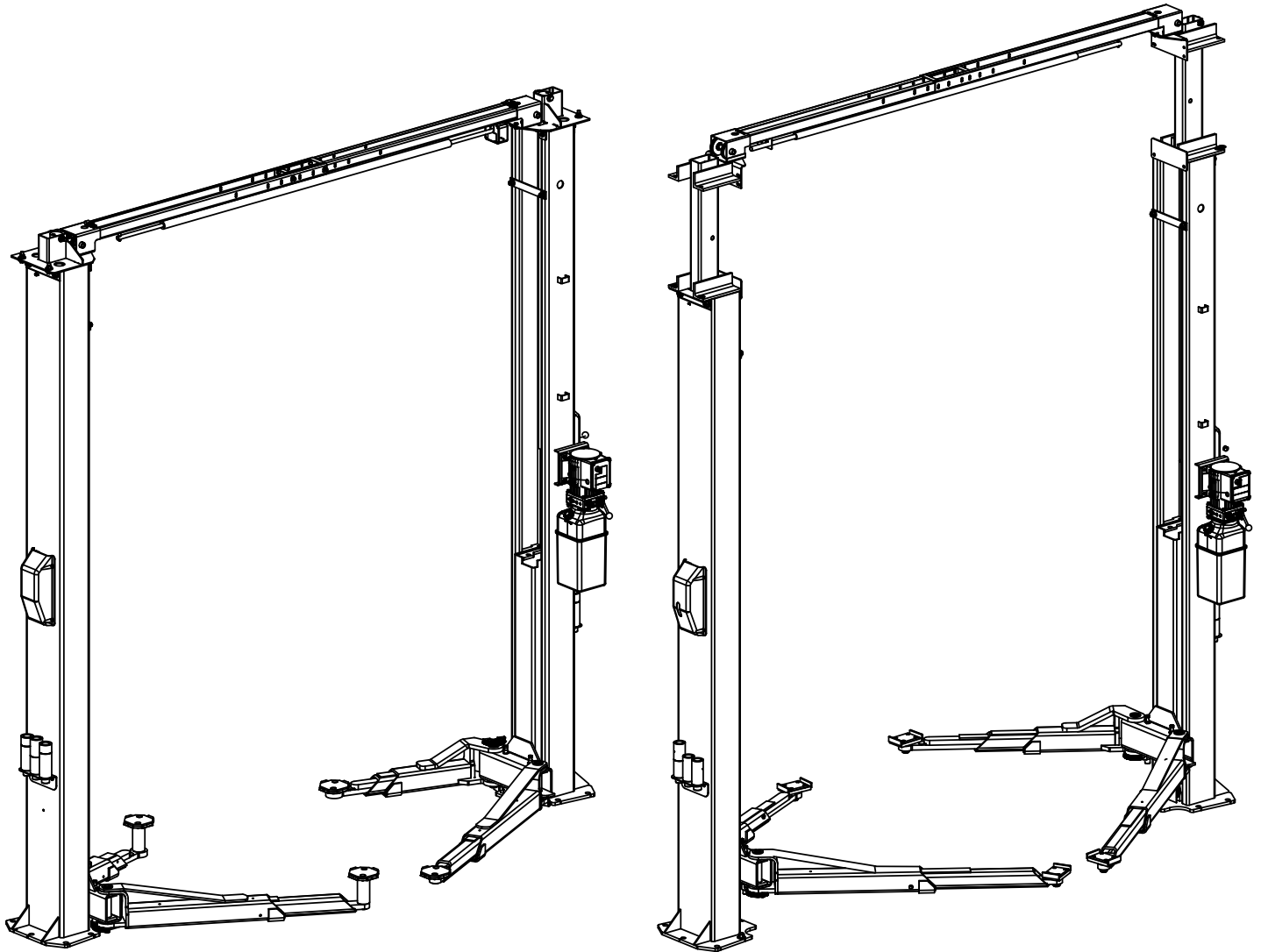


# Installation Instructions

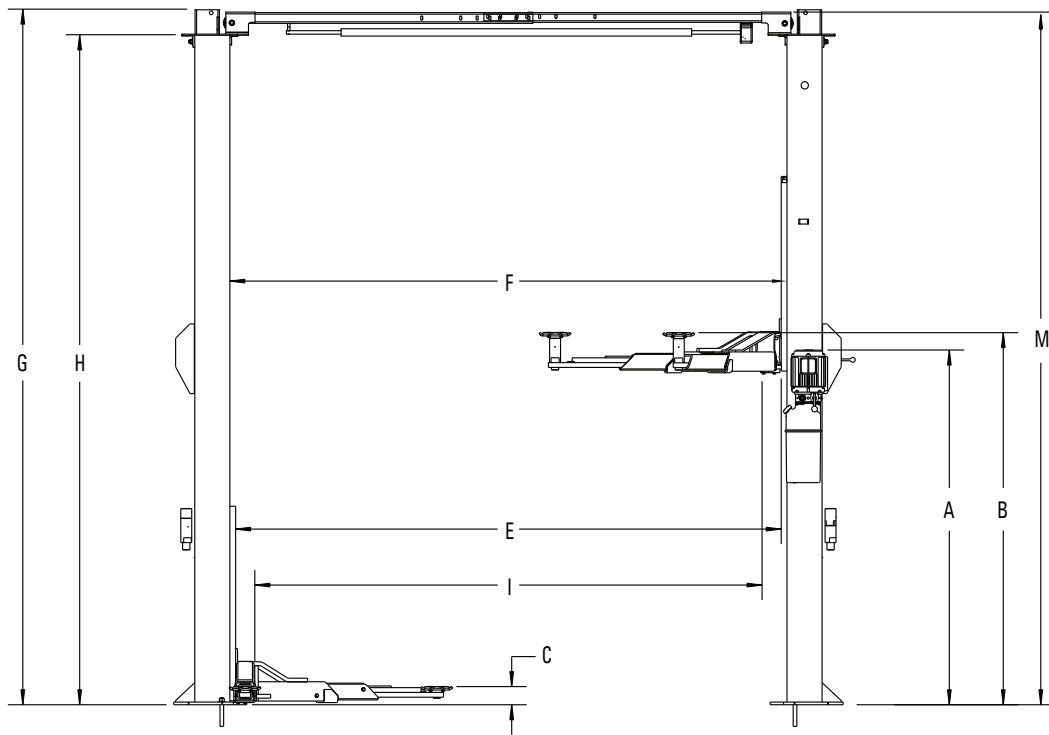
Capacity 10,000 lbs. (4,536kg.)  
(400 Series Lift with 10 Anchors)  
(500 Series Lift with 12 Anchors)



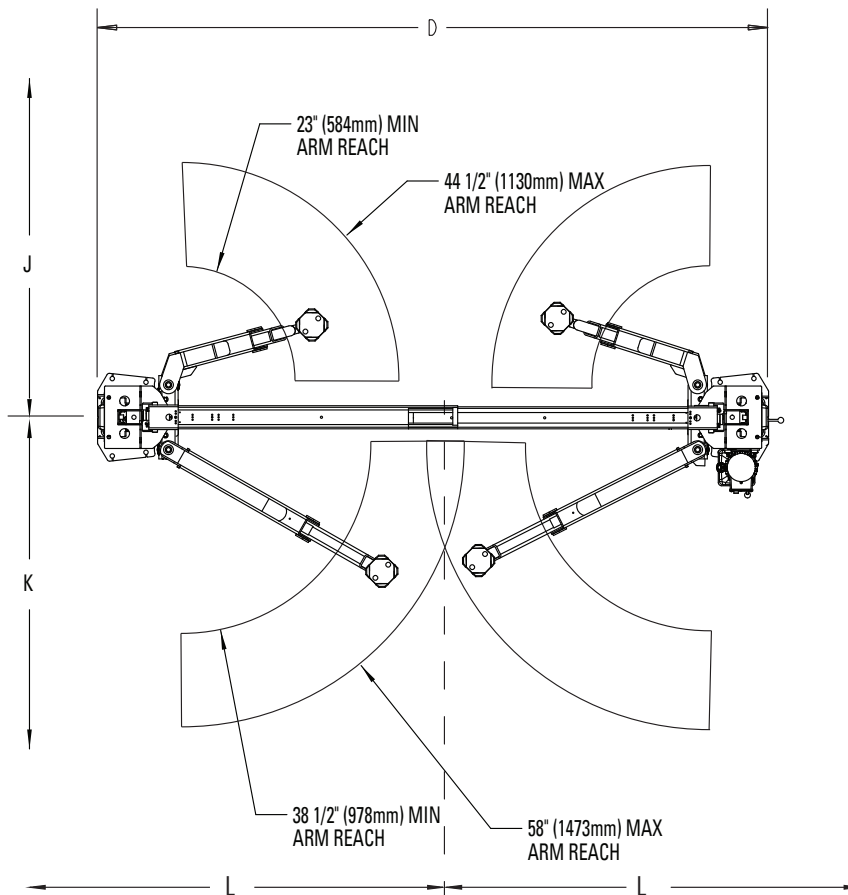
**⚠ IMPORTANT** Reference ANSI/ALI ALIS, Safety Requirements for Installation and Service of Automotive Lifts before installing lift.

**OPERATING CONDITIONS**  
Lift is not intended for outdoor use  
and has an operating ambient temperature  
range of  
41°-104°F (5°-40°C)

LP60026



**Fig. 1a**



**Fig. 1b**

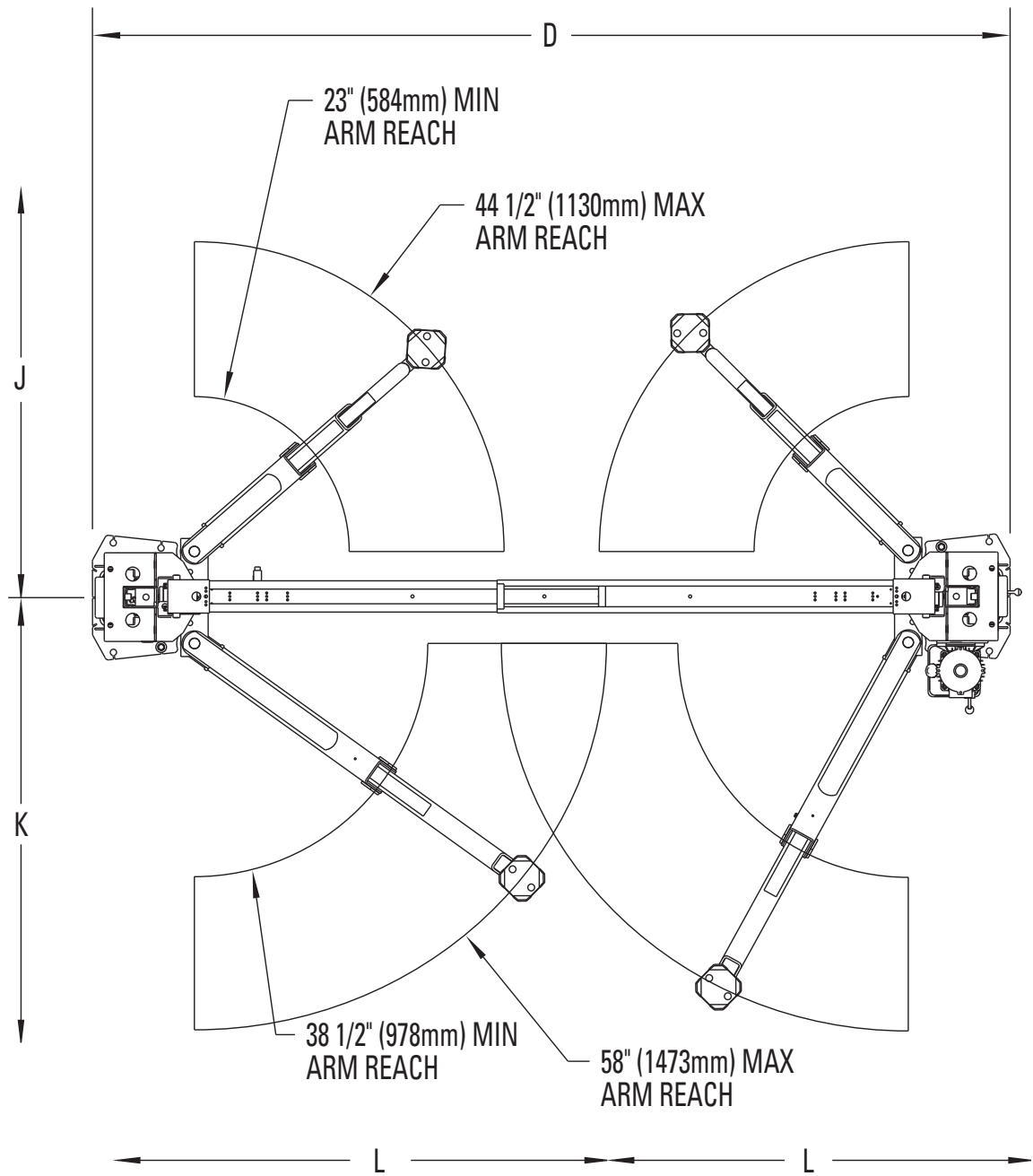


Fig. 1c

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

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

|   |   |   |
|---|---|---|
| A | POWER UNIT HEIGHT                           | 72 1/2" (1872mm)                            |
| B | LIFTING HEIGHT W/ 5' EXTENSION              | 76 1/8" (1934mm) W/ 67 1/2" (1715mm) STROKE |
|   | LIFTING HEIGHT W/ HIGH RISE CYLINDER        | 79 5/8" (2023mm) W/ 71" (1803mm) STROKE     |
| C | MIN. LIFT HEIGHT                            | 3 5/8" (92mm)                               |
|   | MIN. LIFT HEIGHT W/ 1 3/4" ADAPTER          | 5 3/8" (137mm)                              |
|   | MIN. LIFT HEIGHT W/ 3 1/2" ADAPTER          | 7 1/8" (181mm)                              |
|   | MIN. LIFT HEIGHT W/ 5" ADAPTER              | 8 5/8" (219mm)                              |
| D | OVERALL FLOOR WIDTH                         | 136 1/2" (3467mm)                           |
|   | OVERALL FLOOR WIDTH (NARROW)                | 130 1/2" (3315mm)                           |
| E | WIDTH BETWEEN CARRIAGES                     | 112 1/2" (2858mm)                           |
|   | WIDTH BETWEEN CARRIAGES (NARROW)            | 106 1/2" (2705mm)                           |
| F | INSIDE COLUMNS                              | 114 1/2" (2908mm)                           |
|   | INSIDE COLUMNS (NARROW)                     | 108 1/2" (2756mm)                           |
| G | HEIGHT OVERALL (HOSE NOT INCLUDED)          | 143 1/2" (3645mm)                           |
|   | LOW HEIGHT OVERALL (HOSE NOT INCLUDED)      | 138 1/2" (3518mm)                           |
|   | EXTENDED HEIGHT OVERALL (HOSE NOT INCLUDED) | 166 1/2" (4229mm)                           |
|   | MINIMUM CEILING HEIGHT                      | 144" (3658mm)                               |
|   | MINIMUM CEILING HEIGHT (EXTENDED HEIGHT)    | 167" (4242mm)                               |
| H | FLOOR TO OVERHEAD SWITCH                    | 137 3/4" (3499mm)                           |
|   | FLOOR TO OVERHEAD SWITCH (LOW)              | 131 5/8" (3343mm)                           |
|   | FLOOR TO OVERHEAD SWITCH (HIGH RISE)        | 160 3/4" (4083mm)                           |
| I | DRIVE THRU CLEARANCE                        | 105" (2667mm)                               |
|   | DRIVE THRU CLEARANCE (NARROW)               | 99" (2515mm)                                |
| J | MINIMUM TO NEAREST OBSTRUCTION              | 132" (3353mm)                               |
| K | MINIMUM TO NEAREST OBSTRUCTION              | 156" (3962mm)                               |
| L | MINIMUM TO NEAREST OBSTRUCTION              | 72" (1829mm)                                |
| M | OVERHEAD HEIGHT                             | 143" (3632mm)                               |
|   | OVERHEAD HEIGHT LOW                         | 137" (3480mm)                               |

**NOTES:**

- 1.) ALL HEIGHT DIMENSIONS ARE WITHOUT LEVELING SHIMS.
- 2.) STANDARD HEIGHT LIFT SHOWN.
- 3.) \*\* ANCHORING SYSTEM TESTED TO ANSI/ALI ALCTV

|                           |  |
|---------------------------|--|
| LIFT CAPACITY             | 10,000 LBS.  |
| LIFTING SPEED (RISE TIME) | APPROXIMATELY 45 SECONDS UNLOADED<br>APPROXIMATELY 51 SECONDS AT RATED CAPACITY  |
| MOTOR RATING OPTIONS      | 3 PHASE 208-230/460V 50-60 Hz 17/8.5-14/8 AMPS<br>SINGLE PHASE 208-230V 60Hz 16 AMPS<br>SINGLE PHASE 208-230V 50Hz 15 AMPS |
| WEIGHT                    | 1505 LBS   |
| MECHANICAL SAFETY LOCKS   | AUTOMATIC ALL POSITIONS  |
| MECHANICAL SAFETY RELEASE | MANUAL ALL BOTH COLUMNS  |
| SWING ARM RESTRAINTS      | AUTOMATIC ENGAGEMENT ABOVE 2 1/2"  |
| HYDRAULIC SAFETY SYSTEM   | AUTOMATIC ALL POSITIONS  |
| CYLINDERS                 | TWO, ONE PER COLUMN  |
| CARRIAGE BEARINGS         | EIGHT PER CARRIAGE, UHMW   |
| SYNCHRONIZATION           | EQUALIZATION CABLES  |
| MIN. BAY SIZE             | 12' X 24' VERIFY WITH SITE PLAN & SERVICE VEHICLES   |

**2. Latch Cable Guides:** Install the latch cable conduit guide brackets to column using (1) 1/4"-20NC x 1" HHCS and 1/4"-20NC Flanged Locknut. It should go through hole nearest the edge as shown, Fig. 2. For extension please note paragraph 4.

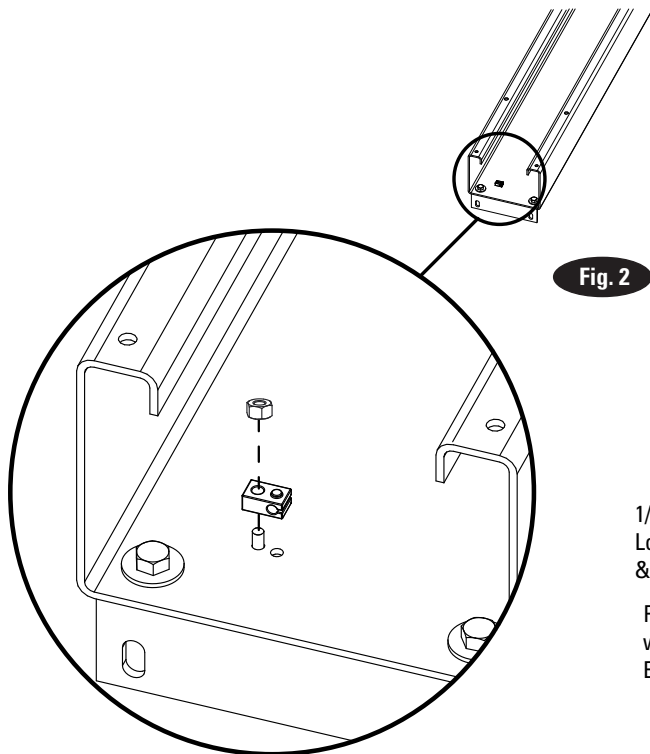


Fig. 2

**Note:** Standard height installation continue to paragraph 6. For extended height continue to paragraph 3.

**3. Male Connector (Extended Height):** Attach male connectors to tops of cylinders before installing the extended height column extensions see Fig. 3.

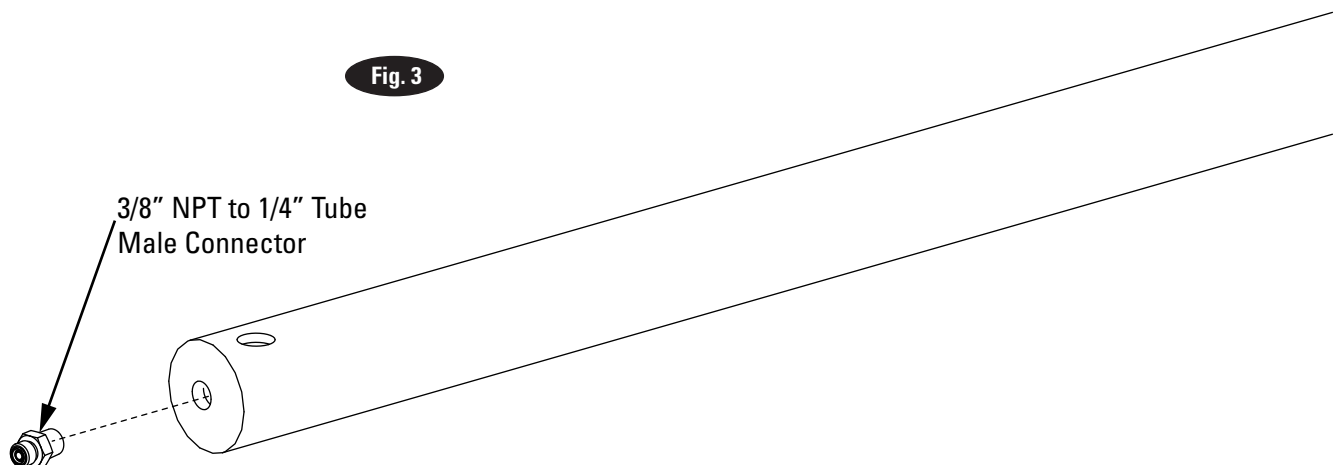


Fig. 3

**4. Column Extension (Extended Height):** Column extension is installed using (2) M10-1.5x20mm HHCS & (2) M10-1.5 Fig. Lock Nut on the inside of the lift column. Use (2) 1/2"-13x1-3/4" HHCS, (4) 1/2" Flat Wahser, and (2) 1/2"-13 Nylon Locknut on the outside of the column, Fig. 4. After the extension is installed install the latch cable guide on the outside of extension using (1) 1/4"-20NC x 1" HHCS and 1/4"-20NC Flanged Locknut, Fig. 4. Attach tie bar to column with (2) 1/2"-13x1-3/4" HHCS, (2) 1/2" Flat Washer, and (2) 1/2"-13 Nylon Locknut, Fig. 4.

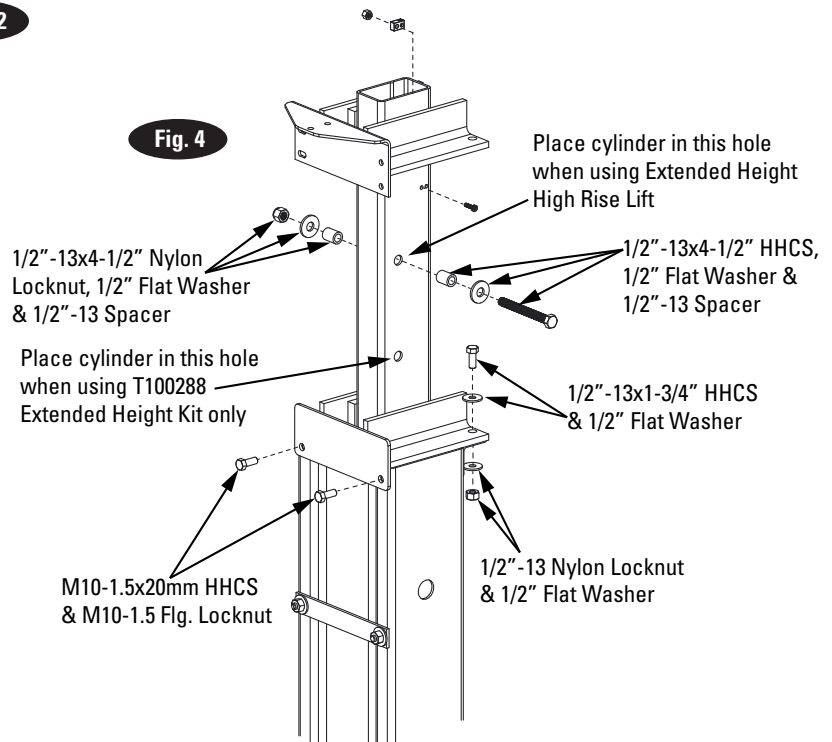
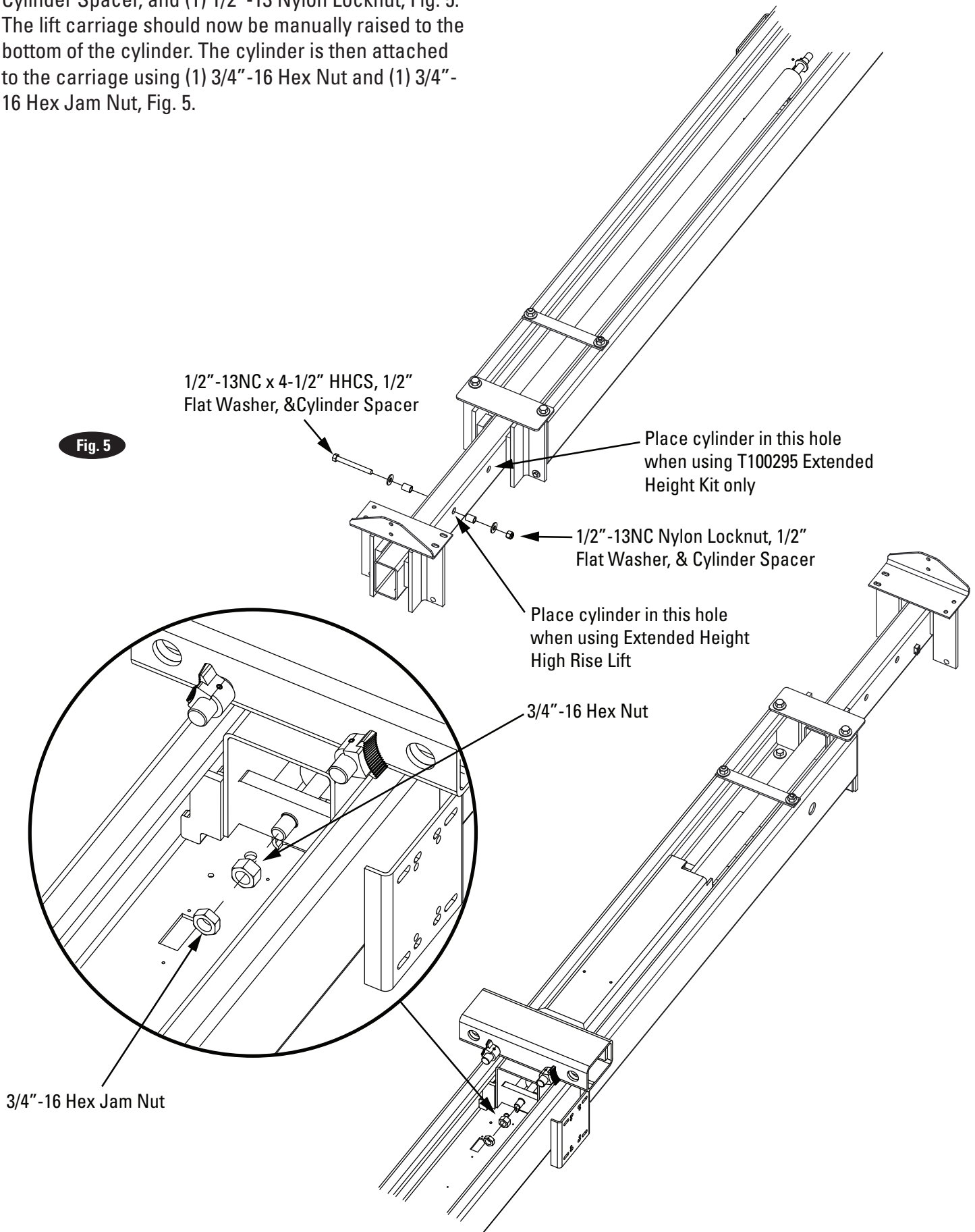
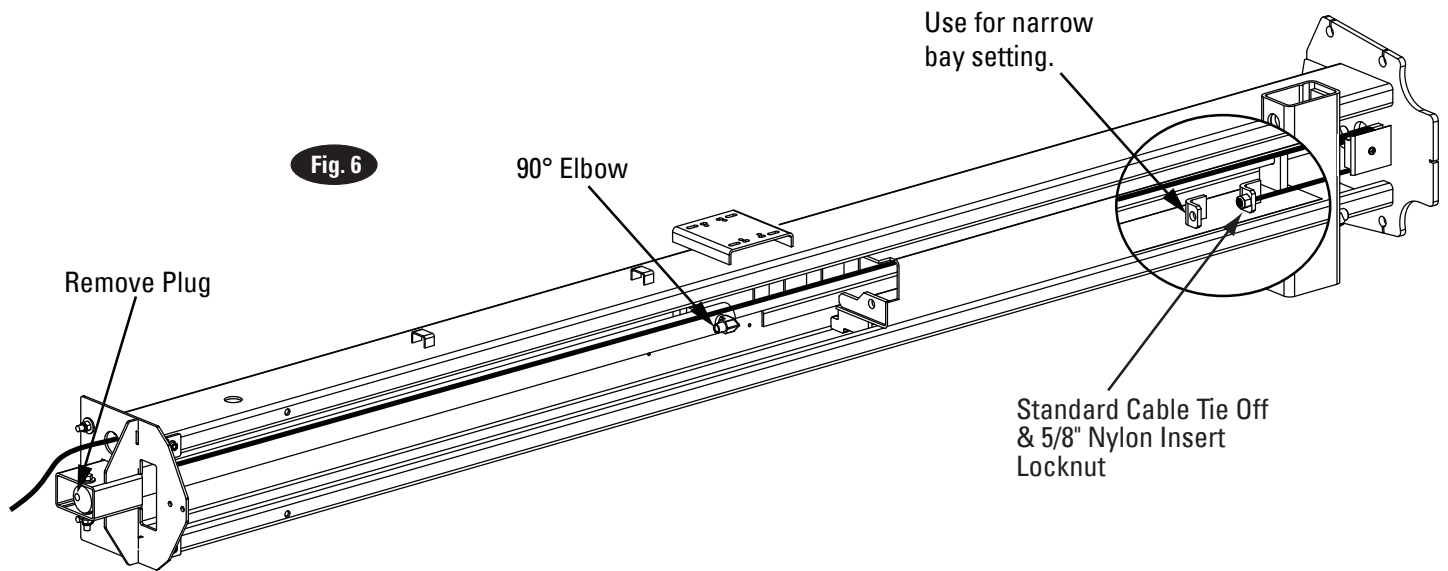


Fig. 4

**5. Cylinder Install (Extended Height):** With the extension installed the cylinder will be installed with (1) 1/2"-13x4-1/2" HHCS, (2) 1/2" Flat Washer, (2) 1/2" Cylinder Spacer, and (1) 1/2"-13 Nylon Locknut, Fig. 5. The lift carriage should now be manually raised to the bottom of the cylinder. The cylinder is then attached to the carriage using (1) 3/4"-16 Hex Nut and (1) 3/4"-16 Hex Jam Nut, Fig. 5.





**6. Cylinder Fitting:** Prior to standing up lift columns, install the 90 ° elbow fitting to the cylinder and equalizer cable to the bottom of the carriage Fig 6. Remove plug from the top of the cylinders and install the appropriate fittings per Fig. 15a

**CAUTION** Over tightening will damage fitting resulting in fluid leakage.

## 7. Equalizer Cables

- First, run a cable end up through the small hole in the standard tie-off plate. Fig. 6.
- Push the cable up until the stud is out of the carriage top opening.
- Run a nylon insert locknut onto the cable stud so 1/2" (13mm) of the stud extends out of the locknut.
- Pull the cable back down, Fig. 6.
- Run cable around the lower sheave, then up and out of the top of the column.

**8. 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.

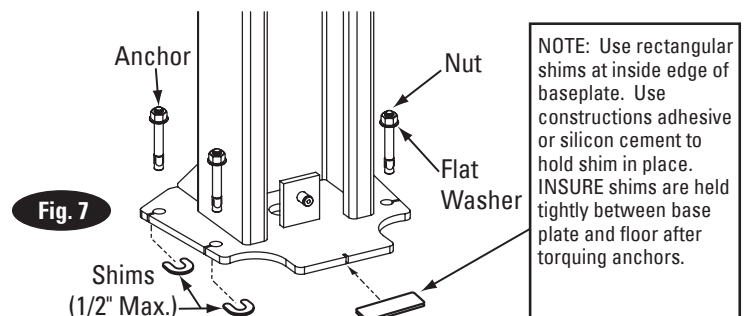
## 9. Concrete and Anchoring:

Drill 3/4" dia. holes (400 Series with 10 anchors, 500 Series with 12 anchors) in concrete floor using holes in column base plate as a guide. See Fig. 8 for hole depth, hole spacing, and edge distance requirements.

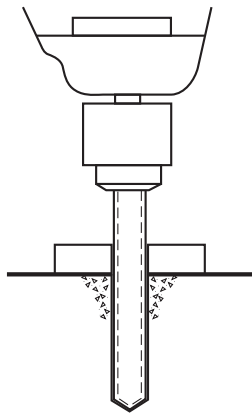
**CAUTION** DO NOT install on asphalt or other similar unstable surfaces. Columns are supported only by anchors in floor.

**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 FA9279 Shim Kit). 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 lift, Fig. 7. Adjust the column extensions plumb.

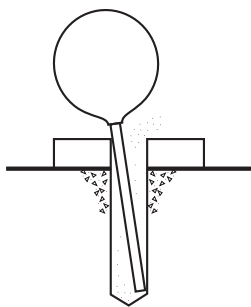
If anchors do not tighten to 110 ft-lbs. (149 Nm) installation torque, replace concrete under each column base with a 4' x 4' x 8" (1219 x 1219 x 203mm) thick 3000 PSI (20684 kPa) minimum concrete pad keyed under and flush with the top of existing floor. Let concrete cure before installing lifts and anchors.



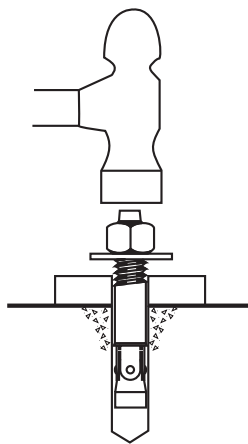
**NOTE:** If more than 2 horse shoe shims are used at any of the column anchor bolts, pack non-shrink grout under the unsupported area of the column base. Insure shims are held tightly between the baseplate and floor after torquing anchors.



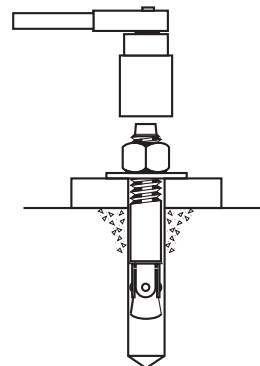
Drill holes using 3/4" carbide tipped masonry drill bit per ANSI B212.15-1994 (R2000)



Clean hole.



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



Manually tighten nut with Torque wrench to 110 ft.-lbs.

Fig. 8

### 7-10K 2-Post Lift Anchor Installation Reference Guide

| Anchor:   | Min Concrete Thickness | Min Edge Distance | Min Anchor Embedment | Installation Anchor Torque (ft-lbs)   | Min Concrete PSI Strength - For All Standards | Concrete pad Size If Concrete Does Not Meet Requirements | Maintenance Torque Values** (ft-lbs) | SEISMIC   |
|---|------------------------|-------------------|----------------------|---|---|--|--------------------------------------|---|
| Hilti Kwik Bolt I (3/4" x 5-1/2") (1300-1600 Series Lifts)  | 4-1/4" (108mm)         | 6-1/4" (159mm)    | 3-1/4" (83mm)        | 110 (149Nm)   | 3000 (20684 kPa)                              | 4'x4'x8" (1219 x 1219 x 203mm)                           | 65 (88Nm)                            | Varies by location consult with your structural engineer and manufacturer's representative. |
| Hilti Kwik Bolt III (3/4" x 5-1/2") (500-1200 Series Lifts) | 4-1/4" (108mm)         | 3-3/8" (86mm)     | 3-1/4" (83mm)        | 110 (149Nm)   | 3000 (20684 kPa)                              | 4'x4'x8" (1219 x 1219 x 203mm)                           | 65 (88Nm)                            |   |
| Hilti HY200 Epoxy (with HAS threaded rod) 3/4" Dia.         | 5" (134mm)             | 2 1/4" (57mm)     | 3-1/2" (89mm)        | 100 (149Nm) / less than 2-1/8" edge distance use Torque Value of 30 ft-lbs (Nm) | 3000 (20684 kPa)                              | 4'x4'x8" (1219 x 1219 x 203mm)                           | N/A                                  |   |

\*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: 800.640.5438



**10a. Overhead Assembly:** Fig. 10: Adjust overhead to appropriate dimension. Install (4) M10-1.5 x 20mm HHCS & M10-1.5 Flanged Locknuts, do not tighten. Slide Switch Box over switch bar ensuring knock out holes face the power unit column, Fig. 9a and Fig. 9b. Use (2) 1/4"-20NC x 3/4" lg. HHCS, 1/4" Flat Washer, and 1/4"-20NC Nuts to mount switch box to overhead, see Fig. 11.

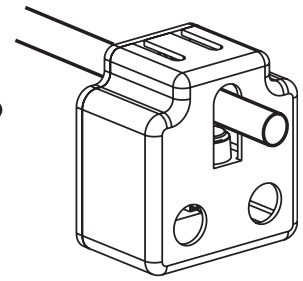


Fig. 9a

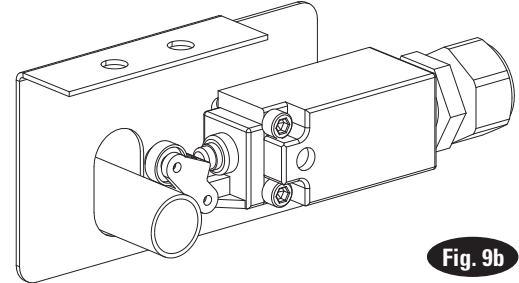


Fig. 9b

**10b. Continued Overhead Assembly:**

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.

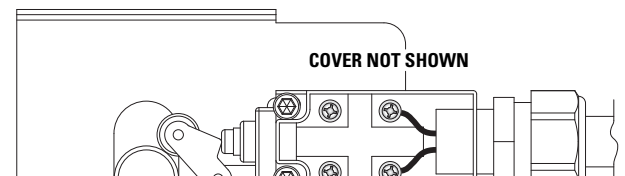
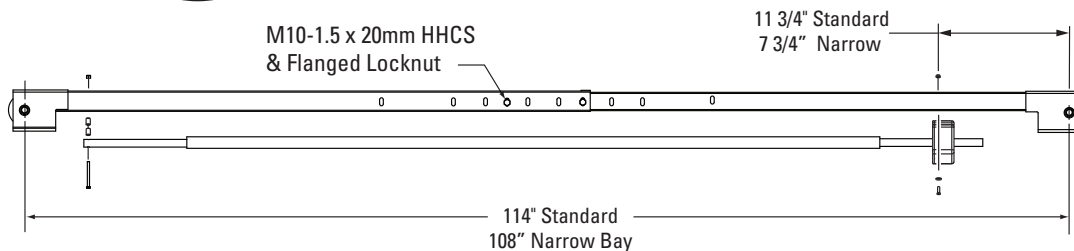


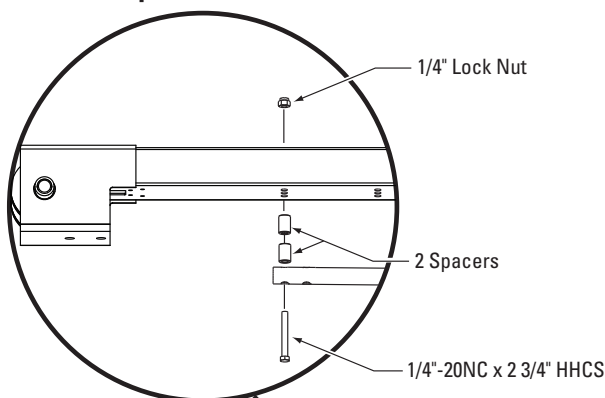
Fig. 10



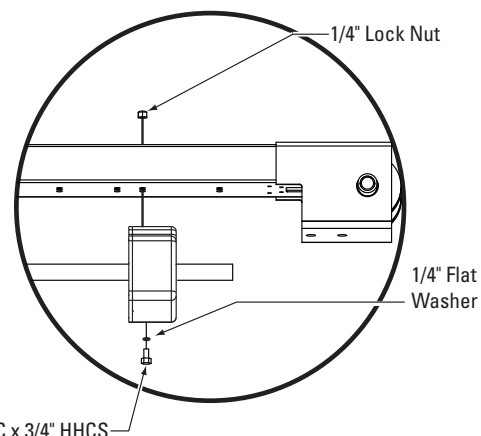
Hardware Detail For Overhead Assembly

Fig. 11

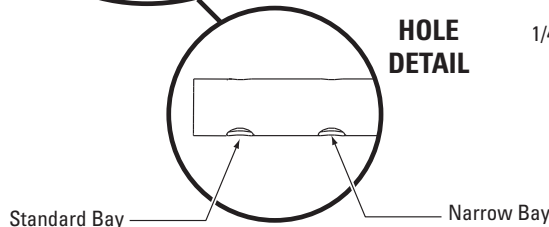
Open Bar Side



Switch Box Side



HOLE  
DETAIL



**11. Overhead Installation:** Install overhead assembly to Mounting Bracket with (4) M10-1.5 x 20mm HHCS, and (4) M10-1.5 Flanged Locknut on both columns Fig. 12. Tighten bolts at center of overhead assembly.

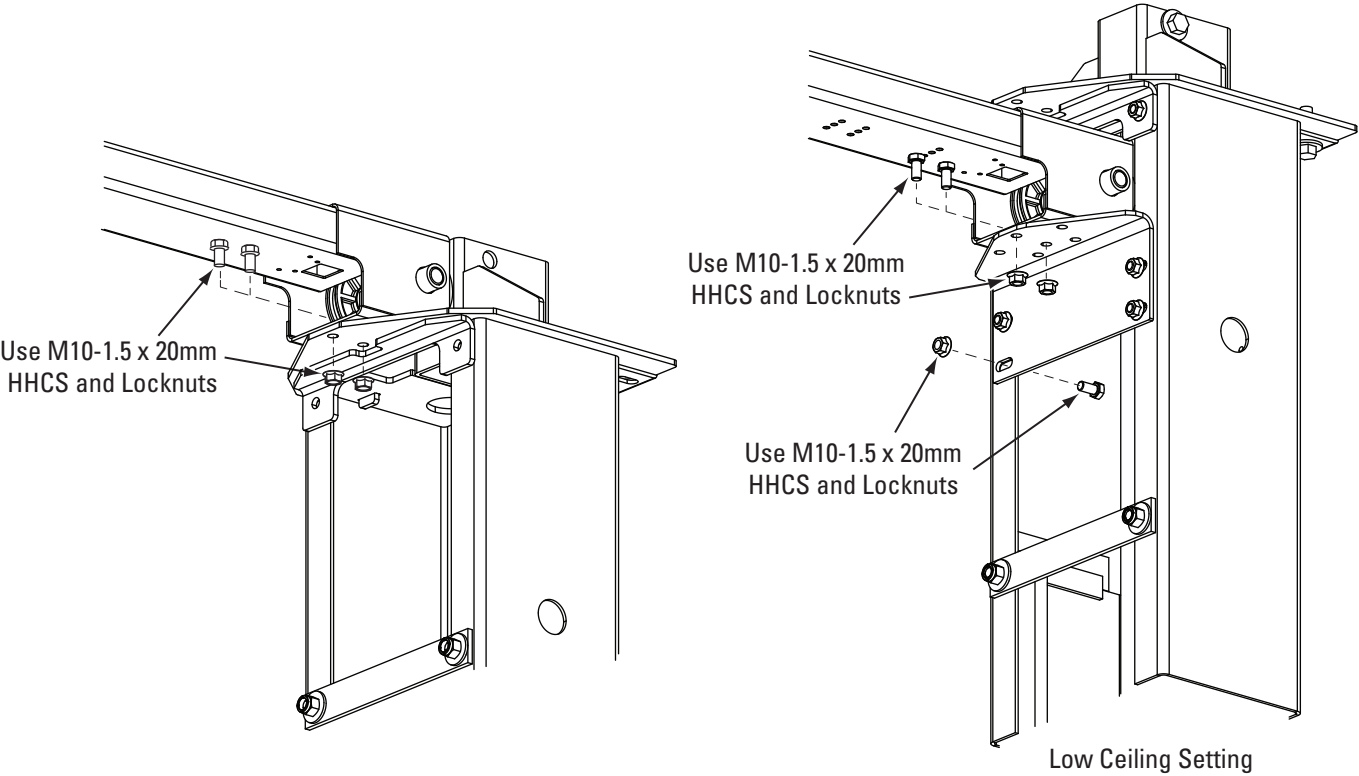
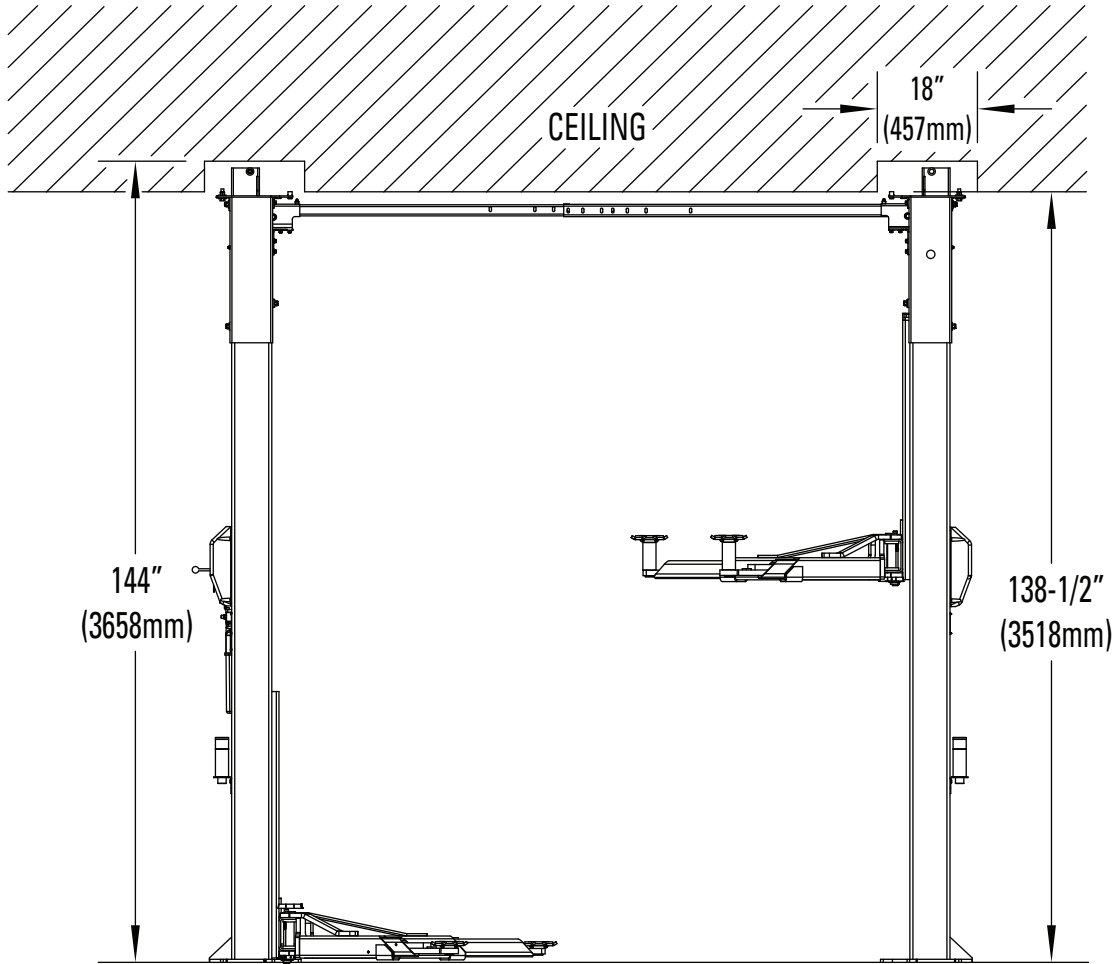


Fig. 12

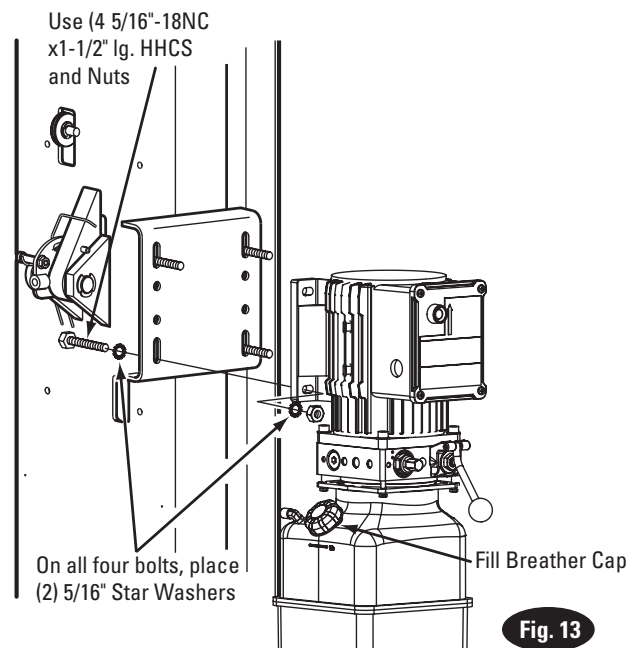


**12. Power Unit:** First install a star washer onto all of the (4) 5/16"-18NC x 1-1/2" HHCS. This is very important for grounding. Put the (4) 5/16"-18NC x 1-1/2" HHCS thru holes in power unit bracket, Fig. 13. Mount unit with motor up to column bracket and install (4) 5/16" star washers and 5/16" Nuts. Install and hand tighten fitting to pump until O-ring is seated. Continue to tighten the locknut until the nut and washer bottom out against the pump manifold.

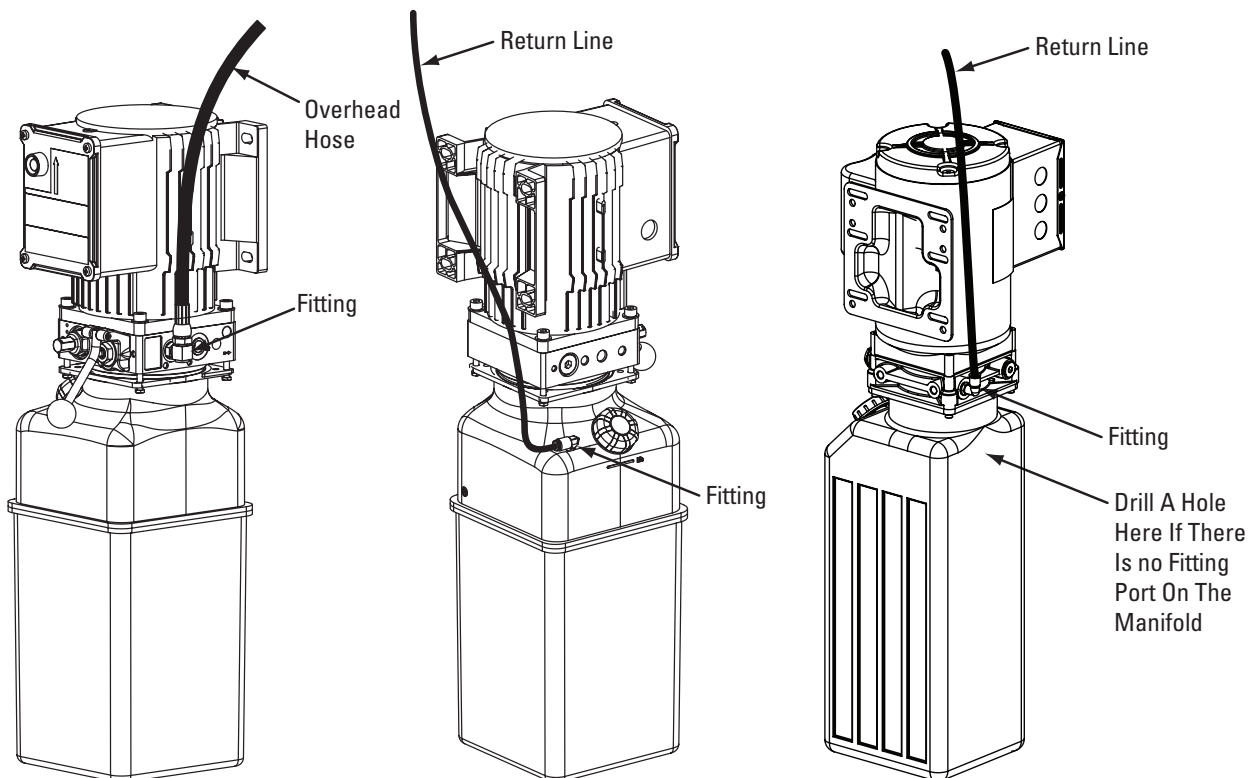
**NOTE:** You may still be able to rotate the fitting. This is acceptable unless there is seepage at the O-ring. If so, slightly tighten the locknut.

Install the fitting onto the power unit pump manifold shown in Figure 14. The return line then connects to the power unit through a fitting.

**NOTE:** If no attachment point is present on the power unit manifold, the return line may be connected to the power unit tank. Drill a hole into the tank as shown in Figure 14. Insert the fitting into the hole and connect the return line to the fitting." **IMPORTANT** If fitting is installed onto the tank make sure any shavings are removed from the tank and thoroughly cleaned before adding hydraulic fluid.



**Fig. 13**



**Fig. 14**

**ATTENTION:**  
Fitting On Some  
Power Units Are  
Now Installed  
On The Manifold

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

**13. Hoses:** Clean adapters and hose. Inspect all threads for damage and hose ends to be sure they are crimped, Fig. 14. Install hose and hose clamps, Fig. 15a, Fig. 15b, Fig. 15c, & Fig. 19a.

### 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** Over tightening will damage fitting resulting in fluid leakage.

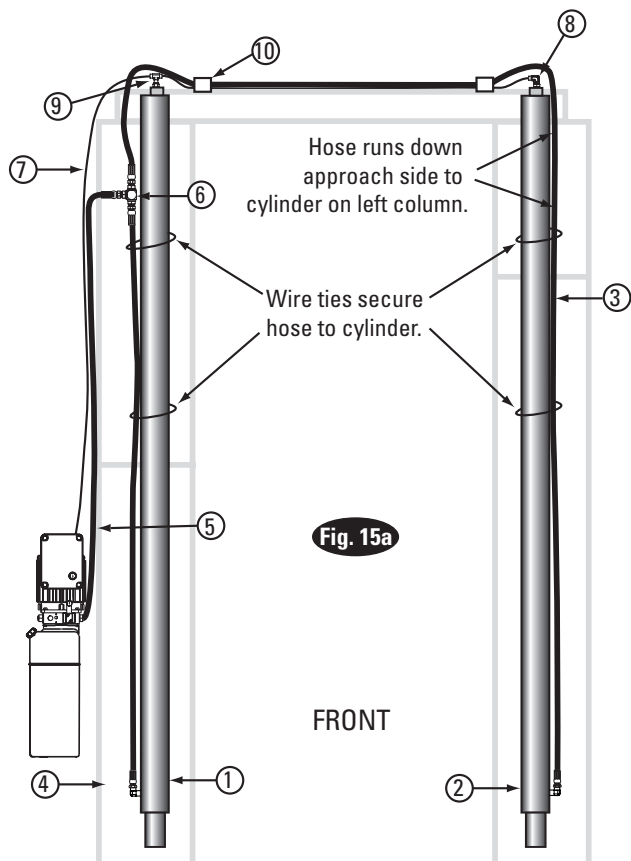
### Adapter & Hose Installation (Standard Height)

1. Before installing the hoses into the lift, attach the Overhead hose Pc. (3) and Cylinder hose Pc. (4) to the "T" fitting Pc. (6) as shown in Figure 15c.
2. Route the assembled hose through the overhead but do not attach to either cylinder.
3. Route the Power Unit hose Pc. (5) through the column hole and attach it to the "T" fitting.

**IMPORTANT:** Before you connect the power unit hose you must tuck the hoses and union tee behind the cylinder to give you room to complete installation, Fig 15c.

4. Place the assembled "T" fitting behind the cylinder and connect the hoses to the two cylinder ends and the Power Unit.
5. Take up the slack in the Power Unit side cylinder hose and wire tie the "T" fitting tightly to the power unit side cylinder.
6. Secure each hose as needed.
7. Run return line from elbow Pc. (8) to tee Pc. (9). The return line then runs outside of column down and connects to the power unit, Fig. 15a.

**NOTE:** Overhead hose goes over top end of overhead assembly, Fig. 15a, Fig. 15c, Fig. 19a, & Fig. 19b.



| ITEM | QTY. | DESCRIPTION              |
|------|------|--------------------------|
| 1    | 1    | Power Unit Side Cylinder |
| 2    | 1    | Slave Side Cylinder      |
| 3    | 1    | Overhead Hose            |
| 4    | 1    | Cylinder Hose            |
| 5    | 1    | Power Unit Hose          |
| 6    | 1    | 3/8" Branch Tee          |
| 7    | 1    | Return Line              |
| 8    | 1    | 1/4" Elbow               |
| 9    | 1    | 1/4" Branch Tee          |
| 10   | 2    | Hose Clamps              |
|      | 2    | M10-1.5 x 20mm HHCS      |
|      | 2    | M10-1.5 Flanged Locknuts |

## Adapter & Hose Installation (Extended Height)

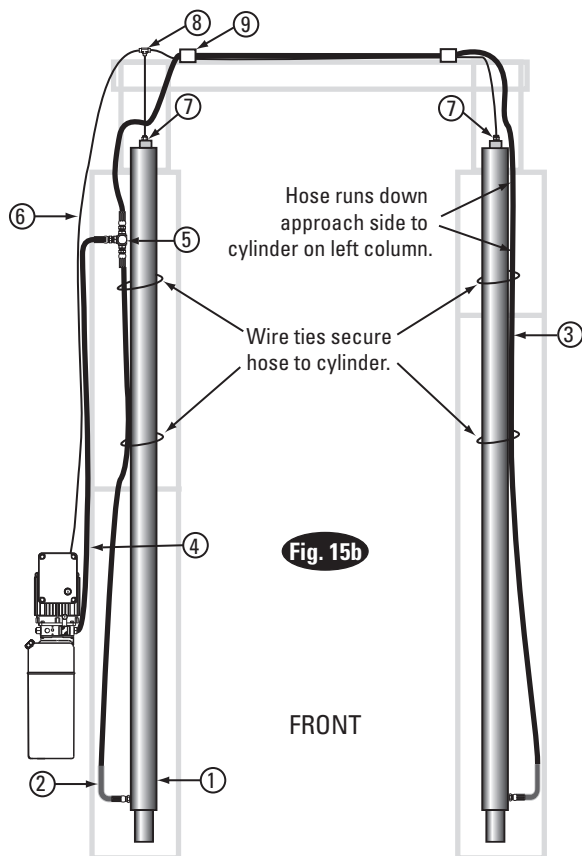
1. Before installing the hoses into the lift, attach the Overhead hose Pc. (3) and Cylinder hose Pc. (4) to the "T" fitting Pc. (6) as shown in Figure 15c.
2. Route the assembled hose through the overhead but do not attach to either cylinder.
3. Route the Power Unit hose Pc. (5) through the column hole and attach it to the "T" fitting.

**IMPORTANT:** Before you connect the power unit hose you must tuck the hoses and union tee behind the cylinder to give you room to complete installation, Fig 15c.

4. Place the assembled "T" fitting behind the cylinder and connect the hoses to the two cylinder ends and the Power Unit.

5. Take up the slack in the Power Unit side cylinder hose and wire tie the "T" fitting tightly to the power unit side cylinder.
6. Secure each hose as needed.
7. Run return line from Pc. (8) to tee Pc. (9) on both cylinders. The return line then runs outside of column down and connects to the power unit, Fig. 15b.

**NOTE:** Overhead hose goes over top end of overhead assembly, Fig. 15b, Fig. 15c, Fig. 19a, & Fig. 19b.



| ITEM | QTY. | DESCRIPTION                 |
|------|------|-----------------------------|
| 1    | 1    | Power Unit Side Cylinder    |
| 2    | 1    | Slave Side Cylinder         |
| 3    | 1    | Overhead Hose               |
| 4    | 1    | Cylinder Hose               |
| 5    | 1    | Power Unit Hose             |
| 6    | 1    | 3/8" Branch Tee             |
| 7    | 1    | Return Line                 |
| 8    | 2    | 3/8" to 1/4" Male Connector |
| 9    | 1    | 1/4" Branch Tee             |
| 10   | 2    | Hose Clamps                 |
|      | 2    | M10-1.5 x 20mm HHCS         |
|      | 2    | M10-1.5 Flanged Locknuts    |

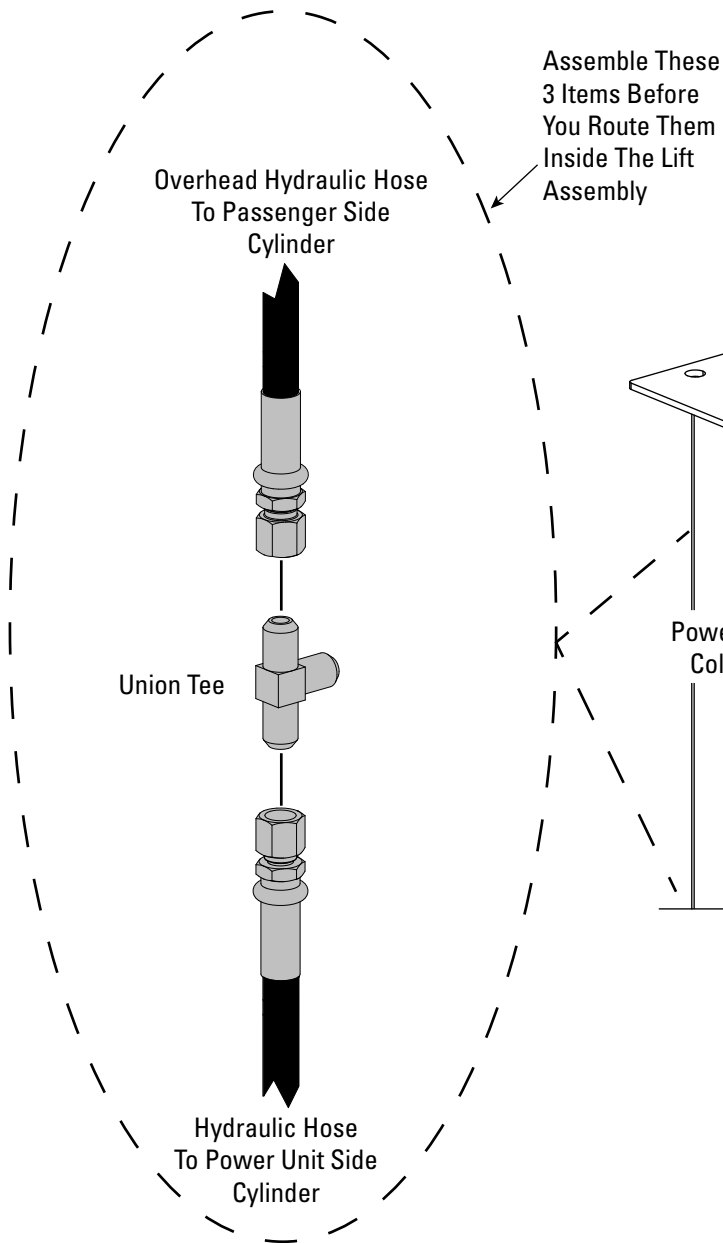
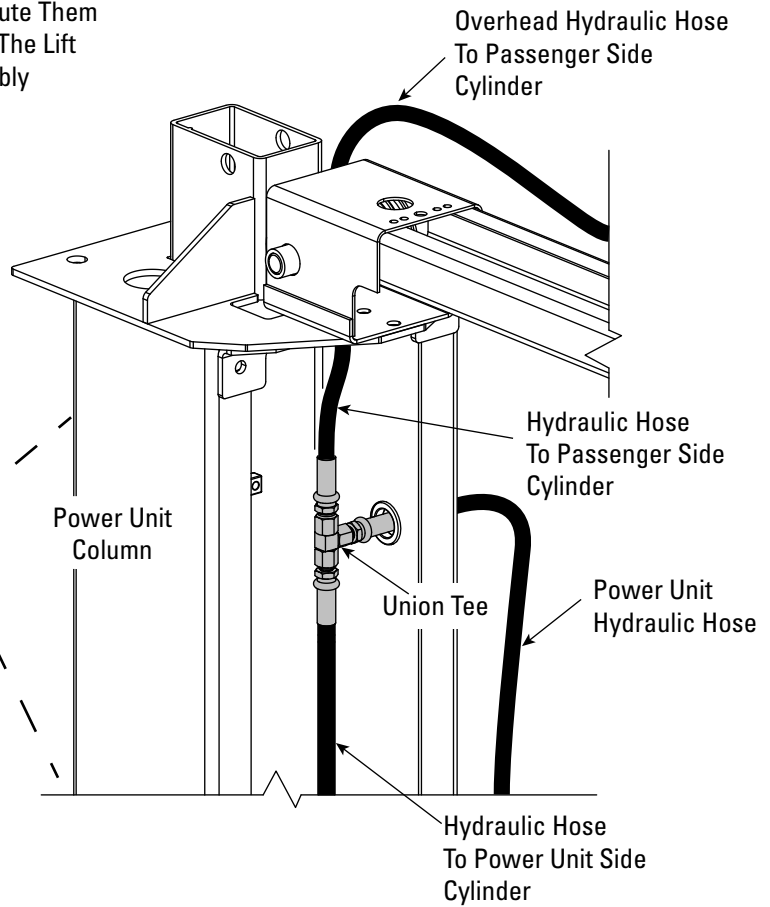
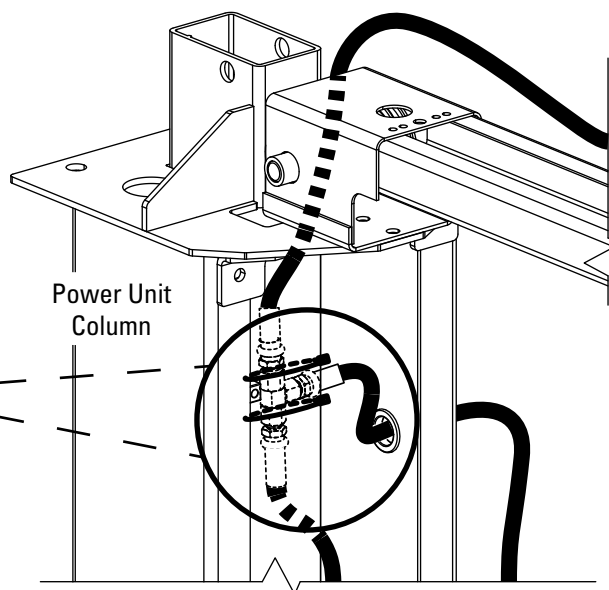


Fig. 15c

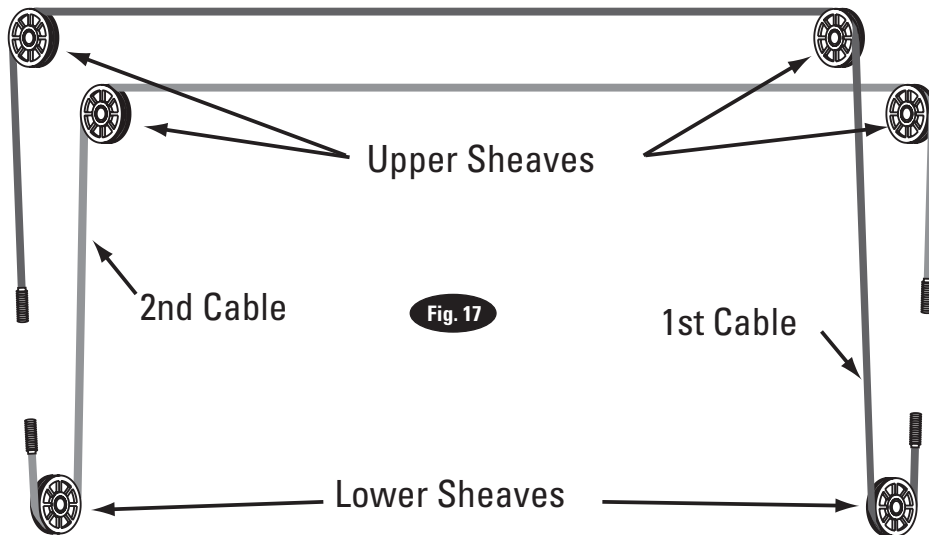
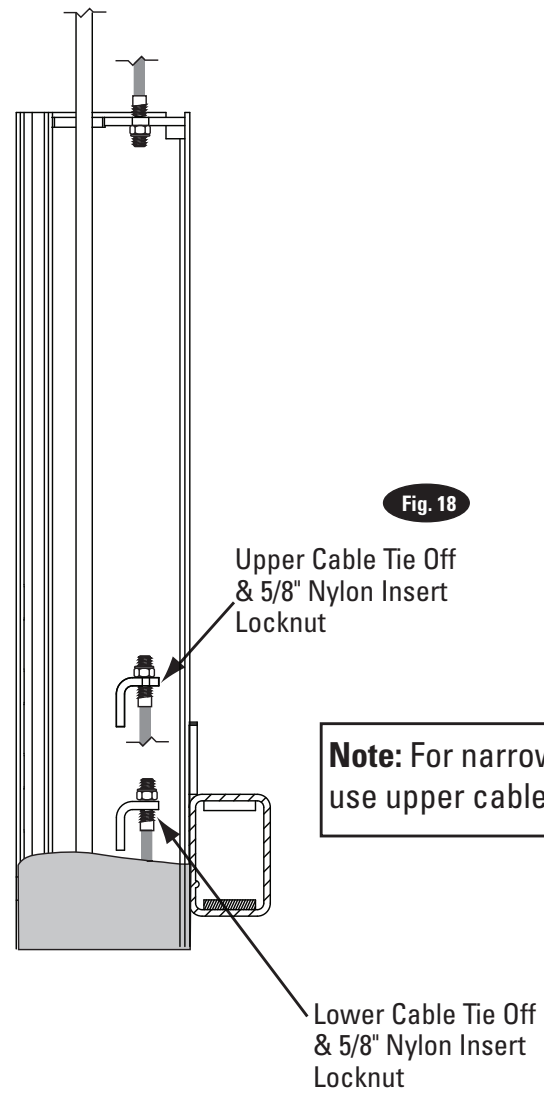
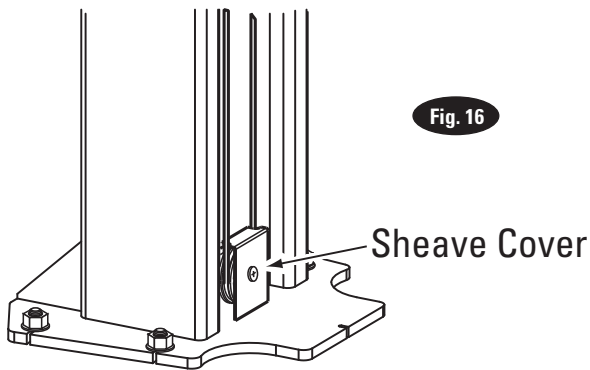


**IMPORTANT**  
Wire Tie Union Tee And Hydraulic hoses behind the Cylinder



#### 14. Equalizing Cables

- A) Refer to Fig. 17 for the general cable arrangement.
- B) Run cable from paragraph 7 around overhead sheave and across and down to the opposite carriage, Fig. 17. Install sheave cover, Fig. 16.
- C) Fasten the cable end to the carriage upper tie-off bracket, Fig. 18. Tighten the locknut enough to apply light tension to the cable.
- D) Adjust the tension of both cables during the final adjustments in Paragraph 24.



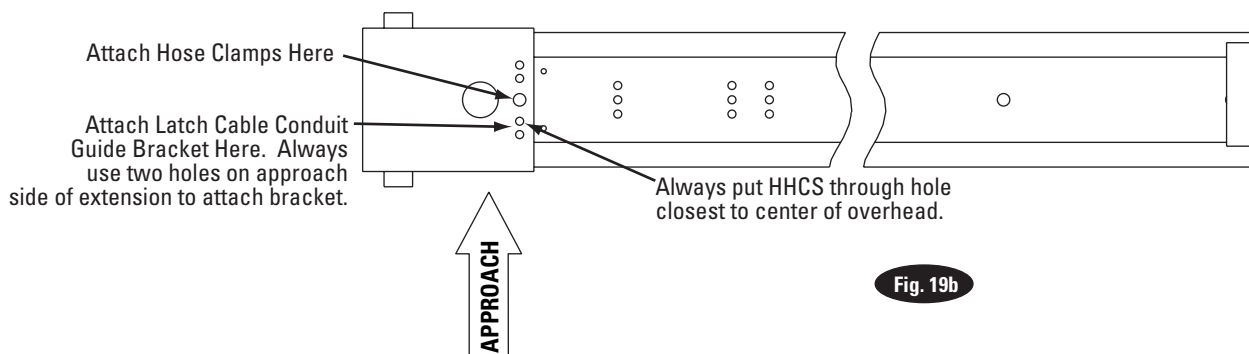
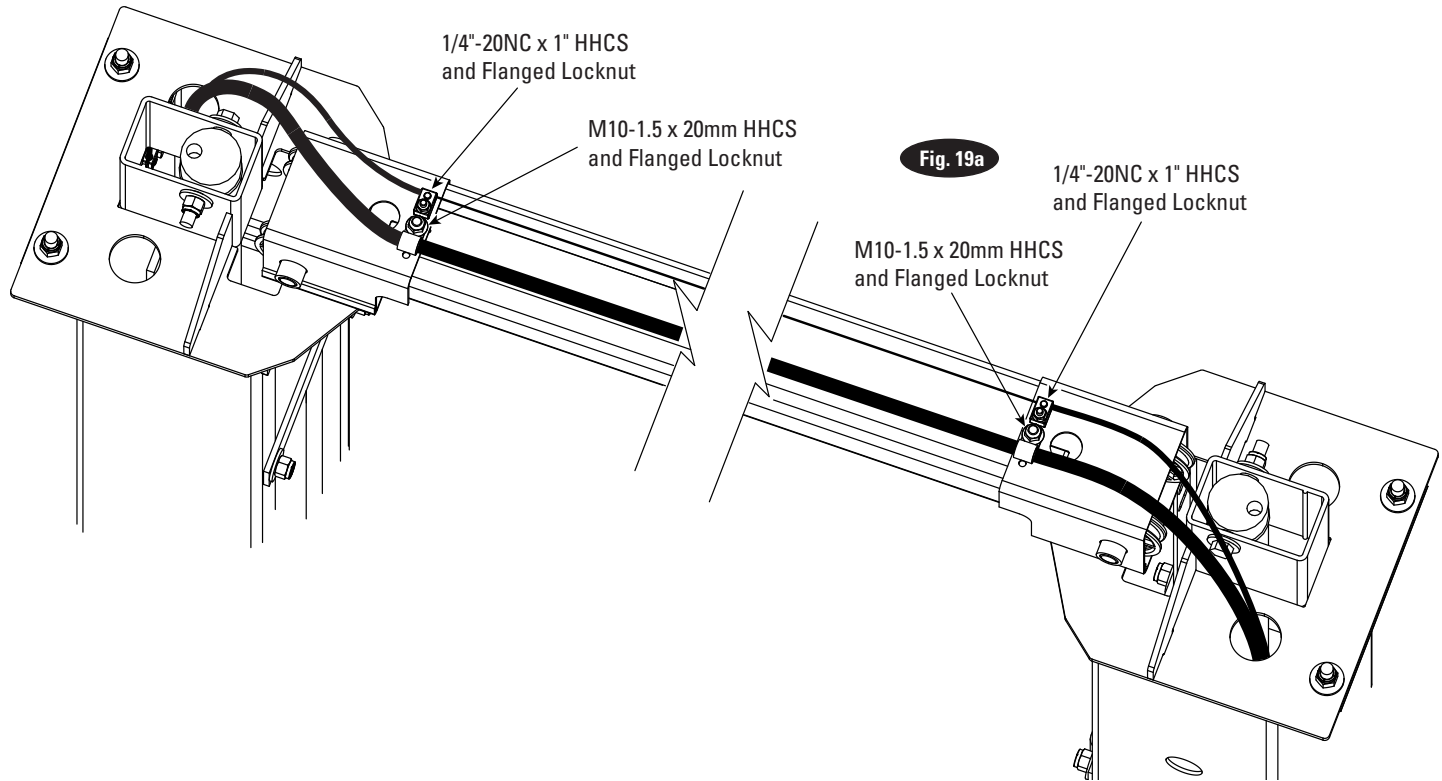
## 15. Locking Latch Cable

- Install latch cable sheave and retaining rings in upper slot of power unit column as shown, Fig. 20.
- Slip loop end of cable over end of shoulder screw on right side latch control plate, Fig. 20.
- 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. 20.
- Attach latch cable conduit guide brackets to overhead as shown, Fig. 19a & Fig. 19b. Always use the holes on the approach side of the lift. HHCS should be in hole nearest the center of the overhead, Fig. 19b.
- Route cable up inside column and through the latch cable guide, Fig. 19a & Fig. 21.

### IMPORTANT

Using wire ties provided, tie off hydraulic hose snug to cylinders to keep hose away from equalizing cable, Fig. 15a.

- Continue routing cable to the left column latch cable guide, Fig. 19a & Fig. 21, routing the cable through the left column latch cable guide, Fig. 19a.
- 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. 22.
- Route cable under the bottom side of the latch cable sheave, Fig. 22.
- At this point you **MUST** install the latch handle, jam nut, and right column latch cover Fig. 20 & Fig. 23. Install latch handle ball, Fig. 23.
- Insert cable in cable clamp along one side, loop around shoulder screw and back down, inserting cable along other side of cable clamp, Fig. 22. Place top back on clamp, barely tightening.
- Next, pull the control plate down, Fig. 21 & Fig. 22, to eliminate any clearance between the control plate slot and the latch dog pin, Fig. 21.
- Using Pliers, pull cable tight and secure the clamp close to the shoulder screw. Tighten clamp.





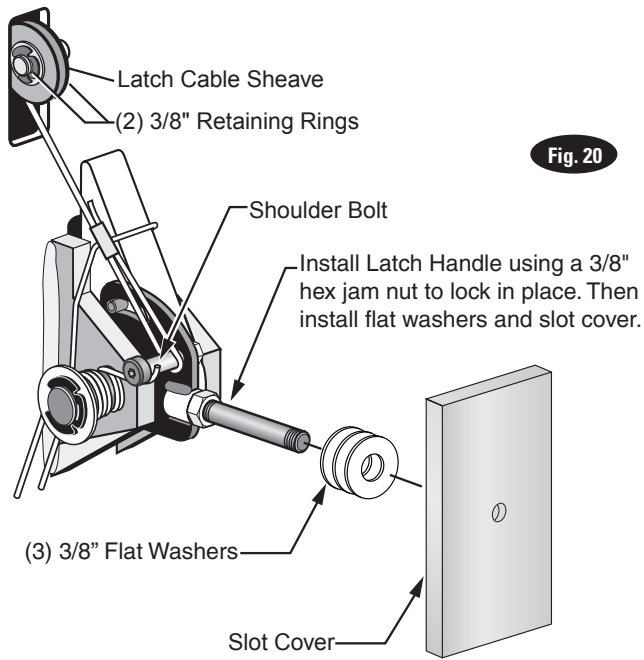


Fig. 20

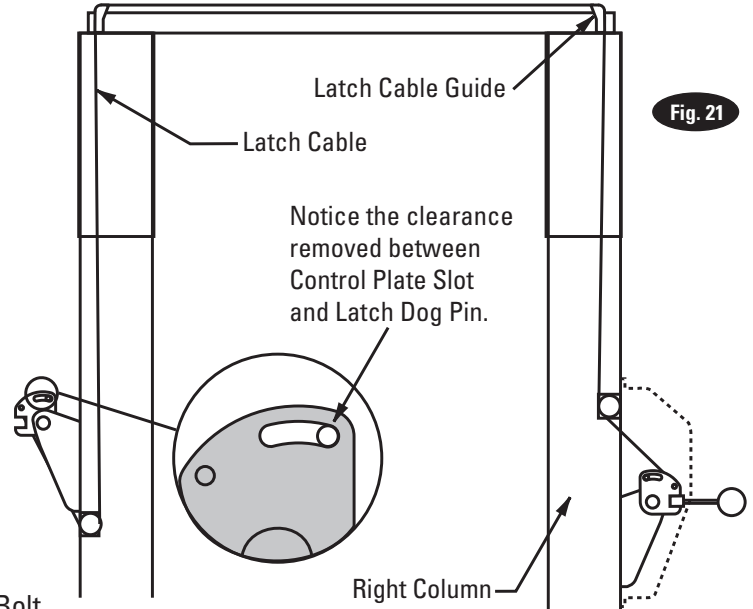


Fig. 21

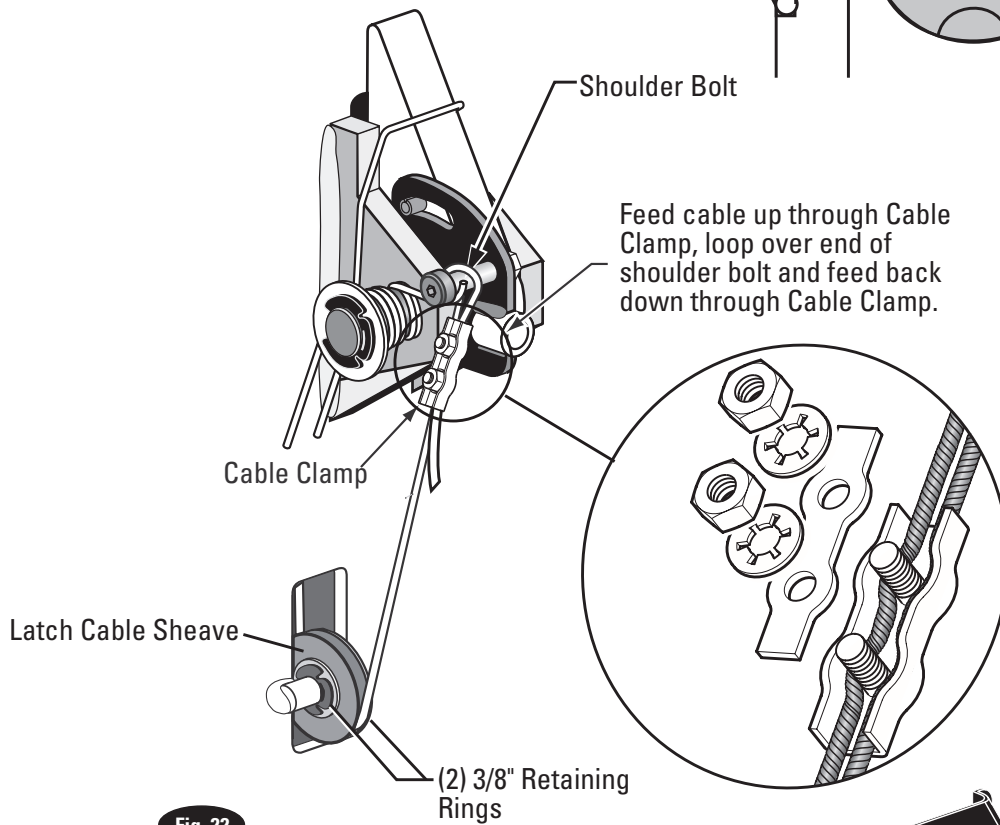


Fig. 22

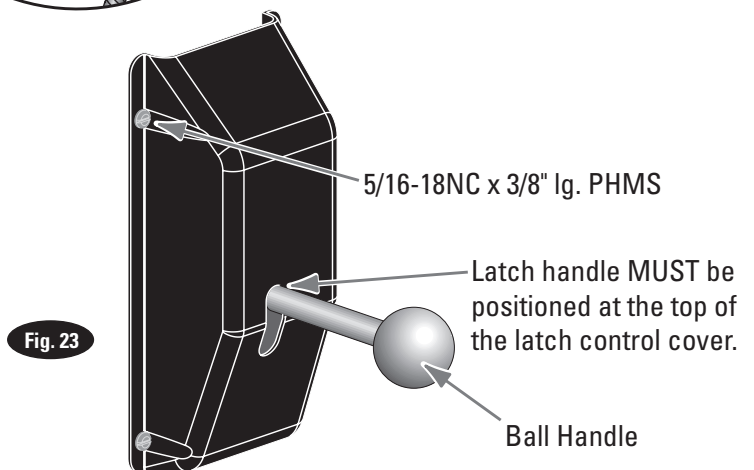


Fig. 23

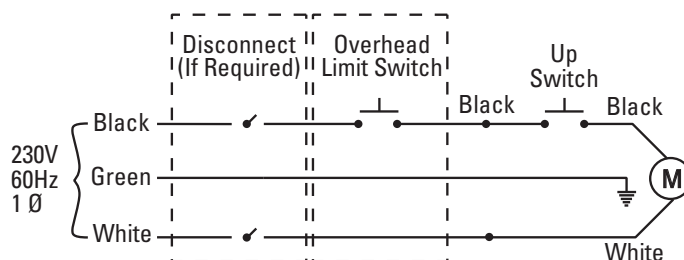
**16. Electrical (1Ø Only):** Have a certified electrician run appropriate power supply to motor, Fig. 24. Size wire for 20 amp circuit. See Motor Operating Data Table.

**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 three phase 380V use 16 amp fuse. For wiring see Fig. 24 & Fig. 26. All wiring must comply with NEC and all local electrical codes.

## 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                    |



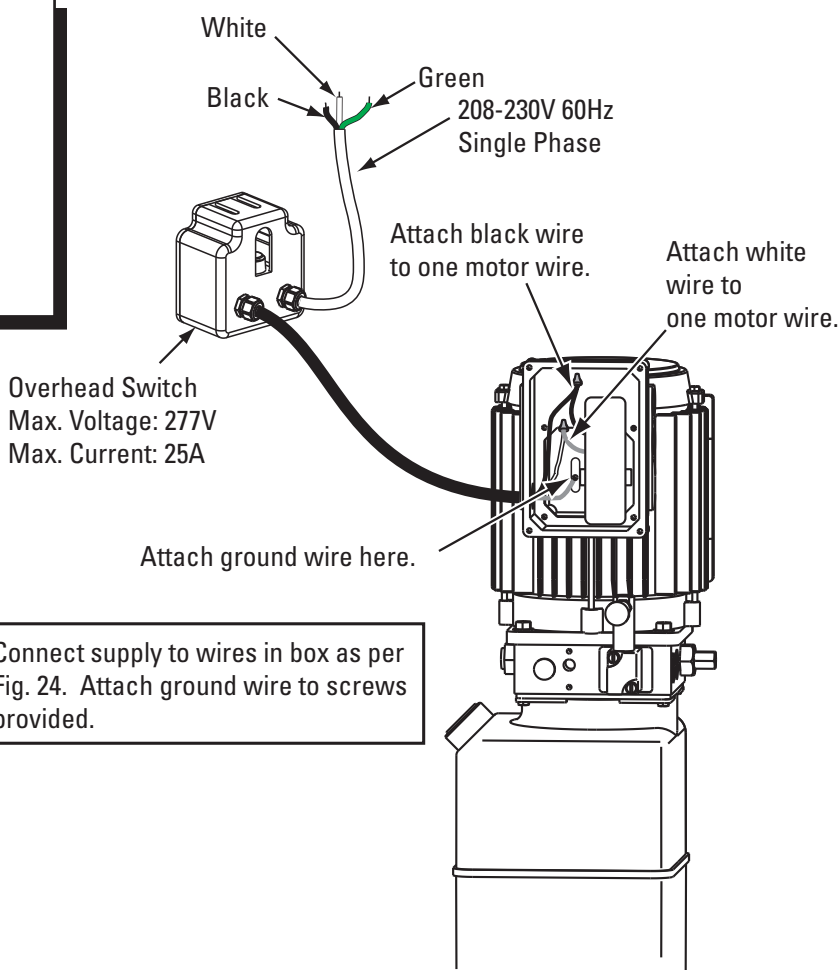
**Note:** 60Hz. Single phase motor **CAN NOT** be run on 50Hz. line without a physical change in the motor.

**NOTE:** 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

Size for 25 amp circuit. See UL 201, Section 15 for proper wiring requirements for this connection.

Fig. 24



## 17. 3Ø Control Box Installation:

- Attach Mounting Bracket on column using (4) 5/16"-18NC x 1-1/2" HHCS, (4) 5/16"-18NC Hex Nuts, and (4) 5/16" Ext. Tooth Washers, Fig. 13.
- Attach Control Box to Bracket using (4) 1/4"-20NC x 1/2" HHCS, (4) 1/4" Flat Washers, and (4) 1/4" Star Washers.
- Route cord through strain relief on motor and connect per table on the bottom of page.

### Note:

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.

Fig. 25

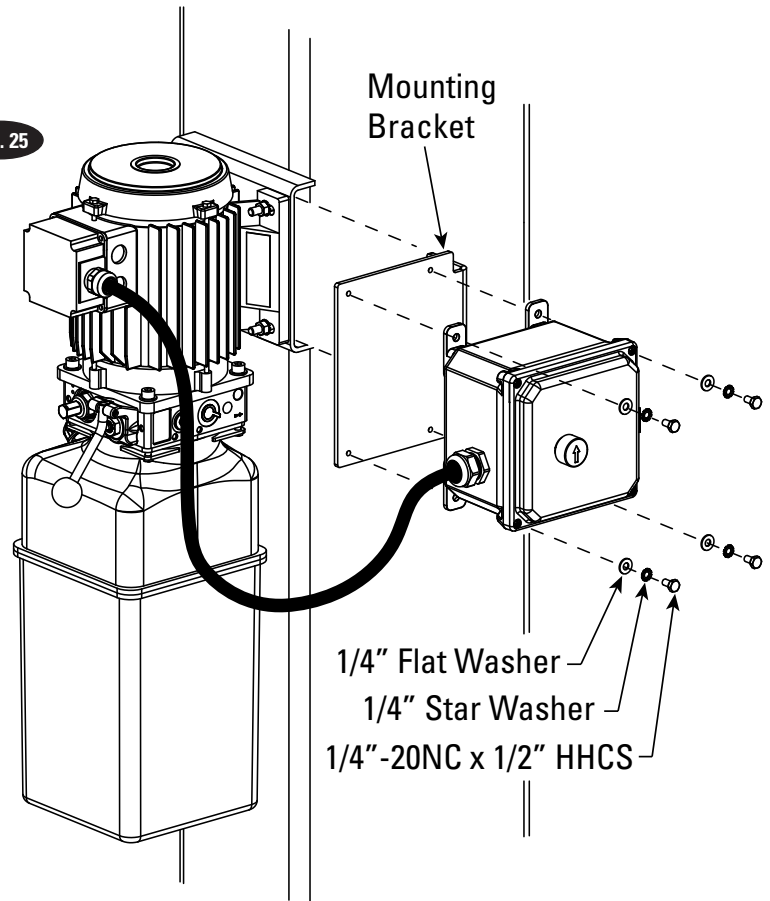
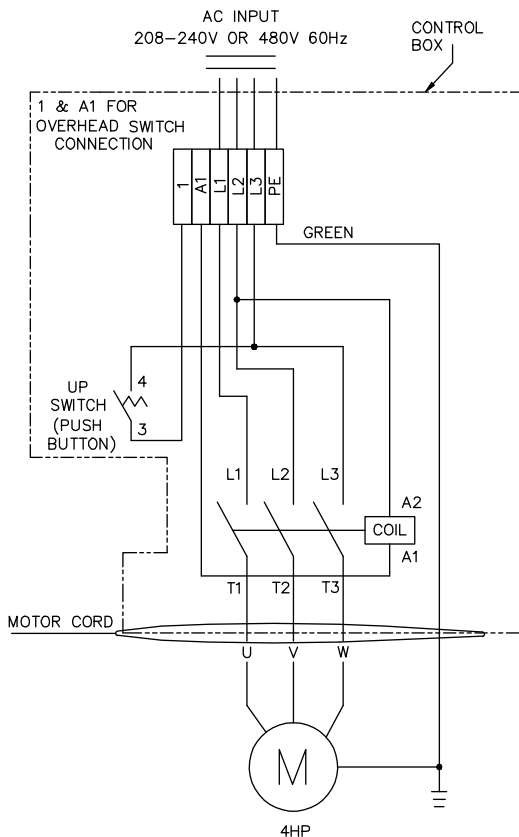
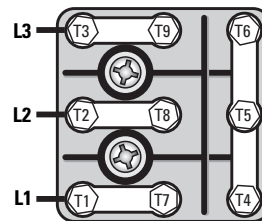


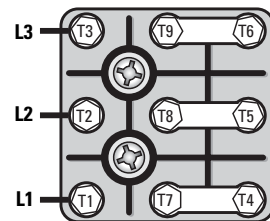
Fig. 26



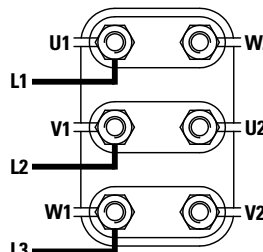
### Use Appropriate Terminal Diagram



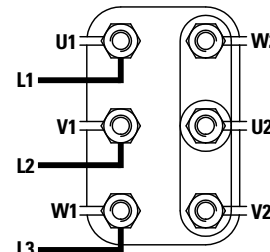
208-240V  
50-60Hz. 3Ø



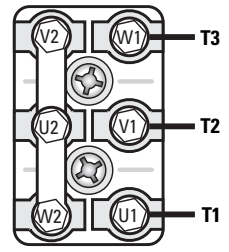
440-480V 50-60Hz. 3Ø  
380-400V 50Hz. 3Ø



208-240V  
50-60Hz. 3Ø



440-480V 50-60Hz. 3Ø  
380-400V 50Hz. 3Ø



575V 60Hz. 3Ø

### 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                   |

**18. Oil Filling & Bleeding:** Use Dexron III ATF, or Hydraulic Fluid that meets ISO 32 specifications. Remove fill-breather cap, Fig. 13. Pour in (8) quarts of fluid. Start unit, raise lift to full rise several times until lift operates smoothly.

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

**19. 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. 24. 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.

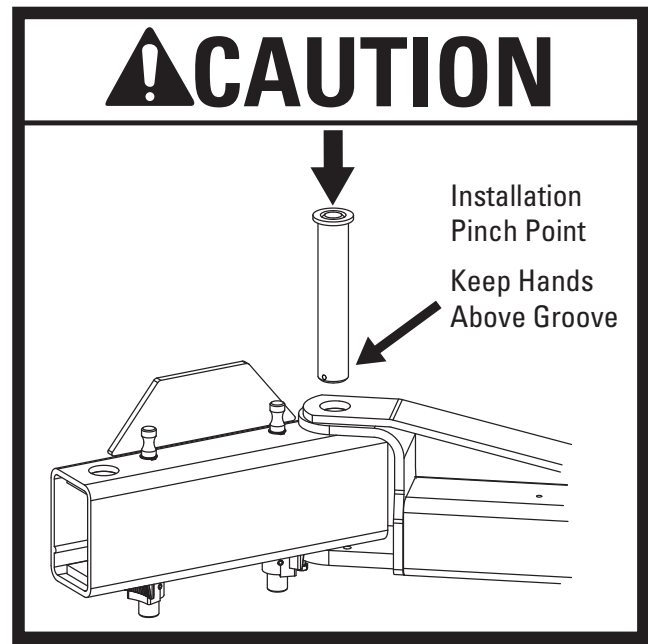
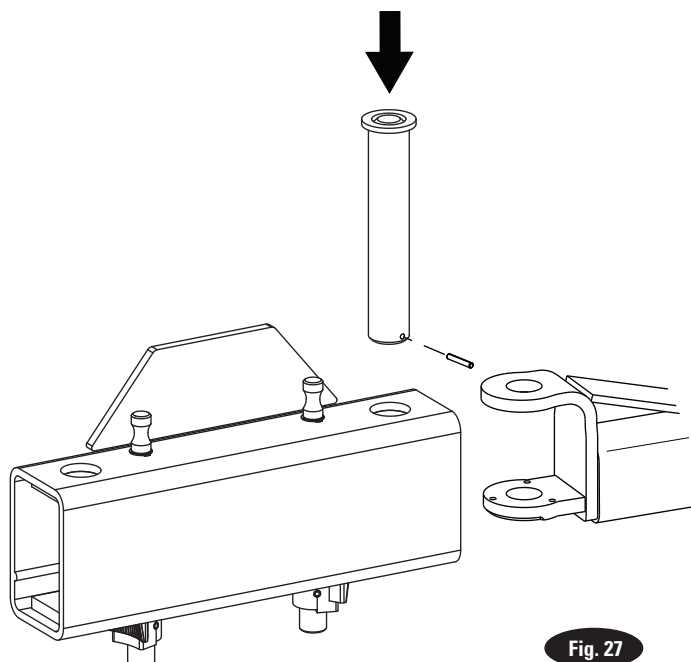
**20. Arms & Restraints:** Before installing arms, raise carriages to a convenient height. Grease swivel arm pins and holes with Lithium grease. Slide arm into yoke, Fig. 27. Install 1-3/4" diameter arm pin(s) and arm stop, Fig. 27.

**Note:** Arm stop will be required on the drive in side of the power unit side. Install at same time as arm pin, Fig. 28. Notice the orientation of arm stop in Fig. 29.

Install Spring Pin to secure arm pin in place, Fig. 27.

After installing arms and pins, install arm Restraint Gears as follows: Install Restraint Gear onto arm clevis, as shown, Fig. 30. Ensure side of gear marked **TOP** is facing upward, Fig. 30.

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

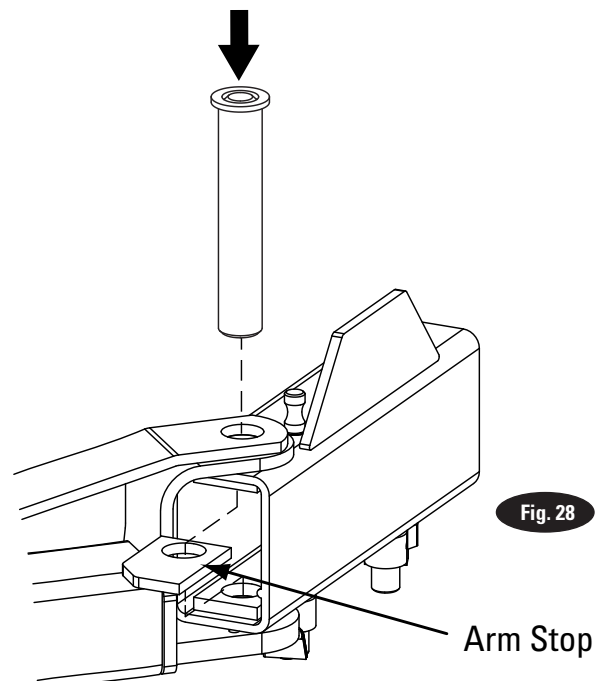


**Arms With 3 Holes In Bearing Bars:** Then, install the (2) 3/8"-16NC x 1-1/2" Lg. HHCS ((8) total for all (4) arms) into the gear and arm. Reference Fig. 32.

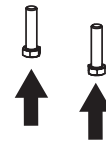
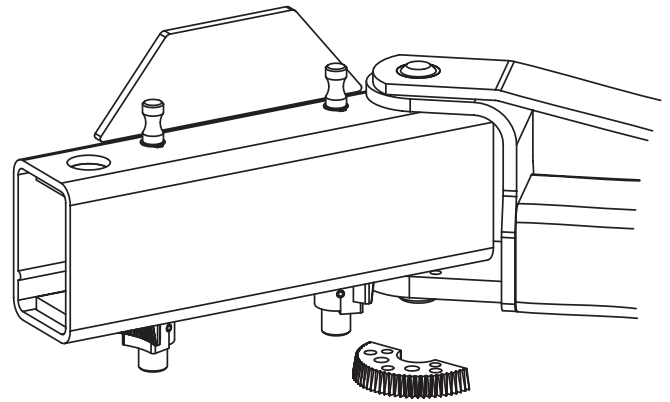
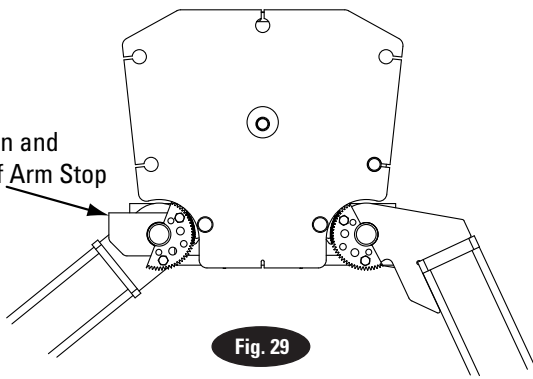
Torque the Restraint Gear bolts to 30-34 ft.-lbs.

**NOTE:** To check operation of arm restraints, raise carriage 1" min. from full down position. Pull up on pin 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, Spring, & Gear Block are all pre-assembled.



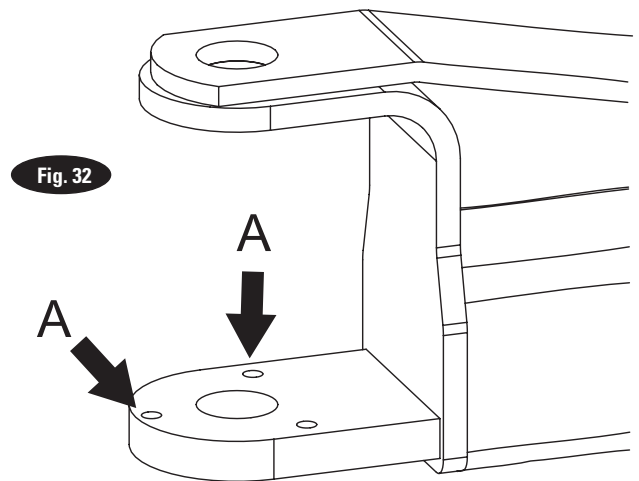
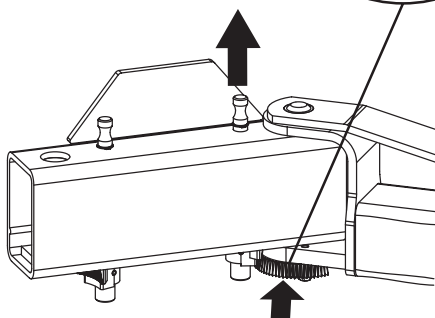
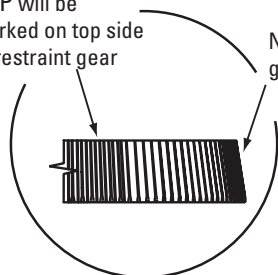
**Note:** Location and Orientation of Arm Stop



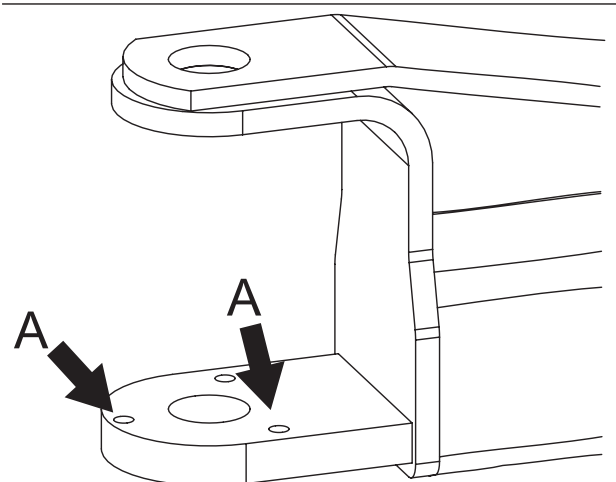
**NOTE:** Once arm is installed in yoke, pull up actuator pin and swing arm fully around, being sure that the Restraint Gear and Gear Block always stay aligned. If they do not stay aligned, remove restraint gear and install in the opposite position.

TOP will be marked on top side of restraint gear

NOTE beveled gear orientation

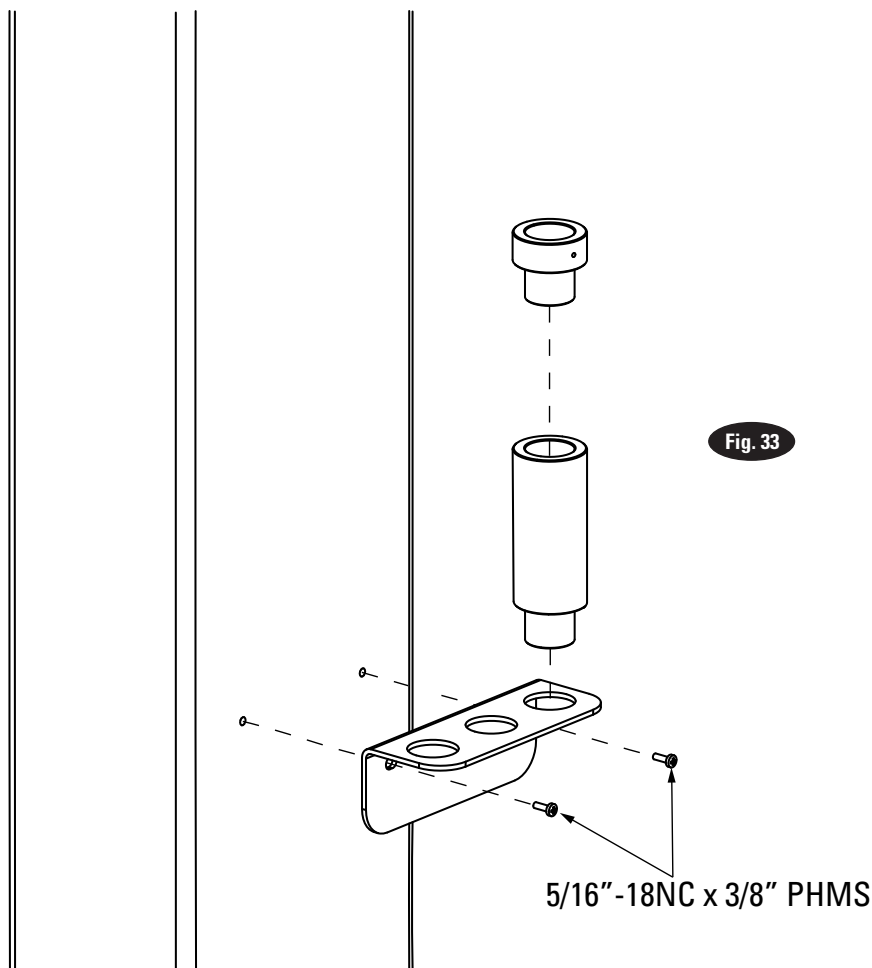


Use holes marked "A" for Right Front and Left Rear.



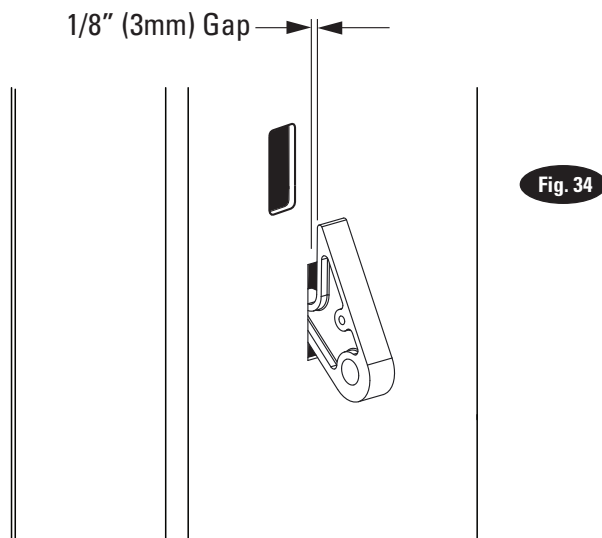
Use holes marked "A" for Left Front and Right Rear.

**21. Exterior Adapters:** Install adapter bracket to outside of each column using (2) 5/16"-18NC x 3/8" PHMS. Then, add adapters to the bracket as shown, Fig. 33.



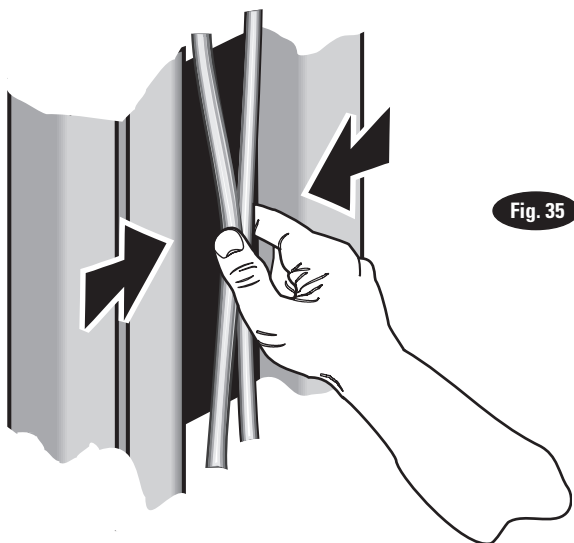
## 22. Latch Cable Adjustment:

- 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, Fig. 34.
- 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.

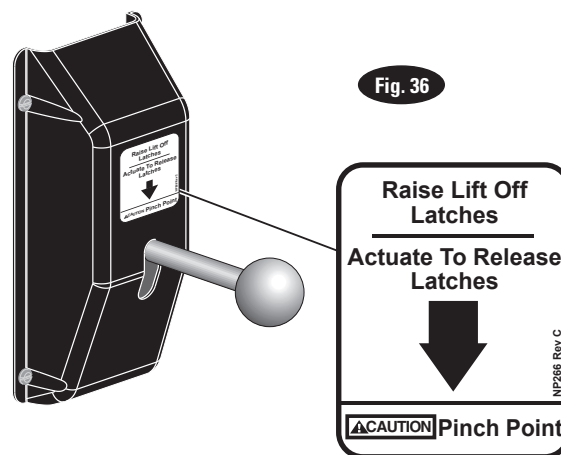


**23. Pressure Test:** Run lift to full rise and keep motor running for 5 seconds. Stop and check all hose connections. Tighten or reseal if required. Repeat air bleeding of cylinders.

**24. 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, Fig. 35. Adjust at upper tie-offs Fig. 18.



**25. Latch Release Decal:** Install latch release decal on cover above latch release handle, Fig. 36.



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