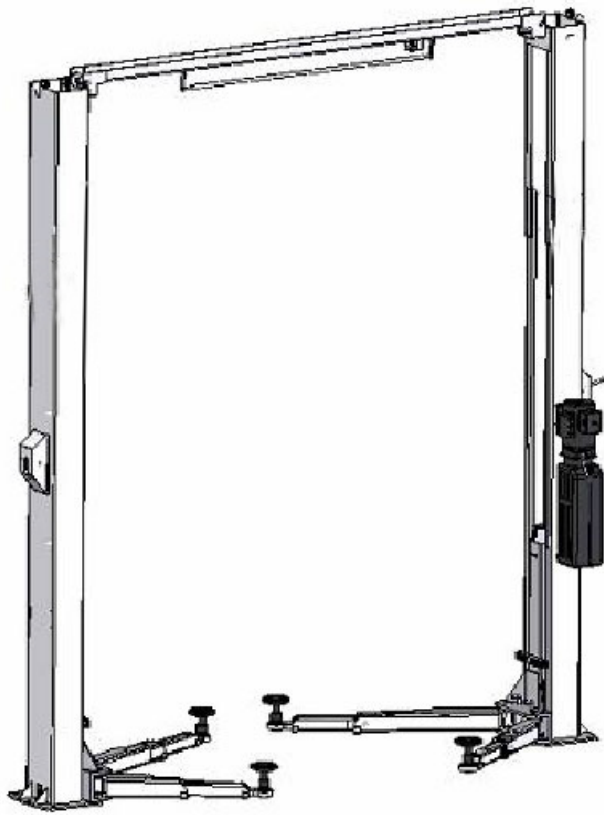




# TWO-POST MODEL AUTOLIFT

## INSTALLATION, OPERATION & MAINTENANCE MANUAL



**MODEL: HP-L5**  
**1000LBS .CAPACITY**

**IMPORTANT: READ THIS MANUAL COMPLETELY BEFORE  
INSTALLING or OPERATING LIFT**

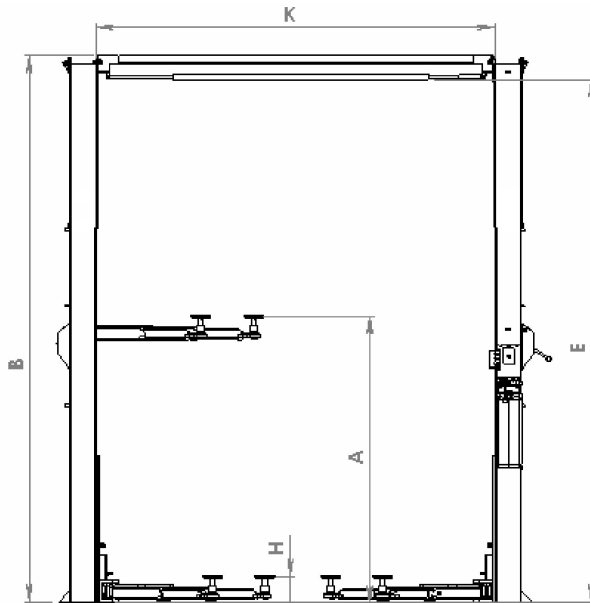


## GENERAL SPECIFICATIONS

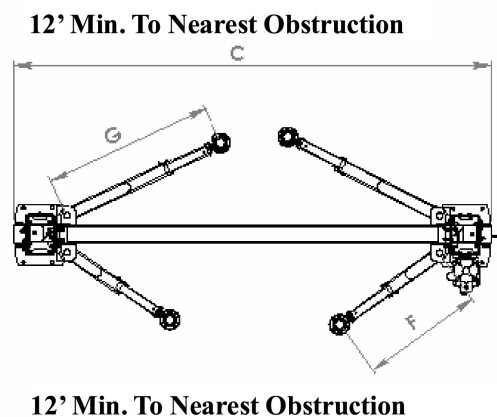
See Figure 1	HP-L5
A Rise Height (Screw Pads Highest Position)	<b>71<sup>3</sup>/<sub>5</sub>"(1820mm)</b>
B Column Height	<b>143<sup>3</sup>/<sub>10</sub>"(3640mm)</b>
C Overall Width	<b>130<sup>9</sup>/<sub>10</sub>"(3325mm)</b>
D Drive-thru Clearance	<b>99<sup>1</sup>/<sub>2</sub>"(2520mm)</b>
E Floor to Overhead Switch	<b>144"(3660mm)</b>
F Short Arm Reach	<b>22<sup>5</sup>/<sub>8</sub>"-39<sup>3</sup>/<sub>8</sub>"(575-1000mm)</b>
G Long Arm Reach	<b>35<sup>7</sup>/<sub>8</sub>"-55<sup>1</sup>/<sub>8</sub>"(910-1400mm)</b>
H Screw Pad Height	<b>4<sup>3</sup>/<sub>4</sub>"-8<sup>1</sup>/<sub>4</sub>"(120-210mm)</b>
K Inside of Columns	<b>109<sup>3</sup>/<sub>5</sub>"(2785mm)</b>
* Maximum Capacity	<b>10000LBS(4545kg)</b>
Ceiling Height Required	<b>152<sup>3</sup>/<sub>16</sub>"(3865mm)</b>
Pump Hydraulic Oil Capacity	2Gallon
Hydraulic Pressure Oil	Wearable Of Hydraulic Pressure Oil [Viscosity 32-46cst ( mm <sup>2</sup> /s ) At 40 °C ]
Working Condition Temperature	5-40 °C
Working Condition Humidity	30%-80%RH
Working Height Above Sea Level	MAX1000m
Transport Environment For Store Of Temperature	-25-55 °C
Motor	<b>2HP, Single Phase, 50/60Hz, 220V</b>

\* Lift capacity ratings are based on loads equally distributed on all four arms.

\*\* Lifting and lowering speeds may vary depending on weight of vehicle.



**Fig 1a- General Specification**



**Fig 1b- Service Bay Layout**

### VERTICAL CLEARANCE

Check the height of the area where the lift is to be installed. Clearance should be calculated based on the full raised height of the lift.



Failure by purchaser to provide adequate clearance could result in

unsatisfactory lift performance, property damage, or personal injury.

## FLOORING

Be certain you have the proper concrete floor to properly handle the loaded lift. Floor should be in generally good condition with no large cracks, spalling or deterioration.

**Minimum requirements for concrete are 4 inches minimum depth, with steel reinforcement, 3500 PSI, cured for 28 days per local commercial practice.**

Floor should be level within 3/8 inch over the installation area. No anchors should be installed within 8 inches of any crack, edge, or expansion joint. If these conditions cannot be met, pads can be poured to accommodate the lift.

Check with local building inspectors and/or permits office for any special instructions or approvals required for your installation.



**WARNING**

**Failure by purchaser to provide the recommended mounting surface could result in unsatisfactory lift performance, property damage, or personal injury.**

## ELECTRICAL REQUIREMENTS

For lift installation and operation for single phase units, it is necessary to have a dedicated circuit with a 25 amp circuit breaker or time delay fuse.

## SAFETY NOTICES AND DECALS

For your safety, and the safety of others, read and understand all of the safety notices and decals included here.

**READ ENTIRE MANUAL BEFORE ASSEMBLING, INSTALLING, OPERATING, OR SERVICING THIS EQUIPMENT.**

**PROPER MAINTENANCE AND INSPECTION IS NECESSARY FOR SAFE OPERATION.**

**DO NOT OPERATE A DAMAGED LIFT.**

<p><b>WARNING</b> Clear area of vehicle in danger of falling.</p>	<p><b>WARNING</b> Position vehicle w/ in center of gravity midway between adapters.</p>	<p><b>CAUTION</b> Lift to be used by trained operator only.</p>	<p><b>CAUTION</b> Authorized personnel only in lift area.</p>
<p><b>WARNING</b> Remain clear of lift when raising or lowering vehicle.</p>	<p><b>WARNING</b> Avoid excessive rocking of vehicle while on lift.</p>	<p><b>CAUTION</b> Use vehicle manufacturer's lift points.</p>	<p><b>CAUTION</b> Always use safety stands when removing or installing heavy components.</p>
<p><b>WARNING</b> Do not override self-closing lift controls.</p>	<p><b>WARNING</b> Keep feet clear of lift while lowering.</p>	<p><b>CAUTION</b> Use height extenders when necessary to insure good contact.</p>	<p><b>CAUTION</b> Auxiliary adapters may reduce load capacity.</p>
<p>The message and pictograms shown are generic in nature and are used to generally represent hazards common to all lifts, regardless of specific lift.</p> <p>For more information and validation of these labels see provided by the Automotive Lift Institute, PO Box 10318, Orlando, FL 32809.</p> <p>They are provided by copyright. All rights reserved. All other trademarks are the property of their respective owners.</p> <p>© 2010 by ALI, Inc. ALI010-010</p>		<p>The message and pictograms shown are generic in nature and are used to generally represent hazards common to all lifts, regardless of specific lift.</p> <p>For more information and validation of these labels see provided by the Automotive Lift Institute, PO Box 10318, Orlando, FL 32809.</p> <p>They are provided by copyright. All rights reserved. All other trademarks are the property of their respective owners.</p> <p>© 2010 by ALI, Inc. ALI010-010</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>SAFETY INSTRUCTIONS</b></p> <p>Do not operate a damaged lift.</p>	<p><b>SAFETY INSTRUCTIONS</b></p> <p>The message and pictograms shown are generic in nature and are used to generally represent hazards common to all lifts, regardless of specific lift.</p> <p>For more information and validation of these labels see provided by the Automotive Lift Institute, PO Box 10318, Orlando, FL 32809.</p> <p>They are provided by copyright. All rights reserved. All other trademarks are the property of their respective owners.</p> <p>© 2010 by ALI, Inc. ALI010-010</p>

Safety decals similar to those shown here are found on a properly installed lift. Be sure that all safety decals have been correctly installed on the Power Unit reservoir. Verify that all authorized operators know the location of these decals and fully understand their meaning. Replace worn, faded, or damaged decals promptly.



**Do not attempt to raise a vehicle on the lift until the lift has been correctly installed and adjusted as described in this manual.**

## **RECEIVING**

The shipment should be thoroughly inspected as soon as it is received. The signed bill of lading is acknowledgement by the carrier of receipt in good condition of shipment covered by our invoice.

If any of the goods called for on this bill of lading are shorted or damaged, do not accept them until the carrier makes a notation on the freight bill of the shorted or damaged goods. Do this for your own protection.

NOTIFY our company AT ONCE if any hidden loss or damage is discovered after receipt.

### **Component Packing List**

DESCRIPTION	QTY	DESCRIPTION	QTY
Power Column Ass'y	1	Synchronizer Cable	2
Idler Column Ass'y	1	Hydraulic Hose Pack	1
		Power Lock Cover	1
		Idler Lock Cover	1
Overhead Ass'y	1	Hardware Box	1
Rear Arm Ass'y	2		
Front Arm Ass'y	2		

## **INSTALLATION**

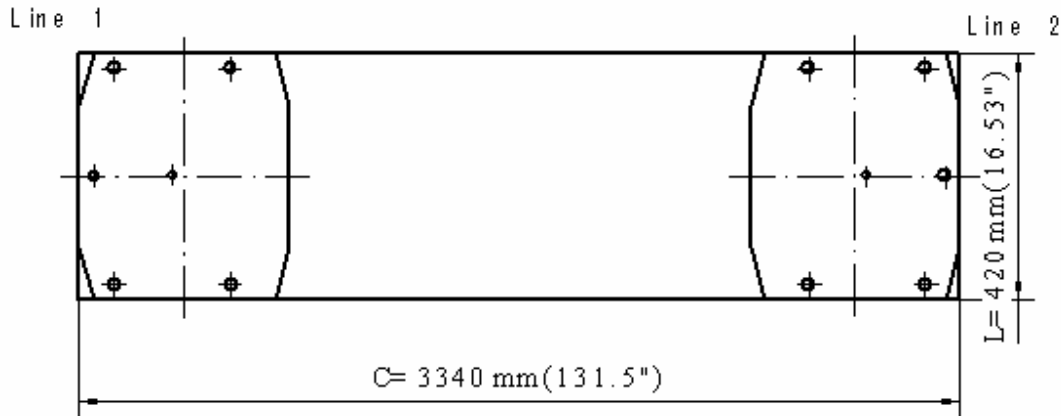
**IMPORTANT:** Always wear safety glasses while installing lift.

### **TOOLS (MINIMUM REQUIRED)**

- a. Banding Cutter
- b. Tape measure, 16ft
- c. Chalk line
- d. 4ft level
- e. 10" adjustable wrench
- f. Standard open end wrenches 7/16"-15/16"
- g. Needle nose pliers
- h. Hammer drill
- i. 2lb hammer
- j. Torque wrench: 150 foot pounds minimum
- k. 12 ft. Step ladder
- l. Anti-Seize lubricant (for arm pins)

### **LAYOUT**

1. Layout the service bay according to the architect's plans or owners instructions (see Fig 1b). Be certain that the proper conditions exist.
2. Assemble column extension to column using M12×30 Hex bolt. Repeat for opposite column and extension.
3. Using the Overall Width(C) as a guideline, chalk two parallel (line 1 and line 2) on the concrete floor within 1/8 inch tolerance.
4. Determine the location of the Column Ass'y on either chalk line and mark the base plate dimension Overall Width(L) .



**Fig 2 – Floor Plan**



**WARNING**

**Be sure to stay within a 1/4 inch overall tolerance. This will eliminate any difficulty in final assembly or possible premature chain wear or misalignment.**

**The chalk line layout is very important. If it is not followed accurately problems may arise in final assembly and operation.**

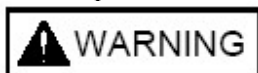
5. Using a lifting device, Erect both column assemblies with the installation lines.

### **ANCHORING**

6. The anchor bolts must be installed at least 8 inches from any crack, edge, or expansion joint.
7. Use a concrete hammer drill with a carbide bit. Do not use excessively worn bits or bits which have been incorrectly sharpened. A core bit may be necessary if an obstruction is encountered.

**Never substitute with shorter anchor.**

8. Recheck “Inside of Columns” dimension, Fig 1. Drill the anchor holes using the base plate as a template. Drill through the floor if possible or to a depth of 3.5 inches minimum.
9. Vacuum dust from the hole for proper holding power.
10. Shim both columns to plumb using the shims provided. DO NOT shim more than 1/2" at any given point. Use a level no less than 24" in length to plumb columns.
11. Assemble washer and nut to anchor with nut just below impact section of bolt. Drive anchor into hole until nut and washer contact base.
12. Tighten power column anchors and recheck column for plumb. Reshim if necessary. Torque to 150 foot pounds to set anchors.



**WARNING**

**Never remove the lift before the columns Tightened by the anchor bolts.**

### **OVERHEAD BEAM**

13. Assemble overhead ass’y to column extension using M12×30 Hex bolt.
14. Install Overhead Limit Switch to Power Column.

### **SYNCHRONIZER CABLES**

15. Manually raise the carriages until each is located on the second lock position.
16. Route synchronizing cables using Fig 3 and attach ends to carriages’ joining using Fig’s 4.
17. Adjust cable tension by adjusting each cable’s adjustment nuts. The cables should be tight with no slack. Each cable should be the same tension. Be sure as you are tightening the cables that they have remained in place over the pulleys. Failure to do this will result in damage to the cable.

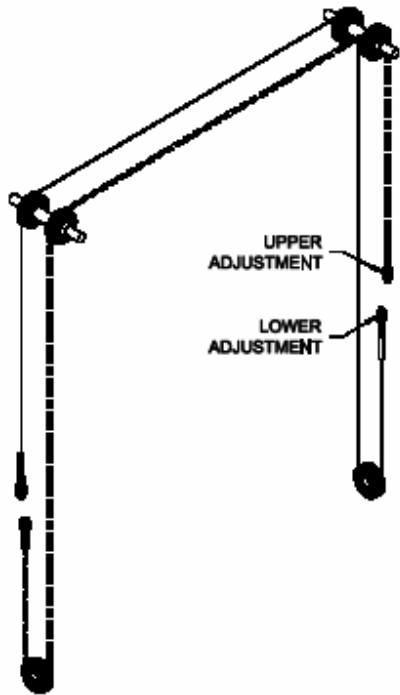


Fig 3- Cable Routing

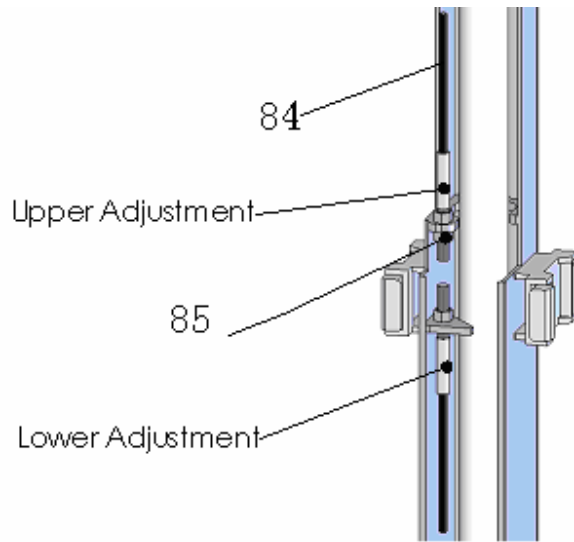


Fig 4- Attaching



**WARNING**

Cable

Prior to operation of lift recheck equalizer cables making sure they are not crossed or routed improperly. Be sure the cables have remained in place over the pulleys.

## POWER UNIT & HYDRAULIC HOSE

18. Mount Power Unit to power column with M8 hex nuts, M8×20 bolt.

19. Attach hydraulic elbow fitting to power unit.

20. **IMPORTANT – To insure proper hose fitting seal without damage to the fitting follow this procedure for each hose connection:** Screw flared fitting on finger tight. Rotate flared fitting 1 1/2 hex flats (90 deg.). Back the flared fitting off one full turn. Again tighten flared fitting finger tight, then rotate flared fitting 1 1/2 hex flats (90 deg).

21. Thread power unit hydraulic hose into elbow on power unit. Route hydraulic hose from Idler column across Overhead to the Power Column.(Fig 6)

22. Once the Power Unit is secured, fill reservoir with #10 weight **HYDRAULIC OIL ONLY**. Care should be taken to keep dirt or other contamination out of oil.

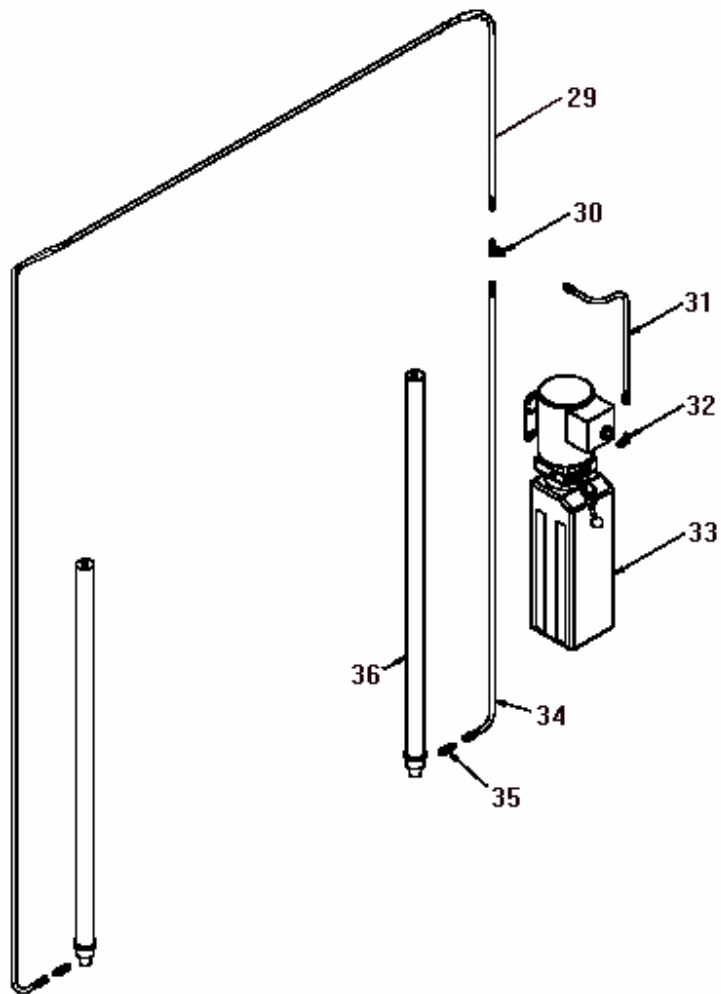


Fig 5- Hydraulics

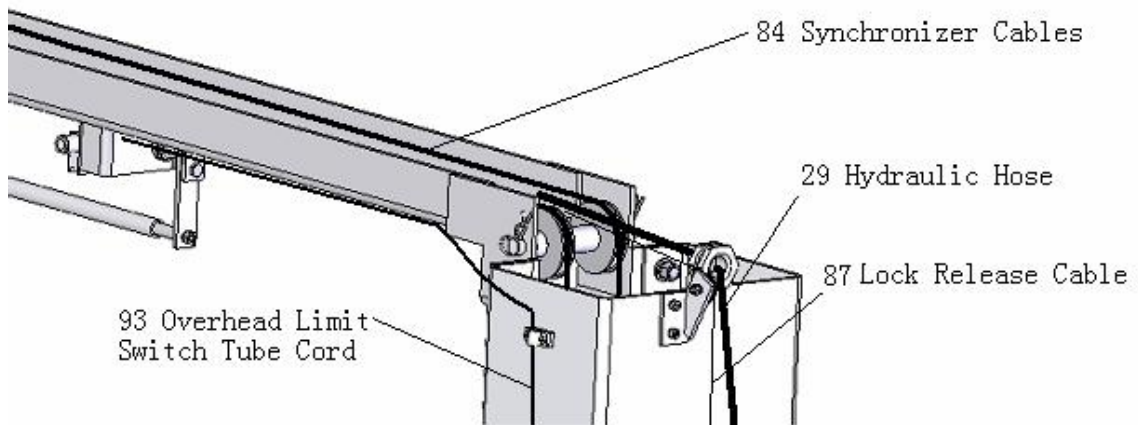


Fig 6

## LOCK RELEASE

23. Install Lock Release Stud and Knob to Power Column Lock using one M10 nut.
24. Attach Mechanical Lock Release Cable Assembly to two Column Lock Pawl (Fig 7).



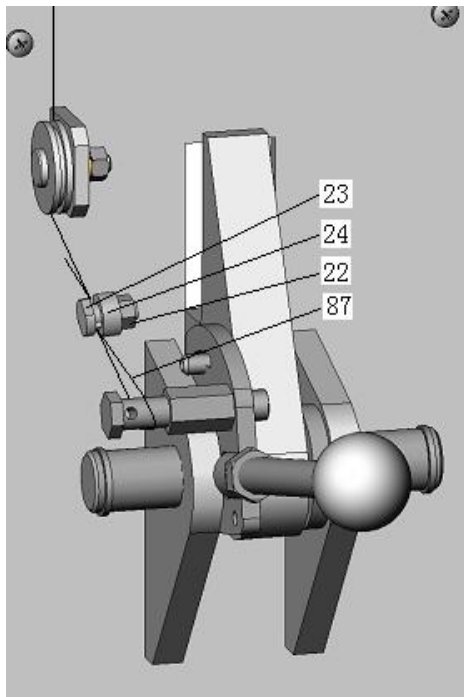
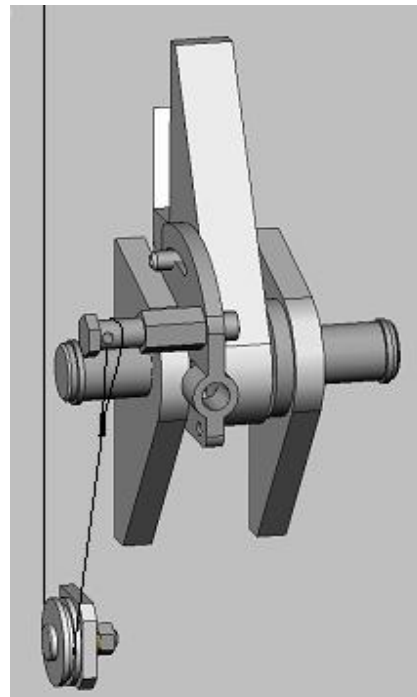


Fig 7 Power Column Lock  
Release Assembly



Idler Column Lock  
Release Assembly

**THE LOCK RELEASE CABLE ADJUSTMENT IS NOT COMPLETE UNTIL THE LIFT HAS BEEN LOWERED AND “FINAL ADJUSTMENTS” HAVE BEEN MADE.**

### **ARM INSTALLATION**

25. Lubricate the arm pin or carriage arm pin hole with “anti-seize” and install the arms. Insure that the arm restraint gears engage and disengage properly. Arm restraints any binding occurs, insure that the large gear mounted to the arm has been factory installed tight against the arm pin.

### **ELECTRICAL**

26. Connect the Overhead Limit Switch Cord to Power Unit as shown in nameplate on the Power Unit.

27. Connect Power Unit to suitable electrical source as shown in nameplate on the Power Unit.

28. **IMPORTANT:** AFTER WIRING HAS BEEN COMPLETED, TEST OPERATION OF POWER UNIT & OVERHEAD LIMIT SWITCH. WHILE RAISING LIFT, OPERATE OVERHEAD SHUTOFF BAR. POWER UNIT MOTOR SHOULD STOP WHEN SHUTOFF BAR IS RAISED.

### **FINAL ADJUSTMENTS**

29. Lower the lift to the floor and raise the lift approximately one foot.

30. Start with Idler side first. Slowly and carefully loosen the bleed plug on top of the cylinder just enough to allow the entrapped air to escape. Repeat for power side.

31. Energize the power unit and raise 6 inches. Repeat previous step until no air comes out of cylinder.

32. Pressure test hydraulic system. Energize power unit, raise lift to full rise and continue to run motor for additional 10 seconds. (NOTE: pressure relief will make a high pitch squeal sound for these 10 seconds.) Check hydraulic system for leaks.

33. Energize power unit again for 10 seconds. With a clean rag, wipe down both cylinder rods. If lubricant is not wiped clean from the cylinder rod, the cylinder will appear to be leaking.

34. Cycle lift to insure that the latches operate simultaneously. Lower the lift onto the locks and insure that neither lock will wobble (it is possible for the carriages to appear to be resting on the locks when actually only one carriage is resting on its lock and the other carriage is being supported by the synchronizing cable).

35. Lower lift to the floor. Pull and release lock release handle while watching idler column lock. Adjust threaded sleeve cable adjuster nuts until idler column lock disengages and engages fully. When properly adjusted, the idler column lock should just come to rest against the back of the column when engaged and fully out against the tab when disengaged.

**IMPORTANT: IF IDLER SIDE LOCK PAWL DOES NOT FULLY DISENGAGE, DAMAGE MAY RESULT TO IDLER SIDE CARRIAGE AND OR CABLE SYNCHRONIZING SYSTEM.**

36. Tighten and trim wire ties.
37. Snap lock cover over each lock assembly.

## **OPERATION PROCEDURE**

### **SAFETY NOTICES AND DECALS**

**This product is furnished with graphic safety warning labels, which are reproduced on page 3 of these instructions. Do not remove or deface these warning labels, or allow them to be removed or defaced. For your safety, and the safety of others, read and understand all of the safety notices and decals included.**

### **OWNER/EMPLOYER RESPONSIBILITIES**

**The owner/employer shall** make sure that all lift operators are qualified and trained in the safe use and operation of the lift in accordance with the manufacturer's operating instructions. They also shall display the lift manufacturer's operating instructions and maintenance schedule in a conspicuous location and area, convenient to the operator.

**The owner/employer shall** establish procedures to periodically inspect and maintain the lift in accordance with the lift manufacturer's suggestions. The employer shall insure that the lift inspector and maintenance personnel are qualified and that they are adequately trained in these procedures. The employer shall maintain these periodic inspection and maintenance records.

### **LIFTING A VEHICLE**

- 1) Insure that the lifting arms are parked, out to full drive thru position.
- 2) Position the vehicle in the service bay so that the vehicle's center of gravity is on a line between the two columns, and so the vehicle is centered between the two columns.

**DO NOT EXCEED 2500 POUNDS PER ARM.**

**DO NOT ATTEMPT TO LIFT THE VEHICLE WITH ONLY TWO ARMS, AS THIS WILL VOID THE WARRANTY**

**INSURE THAT THE HIGHEST POINT ON THE VEHICLE WILL CONTACT THE OVERHEAD LIMIT SWITCH BAR**

**DO NOT PLACE THE VEHICLE IN THE SERVICE BAY BACKWARDS.**

- 3) Position the arms and adapters so all four pads contact the vehicle simultaneously.

**The vehicle should remain level during lifting.**

- 4) Raise the lift until all four wheels are off the ground. Test the stability of the vehicle by attempting to rock the vehicle. Check adapters for secure contact with vehicle lift points. If the vehicle seems unstable, lower the lift and readjust the arms. If the vehicle is stable, raise the vehicle to a height a few inches above the desired working height.
- 5) Lower the vehicle until the safety latches on both columns engage. The vehicle should remain level when both latches are engaged. If one side engages and the other continues to descend, stop lowering the vehicle, raise it several inches, and try again to engage both latches.

**Always lower lift into locks before entering the area beneath the vehicle.**

**Always use safety stands when removing or installing heavy components.**

## **LOWERING A VEHICLE**

- 1) Insure that the area under the vehicle is clear of personnel and tools.
- 2) Raise the vehicle until both latches are free.
- 3) Disengage the latches by pulling down and holding the lock release lever.
- 4) Lower the vehicle by depressing the lowering valve handle.
- 5) Continue to lower the vehicle until the carriages stop against the base plate. Retract the extension arms, and park them.

## **MAINTENANCE**

To avoid personal injury, permit only qualified personnel to perform maintenance on this equipment. The following maintenance points are suggestions for a preventive maintenance program. The actual program should be tailored to the particular installation.

- 1) If lift stops short of full rise or chatters, check fluid level and bleed both cylinders per Installation Instructions.
- 2) Replace all Safety, Warning or Caution Labels if missing or damaged (See Installation instructions page 3.)

### **Daily**

- 1) Keep lift components clean.
- 2) Check for loose or broken parts.
- 3) Check hydraulic system for fluid leaks.
- 4) Check adapters for damage or excessive wear. Replace as required with genuine Challenger Lifts parts.
- 5) Check the lock release activation.

### **Weekly**

- 1) Check synchronizer cables and sheaves for wear. Replace as required with genuine Challenger Lifts parts.
- 2) Check lock release cable adjustment per Installation Instructions.

**IMPORTANT: IF IDLER SIDE LOCK PAWL DOES NOT FULLY DISENGAGE, DAMAGE MAY RESULT TO IDLER SIDE CARRIAGE AND OR CABLE SYNCHRONIZING SYSTEM.**

- 3) Check synchronizer cable tension per Installation Instructions. Adjust if necessary.

### **Monthly**

- 1) Torque concrete anchor bolts to 80 ft-lbs.
- 2) Check overhead shutoff switch. While raising lift, operate overhead shutoff bar. Power Unit motor should stop when bar is raised.
- 3) Lubricate carriage slide tracks with heavy viscous grease. (Grease all (4) corners of both columns.)

**If any problems are encountered, contact your local service representative.**

## **TROUBLE SHOOTING GUIDE**

<b>TROUBLE</b>	<b>CAUSE</b>	<b>SOLUTION</b>
<b>Lift going up unlevel</b>	1) Synchronization cables out of adjustment	1) Adjust cables to the correct tension (See manual)
	2) Lift is installed on unlevel floor	2) Shim lift to level columns (Do not exceed ½")
<b>Carriages not going up</b>	1) Leak in hydraulic system	1) Find and repair leak
	2) Overloading the lift	2) keep load under the rated capacity
	3) Problem with pressure relief valve	3) Clean or replace the valve
<b>Carriages not going down</b>	1) Carriage still engaged in the lock	1) Raise lift up, push lift lowering valve, and lower
	2) Lowering valve clogged	2) Check lowering valve in power unit
	3) Vehicle not loaded (spotted) correctly	3) Check pickup points for that particular vehicle
	4) Foreign object blocking the carriage	4) Remove the object
<b>Locking latches do not engage</b>	1) Lock release shaft rusted. (Usually occurs on outside installations or wash bays)	1) Remove covers, oil the mechanism. Operate locks to allow oil to penetrate
	2) Lock release spring broken	2) Replace broken spring
	3) Lock release cables need adjustment	3) Adjust clamp at cable end
<b>Lift chatters on the way up</b>	1) Air in the cylinders	1) Bleed cylinders
<b>Fluid Leak</b>	1) Defect in hydraulic hose	1) Replace hydraulic hose
	2) Defect in fitting	2) Tighten fitting, and replace if necessary
	3) Defect in cylinder packing (seals)	3) Repack seals or replace cylinder if necessary
<b>Fluid is contaminated</b>	1) Water or foreign substance	1) Replace hydraulic fluid
<b>Slow lowering speed</b>	1) Plugged cylinder orifice	1) Remove and clear orifice
	2) Lowering valve (screen) clogged	2) Remove and clean valve
	3) Wrong weight of fluid	3) Replace with recommended fluid
	4) Pinch or restriction in hydraulic hoses	4) Clean and/or replace hydraulic hoses
	5) Foreign object in carriage	5) Remove foreign object
<b>Footpads slipping from pickup point when raising lift</b>	1) Column not plumb	1) Plumb columns
<b>Anchors will not stay tight</b>	1) Oversized holes	1) Relocate lift using a new bit to drill holes
	2) Concrete floor thickness or PSI strength not sufficient	2) Tear out old concrete and pour new pads for the lift
	3) Anchors not torqued correctly	3) Torque bolts to the correct spec
<b>Abnormal noise from the power unit</b>	1) Overloading the lift	1) Keep load under the rated capacity.
	2) Hydraulic fluid low	2) Check fluid level, fill and bleed cylinders
<b>Motor will not work</b>	1) Defect in motor	1) Replace motor
	2) Fuse disconnected	2) Fix fuse
	3) Defect in power button	3) Replace button
	4) Overhead shut-off cable is activated	4) Deactivate shut-off system
	5) Incoming power voltage is less than 220V that is needed	5) Have licensed electrician check the wiring

## PARTS LIST

NO.	DESCRIPTION	QTY	NO.	DESCRIPTION	QTY
1	POWER COLUMN WELD	1	46	PULLEY WHEEL	6
	IDLER COLUMN WELD	1	47	PULLEY AXES	2
			48	MIDDLE SPACE SLEEVE	2
			49	BOLT M8x25	2
3	POWER LOCK COVER	1	50	STROKE SWITCH	1
	IDLER LOCK COVER	1	51	SHUTOFF BAR CUSHION	1
4	SCREW M5x10	8	52	SHUTOFF BAR	1
5	BALL HANDLE	1	53	PROTECT CONNECTOR	1
6	LOCK RELEASE STUD	1	54	PULLEY FIX HOLDER	1R/1L
7	NUT M10	1	55	SADDLE PAD	4
8	"C" RING 20	4	56	FLEXIBLE SADDLE	4
9	LOCK RELEASE WIRE PIN	2	57	STEEL RING 30	4
10	LOCK RELEASE SPRING1	2	58	STEEL RING 45	8
11	LOCK RELEASE SPRING2	2	59	THERADERD PIN	4
12	LOCK RELEASE SHART	2	60	SLEEVE	4
13	LOCK RELEASE CONNECTOR	2	61	BACK ARM	2
14	BOLT M6	2	62	BACK HOLDER	2
15	SPRING PIN ! 6x35	2	63	WASHER 10	6
16	LOCK PAWL	2	64	SPRING WASHER 10	18
17	WASHER	2	65	LOCK SCREW	6
18	WHEEL AXES	4	66	HOLDER PIN	4
19	WHEEL	4	67	SCREW M10x25	12
20	WASHER 6	8	68	GEAR WHEEL	4
21	SPRING WASHER 6	8	69	LIMITED BOLT	4
22	NUT M6	9	70	SPRING PIN 4x24	4
23	BOLT	1	71	SPRING PIN 4x30	4
24	SPACE SLEEVE	1	72	LIMITED SPRING	4
			73	LEVEL LIMITED BOLT	4
			74	SLIDE BLOCK	16
			75	LIFT ARM	2
			76	BUMP SHIELD BLOCK	2
29	LONG HYDRAULIC HOSE	1	77	WASHER 8	4
30	TRIANGLE CONNECTOR	1	78	BOLT M8x30	4
31	PUMP OUTPUT HYDRAULIC HOSE	1	79	FRONT HOLDER ARM	2
32	CYLINDER CONNERCTOR	1	80	FRONT FLEXIBLE ARM	2
33	POWER UNIT	1	81	FRONT FLEXIBLE HOLDER	2
34	SHORT HYDRAULIC HOSE	1	82	BOLT M12x45	2
35	CYLINDER CONNERCTOR	2	83	CROSSBEAM JOINTING	1
36	CYLINDER	2	84	WIRE ROPE	2
37	NUT M8	4	85	NUT M16	6
38	BOLT M5x8	10	86	LOCK NUT M8	3
39	TUBE CORD BASE	5	87	SMALL WIRE ROPE	1
40	BOLT M6x20	4	88	NUT M4	2
41	PROTECTIVE BOLT	2	89	WASHER 4	2
42	PROTECTIVE NUT	2	90	SPRING WASHER 4	2
43	R-RING	6	91	BOLT M4x30	2
44	WASHER	4	92	BOLT M8x20	4
45	SPACE SLEEVE	4	93	TUBE CORD	1

