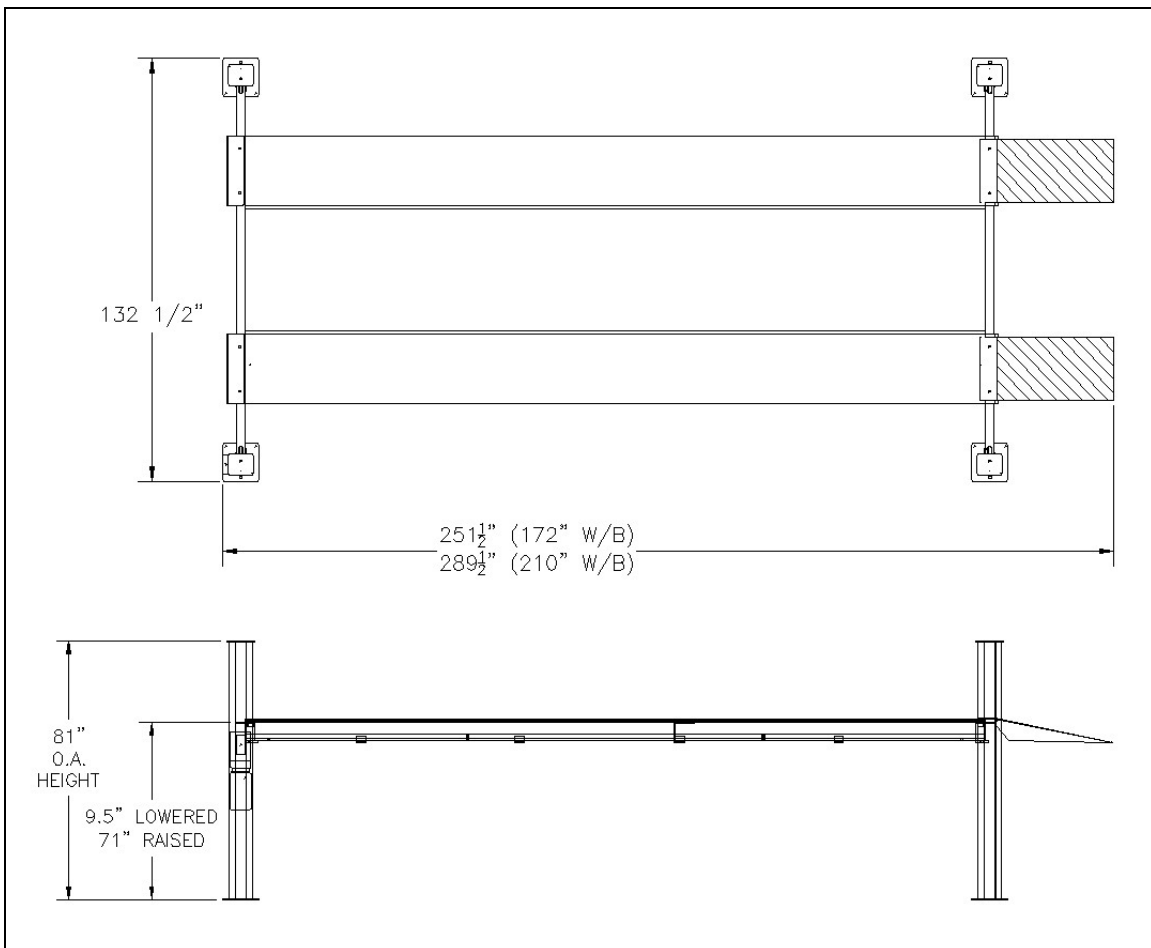
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# 1. GENERAL SPECIFICATIONS

Maximum Capacity:  
 Overall Length 172" W/B:  
 Overall Length 210" W/B:  
 Overall Width:  
 Down Position Height:  
 Maximum Lifting Height:  
 Maximum Wheelbase 172" W/B:  
 Maximum Wheel Base 210" W/B:  
 Power Requirements:  
 Air Requirements:  
 Shipping Weight:

12,000 lb.	5443 kg
251 1/2"	6388 mm
289 1/2"	7353 mm
132 1/2"	3366 mm
7"	178 mm
70"	1778 mm
172"	4369mm
210"	5334 mm
230 Volts AC, 1Ph., 20 Amp, 60Hz.	
90 – 120 psi Shop Air	
2,300 lb.	1050 kg



**CHECK CONTENTS OF ACCESSORY BOX WITH THE PACKING LIST  
ENCLOSED**



**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.

**2. TOOLS REQUIRED FOR INSTALLATION**

ROTARY HAMMER DRILL  
3/4" CONCRETE DRILL BIT  
4' LEVEL  
HAMMER (for anchor installation)  
PRY BAR (for shim installation)  
CHALK LINE (lift location)  
TAPE MEASURE  
ELECTRICAL TAPE  
STEP LADDER (adjusting cables and/or safety ladder in posts)  
SIDE CUTTERS (for cutting shipping straps)  
4 WORK STANDS (set up)  
STANDARD SOCKETS AND WRENCHES  
ALLAN KEY SET  
SCREWDRIVER SET  
FLOOR JACK OR ENGINE HOIST

### **3. CONTENTS**

The lift is packaged to protect it from any damage that may occur during shipping. The two deck assemblies and crossmembers are packaged together with the accessory boxes strapped to them.

#### **Main Structural Components:**

- 1 - Left Side Deck Assembly (complete with hydraulic cylinder)
- 1 - Right Side Deck Assembly
- 2 - Crossmember Assemblies (with air cylinder release locks)

#### **Accessory Box Components**

##### **Box 1 Contents:**

- 1 - Power Post (with safety ladder)
- 3 - Post (with safety ladder)

##### **Box 2 Contents:**

- 1 - Hardware Kit (with separate packaging list)
- 2 - Ramp pin
- 2 - Ramp Bracket
- 2 - Front Wheel Stop
- 4 - Sheave Cover
- 2 - Approach Ramp
- 1 - Power Unit 220v/1Ph/3hp
- 30ft - 4mm DIA. Polytube
- 1 - Hydraulic Hose Assembly (16ft. lg.)
- 3 - Cable Tie
- 1 - Hose Guard
- 4 - Crossmember Sheave
- 4 - Crossmember Sheave Pin
- 1 - Air Valve & Filter Assembly
- 1 - Installation & Operation Manual
- 1 - Lift it Right Manual “ALI”
- 1 - Lift it Right Safety Tips
- 1 - “ALI” Standards
- 1 - “ALI” Quick Reference Guide
- 4 - Glide Bearing

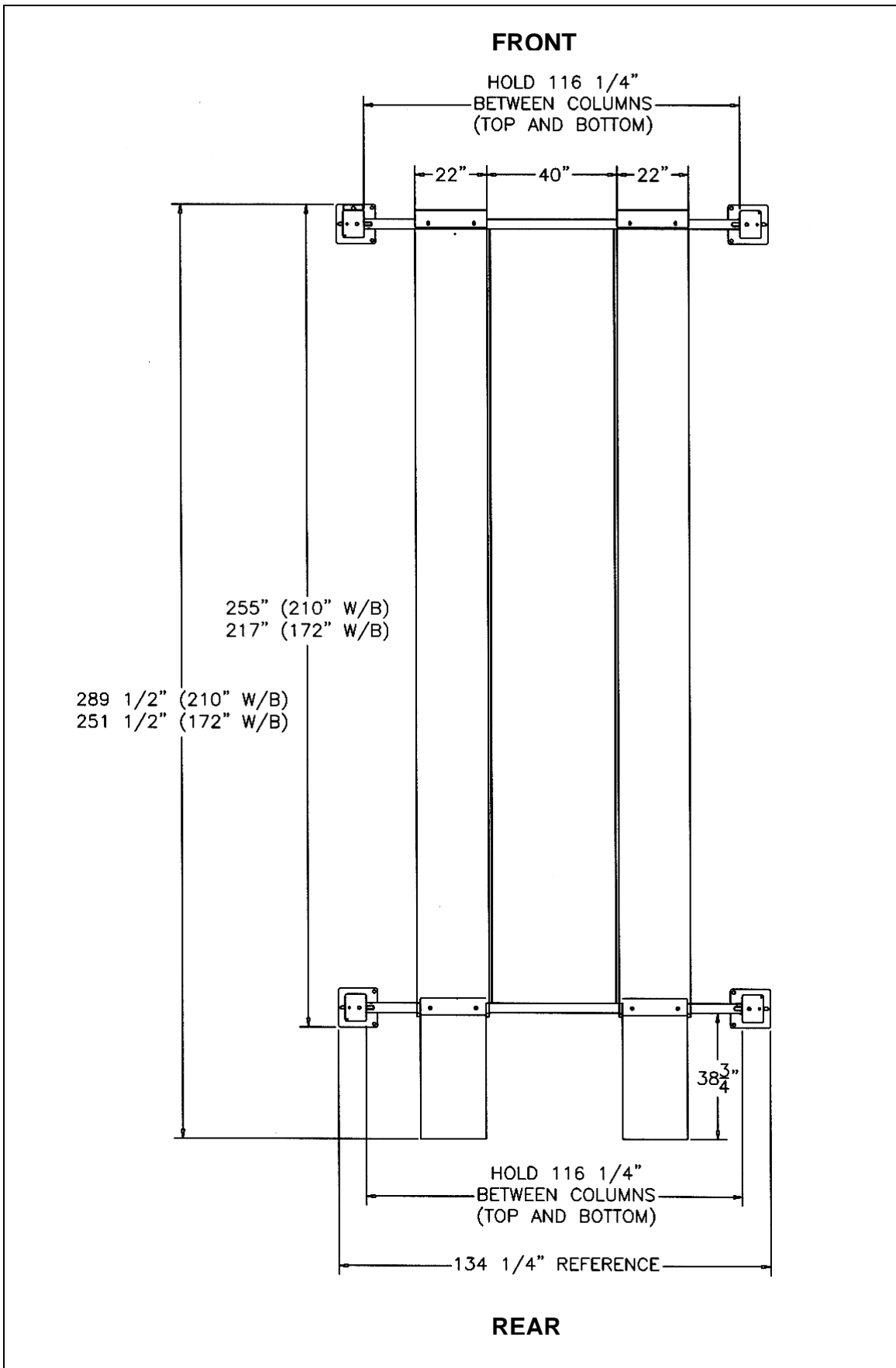


Figure 1. General lift specifications

#### 4. INSTALLATION INSTRUCTIONS

**PLEASE TAKE THE TIME TO READ THESE INSTRUCTIONS COMPLETELY. A QUICK CHECK OF THE CONTENTS OF THE ACCESSORY BOX WOULD ALSO DECREASE THE INSTALLATION TIME.**

- Gather the tools and materials required for the installation.
- Select the location best suited for your lift.

**NOTE:** In determining lift area check for the following:

- Ease of driving a vehicle on and off the lift.
- Overhead obstructions, low ceiling height, overhead doors, overhead heaters etc.
- Floor obstructions, uneven floor in lift area, floor drains, work benches, electrical wiring in floor, etc.
- **Concrete grade:** Lifts should only be installed on level concrete floors with a minimum thickness of five (5) inches. Concrete must have a minimum strength of 4,000 psi. and should be aged 30 days prior to the installation of the lift.

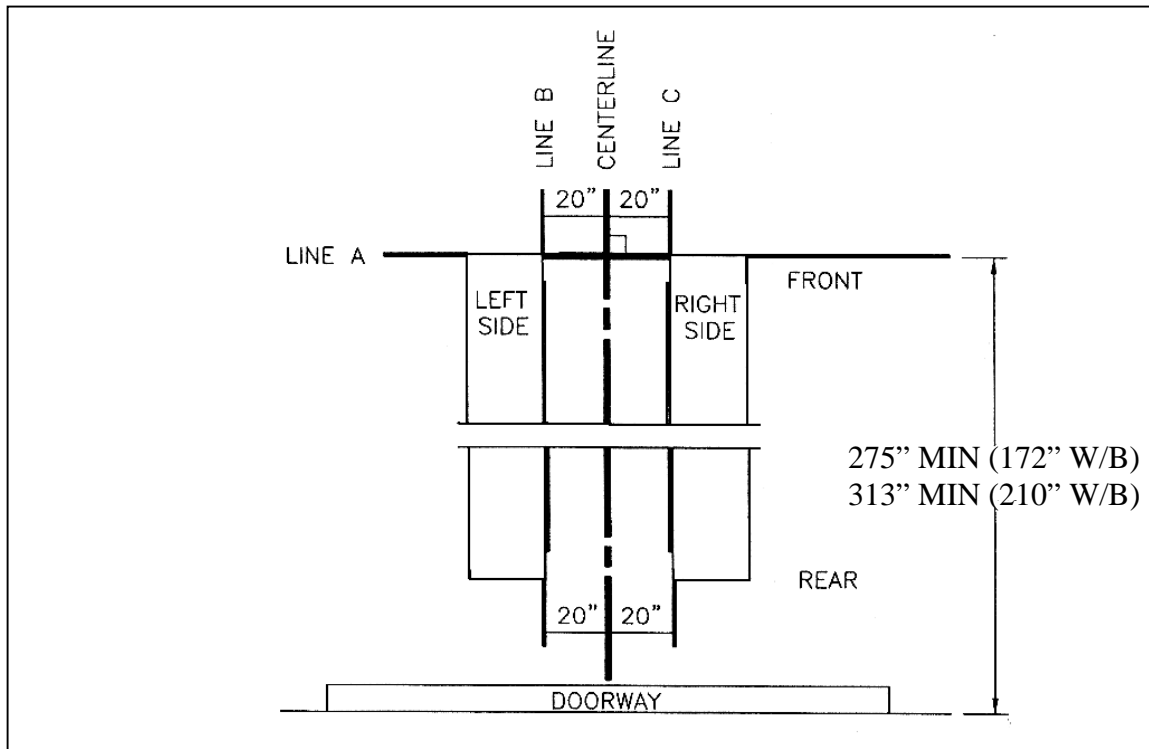
Recommended clearance around the lift is three (3) feet. Ensure clearance conforms to local building and fire codes.

Recommended overhead clearance is a minimum twelve (12) foot ceiling providing 6 feet for the maximum lift height and 6 feet for the supported vehicle. For vehicles taller than 6 feet it is recommended that the user provides additional overhead clearance or a shut off mechanism to stop the lift from raising the vehicle too high.

- An outline matching the dimensions shown in Figure 2 will need to be marked on the floor. Refer to Figure 2 for outline dimensions. Refer to General Lift Specifications for overall lift dimensions.



## 4.1 CHALK LINE LAYOUT



**Figure 2. Chalk line layout**

- **Refer to Figure 2.** Make a chalk line parallel to the doorway at least 275" (172" W/B) / 313" (210" W/B) in from the doorway. This will be the location for the front face of the front crossmember (and the front edge of the two deck assemblies). Call this line "A".
- Determine the center of the doorway and bay. Make a centerline to intersect with line "A".
- Make two chalk lines spaced 20" to the left and right side of the centerline (i.e. 40" apart). Call these lines "B" and "C" respectively. These will be the lines that the inside edge of the decks run along.

## 4.2 DECK ASSEMBLIES

**NOTE:** To determine the front, rear, left side and right side of the decks, check the following: The left side deck has the hydraulic cylinder mounted to its underside. The jack beam rails should point inward when installed (see Figure 1).

### **REFER TO FIGURE 3 AND FIGURE 4 FOR CABLE ROUTING THROUGH THE DECK AND CROSSMEMBERS.**

- Remove the left and right deck assemblies from their packaging and place them on axle stands as follows (see Figure 2):

- Place the left deck assembly so that the inside edge lies along chalk line “B”
- Place the right deck assembly so that the inside edge lies along chalk line “C”
- Position both decks so that the front edge lies along chalk line “A”

- Remove the cables from the accessory box and check their part numbers (located on each stud) to determine routing.

2-1791	FRONT LEFT 172” W/B
2-1677	FRONT LEFT 210” W/B
2-1792	FRONT RIGHT 172” W/B
2-1678	FRONT RIGHT 210” W/B
2-1679	REAR LEFT
2-1680	REAR RIGHT

- Remove the deck sheaves (6 ¾” diameter), deck sheave pins (6 5/16”LG), and deck sheave spacers (2 7/8”LG and ¾”LG) from the accessory box. Remove the nylon thrust washers from the hardware kit.
- Cables should be run in the following order. When attaching the cables at the cable flange this order should be followed in a clockwise direction to prevent cables from becoming tangled.
  1. Rear Left
  2. Rear Right
  3. Front Left
  4. Front Right
- Attach the Rear Left cable to the cylinder at the cable flange. Run the cable to the rear of the deck and over the first pulley as shown in Figure 3 (threaded end going out the left side of the deck). Make sure to place three Nylon washers between the first pulley and the lower pulley box plate.
- Attach the Rear Right cable to the cylinder at the cable flange next to the previous one. Run the cable to the rear of the deck and over the second pulley as shown in Figure 3 (threaded end going out the right side of the deck). Make sure to place a Nylon washer between the pulleys.

- Attach the Front Left cable to the cylinder at the cable flange next to the previous one. Run the cable to the rear of the deck and over the third pulley as shown in Figure 3 (threaded end comes around 180 degrees into the deck). Make sure to place a Nylon washer between the pulleys.
- Pull the Front Left cable through the deck (along the right side) making sure to keep the cable under the deck stiffeners. At the front of the deck, run the cable over the pulley as shown in Figure 3 (threaded end going out the left side of the deck). Make sure to place three Nylon washers between the first pulley and the lower pulley box plate.
- Attach the Front Right cable to the cylinder at the cable flange next to the previous one. Run the cable to the rear of the deck and over the fourth pulley as shown in Figure 3 (threaded end comes around 180 degrees into the deck). Make sure to place a Nylon washer between the pulleys. Use the 3/4" sheave spacer to fill to remaining gap.
- Pull the Front Right cable through the deck (along the left side) making sure to keep the cable under the deck stiffeners. At the front of the deck, run the cable over the pulley as shown in Figure 3 (threaded end going out the left side of the deck). Make sure to place a Nylon washer between the pulleys. Use the 2 7/8" sheave spacer to fill the remaining gap.
- Lock the sheave pins with the 5/16"-18UNC x 3/4"LG Hex HD Bolts and lockwashers (found in the hardware kit). Tighten the hose clamp on the cable flange to secure all the cables.

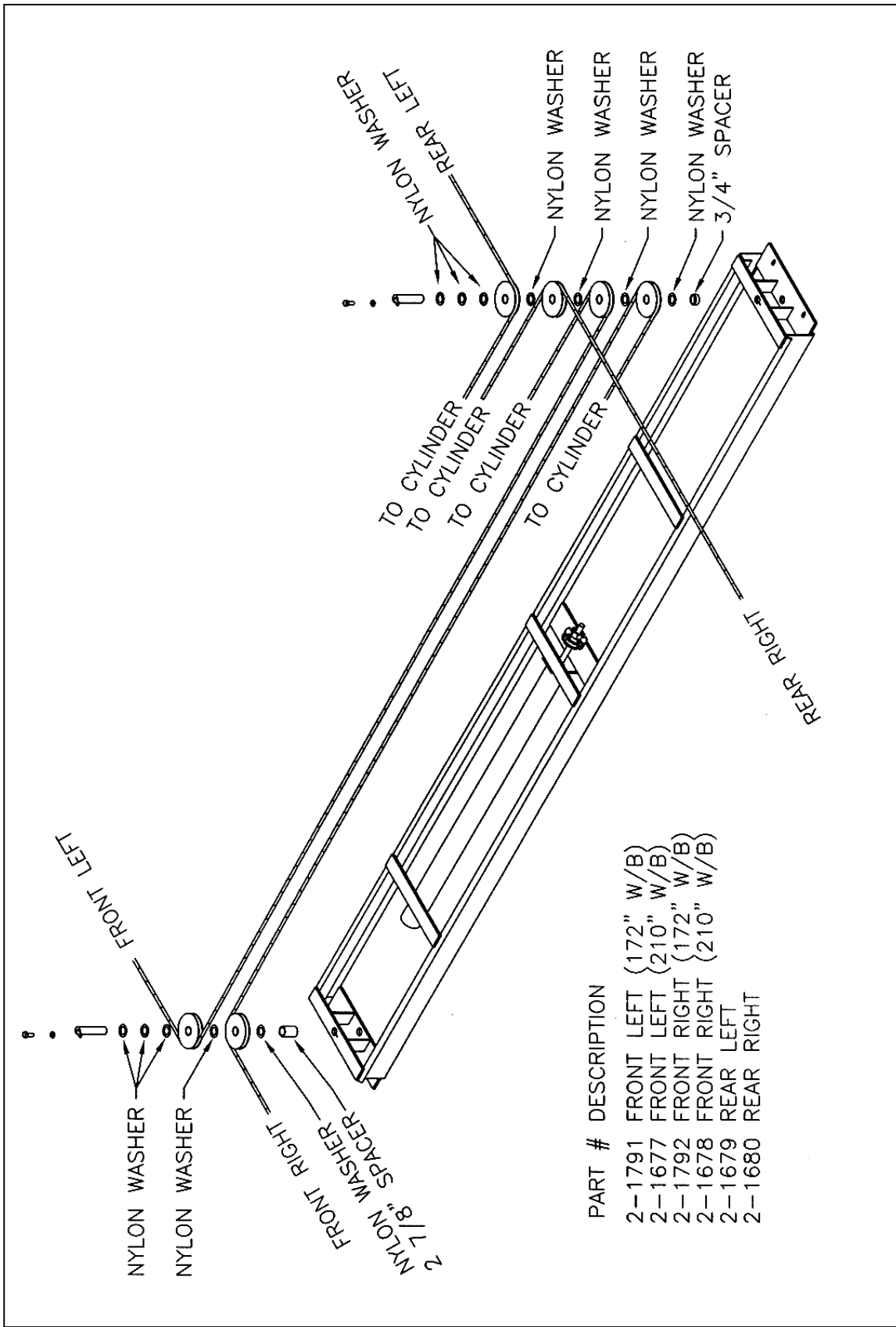
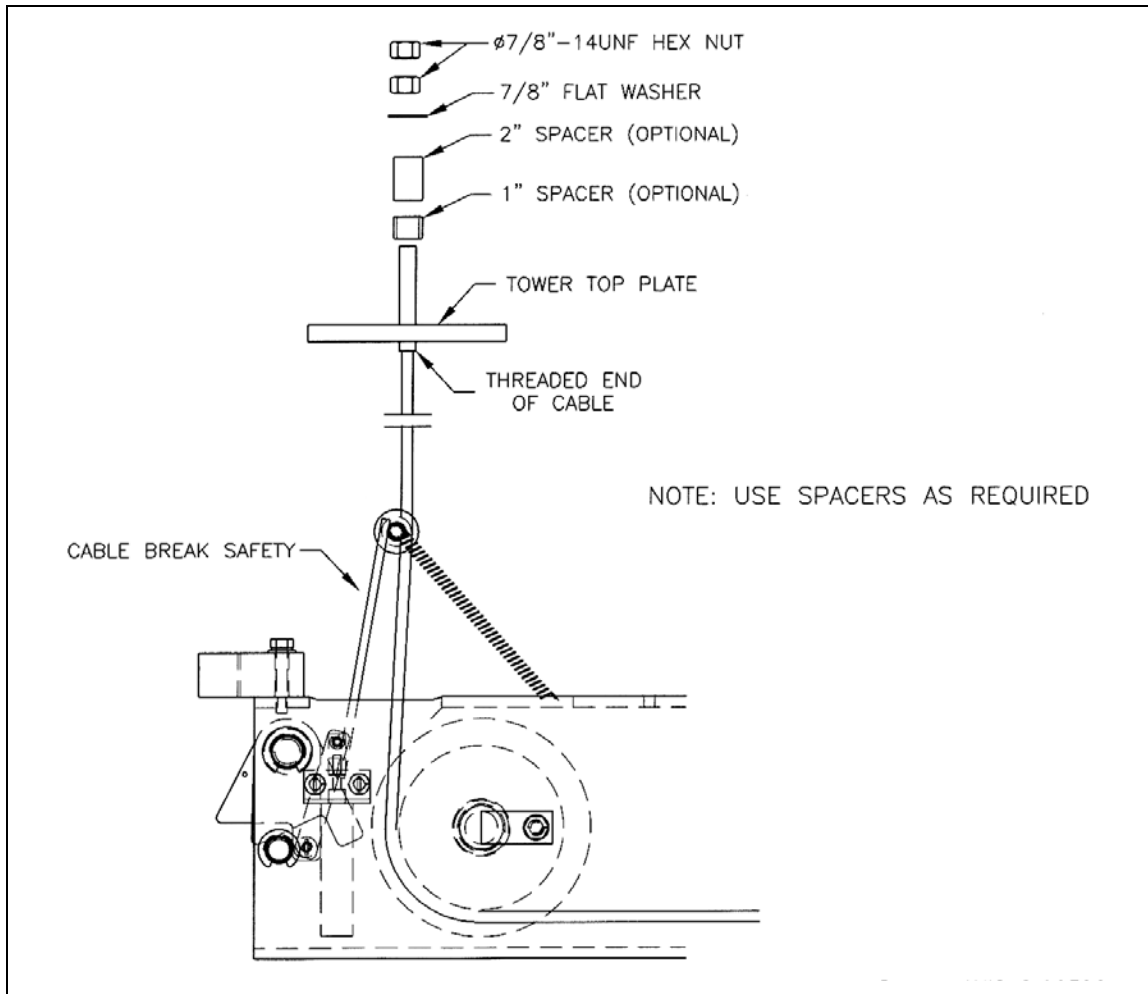


Figure 3. Cable Routing (L.S. Deck)



**Figure 4. Cable Routing (Crossmember)**

### 4.3 CROSSMEMBER AND TOWER ASSEMBLIES

- Using a floor jack or engine hoist, move the front crossmember into position in front of the lift and the rear crossmember into position at the rear of the lift.

**NOTE:** At this point, refer to diagram in **Section 8.8** for installation of pneumatic lines and push-lock “T” fitting within front and rear crossmembers. Before attaching the crossmembers to the decks, pull the black polytube with the “T” connector out of the 1” diameter hole in the crossmembers. Excess polytube may be trimmed as required (when cutting polytube, cut the line at ninety degrees to ensure the air line does not leak).

- Run each cable up through the opening on the top of the crossmembers and out past the safety lock.

**NOTE:** While running the cables through the crossmembers, be careful not to run them around the polytube lines. If this occurs, the lines could be pulled out of the air cylinders when the lift powers up, or the polytubes could be subjected to excessive wear against the cables.

- Raise the front crossmember up to the level of the decks and attach it using the ½”DIA x 1 ½”LG Hex Bolts, ½” Washers, and ½” Lockwashers found in the hardware kit.
- Repeat the previous step for the rear crossmember.
- At this point the decks should be completely fastened to the crossmembers and the threaded portion of each cable should be routed through the crossmembers, past the lock safety. Before proceeding, check that the layout matches that shown in Figure 2, that the lift is square and that there is a 40” gap between the decks along their entire length.

**NOTE: THE 40” DIMENSION SHOWN IN FIGURE 1 IS CRITICAL AS IT IS NECESSARY TO ALLOW THE JACKING BEAMS TO ROLL FREELY.**

- Detach the springs from the slack cable safety dog and install the crossmember sheaves (5” diameter) using the crossmember sheave pins (3 1/8”LG) making sure to place a ¾” spacer on each side to keep it centered (all items are in the accessory box). Lock the sheave pins with the 5/16”-18UNC x 3/4”LG Hex HD Bolts and lockwashers (found in the hardware kit). While installing the sheaves and spacers be careful not to drop them, as it can be difficult to fish them out of the crossmembers.
- Determine which tower is the power post (the tower with the mounting plate for the powerpack) and position it in the front left corner. Position the remaining three towers at the other corners of the lift.
- Slide each tower around the crossmember so that the crossmember is approximately ½” away from the safety ladder.
- Place the Glide Bearings (located in the accessory box) on the crossmember and fasten it using the ¼”x 1½” bolts, ¼” lockwashers, and ¼” flatwashers found in the hardware kit. Push the Glide Bearing away from the center of the lift and tighten the ¼” hex bolts.
- Pull the towers inwards (towards the decks) so that the slider blocks are flush with the safety ladders.

**NOTE: THE CYLINDER ROD MUST BE FULLY EXTENDED IN ORDER TO ATTACH THE THREADED ENDS OF THE CABLES TO THE TOP PLATE OF THE TOWERS. TO EXTEND THE CYLINDER ROD, THE POWERPACK AND HYDRAULIC KIT MUST BE INSTALLED (SEE FOLLOWING SECTIONS).**

#### 4.4 SAFETY RETAINING SYSTEM

- Assemble the safety retainer bracket assemblies using the supplied hardware as shown in Section 8.7
- Install one 5/16" x 3/4" long hex head bolt with one 5/16" lock washer into the top mounting hole location on the crossmember but do not tighten. Leave at least 3/16" space between the lock washer and the crossmember.
- Insert the bracket assembly inside the post and slide up into place between the post and the crossmember so that the bolt and lock washer slide into the upper slot.
- Install the second 5/16" x 3/4" long hex head bolt and 5/16" lock washer through the lower slot and into the bottom mounting hole in the crossmember. Tighten both of the bolts. See Figure 5.
- Repeat for all crossmembers.

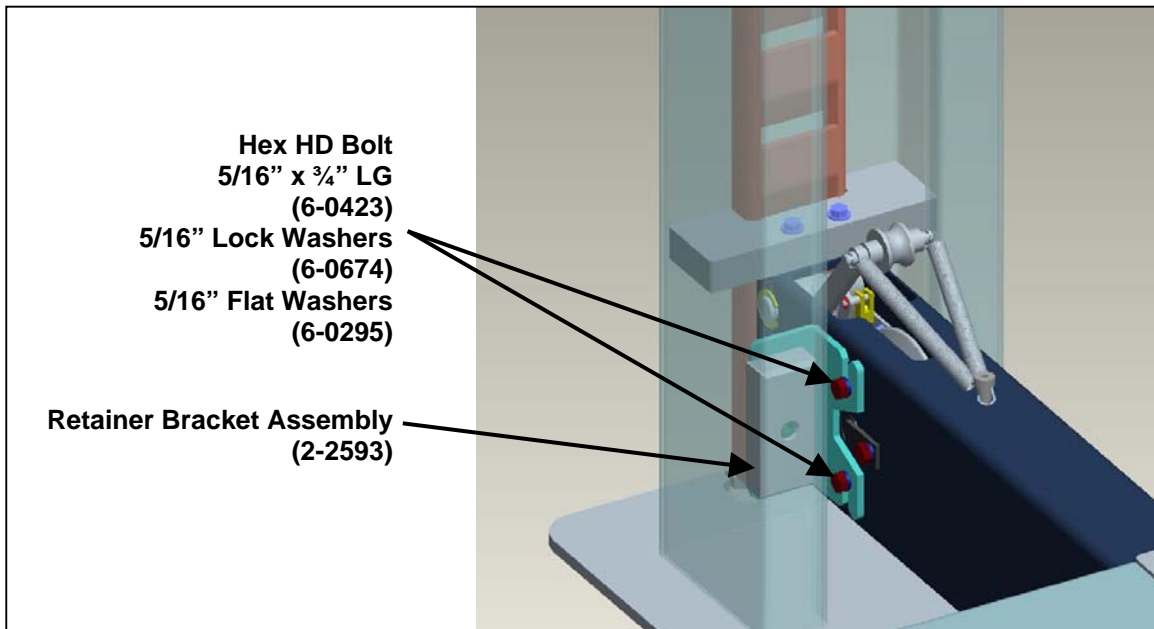
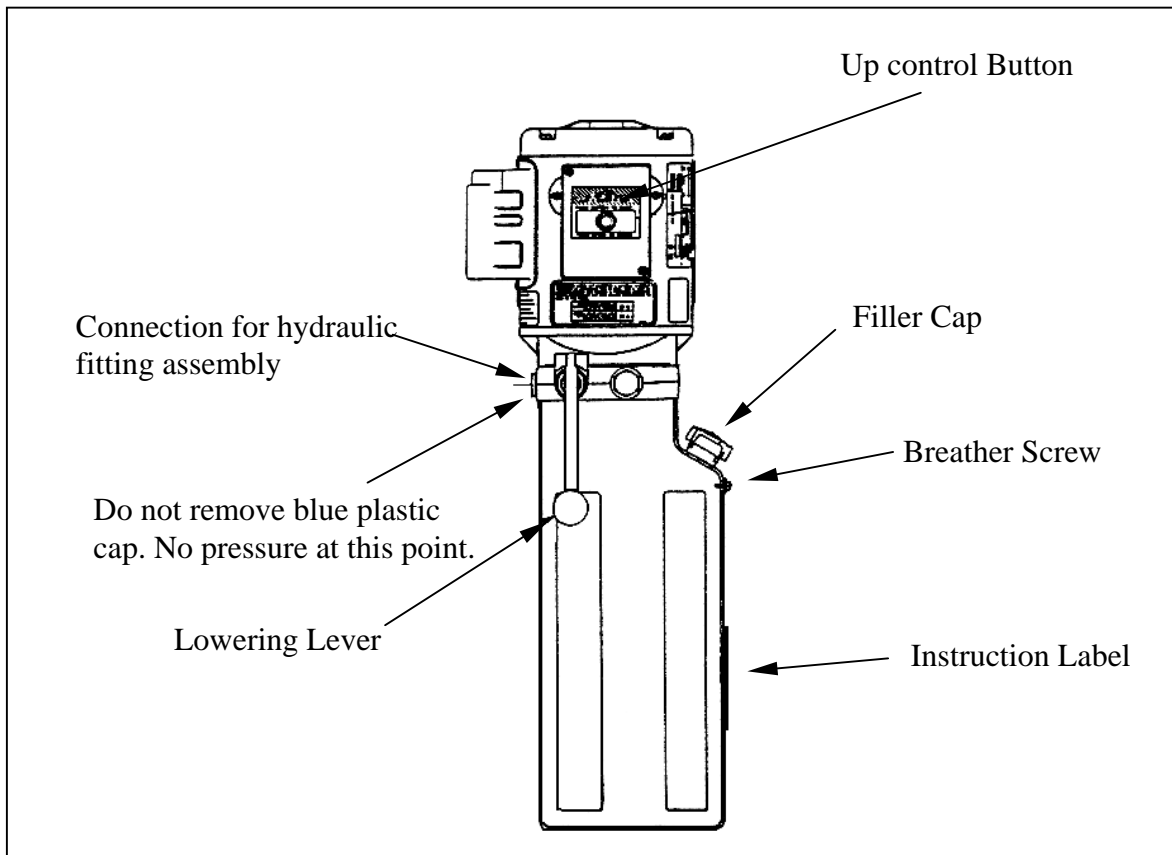


Figure 5. Retainer bracket installation.

## 4.5 POWER PACK INSTALLATION

NOTE: WHEN WORKING WITH HYDRAULIC LINES AND VALVES, IT IS IMPORTANT TO KEEP ALL COMPONENTS CLEAN AND FREE OF DIRT.



**Figure 6. Power pack details**

- Install the power pack to the mounting bracket on the front face of the left front post using the 5/16"-18UNC × 1"LG. hex head bolts and 5/16" washers, lockwashers and hex nuts, found in the hardware kit.

## 4.6 HYDRAULIC INSTALLATION

- Locate the 3/8" flexible hydraulic line (16ft.).
- Connect the end of the flexible hydraulic hose (3/8" JIC, F SWIVEL) to the flow control at the cylinder. **DO NOT OVER TIGHTEN.**
- Feed the hose down the channel on the outside edge of the deck and through the hole in the deck skin at the front of the lift. Run the hose through the 4ft section of hose guard (found in the accessory box) and connect the remaining end of the flexible hydraulic hose (3/8" JIC, F SWIVEL) to the powerpack using the 90 deg elbow in the hardware kit.



- Use the frame clips found in the hardware kit to hold the hydraulic line under the deck.

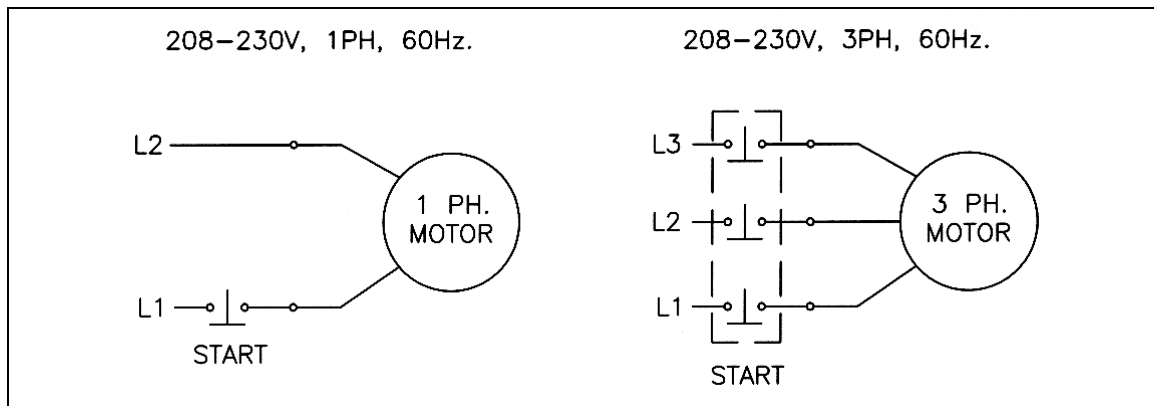
NOTE: Be sure to keep the hydraulic line clear of the cables under the deck.

## 4.7 ELECTRICAL CONNECTIONS

**CAUTION:** A QUALIFIED ELECTRICIAN SHOULD MAKE ALL ELECTRICAL CONNECTIONS.

Refer to Figure 5 for electrical connections.

Electrical Breaker Size Recommendation: 20Amps



**Figure 7. Electrical diagram**

## 4.8 CABLE INSTALLATION

- Remove and discard the hydraulic cap from the fitting at the base of the hydraulic cylinder.
- Depress the lowering lever on the powerpack, while using an air chuck to blow air into the breather hole at the base of the cylinder to extend the rod.
- Extend the rod until it reaches its full stroke.
- Fill the reservoir on the powerpack with ISO 32 (10 Hydraulic Weight) hydraulic fluid.
- Install the threaded stud end of the cables to the tower top plates using the 7/8" Flat Washer, and two (2) 7/8"-14UNF Hex Nuts. Use the Cable Spacers only as required (see Figure 3) to take up excess slack in the cable, and to level the lift when the floor is uneven. The Hex Nuts, Washers and Cable Spacers are located in the hardware kit.
- Re-attach the springs to the slack cable safety dog.

## 4.9 AIR INSTALLATIONS

NOTE: Refer to the air and hydraulics parts list.

- Install the air valve and filter assembly (found in the accessory box) to the mounting bracket on the power post. To do this, pull off the pushbutton and unscrew the plastic nut. Slide the assembly into the mounting bracket and re-fasten the plastic nut so that the assembly is attached to the top hole. Replace the pushbutton by pressing it firmly back onto the air valve and filter assembly.

NOTE: WHEN CUTTING POLYTUBE BE SURE TO CUT THE LINE AT NINETY DEGREES. FAILURE TO DO SO MAY RESULT IN LEAKS IN THE AIR CONNECTIONS.

- Cut the remaining 30ft of polytube (4mm dia) into three pieces 20ft, 9ft and 1ft. Run the 20ft piece inside the channel under the left side deck. Connect the 20ft polytube to the union "T" in the rear crossmember. Attach the union "T" from the hardware kit to the 20ft line and plug the 9ft line into one port and the 1ft line into the remaining port. Connect the opposite end of the 9ft line to the air filter assembly, by feeding it through the hole in the deck skin at the front of the lift. Connect the opposite end of the 1ft line to the union "T" in the front crossmember

NOTE: FOR THOSE UNITS EQUIPPED WITH JACKING BEAMS, THIS IS THE APPROPRIATE TIME TO INSTALL THEM. CONSULT THE JACKING BEAM INSTRUCTION MANUALS FOUND IN EACH JACKING BEAM BOX.

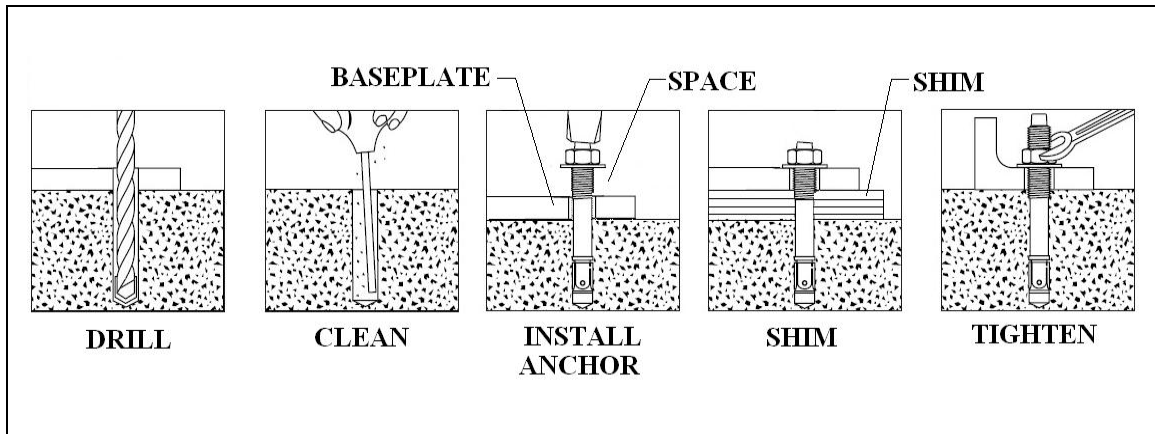
NOTE: AN (OPTIONAL) JACK BEAM AIR KIT SHOULD BE USED TO MAKE THE NECESSARY CONNECTIONS BETWEEN THE AIR SUPPLY AND THE JACK BEAMS.

- Hook up an air supply to the inlet of the water trap on the Air Valve and Filter Assembly located on the front left post. Must set air regulator @ 90-100 psi if shop air is higher.
- Check for air leaks.
- Check the operation of the air cylinder locks by pressing the pushbutton on the Air Valve and Filter Assembly on the front left post. This should cause the safety locks to be pulled into the crossmembers, releasing the lift from the safety racks.
- The pneumatics are now completely installed. Press the "UP" button on the power pack and continue until the lift is fully supported by the cables.

NOTE: MAKE CERTAIN THAT THE MECHANICAL SAFETY LOCKS AND CABLE ROLLERS ARE WORKING PROPERLY. USE A PIECE SHIM TO ENSURE THERE IS CLEARANCE BETWEEN THE CROSSMEMBER AND THE SAFETY LADDER WHEN THE AIR SAFETIES ARE DISENGAGED. ADJUST CABLES FOR DECKS TO BE LEVEL.

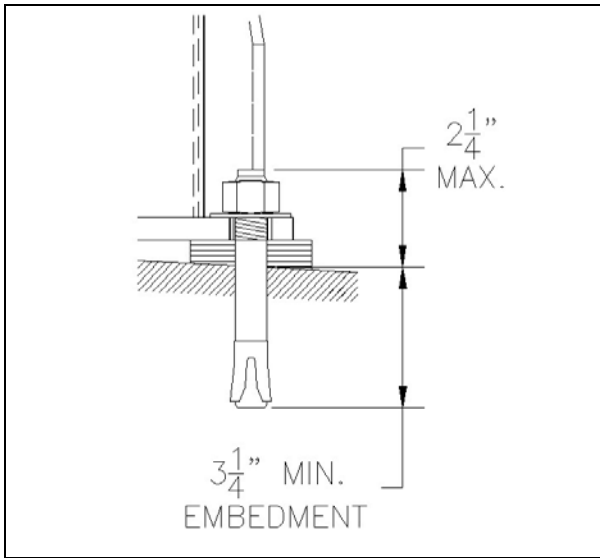
## 4.10 ANCHOR INSTALLATION

- Check all layout dimensions on Figure 1 and Figure 2 before continuing with anchor installation.
  1. Refer to Figure 8 while reading through these instructions.

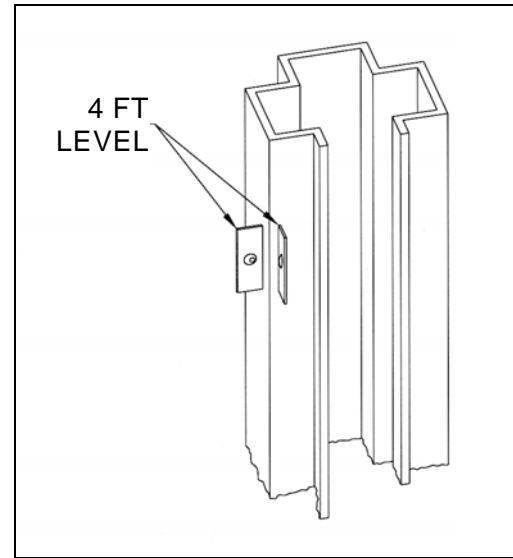


**Figure 8. Anchor installation**

2. Ensure that the lift is fully supported by the cables and is at a level just above the work stands.
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.
4. Using a 3/4" concrete drill bit and rotary hammer drill, drill through the concrete floor in the anchor holes positioned on the base of each post. (In case longer anchors are required, supplied anchors can be hammered through concrete).
5. Using a hammer, drive each anchor into floor leaving space for shimming.
6. Use a 4' level, to level the posts. Refer to Figure 10.
7. Shim as required and hammer anchors till they make contact with Baseplate. Do not tighten anchors.
8. Check the distance from the top of the anchor to the floor. If this dimension exceeds 2 1/4" due to floor slope, **DO NOT** use the supplied anchors. Longer anchor must be used (see #2 above).
9. Tighten all anchor bolts to a torque of 150 ft. lbs. Recheck and adjust the level of post(s) and cable(s) if necessary.



**Figure 9. Floor slope**



**Figure 10. Post leveling**

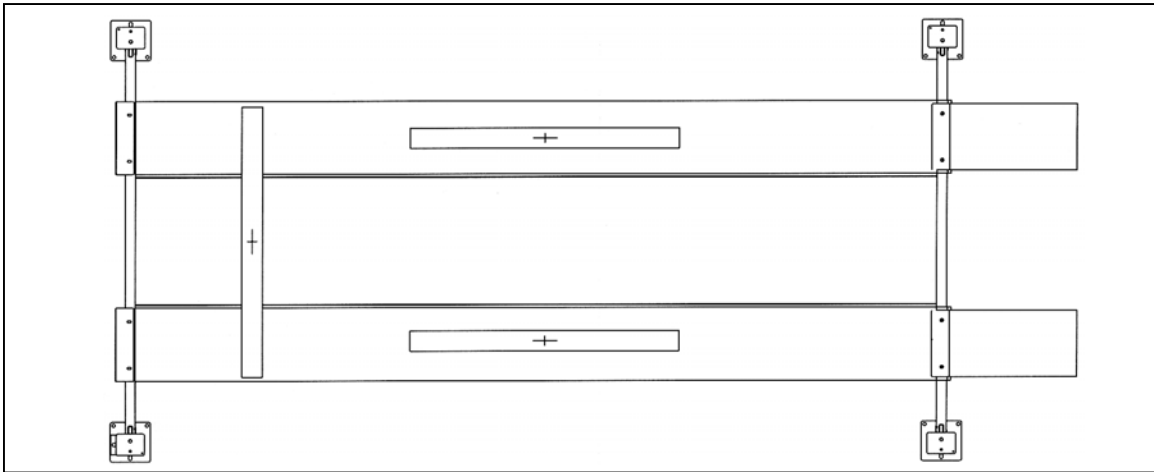
**NOTE: THE 3/4" × 5 1/2" LG. WEDGE ANCHOR BOLTS SUPPLIED MUST HAVE A MINIMUM EMBEDMENT OF 3 1/4" INTO CONCRETE FLOOR.**

**NOTE: IF THE TOWERS ARE LEANING INTO THE LIFT, THE CROSSMEMBERS CAN BECOME WEDGED INTO THE TOWERS AS THE LIFT RAISES.**

**NOTE: IN CASES WHERE THE FLOOR IS EXTREMELY OUT OF LEVEL, THE MECHANICAL SAFETIES MAY NOT ENGAGE ON THE SAME LOCK.**

#### **4.11 DECK LEVELING PROCEDURE**

- Raise the lift so that it is fully supported by the cables and is not resting on the safety ladders.
- Using a 4' level, check the level of the decks front to rear and side to side as shown in Figure 11.
- Lower the lift onto the nearest safety
- Adjust the cable lengths by tightening or loosening the two (2) 7/8"-14UNF hex nuts attached to each cable at the tower top plate to raise or lower each corner.
- Repeat the preceding steps until the lift is completely level when supported by the cables.
- Raise the lift so that the deck is supported by the cables and is not resting on the safety ladders.
- Loosen the 5/8"-11 NC hex nut under the tower top plate and pull the safety ladders up until they come into full contact with each safety lock on the crossmember assemblies.
- When flush with the safety shoe, tighten the two (2) 5/8"-11 UNC hex nuts at the top of each safety ladder, and the one (1) 5/8"-11 UNC hex nut under the tower top plate.
- Raise the lift and check that the ladders engage evenly.



**Figure 11. Deck leveling**

- Raise the lift to its full height and check for full operating height of 70". This measurement is taken from the top of the decks to the floor. Lower the lift to the ground when complete
- Install the approach ramp brackets (one at a time) by removing the 1/2"-13 UNC  $\times$  1 1/2"LG hex bolts, 1/2" washers and 1/2" lockwashers that fasten the deck to the crossmember. Place the bracket on the deck and fasten it to the deck using the fittings listed above.
- Install the approach ramps using the ramp pins, 1/8"  $\times$  1"LG cotter pins, and approach ramps provided. The ramps and ramp pins are located in the accessory box, the cotter pins and washers are found in the hardware kit. Ensure the proper operation of the ramps.
- Install the front wheel stops by removing the 1/2"-13 UNC  $\times$  1"LG hex bolts, 1/2" washers and 1/2" lockwashers that fasten the deck to the crossmember. Place the wheelstop on the deck and fasten it to the deck using the fittings listed above.
- Cycle the lift several times to check proper operation of the cables, safety lock, air locks, etc. with & without load.

**STOP IMMEDIATELY IF THE LIFT IS NOT OPERATING PROPERLY.**

- Make any necessary adjustments and check again for proper operation.

#### 4.12 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. Ensure all safety lock mechanism are working correctly. \_\_\_\_\_
5. Re-check level of post and decks. \_\_\_\_\_
6. Makes sure ramps are secured correctly with cotter pins and washers. \_\_\_\_\_
7. Check all fasteners, tighten if necessary. \_\_\_\_\_
8. Check direction of flow control (arrow pointed toward power unit). \_\_\_\_\_
9. If jack beams are supplied, ensure keeper bracket are installed. \_\_\_\_\_
10. Check jam nuts on cables and safety ladders are tightened. \_\_\_\_\_
11. Ensure cable flange clamp is installed correctly and tighten. \_\_\_\_\_
12. Ensure cylinder shaft Jam Nuts are installed as per instructions. \_\_\_\_\_
13. Ensure wheelstops are installed. \_\_\_\_\_
14. Ensure wheel chocks are provided. \_\_\_\_\_
15. Operate lift to full stroke then lower to ground while checking for proper functionality. \_\_\_\_\_
16. 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 \_\_\_\_\_
17. Train end user on operation of the lift. \_\_\_\_\_

#### **4.13 OPERATION TEST WITH VEHICLE**

1. Lower lift to ground.
2. Drive vehicle on to lift, install wheel chocks.
3. Raise lift to and lower onto 3-4 lock positions during full rise to ensure all locks are working correctly.
4. Double check level of runways, front to rear and side to side while on locks.
5. Re-adjust cables if necessary while vehicle is on.
6. Check lowering speed and smooth decent rate.
7. Lower lift to ground, remove wheel chocks 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



## 5. SAFETY AND OPERATING INSTRUCTIONS

1. **Inspect** the lift daily. Do not operate if malfunctions occur or damaged parts have been found.
2. **Never** attempt to **overload** the lift. The manufacturer's rated capacity is shown on the serial number tag on deck L.S.
3. **DO NOT OVERRIDE** the safeties. The mechanical safeties are designed to engage automatically on the way up. Press the up button on the power pack to go up. When the desired height is reached, release the power pack up button and lower the lift onto the safety. To lower the lift, raise off of the safety locks, then press the air release valve button and the lowering release lever at the same time.
4. **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.
5. **Caution**, never work under the lift unless the mechanical safety locks are engaged.
6. **Before driving** vehicle on, make sure lift is in the fully down position.
7. **Before removing** the vehicle from the lift, make sure the lift is in the fully down position and ensure that all tools have been removed from the deck surfaces.
8. **Always keep** the lift area free from debris. Grease and oil spills should always be cleaned up immediately. **Never leave** any tools or parts laying on the decks.
9. **Never operate** lift with passengers in vehicle.
11. **Always** raise the lift off safety locks before lowering.

**NOTE: DO NOT ATTEMPT TO OPERATE THIS LIFT IF ANY PART IS NOT WORKING PROPERLY OR YOU HAVE NOT READ THE COMPLETE OPERATING INSTRUCTION MANUAL.**

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. SAFETY AWARENESS

### AUTOMOTIVE LIFT INSTITUTE (ALI)



The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.

Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 85 Cortland, NY 13045.

Replacement label sets may be obtained from the original lift manufacturer and ALI's member companies. They are protected by copyright.

[www.autolift.org](http://www.autolift.org) ©1992 by ALI, Inc. ALI/WL200c



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## **7. RECOMMENDED MAINTENANCE**

### **DAILY**

1. Check general operation of lift.
2. Check operations of mechanical safety locks.
3. Check operation of air release valve for air leaks.
4. Check operation of cables and pulleys.
5. Check and drain water trap filter bowl.

### **MONTHLY**

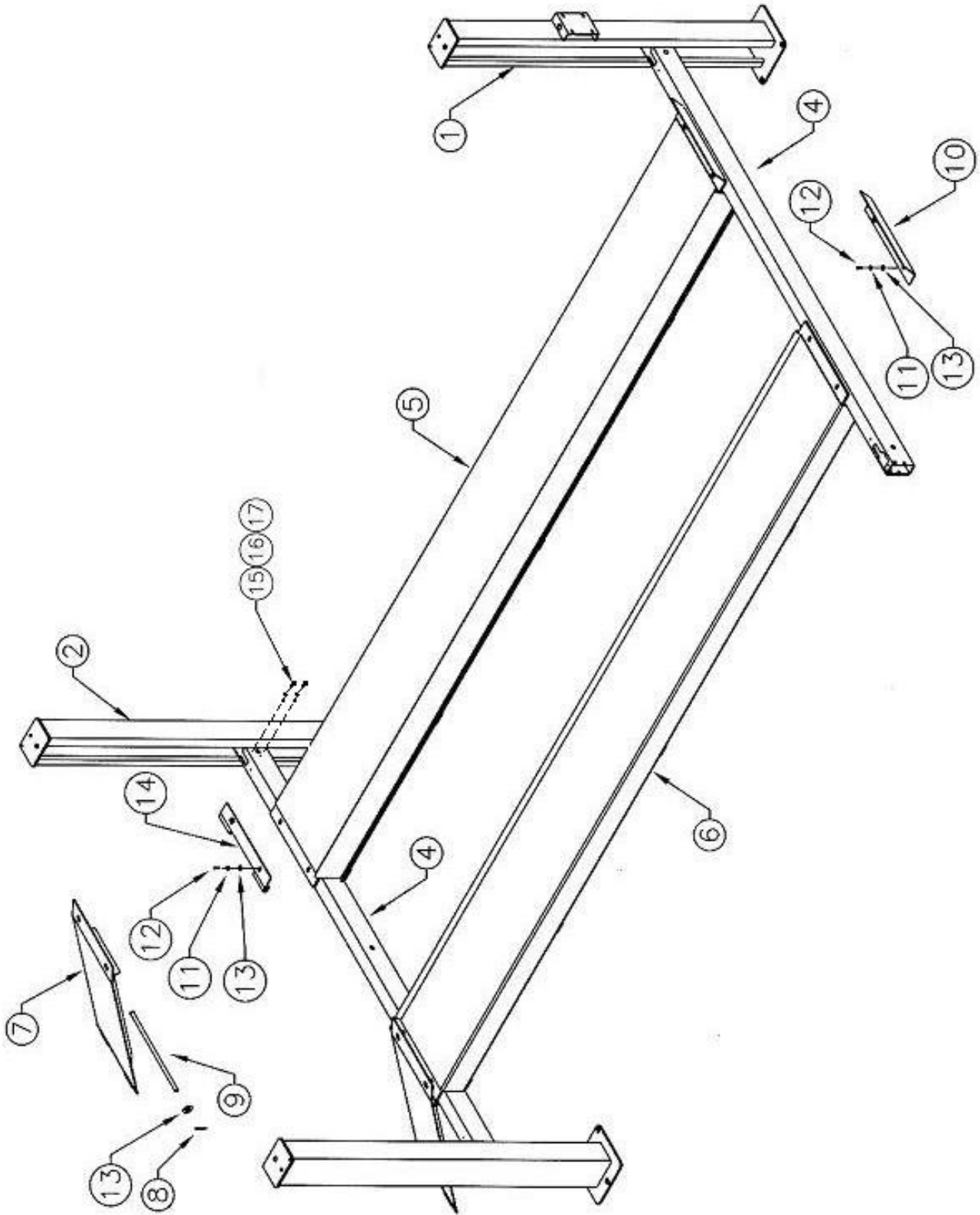
1. Check anchor bolts (if loose re-torque to 150 ft. lbs.). Replace concrete if anchors continue to loosen.
2. Check all air and hydraulic hoses, fittings and cylinders for leaks.
3. Check level of oil in power pack reservoir when lift is in the lowered position. Add if required.
4. Check lifting cables for wear, separation or breaks. If found, replace cables immediately. Lubricate cables with oil or a light grease.
5. Check and adjust cables if lifting is uneven. Make adjustments with weight on lift.
6. Check all fasteners and tighten as required.
7. Check all pulleys on crossmember assembly and under the runways for wear or play. Replace immediately. Pulley pins are held in place by a 3/8" - 16 x 1" lg. Hex Hd Bolt. Make certain that this bolt is in position and tight.
8. Check and adjust safety racks if lift is not level on safety, or if safeties do not engage properly.
9. Check and clean full floating rear steer plates (if equipped). Lubricate with oil or light grease.
10. Lubricate all safety shoes and locks.

### **QUARTELY SLIP PLATE MAINTENANCE**

1. Remove top Slip Plate covers by first removing the four (4) shoulder bolts on each cover. (if equipped)
2. Remove polyethylene bearing cages insuring that all the delrin bearings remain in the cages. Additional delrin bearings may be purchased if required.
3. Clean runway surface and touch up any paint wear with a rust resistant paint. Allow paint to dry thoroughly.
4. To obtain optimum performance, the position of the slip plate bearing cage should be rotated every quarter to change the wear pattern. With the first quarter maintenance, flip the bearing cage over to the opposite side. With the second quarter maintenance, rotate the bearing cage end-to-end. With the third quarter maintenance, flip bearing cage over to the opposite side. Fourth quarter maintenance should see the bearing cage rotated back to the position it started in.
5. Quarterly maintenance will optimize performance and contribute to longer slip plate life.

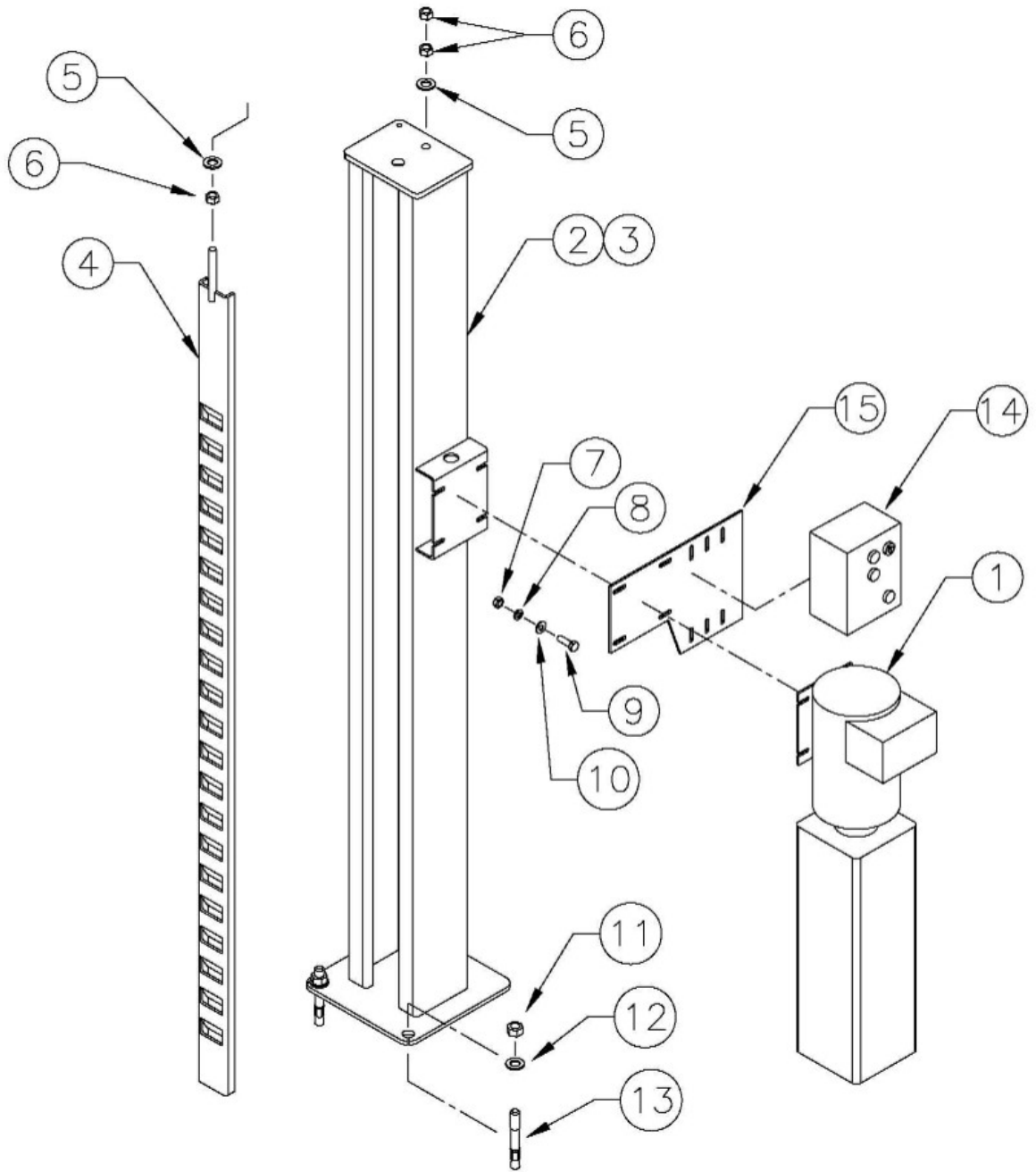
## 8. PARTS LIST

### 8.1 PARTS LIST – LIFT ASSEMBLY



ITEM	QTY.	DESCRIPTION	PART #
1	1	TOWER WELDMENT - POWER POST	4-0870
2	3	TOWER WELDMENT	4-0871
4	2	CROSSMEMBER	4-0869
5	1	DECK WELDMENT - L.S. 172" W/B	4-0893
	1	DECK WELDMENT - L.S. 210" W/B	4-0881
6	1	DECK WELDMENT - R.S. 172" W/B	4-0894
	1	DECK WELDMENT - R.S. 210" W/B	4-0882
7	2	APPROACH RAMP WELDMENT	3-0817
8	2	COTTER PIN, 1/8" x 1" LG	6-0267
9	2	APPROACH RAMP PIN	1-2242
10	2	FRONT WHEELSTOP	2-1752
11	8	LOCKWASHER, 1/2" ID	6-0059
12	8	HEX HD BOLT, 1/2"-13UNC x 1" LG	6-0293
13	10	FLAT WASHER, 1/2" ID	6-0248
14	2	RAMP MOUNTING BRACKET	2-1754
15	8	SHCS 3/8" NC x 1" LG	6-2048
16	8	LOCK WASHER 5/16" ID	6-0674
17	8	FLAT WASHER 5/16"	6-0295
	4	SAFETY RETAINER BRACKET ASS'Y	2-2593

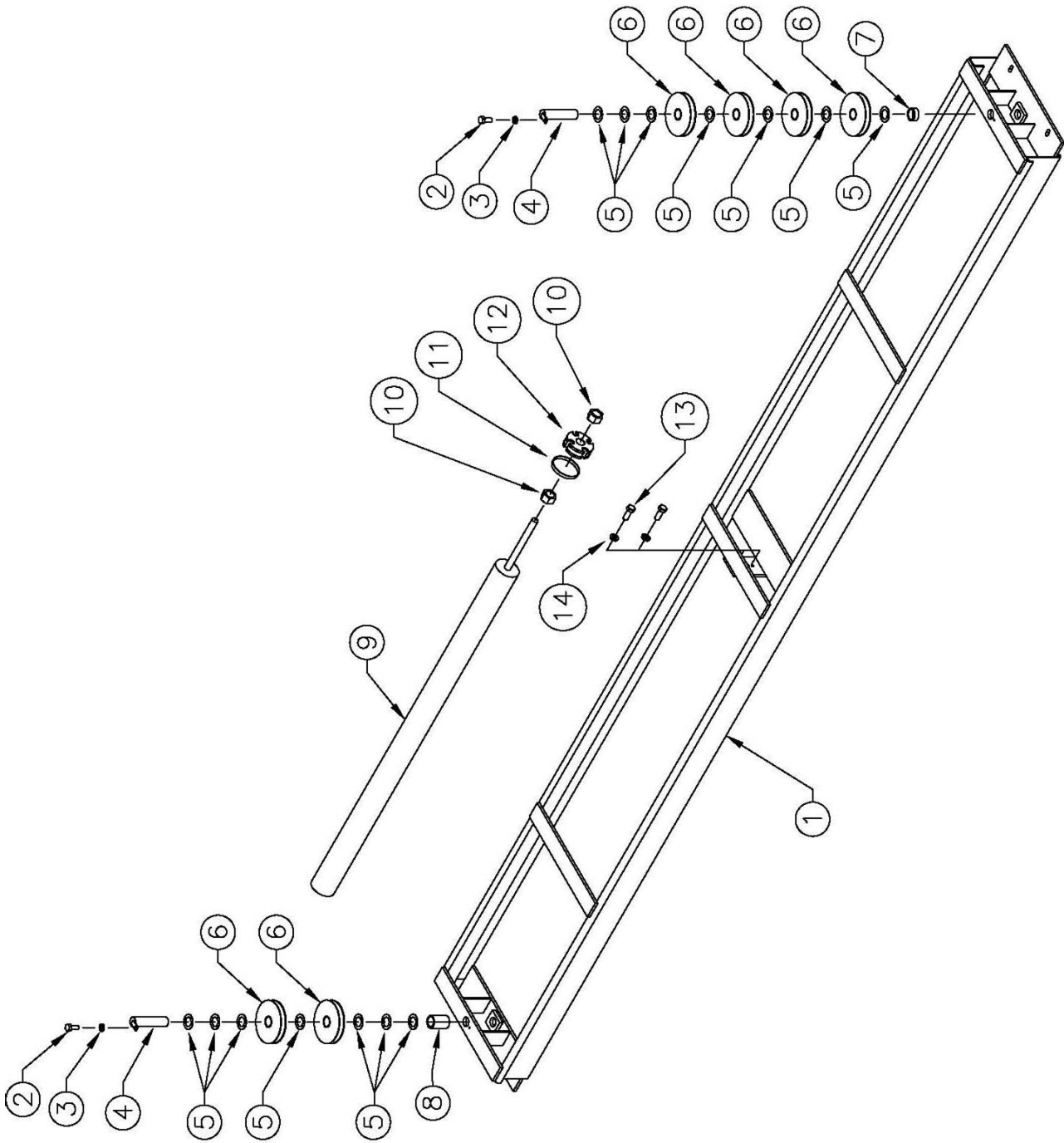
## 8.2 PARTS LIST – TOWER ASSEMBLIES



ITEM	QTY.	DESCRIPTION	PART #
1	1	POWER PACK, 230V/1PH	6-1936
	1	POWER PACK, 230V/3PH	6-1165
	1	POWER PACK 230V/1PH W/ CONTACTOR	6-2135*
2	1	TOWER WELDMENT - POWER POST	4-0870
3	3	TOWER WELDMENT	4-0871
4	4	SAFETY RACK WELDMENT	3-0832
5	12	FLAT WASHER, 3/4" I.D.	6-0738
6	16	HEX NUT, 5/8"-11UNC, GR8	6-0673
7	4	HEX NUT, 5/16"-18UNC, GR.8	6-0294
8	4	LOCK WASHER, 5/16" I.D.	6-0674
9	8	FLAT WASHER, 5/16" I.D.	6-0295
10	4	HEX HD BOLT, 5/16"-18UNC X 1"LG., GR.8	6-0293
11	12	HEX NUT, 3/4"-10UNC	6-0737
12	12	WEDGE ANCHOR, 3/4"-10UNC X 5 1/2"LG.	6-1379
13	12	FLAT WASHER, 3/4" I.D.	6-0738
14	1	CONTACTOR BRACKET	2-1978*
15	1	CONTACTOR CONTROL BOX	6-3261*

**\* For model: S412CSSE2R1 which includes powerpack #6-1936.**

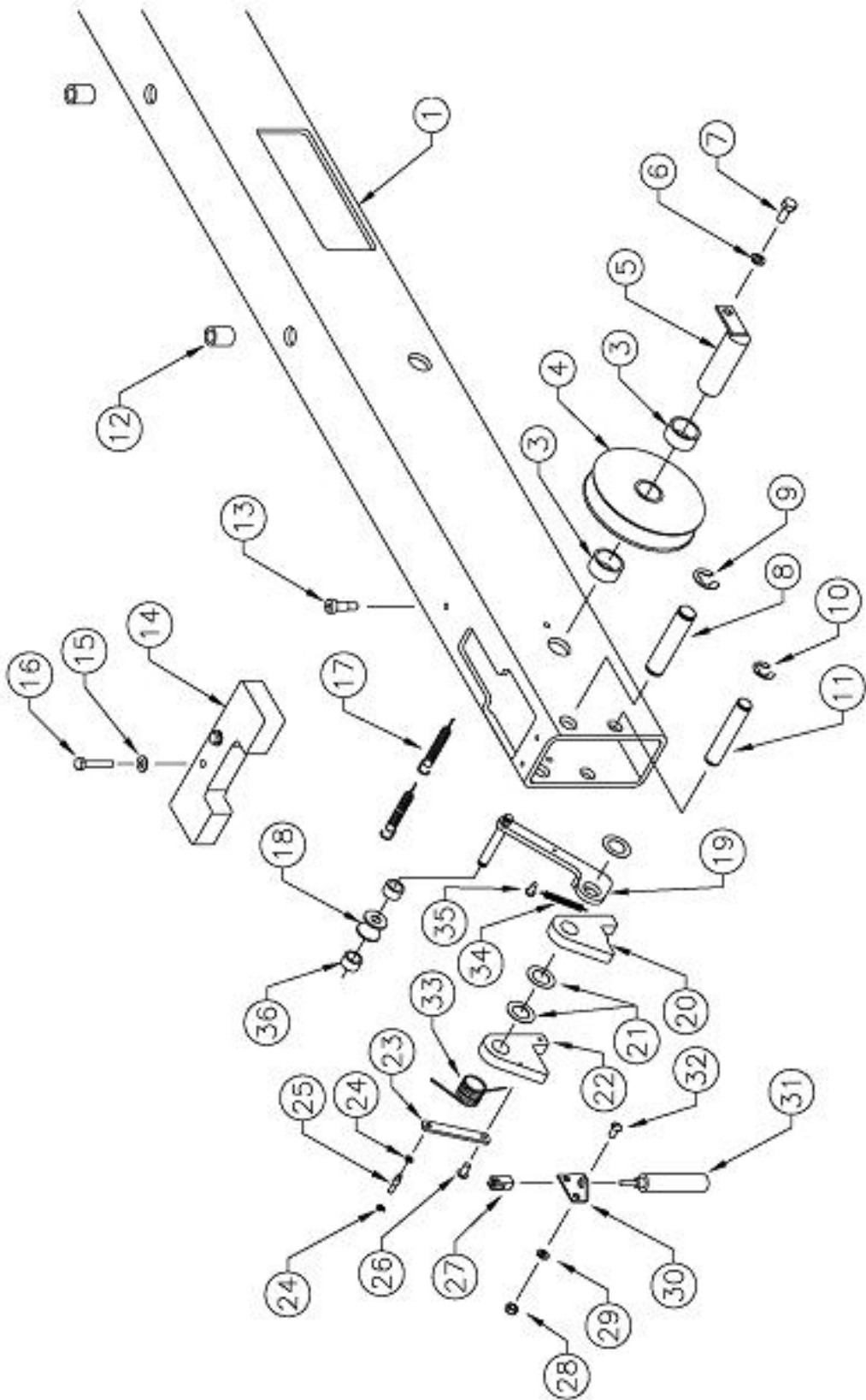
### 8.3 PARTS LIST – DECK ASSEMBLY (LEFT SIDE)





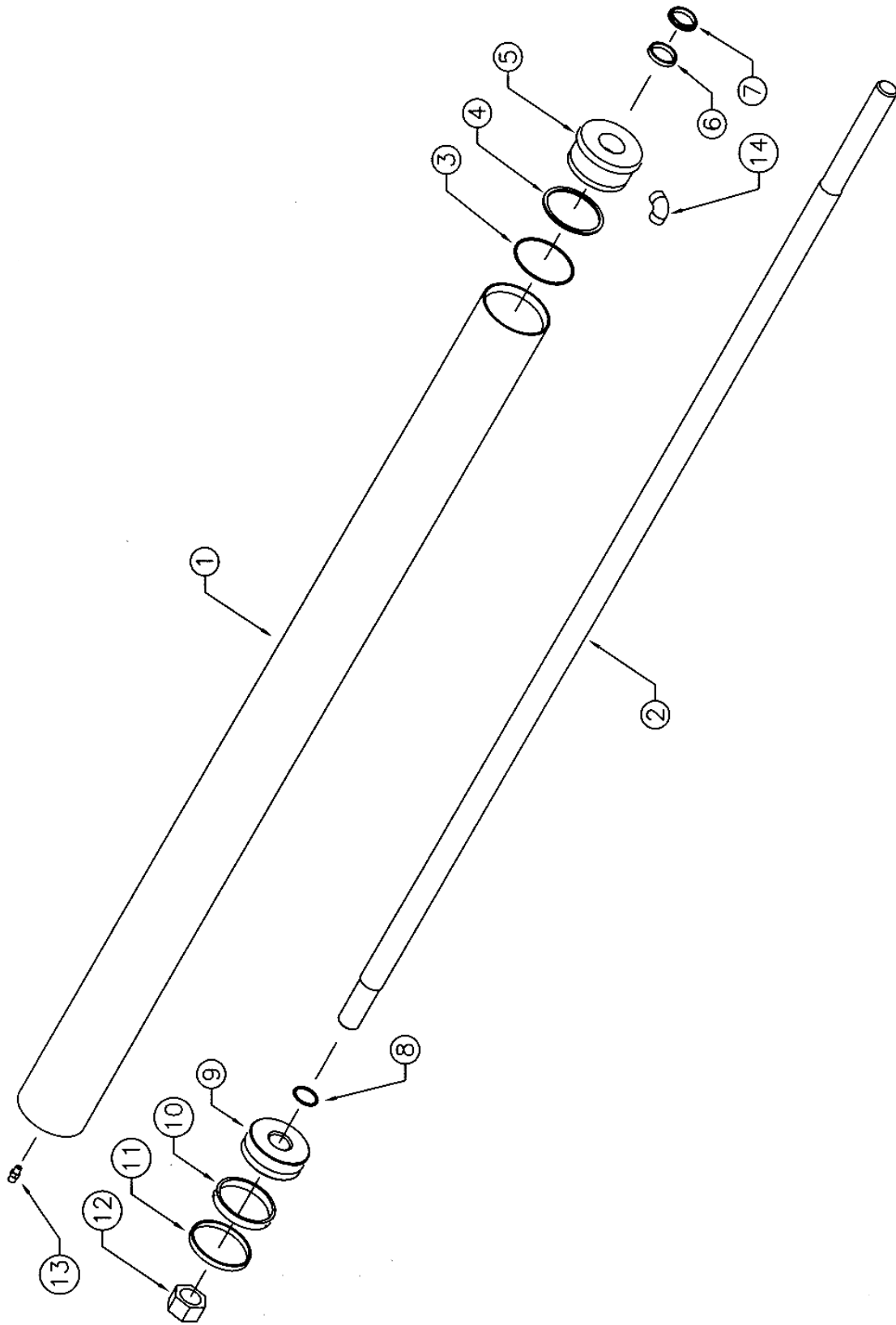
ITEM	QTY.	DESCRIPTION	PART #
1	1	DECK WELDMENT (L.S.) 172" W/B	4-0893
		DECK WELDMENT (L.S.) 210" W/B	4-0881
2	2	HEX HD BOLT, 5/16"-18UNC x 1" LG	6-0293
3	2	LOCKWASHER, 5/16"	6-0058
4	2	DECK SHEAVE PIN WELDMENT	1-2222
5	14	NYLON THRUST WASHER	1-0757
6	6	SHEAVE ASSEMBLY 6 1/2" C/W BUSHING	1-2347
8	1	SHEAVE SPACER, 2"	1-0943
9	1	CYLINDER ASSEMBLY	4-0942
10	2	HEX NUT, 1"-14UNF	6-0664
11	1	HOSE CLAMP, 4 1/2" DIA	6-0665
12	1	CABLE FLANGE	2-0561
13	2	LOCKWASHER, 3/8"ID	6-0058
14	2	HEX HD BOLT, 3/8"-16UNC x 1 1/4" LG	6-0666
*		L.S. DECK ASSEMBLY COMPLETE 172" W/B	4-0930-3
*		L.S. DECK ASSEMBLY COMPLETE 210" W/B	4-0931-3

## 8.4 PARTS LIST – CROSSMEMBER ASSEMBLIES



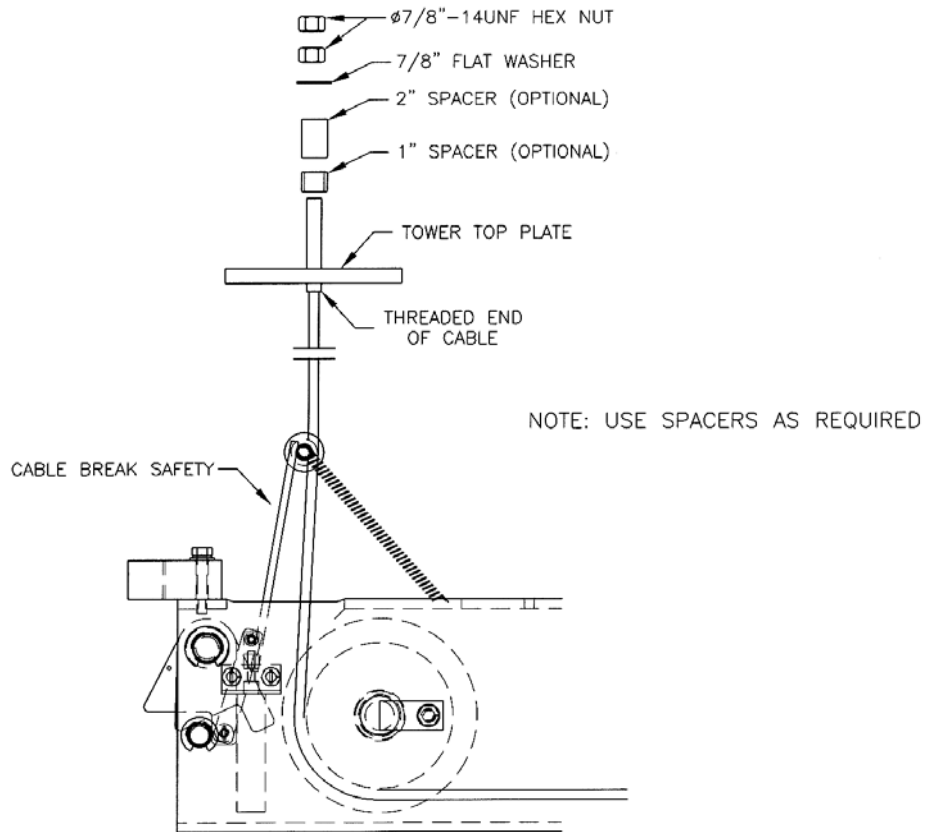
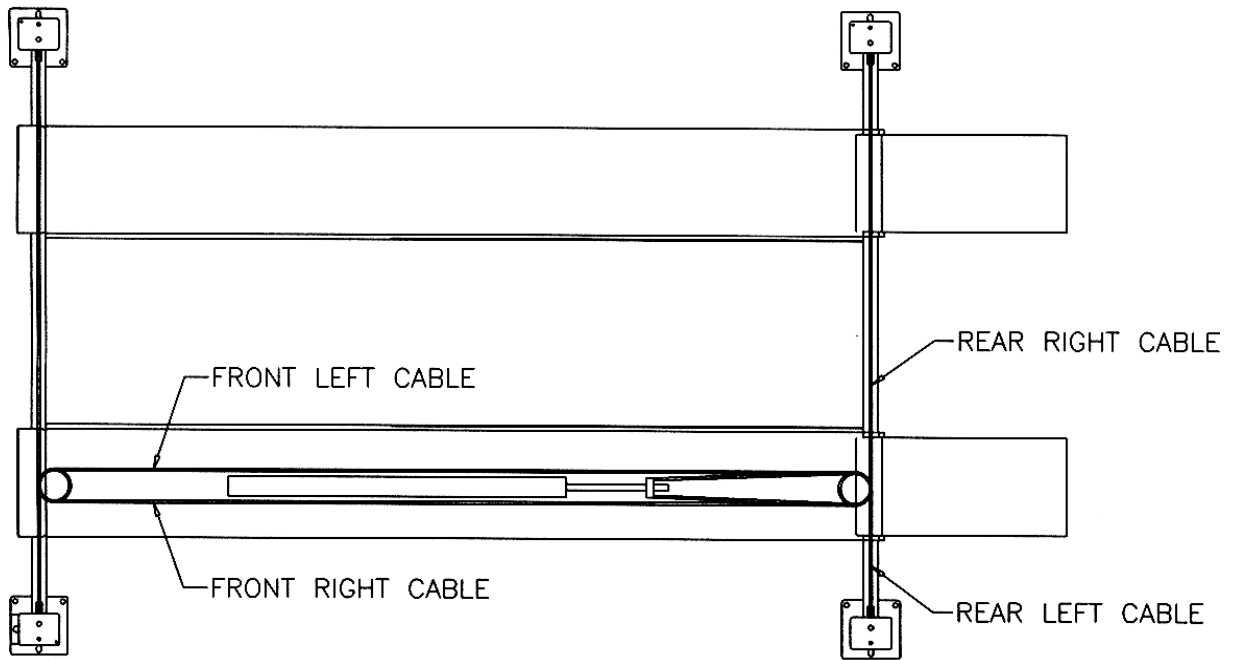
ITEM	QTY.	DESCRIPTION	PART #
1	2	REAR CROSSMEMBER	4-0869
3	8	SHEAVE SPACER	1-2244
4	4	SHEAVE ASSEMBLY 5" C/W BUSHING	1-2346
5	4	CROSSMEMBER SHEAVE PIN WELDMENT	1-2226
6	4	LOCKWASHER, 5/16"	6-0674
7	4	HEX HD BOLT, 5/16"-18UNC x 3/4" LG	6-0423
8	4	LOCK SAFETY PIN	1-2130
9	8	CIRCLIP, 3/4"	6-2422
10	8	CIRCLIP, 5/8"	6-2442
11	4	CABLE BREAK PIN	1-2245
12	8	THREADED INSERT, 1/2"-NC	6-2432
13	4	SHOULDER BOLT, 3/8" X 1/2"	6-1792
14	4	GLIDE BEARING	1-2248
15	8	FLATWASHER, 1/4"	6-0060
16	8	HEX HD BOLT, 1/4"-NC X 1 1/2"	6-0205
17	4	TENSION SPRING	1-0768
18	4	CABLE ROLLER	1-0766
19	4	CABLE BREAK LEVER	1-2475
20	4	CABLE BREAK LOCK	1-2314
21	12	THRUST WASHER	6-0502
22	4	SAFETY LOCK	1-2204
23	4	SAFETY LINKAGE	1-2249
24	8	CIRCLIP, 3/16"	6-2431
25	4	SAFETY RELEASE PIN	1-2310
26	4	MACHINE SCREW, #10-32 X 1/2"	6-2446
27	4	ROD CLEVIS	6-2435
28	8	HEX NUT, 1/4"	6-0032
29	8	LOCKWASHER, 1/4"	6-0056
30	4	CYLINDER MOUNTING BRACKET	1-2315
31	4	AIR CYLINDER	6-2434
32	4	ROUND HD SCREW, 1/4" X 5/8"	6-0335
33	4	TORSION SPRING	1-2316
34	4	SAFETY SPRING	1-1115
35	8	SELF THREADING SCREW, #10 X 3/8"	6-0169
36	8	SPACER	1-2907

## 8.5 PARTS LIST – CYLINDER ASSEMBLY



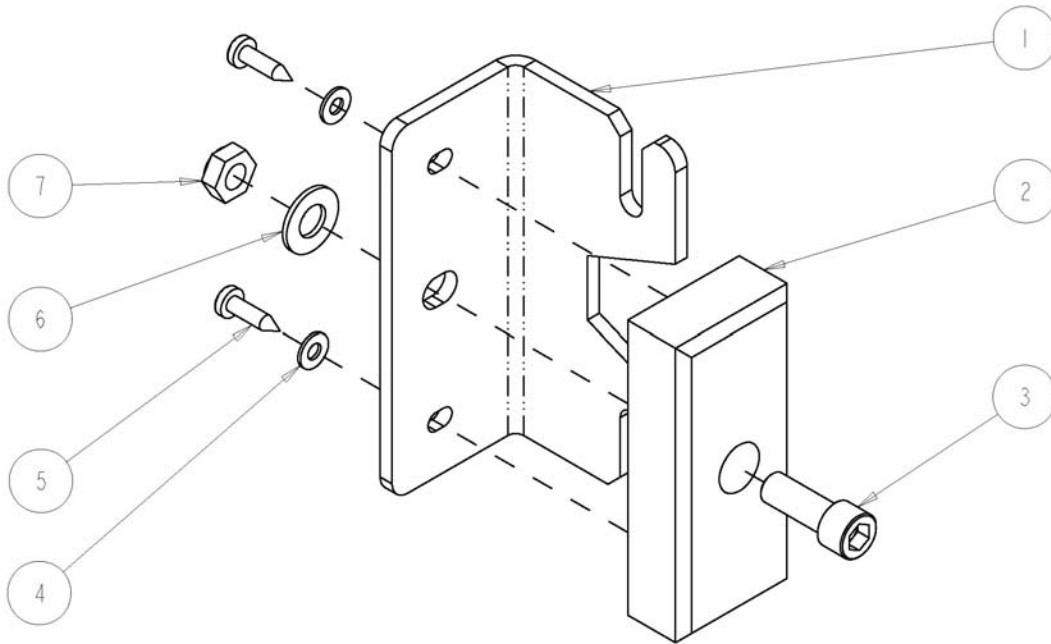
ITEM	QTY.	DESCRIPTION	PART #
1	1	CYLINDER TUBE WELDMENT 3 ½"BORE	2-0562
2	1	PISTON ROD - MACHINED	2-0565
3	1	ORING, 3 ½" OD	6-0655
4	1	BACKUP RING	6-0938
5	1	GLAND	3-0348
6	1	ROD SEAL, 1 ¼" ID	6-0654
7	1	ROD WIPER, 1 ¼"ID	6-0653
8	1	ORING, 1 1/8"OD x 1/8"C/S	6-0656
9	1	PISTON	2-0564
10	1	SEAL, 3 ½" OD x 3" ID	6-0003
11	1	WEAR RING, 3 ½"OD x 3/8"WIDE	6-0004
12	1	LOCKNUT, 7/8"-14UNF	6-1160
13	1	ADAPTOR, 1/8"NPT-M TO 1/4"JIC-M	6-0280
14	1	FLOW CONTROL	6-2436

## 8.6 PARTS LIST – CABLE ROUTING



ITEM	QTY.	DESCRIPTION	PART #
	1	CABLE ASSY. - FRONT LEFT 172" W/B	2-1791
		CABLE ASSY. - FRONT LEFT 210" W/B	2-1677
	1	CABLE ASSY. - FRONT RIGHT 172" W/B	2-1792
		CABLE ASSY. - FRONT RIGHT 210" W/B	2-1678
	1	CABLE ASSY. - REAR LEFT	2-1679
	1	CABLE ASSY. - REAR RIGHT	2-1680
	8	HEX NUT, 7/8"-14UNF GR8	6-0724
	4	CABLE SPACER, 2"LG	1-0800
	4	FLAT WASHER, 7/8"ID	6-0725
	4	CABLE SPACER, 1"LG	1-0801

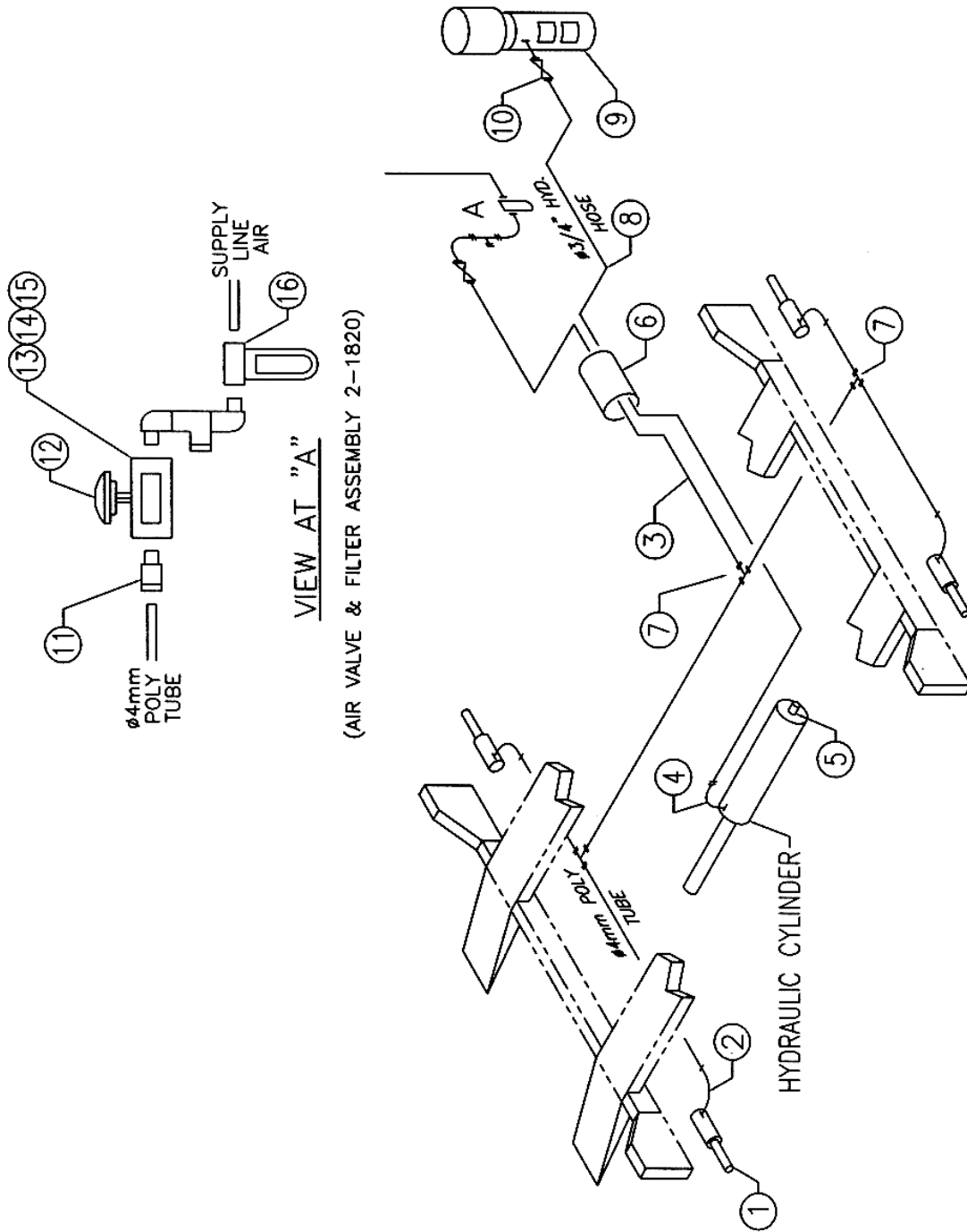
## 8.7 PARTS LIST – SAFETY RETAINER BRACKET



ITEM	QTY.	DESCRIPTION	PART #
1	8	SAFETY RETAINER BRACKET	2-2589
2	8	SAFETY RETAINER PAD	1-1674
3	8	SHCS 3/8" NC x 1" LG	6-2048
4	16	FLAT WASHER #10	6-0816
5	16	SCREW, SELF TAPPING, #10 x 3/4" LG	6-0297
6	8	LOCK WASHER 3/8"	6-0058
7	8	HEX NUT 3/8"-16 UNC GR5 PL	6-0034

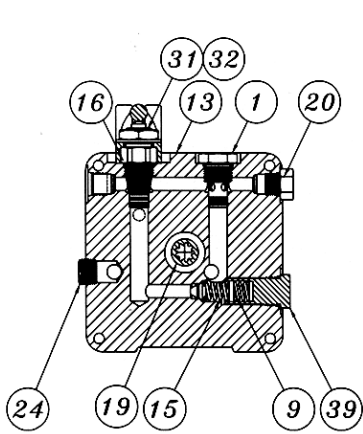
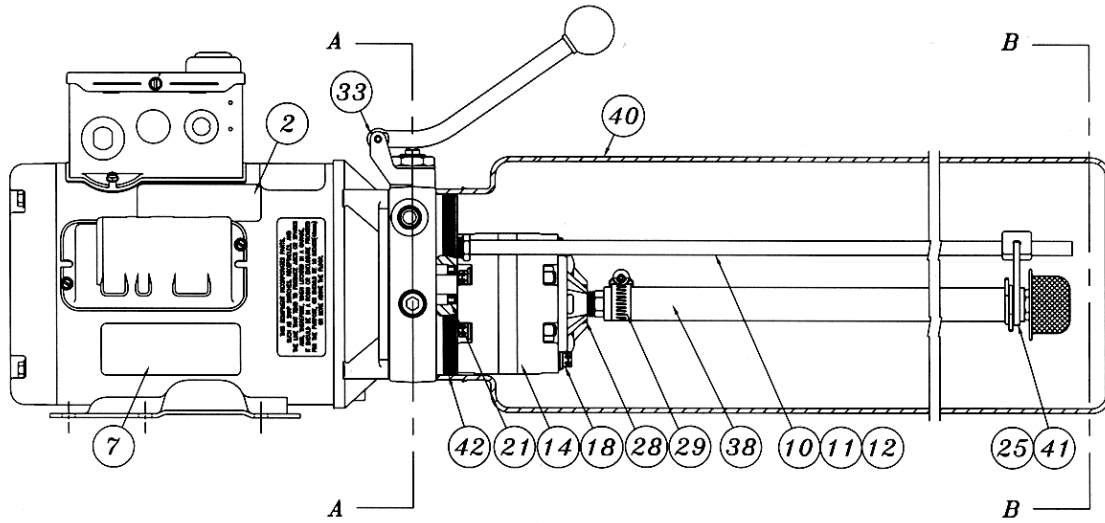
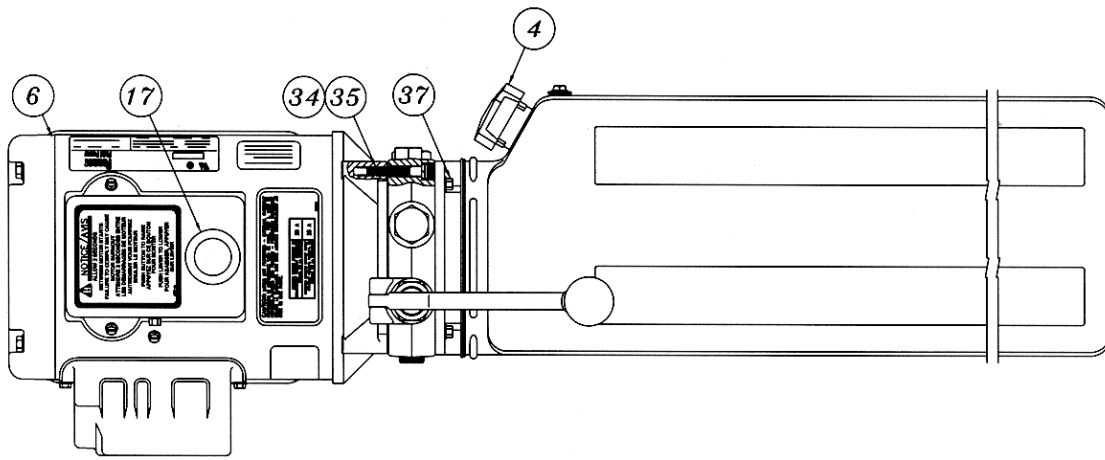


## 8.8 PARTS LIST – AIR AND HYDRAULICS

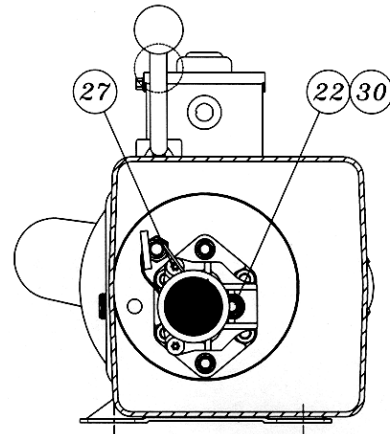


ITEM	QTY.	DESCRIPTION	PART #
1	4	AIR CYLINDER	6-2434
2	4	ELBOW, 90 DEG, 4mm POLYTUBE TO M5	6-1504
3	50FT	4MM POLYTUBE	8-0307
4	1	FLOW CONTROL	6-2436
5	1	ADAPTER, 1/8" NPT TO 1/4" JIC	6-0280
6	4FT	HOSE GUARD	6-0714
7	3	UNION T 4mm POLYTUBE	6-2433
8	1	HYDRAULIC HOSE, 16FT	6-1692
9	1	POWERPACK, 220V, 1PH	6-1936
	1	POWERPACK, 220V, 3PH	6-1165
10	1	ELBOW 90DEG, 9/16" SAE TO #6 JIC	6-0804
11	1	ADDAPTER 1/8" NPT TO 4mm POLYTUBE	6-2465
12	1	AIR VALVE PUSHBUTTON KIT	6-1777
13	1	3-WAY AIR VALVE	6-1775
14	2	HEX NUT, #8-32	6-1095
15	2	PHILLIPS HD SCREW, #8-32 X 1"	6-1094
16	1	AIR FILTER ASSEMBLY	6-0772
	1	AIR FILTER ELEMENT, (REPLACEMENT)	6-0180

# 8.9 PARTS LIST - POWER PACK



A-A



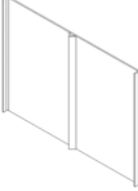




B-B

**#6-1936 (AB-1400) & #63125 208-230V/1PH/60Hz**  
**#6-1165 (AD-1044) 208-230V/3PH/60Hz**

ITEM	QTY.	DESCRIPTION	PART #
1	1	VALVE CARTRIDGE CHECK	6-1087
2	1	LABEL INSTALLATION AUTOHOIST	6-2136
4	1	BREATHER CAP & BLADDER	6-1376
6	1	MOTOR AC 208-230V. 2HP/1PH/60Hz, BLK	6-2139
	1	MOTOR AC 208-230V. 2HP/3PH/60Hz, BLK	6-1079
7	1	LABEL WARNING AUTOHOIST	6-2149
9	1	SPRING 0.480" x 0.063" x 0.42" COMP	6-2151
10	1	RETURN HOSE 3/8" OD x 21.5"	6-2152
11	1	COMPRESSION TUBE NUT	6-2153
12	1	COMPRESSION TUBE SLEEVE	6-2154
13	1	ENDHEAD UNIVERSAL AUTOHOIST	6-2155
14	1	PUMPASSY 3.1 CC/REV. SHORT SPLINE	6-1688
15	1	RELIEF ASSEMBLY FIXED 170 BAR	6-1317
16	1	VALVE CARTRIDGE RELEASE MANUAL	6-0880
17	1	WIRING ASSEMBLY AC 1PH FENNER	6-2156
	1	WIRING ASSEMBLY AC 3PH FENNER	6-0918
18	2	BOLT 5/16"-24 x 3.00" TORX G8	6-1090
19	1	COUPLING SAE 9T-20/40 1.260"	6-0774
20	1	PLUMBING PLUG 9/16" SAE	6-2157
21	1	SEAL SHAFT 0.500" x 1.00" x 0.25"	6-2158
22	1	WASHER 0.338" x 0.625" x 0.060" STEEL	6-2159
24	1	PLUMBING PLUG 3/8" NPT	6-2161
25	1	PLUMBING MAGNET	6-2162
27	2	SCREW TAPTITE M6 x 1.0 12MM TORX	6-2164
28	1	COVER ASSY SUCTION	
		6-2165	
29	1	PLUMBING CLAMP HOSE ADJ. INLET	6-2166
30	1	BOLT 5/16"-18 x 1.00" SHCS	6-1392
31	1	NUT 3/4"-16 x 1" HEX x 0.250" STEEL	6-2167
32	1	WASHER 3/4" INT. TOOTH LOCK	6-2168
33	1	BRACKET - HANDLE ASSY REL BLACK	6-0776
34	4	BOLT M6 x 1.0 35MM SOC HD	6-2169
35	4	WASHER 1/4" LOCK HI-COLLAR	6-2170
37	4	BOLT #12-24 x 0.50' HEX WSHRHD	6-1091
38	1	PLUMBING ASSY INLET 17.24 (3)	6-0786
39	1	RELIEF VALVE CAP ASSEMBLY	6-1089
40	1	TANK PLASTIC 6.7 OS 22.50" BLK	6-1399
41	1	CABLE TIE 8" LONG WHITE	6-1846
42	1	O-RING 2-348 BUNA	6-0875

## 9. AVAILABLE ACCESSORIES

<b>Hydraulic Jack Beams</b>			
	Premium Air / Hydraulic Jack Beam		Standard Air / Hydraulic Jack Beam
4500 lb, 6000 lb, 7000 lb		6000 lb, 7000 lb	
<b>Other Accessories</b>			
	Drive-On Ramp Extension for Low Profile Vehicle (set of 2)		Air Outlet Kit (Factory Installed)
	Sliding Waste Collection Oil Tank 26 gal.		Drive-thru Kit (Quad Rack)
	Front Turning Radius Plates (set of 2)		Alignment Pan Cover, 4-Post
	Stainless Steel Turnplates		Rollback Kit (for Stainless Steel Turnplates)
	Air / Electric Service Station for 2-Post & 4-Post		Rear Slip Plate Refurb Kit - Stainless Steel Base ( 24" Decks Only - set of 2 )
NO PICTURE AVAILABLE	Roll Forward Kit (4-Post)		Tsunami Kit (in-line compressed air dryer)

Accessories may not be available for all models. Contact supplier for availability and part numbers.