

**INSTALLATION  
MANUAL &  
OPERATION  
INSTRUCTIONS**

**OVERHEAD CAR LIFT  
2-POST LIFT AUTO HOIST  
APlusLift HW-10KOH**



**READ THIS MANUAL COMPLETELY BEFORE  
INSTALLING LIFT!!!**

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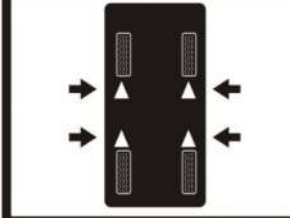







**READ THIS BEFORE INSTALLING THE LIFT!**  
Improper installation can cause injury or damage!

- Read this installation and operation manual in its entirety before attempting to install the lift. Manufacturer or Distributor assumes no responsibility for loss or damage of any kind, expressed or implied, resulting from improper installation or use of this lift. Always use professional installation companies.
- All persons using the equipment must be responsible, qualified, and carefully follow the operation and safety guidelines contained in this manual.
- A level floor is required for proper lift installation and operation.
- DO NOT install this lift on any asphalt surface. Only on concrete surface a minimum of 6" thick and 3,500 psi tensile strength with steel or fiber mesh reinforcement.
- DO NOT install this lift over concrete expansion joints or cracks. (Check with your building architect.)
- DO NOT install this lift on an upper floor without written authorization from your building architect. Should only be installed on basement floor.
- DO NOT attempt to lift only part of a vehicle. This lift is intended to raise the entire body of a vehicle only. This will bend the arms and void the warranty.
- DO NOT attempt to use the overhead beam to lift engines, or any other parts out of a vehicle. Doing so will bend the overhead beam and void the warranty.
- NEVER lift any persons or vehicles containing persons. This lift is designed to lift empty vehicles only.

**Tools For Installation**

- Concrete Rotary Hammer Drill with 3/4" Drill Bit
- Rubber Hammer
- Chalk Line
- Sockets and Open Wrench set
- Ratchet Driver
- Vise grips
- Tape Measure
- Screwdrivers
- Torque wrench
- Two 10' to 12' step ladders
- 4' Level
- 12 Inch Crescent Wrench
- AW32 Non-foaming Hydraulic Fluid (4 gallons)

## Caution Labeling Exemplification

<p><b>! WARNING</b></p>  <p>Clear area if vehicle is in danger of falling.</p>	<p><b>! WARNING</b></p>  <p>Position vehicle with center of gravity midway between adapters.</p>	<p><b>! CAUTION</b></p>  <p>Use vehicle, manufacturer's lift points.</p>	<p><b>! CAUTION</b></p>  <p>Always use safety stands when removing or installing heavy components.</p>
<p><b>! WARNING</b></p>  <p>Remain clear of lift when raising or lowering vehicle.</p>	<p><b>! WARNING</b></p>  <p>Avoid excessive rocking of vehicle while on lift.</p>	<p><b>! CAUTION</b></p>  <p>Use height extenders when necessary to ensure good contact.</p>	<p><b>! CAUTION</b></p>  <p>Auxiliary adapters may reduce load capacity</p>
<p><b>! WARNING</b></p>  <p>Do not override self-closing lift controls.</p>	<p><b>! WARNING</b></p>  <p>Keep feet clear of lift while lowering.</p>	<p><b>SAFETY INSTRUCTIONS</b></p>  <p>Read operating and safety manuals before using lift.</p>	<p><b>SAFETY INSTRUCTIONS</b></p>  <p>Proper maintenance and inspection is necessary for safe operation.</p>
<p><b>! CAUTION</b></p>  <p>Lift to be used by trained operator only.</p>	<p><b>! CAUTION</b></p>  <p>Authorized personnel only in lift area.</p>	<p><b>SAFETY INSTRUCTIONS</b></p>  <p>Do not operate a damaged lift.</p>	<p>The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lift regardless of specific style.</p>

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1. INTRODUCTION
2. INSTALLATION & OPERATION
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# 1. Introduction

## BOLT BOX CONTENTS

QTY	Part description	
1	POWER UNIT Hydraulic Tee Fitting	
2	Extended Fitting to cylinder	4.3 inch
1	Overhead Safety limit Switch & 4 screws	
1	Overhead Safety Bar	
1	Nut for Overhead safety Bar	M6x130
10	Anchor Bolts	M18x160
8	Hex bolts, washers & nuts for beam mounting to columns	M10x30
10	Hex bolts, washers & nuts for two-stages beam(option)	M10x30
16	Hex Bolts, washers & nuts for column extensions mounting to columns	
16	Socket Bolts for tools box mounting to arms	
4	Bolts, washers & nuts for power unit mounting to column	M8X20
4	Arm pins	
1	Hydraulic hose long	
1	Hydraulic hose short	
2	Truck adapter sets	
4	Carriage lift arms	
1	Hydraulic power unit 220 Voltage, single phase w/ manual release handle	
2	Wire rope equalizer cables w/ M18 thread on nuts & washers	
2	Top columns extensions	
2	Columns	
2	Cover sheets for Columns(option)	

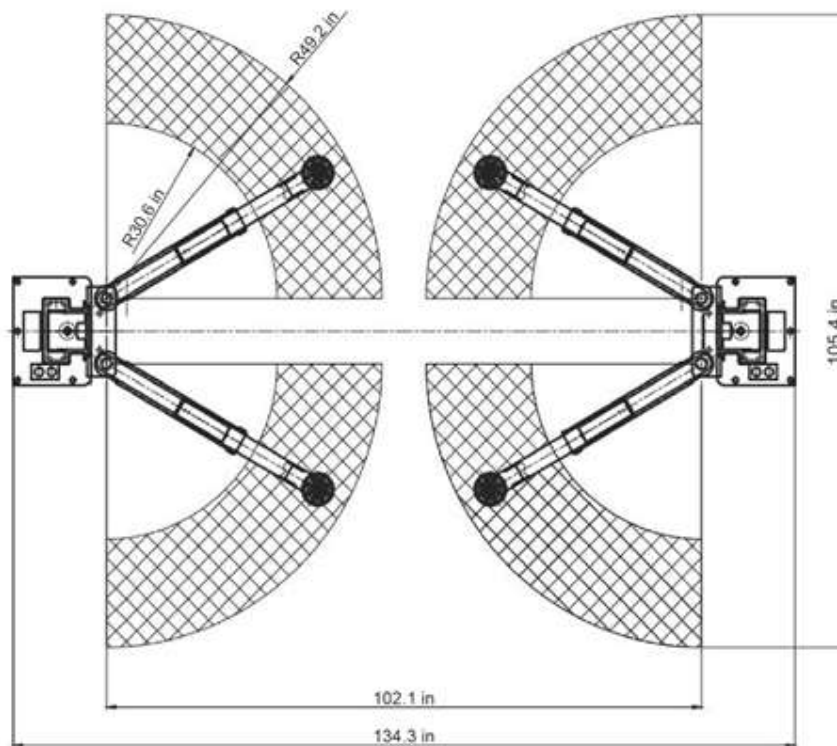
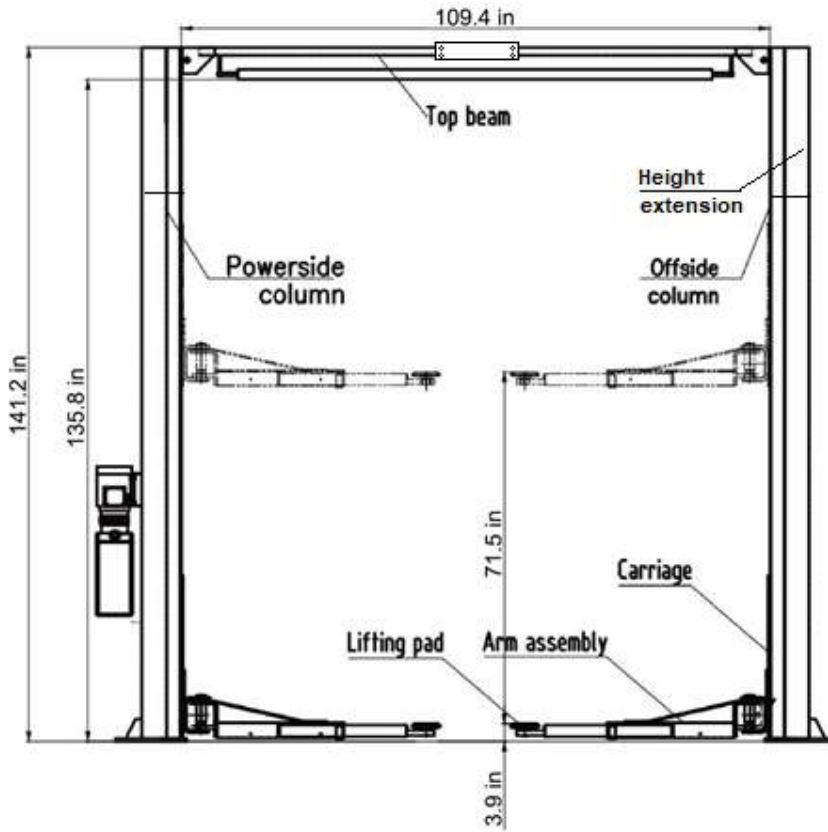


Fig.1, 2

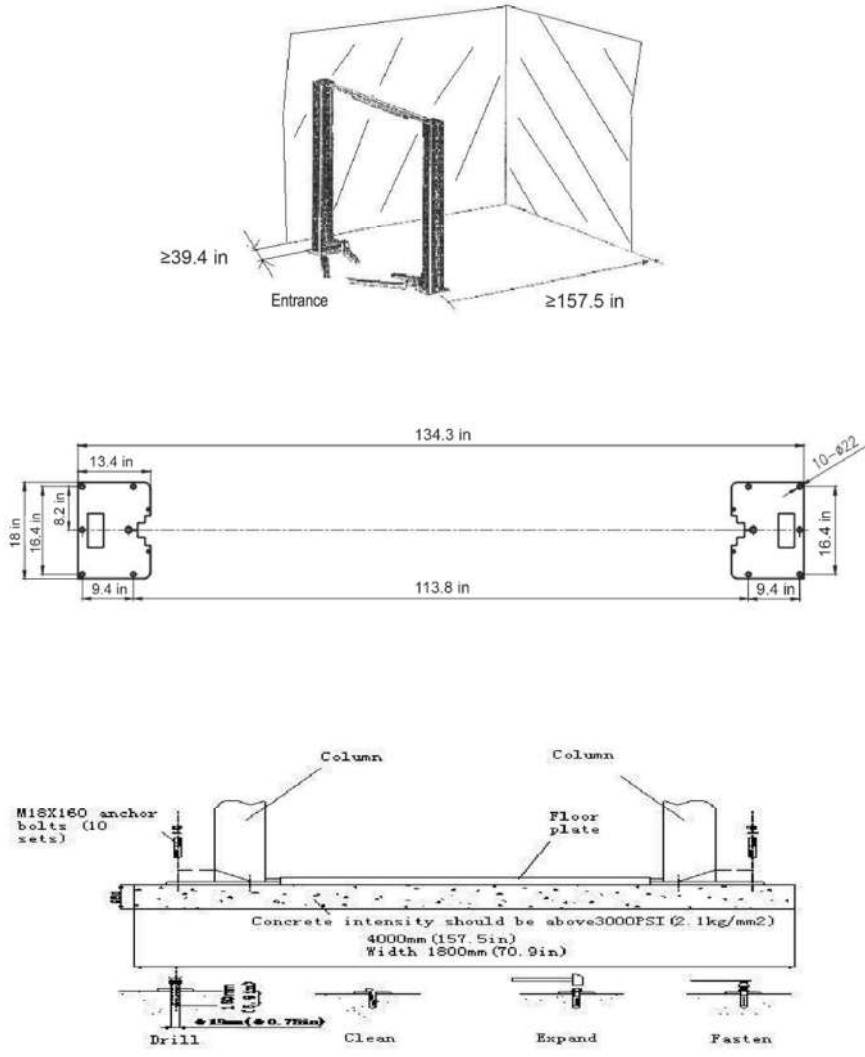


Fig 3

## 2. INSTALLATION & OPERATION MANUAL

Your lift is designed for many years of trouble-free service when properly installed & maintained. Please take the time to read this installation manual before proceeding.

### INSTALLATION TIPS

- This Lift is built from very heavy metal material. Use proper lifting techniques when lifting individual pieces. Use plenty of help when moving lift pieces. It is a good idea to wear work gloves to protect your hands.
- This lift is designed to be installed on a minimum of 6" thick, 3500 psi, wire or fiberglass reinforced concrete. Do not install this lift on asphalt, wood, or any other surface other than described. A level surface is recommended.
- Do not install this lift over expansion joints or cracks. Check with your qualified engineer or architect.
- Do not install lift over a basement or on any level other than ground level (i.e. second floor) without written authorization from your building engineer or architect.
- Improper installation can cause damage or injury. Manufacturer will assume no liability for loss or damage of any kind, expressed or implied, resulting from improper installation or use this product.
- Read this installation manual in its entirety before attempting to install this lift.

### LIFT STRUCTURE INSTALLATION

- Determine where the lift is to be installed. Make sure there is enough room in front, behind, above and on the sides of the lift. See (Figure 1) for proper dimensions.
- Layout with a chalk line your concrete floor to the proper layout you want and check for proper clearances. See (Figure 3) for proper dimensions.
- Remove any loose cables, hoses, part boxes, hydraulic power unit, etc. if they are inside the columns or banded to the columns.
- Remove the power unit box, four swing arms from the lift, next remove the bolts holding the two columns together. Remove the top column from the bottom columns out of the shipping crate and discard the steel.
- Slide the overhead extensions to the top of each column. Bolt overhead extensions to each column.
- Stand up the power unit column(the one with power unit bracket welded on it) and position it inside the chalked lines to your chalked out dimensions. It is recommended that this column be placed on the passenger side of the car, but it can go on the driver's side if desired. Keep in mind this is the column where your main electrical power supply will be connected. The column should face straight toward the other column.
- Stand up the other column just opposite of the main power unit column inside the chalk lines as shown in (Figure 1).
- Using a tape measure, measure from back corner to back corner of the base plate to assure columns are square to each other. Adjust as necessary to obtain best fit and still provide good passage.
- Now drilling the holes(use 3/4 inch drill bit) for anchors and places anchors as you go. Do not tighten anchor bolts at this time, Hammer drill all the way through the cement floor.
- Recheck the level of each column and place horseshoe shims underneath the base plate and around the anchor bolt wherever they are needed. Tighten 10 anchor bolts and recheck for level and plum. Hammer the anchor bolts all the way down. Tighten anchor bolts using a torque wrench to 125 ft. / lb. (DO NOT use an impact gun when tightening the anchor bolts!) 6" of embedment is the minimum requirement for reinforced concrete.
- If you have a straight overhead beam, skip this step. If not, your beam is assembled by two short bars. Bolt two bars together through one steel sleeve.



- Bolt Switch to the overhead beam. Assemble One end of the overhead safety shut off bar into Switch. Bolt the other end to the overhead beam. The wire from Switch will go to power unit.
- Manually lift both carriages on each column about waist high. Let carriages down allowing them to set on the lift safety lock stops. Make sure they are at the same height and on the safety lock stops.
- Check to insure the cylinders are properly seated into the cylinder hole in the base plate. If they are, the round part of the cylinder will be sitting down on the steel flat.
- Take the equalizer cables. Using vise grips and a socket, tighten the cable nut half way down the threads.
- Standing in front of the power unit main-side carriage notice the 4 holes in the top of the carriage.
- Take the threaded end(end without nut) and run it up inside the carriage through the front hole on the right side of the carriage. See figure 4 for cable routing. **Do not tighten cables at this time. Just start them on the treads.**

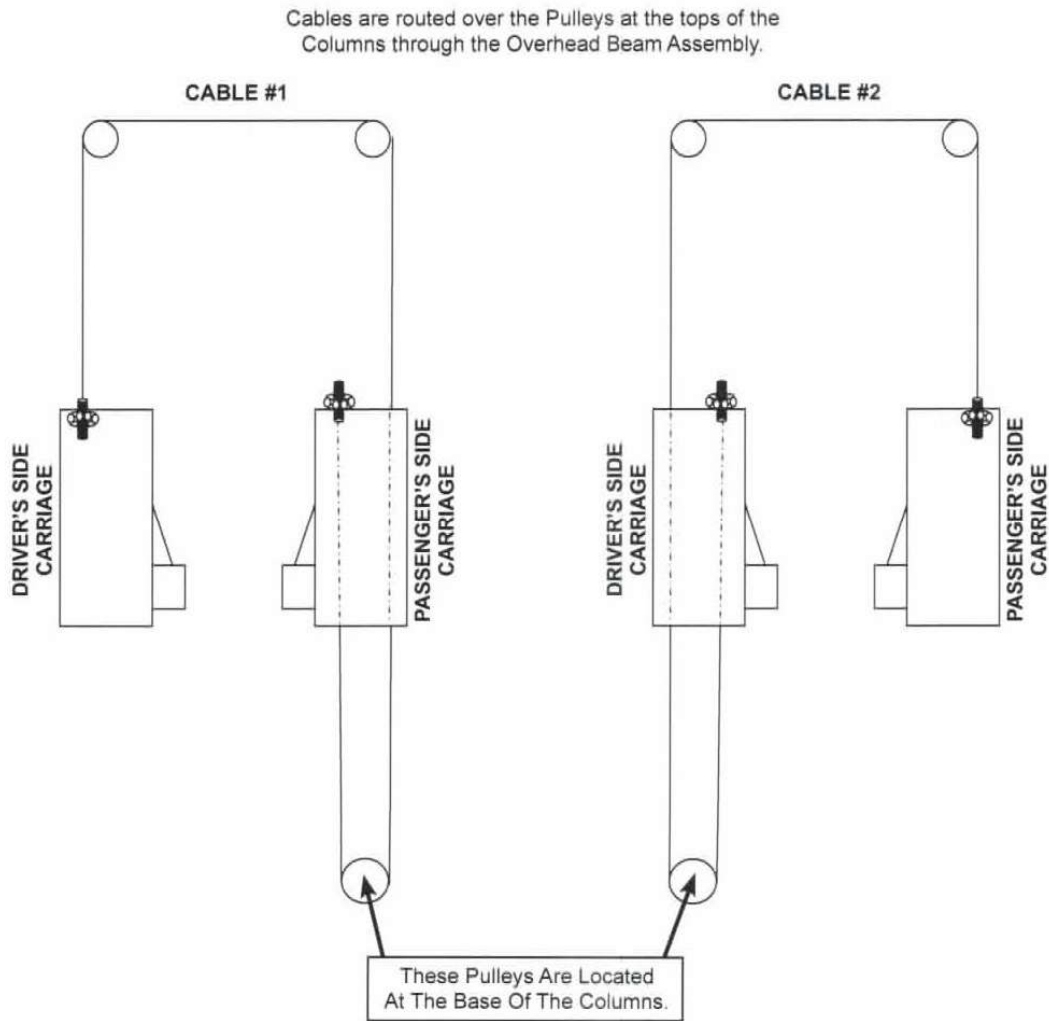
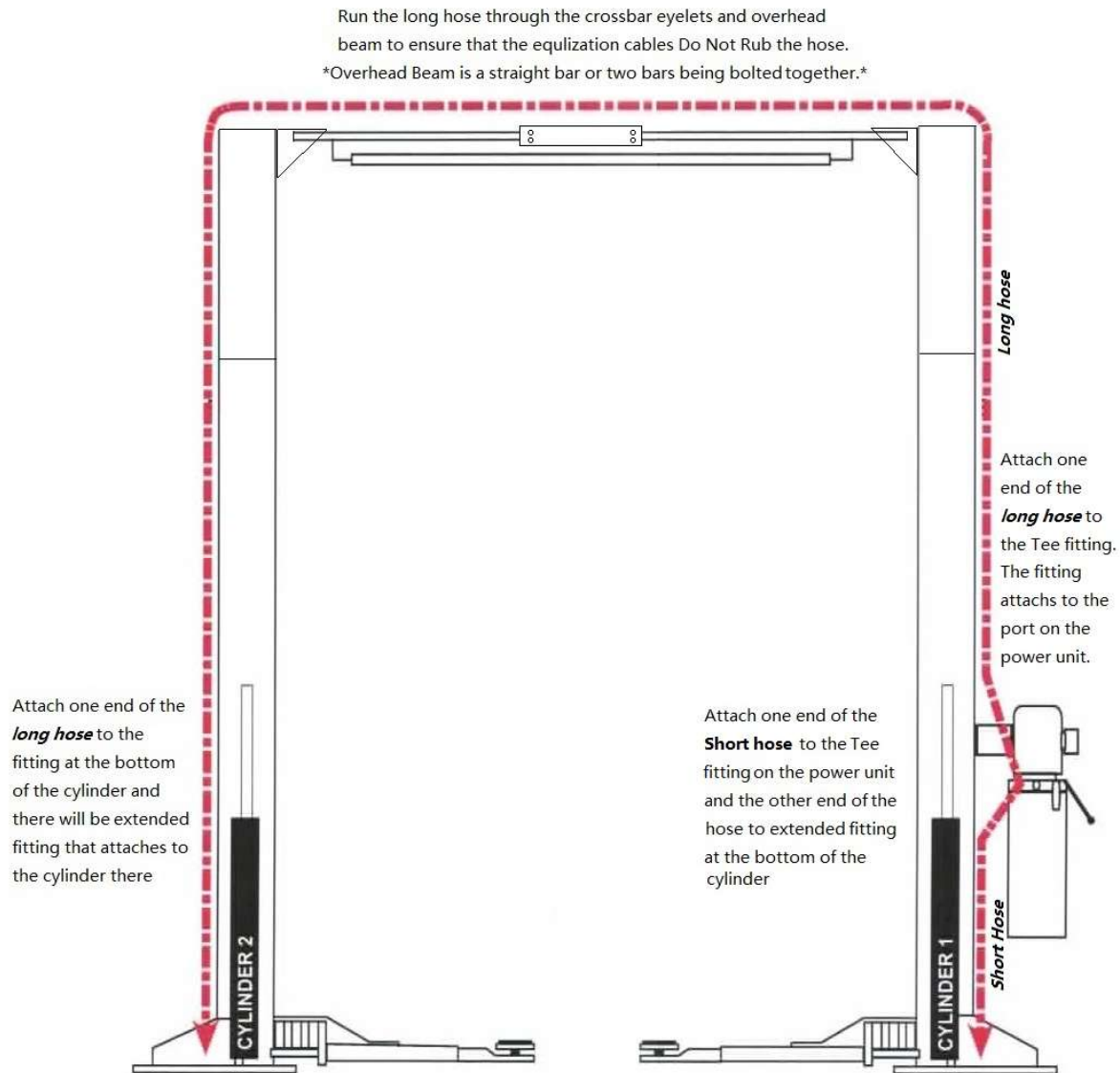


Figure 4.

#### CONNECTING POWER UNIT & HYDRAULIC HOSES

- Using four hex bolts mount the power unit to the main side column.
- Install the TEE fitting into power unit. Install 4.3 inches extended fitting into the bottom of each cylinder. Small thread with sealing washer for cylinder. Large thread for short hydraulic hose and long hydraulic hose.
- Connect short hydraulic hose to the TEE fitting in power unit. Run the short hose down the side of column. Connect the short hose to 4.3 inches extended fitting in bottom of cylinder.
- Connect Long hydraulic hose to the TEE fitting in power unit. Run the long hose up the side of column. Run the

hose cross the overhead beam. Run the hose down to the side of opposite column. Connect long hydraulic hose to 4.3 inches extended fitting in bottom of cylinder. DO NOT over tighten, as you will crack the fitting. Connect long hydraulic hose between the cylinders and let it lay inside the floor pan. See figure 5 for hose layout and routing to the power unit.



You could find one Tee fitting and two extended fitting in the bag of fasteners.

Figure 5.

### INSTALLING SWING ARMS

- Locate the 4 swing arms and swing arm pins. Take one of the arms and insert it over the hole in the carriage torsion tube. Line up the holes and insert the pin. Repeat for the three other arms.

### ELECTRICAL CONNECTION

**HAVE A QUALIFIED ELECTRICIAN HOOK THE MAIN ELECTRICAL POWER CONNECTION TO THE POWER UNIT ON THE LIFT. FOLLOW LOCAL CODES IN YOUR AREA.**

- The electricity is to be hooked up at the power unit. This is 220 volt single phase power unit. There is one cluster with three wires out of motor. Yellow/Green is ground wire. Blue is neutral wire. Brown is live wire. The power supply to the lift should be 220 Volt with a 30 amp breaker.
- wire length less than 10mm, wire size is 2.5MM<sup>2</sup> / wire length more than 10mm wire size is 4MM<sup>2</sup>

## HYDRAULIC FLUID

- Remove the vent plug from the top of reservoir. You are going to fill the tank with fluid. Either AW 32 or 46 Hydraulic oil is good choice. We don't recommend the transmission fluid as it is too thin. The unit will hold approximately 2.64 gallons(10 liters) of fluid.

## ADJUSTING CABLES

- Place a pair of small or medium vise grips around the shoulder of the long threaded adjusting bolt on the cable to make any adjustments.
- Use a deep socket to adjust the slack out of the cable. Adjust tension to cables equality.

**DO NOT over tighten. Note: If one of the cables is tighter than the other, the carriage will go up uneven.** These should be tightened like a Banjo String or Fan Belt.

## ADJUSTING & SYNCHRONIING THE CARRIAGES

- One of the most important things to remember is not to tighten down one side more than the other. The key is to tighten one side a half dozen turns then the opposite side a half dozen turns. After getting both cables equally tight(YOU SHOULD BE ABLE TO MOVE THE CABLES ABOUT AN INCH BACK AND FORTH WITH SLIGHT PRESSURE LIKE A FAN BELT OR A BANJO STRING) raise the lift all the way up by pressing the UP Button on the power unit. Do not bottom the lift out at the top by holding down on the switch.
- Raise the lift off the latch(lock) by pushing the power button, this will enable you to pull each release cable ring located at the bottom of both carriages. See Figure 6. Pull down on the lowering valve handle(lever) on the power unit and lower the lift all the way to floor. Raise the lift again and listen for the clicking of the safety locks in each column. **Determine which side is slower and tighten the adjusting bolt on the opposite side carriage.** Remember to only tighten a few turns at a time until the both locks click at the same time when raising the lift. Cycle the lift up and down. Repeat the adjustment until the carriages are within a 1/4" of each other or the clicks are almost at the same time with each side. When cables are adjusted properly they should be fairly tight.

## DUAL POINT LOCK RELEASE

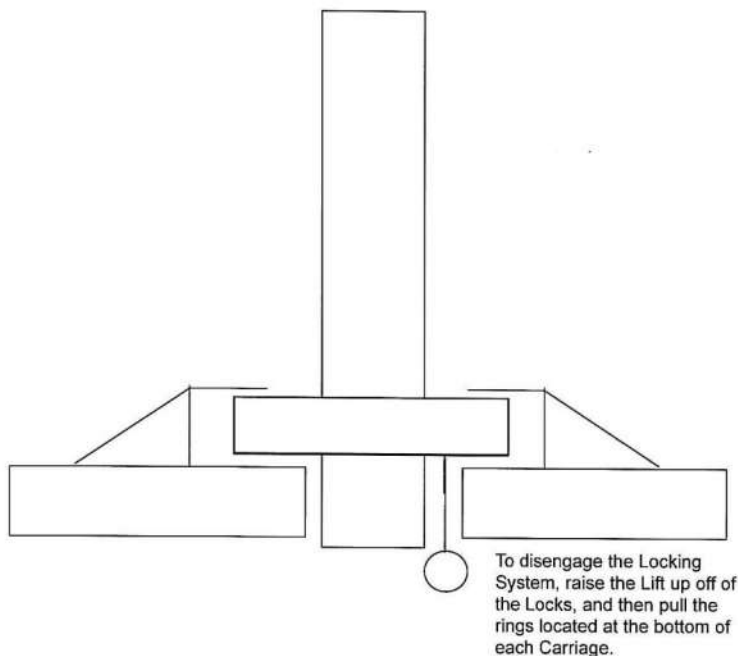


Figure 6

## **FINAL ASSEMBLY**

- Check all bolts and nuts to make sure they are tight. Do not use an impact gun on concrete Anchors.
- Check all fittings or leaks. If necessary, make sure the arm lock restraints are engaging properly and smoothly. If not, tap the main lock forward or backward as needed with a rubber mallet to insure proper engagement on all 4 gears with the arm restraint locks.
- Cycle lift up and down to insure carriages are synchronized.
- Place a vehicle on the lift and raise until swivel pads are contact with frame of the vehicle. Raise the vehicle about 3 feet and lower until the tires touch the floor. Keep raising and lowering the vehicle. Increase the height each time until the vehicle is completely to top. This procedure pumps all the air from the system.

## **TESTING AND ADJUSTING LIFT**

- With the power properly hooked up and hydraulic oil in the Pump Reservoir, push the Push Button on the side of the Motor to raise the Carriages off the locks. Release the Push Button and then pull the Lock Release Cable under each carriage to release the locks. Run the lift all the way up and down two more times to bleed all the air from the system.
- While running the lift, listen to safeties clicking. Each side should click simultaneously or with-in a 1/2 second of each other. If they are not clicking together, then adjust the cables to compensate by tightening the side opposite the one that is clicking last at the cable bolt at the top of the carriage on the same side.
- Remember not to over tighten cables – they should be firm, much like a banjo string or a fan belt in a car.
- Now the lift is ready for use.

## **OPERATION**

**Only authorized personnel are to operate lift**

**Read operating and safety procedures manual completely before operating lift.**

- Properly maintain and inspect lift in accordance to owner's manual.
- Do not operate a lift that is damaged or in need of repair.
- Allow only authorized personnel in the lift bay.
- Stay clear of Lift when raising or lowering (NO RIDERS)
- Keep hands and feet away from pinch points at all times.
- Never override the Lifts operating and safety controls.
- If a vehicle is suspected of falling, clear area immediately.
- Do not rock vehicle while positioned on lift.
- Always use safety jack stands when removing or installing heavy components.

## **Vehicle Loading**

- Position vehicle for proper weight distribution (center of gravity should be midway between adapters).
- Swing arms under vehicle to allow adapters to contact at the manufacturer's recommended pick up points.
- Use caution before lifting pickup trucks, SUV's and other framed vehicles.
- The individual axle weight capacity should not exceed 1/2 of lift capacity.
- Make sure vehicle is neither front nor rear heavy.
- Make sure the lifting pads are in a proper and safe position to support the vehicle.

## **Raising Lift**

- Push Up switch to raise lift (make sure arm restraints engage or stop and slightly move arm to allow gear to mesh) until tires clear floor.
- Stop and check for secure contact on adapters and vehicle weight distribution. If secure raise to desired height.
- ALWAYS lower the lift into the nearest lock position by pressing the lower lever to relieve the hydraulic pressure and let the latch set right in a lock position.
- Never work under a lift that is not in the locked position.

#### **Lowering Lift**

- Clear all obstacles from under lift and vehicle and ensure only the lift operator is in the lift area.
- Stay clear of lift and raise the lift off the safety locks by 2".
- Pull safety latch releases cable ring one by one on each carriage and press the lower lever to begin descent.
- Unload lift by first completely lowering lift, then swinging arms to drive through position before moving vehicle.
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### **3. Maintenance & Safety**

#### **MAINTENANCE**

**Note: IT IS THE CUSTOMER'S OR THE END USER'S RESPONSIBILITY TO MAINTAIN THE PROPER TENSION ON THE EQUALIZER CABLES. ASK A QUALIFIED TECHNICIAN TO RETURN IN FUTURE TO MAINTAIN THE CABLE ADJUSTMENT AFTER THE LIFT IS INSTALLED WOULD NOT BE A WARRANTY FOR THE ADJUSTMENTS.**

**IF AT ANY TIME YOU'RE NOT SURE TO THE SAFE OPERATION OF THE LIFT, DISCONTINUE USING IT AND CALL YOUR DISTRIBUTOR FOR ASSISTANCE.**

#### **Lubrication:**

- Lubricate all Nylon wear block corners inside each column with heavy duty bearing grease before your first operation and once every six months. Lubricate chains every six months.

#### **Anchor Bolts:**

- During first week of use, check anchor daily. DO NOT use an impact wrench. After first week, check once a month for the first six months. Tighten if necessary.

#### **Concrete:**

- Check concrete for stress cracks daily for the first two weeks of use as a precaution. Thereafter, check monthly. Check all bolts and nuts every six months.

#### **Hydraulic Oil:**

- If your lift will raise all the way to the top of the hydraulic tank is full of hydraulic oil. The hydraulic oil should be changed once a year, along with cleaning the suction filter.

#### **SAFETY LATCH ADJUSTMENT**

**DO NOT make any adjustment on the lift or cable.**

- If the safety latch in either column does not operate. Use the following procedure to adjust it.
- Raise the lift until you can see the latch through the access hole in side of the column by removing the plastic cover.
- DO NOT set lift on safety latch for this adjustment. Allow the hydraulic system to hold the lift during the adjustment. DO NOT have a vehicle on the lift during this time.
- Put the latch forward with a screwdriver.
- If the latch, is not working during descent, loosen the adjustment bolt one full turn and test the latch and follow this procedure until the latch operates.
- If the latch is not working during ascent, tighten the adjustment bolt one full turn and test the latch and follow this procedure until the latch operates.
- Latch and or cable adjustments are normal maintenance and not warranty items.

#### **AUTOMOTIVE LIFT SAFETY TIPS**

- Never allow unauthorized persons to operate lift. Thoroughly train new employees in the use and care of lift.
- Caution - the power unit operates at high pressure.
- Remove passengers before raising vehicle.
- Prohibit unauthorized persons from being in shop area while lift is in use.
- Total lift capacity is 10,000 lbs. @ 2,500 lbs per lifting pad. Do not exceed maximum weight capacity of lift.
- Prior to lifting vehicle, walk around the lift and check for any objects that might interfere with the operation of lift and safety latches; tools, air hoses, shop equipment.
- When approaching the lift with a vehicle, make sure to center the vehicle between the columns so that the tires will clear the swing arms easily.
- Slowly drive the vehicle between the columns. It is recommended to have someone outside the vehicle guide the driver.
- Always lift vehicle using all four pads.
- Never use lift to raise one end or side of vehicle.
- Always raise vehicle about 3" and check stability by rocking vehicle.
- Prior to lowering vehicle, walk around the lift and check for any objects that might interfere with the operation of lift and safety latches; tools, air hoses, shop equipment.
- Always lower lift to the lock position before going under vehicle.
- Never allow anyone to go under the lift when raising or lowering.

THE PROPER OPERATION OF THE LIFT REQUIRES THAT ANY TIME YOU RAISE A VEHICLE TO WORK ON IT. YOU MUST LOWER THE LIFT ONTO THE SAFETY LOCKS. This is done by raising the vehicle to the desired height and lowering the lift by pressing the lowering lever until the arms stop on the next available lock.

**NEVER WORK UNDER OR NEAR THIS LIFT WITHOUT THE LOCKS BEING ENGAGED. THE POWER UNIT IS NOT DESIGNED TO BE A LOADING-HOLDING DEVICE. NOT USING THE LOCKS WILL RESULT IN A PREMATURE FAILURE OF THE CYLINDERS, PUMP AND/OR CABLES AND CAN CAUSE SERIOUS PROPERTY DAMAGE OR PERSONAL INJURY!**

**FAILURE TO HEED THIS WARNING WILL RESULT IN IMMEDIATE TERMINATION OF YOUR WARRANTY!**

## MAINTENANCE SCHEDULE

The periodic Preventive Maintenance Schedule given is the suggested minimum requirements and minimum intervals; accumulated hours or monthly period which ever comes sooner. Periodic maintenance is to be performed on a daily, weekly, and yearly basis as given in the following paragraphs.

### WARNING!!

Occupational Safety and Health Administration (OSHA) and the American National Standards Institute (ANSI) requires users to inspect lifting equipment at the start of every shift. These and other periodic inspections are the responsibility of the user.

Failure to perform the daily pre-operational check can result in expensive property damage, lost production time, serious personal injury, and even death. The safety latch system must be checked and working properly before the lift is put to use.

Failure to heed this warning can result in death or serious injury, or damage to equipment. If you hear a noise not associated with normal lift operation, or, if there is any indications of impending lift failure - CEASE OPERATION IMMEDIATELY! - Inspect, correct and/or replace parts as required.

#### Daily Pre-Operation Check (8-Hours)

- 1. Check safety lock audibly and visually while in operation
- 2. Check safety latches for free movement and full engagement with rack.
- 3. Check hydraulic connections, and hoses for leakage.
- 4. Check chain connections - bends, cracks-and loose links.
- 5. Check cable connections- bends, cracks-and looseness.
- 6. Check for frayed cables in both raised and lowered position.
- 7. Check snap rings at all rollers and sheaves.
- 8. Check bolts, nuts, and screws and tighten if needed.
- 9. Check wiring & switches for damage.
- 10. Keep base plate free of dirt, grease or any other corrosive substances.
- 11. Check floor for stress cracks near anchor bolts.
- 12. Check swing arm restraints.

#### Weekly Maintenance (every 40-Hours)

- 1. Check anchor bolts torque to 125 ft/lbs for the  $\frac{3}{4}$  in. anchor bolts. Do not use an impact wrench to tighten anchor bolts.
- 2. Check floor for stress cracks near anchor bolts.
- 3. Check hydraulic oil level.
- 4. Check and tighten bolts, nuts, and screws.
- 5. Check cylinder pulley assembly for free movement or excessive wear on cylinder yoke or pulley pin.
- 6. Check cable pulley for free movement and excessive wear.

#### Yearly Maintenance

- Lubricate chains

- Grease rub blocks and column surface contacting rub blocks
- Change the hydraulic fluid - good maintenance procedure makes it mandatory to keep hydraulic fluid clean. No hard fast rules can be established; - operating temperature, type of service, contamination levels, filtration, and chemical composition of fluid should be considered. If operating in dusty environment shorter interval may be required.

#### **Special Maintenance Tasks**

**NOTE:** The following items should only be performed by a trained maintenance expert:

- Replacement of hydraulic hoses.
- Replacement of chains and rollers.
- Replacement of cables and sheaves.
- Replacement or rebuilding air and hydraulic cylinders as required.
- Replacement or rebuilding pumps / motors as required.
- Checking of hydraulic cylinder rod and rod end (threads) for deformation or damage.

#### **CAUTION!!**

**Relocating or changing components may cause problems. Each component in the system must be compatible; an undersized or restricted line will cause a drop in pressure. All valve, pump, and hose connections should be sealed and/or capped until just prior to use. Air hoses can be used to clean fittings and other components. However, the air supply must be filtered and dry to prevent contamination. Most important is cleanliness; Contamination is the most frequent cause of malfunction or failure of hydraulic equipment.**