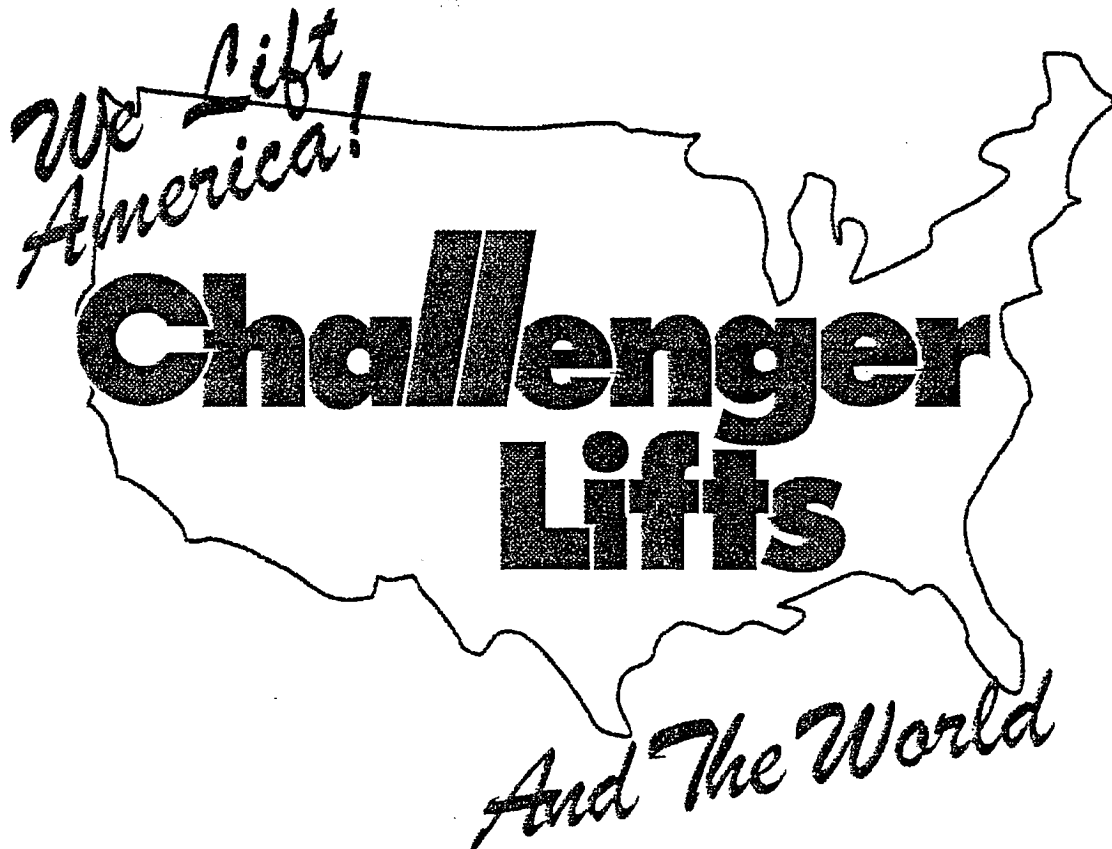


Challenger Lifts, Inc.

Model's 37000 & 39000

TWO POST SURFACE
MOUNTED LIFT OPERATION, INSTALLATION &
MAINTENANCE MANUAL



IMPORTANT!!!

READ THIS MANUAL COMPLETELY BEFORE INSTALLING OR OPERATING THE LIFT

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

Office (502) 625-0700

Fax (502) 587-1933

Model's 37000 & 39000
Installation, Operation and Maintenance

General Specifications

Maximum Capacity*	9000 US Pounds (2250 Pounds Per Arm)
Lifting Time**	Approximately 1 Minute
Lowering Time**	Approximately 45 Seconds
Motor	2HP, 230 Volts, Single Phase, 60 Hz. Optional-2HP, 208 or 240 or 480 Volt, 3 Phase, 50/60 Hz.
Air Supply (For air locks only)	85-115 psi (clean dry air)

Dimensions

Overall Width	130 ½ Inches
Overall Height	141 ¾ Inches
Width Between Columns	109 Inches
Height of Rise	78 ½ Inches
Height at Full Rise	150 Inches
Overhead Clearance	132 Inches
Drive Through Clearance	86 ¾ Inches
Pick-Up Pad Height	4 ½ Inches

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

** Lifting and lowering speeds may vary depending on the type and viscosity of the oil in the system and the temperature of the oil.

Important!!!
Before You Install

1. Before installing your Challenger 2-Post lift, inspect the lift to insure that it is complete and undamaged. Challenger 2-Post lifts are shipped ready to assemble to facilitate shipping and reduce damage. If it is apparent that the lift has been mishandled in shipment, or if parts or assemblies are missing, note the damage or missing part(s) on the shipping papers and notify *Challenger Lifts, Inc.* Immediately.
2. Be certain that the wiring in your building will handle the current required to operate this unit. It requires a **Dedicated 25 Amp Circuit**.
3. Be certain that you have the proper concrete floor to properly handle the loaded lift. The floor should be in generally good condition with no large cracks, spalling or deterioration. The minimum requirements for concrete are **4 inches minimum depth, with steel reinforcement, 3500 PSI**, cured for a minimum of **28 days**. The 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.
4. Check with the local building inspectors and/ or permits office for any special instructions or approvals required for your installation.

Installation Procedure

1. Break down the packaging with the columns by supporting the upper column and using a 3/4" wrench, remove the bolts at the top and bottom of the column. Carefully remove the top cap that is used for shipping and hold the overhead support plate in position. Use the bolts that held the top cap to bolt the support in place. You may wish to only snug the bolts in place so the support can be moved slightly to align the overhead.
2. Layout the service bay according to the architect's plans or owner's instructions (**See Figures 1 & 1A**). Be certain that the proper conditions exist per the section entitled "Before You Install".
 - 2A. Erect both column assemblies, spacing them as shown in **Figure 1A**. Align the columns with the installation lines (**See Figure 1A**) and drill the holes for the anchors using the base plate as a template. Clean the dust from the holes. Obtain the anchor bolts from the hardware box and assemble the nut and washer to the bolt, leaving about 1/4" of thread above the nut. Insert the anchors into each hole as it is drilled and tap it down to the base plate. If the floor is excessively uneven, you may wish to leave more thread exposed.

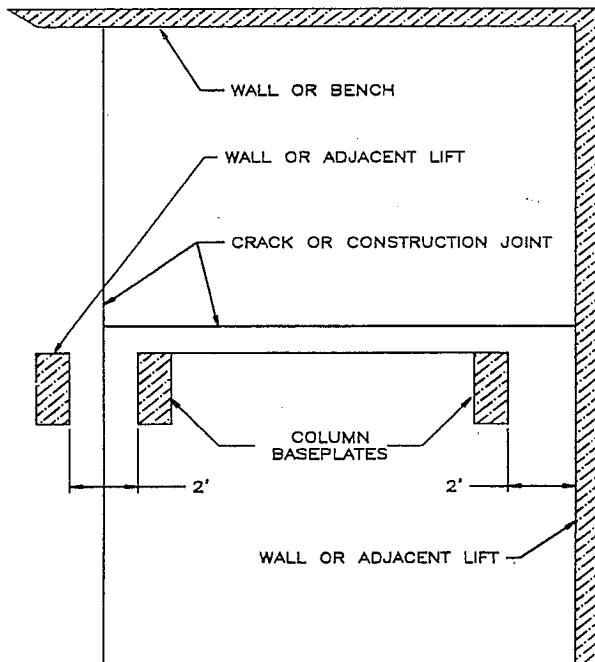


Fig 1

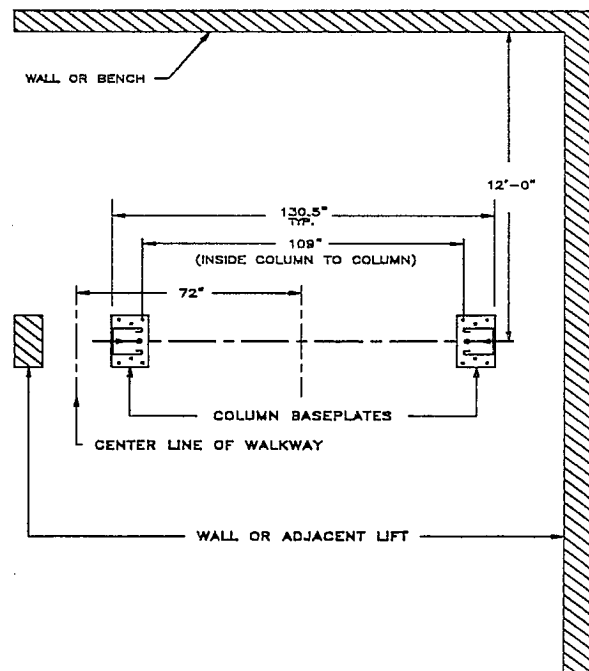


Fig 1A

Model's 37000 & 39000
Installation, Operation and Maintenance

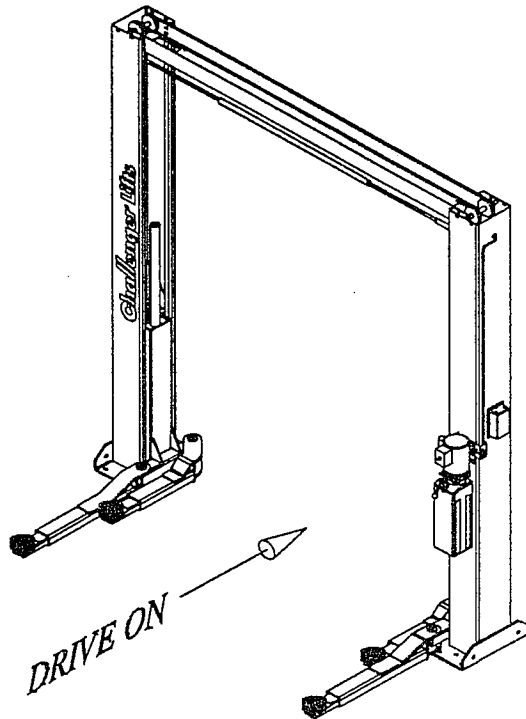


Fig 2

3. **Lift Orientation: CAUTION !!!** If the lift is not installed in this manner, the arms may damage the power unit during operation. **See Fig 2.**
4. Shim both columns to plumb using the shims provided, **See Figure 3.** Do not shim more than 1/2" at any point. Use a level no less than 24" in length to plumb the columns.

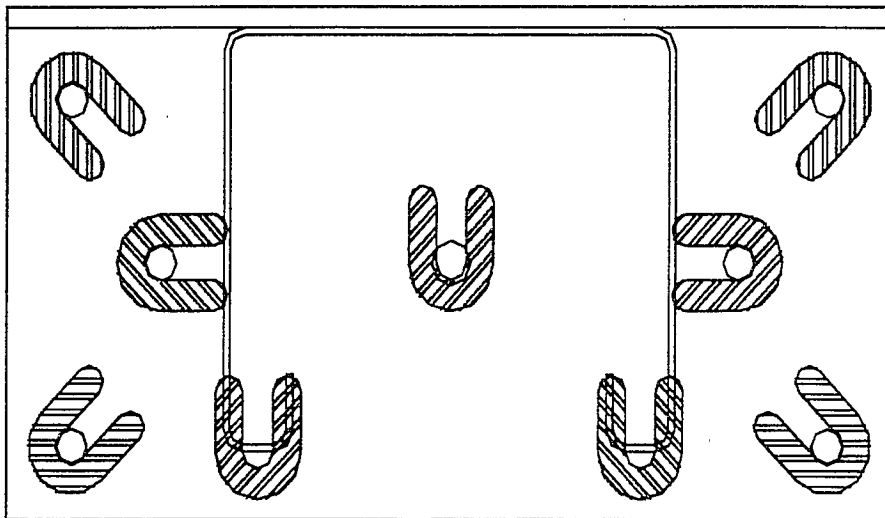


Fig 3

Model's 37000 & 39000
Installation, Operation and Maintenance

5. Back the nuts on the anchors up until the threads are flush with the top of the nut and tap them down against the base plate. Using a torque wrench, tighten the anchors to 150 ft/lbs to set the anchors. Check the columns for plumb after the bolts and adjust by shimming if necessary.

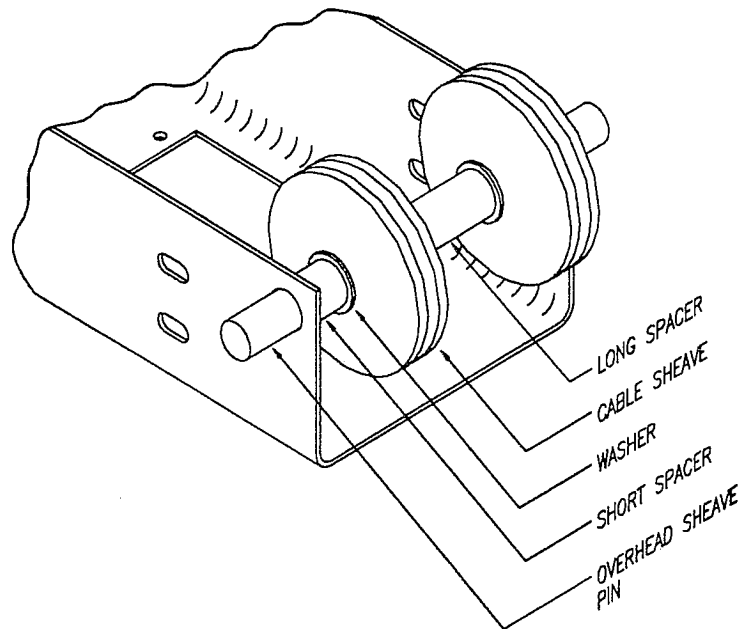


Fig 4

6. Assemble the synchronizer cable sheaves, axles, and spacers in the synchronizer cable channel as shown in **Figure 4**.

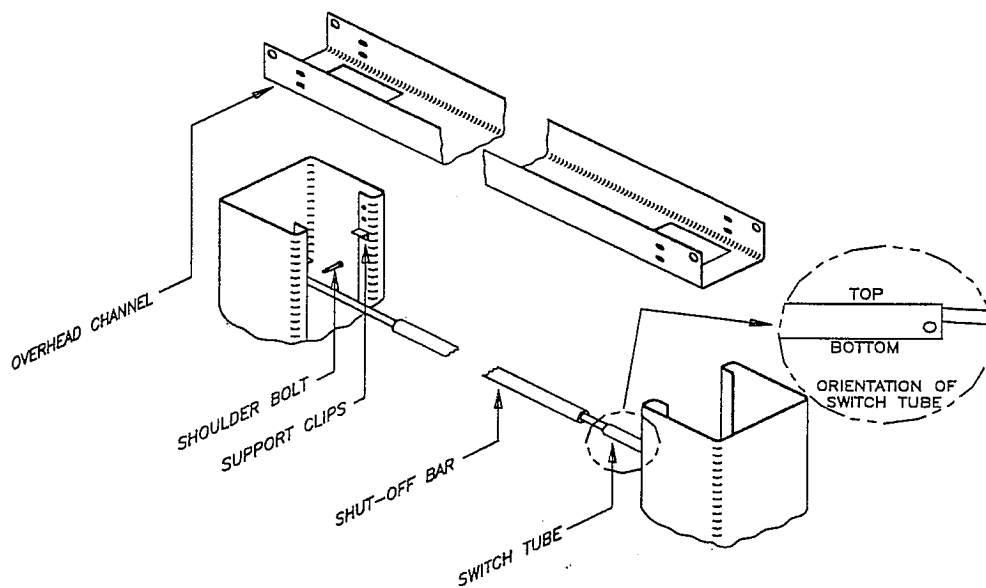


Fig 5

Model's 37000 & 39000
Installation, Operation and Maintenance

7. Attach the overhead support clips to the columns (*see Figure 5*). Set the overhead channel in the columns onto the support clips. Fasten channel using the 3/8 bolts, nuts, and washers
8. Attach the switch tube to the bracket on the power column side using the 3/8 dia x 1 1/2" lg. shoulder bolt and 5/16-18 Keps nut. The switch wire should be above the pivot hole. Route the switch cord wire with the power unit hydraulic line using the cable ties provided. **Important:** The wire must be supported 3" to 6" from the switch tube. If not this can cause the shut-off switch not to operate properly. Make certain there is no interference with the synchronizing cables, cable pulleys, or hydraulic cylinder at full rise. Raise and lower shut-off bar to insure switch tube assembly rotates freely.
9. Take the shutoff bar to the idler column side and first insert the end of the bar into the open end of the switch tube, then attach the other end to the bracket on the idler side of the overhead using the 3/8 dia x 1 1/2" lg. shoulder bolt and 5/16-18 Keps nut.

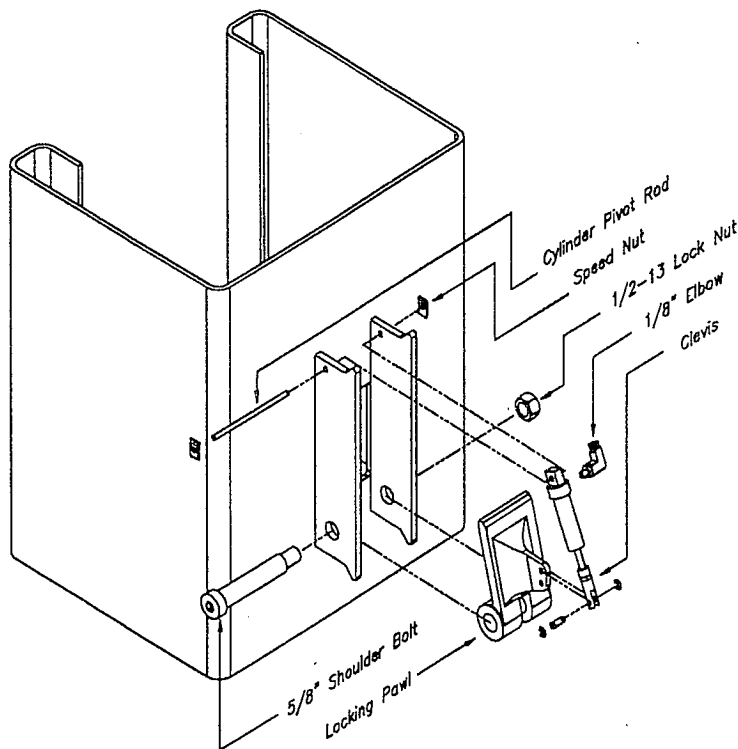


Fig 6

10. Install the locking pawl and actuator as shown in *Figure 6*. With the aid of an assistant, manually raise the carriages to a comfortable working height and set in locks at equal heights. Route the synchronizer cables as shown in *Figure 7*.

Models 37000 & 39000
Installation, Operation and Maintenance

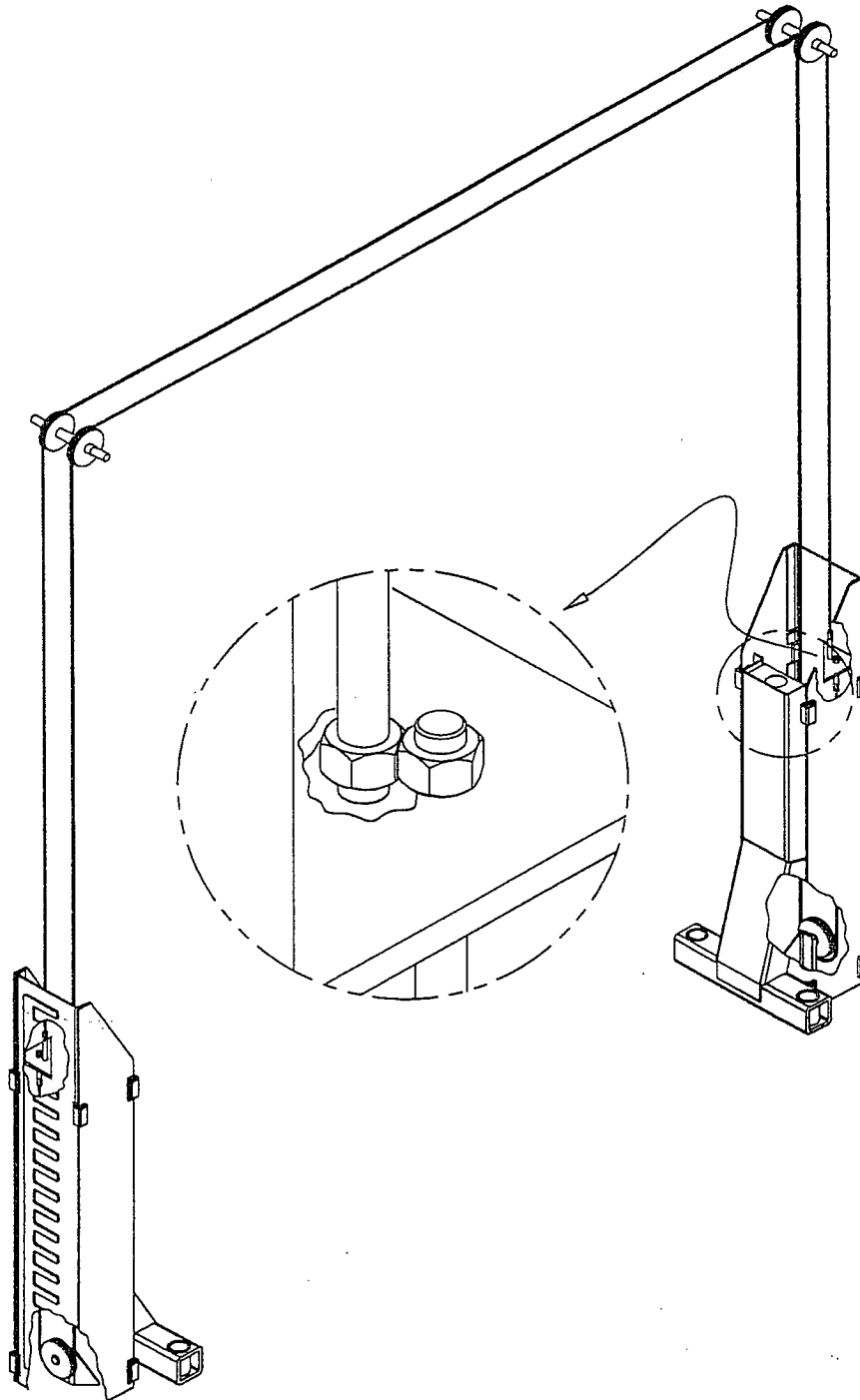


Fig 7

Models 37000 & 39000
Installation, Operation and Maintenance

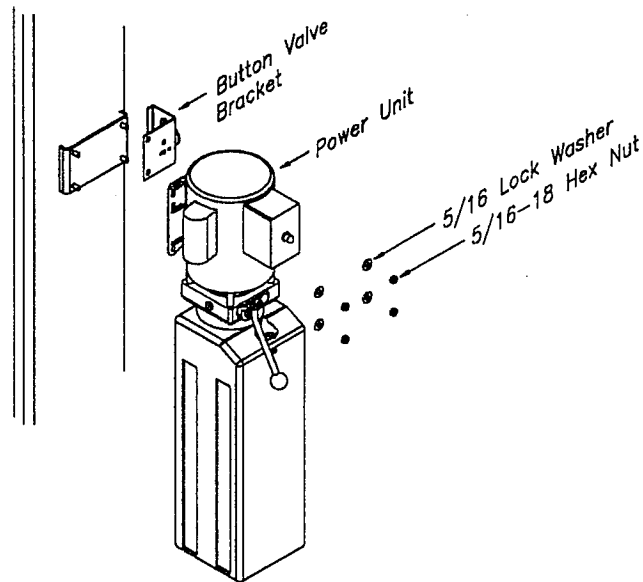


Fig 8

11. Install the power unit and button valve bracket assembly on the power column as seen in **Figure 8**.

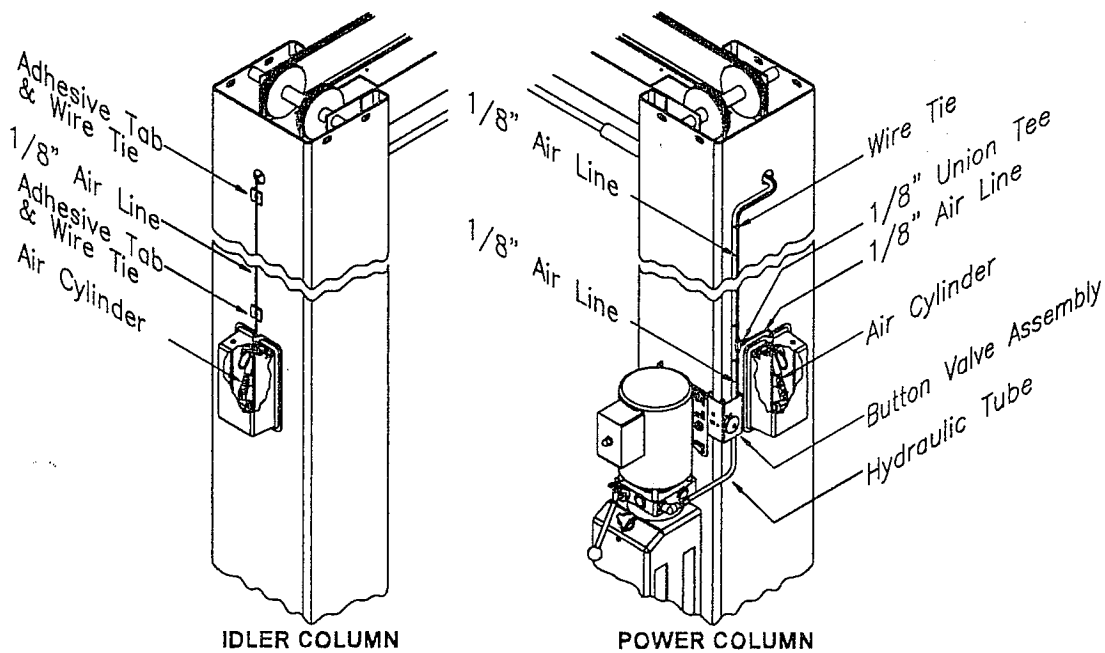


Fig 9

12. Connect 1/8" air line as shown in **Figure 9** from button valve assembly to union tee. Connect 1/8" air line from air cylinder to union tee. Connect 1/8" air line from union tee following hydraulic tube using wire ties up power column to overhead. Routing through hole in power column still following hydraulic tube to idler column. Route through hole in idler column down column using adhesive tabs and wire ties to air cylinder. Be certain not to kink or pinch the hose. Connect the button valve to a source of **clean, dry air** using the hose barb and clamp provided. Snap the covers onto the column. **See Figure 10.**

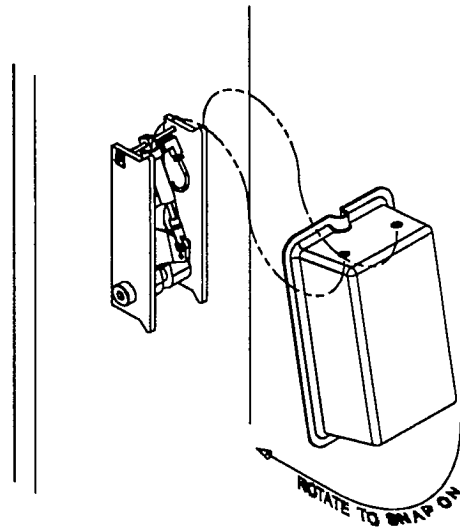


Fig 10

13. Connect the overhead hydraulic line to the cylinder hydraulic line in each column and to one another. Connect the power unit hydraulic line to the union tee in the top of the power column and to the power unit 90 degree elbow. Make sure the cables clear during operation. **See Figure 11**

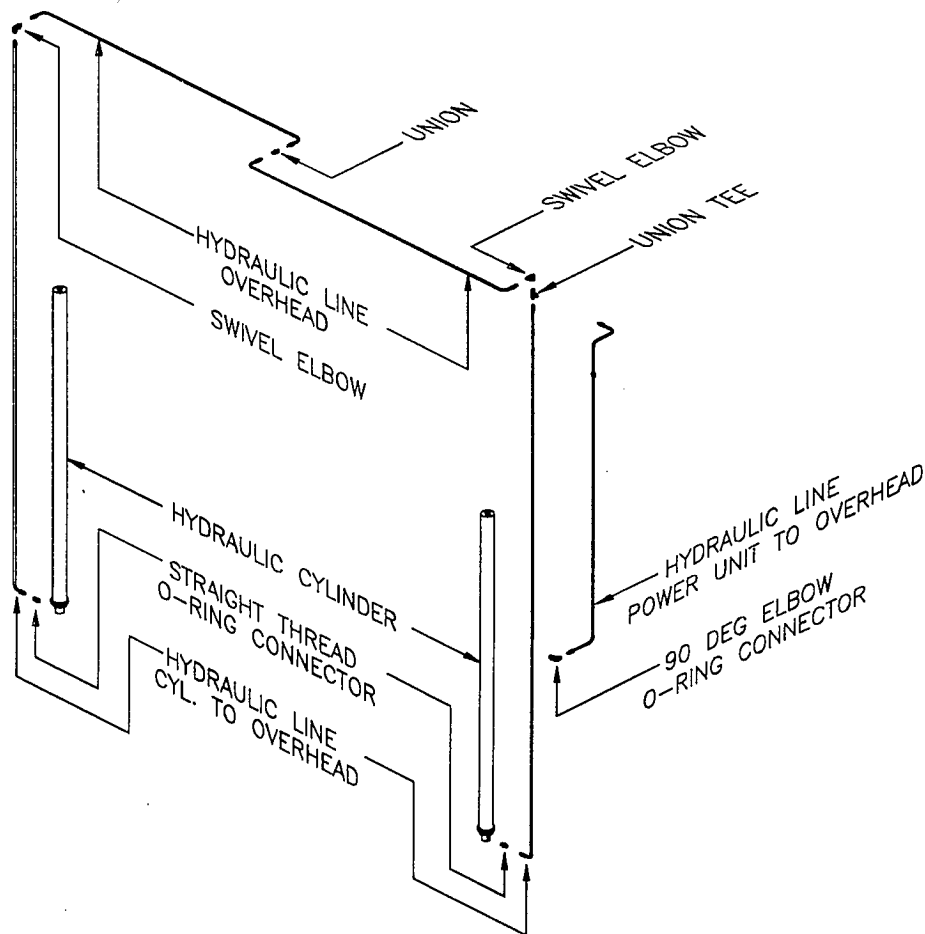


Fig 11

Models 37000 & 39000
Installation, Operation and Maintenance

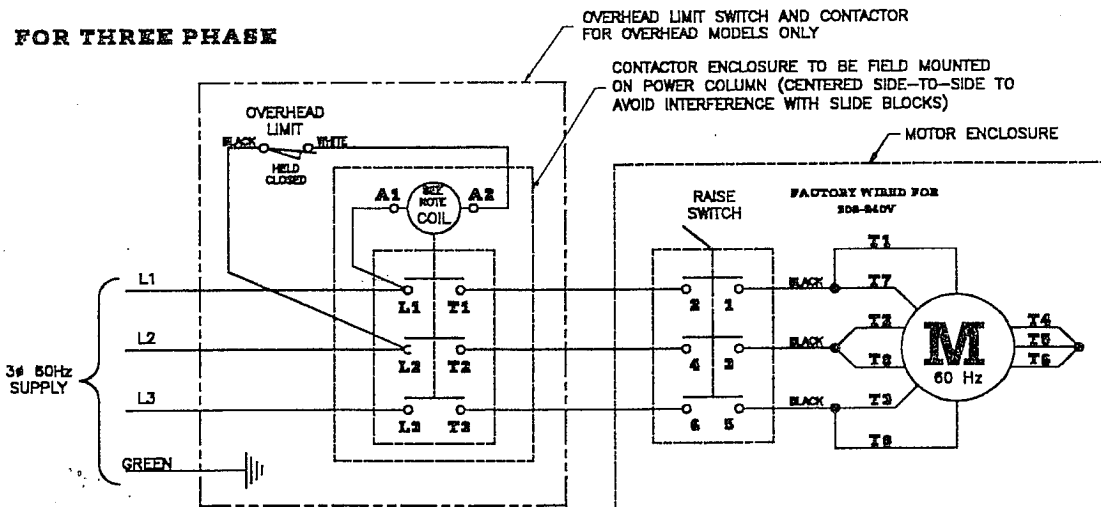
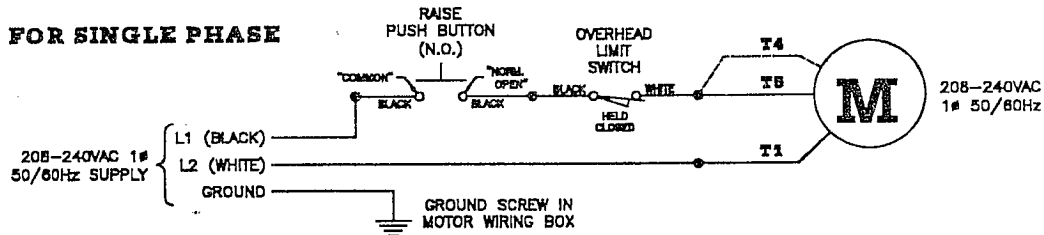
14. **BE CERTAIN ALL FITTINGS AND CONNECTIONS ARE TIGHT.** Fill the power unit with 10 quarts of clean 10wt anti-foam, anti rust hydraulic oil or Dexron III ATF. **DO NOT USE OILS WITH DETERGENTS.**
15. Connect the overhead shut-off switch to the power unit. Connect the power unit to a suitable electrical power source. *See Figure 12.*

Wiring Diagram

EACH LIFT SHOULD HAVE A DEDICATED CIRCUIT WITH A DOUBLE POLE (THREE POLE FOR 440-480V) BREAKER OR TIME DELAY FUSE SIZED ACCORDING TO THE FOLLOWING CHART

	1 ϕ	3 ϕ	3 ϕ	3 ϕ
	208-240V	208V	220-240V	440-480V
2Hp	25amp	15amp	15amp	5amp

* WIRING MUST COMPLY WITH ALL LOCAL ELECTRICAL CODES *



NOTES:

- 1) MOTOR IS FACTORY WIRED FOR 208V OR 220-240V SUPPLY
- 2) MOTOR CONNECTIONS MUST BE RECONFIGURED PER THIS DIAGRAM FOR 440-480V SUPPLY
- 3) CONTACTOR COIL RATING MUST MATCH SUPPLY VOLTAGE (208V, 220-240V, OR 440-480V)
- 4) CONTACTOR MUST BE FIELD MOUNTED ON POWER COLUMN (CENTERED SIDE-TO-SIDE TO AVOID INTERFERENCE WITH SLIDE BLOCKS)
- 5) MOTOR ROTATION IS COUNTER CLOCKWISE FROM TOP OF MOTOR

P/N 31366 ECN96063 2/24/99

Fig 12

Models 37000 & 39000
Installation, Operation and Maintenance

16. Energize the power unit until the carriages are lifted and run them up about 3 feet. **Caution! Wear eye protection while bleeding the cylinders!** Slowly and carefully loosen the bleed plug to allow the entrapped air to escape from the cylinder, first on the idler side and then the power side. Energize the power unit again to raise the carriages about 1-2 inches and loosen the plugs to bleed again. Repeat until no air comes out of the plug.
17. Lower the lift completely and top off the hydraulic oil. Raise the lift until both carriages are in the locking range and engage the safety latches. Make certain that the carriages are at the same height. Adjust the synchronizer cables so that the tension is equal in both cables and both carriages are firmly on the locks. Cycle the lift to insure that the latches operate simultaneously.

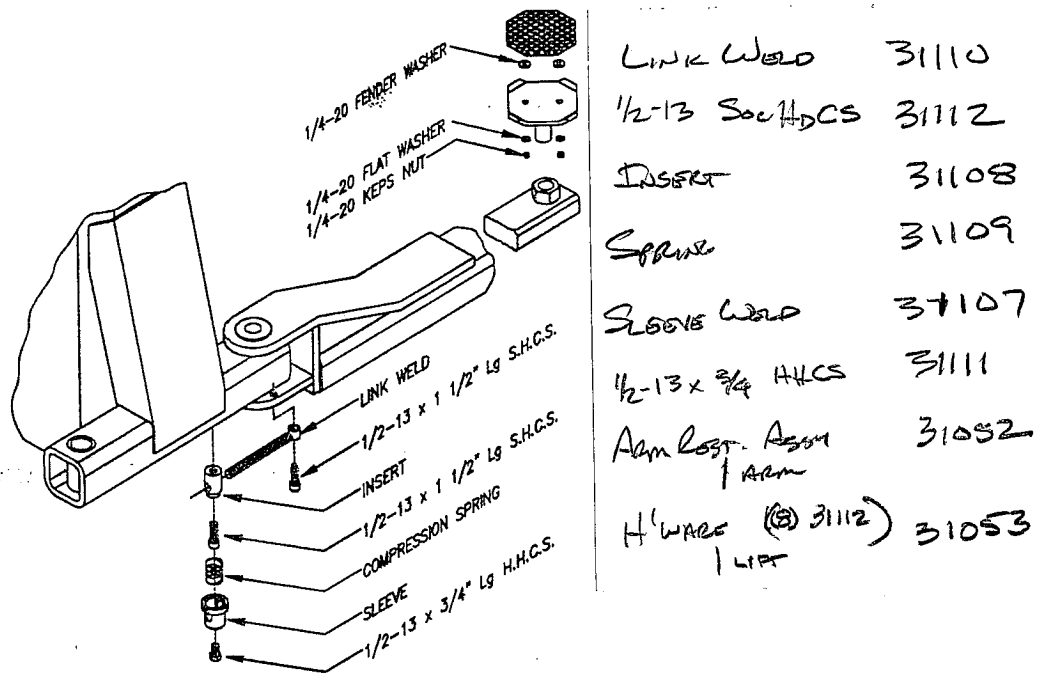


Fig 13

18. Install the arms, rubber inserts, and arm restraints as seen in **Figure 13**. Adjust the arm restraint adjusting bolts so that all four arm restraints are released when the carriages are fully lowered.
19. 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.
20. Complete the Installation Checklist/Warranty Validation Questionnaire with the owner. Review the terms of the warranty with the owner. Complete the warranty registration card, and return the card and a copy of the questionnaire to:

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

Operation Procedure

Challenger's Models 37 & 39 Surface Mounted lifts have been designed and constructed according to ANSI/ALI ALCTV-1998 standard to insure it is safe to use. The standard applies to lift manufacturers, as well as the owners, and employers. The owner/employer's responsibilities, as prescribed by ANSI/ALI ALCTV-1998, are summarized below. For exact wording refer to the actual standard 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-1994, 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-1994, 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-1994, 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-1994, 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-1994, 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.

1. **Lifting a Vehicle**

Insure that the lifting arms are parked, out of the way of the vehicle.

Position the vehicle in the service bay so that the vehicle's center of gravity is on or slightly behind a line between the two columns, and so the vehicle is centered between the two columns. The short extension arms are to be placed at the vehicles front lifting points, and the long extension arms are to be placed at the rear lifting points.

Do not place the vehicle in the service bay backwards.

Do not attempt to lift the vehicle with only two arms, as this will void the warranty

Refer to the vehicle manufacturer's service manual, technical bulletins, or other publications to locate the recommended lifting points.

Position the arms so that all four pads contact the vehicle simultaneously.

The vehicle should remain level during lifting.

Raise the lift until all four wheels are off the ground. Test the stability of the vehicle by attempting to rock the car. 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.

When the vehicle has reached the desired working height, release the power pack button, and 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.

It is not safe to work under the vehicle unless both latches are engaged, and the vehicle is level.

Removal of large components of the vehicle could cause a change in the center of gravity resulting in an unsafe condition. If this is intended, vehicle support stands are recommended.

2. Lowering a vehicle

Insure that the area under the vehicle is clear of personnel and tools.

Raise the vehicle until both latches are free.

Disengage the latches by depressing the palm button and holding it.

Lower the vehicle by depressing the lowering valve handle.

Continue to lower the vehicle until the carriages stop against the base plate. Retract the extension arms, and park them. It is important to fully lower the lift to release hydraulic pressure on the system.

Maintenance

The following maintenance points are suggested as the basis of a preventive maintenance program. The actual maintenance program should be tailored to the installation.

Daily

Inspect the lift for loose anchor bolts
(If loose tighten to 80 ft-lbs)

All anchor bolts should take full torque.

Check for fluid leaks and loose connections.

Check for broken parts

Weekly

Check fluid level in power pack reservoir.

Check for lock release activation.

Monthly

Check synchronizer cables for wear and tension, adjust if necessary.

Lubricate cable sheaves or chain sprockets with light oil to reduce drag.

Lubricate carriage slide tracks with heavy viscous grease.

Appendix A

Hydraulic Fitting Assembly

Hydraulic line sets are prefabricated to allow easy assembly in the field. Follow the steps outlined below for reliable, leak-free joint:

1. Remove any shipping plugs or caps, insuring that no remnants of the plugs or caps remain in the tube.
2. Lubricate the threads and seat of the fitting with hydraulic oil or a compatible lubricant. **Do not use pipe dope or Teflon tape on these fittings.**
3. Align the tubing joints so that the tubing and sleeve assemblies can be inserted easily into the fitting.
4. Insert the tubing and sleeve assemblies into the fitting and start the fitting nut by hand.

CAUTION: If the fitting nut cannot be started by hand, the joint is not aligned properly. Attempting to start a misaligned fitting with a wrench is likely to damage the fitting and result in a leaking joint.

5. Tighten the fitting nut until the force required to turn it rises sharply.
6. Tighten the fitting nut 1/4 turn past the point noted in the previous step. Only if the joint leaks in operation should the joint be tightened further.

CAUTION: Do not over tighten the hydraulic fittings.

Appendix B

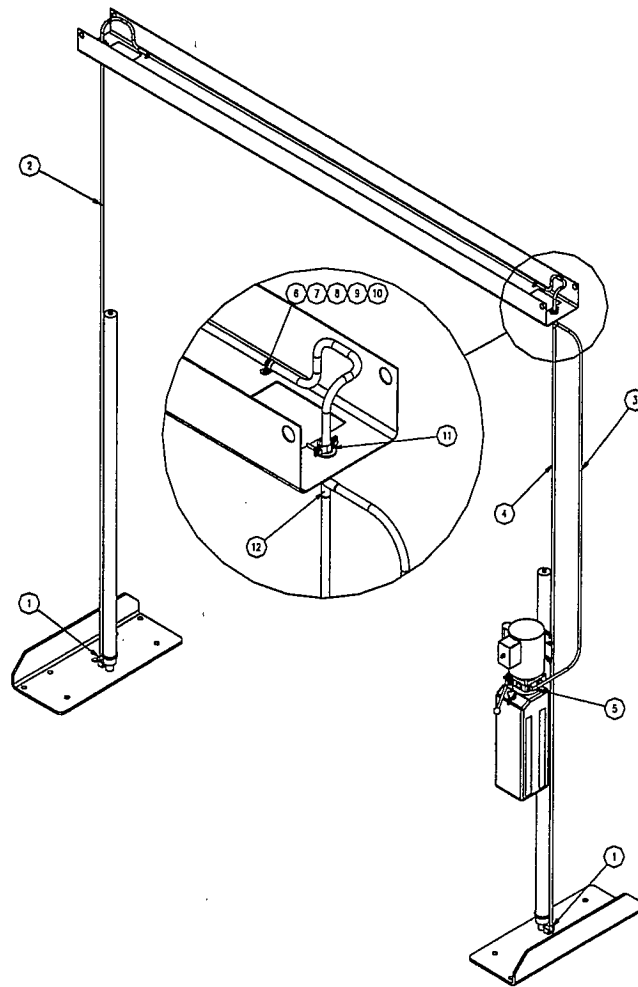
Anchor Bolt Installation

1. Insure the concrete has had sufficient time to cure - 28 days minimum.
2. Always wear safety glasses.
3. Follow the drill manufacturers safety instruction.
4. Use only solid carbide-tipped drill bits meeting ANSI B94 tip diameter standards.
5. Drill the anchor bolt holes perpendicular to the work surface. To assure full holding power, do not ream the hole or allow the drill to wobble.
6. Drill the hole at least as deep as the full length of the anchor, completely through the slab if possible.
7. Clean the hole, using compressed air and a wire brush. A clean hole is necessary for proper performance.
8. Assemble the washer and nut on the anchor bolt so that the anchor protrudes slightly beyond the nut.

The anchor should drop easily into the hole, requiring no more than a slight tap to seat it fully.

9. Tap the anchor through the fixture (lift base plate) and into the hole, making sure that the nut rests solidly against the fixture.
10. Tighten the nut to 150 ft-lbs for 3/4 inch diameter bolts and to 75 ft-lbs for 3/8 inch diameter bolts.

Hose Installation Addendum



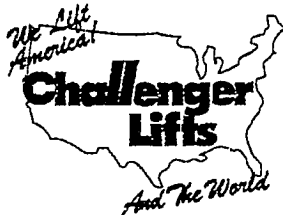
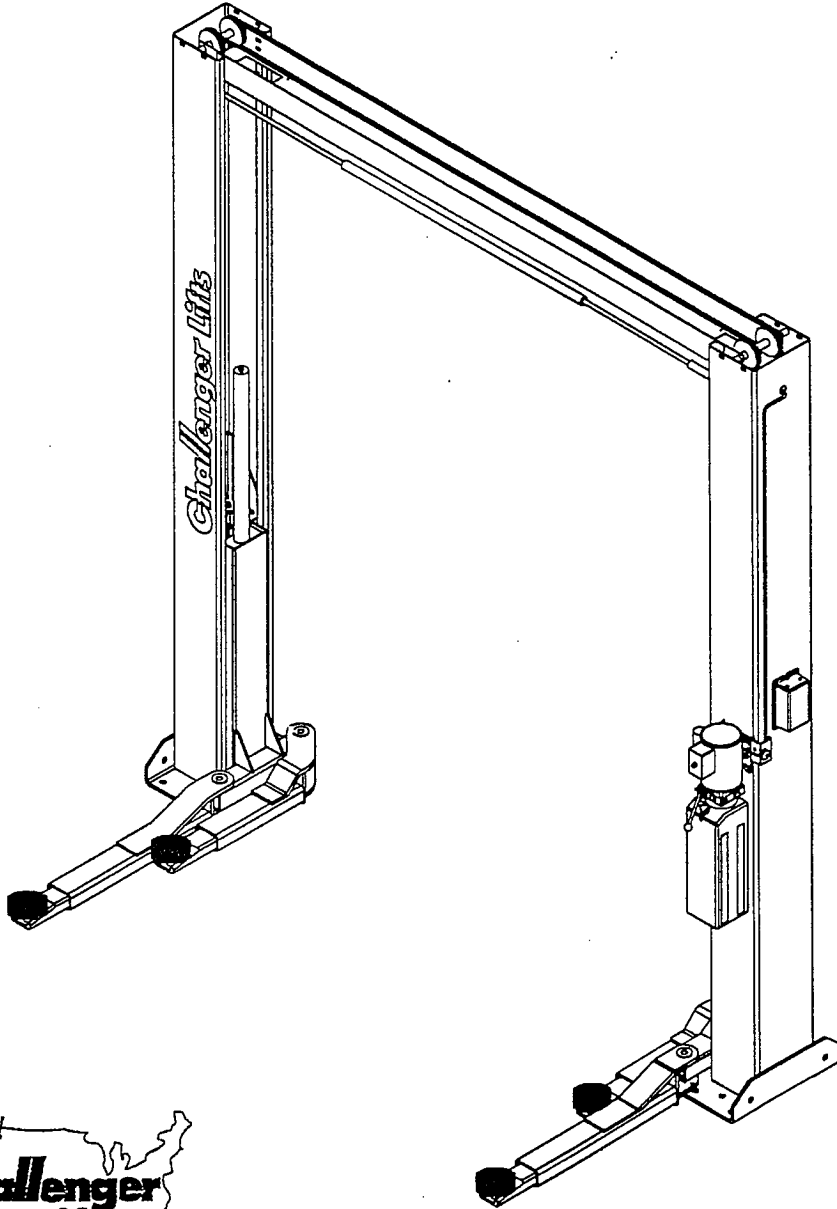
- 1) Install hose clamps (P/N 39104) in overhead.
- 2) Install fittings and route hose as pictured above. (Be careful to avoid synchronizing pulleys and cables.)
- 3) Remove slack from vertical hoses and tighten clamps (P/N 39104).
- 4) Use the hydraulic line clamps (P/N 31025) to avoid interference with the cylinder at full rise. (The cylinder will extend through the overhead at full rise.)
- 5) Pressurize the system to verify all fittings are tight and the system is leak free.
- 6) Insure that the long elbow (P/N 39102) is in the cradle on the base plate.

Important: Do Not Crimp Hoses By Over Tightening Clamps

Item #	Qty	Part #	Description
1	2	39102	Long "O" Ring Elbow
2	1	39100-266	Idler Cylinder Hose Assembly
3	1	39100-087	Power Unit Hose Assembly
4	1	39100-130	Power Cylinder Hose Assembly
5	1	16167	"O" Ring x 37 Deg. Flare Elbow
6	2	31025	Hydraulic Line Clamp
7	2	31026	#6-32 x 3/4 HHCS
8	4	31027	#6 Flat Washer
9	2	31028	#6 Lock Washer
10	2	31029	#6-32 Hex Nut
11	2	39104	Hose Clamp
12	1	39103	37 Deg. Flare Union Tee

Parts Break Down

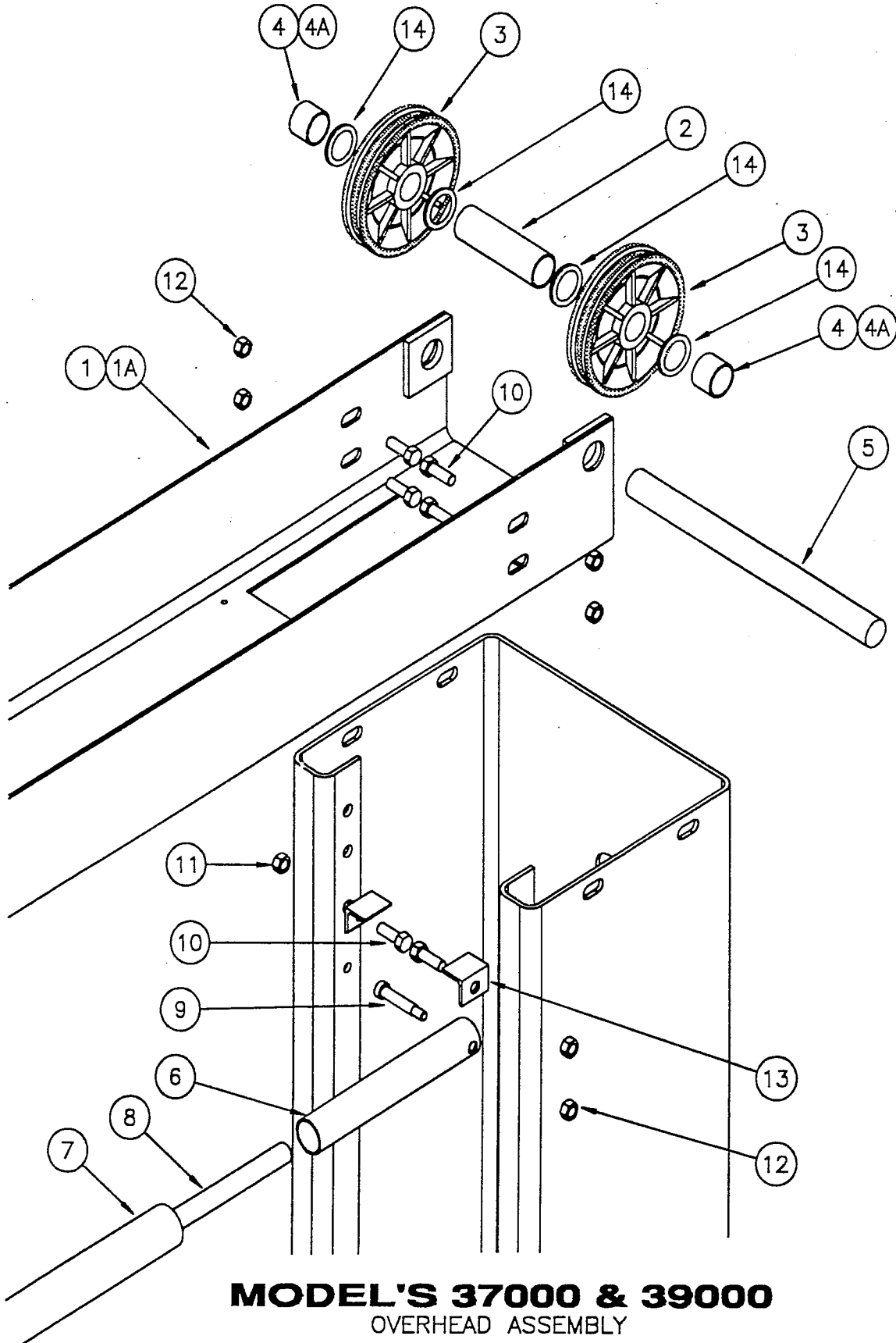
Model's 37000 & 39000



IMPORTANT !!!

Replace all worn or broken parts with **Genuine Challenger Lifts Inc. Parts**. Contact your local Challenger Lifts Parts Distributor for pricing and availability. Call 1-800-648-5438 for the closet parts distributor in your area.

Models 37000 & 39000
Installation, Operation and Maintenance



MODEL'S 37000 & 39000
OVERHEAD ASSEMBLY

Models 37000 & 39000
Installation, Operation and Maintenance

PARTS BREAKDOWN
MODELS 37000 & 39000

Synchronization Assembly

ITEM #	PART #	QTY	DESCRIPTION
3	36025	6	Synchronizing Sheave
14	36013	2	1" Phoenix Washer
15	36036	2	Synchronizing Cable
16	36037	4	ESNA Locknut ½-20
17	36014	2	External Retaining Ring 1"

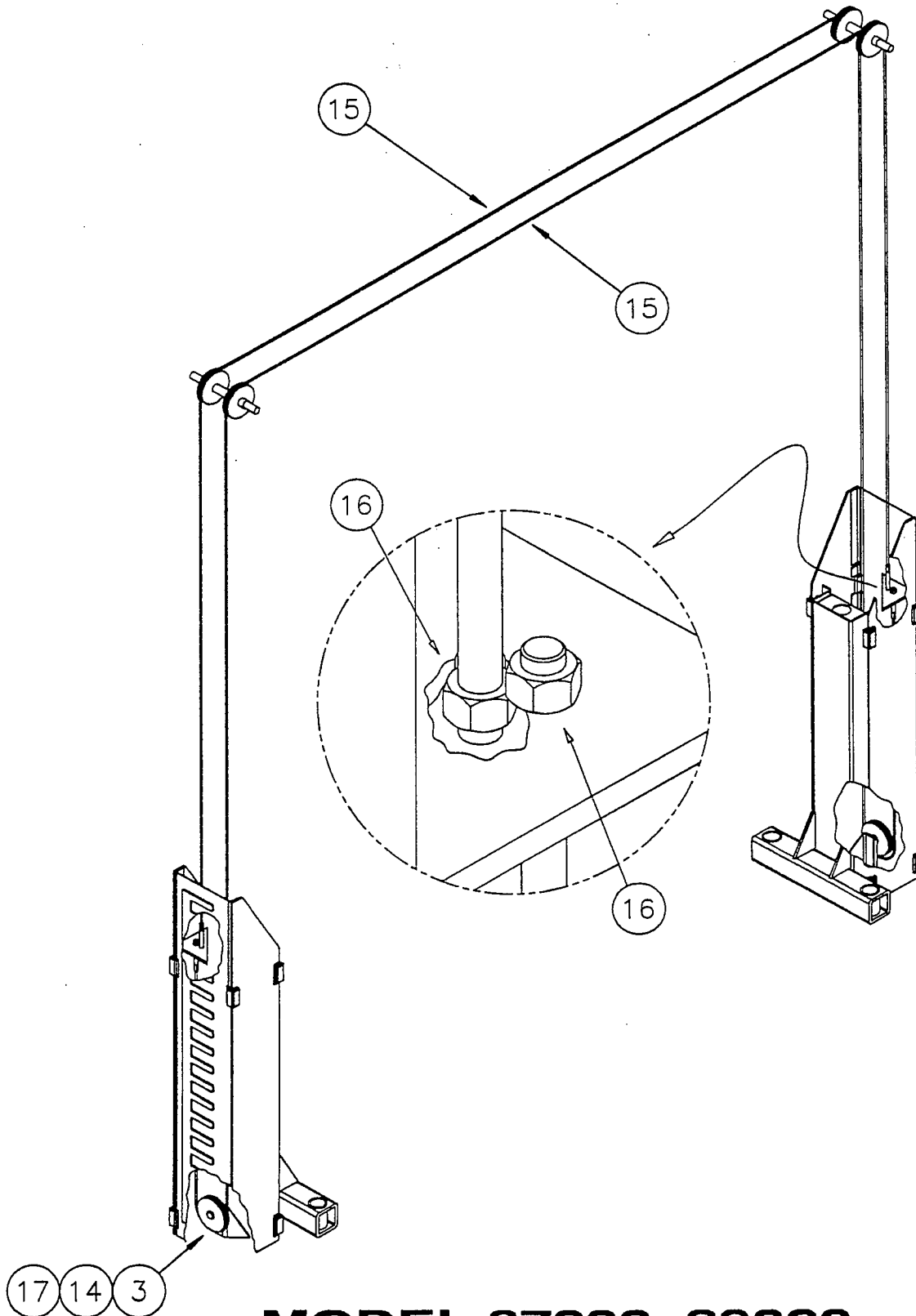
Models 37000 & 39000
 Installation, Operation and Maintenance

PARTS BREAKDOWN
Models 37000 & 39000

Overhead Assembly

ITEM #	PART #	QTY	DESCRIPTION
1	36034	1	Overhead Weldment (37)
1A	39009	1	Overhead Weldment (39)
2	36086	2	Long Spacer
3	36025	4	Synchronizing Sheave
4	36087	4	Short Spacer 7/8" (37)
4A	39030	4	Short Spacer 3/8" (39)
5	36024	2	Sheave Pin
6	36027	1	Mercury Limit Switch
7	31129	1	Foam Pad Shutoff Bar
8	36074	1	Shut Off Bar
9	36065	2	Shoulder Bolt 3/8" dia x 1 1/2" lg
10	31035	12	Hex Bolt 3/8-16 x 1
11	31038	12	Hex Nut 3/8-16
12	36066	2	ESNA Lock Nut 5/16-18
13	36064	4	Clip Angle
14	36013	1	1" Phoenix Washer
	36035	1	Shutoff Bar Assembly

Models 37000 & 39000
Installation, Operation and Maintenance



MODEL 37000, 39000
SYNCHRONIZATION SYSTEM

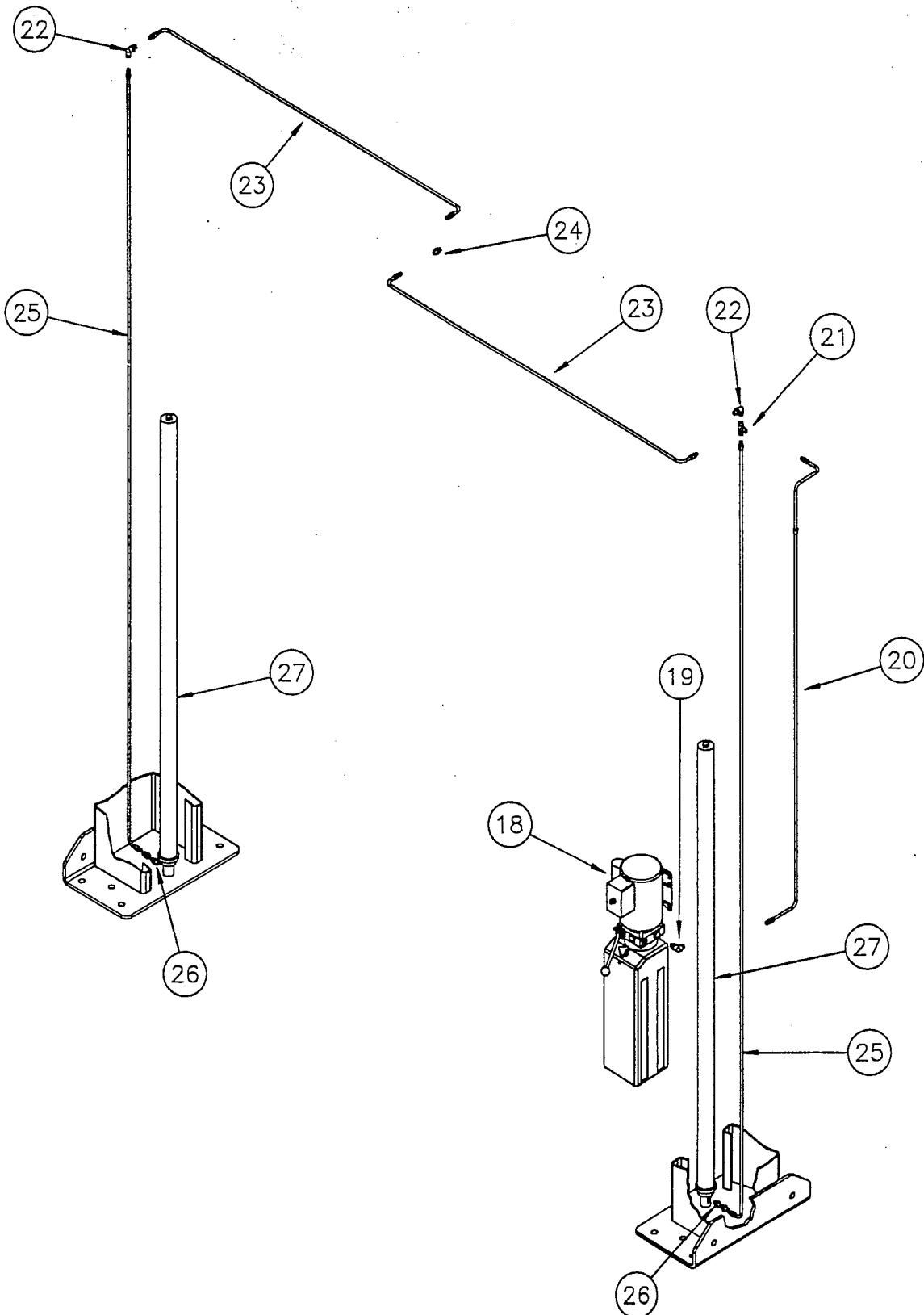
Models 37000 & 39000
Installation, Operation and Maintenance

PARTS BREAKDOWN
MODELS 37000 & 39000

Hydraulic Assembly

ITEM #	PART #	QTY	DESCRIPTION
18	31368	1	208/230V, 1 ph, 50 Hz Fenner Power
	31355	1	230/460V, 3 ph, 50/60 Hz Fenner Power
19	31089	1	90 deg. "O" Ring Elbow
20	36128	1	Hyd. Line - Power Unit (Fenner)
21	31032	1	Union Tee
22	36051	2	9/16 Swivel Elbow
23	36032	2	Hyd. Line - Overhead
24	31047	1	Union Tube x Tube
25	36049	2	Hyd. Line-Cylinder to Overhead
26	31116	2	Union "O" Ring x Tube
27	36115	2	Cyl. 2" Bore x 72" Stroke (Pacoma)

Model's 37000 & 39000
Installation, Operation and Maintenance



MODEL 37000, 39000
HYDRAULIC SYSTEM

Model's 37000 & 39000
 Installation, Operation and Maintenance

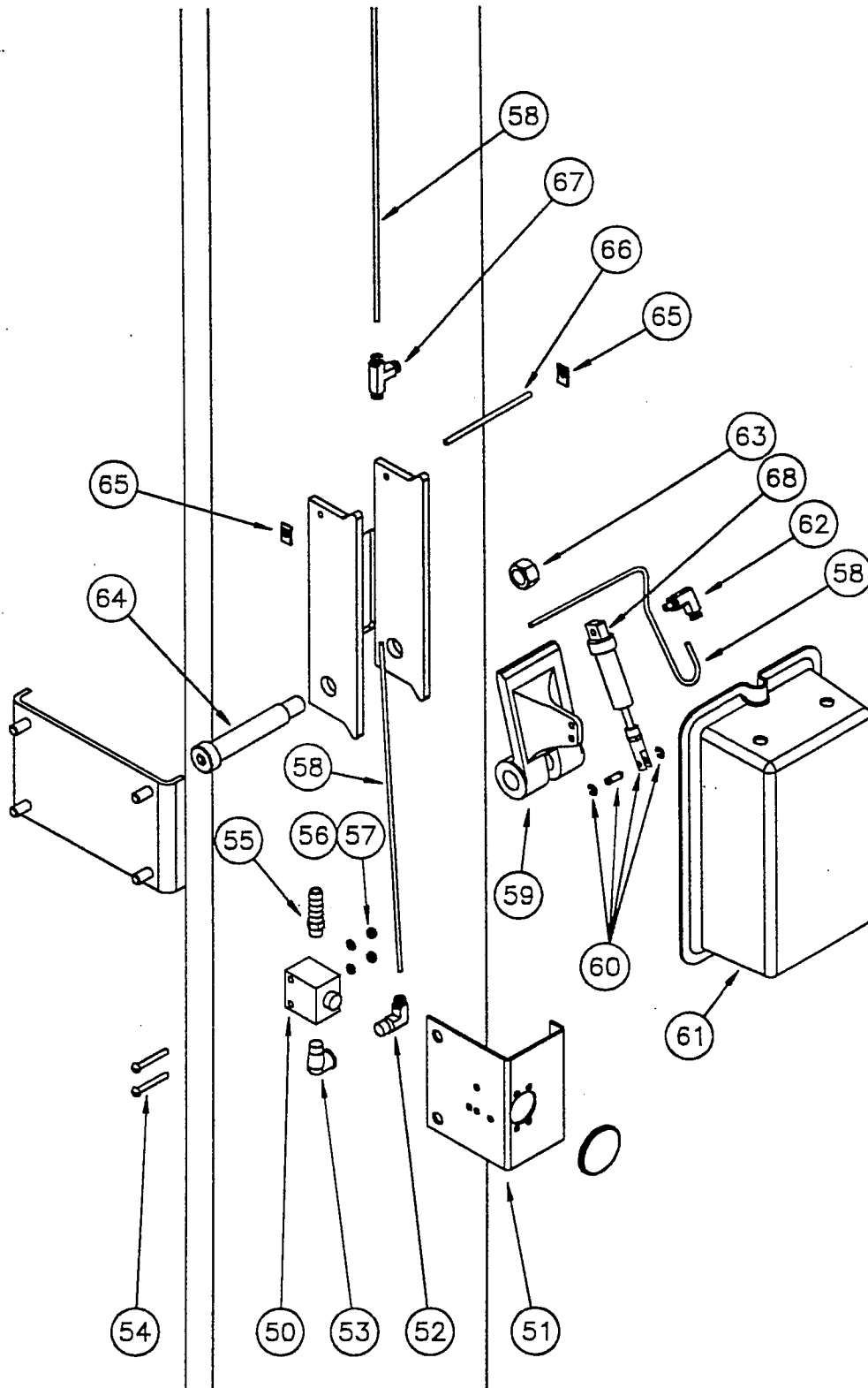
PARTS BREAKDOWN
MODELS 37000 & 39000

Pnuematic Lock Release

ITEM #	PART #	QTY	DESCRIPTION
50	37016	1	Lock Release Valve
51	37015	1	Valve Bracket
52	37019	1	90 deg Elbow 1/8 NPT x Tube
53	37020	1	90 deg Elbow 1/8 NPT
54	37022	2	Pan Head Screw 8-32 x 1 1/4" lg
55	37021	1	Hose Barb 3/8"
56	37023	2	Lock Washer #8
57	37024	2	Hex Nut 8-32
58	37035	1	Air Line 1/8" dia x 25' lg.
59	37081	2	Locking Pawl
60	37029	2	Air Cylinder Clevis
61	37072	2	SPLR Cover (Snap On)
	37034	2	SPLR Cover (Bolt On)
62	37041	2	90 deg Swivel Elbow 1/8" Tube x 10-32
63	37013	2	ESNA Locknut 1/2-13
64	37011	2	Shoulder Bolt 5/8" dia x 3" lg
65	37031	4	Speed Nut 5/32
66	37042	2	Pivot Rod 5/32" dia x 4" lg
67	37032	1	Union Tee 1/8" Tube
68	37026	2	Air Cylinder

	37014	1	Button Valve Bracket Ass'y (Items 50-57)
	37025	2	Air Cylinder Assembly (Items 60,62,68)

Model's 37000 & 39000
Installation, Operation and Maintenance



MODEL 37000 & 39000
PNEUMATIC LOCK RELEASE SYSTEM

Model's 37000 & 39000
Installation, Operation and Maintenance

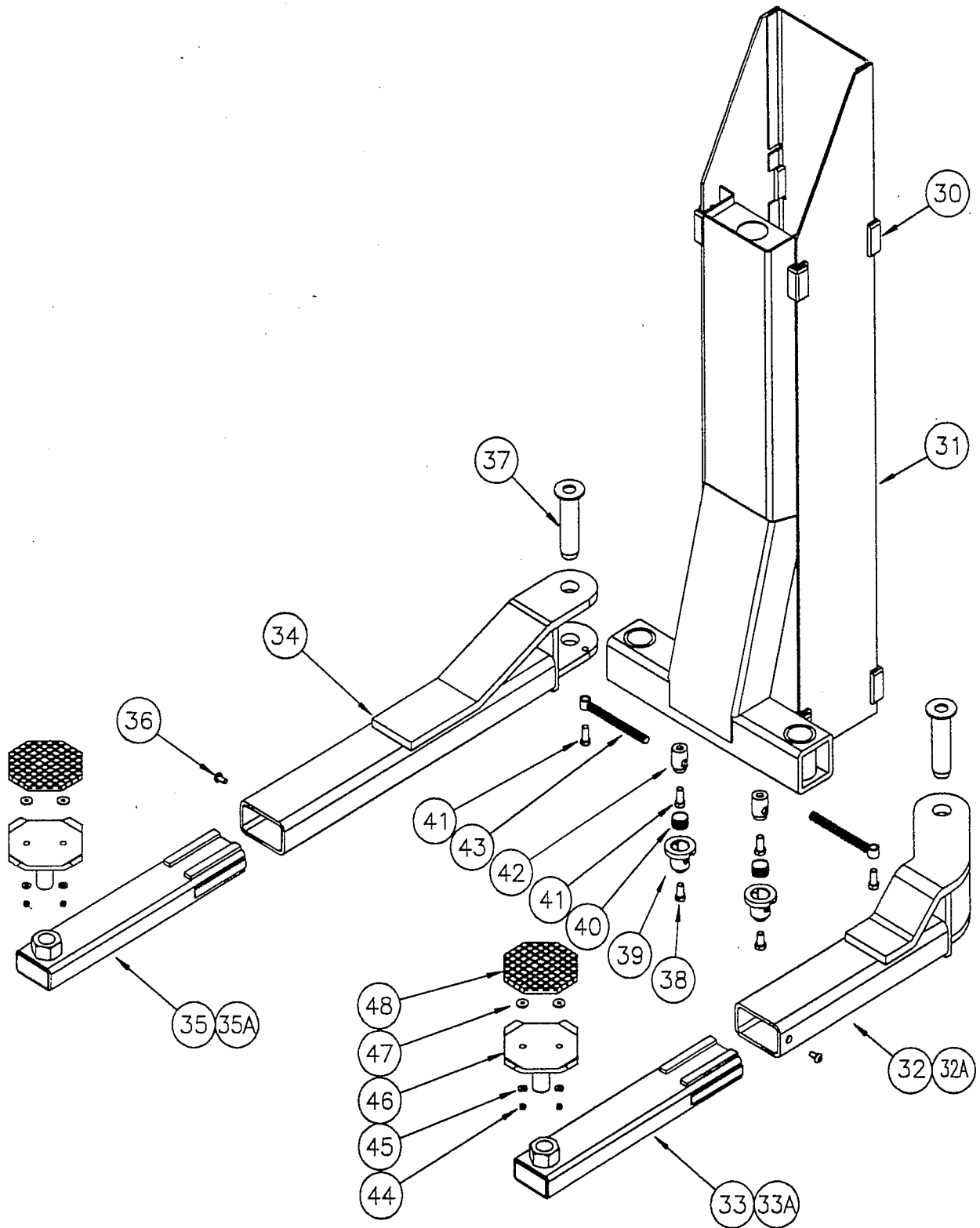
PARTS BREAKDOWN
MODELS 37000 & 39000

Carriage/Arm Assembly

ITEM #	PART #	QTY	DESCRIPTION
30	31023	2	Slide Block Assembly
31	37086	2	Carriage Weldment Model 37000
	39053	2	Carriage Weldment Model 39000
32	39016	1	R.F. Female Arm Weld Model 37/39
	39015	1	L.F. Female Arm Weld Model 37/39
33	39019	2	Male Ext. Arm Weld Model 39000
	36154	2	Male Ext. Arm Weld Model 37000
34	39017	2	Rear Female Arm Weld Model 37/39
35	39018	2	Male Ext. Arm Weld Model 39000
	36150	2	Male Ext. Arm Weld Model 37000
36	31305	4	Phillip Pan Head Screw 3/8-16 x 3/4" lg.
37	31134	4	Arm Pin 1 1/2" dia x 6" lg.
38	31111	4	Hex Head Cap Screw 1/2-13 x 3/4" lg
39	31107	4	Sleeve Weld Arm Restraint
40	31109	4	Compression Spring Arm Restraint
41	31112	8	Socket Head Cap Screw 1/2-13 x 1 1/2"lg
42	31108	4	Insert Arm Restraint
43	31110	4	Link Weldment 6 1/2" lg
44	31061	8	Keps Nut 1/4-20
45	31115	8	Flat Washer 1/4"
46	31133	4	Foot Pad Weldment 3 1/2" lg
47	31114	8	Fender Washer 1/4"
48	31057	4	Rubber Insert

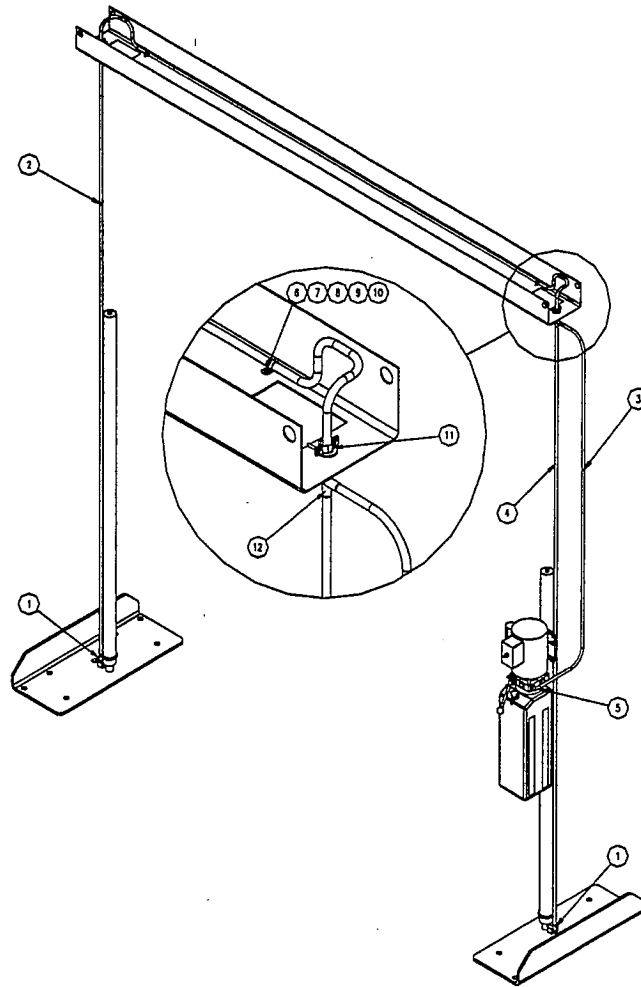
36145/39003	1	Arm Pack Ass'y (Items 32A-37, 47)
36147/39037	1	Right Front Arm Ass'y (Items 32A,33,36)
36148/39036	1	Left Front Arm Ass'y (Items 32B,33,36)
36146/39038	2	Rear Arm Ass'y (Items 34,35,36)
11024	4	Foot Pad Ass'y (Items 45-49)
11052	4	Rubber Insert Kit (Items 45,46,48,49)
31052,31053	4,1	Arm Restraint Ass'y (Items 38,39,40,42,43)

Model's 37000 & 39000
Installation, Operation and Maintenance



MODEL 37000 & 39000
CARRIAGE ARM ASSEMBLY

Hose Installation Addendum



- 1) Install hose clamps (P/N 39104) in overhead.
- 2) Install fittings and route hose as pictured above. (Be careful to avoid synchronizing pulleys and cables.)
- 3) Remove slack from vertical hoses and tighten clamps (P/N 39104).
- 4) Use the hydraulic line clamps (P/N 31025) to avoid interference with the cylinder at full rise. (The cylinder will extend through the overhead at full rise.)
- 5) Pressurize the system to verify all fittings are tight and the system is leak free.
- 6) Insure that the long elbow (P/N 39102) is in the cradle on the base plate.

Important: Do Not Crimp Hoses By Over Tightening Clamps

Item #	Qty	Part #	Description
1	2	39102	Long "O" Ring Elbow
2	1	39100-266	Idler Cylinder Hose Assembly
3	1	39100-087	Power Unit Hose Assembly
4	1	39100-130	Power Cylinder Hose Assembly
5	1	16167	"O" Ring x 37 Deg. Flare Elbow
6	2	31025	Hydraulic Line Clamp
7	2	31026	#6-32 x 3/4 HHCS
8	4	31027	#6 Flat Washer
9	2	31028	#6 Lock Washer
10	2	31029	#6-32 Hex Nut
11	2	39104	Hose Clamp
12	1	39103	37 Deg. Flare Union Tee

Installation and Maintenance of Parflex Hose and Hose Assemblies

- Inspect Components – check hose for cover cracks, Blisters, cleanliness, kinks, cracks or core tube obstructions or other defects. Examine fittings for poor threads, obstructions, cracks, rust. Do not use hose or fittings if these problems exist.
- Use a torque wrench or the flats from finger tight method to properly install port connections.
- **In order to prevent the hose from trying to twist the cylinder within the carriage, allow the hose to hang normally, then HOLD the hose still by the swivel while tightening the fitting.**
- After installation, eliminate air entrapped in system, pressurize to maximum operating pressure, and check for leaks and proper system function.
- After installation, periodically (frequency depends on severity of application and potential risk) inspect the system for the following:
 - 1) Blistered, degraded, or loose hose covers.
 - 2) Stiff, cracked, or charred hose.
 - 3) Cuts or abrasion of hose, Look for exposed reinforcement.
 - 4) Leaks in hose or fittings.
 - 5) Damaged or corroded fittings.
 - 6) Excessive build up of dirt, grease, oils, etc.
 - 7) Defective or broken clamping devices, shields.
 - 8) Kinks in hoses.

Upon discovery of any of these items, replace it, repair it, but **DO NOT IGNORE IT!**