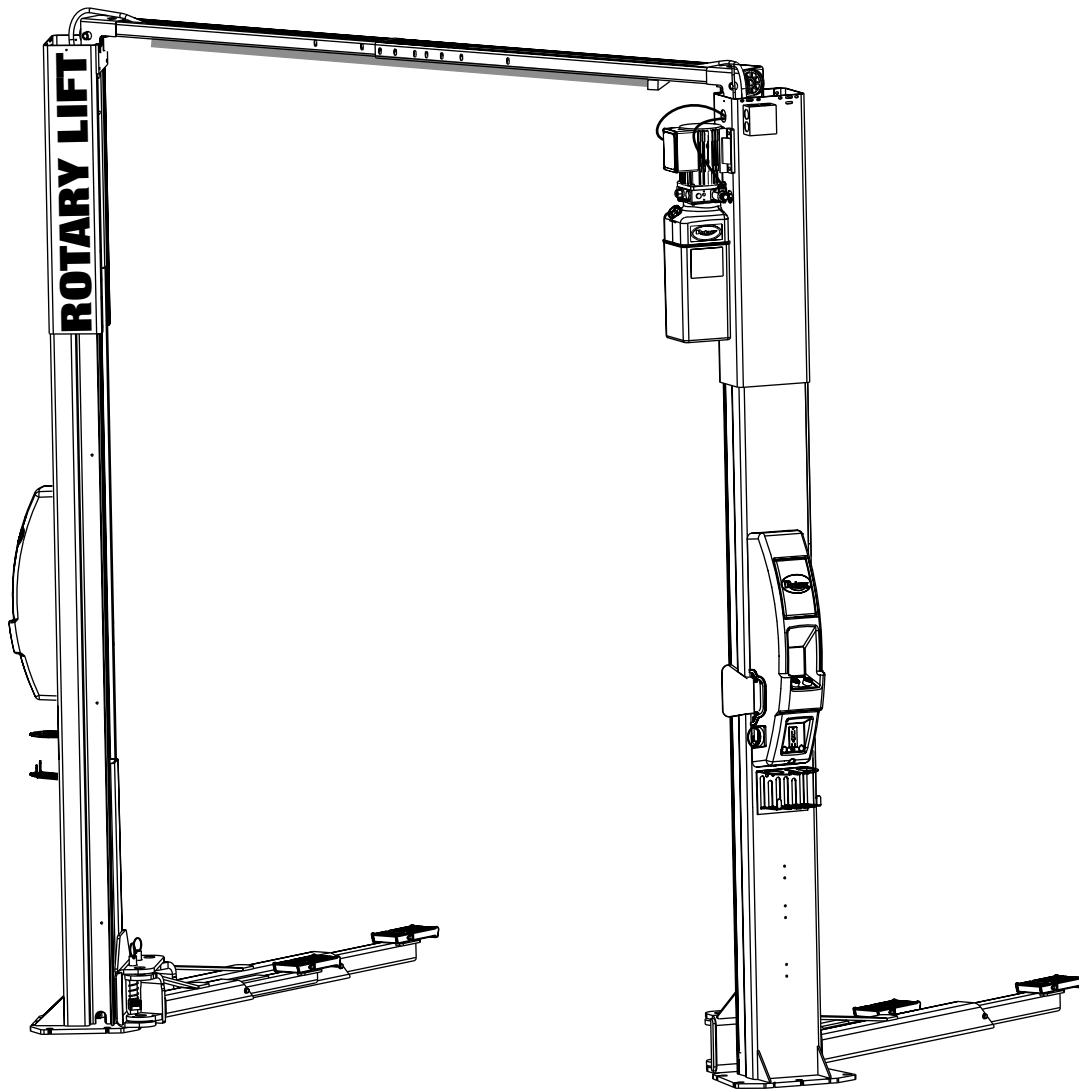


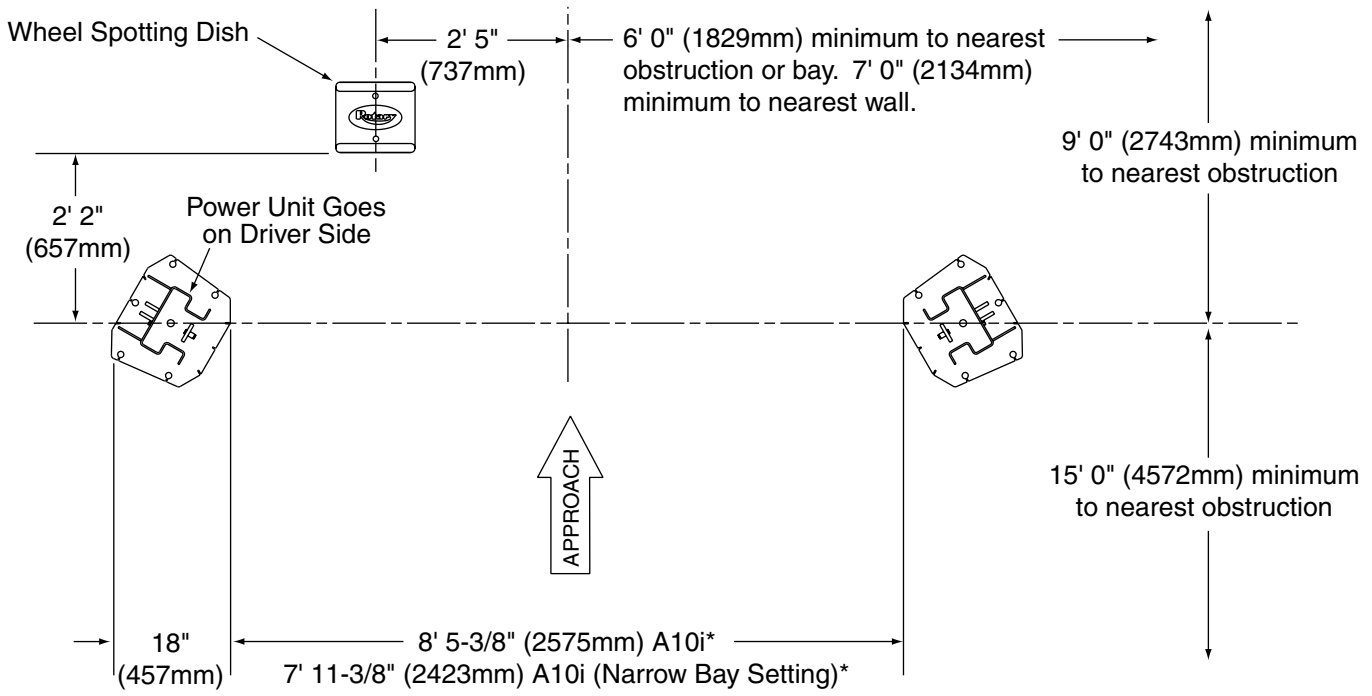


**A10i, S10i**  
**(700 Series)**  
**Two Post Surface Mounted Lift**



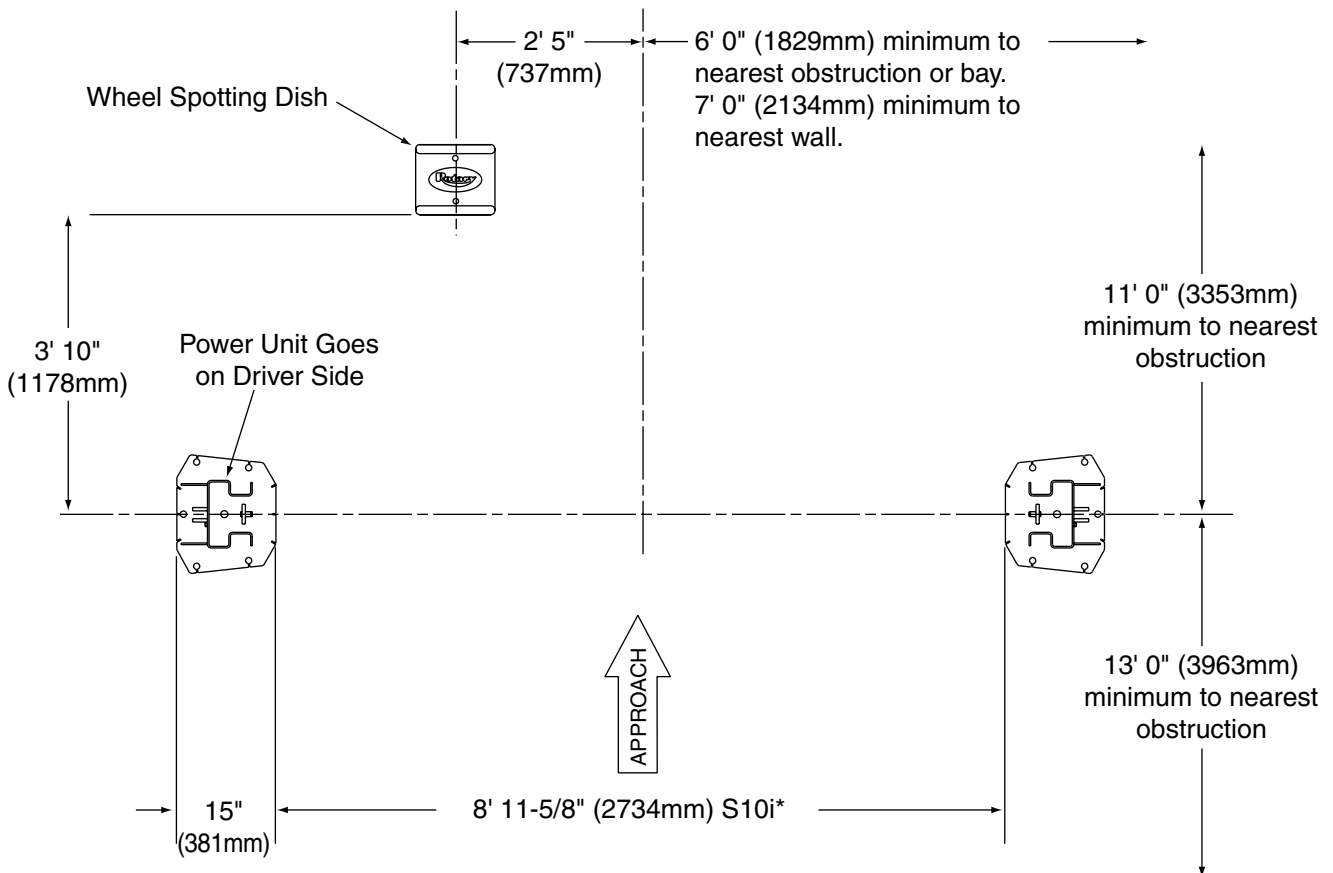
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**LP20315**



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

**Fig. 1a**

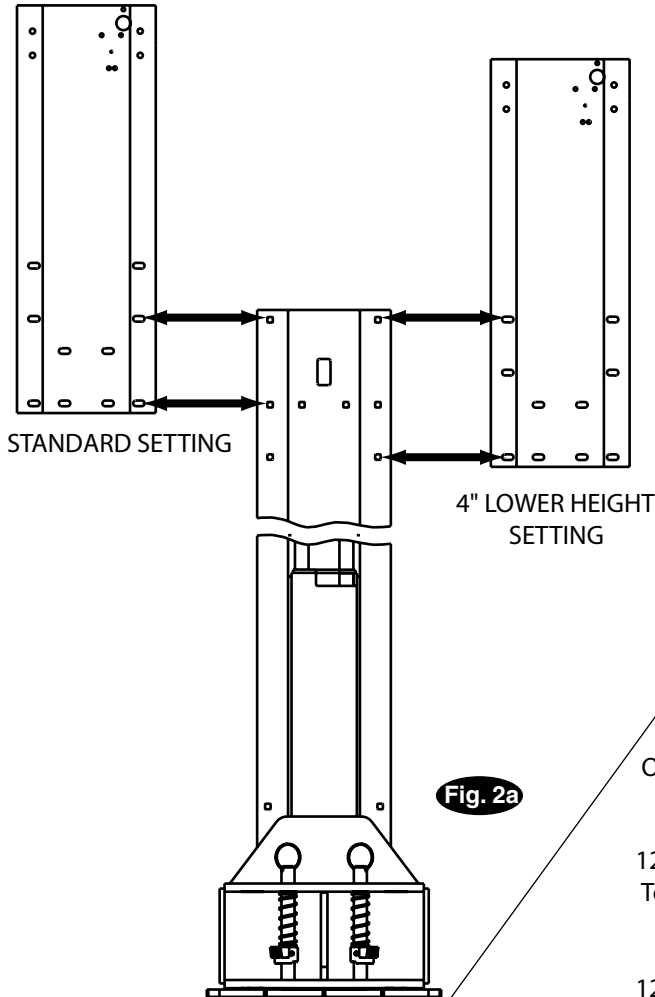


**\*NOTE: Dimension is from Inside of Baseplate to Inside of Baseplate.**

**Fig. 1b**

- Lift Location:** Use architects plan when available to locate lift. Fig. 1a & Fig. 1b shows dimensions of a typical bay layout.
- Lift Height:** See illustration below 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.**



**Fig. 2a**

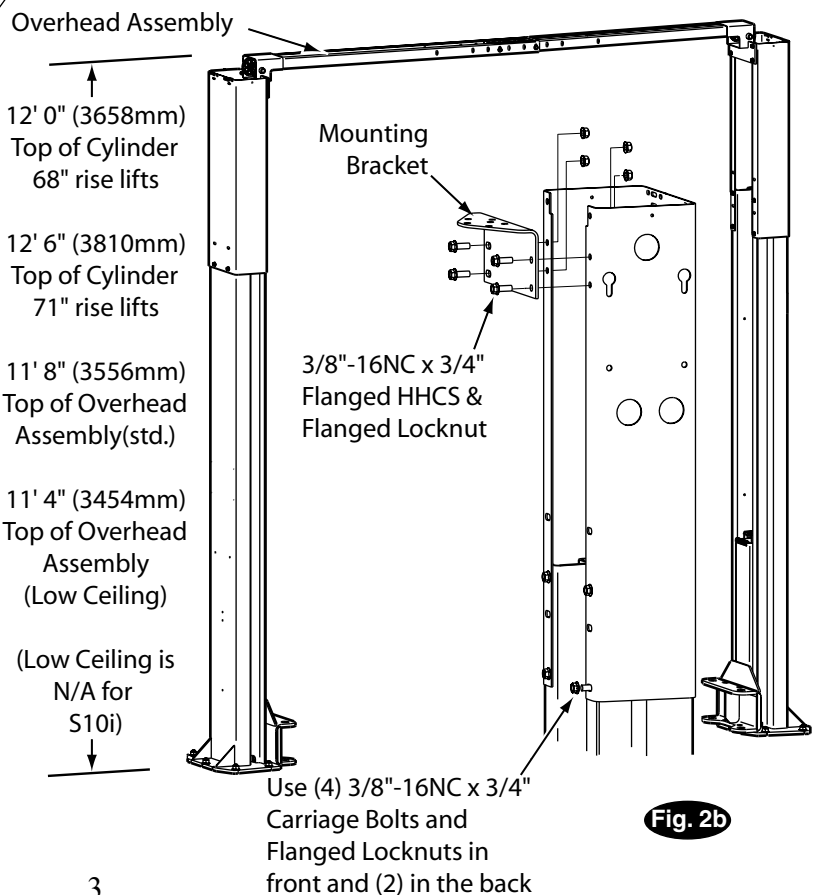
- Column Extensions:** Before standing columns upright, install the column extensions using (12) 3/8"-16NC x 3/4" Carriage bolts and Flanged Locknuts, Fig. 2a and 2b.

**Overhead Mounting Bracket:** Install Mounting Brackets to column extensions, Fig. 2b.

- Lift Setting:** Position columns in bay using dimensions shown in Fig. 1a & Fig. 1b. 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.

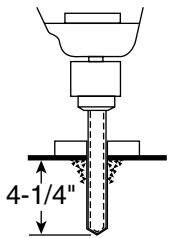
- Concrete and Anchoring: Concrete and Anchoring:** Concrete shall have a compression strength of at least 3,000 PSI and a typical slab thickness of 5-1/2" to 6". In order to achieve required anchor loads, a minimum concrete thickness of 4-1/4" and anchor embedment of 3-1/4" is required at each anchor 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 (10) 3/4" dia. holes in concrete floor using holes in column base plate as a guide. See Fig. 3 and Fig. 4 for hole depth, hole spacing, and edge distance requirements.



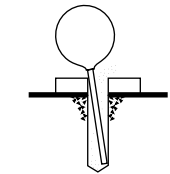
**Fig. 2b**

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

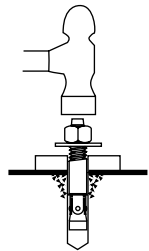
6. **IMPORTANT** Using the horse shoe shims provided, shim each column base until each column is plumb. If one column has to be elevated to match the plane of the other column, full size base shim plates should be used (Reference FA5112 Shim Kit). Recheck columns for plumb. Tighten anchor bolts to an installation torque of 150 ft-lbs. Shim thickness MUST NOT exceed 1/2" when using the 5-1/2" long anchors provided with the lift, Fig. 5. Adjust the column extensions plumb. If anchors do not tighten to 150 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.



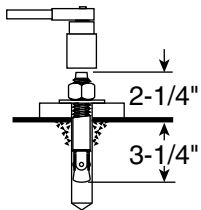
Drill hole using 3/4" carbide tipped masonry drill bit per ANSI standard B94.12.1977



Clean hole.



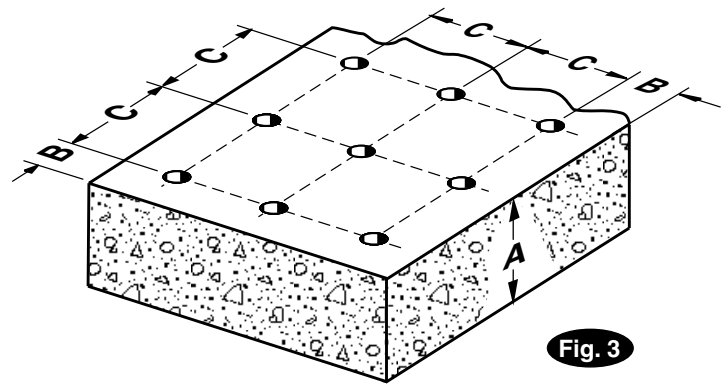
Run nut down just below impact section of bolt. Drive anchor into hole until nut & washer contact base.



Tighten nut with Torque Wrench to 150 ft-lbs. (203 N-m).

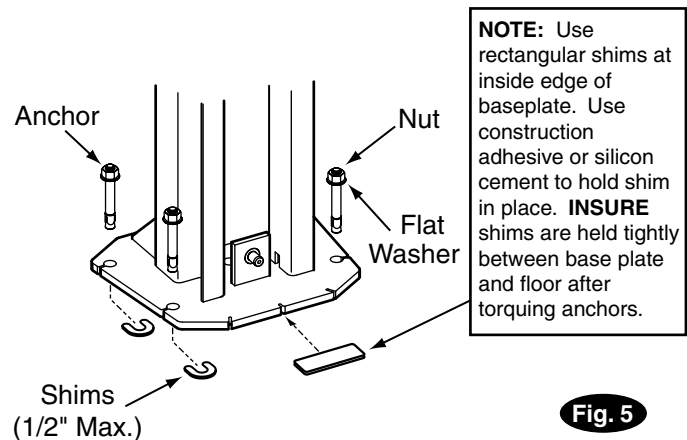
**Fig. 4**

7. **Overhead Assembly:** Fig. 6a: 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" lg. HHCS, 1/4" Flat Washers, 1/4"-20NC Nuts and 1/4" Star Washers to mount switch box to overhead, see Fig. 6a. 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.



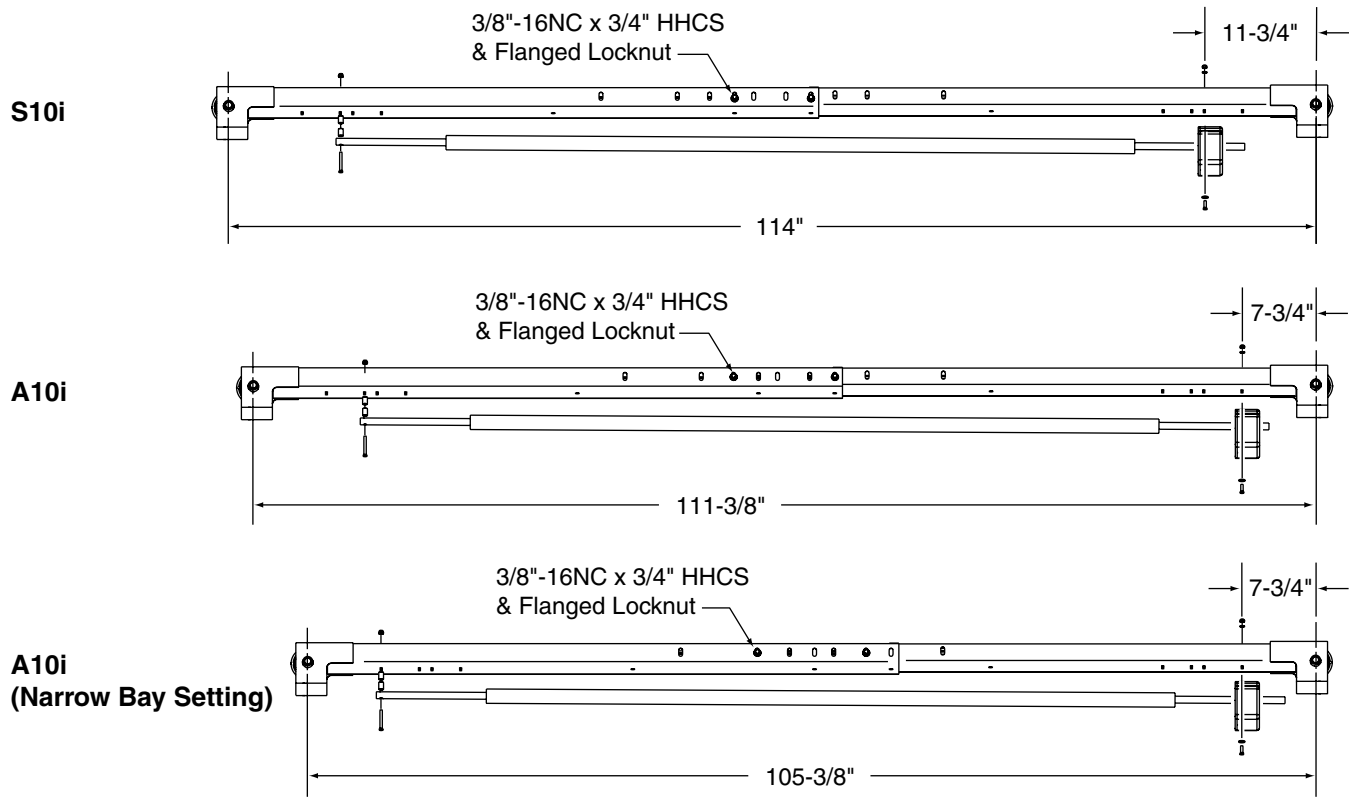
**Fig. 3**

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



**Fig. 5**

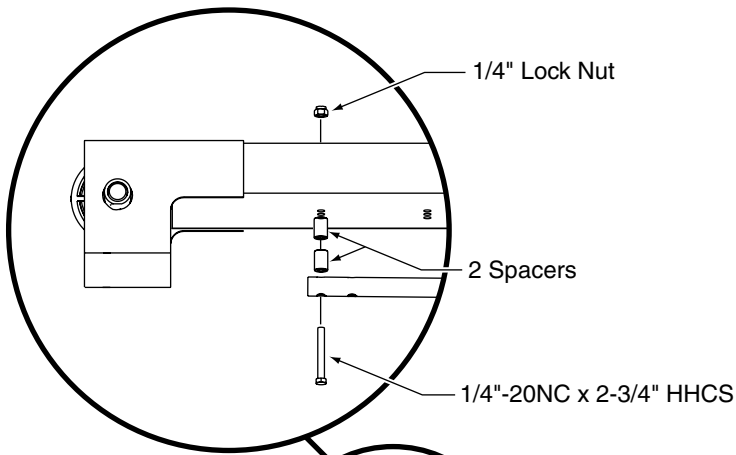
**NOTE:** If more than 2 horse shoe shims are used at any of the column anchor bolts, pack non-shrink grout under the unsupported area of the column base. Insure shims are held tightly between the baseplate and floor after torquing anchors.



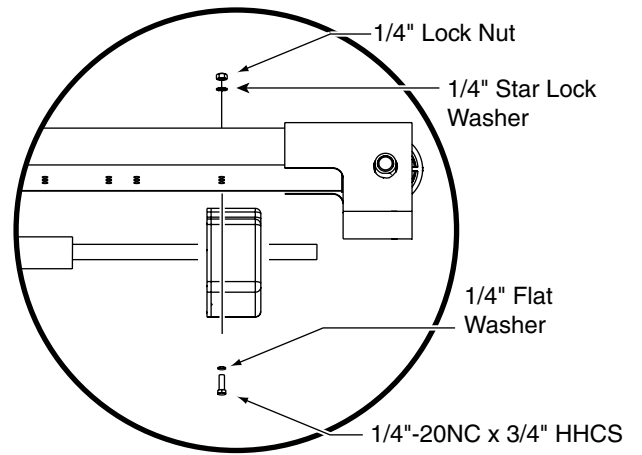
**Fig. 6a**

**Hardware Detail For Overhead Assembly**

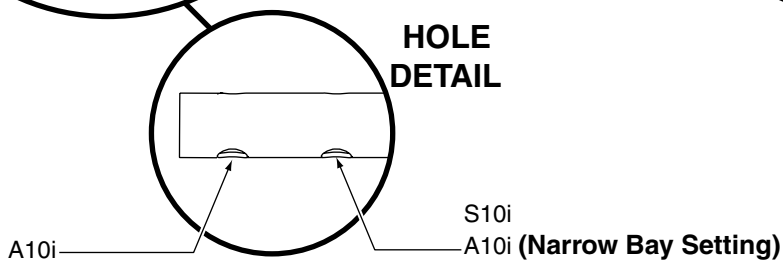
**Open Bar Side**



**Switch Box Side**



**HOLE  
DETAIL**



8. **Overhead Installation:** Install overhead assembly to Mounting Bracket with (2) 3/8"-16NC x 3/4" Flanged HHCS and (2) 3/8"-16NC Flanged Locknuts, Fig. 6b. Use middle holes for S10i and outside holes (marked L for Left and R for Right) for /A10i and A10i narrow bay settings. Tighten bolts at center of overhead assembly.

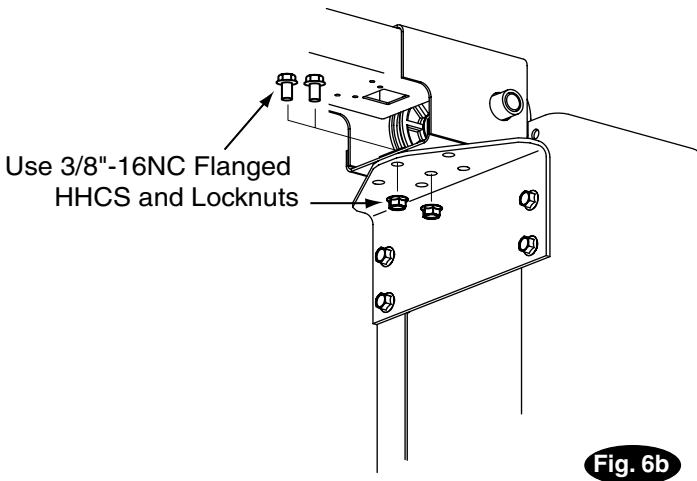


Fig. 6b

9. **Power Unit:** Put (2) 5/16"-18NC x 1-1/2" HHCS thru top holes in power unit bracket using Vibration Pad to hold in place, Fig. 7. Install 5/16"-18NC Flanged Nuts until bolt end is flush with end of nut. Install power unit onto column extension, Fig. 8. Slide bolt/nut combination into top set of holes and down to bottom of slot. Install HHCS, Vibration Pad, and Flanged HHCS in bottom power unit holes and tighten. (Be sure to place vibration pad between power unit and column extension). Tighten top HHCS and Nut.

Install and tighten Male Extension to pump until O-ring is seated, Fig. 9. Install Female Swivel Tee to Male Extension using Flared Fittings Tightening Procedure. DO NOT allow Extension to rotate, Fig. 9.

**NOTE:** Over tightening Extension may tear O-ring.

**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.
3. 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.

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

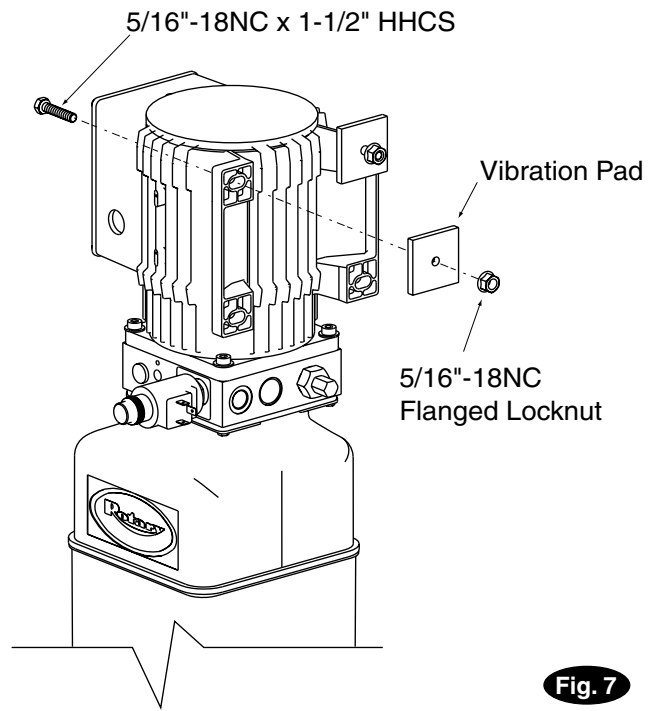


Fig. 7

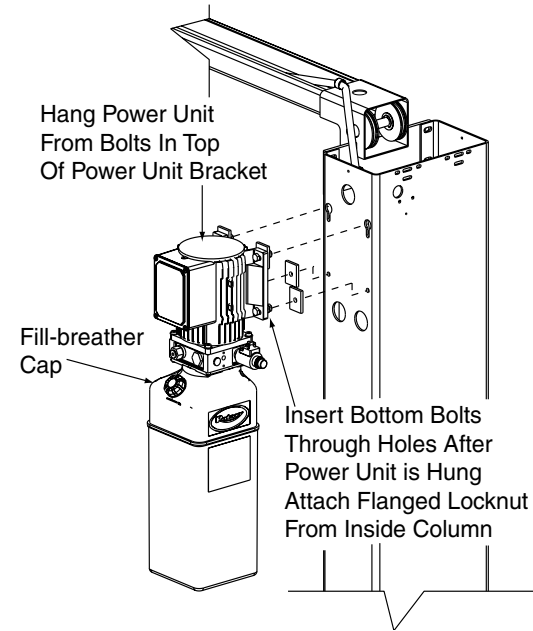


Fig. 8

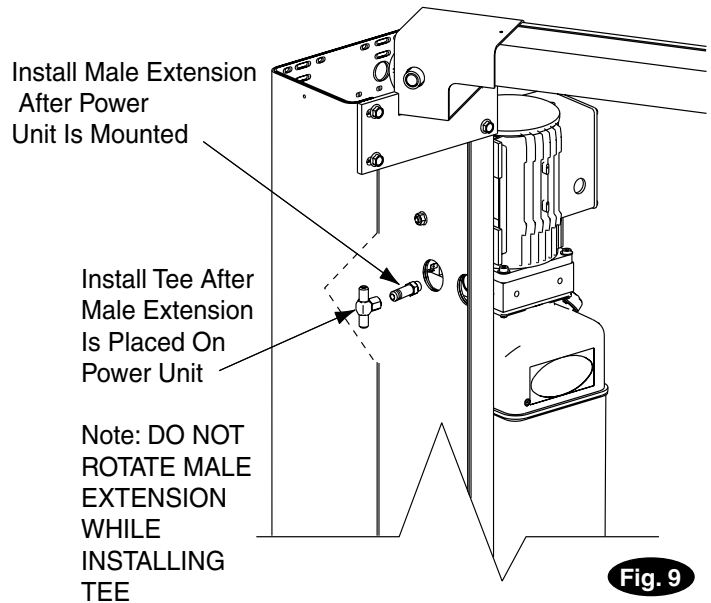


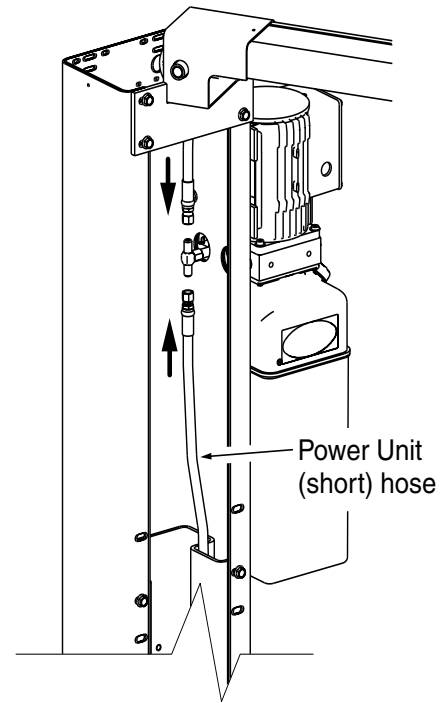
Fig. 9

- 10. Hoses:** Clean adapters and hose. Inspect all threads for damage and hose ends to be sure they are crimped. Install hoses to Swivel Tee. Install hose using Flared Fittings Tightening Procedure. Install hose clamps.

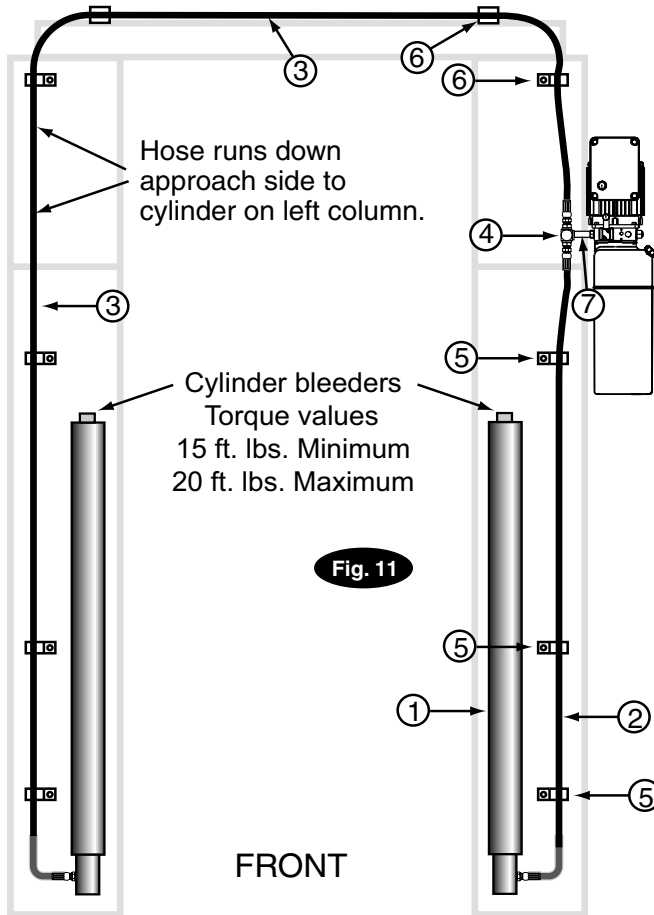
**Adapter & Hose Installation (see Fig. 10 &11):**

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 opposite cylinder (5) and working toward the power unit. All excess hose should be at bends & inside overhead assembly.
3. Install Pc. (7) into power unit.
4. Install (4) onto (7).
5. Connect Pc. (2) & Pc. (3) to Tee (4).

**NOTE:** Route Power Unit hose inside columns using slots provided at column base, Fig. 12. Route Overhead Hose in column channel on outside of column, Fig. 12. Overhead hose goes over top end of overhead assembly, Fig. 13.



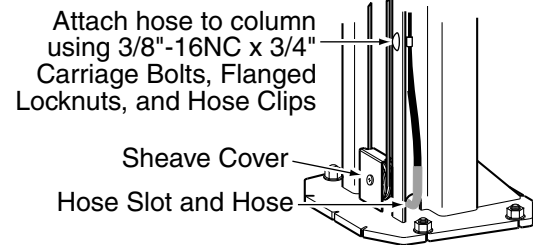
**Fig. 10**



**Fig. 11**

FRONT

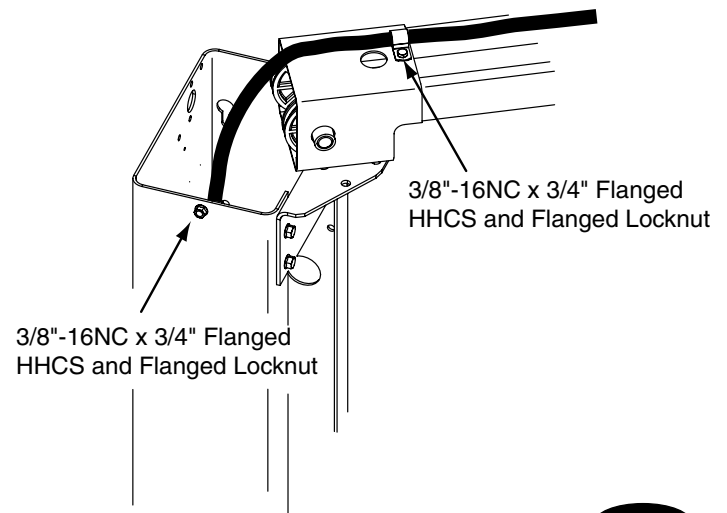
ITEM	QTY.	DESCRIPTION
1	2	Hydraulic Cylinder
2	1	Power Unit Hose
3	1	Overhead Hose
4	1	Branch Tee
5	6	Hose Clips
	6	3/8"-16NC x 3/4" lg. Carriage Bolts
	6	3/8"-16NC Flanged Locknuts
6	4	Hose Clips
	4	3/8"-16NC x 3/4" lg. Flanged HHCS
	4	3/8"-16NC Flanged Locknuts



Attach hose to column using 3/8"-16NC x 3/4" Carriage Bolts, Flanged Locknuts, and Hose Clips

Sheave Cover  
Hose Slot and Hose

**Fig. 12**



3/8"-16NC x 3/4" Flanged HHCS and Flanged Locknut

3/8"-16NC x 3/4" Flanged HHCS and Flanged Locknut

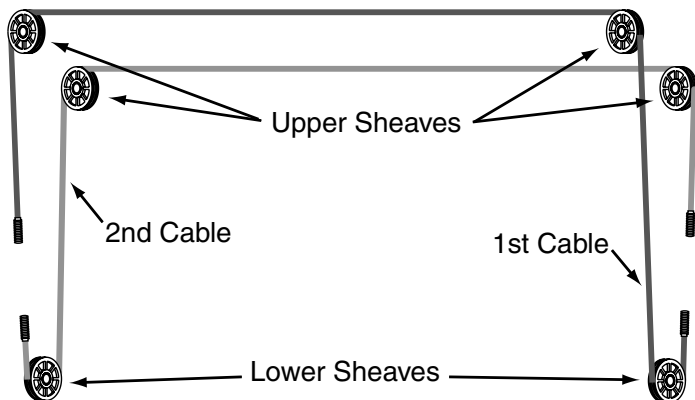
**Fig. 13**

**11. Oil Filling:** Remove fill-breather cap on power unit, Fig. 8. Fill with (8) quarts of Dexron III ATF, or hydraulic fluid that meets ISO 32 specifications. Replace fill breather cap.

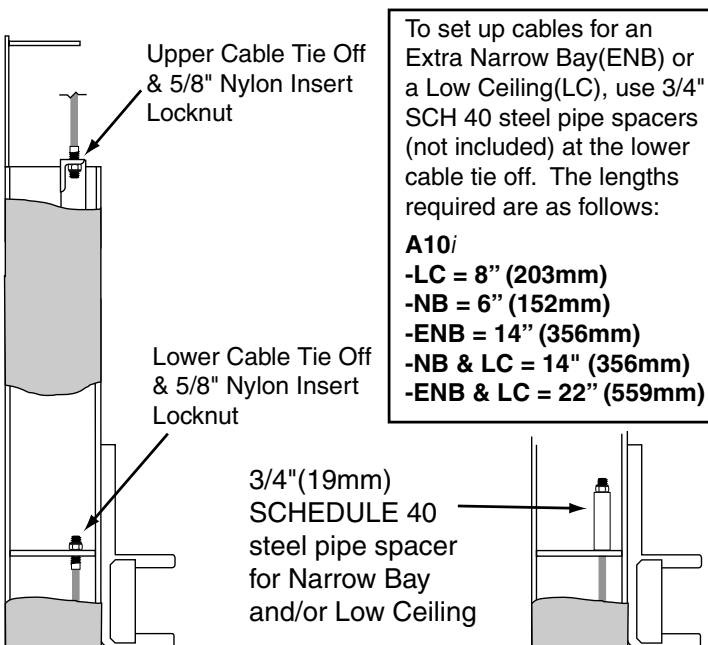
**12. Equalizing Cables:**

- A) Remove sheave cover.
- B) Refer to Fig. 14 for the general cable arrangement. First, run a cable end up through the small hole in the lower tie-off plate. Fig. 15.
- C) Push the cable up until the stud is out of the carriage top opening.
- D) Run a nylon insert locknut onto the cable stud so 1/2" (13mm) of the stud extends out of the locknut.
- E) Pull the cable back down, Fig. 15.

- F) Run cable around the lower sheave, then up and around overhead sheave and across and down to the opposite carriage, Fig. 14. Install sheave cover, Fig. 12.
- G) Fasten the cable end to the carriage upper tie-off bracket, Fig. 15. Tighten the locknut enough to apply light tension to the cable.
- H) Repeat procedure for the second cable. Adjust the tension of both cables during the final adjustments in section 22.



**Fig. 14**

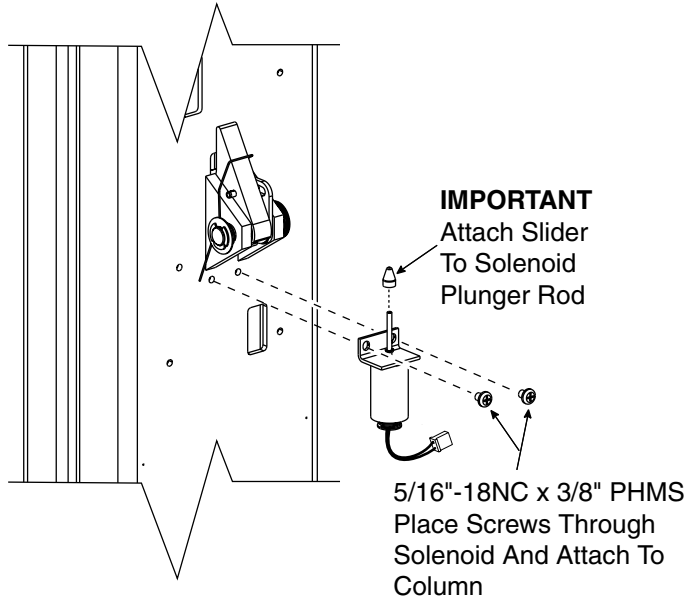


**Fig. 15**



### 13. Installing inbay Components:

- A) Attaching junction box: Attach junction box (provided) onto power unit column with two #12-24NC x 3/4" Lg. PHMS, washers, and nuts, Fig. 19. Install grounding block (provided by installer) into junction box.
- B) Attach solenoids under locking latches of both columns. Place sliders onto solenoid plunger rods. Place solenoids onto columns and tighten just enough to hold them in place. Push solenoids up as far as they will go and tighten screws to hold solenoids up against the latches.



- C) Installing Master Control Panel & Tool Holder: Remove access panel from the master control panel (master control panel is the one with disconnect and electrical receptacle), Fig. 16. Install two 5/16"-18NC x 3/8" PHMS screws in holes on each side of the locking latch (power unit side). Just get screws started in hole, do not tighten. Hang the master control panel over locking latch to column on the 5/16"-18NC x 3/8" PHMS screws and pull the locking latch solenoid wire through the panel, Fig. 16. Plug locking latch solenoid into master control panel. Install one 5/16"-18NC x 3/8" PHMS in bottom of master control panel. Tighten the upper two screws in top of panel and replace access panel. Install one of the air tool holders under the master control panel with two 5/16"-18NC x 3/8" PHMS, see Fig. 16. Connect the master cable, the motor cable, and the input power cable to the connectors on the side of the master control panel.
- D) Installing Slave Control Panel & Tool Holder: Remove access panel from the slave control panel, Fig. 17. Place two 5/16"-18NC x 3/8" PHMS screws in holes on each side of the locking latch leaving approximately 1/8" exposed to hold the panel. Hang the slave control panel over locking latch to column on the 5/16"-18NC x 3/8" PHMS screws and pull the locking latch solenoid wire through the panel, Fig. 17. Install one 5/16"-18NC x 3/8" PHMS in bottom of slave control panel. Tighten the upper two screws in top of panel. Install one of the air tool holders under the slave control panel with two 5/16"-18NC x 3/8" PHMS, see Fig. 17.

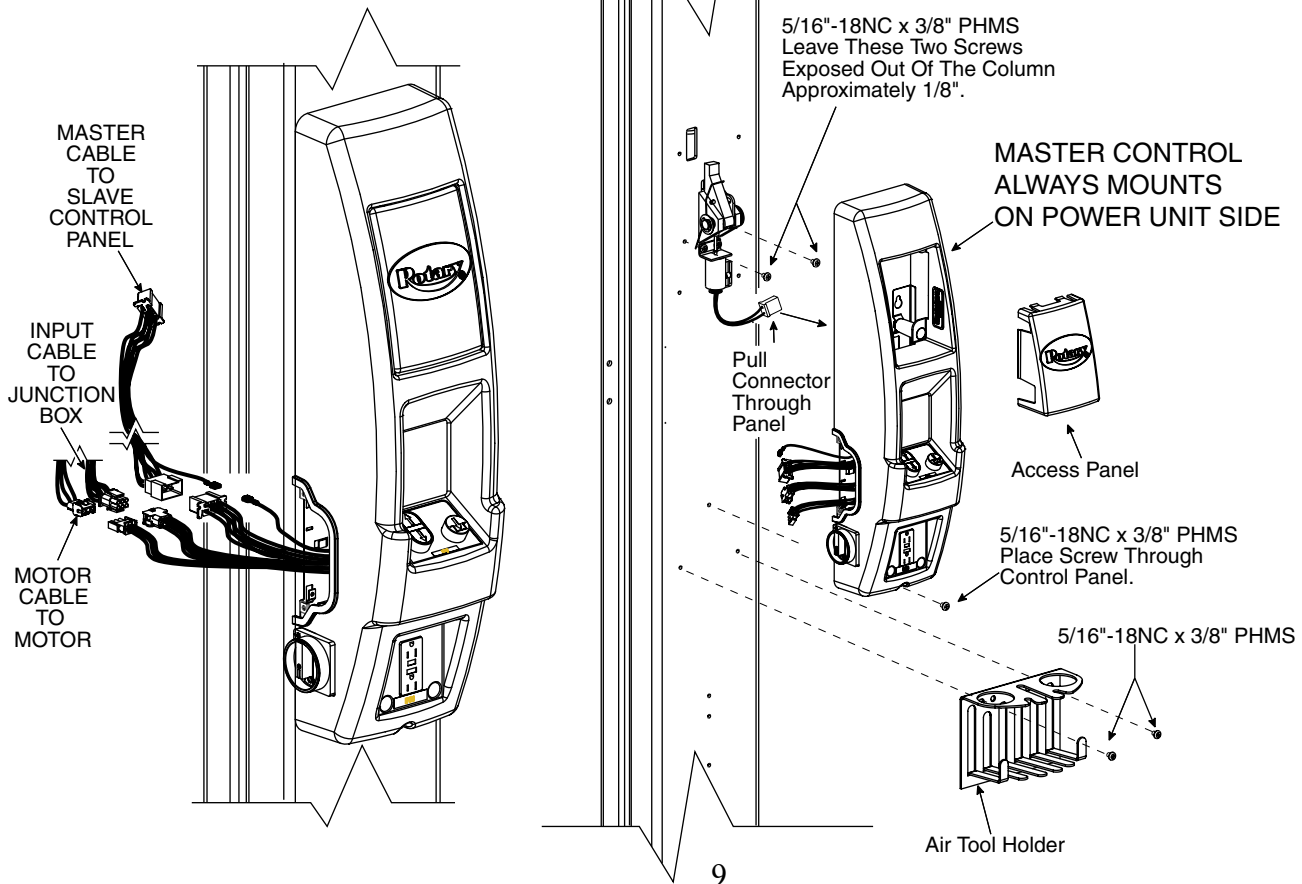
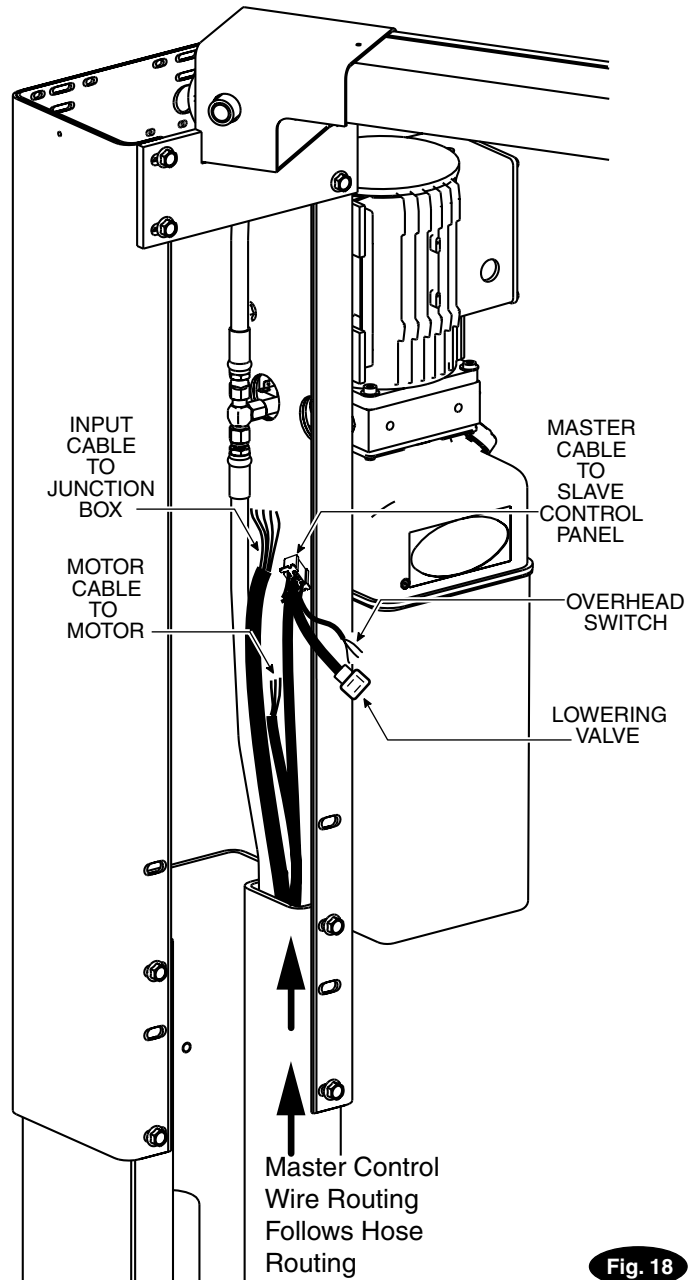
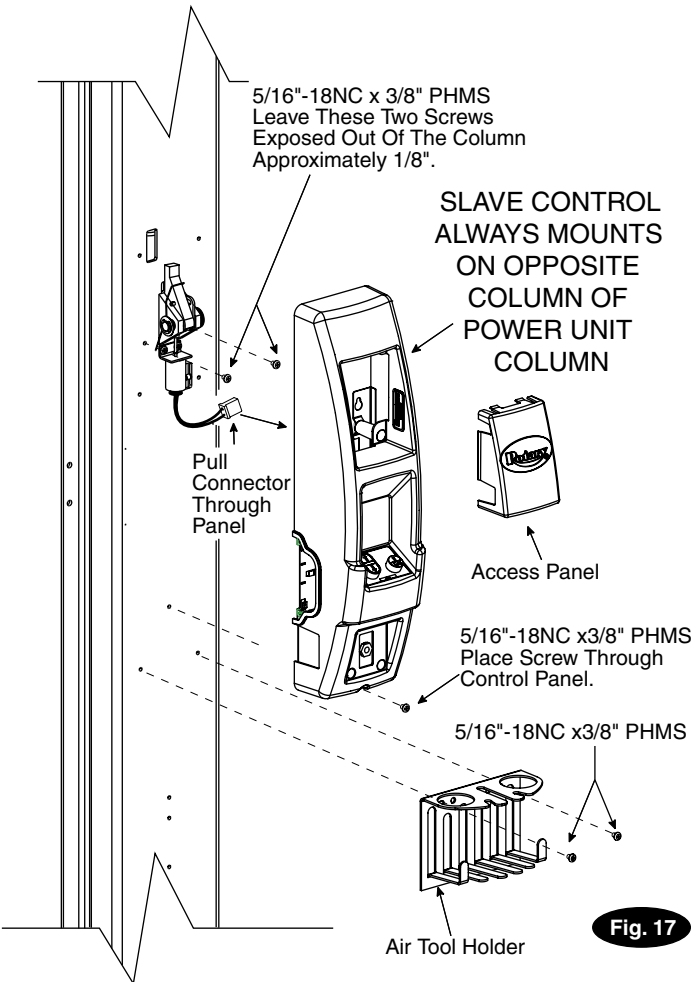


Fig. 16

- E) Return to Master control panel and route all cords up through column along hose routing, Fig. 18.
- F) Route input cable multi-conductor cord through strain relief (provided) and junction box, Fig. 19.
- G) Locate the overhead switch cable at the master cable connector. Feed the overhead switch cable through the strain relief and into the overhead switch box. Cut the wire to the correct length, strip and terminate it to the overhead switch with wire nuts, Fig. 19. Note: The wire length is long enough to service standard height, EH1, 2 or 4 models.
- H) Locate the lowering valve cable (attached to the master cable connector) and the motor cable. Place rubber grommet in top hole above the power unit and run the lowering valve cable (first) and motor cable (next) through the hole, Fig. 19.
- I) Attach lowering valve cable to lowering valve and tighten screw on top.
- J) Run motor cable through strain relief in the motor junction box. Motor wiring and wire diagrams are detailed in step 18

- K. **For 3 Phase 208-230VAC Systems:** The transformer inside the master enclosure must be bypassed. Unplug the quick-connectors on the primary and secondary side of the transformer, and unscrew and discard the ends that are connected to the transformer, Fig. 19a. The transformer is not used and may be removed. The connector that was routed to X1 should be directly plugged into the connector that was routed to H1, and the connector that was routed to X2 should be directly plugged into the connector that was routed to H2, Fig. 19a.



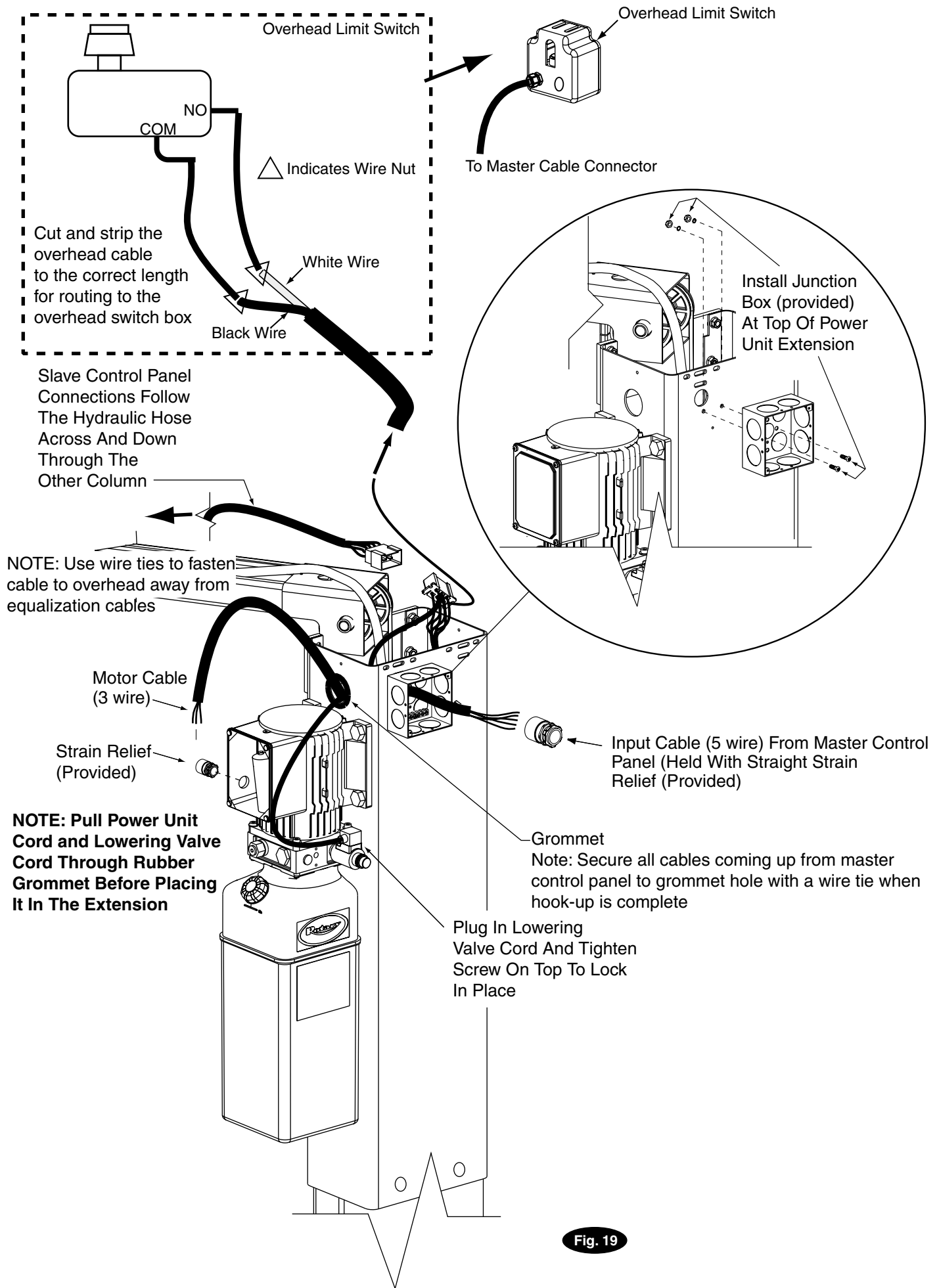


Fig. 19

- L) Remove cover panel from slave control side, Fig. 20. Remove slave harness from inside of housing and disconnect the pushbutton cable from slave harness. Do not unscrew the ground connection. Loosen nut from air fitting and remove from bracket. Take one end of the 1/2" hose (40' provided) and push air line into the air fitting. Air line should be clean and have a straight edge. Attach air fitting back into bracket making sure air line is not crimped before placing the slave hood and access panel back on its bracket. The air line should be routed out of the slave control panel and back up through the column and to the facilities main air supply. Air fitting (provided) to make connection to main air supply, Fig 20.
- M) Run slave cable up through the column along hose routing.
- N) Secure cable to structure with wire ties and away from equalization cables.
- O) Connect the master cable to the slave cable near the top of the master column. If extensions cables are needed (EH1, 2 or 4 model lifts) connect them between the master and slave cables.

Note: Use wire ties to securely position electrical cables to the lift structure and away from the equalization cables. Use grommet hole at top of lift to secure all cable coming up from master control panel.

- P) Connect slave cable to solenoid connector.
- Q) Connect the pushbutton connector on the slave control panel to the slave cable.
- R) Attach the slave control panel to the back plate and secure with screws, Fig. 20.

**IMPORTANT** Be sure the pushbutton cable does not become pinched between the backplate and control panel where it screws in.

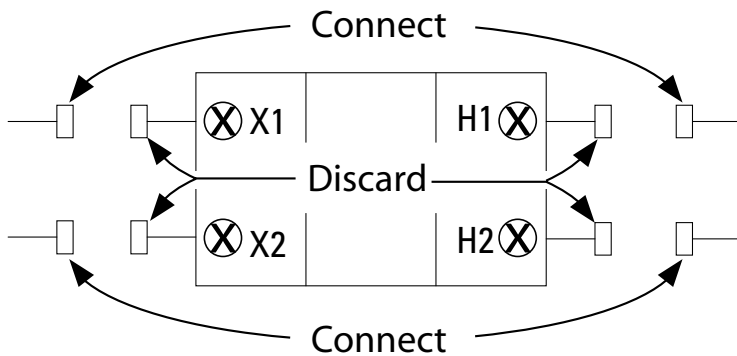
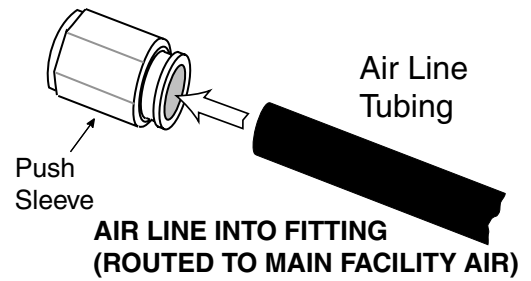
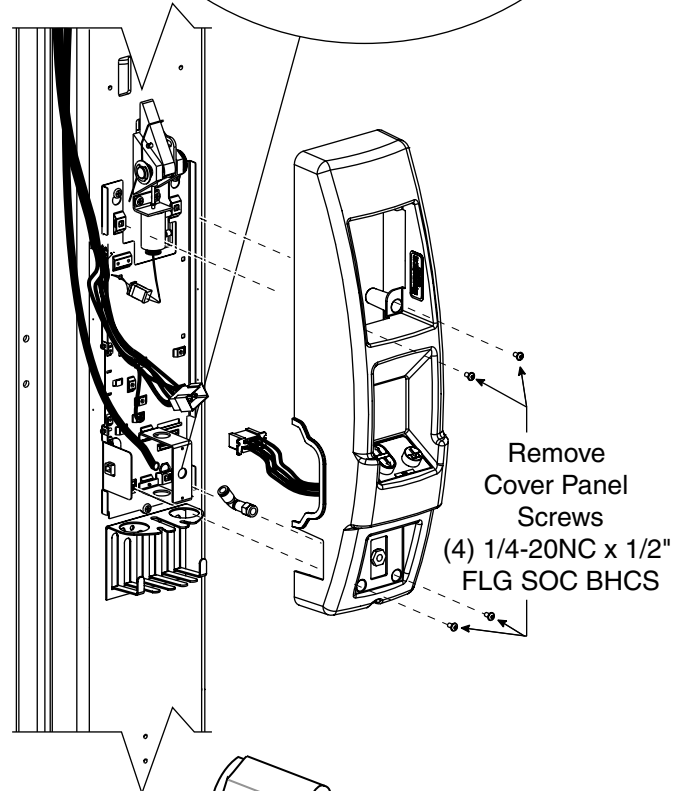
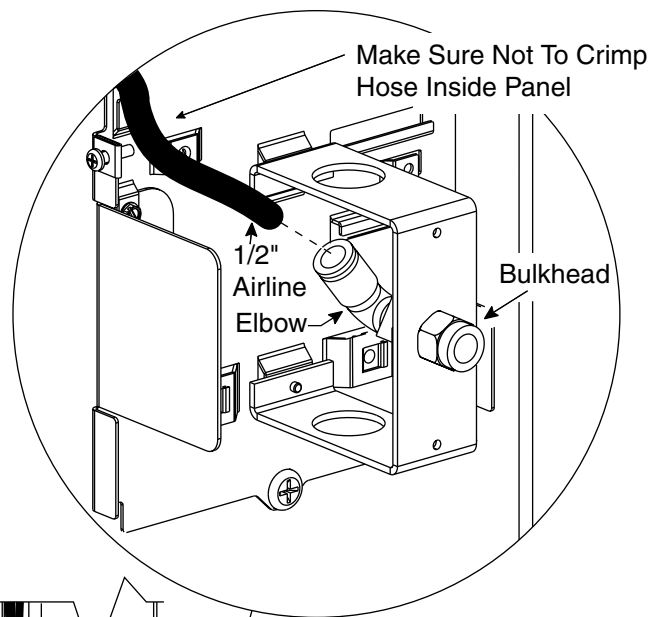


Fig. 20

Fig. 19a

**14. 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. 22. Install 1-3/4" diameter arm pin(s), Fig. 22.

After installing arms and pins, install arm restraint gears as follows: Install restraint gear onto arm clevis, as shown in Fig. 23. Ensure side of gear marked TOP is facing upward, Fig. 23.

**NOTE: TOP is stamped on top side of gear. You may need to pull up on the pin-ring, Fig. 23, to allow enough room to install Restraint Gear.**

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. 24 and Fig. 25.

Torque the restraint gear bolts to 30-34 ft.-lbs.

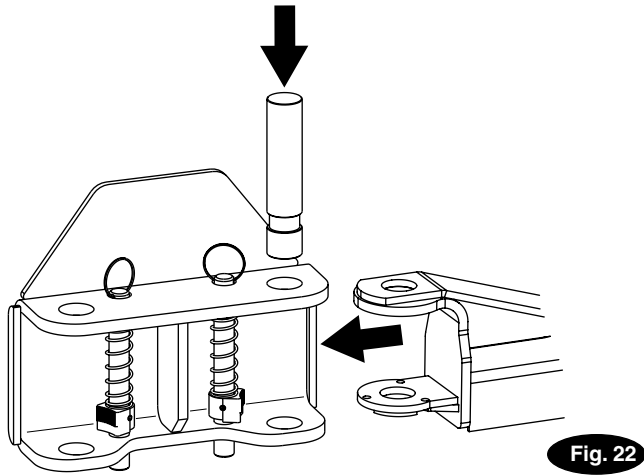
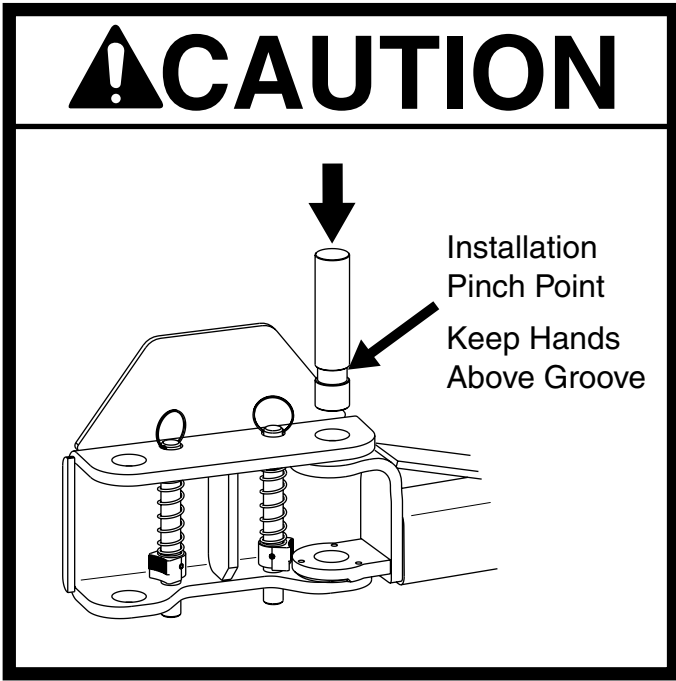
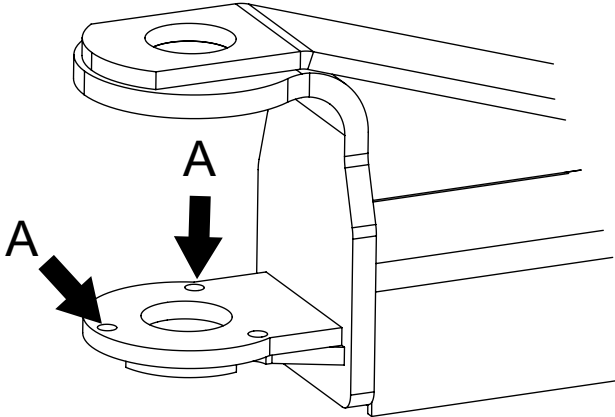


Fig. 22



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

Fig. 24

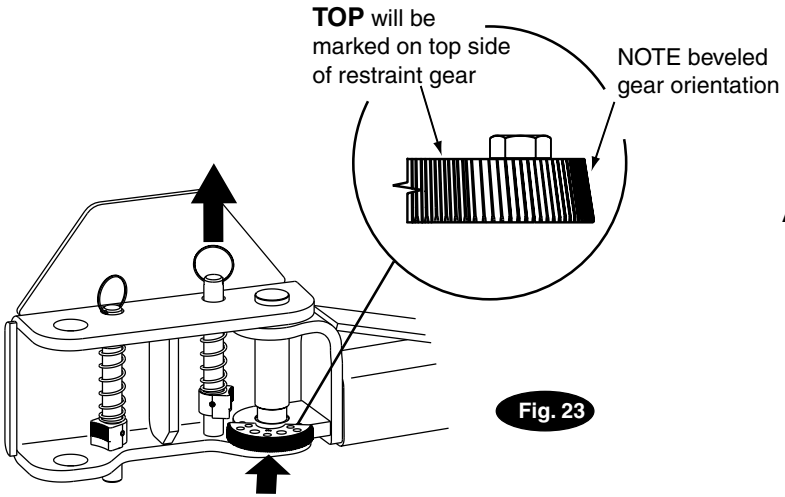
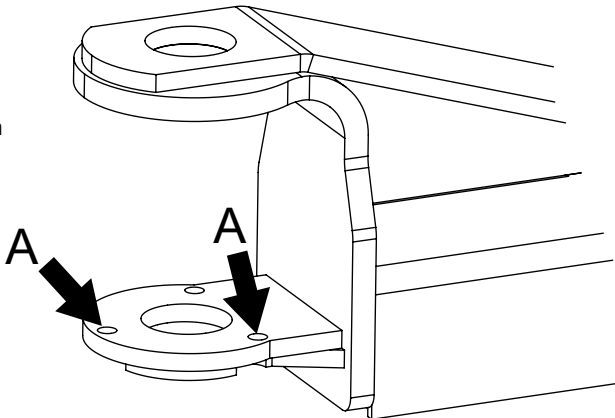


Fig. 23

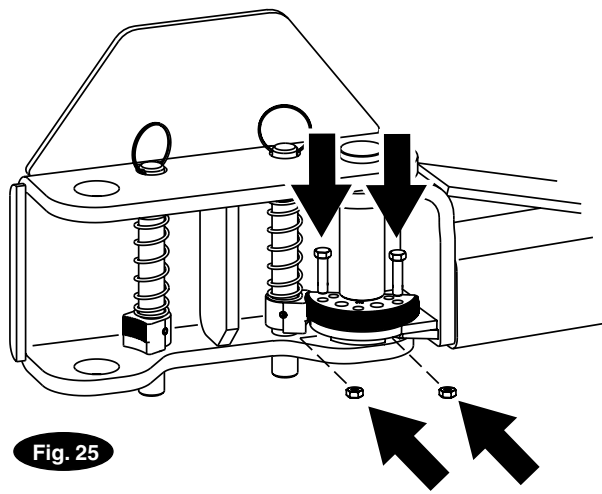


Use holes marked "A" for Left Front and Right Rear.

**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:** Pin-ring, Spring, & Gear Block are all preassembled.

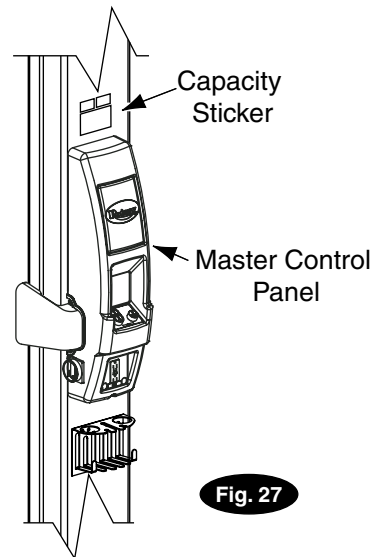
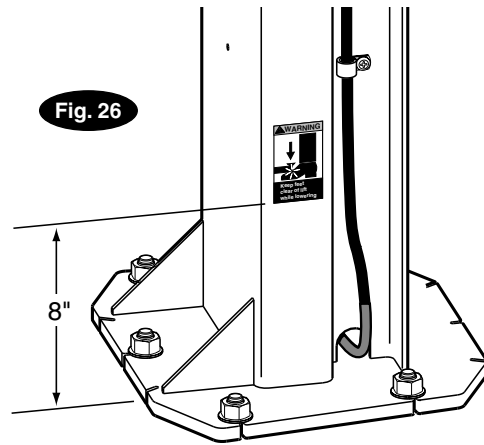
**NOTE:** Once arm is installed in yoke, pull up actuator pin and swing arm fully around, being sure that the Restraint Gear and Gear Block always stay aligned. If they do not stay aligned, remove restraint gear and install in the opposite position.



15. **Wheel Spotting Dish:** Position wheel spotting dish, for appropriate lift model, as illustrated in Fig. 1 or 2. 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.

16. **Pinch Point Decal Location:** Install enclosed pinch point decals. Place (1) decal on each column, Fig. 26. Decals should be a minimum of 8" from the bottom of decal to the ground.

17. **Capacity Sticker:** Place capacity sticker above master control panel as shown in Fig. 27.



**18. Electrical:** Have a certified electrician run appropriate motor voltage to lift, Fig. 19. Size wire for 20 amp circuit. See Motor Operating Data Table.

The certified electrician should also run a separate 110 volt 60 Hz. to the lift. Size wire for 15 amp circuit.

**IMPORTANT** Do Not drop one leg from the motor supply it may cause damage to the controls.

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

**IMPORTANT** Use separate circuit for each power supply. Protect each circuit with time delay fuse or circuit breaker. For single phase 208-230V, use 20 amp fuse, and three phase use 20 amp fuse. For three phase 460V, use 10 amp fuse. For 110v receptacle, use 15 amp fuse All wiring must comply with NEC and all local electrical codes.

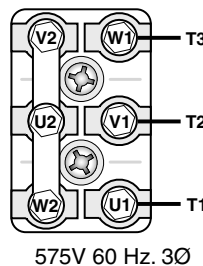
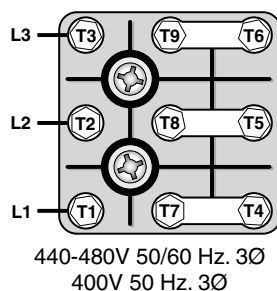
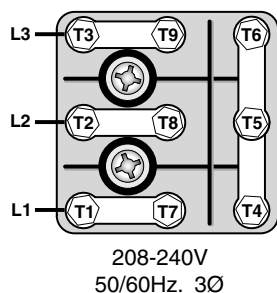
**Note:** Standard single phase motor CAN NOT be run on 50Hz. line without a physical change in the motor.

Wire motor according to wiring schematics provided on page 16 & 17.

**IMPORTANT** As with all electronic equipment, the inbay control modules can be affected by voltage irregularities. It is the lift owner's responsibility to ensure that adequately protected power sources are available for connecting this equipment.

**IMPORTANT** For 3 Phase 208-230V systems, make sure that the transformer inside the master enclosure has been bypassed, see Step 13 (K).

Motor Operating Data - Three Phase	
Line Voltage	Running Motor Voltage Range
208-230 Volts 60 HZ	197-253 Volts
460 Volts 60 HZ	414-506 Volts
575 Volts 60 HZ	518-632 Volts



## Single Phase Rotary Power Unit

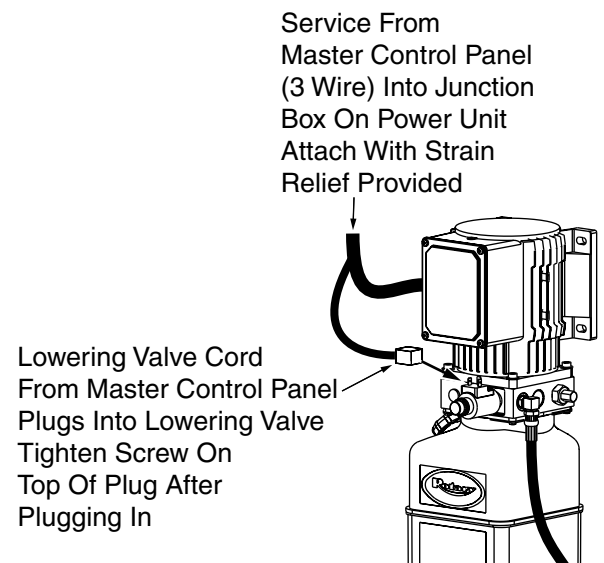
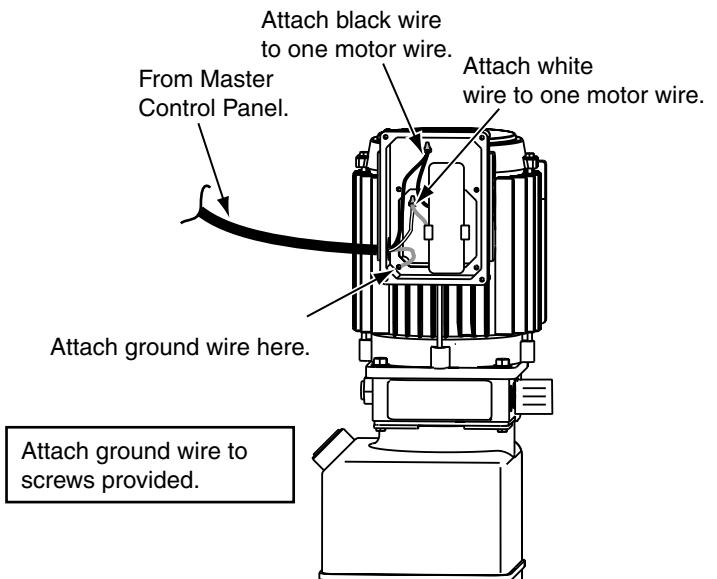
Motor Operating Data - Single Phase	
Line Voltage	Running Motor Voltage Range
208-230 Volts 60 HZ	197-253 Volts

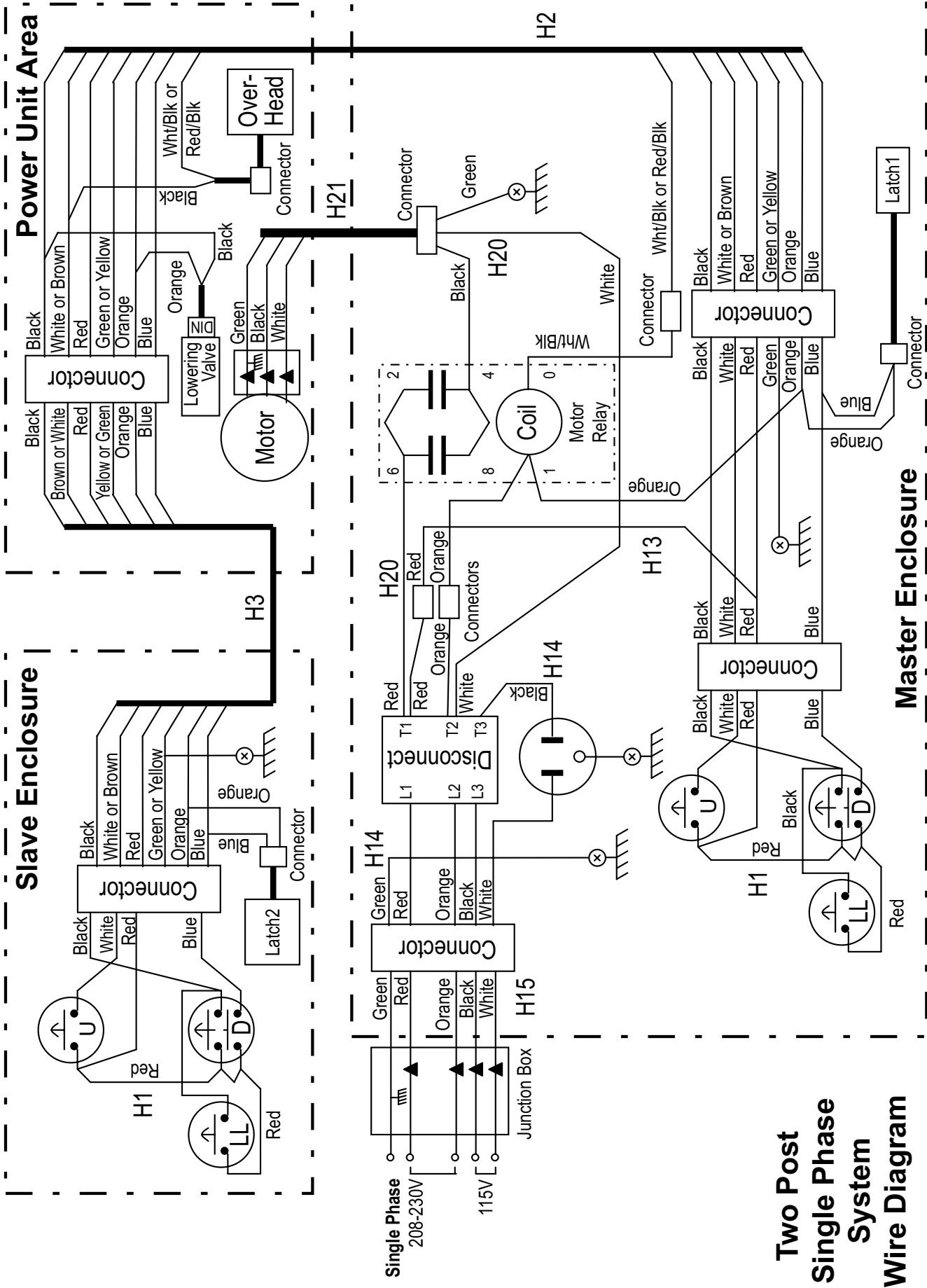
  

Motor Operating Data - Single Phase	
Line Voltage	Running Motor Voltage Range
115 Volts 60 HZ	105-120 Volts

### NOTES:

1. Unit not suitable for use in unusual conditions. Contact Rotary for moisture and dust environment duty unit.
2. Verify Coil Rating Matches Supply Voltage
3. Motor rotation is counter clockwise from top of motor.



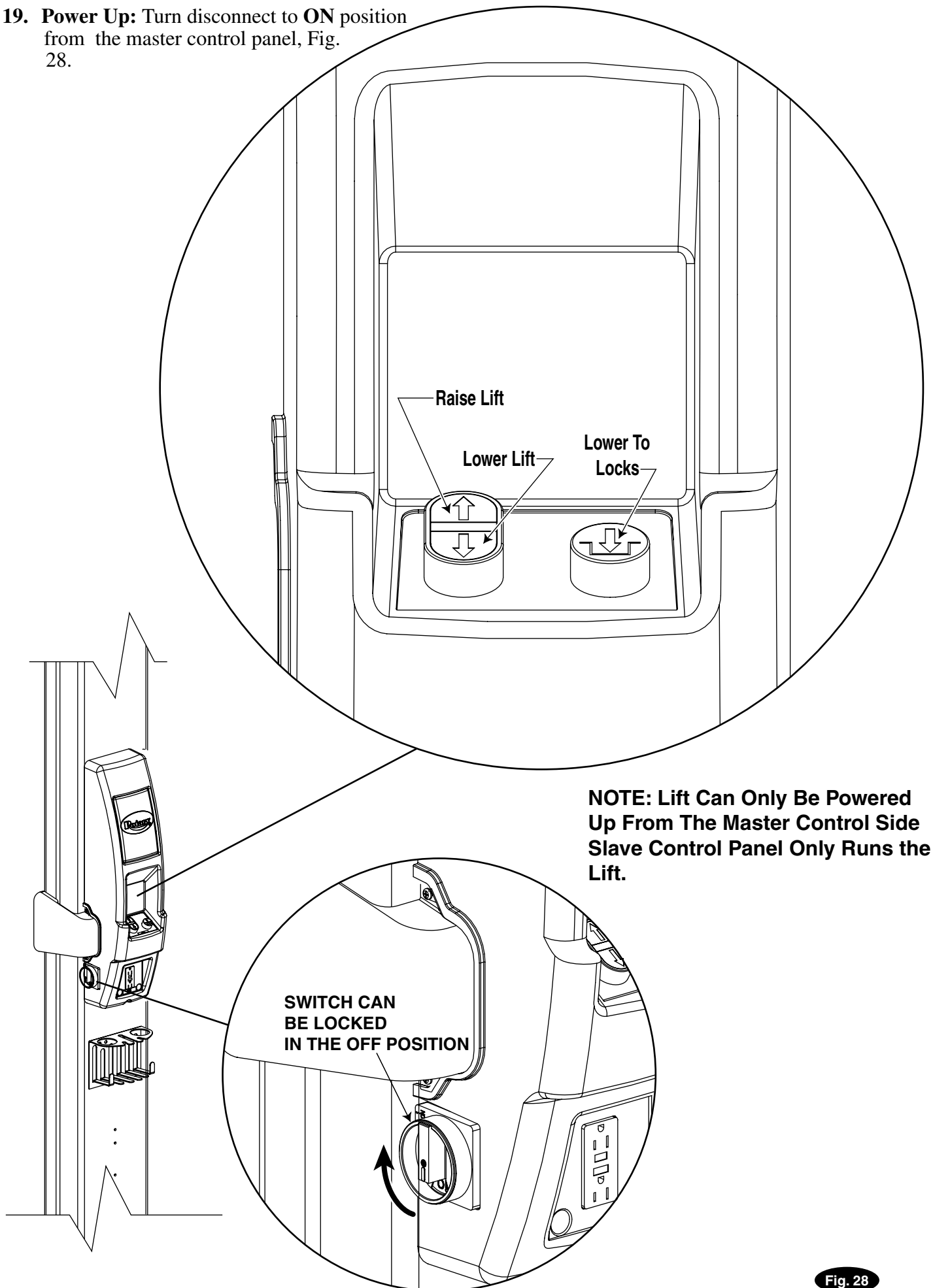




**Two Post  
Single Phase  
System  
Wire Diagram**







19. **Power Up:** Turn disconnect to **ON** position from the master control panel, Fig. 28.



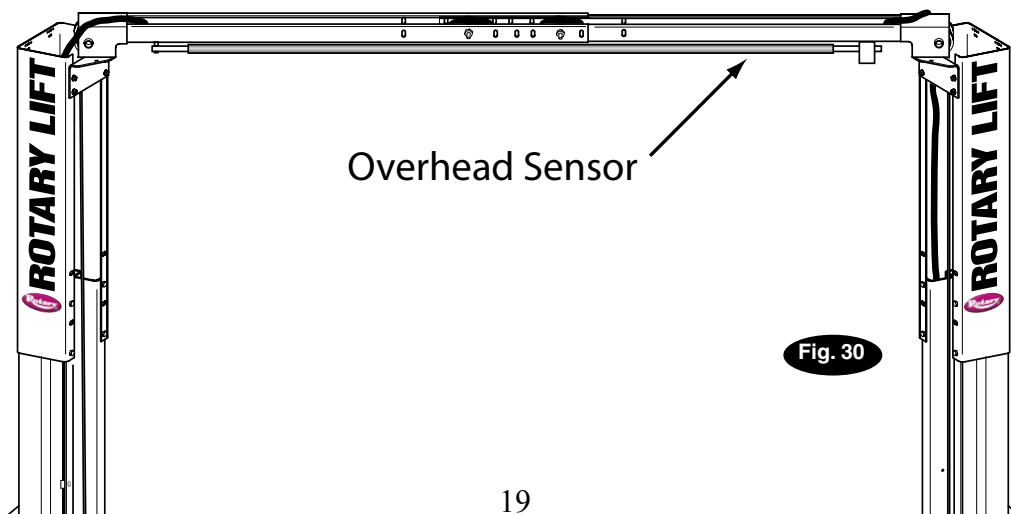
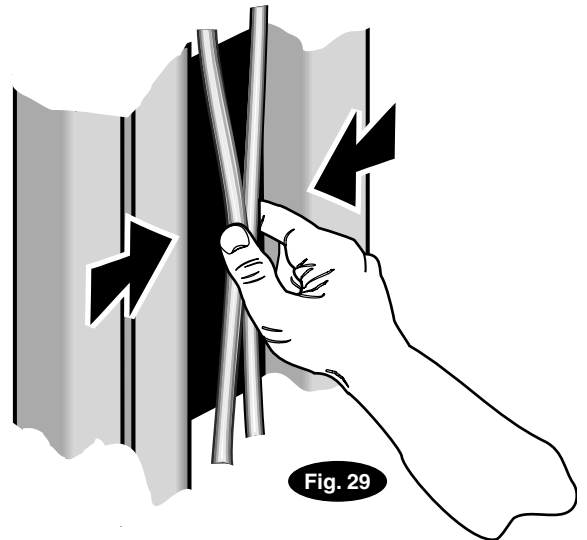
20. **Oil Filling/Bleeding:** Use Dexron III ATF or ISOVG32 Hydraulic Oil. Remove fill-breather cap, Fig. 8. Pour in fluid until it reaches MIN \_\_\_\_\_ mark on the tank. Press  and raise lift about 2 ft. Open cylinder bleeders approx. 2 turns, Fig. 11. Close bleeders when fluid streams. Torque values for the bleeders are 15 ft. lb. minimum and 20 ft. lb. maximum. Press  to fully lower lift. Fill tank until it reaches the MIN \_\_\_\_\_ mark on the tank. Replace fill-breather cap.

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

21. **Pressure Test:** Press  and raise 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.
22. **Equalizer Cable Adjustment:** Press  and raise lift to check equalizer cable tension. Below carriage, grasp adjacent cables between thumb and forefinger, with about 30 lbs., Fig. 29, effort you should just pull the cables together. Adjust at upper tie-offs Fig. 15.
23. **Overhead Sensor Testing:** Check overhead sensor assembly to assure that switch bar is depressing switch plunger sufficiently to actuate the switch, Fig. 30. The overhead switch is wired normally open, see Page 16. 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 restarts when the bar is released.

24. **Web Covering And Wire Trough Placement**  
**Fig. 31:** Start by wire tying all the wires and hoses neatly and out of the way of the cables. Push the connectors made at the master control panel into the master enclosure and make sure cables transition smoothly from the wire trough into the master enclosure. Take one of the wire troughs and attach it to one of the control panels with two #8-32NC x 5/8" Lg. PHTS. Snap the front of the wire trough into the column. Next slide the web cover up into the column extension and then down into the wire trough. **NOTE: Align slots in web covers with hose clamp and bolt.** Repeat for other column. Adjust covers accordingly to make sure hoses and wires are covered.

25. **Door Bumper Installation:**  
 A) Press long bumper on column edge, Fig. 32.  
 B) Press short bumper on top edge of carriage tube, Fig. 32.



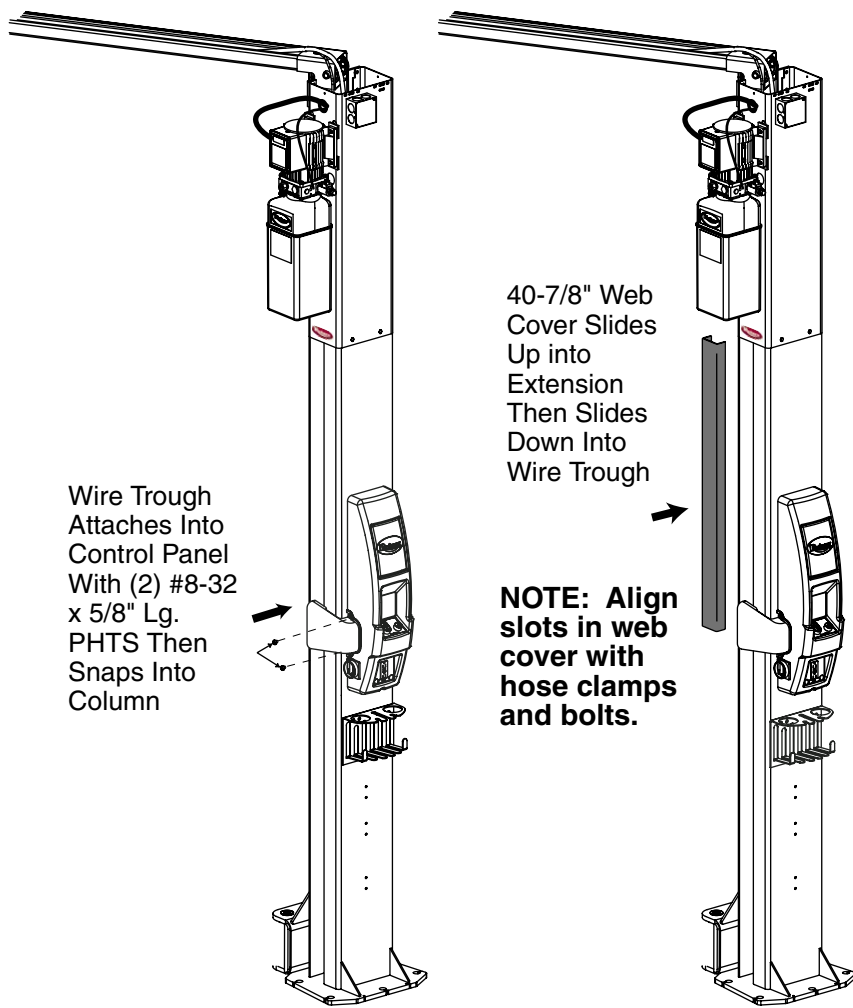


Fig. 31

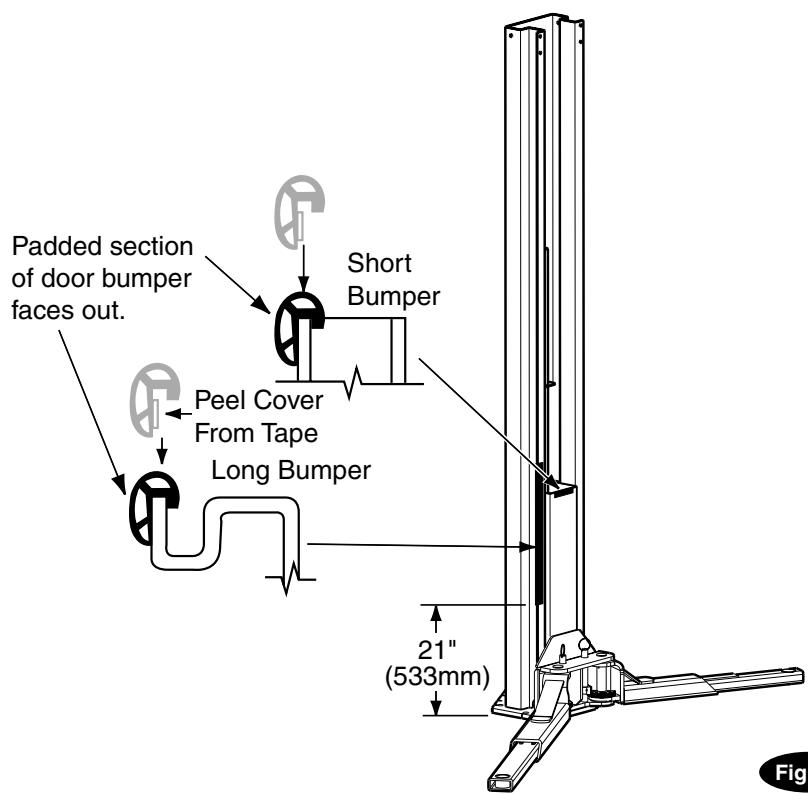


Fig. 32

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**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.	DESCRIPTION
06/29/2005	-	New (700 Series) instructions.
09/07/2005	A	Add 3Ø, updated Fig. 19 to show note that had been lost and updated Equalizer Cable Adjustment from 15lbs to 30lbs.
01/15/2007	B	Updated Breaker verbiage in the electrical section and added torque values to cylinder bleeders.
09/12/2007	C	Updated concrete specifications.

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