

# SPOA10NB, SPOA10, SPO10, SPOA7

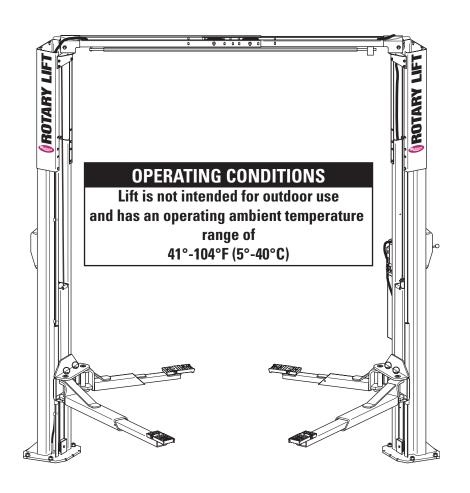
(500, 700, and 800 Series Lifts)

SPOA7 Capacity 7,000 lbs. SPOA10NB, SPOA10, SPO10 Capacity 10,000 lbs.

AIMPORTANT Referen

Reference ANSI/ALI ALIS, Safety Requirements for

Installation and Service of Automotive Lifts before installing lift.



LP20314

IN20384 Rev. X 2/23/2015

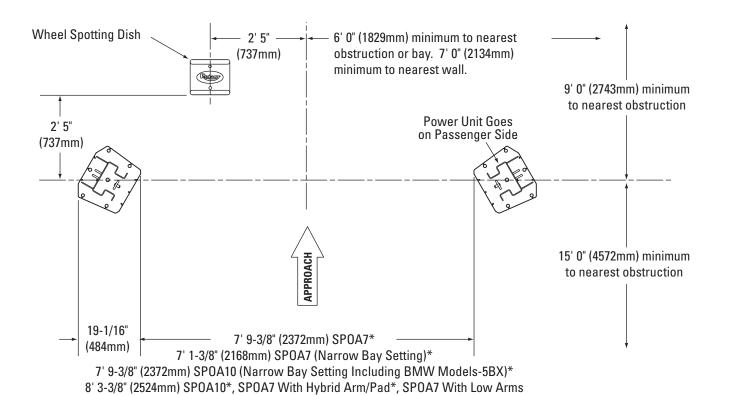
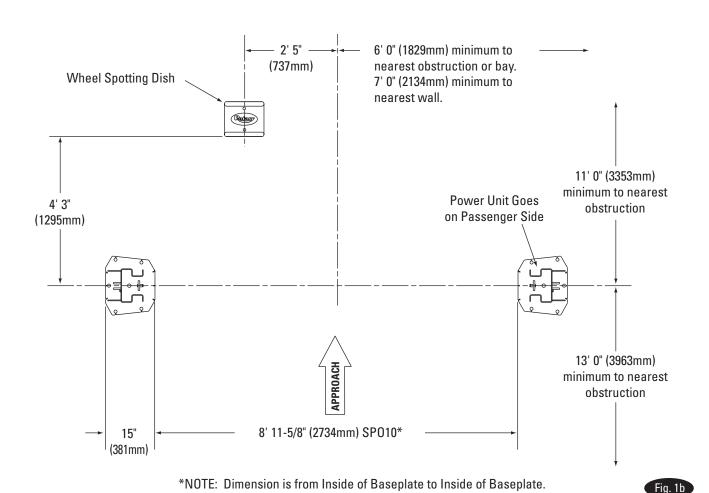


Fig. 1a

\*NOTE: Dimension is from Inside of Baseplate to Inside of Baseplate.



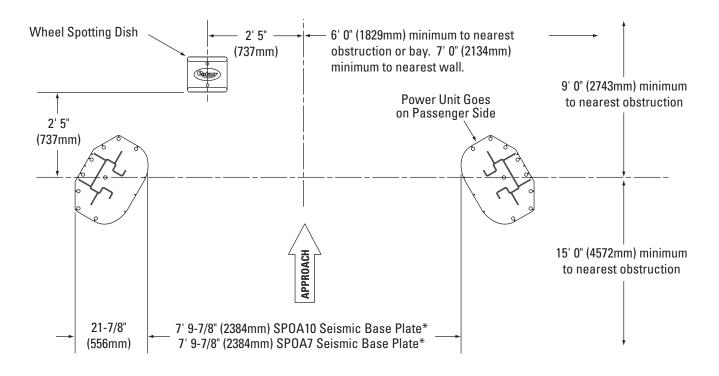
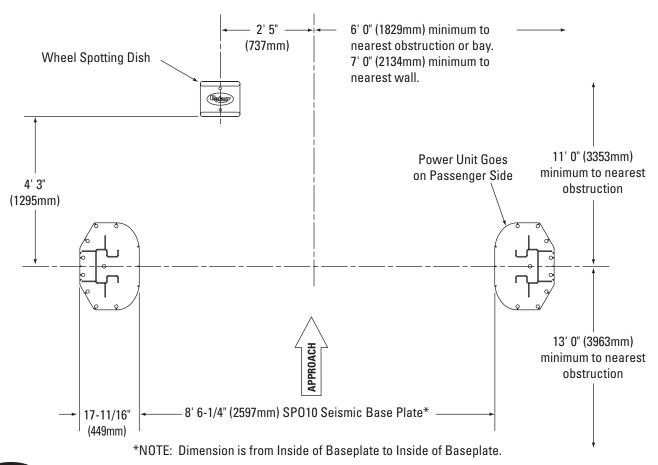
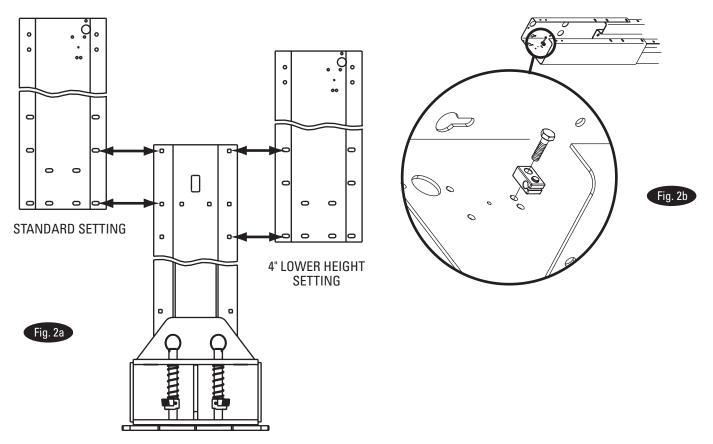


Fig. 1c

\*NOTE: Dimension is from Inside of Baseplate to Inside of Baseplate.

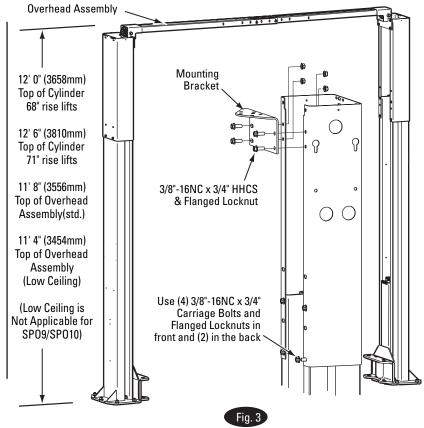




- 1. Lift Location: Use architects plan when available to locate lift. Fig. 1a, Fig. 1b, Fig. 1c, Fig. 1d, shows dimensions of a typical bay layout.
- 2. Lift Height: See Fig. 3 for overall lift height of each specific lift model. Add 1" min. to overall height to lowest obstruction.

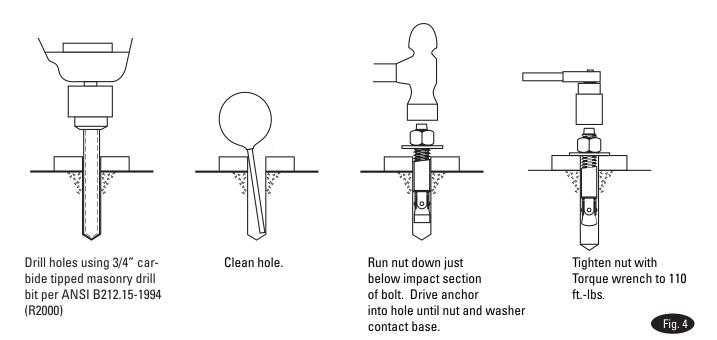
**AWARNING** DO NOT install this lift in a pit or depression due to fire or explosion risks.

- 3. Column Extensions: Before standing columns upright, install the column extensions using (12) 3/8"-16NC x 3/4" Carriage HHCS and Flanged Locknuts, Fig. 3, and Fig. 2a.
- 4. Latch Cable Guides: Install the latch cable conduit guide brackets to column extensions with (1) 1/4"-20NC x 1" HHCS and 1/4"-20NC Flanged Locknuts, Fig. 2. HHCS should go through hole nearest the edge as shown, Fig. 2b.
- 5. Overhead Mounting Bracket: Install Mounting Brackets to column extensions as shown, Fig. 3.
- 6. Lift Setting: Position columns in bay using dimensions shown in Fig. 1a & Fig. 1b. Place column with power unit mounting bracket on vehicle passenger side of lift. Both column base plate backs must be square on center line of lift. Notches are cut into each base plate to indicate center line of lift. Use appropriate equipment to raise carriage to first latch position. Be sure locking latch is securely engaged.



### Concrete and Anchoring:

If you are installing a seismic lift, consult with your structural engineer and manufacturer's representative for concrete and anchoring requirements (varies by location). Fig. 4 and the below table apply to non-seismic lifts only.



CONCRETE AND ANCHORING REQUIREMENTS						
STANDARD	ANSI/ALI ALCTV	IBC 2006, 2009, 2012		SEISMIC		
Minimum Floor Thickness	4-1/4 INCHES	5 INCHES	6 INCHES	Varies by location consult		
Anchor	Hilti Kwik Bolt III 3/4" x 5-1/2" Anchors supplied with the lift.*	Hilti HIT-HY 200 Adhesive	Hilti Kwik Bolt III 3/4" x 7"	with your structural engineer and manufacturer's repre- sentative.		
Minimum Concrete Strength	3000 PSI	3000 PSI	3000 PSI			
Minimum Anchor Embed- ment	3-1/4 INCHES	3-1/2 INCHES	3-3/4 INCHES			
Minimum Distance to Concrete Edge, Crack, Expansion Joint, Aban- danoned Anchor Hole	4-1/2 INCHES	5-1/4 INCHES	3-1/4 INCHES			

\*The supplied concrete fasteners meet the criteria of the American National Standard "Automotive Lifts - Safety Requirements for Construction, Testing, and Validation" ANSI/ALI ALCTV-2011, and the lift owner is responsible for all charges related to any additional anchoring requirements as specified by local codes.

Contact customer service for further information at: 800.445.5438

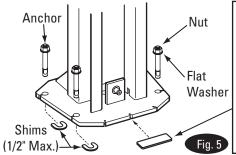
Non-Seismic Lifts:

Drill (10) 3/4" dia. holes in concrete floor using holes in column base plate as a guide. See Fig. 4 for hole depth, hole spacing, and edge distance requirements.

unstable surfaces. Columns are supported only by anchors in floor.

Using the horse shoe shims provided, shim each column base until each column is plumb. If one column has to be elevated to match the plane of the other column, full size base shim plates should be used (Reference FA5112 Shim Kit or FA5208 for seismic lift shims). Recheck columns for plumb. Tighten anchor bolts to an installation torque of 110 ft-lbs. Shim thickness MUST NOT exceed 1/2" when using the 5-1/2" long anchors provided with the standard lifts, Fig. 5. Adjust the column extensions plumb.

If anchors do not tighten to 110 ft-lbs. installation torque, replace concrete under each column base with a 4' x 4' x 6" thick 3000 PSI minimum concrete pad keyed under and flush with the top of existing floor. Let concrete cure before installing lifts and anchors. For seismic lifts, contact customer service.



NOTE: Use rectangular shims at inside edge of baseplate. Use constructions adhesive or silicon cement to hold shim in place. INSURE shims are held tightly between base plate and floor after torquing anchors.

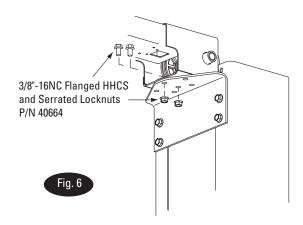
NOTE: If more than 2 horse shoe shims are used at any of the column anchor bolts, pack non-shrink grout under the unsupported area of the column base. Insure shims are held tightly between the baseplate and floor after torquing anchors. 7a. Overhead Assembly: Fig. 11: Adjust overhead to appropriate dimension. Install (4) 3/8"-16NC x 3/4" HHCS & 3/8"-16NC Flanged Locknuts, do not tighten. Slide Switch Box over switch bar ensuring knock out holes face the power unit column. Use (2) 1/4"-20NC x 3/4" Ig. HHCS, 1/4"-20NC Nuts and 1/4" Star Washers to mount switch box to overhead, see Fig. 7. For SPOA10 Extra Narrow Bay Setting installation, see step 7b, all others go to step 7c. 7b. For Extra Narrow Bay installation only: Cut off 11" from the length of the bar and cushion on the end opposite the 1/4" mounting hole(s). Continue to step 7c.

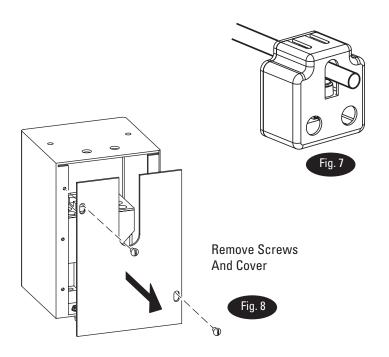
#### 7c. Continued Overhead Assembly:

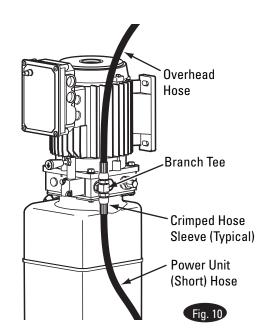
For single phase and three phase lifts with push button control box: Insert 1/4"-20NC x 2-3/4" HHCS through pivot hole in end of switch bar. Insert opposite end of bar through slot in switch mounting bracket. Then secure HHCS and Switch Bar to overhead as shown, Fig. 11, using (2) 3/4" spacers and 1/4"-20NC Locknut. Tighten Hex bolt leaving 1/16" gap between the spacer and the overhead assembly.

For three phase lifts with drum switch: Remove Limit Switch cover, Fig. 8. Insert Actuator end of Switch Bar into slot located inside Limit Switch, Fig. 8. A small amount of silicone sealant on the lower part of the actuator will help hold it in place. Insert 1/4"-20NC x 2-3/4" HHCS through pivot hole in end of Switch Bar. NOTE which hole to use, Fig. 11. Then secure HHCS and Switch Bar to overhead as shown, using (2) 3/4" spacers and 1/4"-20NC Locknut. Tighten Hex bolt leaving 1/16" gap between the spacer and the overhead assembly, Fig. 11. Replace limit switch cover.

8. Overhead Installation: Install overhead assembly to Mounting Bracket with (2) 3/8"-16NC x 3/4" Flanged HHCS, (2) 3/8"-16NC Flanged Serrated Locknut, Fig. 6. Use middle holes for SP09/SP010 and outside holes (marked L for Left and R for Right) for SP0A7/SP0A9/SP0A10NB/SP0A10. Tighten bolts at center of overhead assembly.



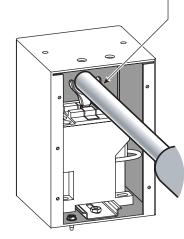




Place Actuator Here.
A Small Amount Of Silicone Sealant
On The Lower Part Of The Actuator

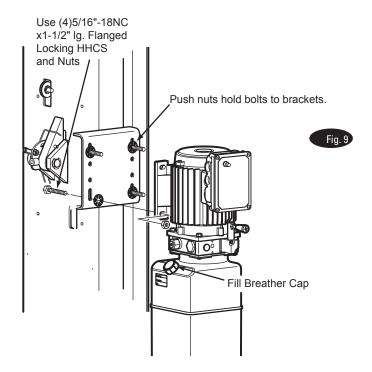
On The Lower Part Of The Actuator
Will Help Hold It In Place.

Actuator



Cradle Bar

On Actuator,



9. Power Unit: Put the (4) 5/16"-18NC x 1-1/2" flanged Locking HHCS thru holes in power unit bracket using Push-Nuts to hold in place, Fig. 9. Mount unit with motor up to column bracket and install (2) 5/16" flanged locking nuts. Install and hand tighten Branch Tee to pump until 0-ring is seated. Continue to tighten the locknut to 10-15 ft-lbs., or until the nut and washer bottom out against the pump manifold. NOTE: You may still be able to rotate the Branch Tee. This is acceptable unless there is seepage at the 0-ring. If so, slightly tighten the locknut.

Over tightening locknut may tear 0-ring or distort threads in pump manifold outlet.

10. Hoses: Clean adapters and hose. Inspect all threads for damage and hose ends to be sure they are crimped, Fig. 10. Install hose and hose clamps, Fig. 12 & Fig. 16.

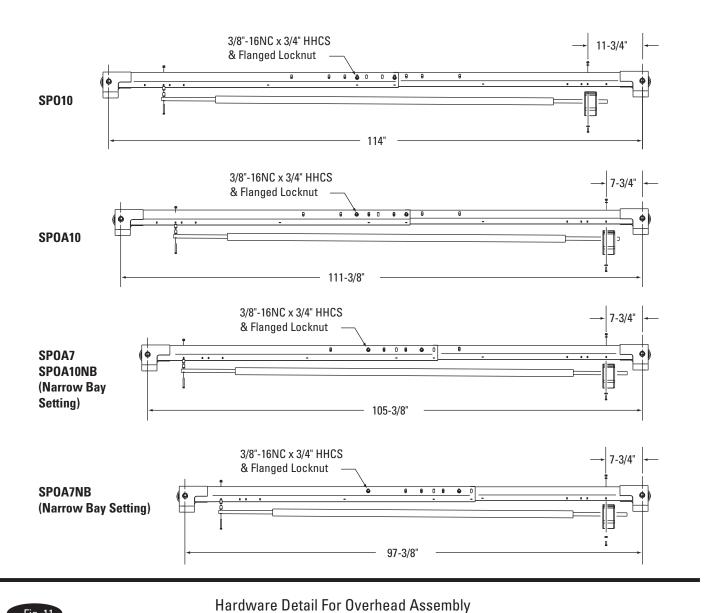
### Flared Fittings Tightening Procedure

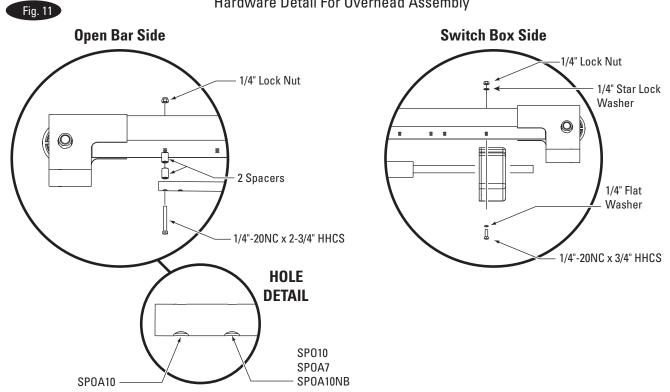
1. Screw the fittings together finger tight. Then, using the proper size wrench, rotate the fitting 2-1/2 hex flats.

**IMPORTANT** Flare seat MUST NOT rotate when tightening. Only the nut should turn.

- 2. Back the fitting off one full turn.
- Again tighten the fittings finger tight; then using a wrench, rotate the fitting 2-1/2 hex flats. This will complete the tightening procedure and develop a pressure tight seal.

**ACAUTION** Overtightening will damage fitting resulting in fluid leakage.

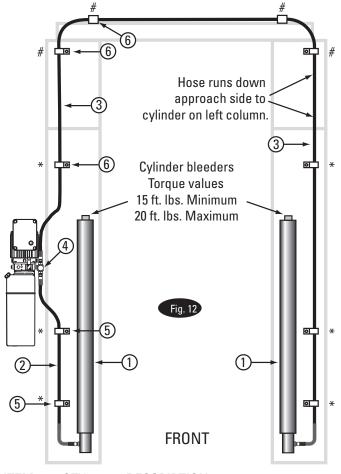




Adapter & Hose Installation (see Fig. 12)

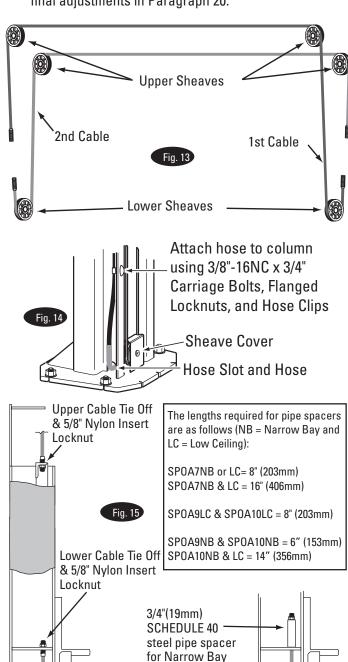
- 1. Install Pc. (2) with metal hose clamps, on power unit column side connecting it to the cylinder (1) first.
- Install Pc. (3) with plastic hose clamps starting at opposite column cylinder (1) and working toward the power unit column. All excess hose should be at bends & inside overhead assembly. DO NOT try to use optional column extension mounting holes, Fig. 2a, when attaching hose clamps. They will NOT work. Use lower set of holes.
- 3. Install Pc. (4) into power unit.
- 4. Connect Pc. (2) & Pc. (3) to Tee (4).

NOTE: Route Power Unit hose inside columns using slots provided at column base, Fig. 14. Route Overhead Hose in column channel on outside of column, Fig. 14. Overhead hose goes over top end of overhead assembly, Fig. 12 & Fig. 16a & Fig. 16b.



	0.77.7	DECODIBEION
ITEM	QTY.	DESCRIPTION
1	2	Hydraulic Cylinder
2	1	Power Unit Hose
3	1	Overhead Hose
4	1	Branch Tee
5	2	Metal Hose Clips
	*6	3/8-16NC x 3/4" Ig. Carriage Bolts
	*6	3/8"-16NC Flanged Locknuts
6	8	Plastic Hose Clips
	#4	3/8-16NC x 3/4" lg. Flanged HHCS
	#4	3/8"-16NC Flanged Locknuts

- 11. Equalizing Cables
- A) Refer to Fig. 13 for the general cable arrangement. First, run a cable end up through the small hole in the lower tie-off plate. Fig. 15.
- B) Push the cable up until the stud is out of the carriage top opening.
- C) Run a nylon insert locknut onto the cable stud so 1/2" (13mm) of the stud extends out of the locknut.
- D) Pull the cable back down, Fig. 15.
- E) Run cable around the lower sheave, then up and around overhead sheave and across and down to the opposite carriage, Fig. 13. Install sheave cover, Fig. 14.
- F) Fasten the cable end to the carriage upper tie-off bracket, Fig. 15. Tighten the locknut enough to apply light tension to the cable.
- G) Repeat procedure for the second cable. Complete lift assembly. Adjust the tension of both cables during the final adjustments in Paragraph 20.



and/or Low Ceiling

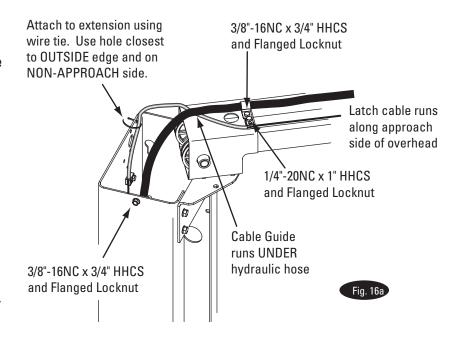
- 12. Locking Latch Cable
- A) Install latch cable sheave and retaining rings in upper slot of power unit column as shown, Fig. 17.
- B) Slip loop end of cable over end of shoulder screw on right side latch control plate, Fig. 17
- C) Feed the other end of the cable through the latch cable sheave slot making sure that the cable is running under the bottom side of the latch cable sheave and inside the right column, Fig. 17.
- D) Attach latch cable conduit guide brackets to overhead as shown, Fig. 16a & Fig. 16b. Always use the holes on the approach side of the lift. HHCS should be in hole nearest the center of the overhead, Fig. 16b.
- E) Route cable up inside column and through the latch cable guide, Fig. 16a & Fig. 18.

Using wire ties provided, tie off cable guide to column extension as shown, Fig. 16a. Guide must be attached in hole closest to the outside edge of the column on the NON-APPROACH side.

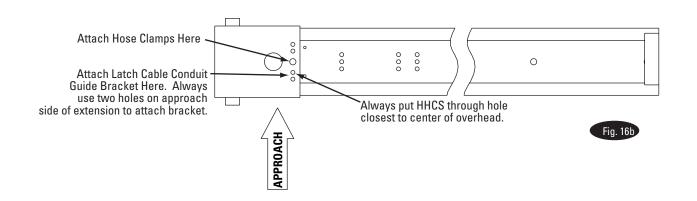
F) Continue routing cable to the left column latch cable guide, Fig. 16a & Fig. 18, routing the cable through the left column latch cable guide, Fig. 16a.

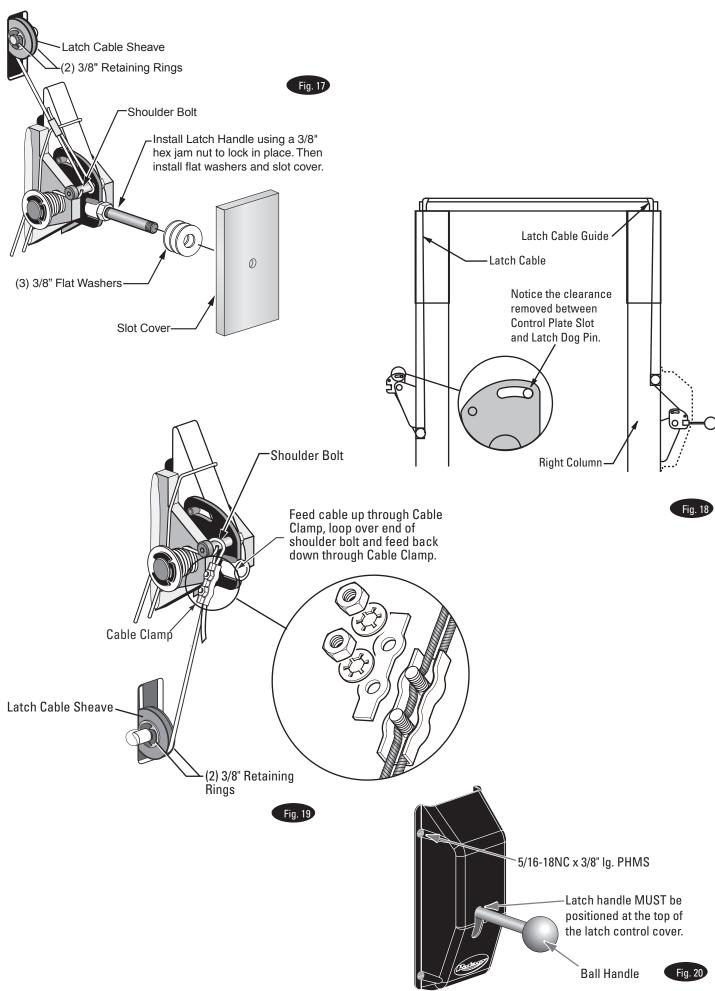
**IMPORTANT** Using wire ties provided, tie off cable guide to column extension as shown, Fig. 16a. Guide must be attached in hole closest to the outside edge of the column on the NON-APPROACH side.

- G) Bring the cable down inside the left column and feed the end of the cable through the lower latch cable sheave slot so that the cable is now back outside the column, Fig.
- H) Install latch cable sheave and retaining rings in lower slot of non-power unit column as shown, Fig. 19.



- I) Route cable under the bottom side of the latch cable sheave, Fig. 19.
- J) At this point you MUST install the latch handle, jam nut, and right column latch cover Fig. 17 & Fig. 20. Install latch handle ball, Fig. 20.
- K) Insert cable in cable clamp along one side, loop around shoulder screw and back down, inserting cable along other side of cable clamp, Fig. 19. Place top back on clamp, barely tightening.
- L) Next, pull the control plate down, Fig. 18 & Fig. 19, to eliminate any clearance between the control plate slot and the latch dog pin, Fig. 18.
- M) Using Pliers, pull cable tight and secure the clamp close to the shoulder screw. Tighten clamp.





13. Electrical: Have a certified electrician run appropriate power supply to motor, Fig.21 & 22. Size wire for 20 amp circuit. See Motor Operating Data Table.

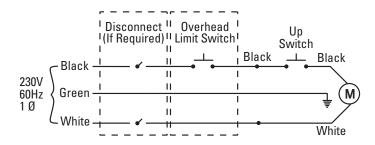
Never operate the motor on line voltage less than 208V. Motor damage may occur.

IMPORTANT: Use separate circuit for each power unit. Protect each circuit with time delay fuse or circuit breaker. For single phase 208-230V, use 20 amp fuse. Three phase 208-240V, use 20 amp fuse. For three phase 400V (\*E Model) and above, use 10 amp fuse. For three phase 380V (\*S Model) use 16 amp fuse. For wiring see Fig. 21, Fig. 22, and Fig.22b. All wiring must comply with NEC and all local electrical codes.

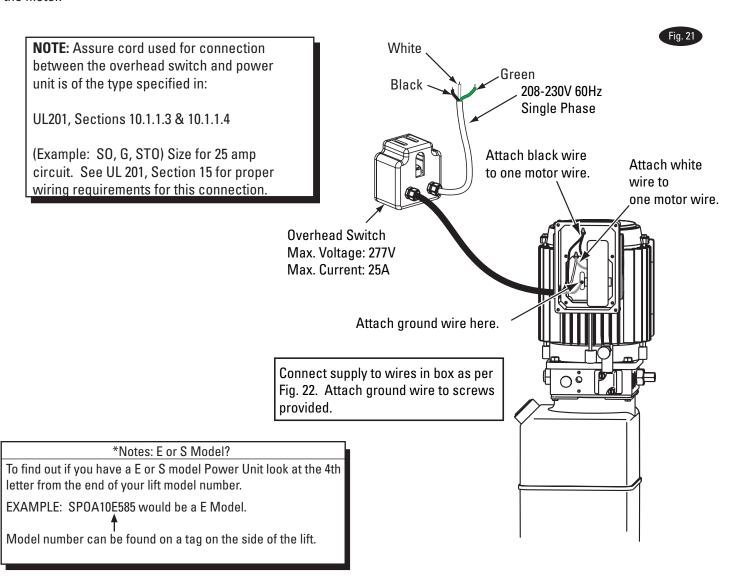
Note: 60Hz. single phase motor CAN NOT be run on 50Hz. line without a physical change in the motor.

### Single Phase Power Unit

MOTOR OPERATING DATA TABLE - SINGLE PHASE				
LINE VOLTAGE	RUNNING MOTOR VOLTAGE RANGE			
208-230V 50Hz.	197-253V			
208-230V 60Hz.	197-253V			



Note: 60Hz. Single phase motor CAN NOT be run on 50Hz. line without a physical change in the motor.

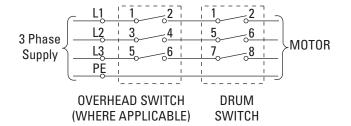


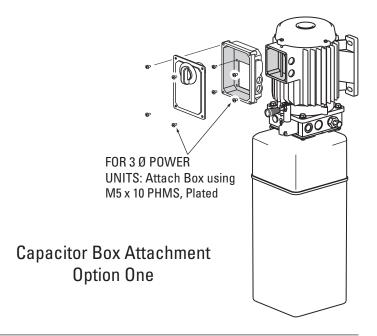
NOTE: Two Different Drum Switches were used please select one of the two options below.

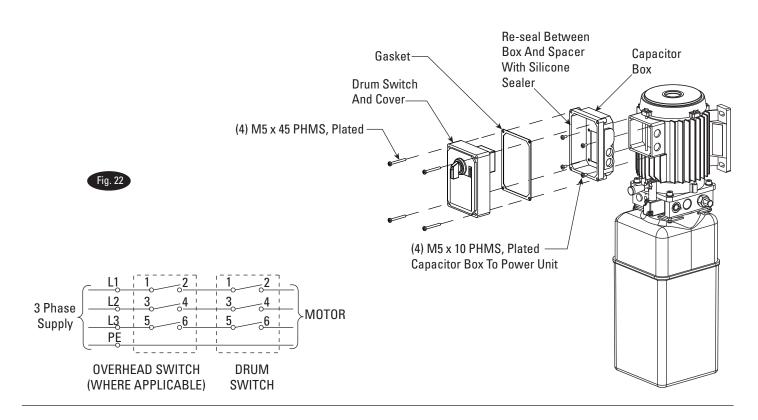
Newer model three phase lifts use the push button control box with contactor. Its instructions follow the Drum Switch instructions.

#### **NOTES:**

- Unit not suitable for use in unusual conditions. Contact Rotary for moisture and dust environment duty unit.
- 2. Control Box must be field mounted to power unit.
- 3. Motor rotation is counter clockwise from top of motor.

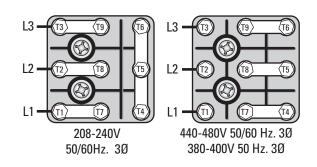


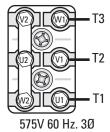




### Three Phase Power Unit

MOTOR OPERATING DATA TABLE - THREE PHASE				
LINE VOLTAGE	RUNNING MOTOR VOLTAGE RANGE			
208-240V 50/60Hz.	197-253V			
400V 50Hz.	360-440V			
440-480V 50/60Hz.	396V-528V			
575V 60Hz.	518V-632V			





- 14. 3ø Control Box Installation:
- A) Attach Mounting Bracket on column, as shown in Fig. 22a, using (1) 5/16"-18NC x 1/2" Socket Head Counter Sunk Machine Screw, (2) 5/16"-18NC x 1/2" HHCS, and (2) 5/16" Flat Washers.
- B) Attach Control Box to Bracket using (4) 1/4"-20NC x 1/2" HHCS, (4) 1/4" Flat Washers, and (4) 1/4" Star
- C) Route cord through strain relief on motor and connect per table on the bottom of page 13.

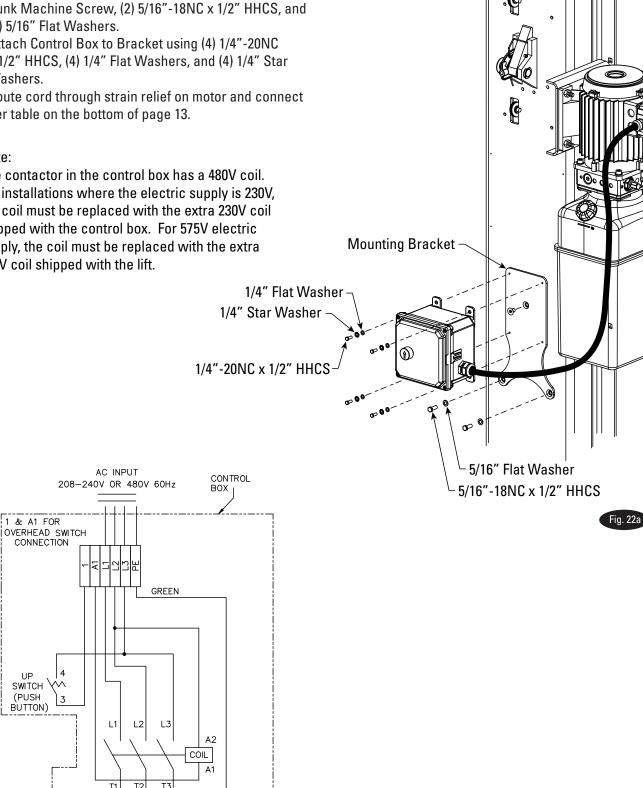
#### Note:

UP SWITCH (PUSH

MOTOR CORD

Fig. 22b

The contactor in the control box has a 480V coil. For installations where the electric supply is 230V, the coil must be replaced with the extra 230V coil shipped with the control box. For 575V electric supply, the coil must be replaced with the extra 575V coil shipped with the lift.



15. Oil Filling & Bleeding: Use Dexron III ATF, or Hydraulic Fluid that meets ISO 32 specifications. Remove fill-breather cap, Fig. 10. Pour in (8) quarts of fluid. Start unit, raise lift about 2 ft. Open cylinder bleeders approximately 2 turns, Fig. 12.

Close bleeders when fluid streams. Torque values for the bleeders are 15 ft. lb. minimum and 20 ft lb. maximum. Fully lower lift. Add more fluid until it reaches the MIN\_\_\_\_\_ mark on the tank. Replace fill-breather cap.

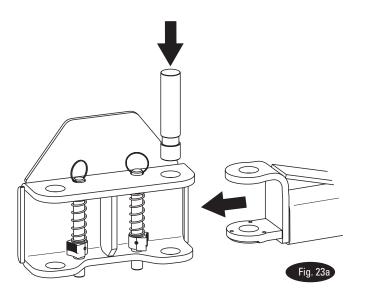
**ACAUTION** If fill-breather cap is lost or broken, order replacement. Reservoir must be vented.

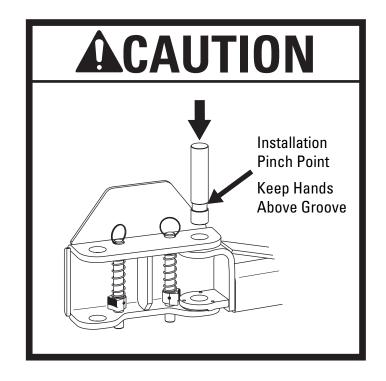
- 16. Overhead switch: Check overhead switch assembly to assure that switch bar is depressing switch plunger sufficiently to actuate the switch. The overhead switch is wired normally open, see Fig. 21, Fig. 22, and Fig. 22b. Lift will not operate until weight of switch bar is depressing switch plunger. Verify that Power Unit stops working when switch bar is raised, and re-starts when the bar is released.
- 17. Arms & Restraints: Before installing arms, raise carriages to a convenient height. Grease swivel arm pins and holes with Lithium grease. Slide arm into yoke, Fig. 23a. Install 1-3/4" diameter arm pin(s), Fig. 23a.

After installing arms and pins, install arm Restraint Gears as follows: Install Restraint Gear onto arm clevis, as shown, Fig. 23b. Ensure side of gear marked TOP is facing upward, Fig. 23b.

NOTE: TOP is stamped on top side of gear. You may need to pull up on the pin-ring to allow enough room to install Restraint Gear.

Arms With 5 Holes In Bearing Bar: Then, install the (2) 3/8"-16NC x 1-1/2" HHCS (8 total for all 4 arms) and 3/8" Spring Lock washers into the gear and arm, but do not tighten. Reference Fig. 23c, Fig. 24a, and Fig. 24b.



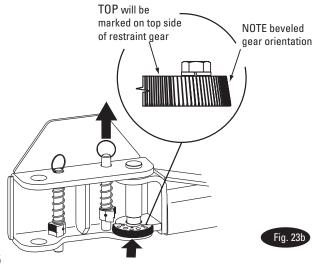


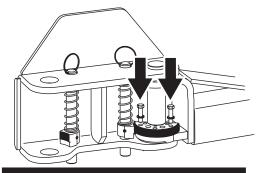
Arms With 3 Holes In Bearing Bars: Then, install the (2) 3/8"-16NC x 1-1/2" Lg. HHCS ((8) total for all (4) arms) into the gear and arm. Using 3/8" hex jam nuts, secure restraint gears to arms. Reference Fig. 23c and Fig. 24b.

Torque the Restraint Gear bolts to 30-34 ft.-lbs.

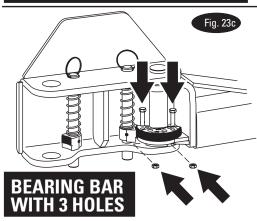
NOTE: To check operation of arm restraints, raise carriage 1" min. from full down position. Pull up on pin-ring and adjust arms to desired position. To engage restraint, let pin-ring down allowing gear teeth to mesh together. It may be necessary to rotate arm slightly to engage gear teeth.

NOTE: Once arm is installed in yoke, pull up actuator pin and swing arm fully around, being sure that the Restraint Gear and Gear Block always stay aligned. If they do not stay aligned, remove restraint gear and install in the opposite position.

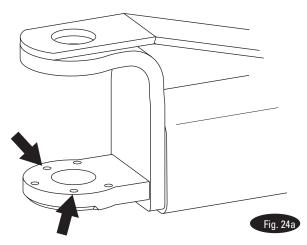




# **BEARING BAR WITH 5 HOLES**

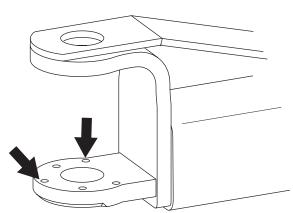


# **BEARING BAR WITH 5 HOLES**

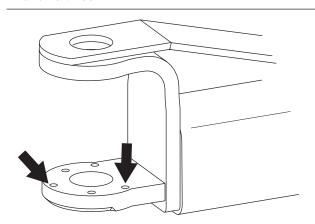


DO NOT use holes marked with arrows.

# **BEARING BAR WITH 5 HOLES**

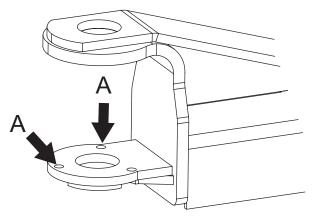


Use holes marked with arrow for Right Front and Left Rear.

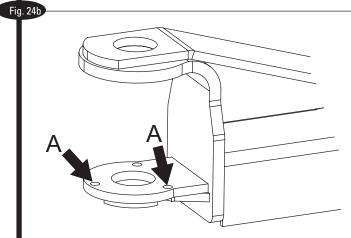


Use holes marked with arrow for Left Front and Right Rear.

# **BEARING BAR WITH 3 HOLES**



Use holes marked "A" for Right Front and Left Rear.



Use holes marked "A" for Left Front and Right Rear.

NOTE: Pin & Ring, Spring, & Gear Block are all pre-assembled.

Assemble adapters into arms (800 Series only):

For RA and truck adapters, slide adapter insert into end of inner arm. Place adapter through slot in inner arm and into adapter insert.

For flip-up adapters, place load plate onto inner arm with stop on bottom in the inner arm slot and towards the end of the arm. Slide adapter insert into end of inner arm and line up with hole in load plate. Orient small hole in adapter insert so it runs the length of the arm and you can see it when looking in the end of arm. Slide large pin from adapter assembly through the load plate and into the adapter insert lining up the holes in the pin and the insert. Install the retaining pin through the adapter insert and pin pushing it in until the head or pin hits the insert. Swivel the entire assembly around 180° and install the cotter pin, Fig 24c.

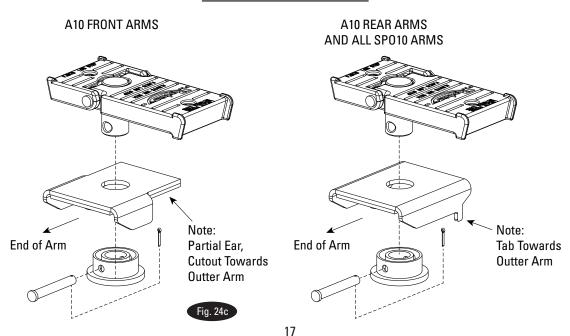
Note: Load plate with partial ears are used on A10 front arms.

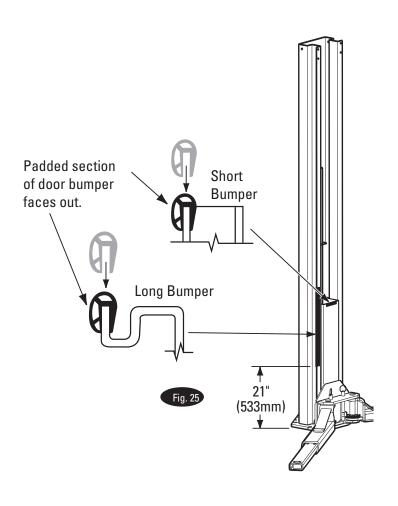
- 18. Door Bumper Installation:
- A) Press long bumper on column edge, Fig. 25.
- B) Press short bumper on top edge of carriage tube, Fig. 25.
- 19. Latch Cable Adjustment:
- A) Check to make sure the latch will properly engage and disengage. **Slowly** release the latch handle. A 1/8" gap between the top of the latch dog and the column is allowable.
- B) When raising, listen to latches to be sure that both latch dogs fall into latch slots. If they do not, loosen clamp and adjust tension as necessary.

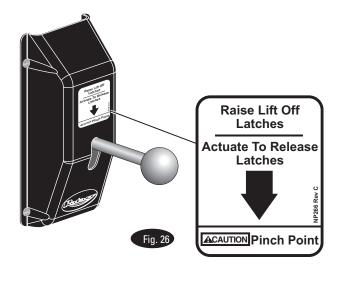
- C) Install left latch cover using 5/16-18NC x 3/8" lg PHMS.
- 20. Pressure Test: Run lift to full rise and keep motor running for 5 seconds. Stop and check all hose connections. Tighten or reseal if required. Repeat air bleeding of cylinders.
- 21. Equalizer Cable Adjustment: Raise lift to check equalizer cable tension. Below carriage, grasp adjacent cables between thumb and forefinger, with about 15 lbs. effort you should just pull the cables together. Adjust at upper tie-offs Fig. 15.
- 22. Latch Release Decal: Install latch release decal on cover above latch release handle, Fig. 26.
- 23. Pinch Point Decal Location: Install enclosed pinch point decals. Place (1) decal on each column, Fig. 27. Decals should be a minimum of 8" from the bottom of decal to the ground.
- 24. Wheel Spotting Dish: Position wheel spotting dish as illustrated in Fig. 1a or 1b. Drill (2) 3/8" holes 2-1/2" deep in concrete floor using holes in wheel spotting dish as guide. Drive both anchors, provided, into concrete to secure dish.
- 25. Upon completion of the assembly of the lift, the lift is to be operated to assure proper function. Observe for locks operating in all locking positions, each side lifts equally, hydraulics do not leak, all electrical controls function as labeled, all pneumatics are functional and leak free, ramps rotate freely (if applicable), and proper clearances with all items in bay have been maintained.

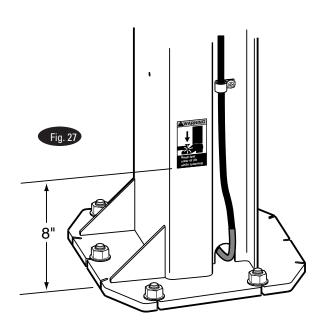
Operate the lift with a typical vehicle and observe to assure the same items for proper functioning.

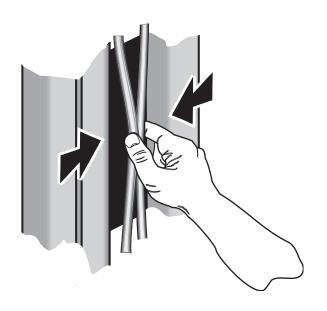
### NOTE: FOR FA ARMS ONLY













# NOTES

Installer: Please return this booklet to

literature package, and give to lift

owner/operator.

Thank You

Trained Operators and Regular Maintenance Ensures Satisfactory
Performance of Your Rotary Lift.

Contact Your Nearest Authorized Rotary Parts Distributor for Genuine Rotary Replacement Parts. See Literature Package for Parts Breakdown.

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