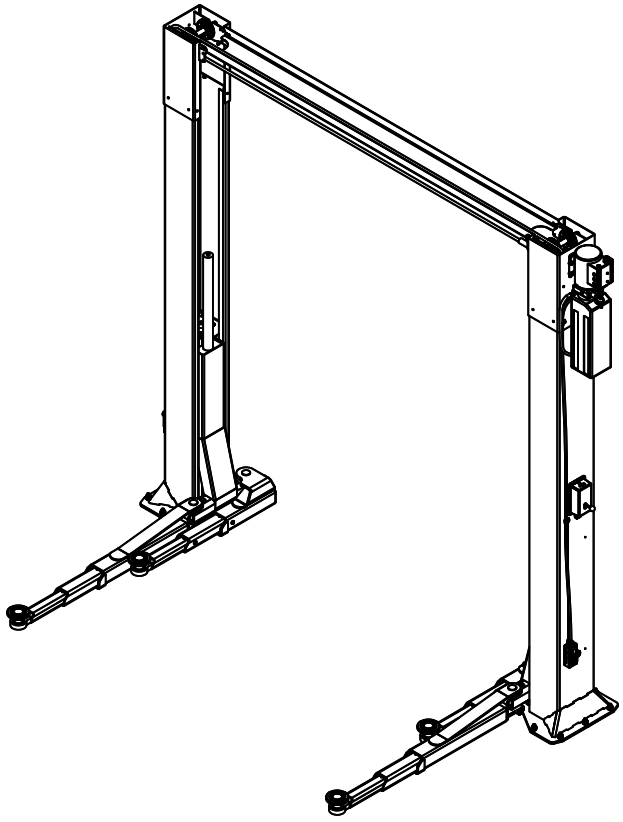
Installation, Operation, & Maintenance Manual

Versymmetric™ Two Post Surface Mounted Lift



MODEL CL10

WITH DUAL PENDANT CONTROL

10,000 LBS. CAPACITY
2500 LBS. PER ARM

200 Cabel Street, P.O. Box 3944 Louisville, Kentucky 40201-3944
Email:*sales@challengerlifts.com* Web site:www.challengerlifts.com

Office 800-648-5438 / 502-625-0700 Fax 502-587-1933

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

Rev.4/22/11

GENERAL SPECIFICATIONS

See Figure 1	CL10	CL10-2	CL10-3
A Column Height	**11'- 8"**	**13'- 8"**	**14'- 8"**
B Floor to Overhead Switch	**11'- 2 1/2 "**	**13'- 2 1/2"**	**14'- 2 1/2"**
C Rise Height *(Screw Pads Highest Position)*	**75 1/8"**		
D Cylinder Height *(Full Stroke)*	**11'- 11"**		
E Adjustable Overall Width	**11'- 11" / 11' – 6 1/2"**		
F Screw Pad Height	**3 7/8"** to **7 1/8"**		
G Inside of Columns	**114 1/2" / 110"**		
Drive Thru Clearance	**104 1/2" / 100"**		
Ceiling Height Required	**11'- 11 "**	**13'- 9"**	**14'- 9"**
* Maximum Capacity	**10,000 lbs**. (**2500 lbs**. Per Arm)		
Lifting Time	**48 Sec**. (approximate)		
Motor	**2HP, Single Phase, 60Hz, 208/230**		

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

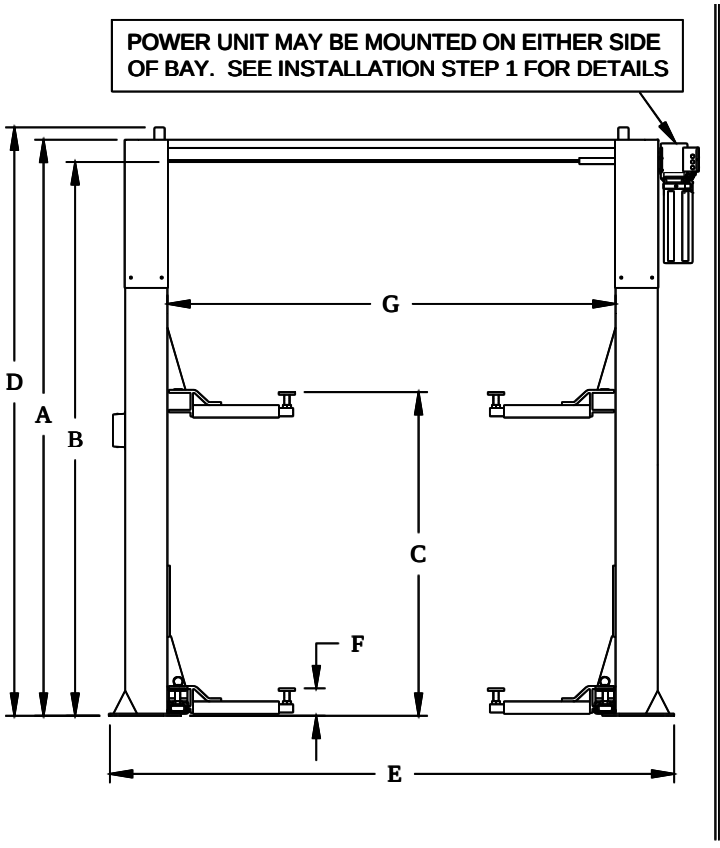


Fig 1a - General Specifications

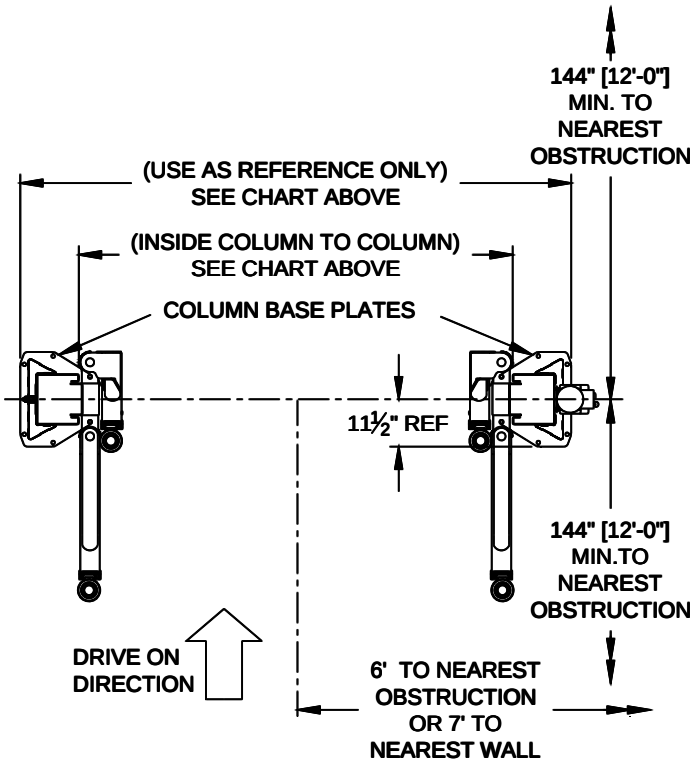


Fig1b - Service Bay Layout

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.

WARNING **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, a pad may 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.**

LOCATION

This lift has been evaluated for indoor use only with an operating ambient temp. range of 5 – 40°C (41– 104°F)

ELECTRICAL REQUIREMENTS

A single phase 208-240VAC, 60Hz dedicated circuit with a double pole 25 amp circuit breaker or time delay fuse is required.

SAFETY NOTICES AND DECALS

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

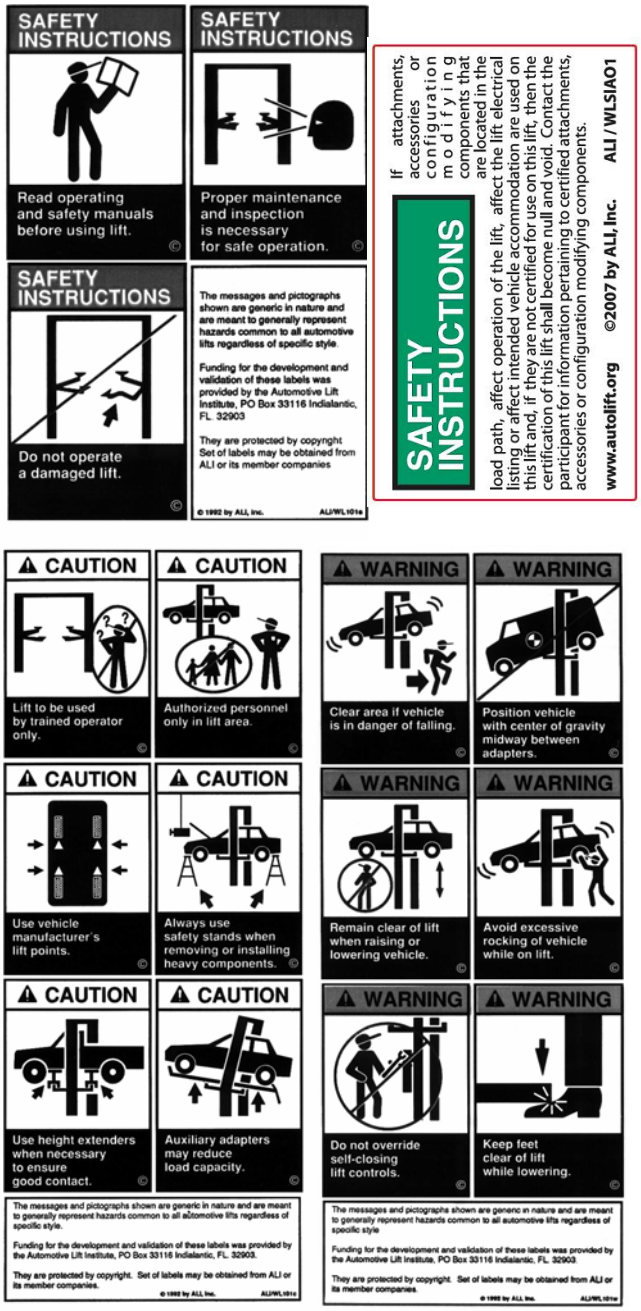
READ ENTIRE MANUAL BEFORE ASSEMBLING, INSTALLING, OPERATING, OR SERVICING THIS EQUIPMENT.

PROPER MAINTENANCE AND INSPECTION IS NECESSARY FOR SAFE OPERATION.

DO NOT OPERATE A DAMAGED LIFT.

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

WARNING **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 ***Challenger Lifts*** AT ONCE if any hidden loss or damage is discovered after receipt.

IT IS DIFFICULT TO COLLECT FOR LOSS OR DAMAGE AFTER YOU HAVE GIVEN THE CARRIER A CLEAR RECEIPT.

File your claim with ***Challenger Lifts*** promptly. Support your claim with copies of the bill of lading, freight bill, and photographs, if available.

Component Packing List

PART #	QTY/ LIFT	DESCRIPTION
A2001-DPC-57-P	1	Power Column Ass'y
A2001-57-I	1	Idler Column Ass'y
A2060	1	Overhead Beam
B2202	1	Arm Pack
A2055-57-0	2	Column Extension for CL10
A2055-57-2		Column Extension for CL10-2
A2055-57-3		Column Extension for CL10-3
A2003-0	1	Sync Cable Pack for CL10
A2003-2		Sync Cable Pack for CL10-2
A2003-3		Sync Cable Pack for CL10-3
36035	1	Overhead Shut-Off Bar Ass'y
CL10DPC-HW	1	Hardware Box
CL10DPC-LP	1	Literature Pack (in Hardware Box)
A1207-17	1	Power Unit – 1 Phase
A1206-15	1	Junction Box Assembly
A1206-10-PS	1	Pendant Ass'y POWER (CL10-0)
A1206-10-PX		Pendant Ass'y POWER (CL10-2 or-3)
A1206-10-IS	1	Pendant Ass'y IDLER (CL10-0)
A1206-10-IX		Pendant Ass'y IDLER (CL10-2 or-3)

INSTALLATION

IMPORTANT: Always wear safety glasses while installing lift.

TOOLS (MINIMUM REQUIRED)

a. Tape measure, 16ft
b. Chalk line
c. 4ft level
d. 10" adjustable wrench
e. Standard open end wrenches 7/16", 1/2", (2) 9/16", (2) 11/16", 3/4", 15/16"
f. 5/16" allen wrench
g. Needle nose pliers
h. Hammer drill with 3/4" diameter carbide tipped bits
i. 2lb hammer
j. Torque wrench: 150 foot pounds minimum with 1 1/8" socket
k. 12 ft. Step ladder
l. Anti-Seize lubricant (for arm pins and foot pad screw threads and stop rings)

LAYOUT

1) Layout the service bay according to the architect's plans or owners instructions ***(see Fig 1b***). **Failure to install in this orientation can result in personal and property damage.** Be certain that the proper conditions exist, see page 3.

Note: the only difference between the Power and Idler Column is the length of hose attached to the cylinder (long hose in Idler Column). The Power Unit may be mounted on the Power Column on either side of the bay.

2) Assemble column extension to column using 3/8-16 x 3/4" lg Hex flange head bolt. Repeat for opposite column and extension.

3) Erect both column assemblies (column with short cylinder hose on side of bay with Power Unit). Align the notches in column base, with the installation lines.

LOCKING PAWL

4) Attach 1/2" O.D. Extension Spring to hole located on bottom side of both supplied Lock Pawls, **Fig 2a**. Install Lock Pawl and Lock Release Clevis on both columns using 5/8" diameter x 1 1/2" lg shoulder bolt and 1/2"-13 nylon lock nut. Attach 3/8" O.D. Extension Spring to upper hole in locking pawl and other end to hole in bracket welded to column as shown in **Fig 2a & 2b.**

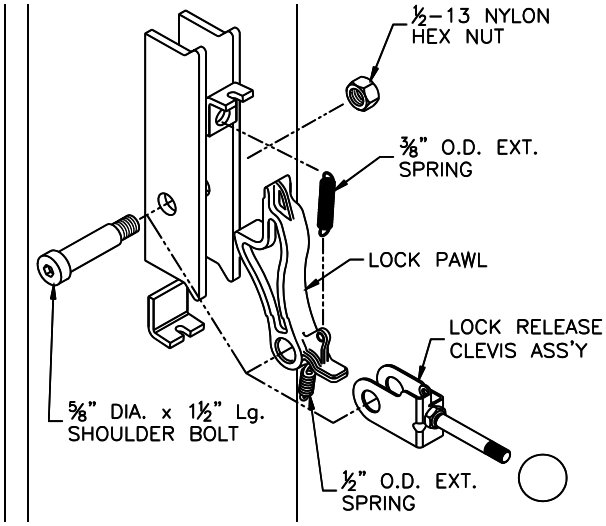


Fig 2a – Locking Pawl Assembly

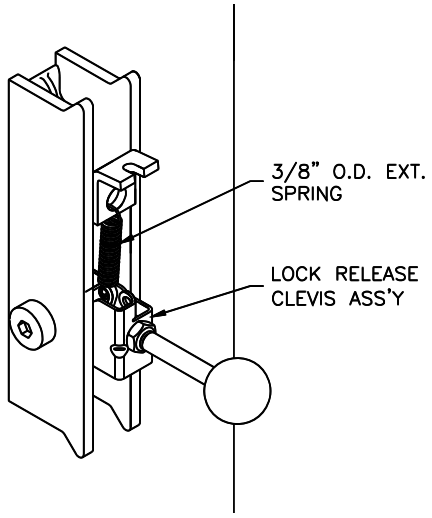


Fig 2b – Locking Pawl Assembly

ANCHORING

5) The anchor bolts must be installed at least 8" from any crack, edge, or expansion joint.

6) Use a concrete hammer drill with a 3/4 inch carbide bit. Tip diameter should conform to ANSI Standard B94.12-1977 (.775 to .787). 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.**

7) 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 5 inches minimum.

Complete steps 8 thru 11 for the five (5) exposed anchors around each column, then raise the carriages. Repeat steps 8 thru 11 for the two (2) anchors under each carriage.

8) Vacuum dust from the hole for proper holding power.

9) Shim both columns to plumb using the shims provided as shown in **Fig 3**. DO NOT shim more than 1/2" at any given point. Use a level no less than 24" in length to plumb columns.

10) Assemble washer and nut to anchor with nut just below impact section of bolt. Drive anchor into hole until nut and washer contact base.

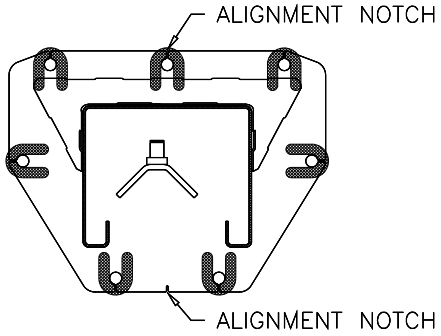


Fig 3 – Column Shimming

11) Tighten power column anchors and recheck column for plumb. Re-shim if necessary. Torque to 150 foot-pounds to set anchors.

OVERHEAD

12) Before raising overhead into position install 4 each (2 per column) hex flange bolts and nuts in middle hole of column extension ***(see Fig 4 Installation Aid)*** for temporary support of overhead. Lift overhead assembly up into position and install with 8 each (4 per column) 3/8-16 x 3/4" lg hex flange bolts and hex flange nuts per side as shown in **Fig 4**.

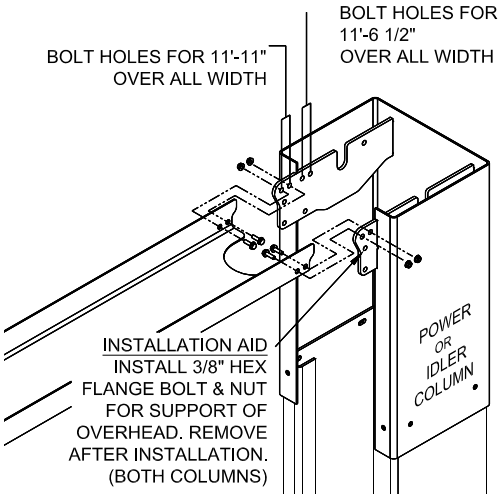


Fig 4 – Overhead Assembly

13) Check idler column shimming. Use additional shims (***see Fig. 3***) to remove any gaps that may have been created while installing overhead beam. Tighten anchor bolts and re-check column for plumb. Torque to 150 foot pounds.

14) Assemble the sheaves and spacers onto the sheave pin as shown in **Fig 5**. Set in cradle with all assembly parts between the two plates.

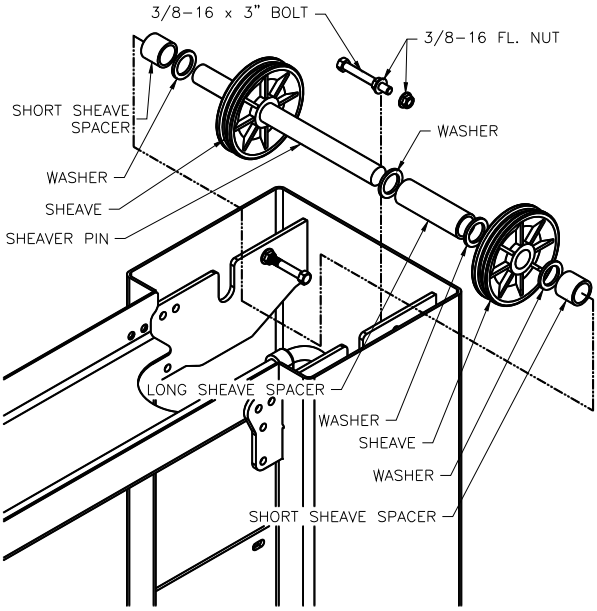


Fig 5 – Sheave Assembly

SYNCHRONIZER CABLES

15) Attach one end of synchronizing cable to carriage with the supplied nut and jam nut. See **Fig 6a** & **6b** for proper attachment.

16) Route cable up and over sheave in overhead. Follow across to other sheave on opposite column. Route down through carriage to sheave in bottom of column. Route under sheave and up to cable attachment. Use **Fig 6a** for proper attachment.

17) At the top of each column extension assemble a 3/8-16 x 3"Lg bolt with (2) 3/8-16 flange nut at each sheave location, **Fig 5**.

18) Repeat for opposite side.

19) Manually raise the carriages to a common lock position, to gain access to the cable-tie-off tabs located on the carriage ladder.

Insure that the top of the hydraulic cylinder is out of the way but still retained in the opening of the top plate of the carriage as shown in Fig 6a.

CAUTION **Failure to follow previous step could result in personal injury.**

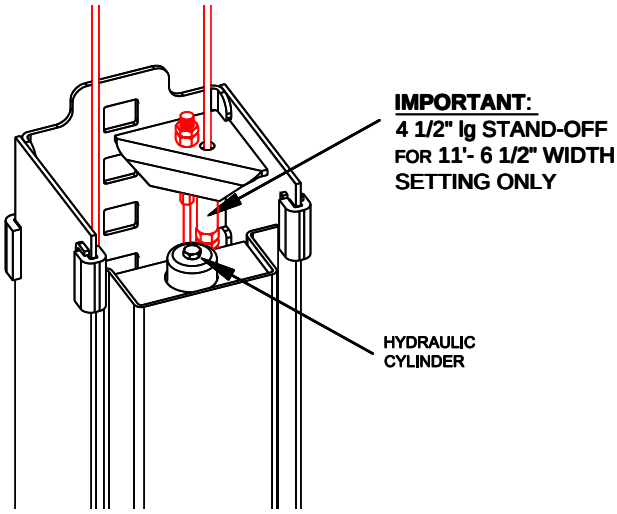


Fig 6a – Cable Assembly

IMPORTANT:
Stand-Offs to be used only on the 11'– 6 ½" Overall Width Setting.

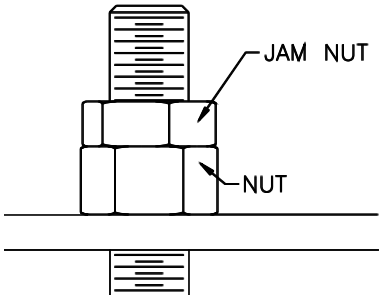


Fig 6b – Jam Nut

POWER UNIT & HYDRAULIC HOSES

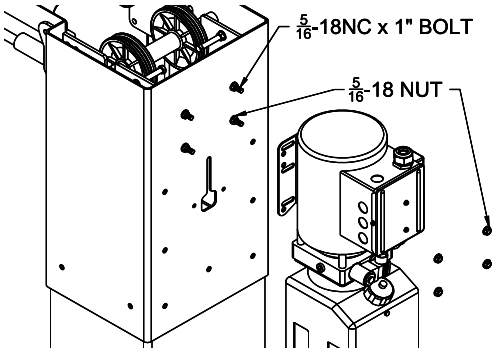


Fig 7 – Power Unit Mounting

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.).

20) Mount Power Unit to column extension as shown in **Fig 7**. Assemble the mounting hardware, (4) 5/16"-18 x 1" bolts and (8) 5/16"-18 hex nuts with the bolt installed from the inside of the column and one nut holding it in place at all four locations as shown. Hang the power unit from these studs and secure with remaining (4) 5/16 nuts.

21) Uncoil Idler side hose and route through the Idler Side column extension as shown in **Fig 8a,** taking care to avoid the synchronizing cables and hydraulic cylinder path. Remove slack and tighten all 3 clamps. Route hose across overhead avoiding the synchronizing cables and down through the Power Side column extension as seen in **Fig 8b**. Do Not Tighten Clamps at this time.

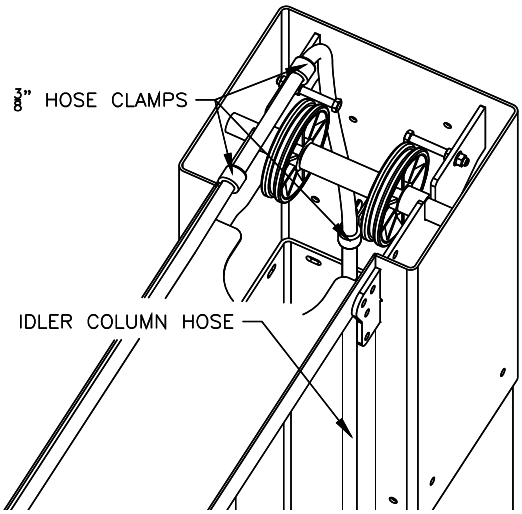


Fig 8a – Hose Routing,
Idler Side Column Ext.

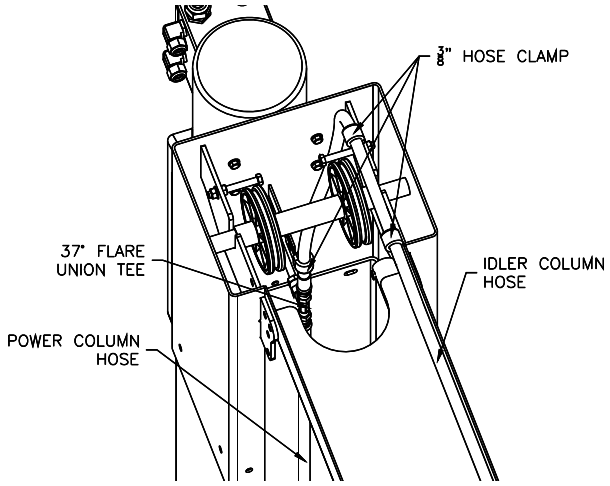


Fig 8b – Hose Routing,

Power Side Column Ext.

22) Loosely attach power column hose and idler column hose using the tee fitting (*in hardware box*) Attach Power Unit Hose to power side column extension as seen in **Fig 9a.** Connect Power unit hose to tee from **Fig 8b** and remove slack from power column hose. Tighten loose fittings and clamps from previous step. Serpentine any extra hose length in overhead.

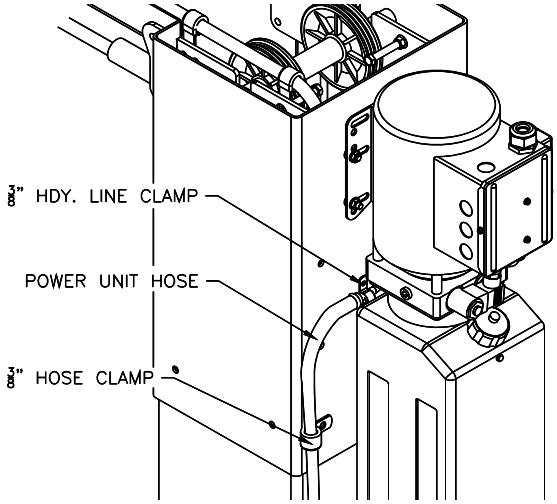


Fig 9a – Power Unit Hose

23) Thread 9/16-18 O-ring elbow (*in hardware box*) into power unit. CAUTION do not damage rubber O-ring. Attach free end of power unit hose to elbow. See **Fig 9b.**

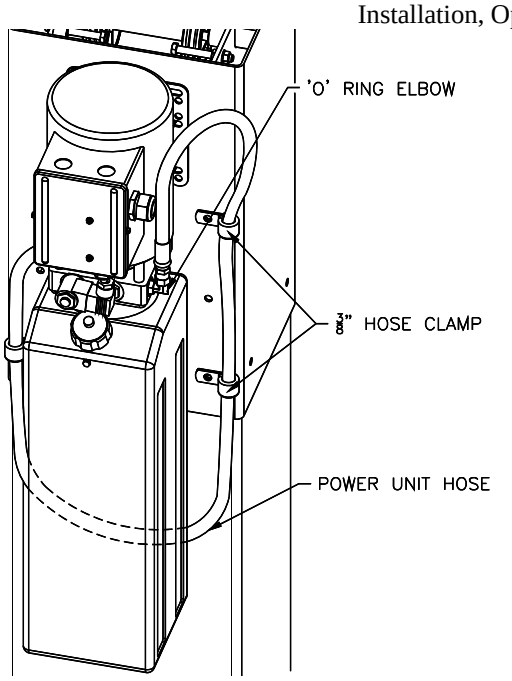


Fig 9b Power Unit Connection

24) **BE CERTAIN ALL FITTINGS AND CONNECTIONS ARE TIGHT. IT IS THE INSTALLERS RESPONSIBILITY TO INSURE SYSTEM IS LEAK-FREE.** Fill the Power Unit with three gallons of clean 10wt anti-foam anti-rust hydraulic oil or Dexron III ATF. **DO NOT USE OILS WITH DETERGENTS.**

LOCK RELEASE

DUAL LOCK RELEASE

(TWO LOCK RELEASE CABLES WILL BE ROUTED TOGETHER THROUGH THE LIFT. ONE CABLE ATTACHES TO THE TOP OF THE POWER COLUMN LOCK RELEASE CLEVIS AND THE BOTTOM OF THE IDLER COLUMN LOCK PAWL. THE OTHER CABLE ATTACHES TO THE TOP OF THE IDLER COLUMN LOCK RELEASE CLEVIS AND THE BOTTOM OF THE POWER COLUMN LOCK PAWL)

25) Attach Mechanical Lock Release Cable Assembly to Power Column Lock Pawl using the 3/16" diameter x 1/2" long pin and (2) "C" clip retainers found in hardware, **Fig 10**.

26) Insert threaded sleeve portion of cable assembly in slot located on tab above locking pawl, **Fig 10**. One jam nut should be located on each side of tab. Position threaded sleeve with ½" of thread below tab as indicated in **Fig 10** and tighten jam nuts.

27) Route opposite end of cable assembly up Power Column and into column through access slot in bottom of Column Extension. Following the path of the hydraulic hose, route cable assembly across overhead clear of moving parts and back out through access slot in bottom of idler side column extension. Attach Cable Assembly to the hydraulic hose with loosely fit wire ties.

NOTE: DO NOT kink cable assembly when routing. Tighten and trim wire ties after final cable adjustments have been made

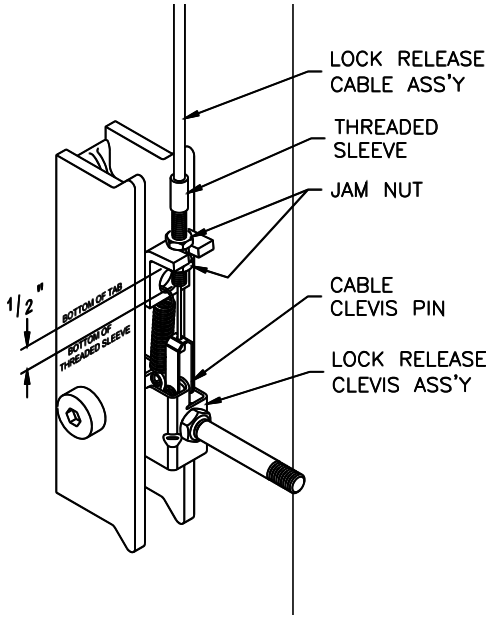


Fig 10 – Power Column Lock Release Assembly

28) Attach Adhesive-Backed Tab to Idler Column left of the lock assembly **(Fig 11)**. Route Lock Release Cable down left side of Idler Column and secure with loosely fit wire tie to Adhesive-Backed Tab. Attach Cable clevis to 1/2" O.D. Extension Spring.

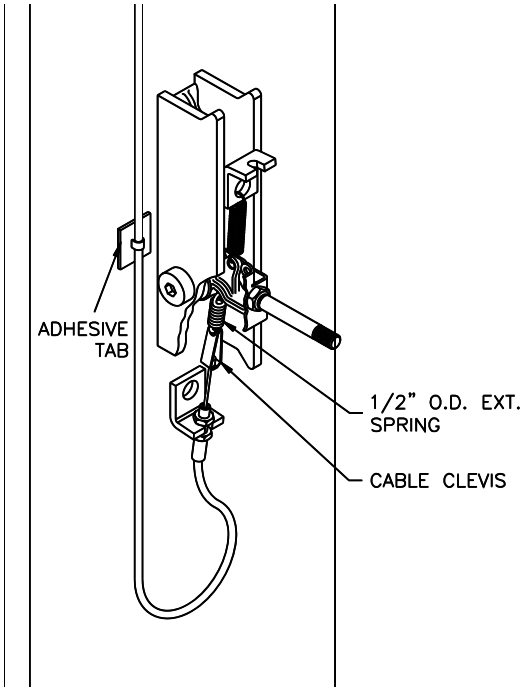


Fig 11 – Idler Column Lock Release Assembly

29) Insert threaded sleeve portion of cable assembly in slot located on tab below lock pawl, **Fig 11**. With one jam nut located on each side of tab, adjust the threaded sleeve

to begin to pull tension on the ½" O.D. spring. Snug jam nuts by hand.

30) Repeat ***procedures 24 thru 28*** with second Lock Release Cable routing from top of Idler Column Lock to bottom of Power Column Lock, **(Figs. 10 & 11)**.

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

ARM INSTALLATION

31) 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 should disengage when lift is fully lowered. If any binding occurs, insure that the large gear mounted to the arm has been factory installed tight against the arm pin.

32) Extend the foot pad to both extents and apply "anti-seize" to the three retaining rings and where the double screw makes contact with the base of the foot pad.

ELECTRICAL

JUNCTION BOX

33) Install Junction Box Assembly to inside of Power Column with (2) #10-32 x 1/2" lg. phillips pan head screws and flange nuts, **Fig 12**.

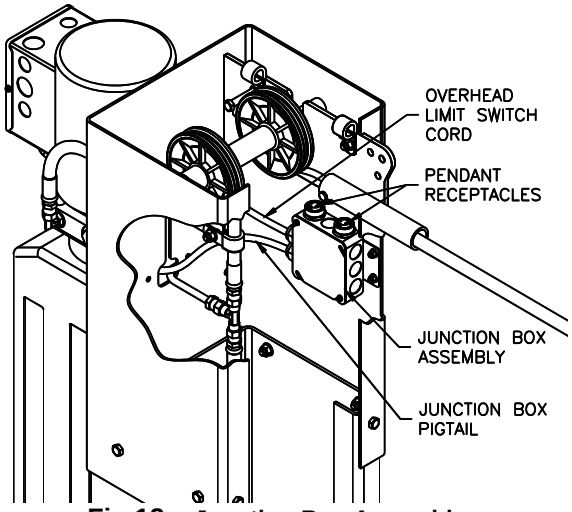


Fig 12 – Junction Box Assembly

34) Route junction box pigtail through "T-slot" in back of Column Extension around to the front of the Power Unit. Insert plug into mating receptacle mounted to the bottom of the motor wiring box. Twist plug collar to lock in place, **Fig 13**.

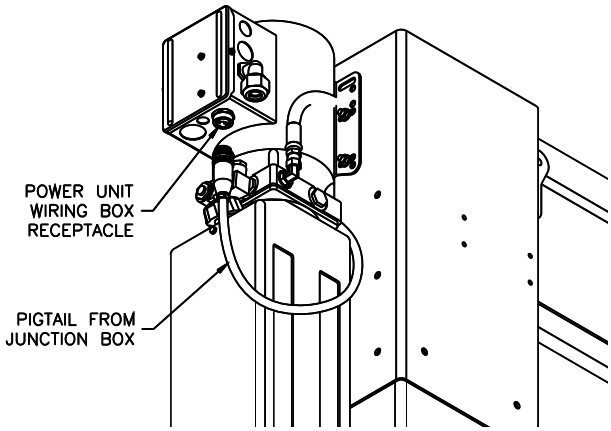


Fig 13 – Junction Box Connection to Power Unit

OVERHEAD LIMIT SWITCH

IMPORTANT: There are two overall width settings. Insure to place the limit switch and shutoff bar in the proper pivot holes as shown in **Fig's 14a & 14b**.

35) Install Overhead Limit Switch to **REAR** of Power Column using (1) 3/8" pivot pin, (1) 3/8" flat washer and (1) hairpin cotter pin as shown below. Switch MUST pivot freely on pin for proper function. NOTE switch tube cord is to be oriented **above** pivot pin as shown in **Fig 14a.**

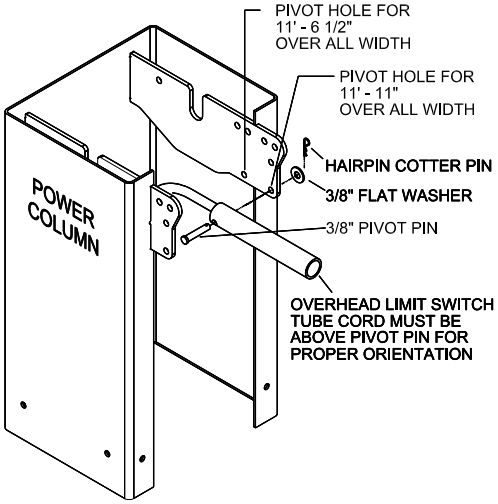


Fig 14a – Overhead Limit Switch Sub-Assembly

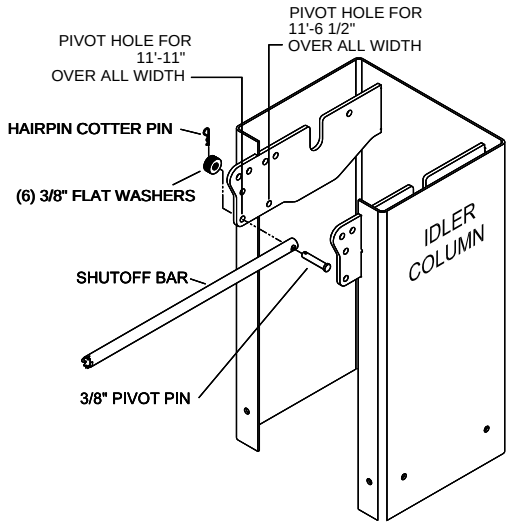


Fig 14b – Overhead Limit Switch Sub-Assembly

36) Insert shut-off bar in switch tube on power column side and take other end to idler side. Attach shut-off bar to idler column in same manner as switch tube. Use extra washers to take up extra pin length.

Insure that both switch tube and shut-off assemblies pivot freely for proper operation.

PENDANT SWITCHES

37) Locate the Pendant mounting hole on each column just below the lock cover on the left side. Tap hole on both columns 5/16-18NC. Hang both pendant switches using supplied 1/2" Line Clamp, 5/16-18 x 3/8 Lg. Pan Head Screw and 5/16" Split Lock Washer **(Fig 15)**. Position Line Clamp around pendant wire. Insert screw thru lock washer, free end of Cable Lanyard, and Line Clamp and secure to column.

IMPORTANT: RISK OF EXPLOSION. THE PENDANT CONTROLS HAVE INTERNAL ARCING OR SPARKING PARTS THAT SHOULD NOT BE EXPOSED TO FLAMMABLE VAPOR. THE PENDANT CONTROLS SHOULD BE LOCATED AT LEAST 18 INCHES (460mm) ABOVE THE FLOOR.

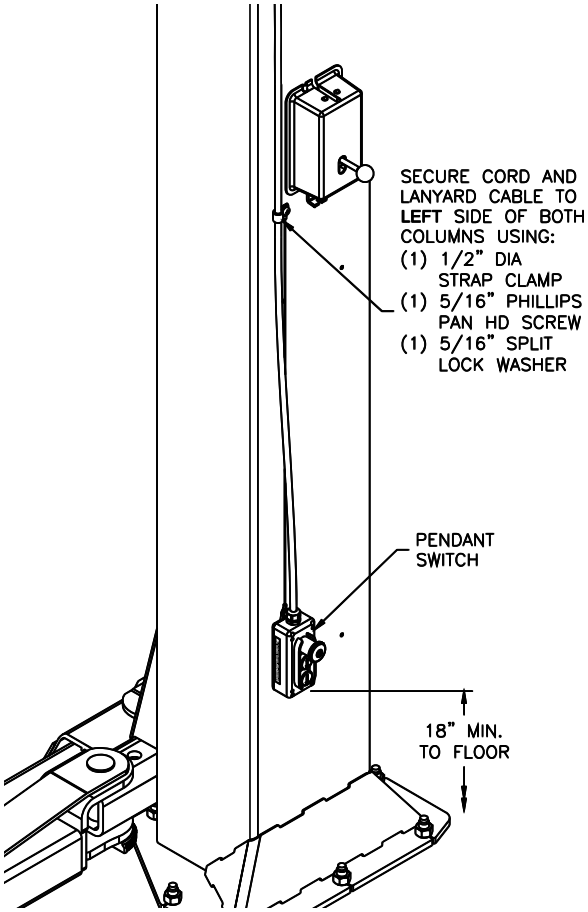


Fig 15 – Pendant Switch Installation

38) Route both Pendant Switch cords up the column and attach with another 1/2" Line Clamp and a 3/8" bolt that connects the Column Extension to the Column. Continue the cord up following the path of the Lock Release Cable clear of moving parts. Secure with wire ties.

39) Attach both Pendant end connectors to receptacles on Junction Box, **Fig 12**. Both receptacles are identical.

DO NOT PLUG EITHER PENDANT END DIRECTLY INTO POWER UNIT RECEPTACLE. This will cause a dead short and require replacing the 2 Amp x 15mm fuse located inside the motor wiring box.

POWER UNIT WIRING

40) Connect Power Unit to suitable electrical source as shown in **Fig 17**.

Each lift shall have a dedicated circuit with a 25 Amp double-pole breaker or time delay fuse.

Wiring must comply with all local electrical codes.

ELECTRICAL TESTING

41) After wiring is complete, test the function of all switches (Overhead limit switch and two pendants with Raise, Lower, and E-Stop buttons). Each pendant is equipped with a keyed E-Stop button (red emergency-stop). Turn the key clockwise to release the button and allow operation. Both E-Stop buttons must be disengaged for lift operation.

   a) Raise and lower the lift from the Power Side pendant. While raising the lift, operate the E-Stop button. The Power Unit motor should stop.

   b) Reset the Power Side E-Stop button and repeat **step "a"** for Idler side.

   c) Reset the Idler Side E-Stop button and test the operation of the Overhead Limit Switch from each pendant control. While raising the lift, push up on the padded overhead limit switch bar. The Power Unit motor should stop while the bar is raised and restart when the bar is released.

FINAL ADJUSTMENTS

HYDRAULICS

42) Lower the lift to the floor and raise the lift approximately one foot.

43) 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.

44) Raise lift 6 inches. Repeat step 38 until no air comes out of cylinder.

45) 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.

46) Energize power unit again for 10 seconds. With a clean rag, wipe down both cylinder rods. (The cylinders are shipped with a small amount of clear anti-corosive lubricant that will be forced out through the wiper when the lift reaches full rise.) **If lubricant is not wiped clean from the cylinder rod, the cylinder will apear to be leaking**.

SYNCHRONIZING CABLES

47) Raise lift and insure carriages lower into same lock position.

48) Adjust synchronizing cables so the tension is equal in both cables and carriages are firmly sitting on locks.

49) Cycle lift to insure that latches operate simultaneously.

LOCK RELEASE CABLE

50) Lower lift to the floor and snap plastic cover over Power Column lock assembly.

51) Pull and release Power Column lock release handle while watching Idler Column lock. Adjust lower threaded sleeve cable adjuster jam nuts on Idler Column 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. Tighten Idler Column lower tab jam nuts.

52) Remove plastic lock cover from Power Column and snap plastic cover over Idler Column lock assembly.

(The following step is a repeat of step 49 for Idler Column lock release handle)

53) Pull and release Idler Column lock release handle while watching Power Column lock. Adjust lower threaded sleeve cable adjuster jam nuts on Power Column until Power Column lock disengages and engages fully. When properly adjusted, the Power Column lock should just come to rest against the back of the column when engaged and fully out against the tab when disengaged. Tighten Power Column lower tab jam nuts.

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

FEMALE ARM SHIM INSTALL

(3-STAGE ARMS ONLY)

54) Extend the arm fully and lift up on the male portion, Fig 12.

55) Using a hammer to set, place the shim on the mouth of the female arm. Use the provide self locking set screw and 1/8" Allen head wrench to securely lock the shim in place.

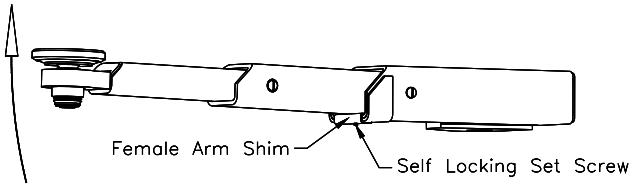


Fig 12 – Arm Shim, 3-Stage

56) Tighten and trim wire ties.

57) Snap plastic cover over each lock assembly (align lock release cable with notches in lock cover flange).

58) Clean front surface of both columns and install Safety Decals, **Page 3** and **Fig. 16**.

59) If *optional* Book Holder for "Vehicle Lifting Points" guide was purchased, install it on either column just above the Safety Decals.

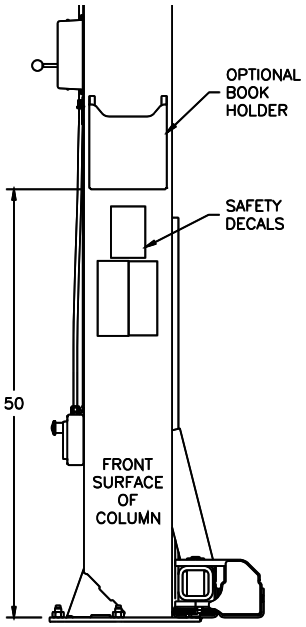


Fig 16 – Safety Decal and *OPTIONAL* Book Holder Placement

OWNER/OPERATOR CHECKLIST

60) Demonstrate the operation of the lift to the owner/operator and review correct and safe lifting procedures using the **Lifting It Right** booklet as a guide.

61) Complete the Installation Checklist/Warranty Validation questionnaire with the owner. Review the terms of the warranty registration card, and return the card and a copy of the questionnaires to:

Challenger Lifts, Inc.
200 Cabel Street
Louisville, KY. 40206

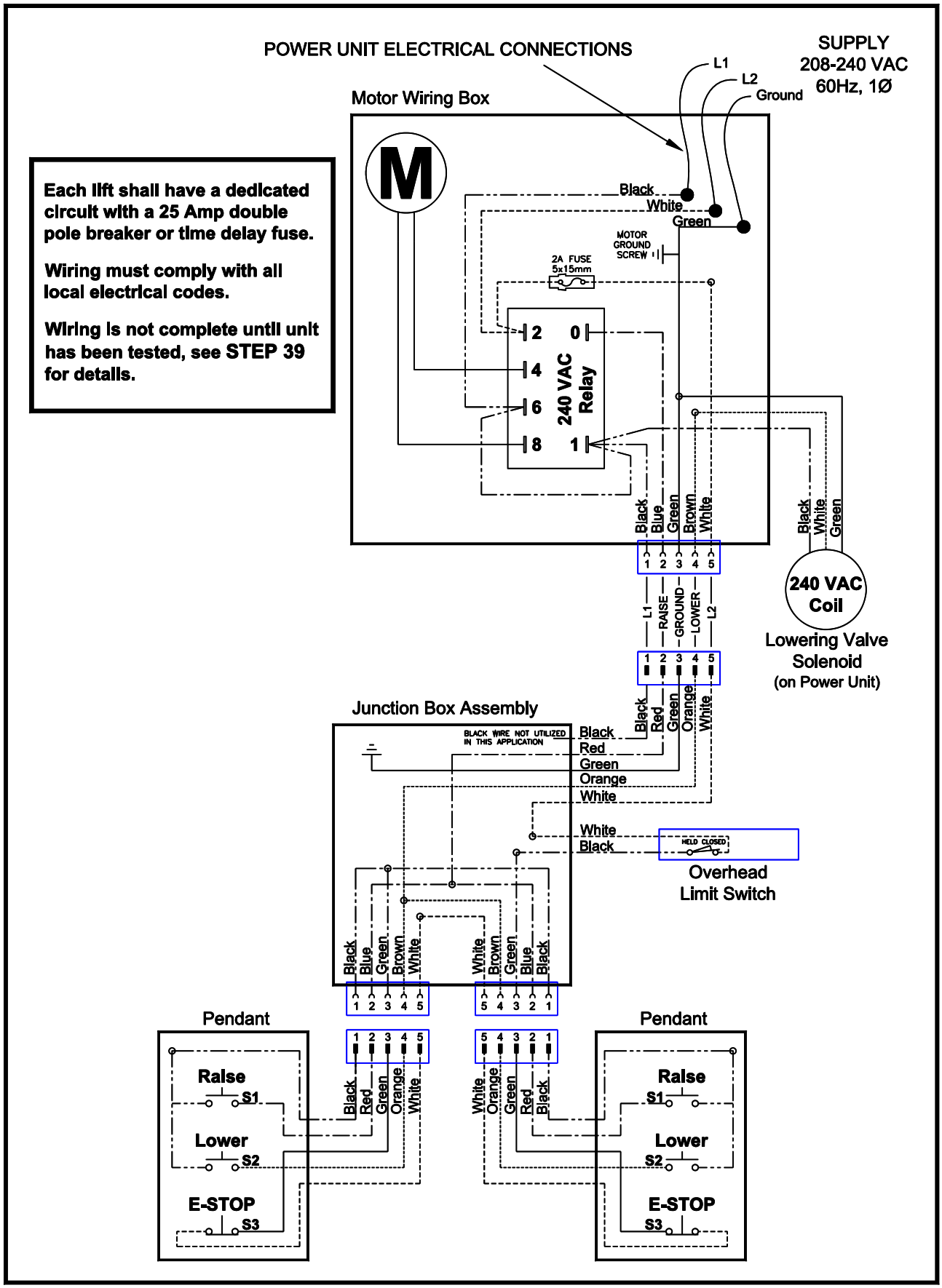


Fig 17 – Electrical Wiring Diagram

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

This lift has been designed and constructed according to ANSI/ALI ALCTV-2006 standard. The standard applies to lift manufactures, as well as to owners and employers. The owner/employer's responsibilities as prescribed by ANSI/ALI ALOIM-2000, are summarized below. For exact wording refer to the actual standard provided with this manual in the literature pack.

The Owner/Employer shall insure that lift operators are qualified and that they are trained in the safe use and operation of the lift using the manufacturer's operating instructions; ALI/SM 93 -1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; ALI/WL Series, ALI Uniform Warning Label Decals/Placards; and in case of frame engaging lifts, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts.

The Owner/Employer shall establish procedures to periodically inspect the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and the employer shall insure that the lift inspectors are qualified and that they are adequately trained in the inspection of the lift.

The Owner/Employer shall establish procedures to periodically maintain the lift in accordance with the lift manufacturer's instructions or ANSI/ALIOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and the employer shall insure that the lift maintenance personnel are qualified and that they are adequately trained in the maintenance of the lift.

The Owner/Employer shall maintain the periodic inspection and maintenance records recommended by the manufacturer or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance.

The Owner/Employer shall display the lift manufacturer's operating instructions; ALI/SM 93 -1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and in the case of frame engaging lift, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts; in a conspicuous location in the lift area convenient to the operator.

IMPORTANT SAFETY INSTRUCTIONS

When using your garage equipment, basic safety precautions should always be followed, including the following:

1. Read all instructions.
2. Care must be taken as burns can occur from touching hot parts.
3. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
4. Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
5. Use only as described in this manual. Use only manufacturer's recommended attachments.
6. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are not safety glasses.

SAVE THESE INSTRUCTIONS

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.

REFER TO THE VEHICLE MANUFACTURERS SERVICE MANUAL, TECHNICAL BULLETINS, "VEHICLE LIFTING POINTS GUIDE" (ALI/LP-GUIDE) OR OTHER PUBLICATIONS TO LOCATE THE RECOMMENDED LIFTING POINTS.

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.
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. Maintenance personnel should follow lockout/tagout instructions per ANSI Z244.1.

The following maintenance points are suggested as the basis of a routine maintenance program. The actual maintenance program should be tailored to the installation. See ANSI/ALI ALOIM booklet for periodic inspection checklist and maintenance log sheet.

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

Daily

- Keep lift components clean.
- Check for loose or broken parts.
- Check hydraulic system for fluid leaks.
- Check adapters for damage or excessive wear. Replace as required with genuine Challenger Lifts parts.
- Check lock release activation. When properly adjusted, the idler column lock should rest firmly against the back of the column when engaged and against the spring mount tab when disengaged.

Weekly

- Check synchronizer cables and sheaves for wear. Replace as required with genuine Challenger Lifts parts.
- Check lock release cable adjustment per Installation Instructions step 42.

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

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

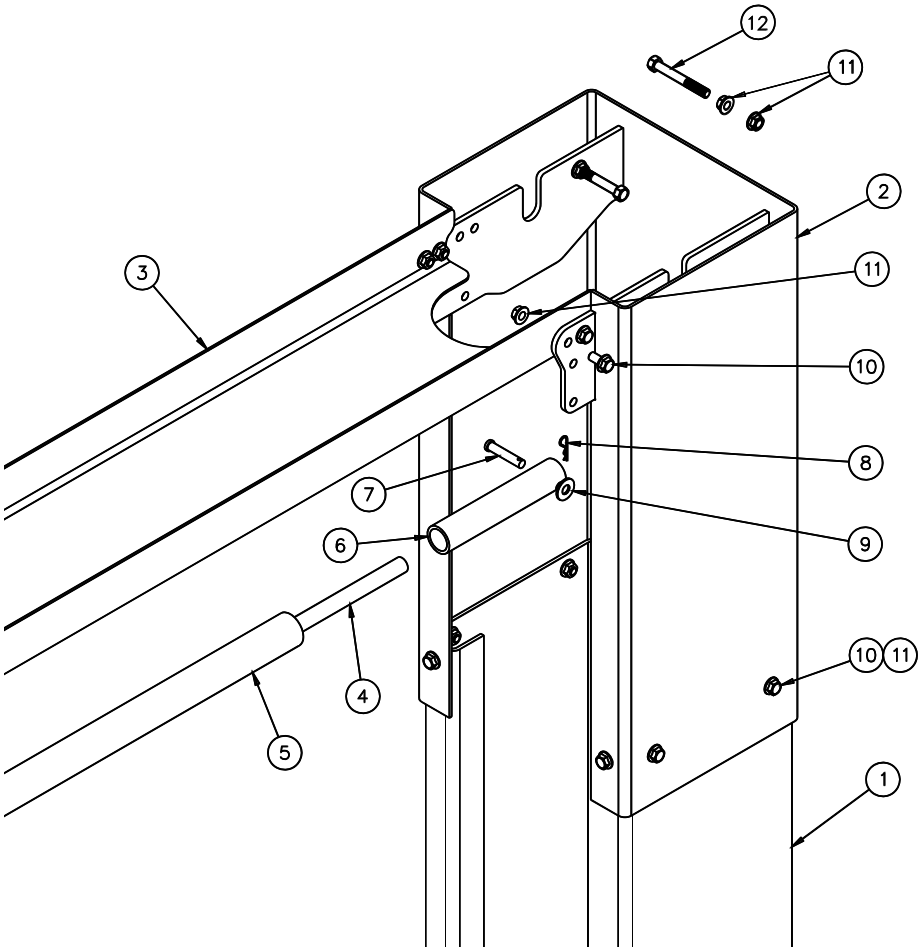
Monthly

- Torque concrete anchor bolts to 80 ft-lbs.
- Check overhead shutoff switch. While raising lift, operate overhead shutoff bar. Power Unit motor should stop when bar is raised.
- Lubricate carriage slide tracks with heavy viscous grease. (Grease all (4) corners of both columns.)
- Visually inspect concrete floor for cracks and/or spalls within 12" of base plate

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

PARTS BREAKDOWN

Fig A. Column & Overhead

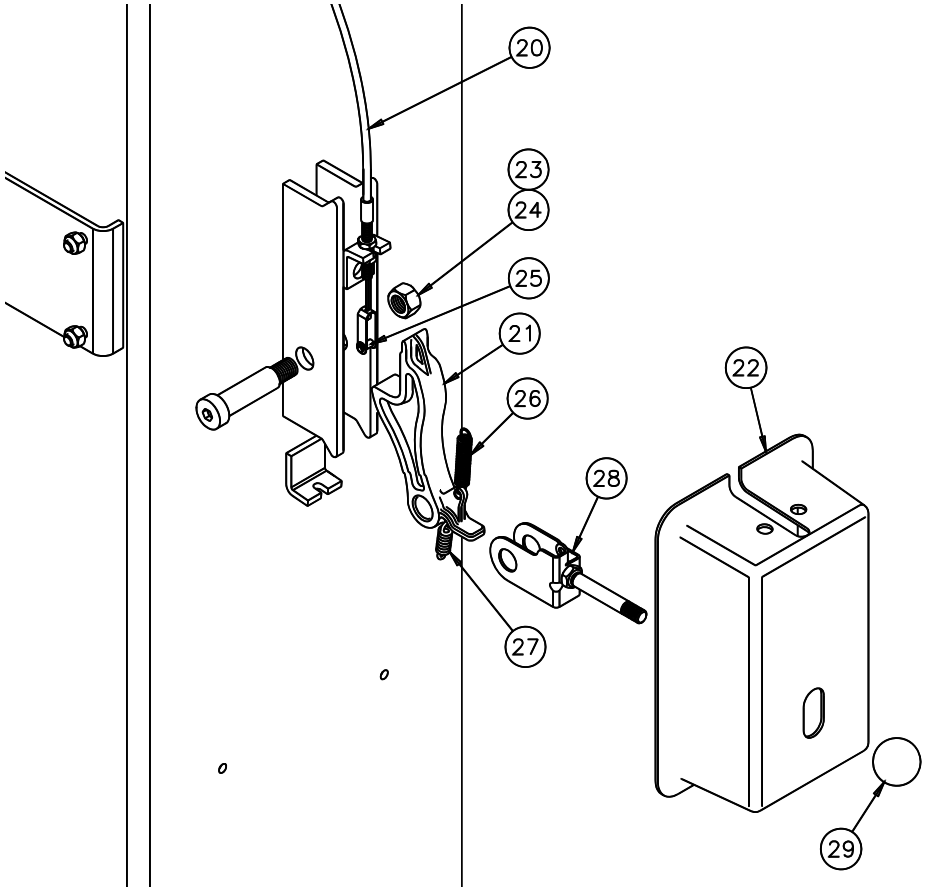


ITEM #	PART #	QTY/LIFT	DESCRIPTION
1	A2010-P	1	POWER COLUMN WELD
	A2010-I	1	IDLER COLUMN WELD
2	A2055-57-0	2	COLUMN EXTENSION WELD - CL10
	A2055-57-2		COLUMN EXTENSION WELD - CL10-2
	A2055-57-3		COLUMN EXTENSION WELD - CL10-3
3	A2060	1	OVERHEAD CHANNEL
4	36074	1	SHUTOFF BAR
5	31129	1	PAD
6	page 22	1	OVERHEAD LIMIT SWITCH – see "*ELECTRICAL*", page 22
7	A1064	2	3/8 DIA x 1 7/8 Lg. CLEVIS PIN (SHUTOFF BAR)
8	40124	2	HAIRPIN COTTER PIN
9	31036	7	3/8" FLAT WASHER
10	A1153	24	3/8-16NC HEX.FLG.HD.C.S X 3/4" Lg.
11	A1154	32	3/8-16NC HEX.FLG.NUT
12	A2159	4	3/8-16NC x 3"Lg HEX HEAD C.S. Gr.5

Replace all worn or broken parts with genuine ***Challenger Lifts Inc.*** parts.
Contact your local Challenger Lifts Parts Distributor for pricing and availability.
(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)

PARTS BREAKDOWN (continued)

Fig B. Lock



ITEM #	PART #	QTY/LIFT	DESCRIPTION
20	A2135-0	2	LOCK RELEASE CABLE ASSEMBLY - CL10
	A2135-2		LOCK RELEASE CABLE ASSEMBLY - CL10-2
	A2135-3		LOCK RELEASE CABLE ASSEMBLY - CL10-3
21	A1140	2	LOCK PAWL
22	A1133	2	LOCK COVER
23	30020	2	LOCK PIN (5/8 x 1 1/2" Lg. SHOULDER BOLT)
24	37013	2	LOCK PIN RETAINER (1/2-13NC HEX LOCK NUT)
25	37119	2	CLEVIS PIN KIT
26	A1131	2	LOCK SPRING (3/8" O.D.)
27	A1132	2	CABLE SPRING (1/2" O.D.)
28	A1141	2	LOCK RELEASE CLEVIS ASSEMBLY
29	36096	2	BALL HANDLE

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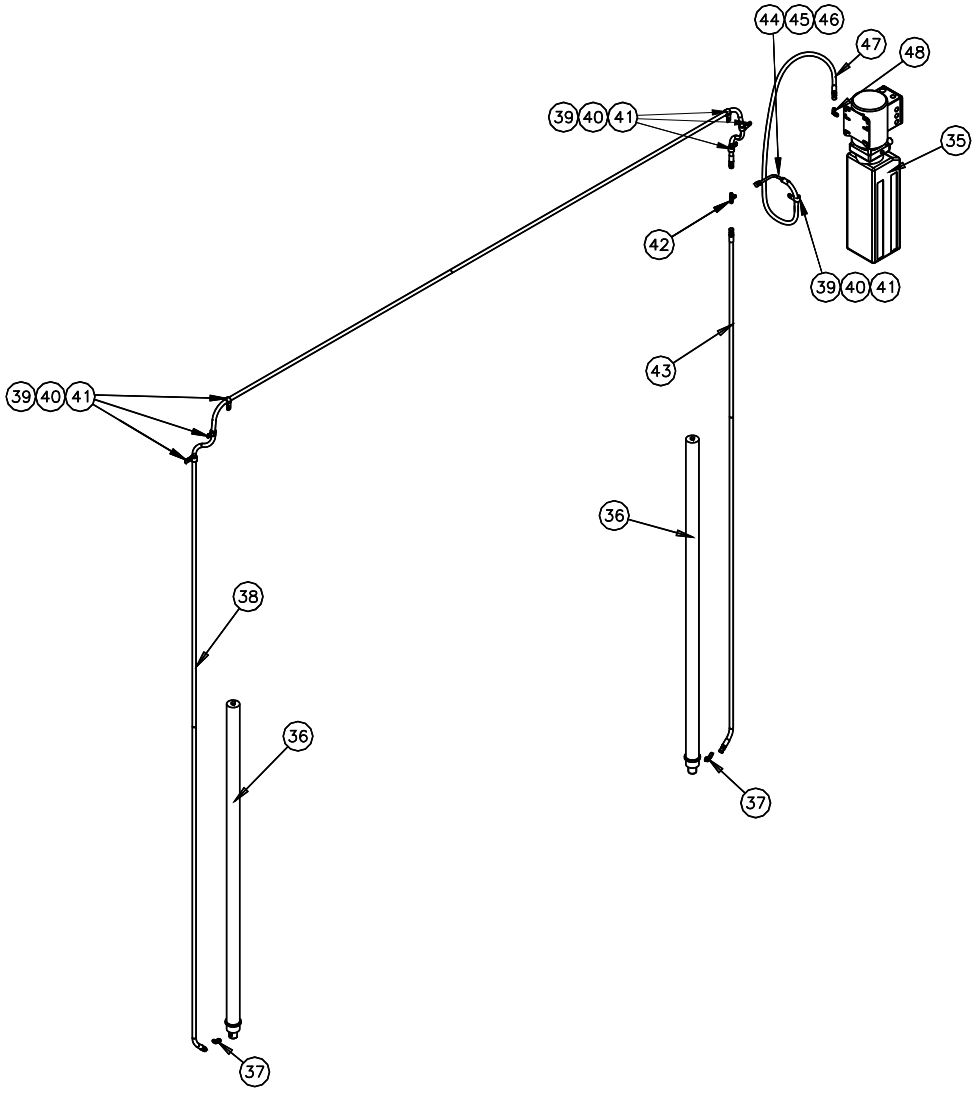
PARTS BREAKDOWN (continued)

Fig C. Hydraulics



ITEM #	PART #	QTY/LIFT	DESCRIPTION
35		1	POWER UNIT **SEE PARTS BREAKDOWN** ***FIG. G ELECTRICAL***
36	16138R	2	CYLINDER (68" STROKE x 2" BORE)
37	A2128	2	45 Degree ELBOW
38	A2127-I	1	IDLER HOSE
39	A1122-12	7	3/8" HOSE CLAMP
40	A1153	5	3/8-16 x ¾ HEX FLANGE HEAD BOLT
41	A1154	5	3/8-16 HEX FLANGE NUT
42	39103	1	37 Degree UNION TEE
43	A2127-57P	1	POWER HOSE
44	31025	1	3/8" LINE CLAMP
45	A2125	1	¼-20 x ¾ HEX FLANGE HEAD BOLT
46	40085	1	¼-20 HEX FLANGE NUT
47	A2127-PU	1	POWER UNIT HOSE
48	16167	1	9/16-18 STRAIGHT THREAD ELBOW

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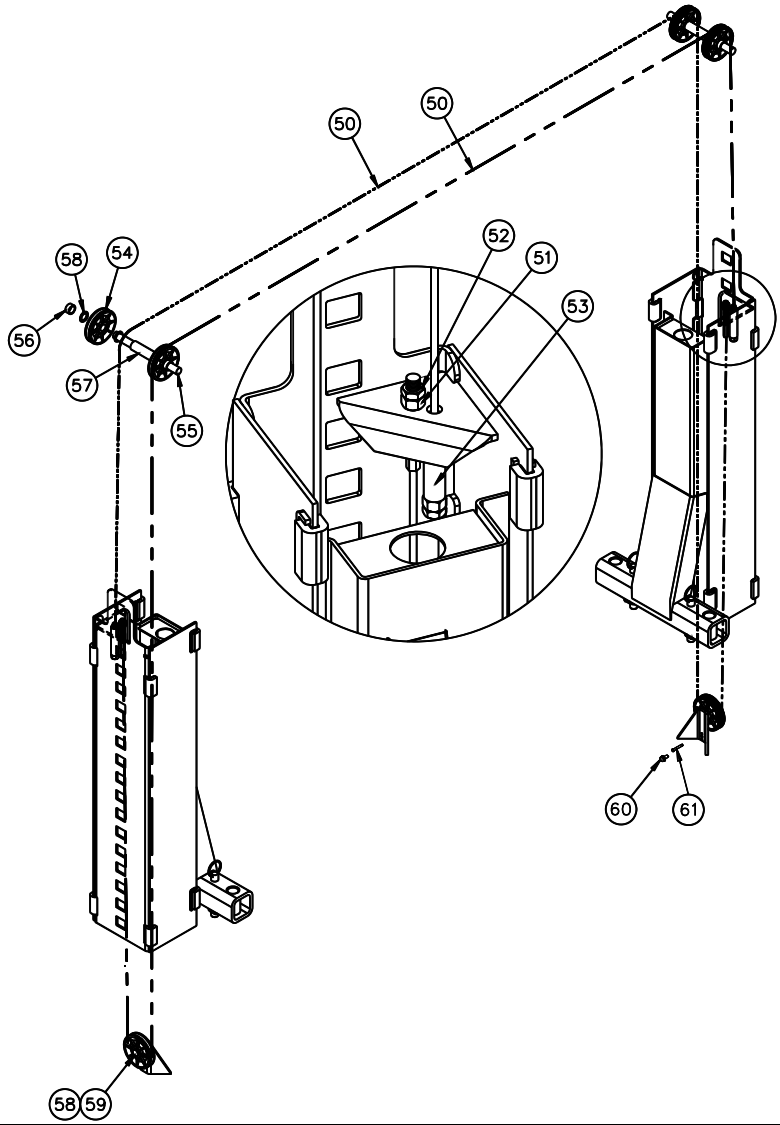
PARTS BREAKDOWN (continued)

Fig D. Synchronizer



ITEM #	PART #	QTY/LIFT	DESCRIPTION
50	A2115-0	2	SYNCHRONIZER CABLE - CL10
	A2115-2		SYNCHRONIZER CABLE - CL10-2
	A2115-3		SYNCHRONIZER CABLE - CL10-3
51	A2116	4	5/8-11NC HEX NUT
52	A2117	4	5/8-11NC HEX JAM NUT
53	A2118	2	CABLE SPACER (4 1/2" LONG)
54	36025	6	SHEAVE ASSEMBLY (5" DIA. X 5/16" GROOVE)
55	36024	2	SHEAVE PIN
56	A1063-S	4	SHORT SHEAVE SPACER (LINE)
	A2063-S		SHORT SHEAVE SPACER (HOSE)
57	A1063-L10	2	LONG SHEAVE SPACER (LINE)
	A2063-L		LONG SHEAVE SPACER (HOSE)
58	36013	10	1" I.D. SPACER WASHER
59	36014	2	1" EXT. RETAINING RING
60	A1153	2	3/8-16 x 3/4" LOCK. HEX FLG. HEAD, C.S
61	A2158	2	1/4 DIA. x 1 3/4" Lg CLEVIS PIN

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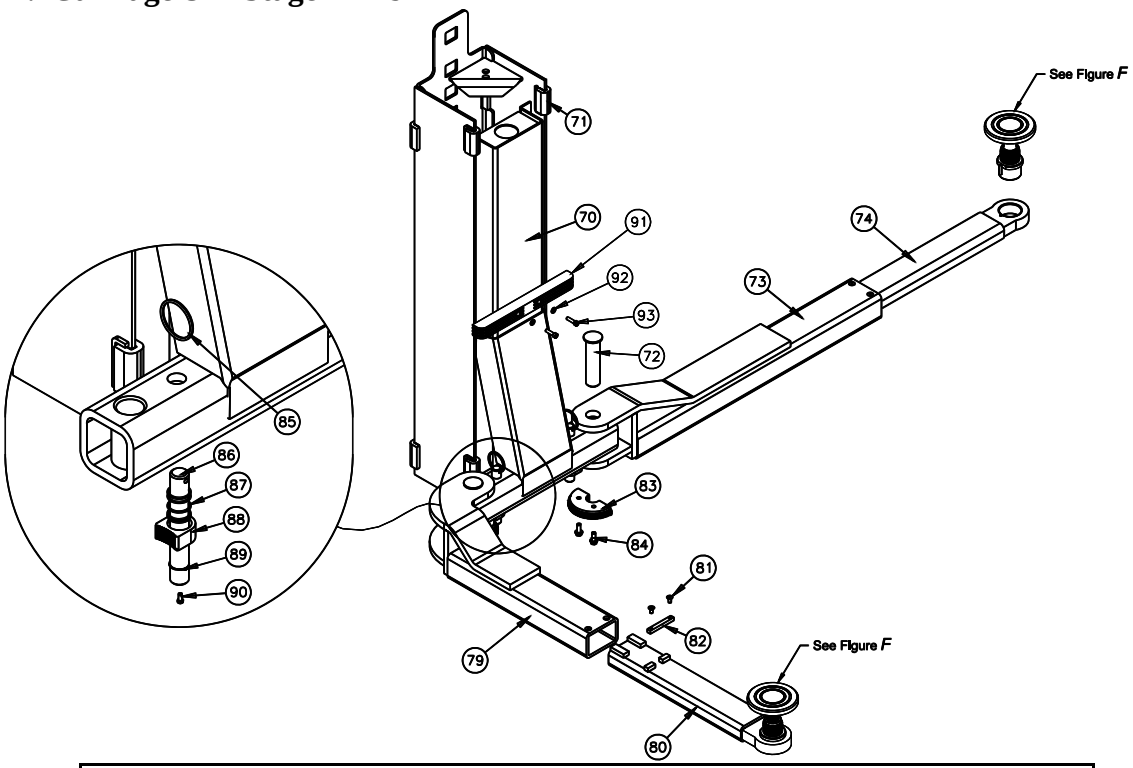
(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)

Fig E. Carriage & 2-Stage Arms



ITEM #	PART #	QTY/LIFT	DESCRIPTION	
70	B2026-57	2	CARRIAGE WELD (57" LADDER)	
71	31023	16	SLIDE BLOCK	
72	B1078	4	ARM PIN WELD	
73	B2091	2	REAR FEMALE ARM WELD	
74	B1094-R10	2	MALE ARM WELD (REAR)	
	B1094U-R10	2	OPTIONAL MALE ARM WELD (REAR), ROUND STACK PAD MODELS	
75	B1104	4	FOOT PAD RUBBER INSERT	
76	B1101	4	FOOT PAD WELD	
77	B31061	8	M6 KEPS NUT	
78	39111	4	FOOT PAD RETAINER RING	
79	B2086-P	1	FRONT FEMALE ARM WELD (POWER)	
	B2086-I	1	FRONT FEMALE ARM WELD (IDLER)	
80	B1094-F	2	MALE ARM WELD (FRONT)	
	B1094U-F	2	OPTIONAL MALE ARM WELD (FRONT), ROUND STACK PAD MODELS	
81	B1081	8	M8x1.25 x 16 Flat Socket Head Screw	
82	B1082	4	Arm Stop	
83	A1070	4	INNER GEAR	
84	B1068	8	M10x1.5x25 Hex Flange head Screw	
85	A1075	4	PULL RING	
86	B1073	4	SHAFT	
87	31109	4	COMPRESSION SPRING (RESTRAINT SHAFT)	
88	A1072	4	OUTER GEAR	
89	36014	4	1" EXT. RETAINING RING	
90	B1068	4	M10 x 25mm HEX HEAD BOLT	
91	B2026-2	2	RUBBER DOOR GUARD	
92	A2101	4	M8 WASHER	
93	A2102	4	M8x1.25 x 30mm Lg. SOCKET HEAD BOLT	
	B2090	2	REAR ARM ASSY	(ITEMS NO: 73, 74, 81, 82)
	B2085-P	1	FRONT ARM ASSY (POWER)	(ITEMS NO: 79, 80, 81, 82)
	B2085-I	1	FRONT ARM ASSY (IDLER)	(ITEMS NO: 79, 80, 81, 82)
	B1100	4	FOOT PAD ASSY	(ITEMS NO: 75, 76, 77)
	A1077	4	ARM RESTRAINT SHAFT ASSY	(ITEMS NO: 85, 86, 87, 88, 89)

Replace all worn or broken parts with genuine ***Challenger Lifts Inc.*** parts.
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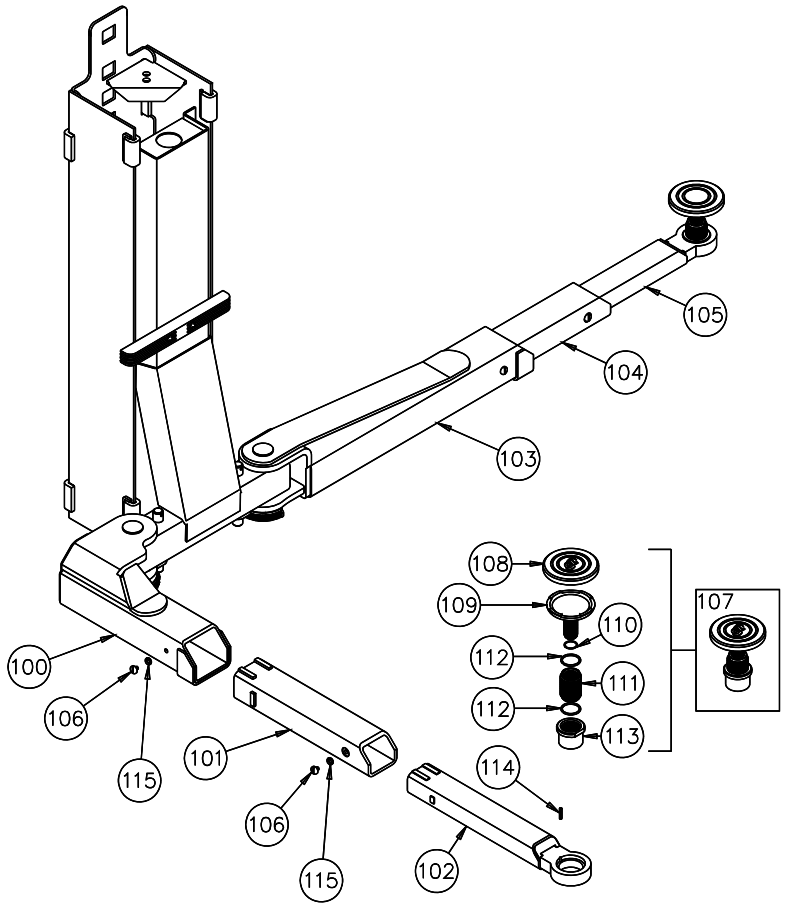
(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)

Fig F. Carriage & 3-Stage Arms



ITEM #	PART #	QTY/LIFT	DESCRIPTION
100	B2210-P	1	FRONT FEMALE ARM WELD (POWER)
	B2210-I	1	FRONT FEMALE ARM WELD (IDLER)
101	B17252R	2	FRONT INTERMEDIATE ARM WELD
102	B2218	2	FRONT MALE ARM WELD
103	B2220	2	REAR FEMALE ARM WELD
104	B2230	2	REAR INTERMEDIATE ARM WELD
105	B2235	2	REAR MALE ARM WELD
106	B17258	8	M10 STOP SCREW
107	B2250	4	FOOT PAD ASSEMBLY (items 108-113)
108	B2208	4	RUBBER INSERT
109	B2205	4	FOOT PAD WELD
110	B17256	4	2 x 30mm ROUND WIRE RETAINING RING
111	B17254	4	THREADED SLEEVE
112	B17257	8	3 x 45mm ROUND WIRE RETAINING RING
113	B17276-1	4	THREADED INSERT
114	B2211	4	ROLL PIN, 6mm DIA x 30mm Lg
115	CS1020-01-09	AS NEEDED	10mm FLAT WASHER, 1mm THICK
	B2202	1	ARM PACK, CL10, 3-STAGE
	B2203U-P	1	FRONT ARM ASSEMBLY (POWER)
	B2203U-I	1	FRONT ARM ASSEMBLY (IDLER)
	B2204U	2	REAR ARM ASSY.

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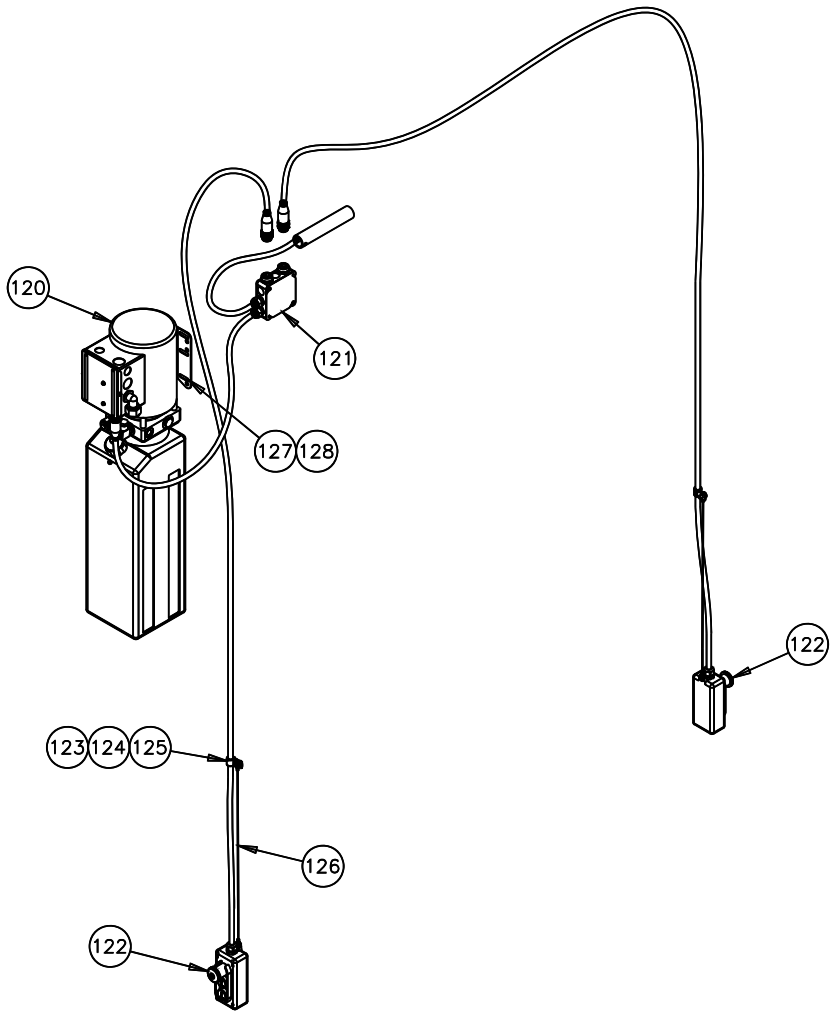
(Call Challenger Lifts Inc. (502) 625-0700 for the Parts Distributor in your area)

PARTS BREAKDOWN (continued)

Fig G. Electrical



ITEM #	PART #	QTY/LIFT	DESCRIPTION
120	A1207-19	1	POWER UNIT, 1ph, 60Hz, 208-240V
121	A1206-15	1	JUNCTION BOX ASSEMBLY (INCLUDING OVERHEAD LIMIT SWITCH)
122	A1206-10-IX	2	REPLACEMENT PENDANT ASSEMBLY
123	A1122-9	4	CABLE CLAMP, 1/2" I.D.
124	10335	2	5/16-18 x 3/8 Lg. PHILLIPS PAN HEAD SCREW
125	31331	2	5/16 SPLIT LOCK WASHER
126	A1206-10-20	2	LANYARD STRAP ASSEMBLY (INCLUDING 3/8 PIN AND E-CLIP)
127	A1069	4	5/16-18 x 1" Lg. SERRATED FLANGE HEX HEAD SCREW
128	4100237	8	5/16-18 SERRATED FLANGE HEX NUT

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