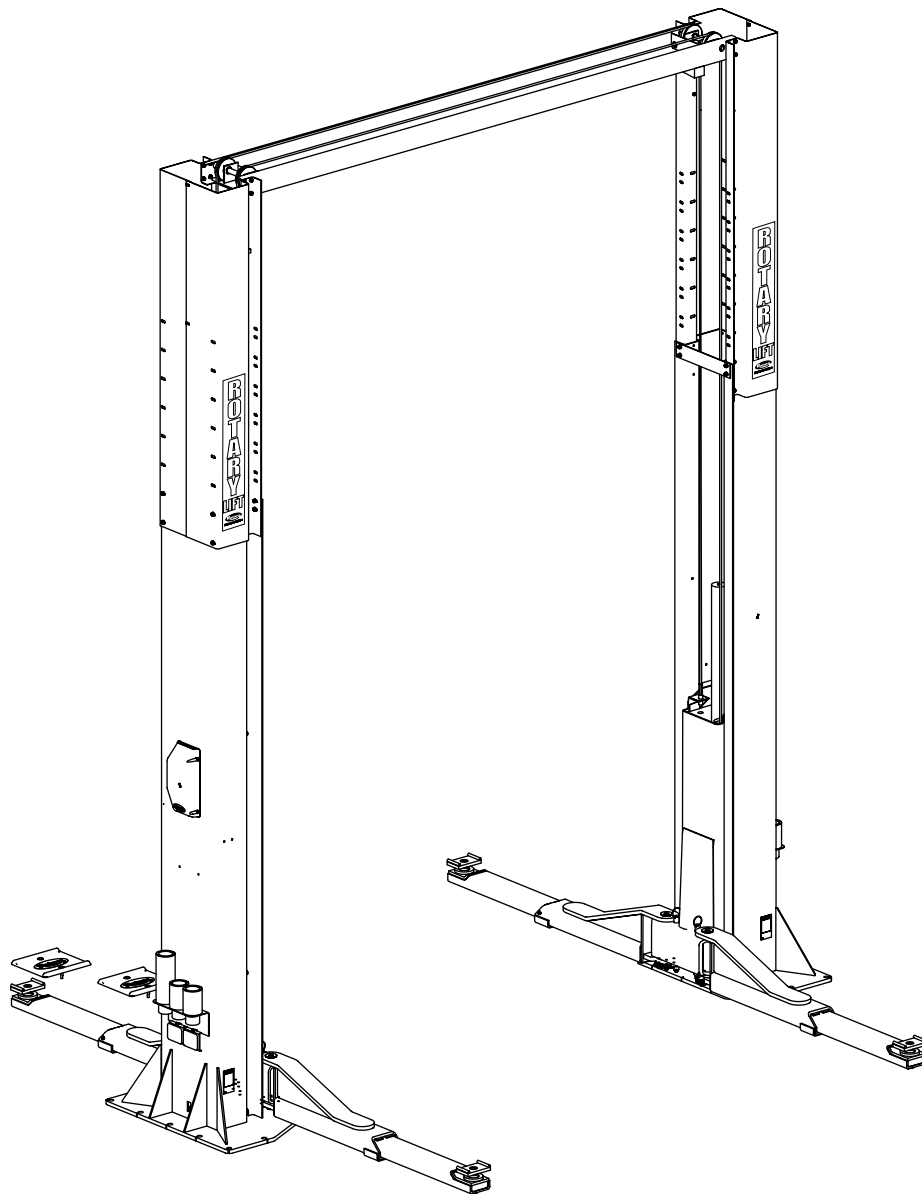




SPO15, SPO18

Sprinter SPO15 (3A0 Lifts) Capacity 11,000 lbs.
Standard SPO15 (300 Series Lifts) Capacity 15,000 lbs.
Standard SPO18 (300 Series Lifts) Capacity 18,000 lbs.



LP20293

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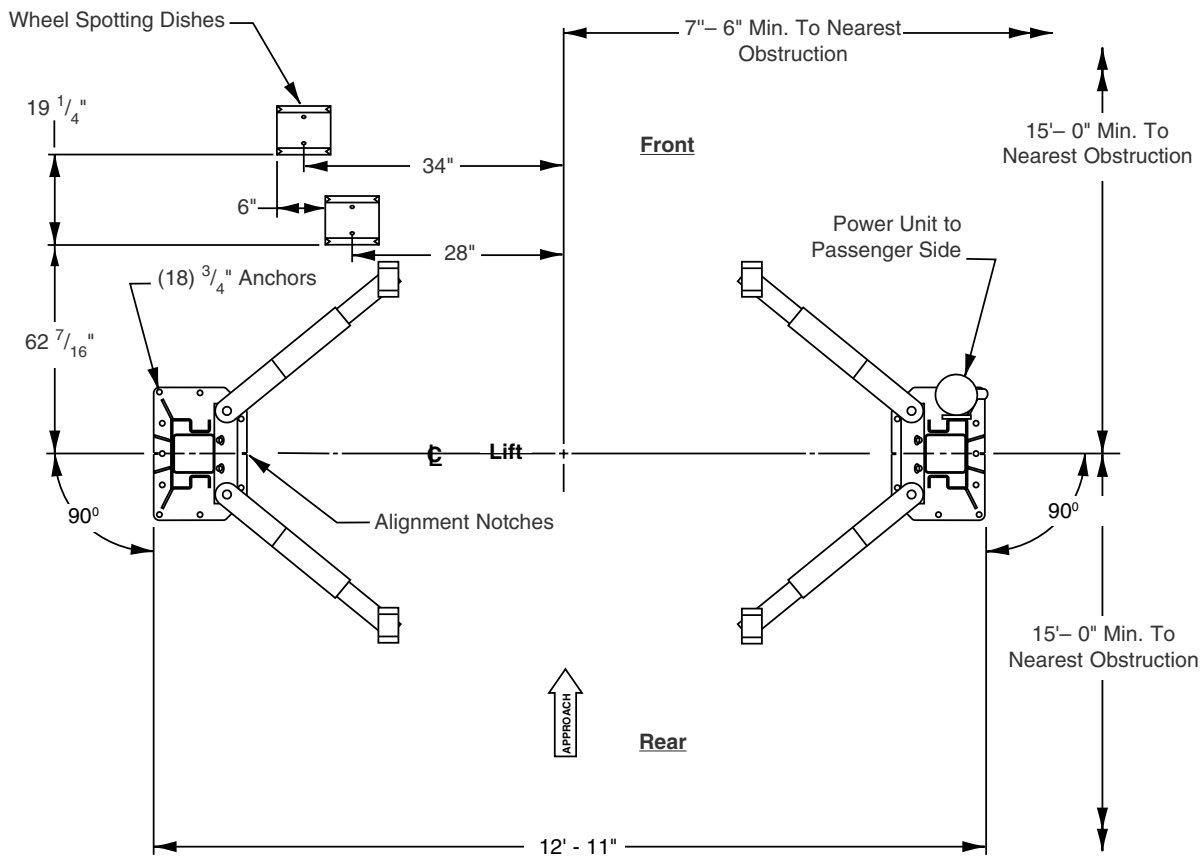


Fig. 1

1. Lift Location: Use architects plan when available to locate lift. Fig. 1 shows dimensions of a typical bay layout.

2. Lift Height: See Fig. 4 for overall lift height of each specific lift model. Add 1" min. to overall height to lowest obstruction.

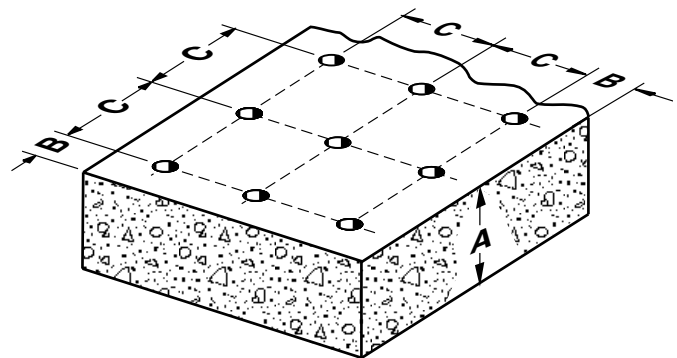
⚠️ WARNING DO NOT install this lift in a pit or depression due to fire or explosion risks.

3. Lift Setting: Position columns in bay using dimensions shown in Fig.1. 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: Concrete shall have a compression strength of at least 3,000 PSI and a typical slab thickness of 5-1/2" to 6". In order to achieve required anchor loads, a minimum concrete thickness of 4-1/4" and anchor embedment of 3-1/4" is required at each anchor location. When using the standard supplied 3/4" x 5-1/2" lg. anchors, if the top of the anchor exceeds 2-1/4" above the floor grade, you DO NOT have enough embedment.

Drill (18) 3/4" dia. holes in concrete floor using holes in column base plate as a guide. See diagrams for hole depth, hole spacing, and edge distance requirements.



- A) Concrete Thickness & Hole Depth 4-1/4" (108mm)
- B) Edge Distance 4-3/4" (121mm)
- C) Hole Spacing 6-1/2" (165mm)

⚠️ CAUTION DO NOT install on asphalt or other similar unstable surfaces. Columns are supported only by anchors in floor.

4. IMPORTANT: 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 Shim Kit). Recheck columns for plumb. Tighten anchor bolts to an installation torque of 150 ft-lbs.

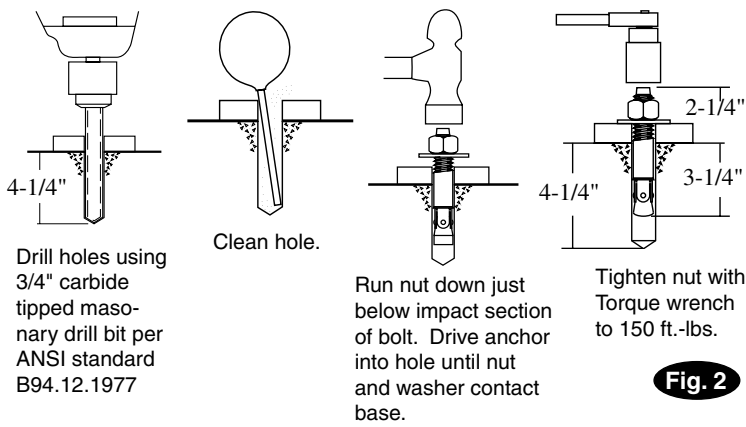


Fig. 2

Installation torque of 150 ft.-lbs. is required for all anchor bolts.

Shim thickness **MUST NOT** exceed 1/2" when using the 5-1/2" long anchors provided with the lift.

If anchors do not tighten to 150 ft.-lbs. installation torque, replace concrete under each column base with a 6' x 6' 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.

5. Install Rubber Grommets in extensions as shown, Fig. 6. Install column extensions to columns using (16) 3/8"-16NC x 3/8" lg. Flanged HHCS, Fig. 5, and Column Ties using (8) 3/8"-16NC x 1" Flanged HHCS, Fig. 5. Adjust column extensions plumb as required.

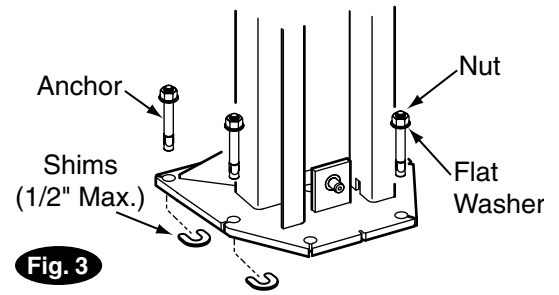


Fig. 3

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.

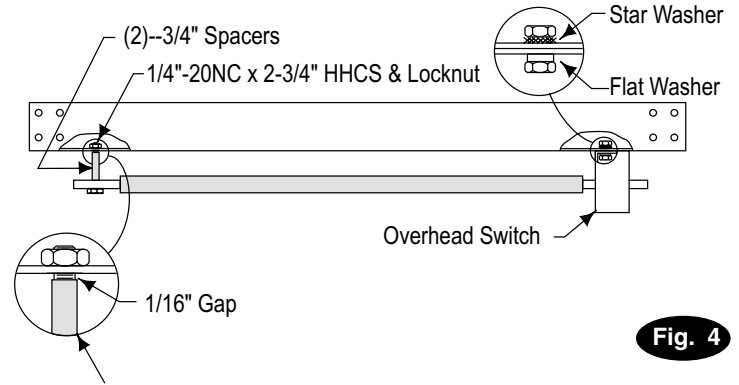


Fig. 4

NOTE: For 3 Phase lifts, use (2) Spacers and 1/4"-20NC x 2-3/4" HHCS & Locknut

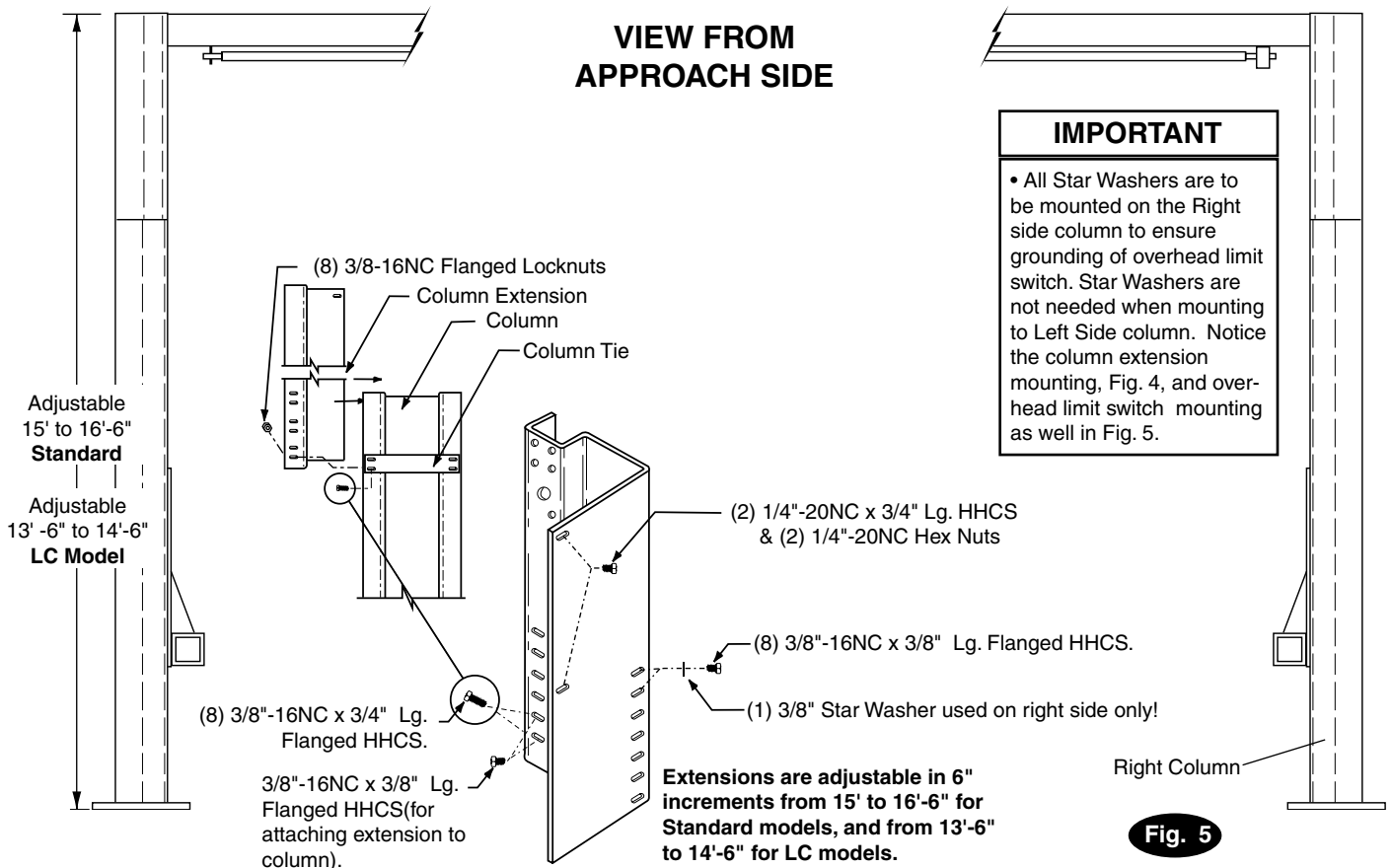
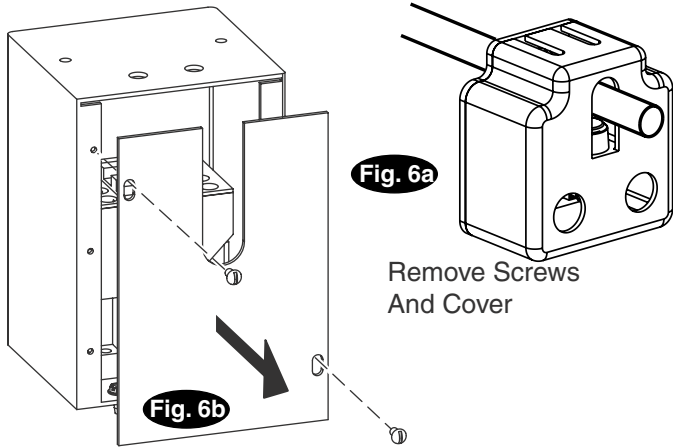


Fig. 5

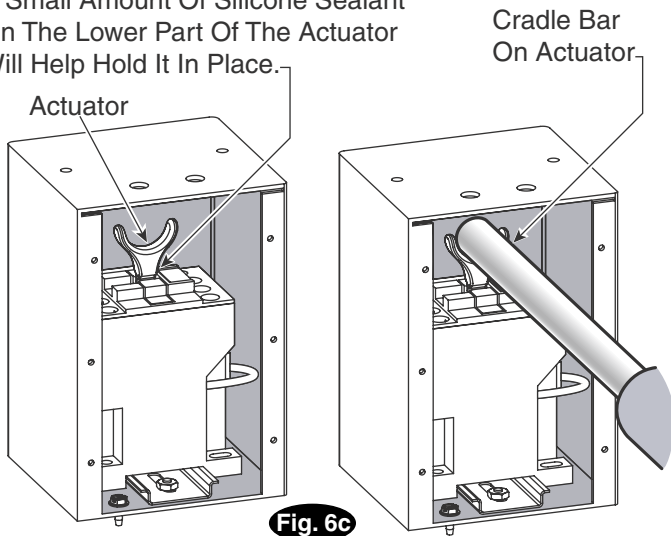
6. Mount switch assembly towards power unit column as shown, Fig. 4, using (2) 1/4"-20NC x 3/4" lg. HHCS, nuts and Star Washers.

For single phase lifts: 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. 6a, 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: Remove Limit Switch cover, Fig. 6b. Insert Actuator end of Switch Bar into slot located inside Limit Switch, Fig. 6c. 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. 12. 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. 4. Replace limit switch cover.

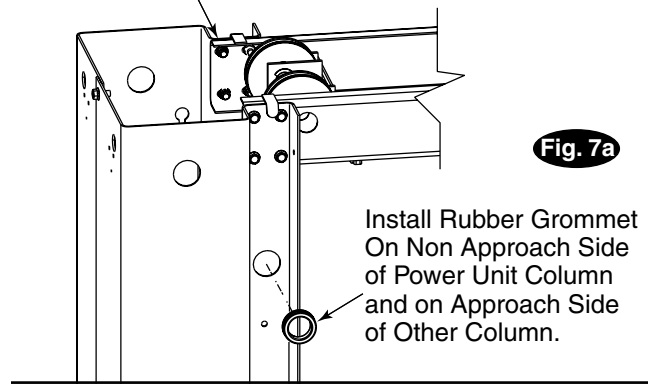


Place Actuator Here.
A Small Amount Of Silicone Sealant
On The Lower Part Of The Actuator
Will Help Hold It In Place.



7. Install overhead assembly to column extensions with (16) 3/8"-16NC x 3/4" lg. Flanged HHCS, Flanged Locknuts and Star Washer, Fig. 7a. To ease installation, use the tabs on the overhead to rest it on the extensions when installing.

Attach overhead to extension using 3/8"-16NC x 3/4" Flanged HHCS and 3/8"-16NC Flanged Locknuts. Use (1) 3/8" Star Lockwasher on Power Unit Side.



8. **Power Unit:** First install (1) star washer onto one of the (4) 5/16"-18NC x 1-1/2" HHCS. *This is very important for grounding.* Put the (4) 5/16"-18NC x 1-1/2" HHCS thru holes in power unit bracket using Push-Nuts to hold in place, Fig. 8a. Mount unit with motor up to column bracket and install (4) 5/16" star washers and 5/16" Nuts. Install and hand tighten Branch Tee to pump until O-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 O-ring. If so, slightly tighten the locknut.

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

9. **Hoses:** Clean adapters and hose. Inspect all threads for damage and hose ends to be sure they are crimped, Fig. 8b.

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 (1/3 of a revolution).
2. Back the fitting off one full turn.
3. Again tighten the fittings finger tight; then using a wrench, rotate the fitting 2-1/2 hex flats (1/3 revolution). This will complete the tightening procedure and develop a pressure tight seal.

Adapter & Hose Installation

1. Install Pc. (2) with hose clamps, on power unit column side connecting it to the cylinder (1) first.
2. Install Pc. (3) with hose clamps starting at left column cylinder (5) and working toward the right column. All excess hose should be at bends & inside overhead assembly.
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. 9. Route Overhead Hose in column channel on outside of column, Fig. 9, Fig. 14. Overhead hose goes through holes beside sheaves in the overhead weldment, Fig. 7b, Fig. 9.

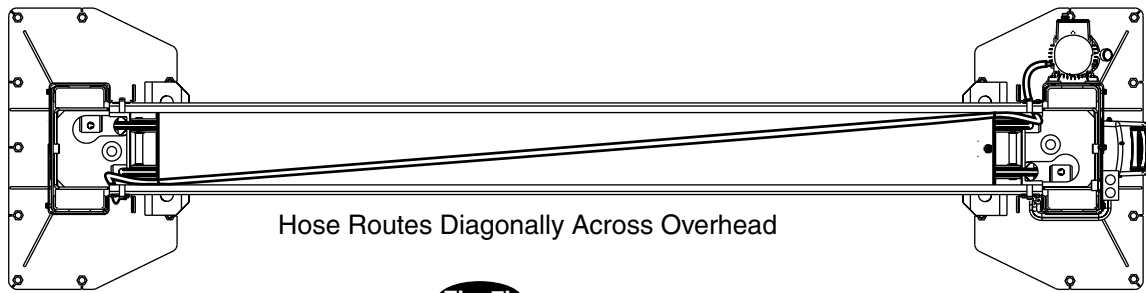


Fig. 7b

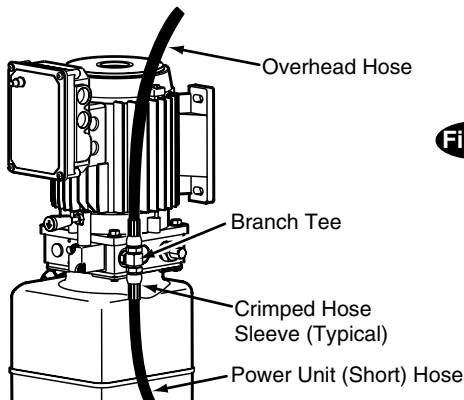
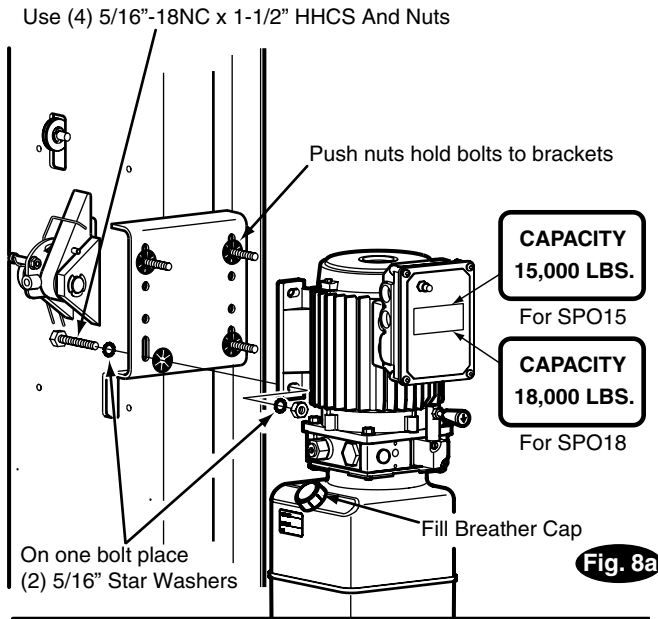


Fig. 8b

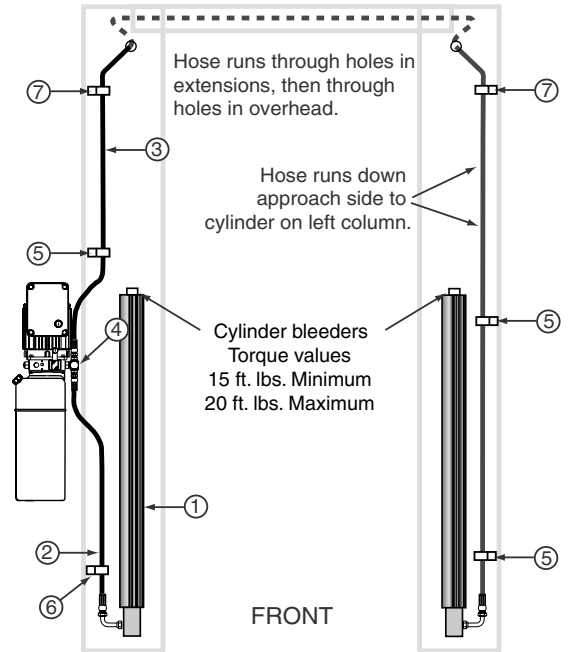


Fig. 9

ITEM	QTY.	DESCRIPTION
1	2	Hydraulic Cylinder
2	1	Power Unit Hose
3	1	Overhead Hose
4	1	Branch Tee
5	3	Hose Clips(5/8")
5	3	5/16"-18NC x 3/8" lg. PHMS
6	1	Hose Clips(1/2")
6	1	5/16"-18NC x 3/8" lg. PHMS
7	2	Hose Clips(5/8")
7	2	5/16"-18NC x 1/2" lg. PHMS
7	2	5/16"-18NC Nut

10. Equalizer Cables: Fig. 10 describes general cable arrangements. It is easier to tie-off lower studs first.

- A) Run cable stud up through the lower tie-off plate, and/or bracket(s), and/or spacer(s) depending on the lift model, Fig. 11.
- B) Push cable up until stud is above top of carriage Fig. 11.
- C) Run nylon insert locknut onto studs so that 1/2" extends out from locknut Fig. 11.
- D) Pull cables back down through carriage Fig. 11.
- E) Run cable overhead and tie-off top studs and torque to about 100 in-lbs., see Fig. 10 & Fig. 11.

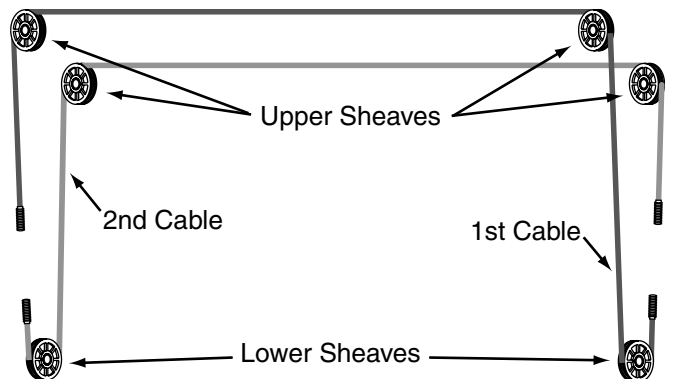
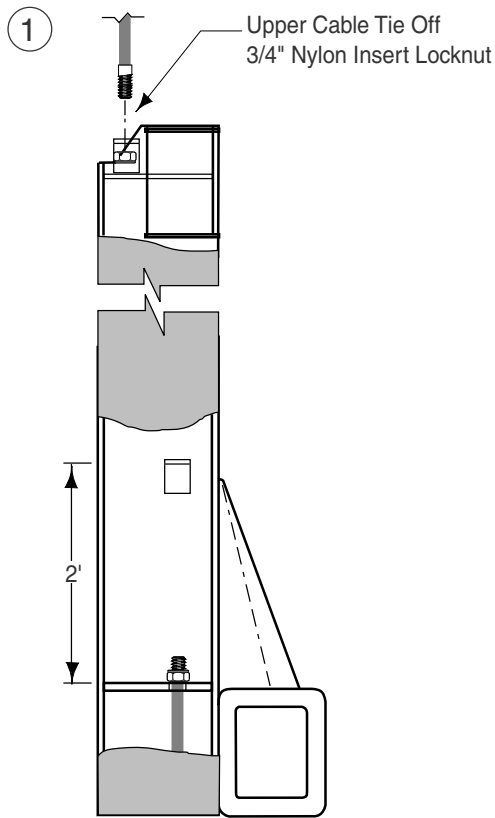
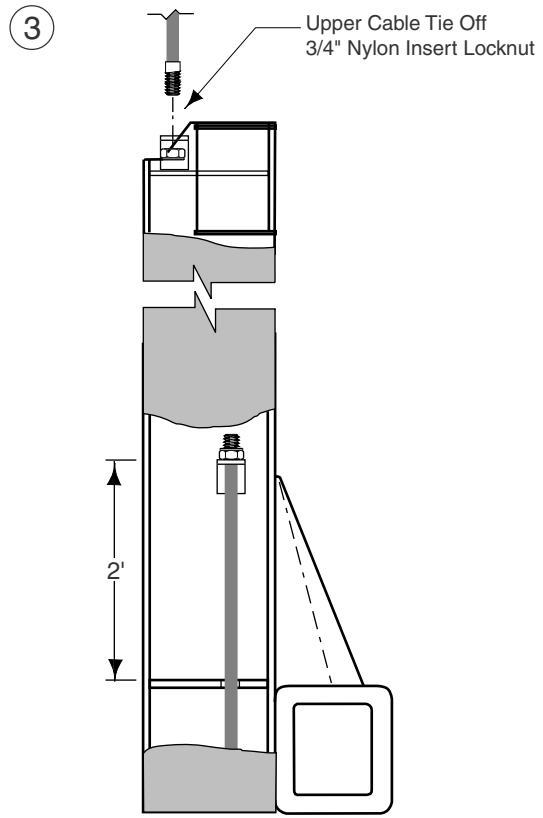


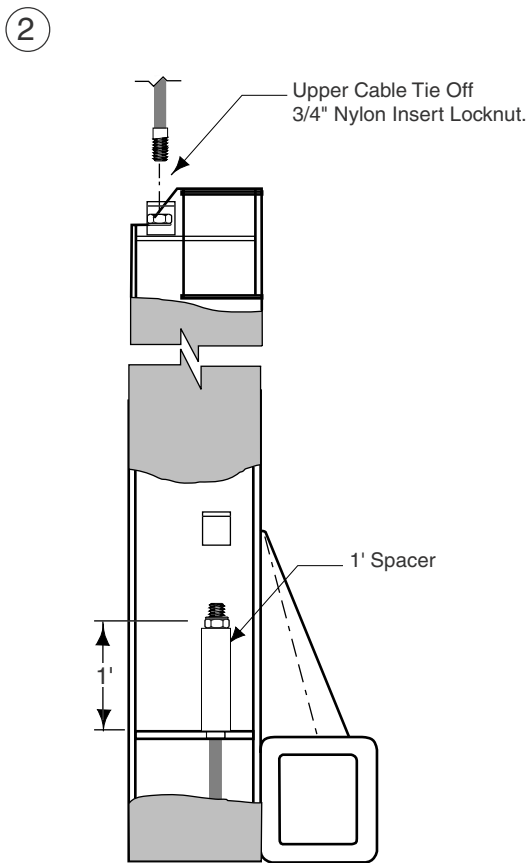
Fig. 10



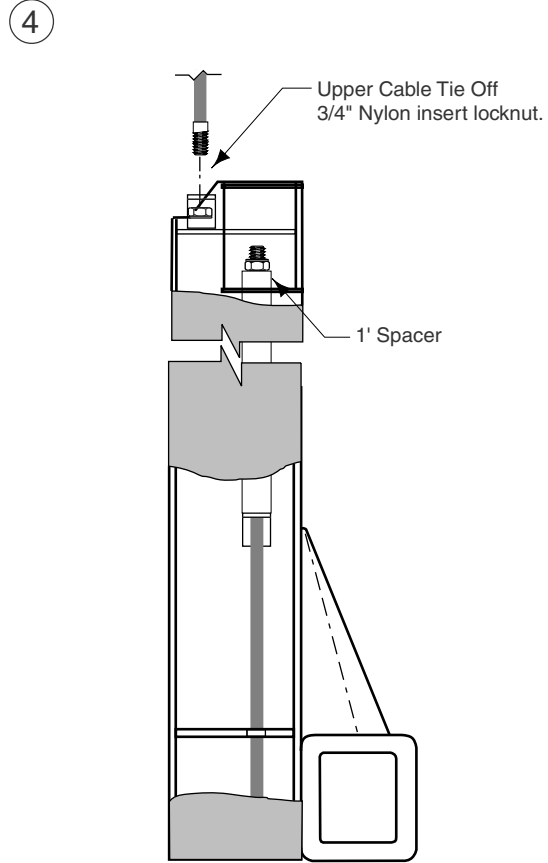
For 16'-6" height with 472" long cable or for 14'-6" height with 424" long cable, both use pattern one.



For 15'-6" height lift with 472" cable or for 13'-6" height lift with 424" long cable. Use pattern 3.



For 16' height lift with 472" cable or for 14' height lift with 424" long cable, both use pattern two. Has 1' spacer provided.



For 15' height carriages use pattern four with 472" cable. Has 1' spacer provided.

Fig. 11

11. Locking Latch & Air Cylinders:

- A) To install cylinder, first slip dampening spacer over rod with rod in retracted position as shown below, Fig. 12.
- B) Put locknut on threaded shaft and run it down to the dampening spacer.
- C) Let rod extend and thread locknut down 1-1/2 more turns.
- D) Screw Bracket Clevis onto shaft, position, and tighten locknut securely, Fig. 12.
- E) Slide latch control plate into top cylinder Bracket Clevis.
- F) Insert Pivot Pin through hole in bracket and Latch Plate. Install one clip ring on each side of Upper Pin.
- G) Extend cylinder where column Pivot Bracket is to be mounted.
- H) Slide one side of lower Pivot Pin (pre-installed & fixed in cylinder) into one half of the column Pivot Bracket. Install Pivot Bracket into column using (2) 1/4"-20NC x 3/8" lg. PHMS, Fig. 12.
- I) Install other half of Pivot Bracket the same way.
- J) Install air lines from main air supply (with filter) to lowering valve. Install air line from lowering valve to union tee then to the right column air cylinder.
- K) Install air line from union tee to left column air cylinder. Fig. 14.
- L) Mount lowering valve and bracket to column using (2) 5/16"-18NC x 3/8" lg. PHMS, Fig. 12.

Note: Absence of air filter will void the warranty on all pneumatic components

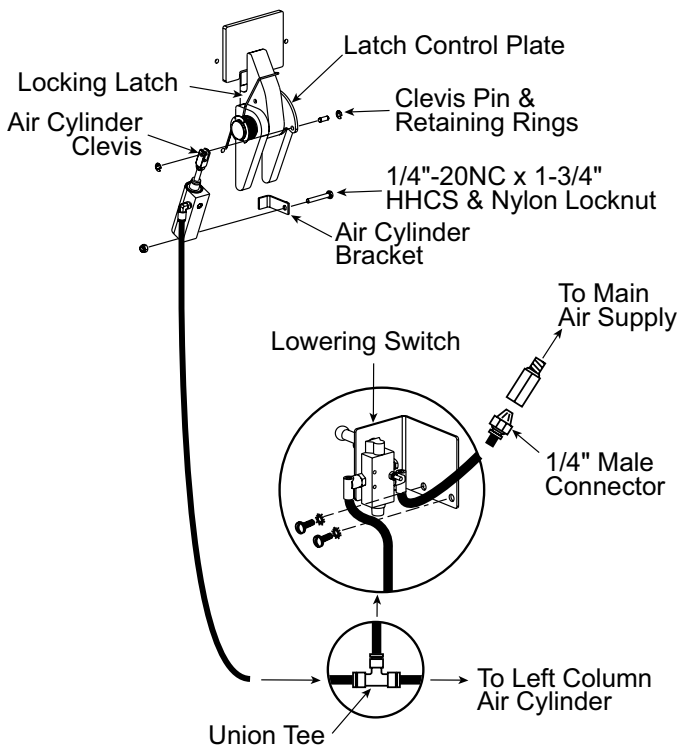


Fig. 12

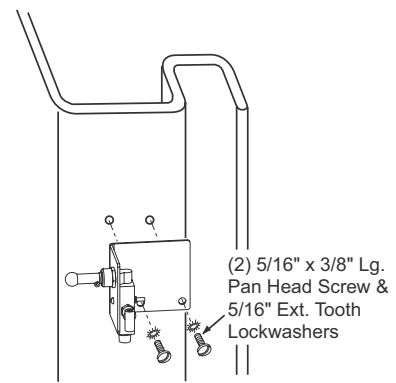


Fig. 12b

Note: Cut provided tubing with sharp blade to length as required. Tubing must be cut square with no burrs. To assemble air line tubing into fitting, use firm, manual pressure to push tubing into fitting until it bottoms, see below. If removal of the air line tubing from the fitting is ever required, hold Push Sleeve in (against fitting) and at the same time, pull out on tubing.

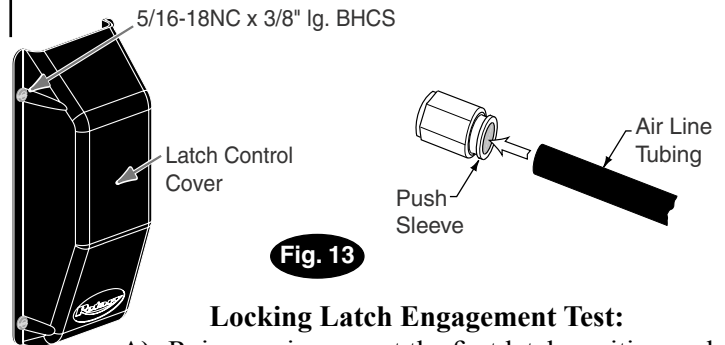


Fig. 13

Locking Latch Engagement Test:

- A) Raise carriages past the first latch position and then lower onto latches.
- B) Check that the latches have fully engaged when the release switch is not depressed.
- C) Raise carriages fully off latches. Now depress release switch and check that the latches have fully disengaged.
- D) Check for air leaks, make necessary adjustments or repairs if required.
- E) Install latch covers with 5/16"-18NC x 3/8" lg. BHCS, Fig. 13.

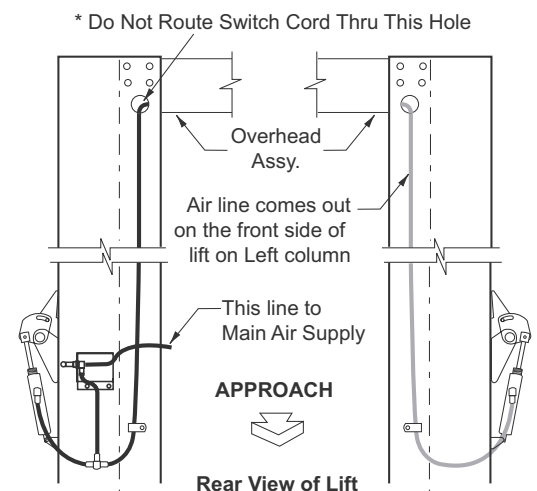


Fig. 14

12. Electrical: Have a certified electrician run appropriate power supply to motor, Figs. 15 thru 17. Size wire for 20 amp circuit. See Motor Operating Data Table.

CAUTION 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 and above, use 10 amp fuse. For wiring see Figs. 15 thru 17. 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.

13. 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 Figs. 15 thru 17. 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.

CAUTION When bleeding, hold a shop cloth over bleeder screw to buffer the air and fluid while bleeder valve is open.

14. Oil Filling & Bleeding: Use Dexron III ATF, or Hydraulic Fluid that meets ISO 32 specifications. Remove fill-breather cap, Fig. 8a. Pour in (8) quarts of fluid. Start unit, raise lift about 2 ft. Open cylinder bleeders approx. 2 turns, Fig. 9.

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 fill line on the tank. System capacity is (14) quarts. Replace fill-breather cap.

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

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

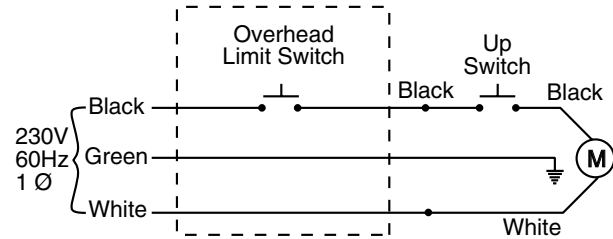


Fig. 15

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

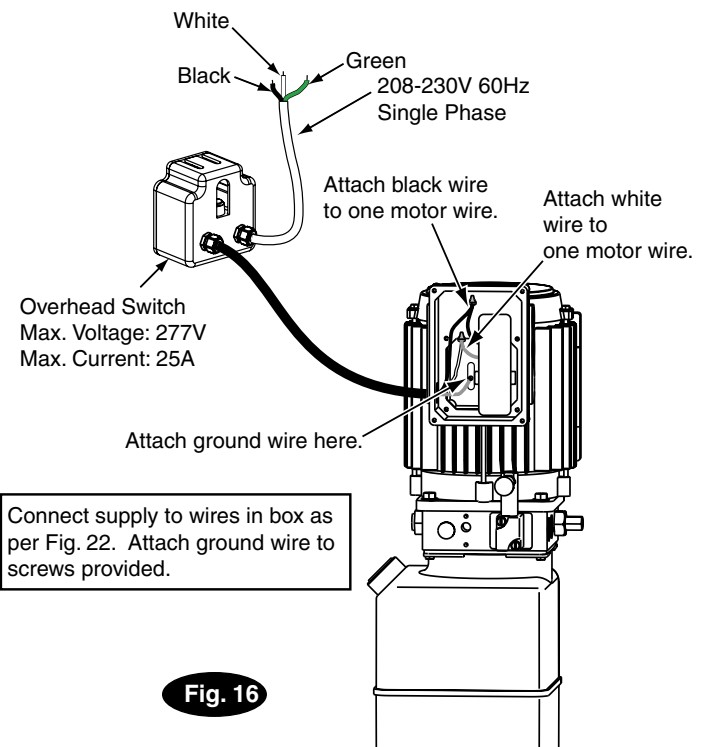


Fig. 16

NOTE: Assure cord used for connection between the overhead switch and power unit is of the type specified in:

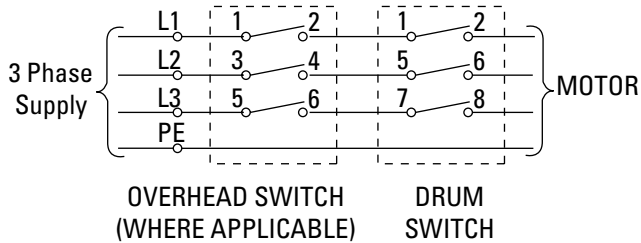
UL201, Sections 10.1.1.3 & 10.1.1.4

(Example: SO, G, STO) Size for 25 amp circuit. See UL 201, Section 15 for proper wiring requirements for this connection.

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

NOTES:

1. 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.



FOR 3 Ø POWER UNITS: Attach Box using M5 x 10 PHMS, Plated

Capacitor Box Attachment Option One

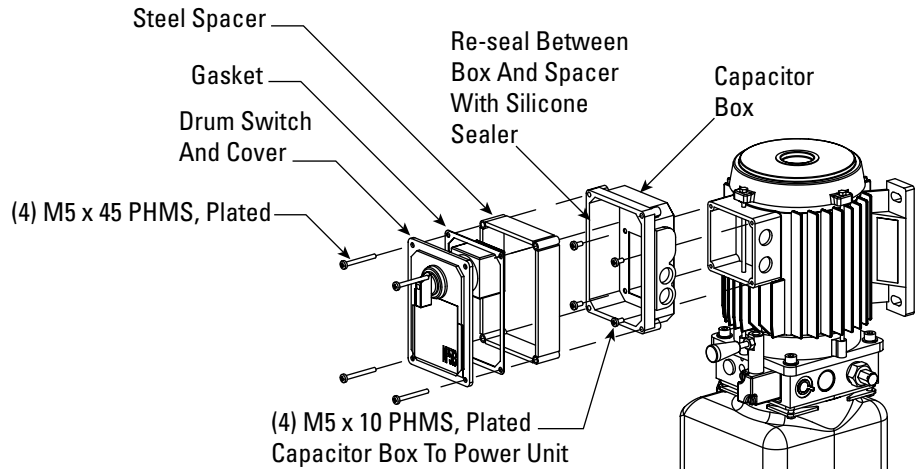
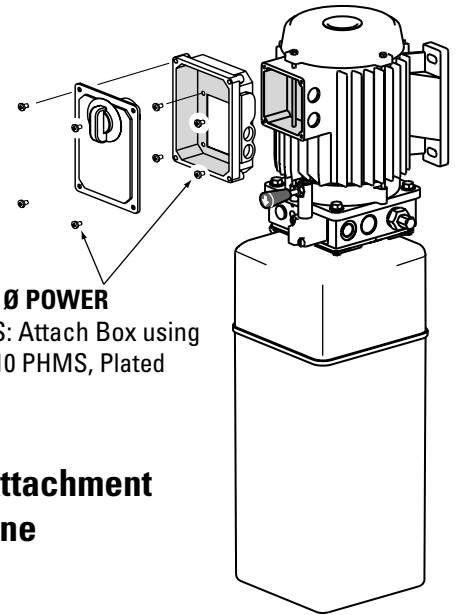
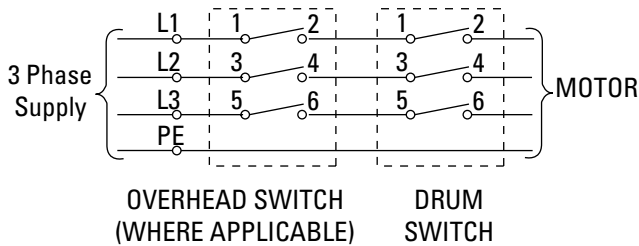
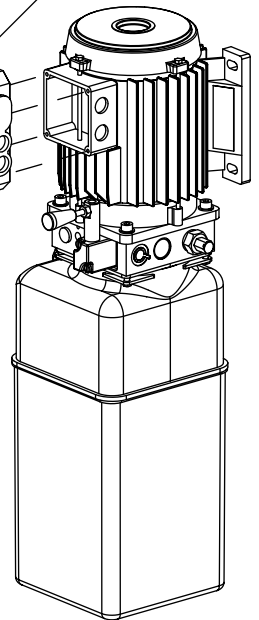


Fig. 17

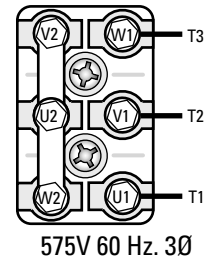
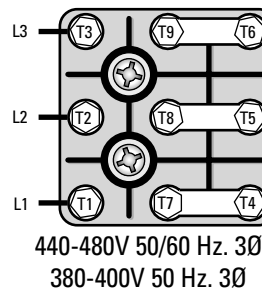
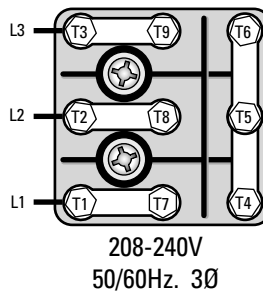


Capacitor Box Attachment Option Two



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	



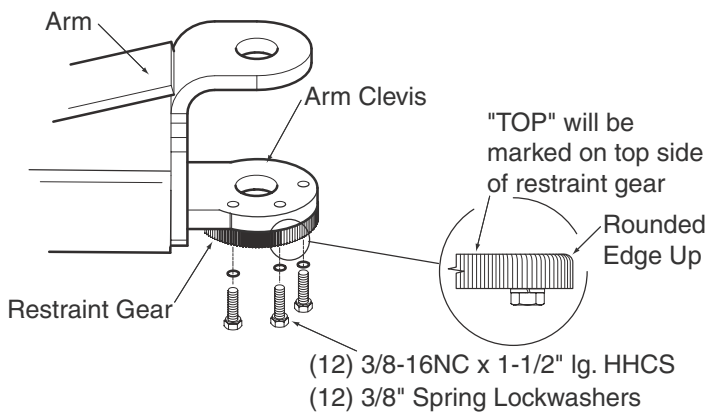
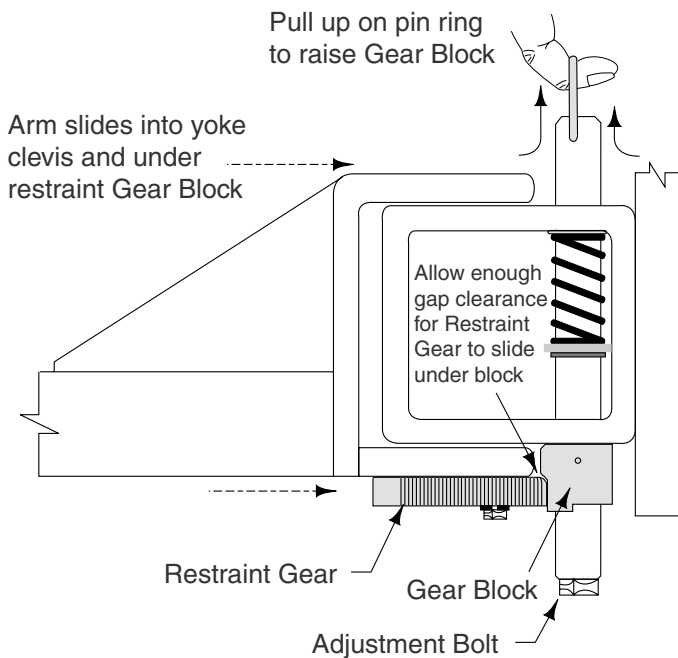


Fig. 18

15. Arm Restraints & Superstructure: Before installing arms, install arm Restraint Gears as follows: Install Restraint Gear onto arm clevis, as shown in Fig. 18, so that the rounded edge (top side) of the gear teeth is facing upward. Then, install the three (3) 3/8"-16NC x 1 1/2" Lg. HHCS (12 total for all 4 arms) and 3/8" Spring Lockwashers into the gear and arm as illustrated Fig. 18, but do not tighten. After installing Restraint Gears, raise carriage to a convenient height. Grease swivel arm pins and holes with Lithium grease, Fig. 20. Raise Gear Block by pulling upward on pin-ring to allow enough clearance for the Restraint Gear and arm to slide over the yoke and under the teeth of the Gear Block (or gear stop), Fig. 19. Install 1-3/4" diameter arm pin(s) and 3/16" x 2-1/4" cotter pin(s), Fig. 20.



Note: Pin, Ring, Spring and Gear Block are pre-assembled at factory. No set up required.

Fig. 19

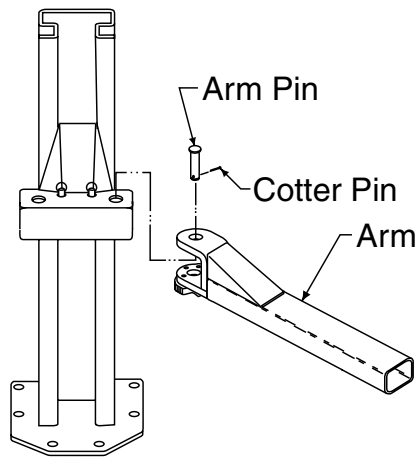
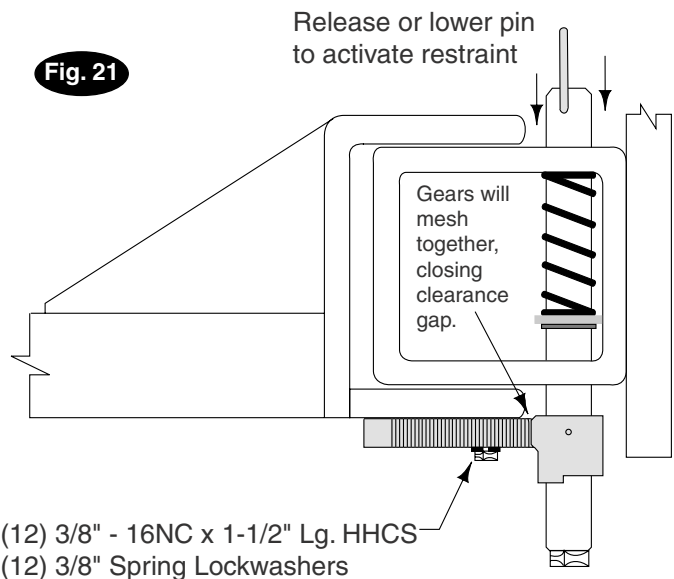


Fig. 20

After installing arm pin, torque the three Restraint Gear bolts to 30-34 Ft. Lbs.. Let the Gear Block down allowing the teeth of the Restraint Gear and Gear Block to mesh together, Fig. 21.



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.

16. Wheel Spotting Dishes: Position wheel spotting dishes as described in Fig. 1. Drill (4) 3/8" holes 2 1/2" deep in concrete floor using holes in wheel spotting dishes as guide. Drive all anchors, provided, into concrete to secure dish.

17. Door Bumper Installation:

1) Press bumpers on column edge and carriage, Fig. 22.

Note: Door Bumpers may need to be installed in different areas depending upon type(s) of vehicles used. The above installation is the most recommended.

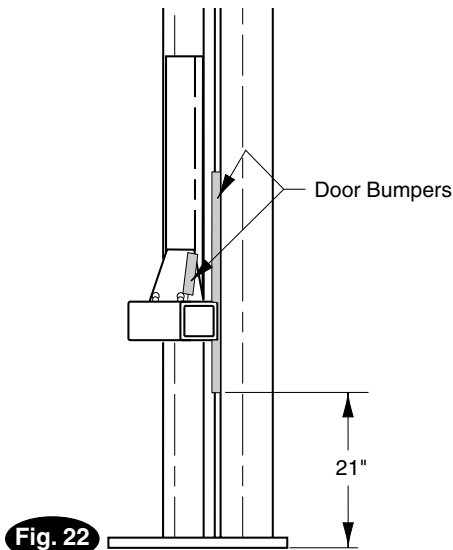


Fig. 22

18. 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.

19. Final Adjustments: 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. 11.

20. Decal Location: Install enclosed pinch point decals. Place (1) decal on each column, Fig. 23.

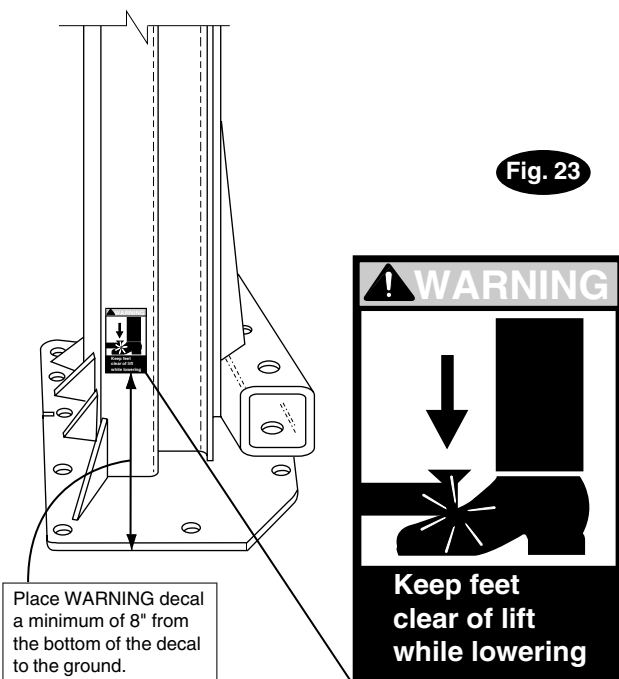


Fig. 23

21. Adapter Rack: Install adapter rack, Fig. 24. Place extension in racks.

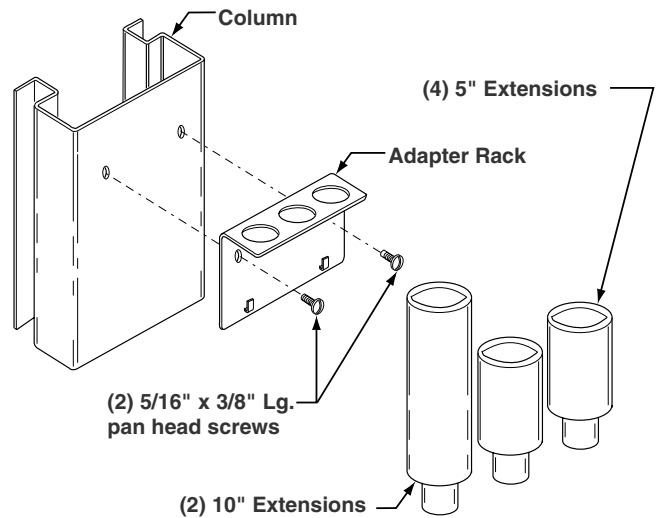


Fig. 24

⚠ WARNING (2)qty. 10" adapter extensions and (4)qty. 5" adapter extensions are supplied with each lift. These extensions should not be stacked more than 15" high.

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.

DATE	REV.	CHANGE MADE
11.23.05	A	Updated Section 14 concerning oil capacities.
01.15.07	B	Updated motor wiring in the electrical section and added torque values to cylinder bleeders.
09.12.07	C	Updated drum switch wiring.

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