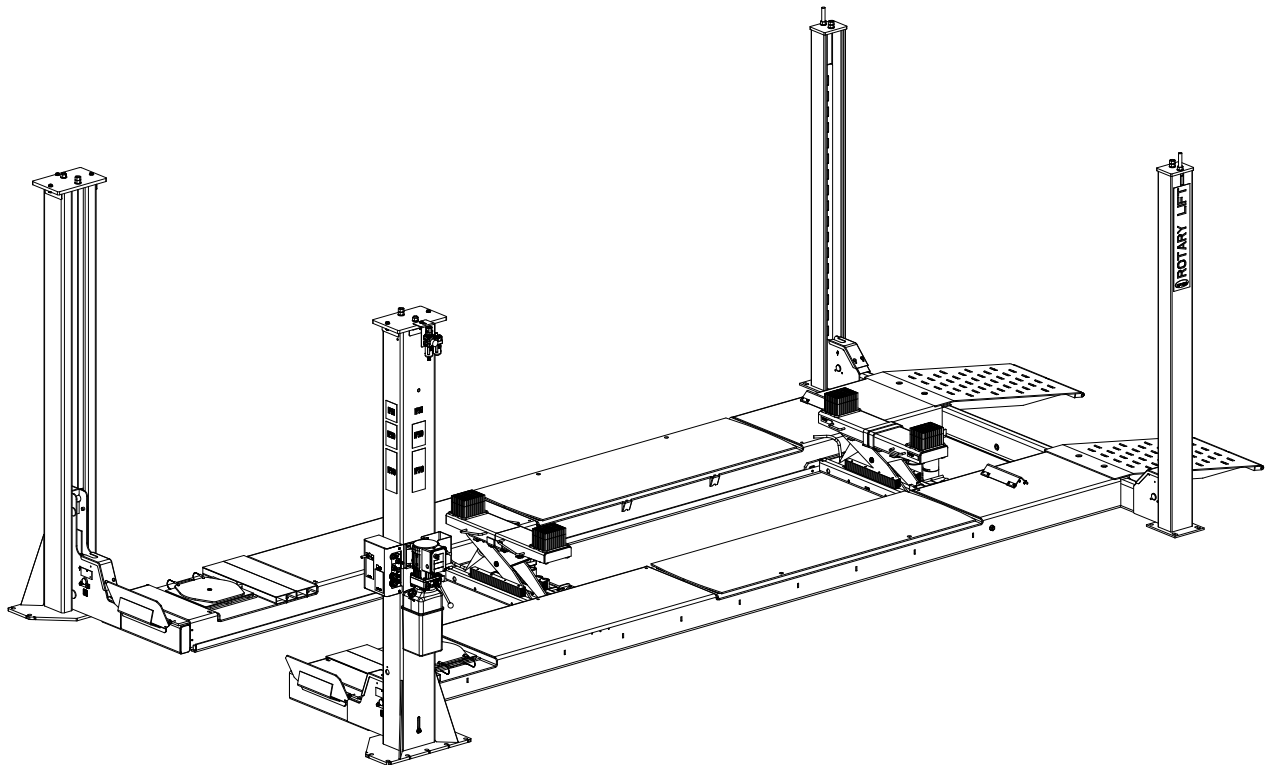




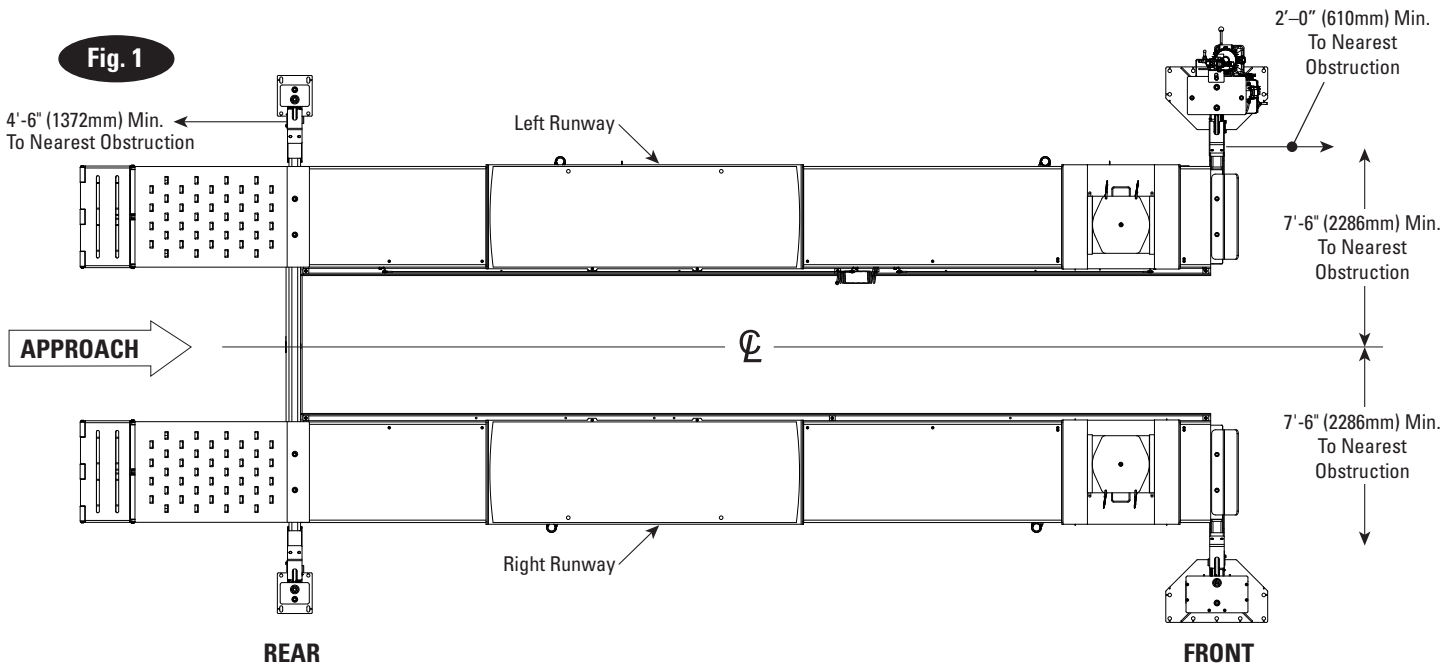
# AR016

Four Post Surface Mounted Lift  
Capacity 16,000 lbs. (7,257 kg.)  
7,000 lbs. (3,175 kg.) Front Bridge  
9,000 lbs. (4,082 kg.) Rear Bridge  
Min. Wheelbase: 131" (332.7 cm)  
Max. Wheelbase: L - 194" (4,928 mm)  
EL - 217" (5,512 mm)



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**Fig. 1**



**Read and understand these instructions completely before proceeding with lift installation.**

1. **Lift Location:** Use architects plan when available to locate lift. Fig. 1 shows dimensions of a typical bay layout. Lift floor area should be level.

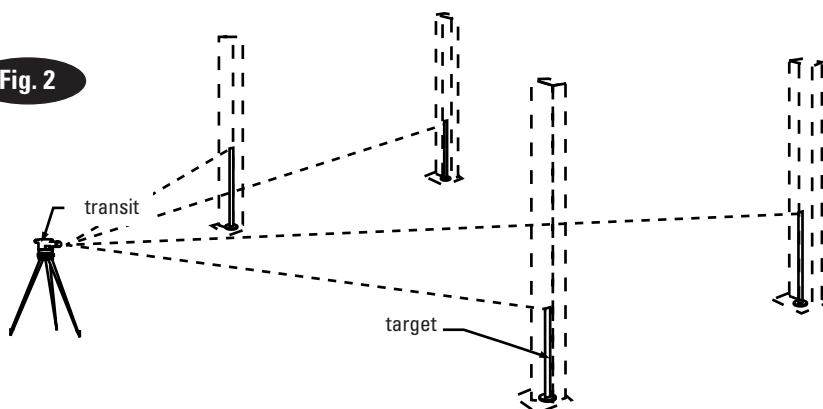
**⚠ WARNING** DO NOT install on asphalt or other similar unstable surface. Columns are supported only by anchors in floor

2. **Ceiling or Overhead Clearance:** Must be 110" (2794mm) plus height of tallest vehicle.
3. **Estimating Column Shim requirements:** In the following section, the terms "highest" and "lowest" refer to elevation of floor.

- A. Mark locations where lift columns will be positioned in bay.
- B. Place target on floor at column positions (NOT on column base plates) and record readings, Fig. 2.
- C. Find the highest of the four locations. Find the difference between the reading at each of the remaining three columns and the highest reading.
- D. The difference is the estimated amount of shim thickness needed at each column.

**Note:** Maximum shim thickness is 1/2" (13mm) per column using shims and anchors provided with lift. Shim thickness of 2" (51mm) is possible by using optional shim kit and longer anchors. Contact your authorized Rotary Parts Distributor for ordering information.

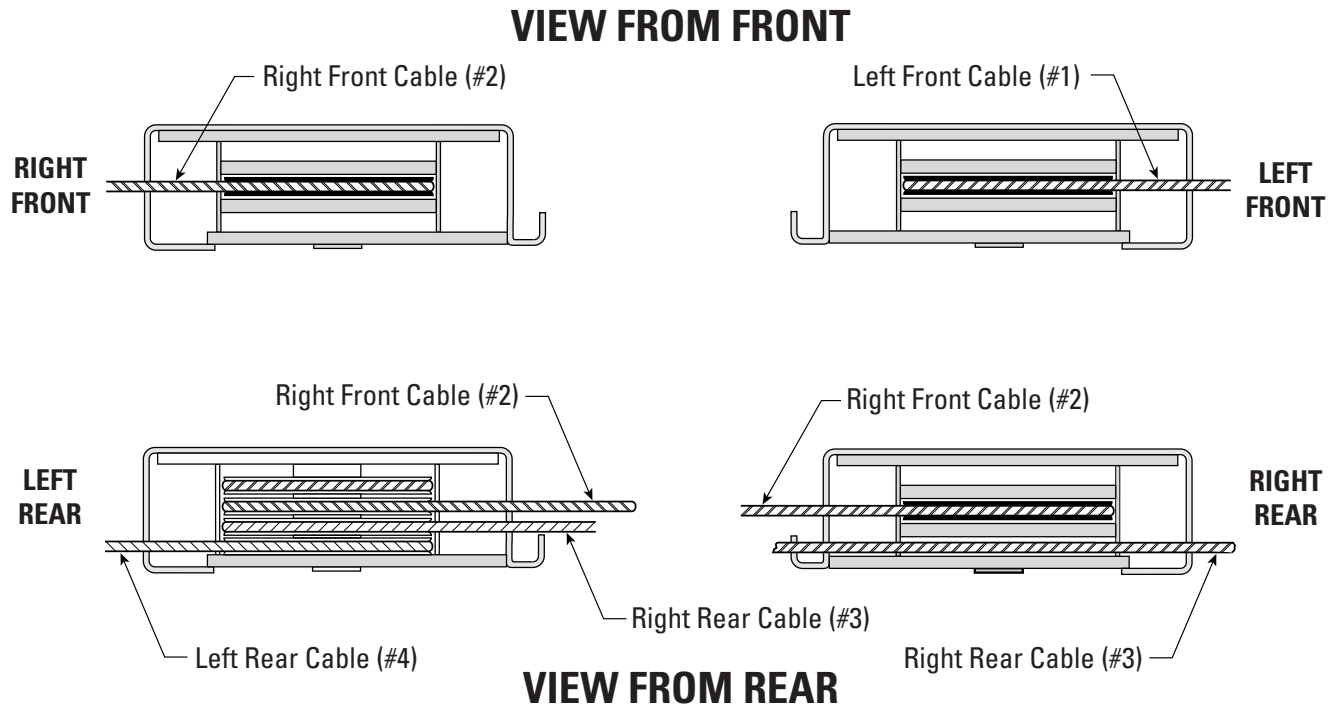
**Fig. 2**



**Note:** Target is positioned on floor at planned column positions (**NOT** on column base plates).

Dimension at highest position minus other position  
equal shim thickness required

Fig. 3

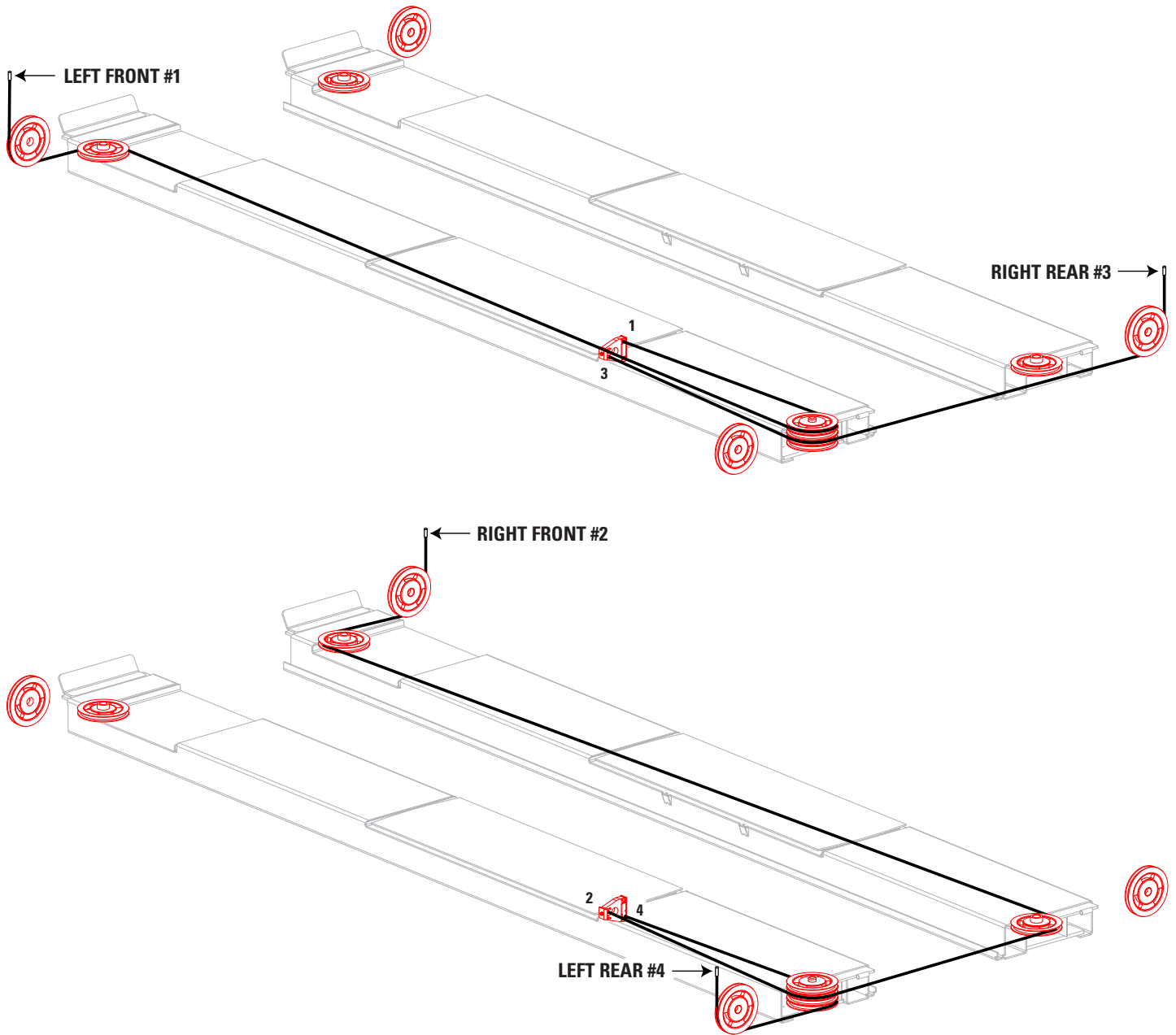


#### 4. Attaching Runways to Rear Yoke:

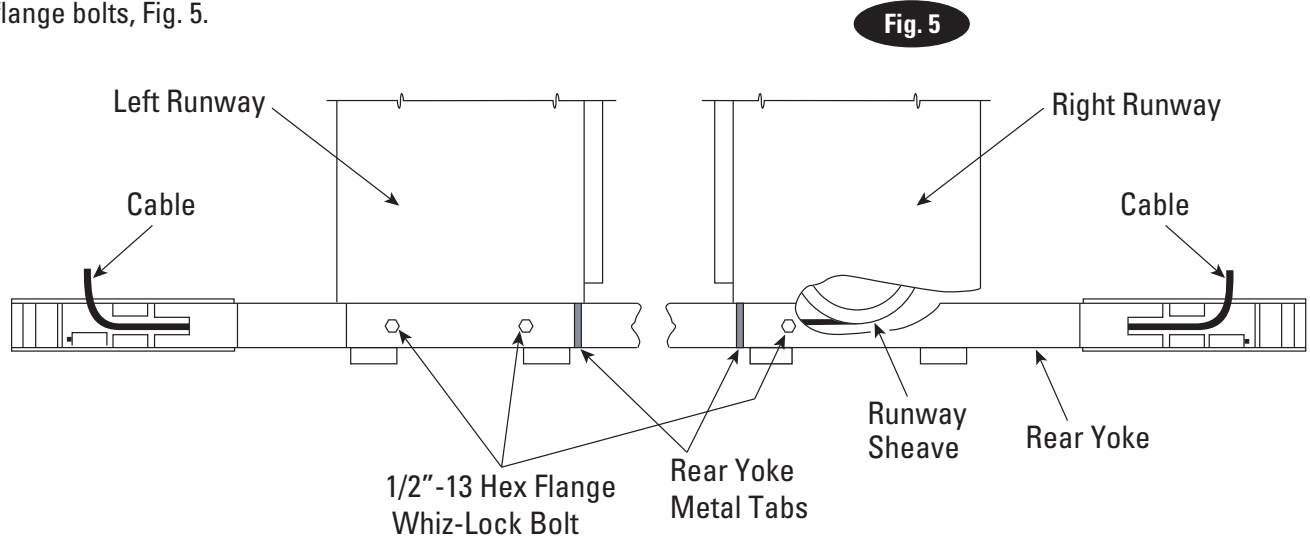
- A. Determine direction of approach in bay.
- B. Position left runway in bay with hydraulic cylinder hose connection to front of bay. Cables and sheaves are pre-assembled in left runway but only sheaves are installed in the right runway. Runway needs to be up off the floor so shipping restraints can be removed from cable ends, air and hydraulic lines, and cylinder rod. Pull cable ends, air, and hydraulic lines out for assembly.
- C. Position rear yoke at end of runways. The opening in the side of the yoke should be lined up with the cable sheaves in the runway ends. Feed cable ends through yoke openings. Be sure cables are not crossed inside yoke. Feed cable #2 through right runway, Fig. 3 and 4. Make sure cables are in proper sheave grooves, Fig. 3. Route lock and rear steer lock air lines in rear yoke at this time, Fig. 31.

**Fig. 4**

**AR016 CABLE ROUTING**

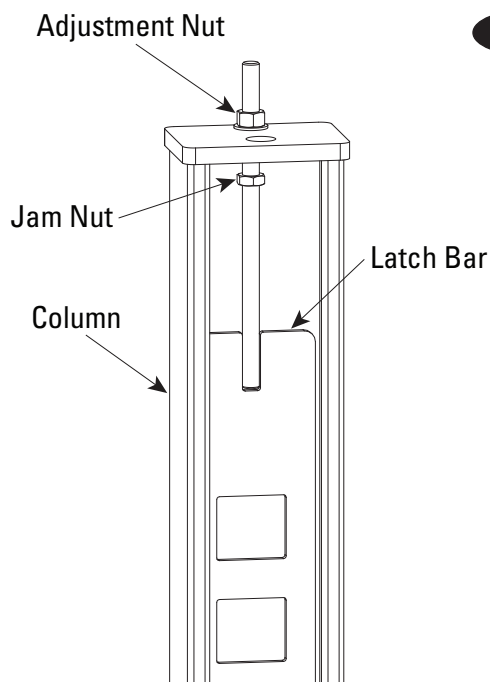


- D. With the openings in the rear yoke tubes side lined up with the runway ends, align the four (4) holes in the top of the yoke tubes with the slots in the runway end plates. Push each runway against metal tab on yoke. Bolt runways to the rear yoke using four 1/2"-13 hex flange bolts, Fig. 5.

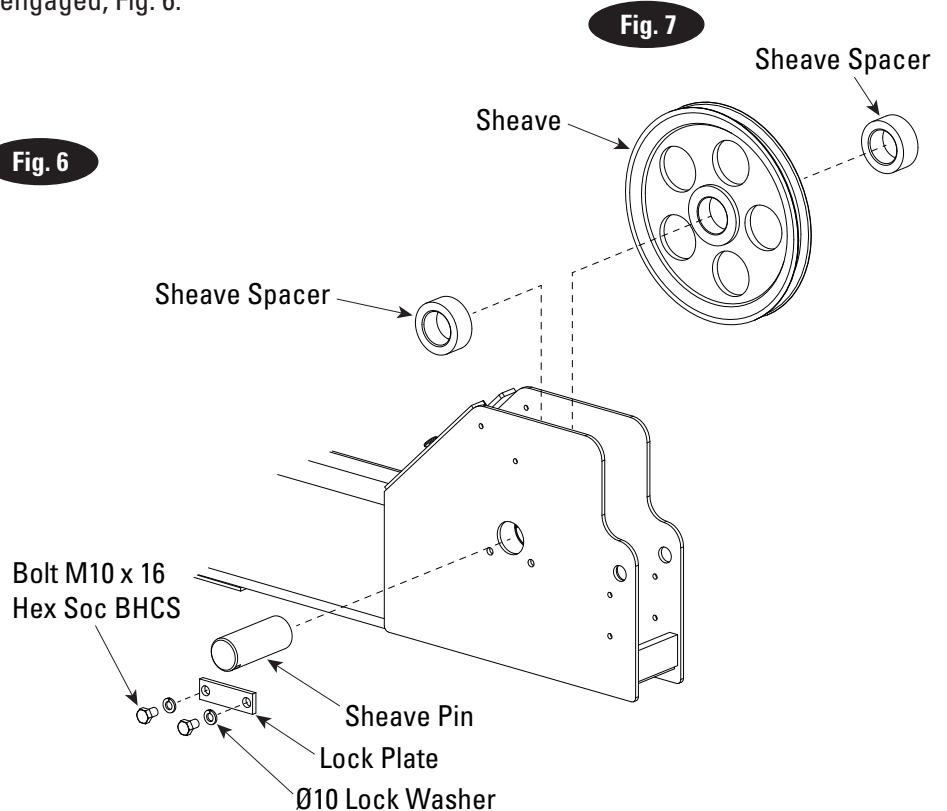


## 5. Rear Yoke and Column:

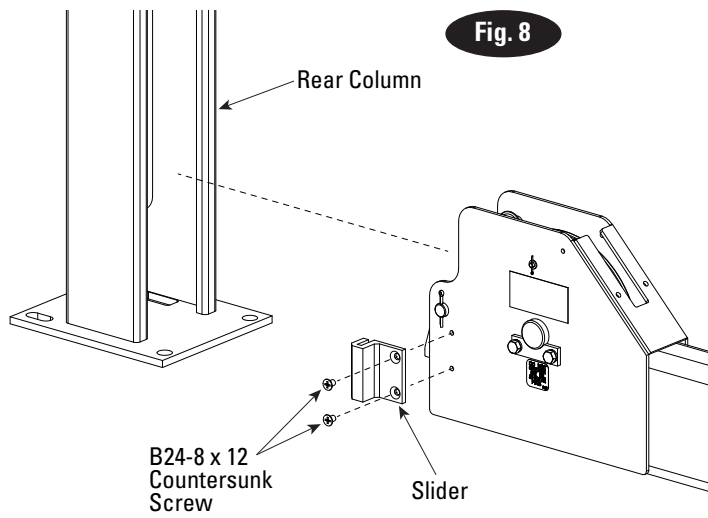
- A. Place the rear column at the left corner of the lift. Position remaining rear column.
- B. Thread the jam nut down the threaded stud of the latch bar as far as possible.  
**Note:** latch bars are shipped installed in columns. Thread the adjustment nut up the threaded stud, adjustment nut threads should be fully engaged, Fig. 6. Repeat for other columns.



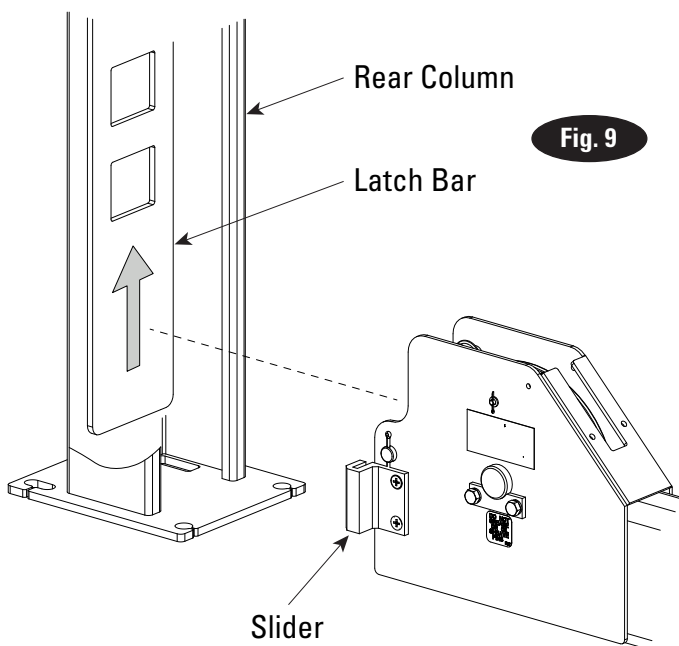
- C. Install rear yoke end sheaves and sheave spacers. A sheave spacer is placed on each side of the sheave, Fig. 7. Install sheave pin and retain with M10 hardware and lock plate, Fig. 7.



- D. Start yoke end into the column, allowing slider bolt holes to stay exposed. Attach sliders onto each side of the yoke end with B24-8 x 12 screws, Fig. 8. When both sliders are attached, push column toward yoke end until sliders touch latch bar.

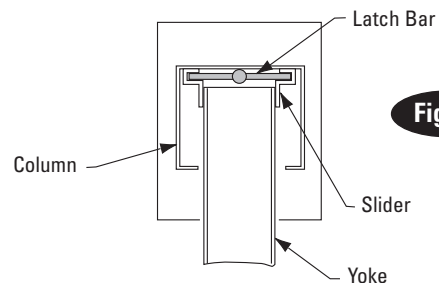
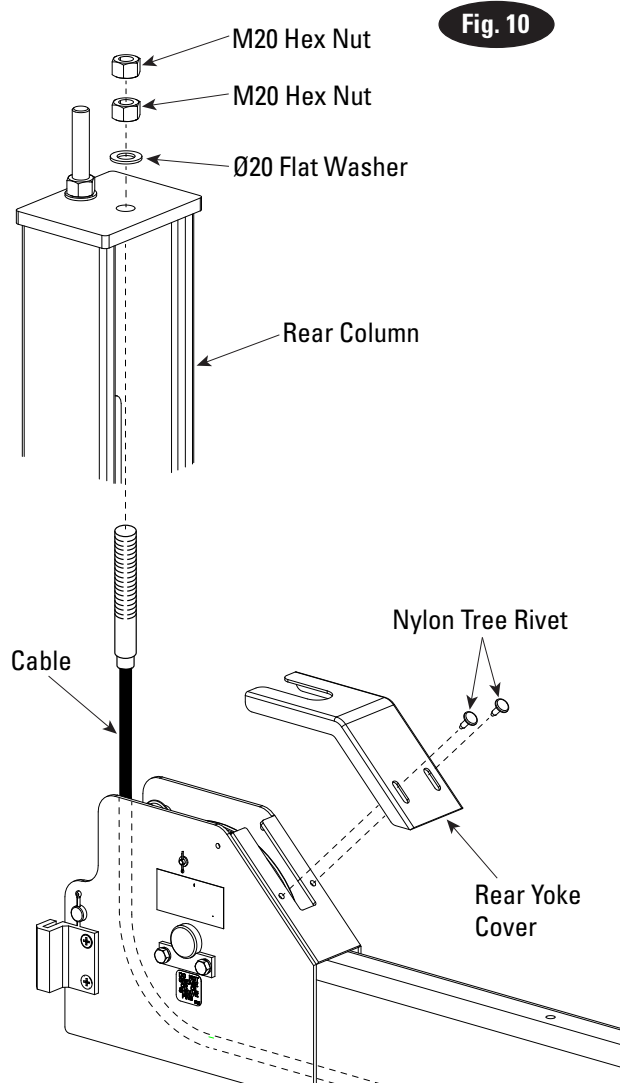


- E. Raise latch bar above sliders and move column toward yoke until the sliders contact the back of the column. It may be necessary to raise column up, using two more individuals, so latch bar clears sliders. Lower the latch bar into the sliders, Fig. 9, making sure latch bar is all the way down into the sliders. Tighten latch bar jam nut against column top plate. The latch bar should engage the sliders for at least 1" (25mm) when the lift is completely lowered. Repeat this procedure for each rear yoke end and column.



- F. **IMPORTANT** Be sure cable is isolated in the sheave groove. Attach cable to column top plate with Ø20 washer, and two (2) M20 nuts, Fig. 10. Install rear yoke cover on each yoke end using nylon tree rivets, Fig. 10.

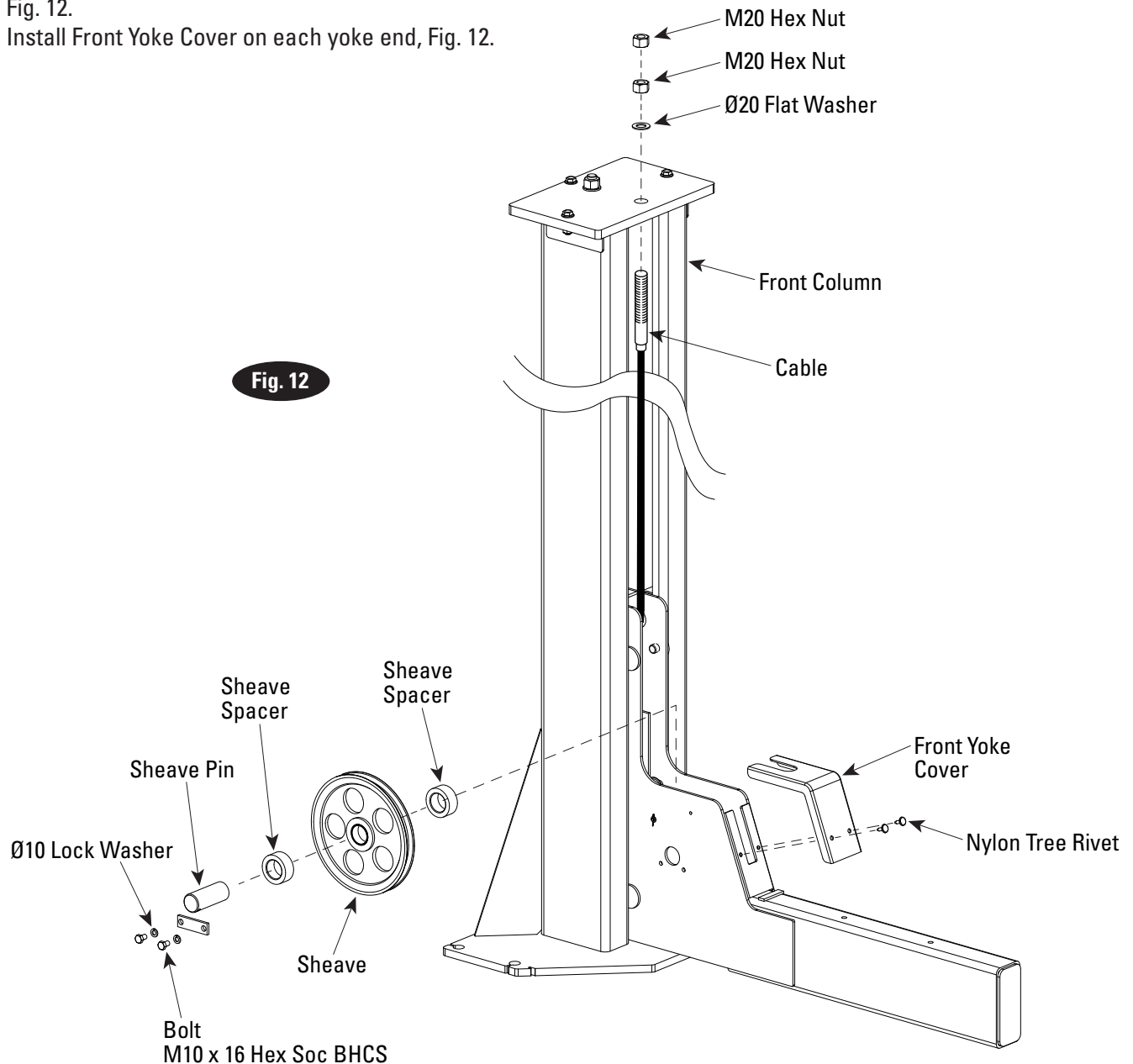
**Note:** Cable routing diagram is available in Fig. 4.



**Rear Column Cross Section**

**IMPORTANT** Route airlines to air locks before installing sheaves.

6. **Front Sheave Install:** Install sheaves and sheave spacers. Place sheave spacer on each side of the sheave, Fig. 12. Install sheave pin, retain with M10 hardware and lock plate, Fig. 12. Be sure cable is located in the sheave groove.
7. **Cable Install:** Attach each cable to column top plate with Ø20 flat washer, M20 hex nut, and M20 hex jam nut, Fig. 12.  
Install Front Yoke Cover on each yoke end, Fig. 12.

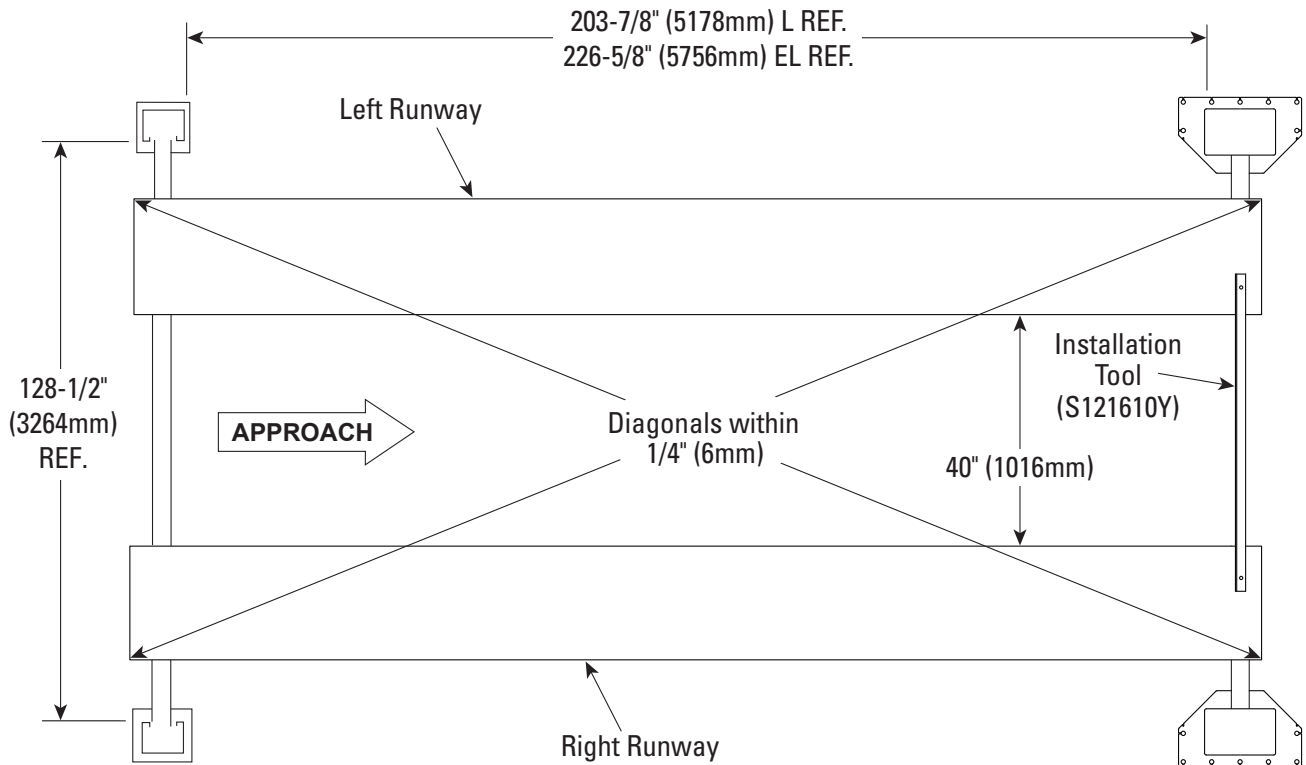


## 8. Concrete and Anchoring:

- A. Square up runways. Adjust runways until diagonals are equal within 1/4". Check lift location in the bay and ensure dimensions side-to-side are equal within 1/8", Fig. 13. Installation tool S121610Y is included to help maintain square until lift is anchored, Fig. 13.

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

Fig. 13



### B. Rear Column Install.

1. Move rear column towards yoke until the sliders contact the back of column. Center yoke in column, Fig. 11.
2. Place shims (estimated from Step 3) under each column. Drill four 5/8" (16mm) diameter holes through concrete floor using holes in baseplate as guide, Fig. 14.
3. Insert anchors with washers, Fig. 14. 5/8" anchors must have a minimum anchor embedment as shown in table.
4. Tighten 5/8" anchor bolts as shown in table. Shim thickness MUST NOT exceed 1/2" (13mm) when using the standard anchors provided with the lift. Check columns for plumb. Re-shim if necessary. Repeat for other column. If anchors do not tighten to required installation torque, replace concrete under each column base with a 2' x 2' x 8" (610 x 610 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.

### C. Front Column Anchoring:

1. If necessary, readjust runways until diagonals are equal. Hold runway spacing at 40" (1016mm).
2. Drill seven 3/4" (19mm) holes through concrete floor using holes in baseplate as guide.
3. Insert anchors with washers, Fig. 15. 3/4" anchors must have a minimum anchor embedment as shown in table.
4. Tighten 3/4" anchor bolts as shown in table. Shim thickness MUST NOT exceed 1/2" (13mm) when using the standard anchors provided with the lift. Check columns for plumb. Re-shim if necessary. Repeat for other column. If anchors do not tighten to required 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.



# ANCHORING

## Rear Column

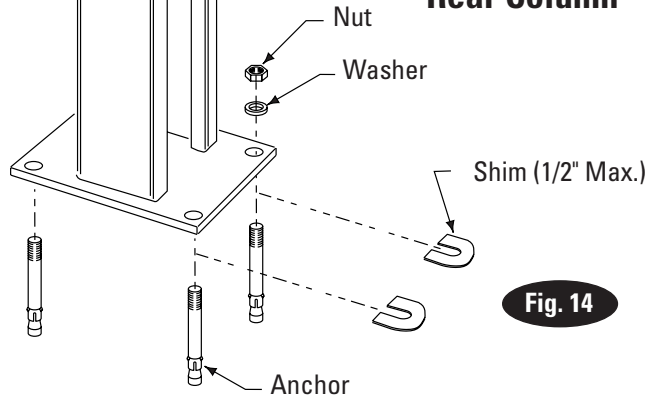


Fig. 14

## Front Column

Fig. 15

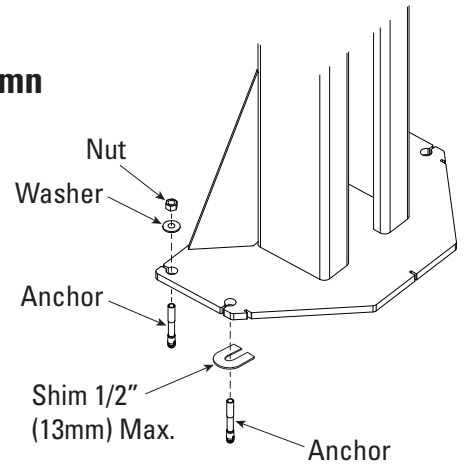
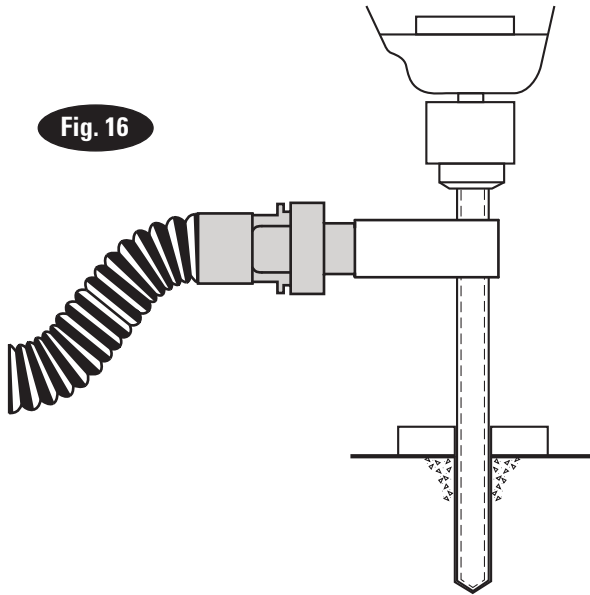
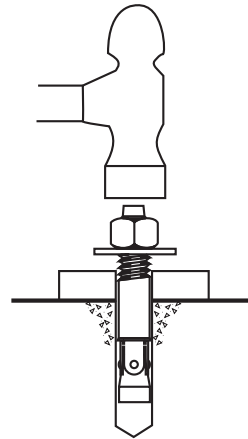


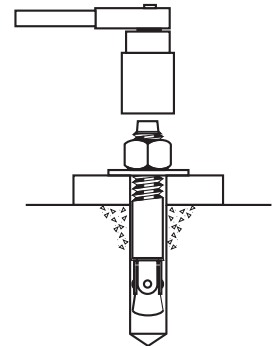
Fig. 16



Drill holes using carbide tipped masonry drill bit per ANSI B212.15.  
Construction dust collected per OSHA 29 CFR 1926.1153.



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



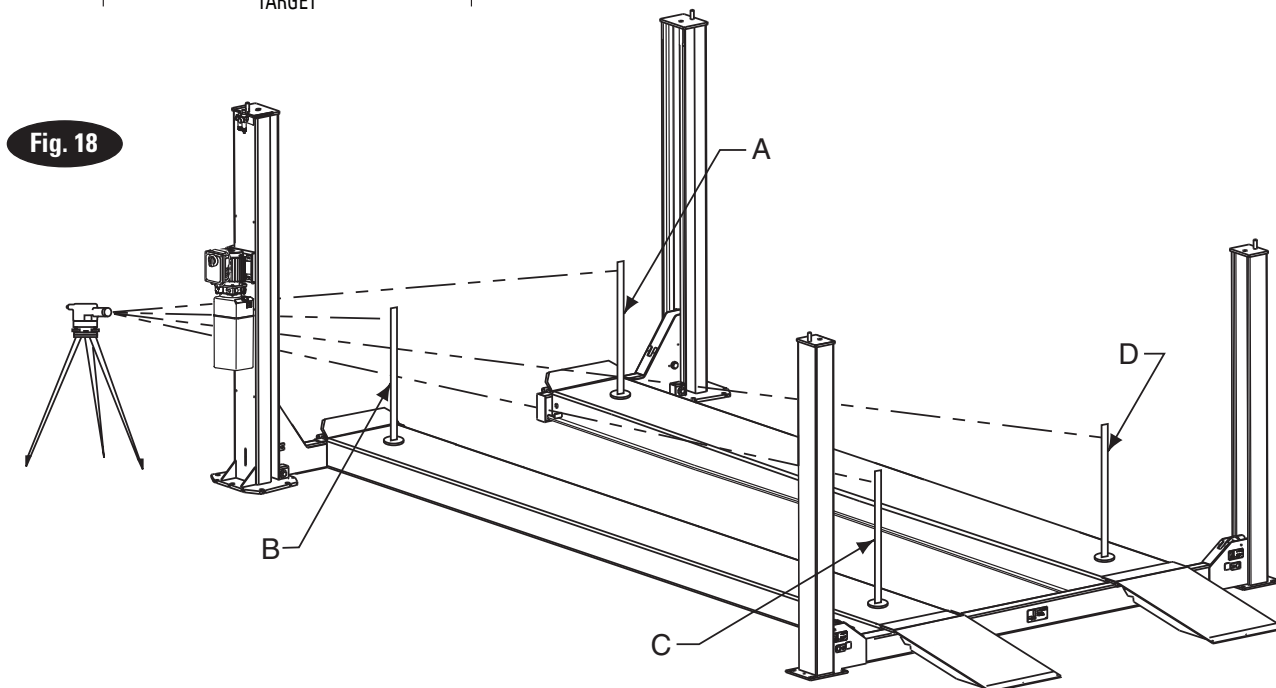
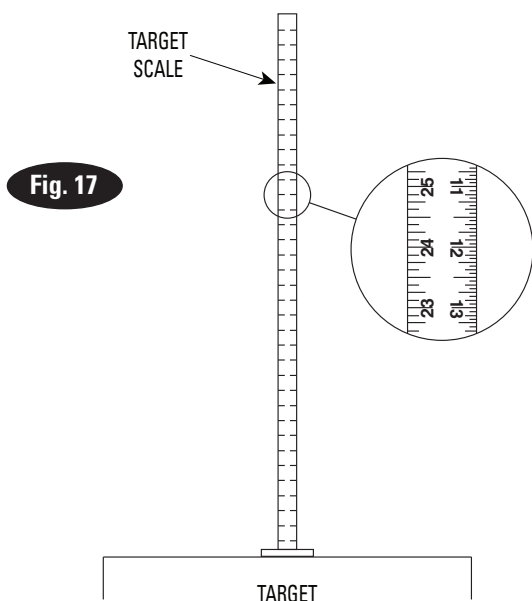
Tighten nut with Torque wrench. See Anchoring Requirements Table.

CONCRETE AND 3/4" ANCHORING REQUIREMENTS								
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")	4-1/4" (108mm)	6-1/4" (159mm)	3-1/4" (83mm)	110 (149Nm)	3000 (20684 kPa)	4'x4'x8" (1219 x 1219 x 152mm)	65 (88Nm)	Varies by location consult with your structural engineer and manufacturer's representative
DeWalt Power-Stud+SD1 (3/4" x 5-1/2")	4-1/4" (108mm)	6-1/4" (159mm)	3-1/4" (83mm)	110 (149Nm)	3000 (20684 kPa)	4'x4'x8" (1219 x 1219 x 152mm)	65 (88Nm)	
Hilti HY200 Epoxy (with HAS threaded rod) 3/4" Dia.	5" (134mm)	2 1/4" (57mm)	3-1/2" (89mm)	100 (135Nm) / less than 2-1/8" edge distance use Torque Value of 30 ft-lbs (41Nm)	3000 (20684 kPa)	4'x4'x8" (1219 x 1219 x 152mm)	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: 2017, or latest edition, 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								

CONCRETE AND 5/8" ANCHORING REQUIREMENTS								
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 (5/8" x 4-3/4")	3-5/8" (92mm)	7" (178mm)	2-3/4" (70mm)	60 (81Nm)	3000 (20684 kPa)	2'x2'x8" (610 x 610 x 203mm)	50 (68Nm)	Varies by location consult with your structural engineer and manufacturer's representative.
DeWalt Power-Stud+SD1 (5/8" x 4-3/4")	3-5/8" (92mm)	6-1/4" (159mm)	3-1/4" (83mm)	60 (81Nm)	3000 (20684 kPa)	2'x2'x8" (610 x 610 x 203mm)	50 (68Nm)	
Hilti HY200 Epoxy (with HAS threaded rod) 5/8" Dia.	5" (127mm)	2 1/4" (57mm)	3-1/2" (89mm)	60 (81Nm) / less than 2" (51mm) edge distance use Torque Value of 18 ft-lbs (24Nm)	3000 (20684 kPa)	2'x2'x8" (610 x 610 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: 2017, or latest edition, 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								

## 9. Runway Leveling:

- A. Use an engineer's automatic level (transit). Locate the Level at a convenient location in the shop that allows an unobstructed view of all four corners of the lift's runways. Follow the Level manufacturer's instructions for proper setup. Be sure it is adjusted level in all directions. Readjust level if it or tripod is bumped or disturbed.
- B. Make sure yoke tubes rest on column base plate.
- C. First place the Level target at the highest corner of the lift. Place it on the runway center line within 6" (152mm) of yoke tube, whichever one is located over highest point. This will be referred to as target "A" position. Beginning with target "A" position, Fig. 18, sight the Level to the target and mark the number or the graduation on the inch scale of the target that aligns to the crosshairs of the Level, Fig. 17.



**RUNWAYS SHOULD BE LEVEL MAXIMUM TOLERANCE SIDE TO SIDE AND FRONT**

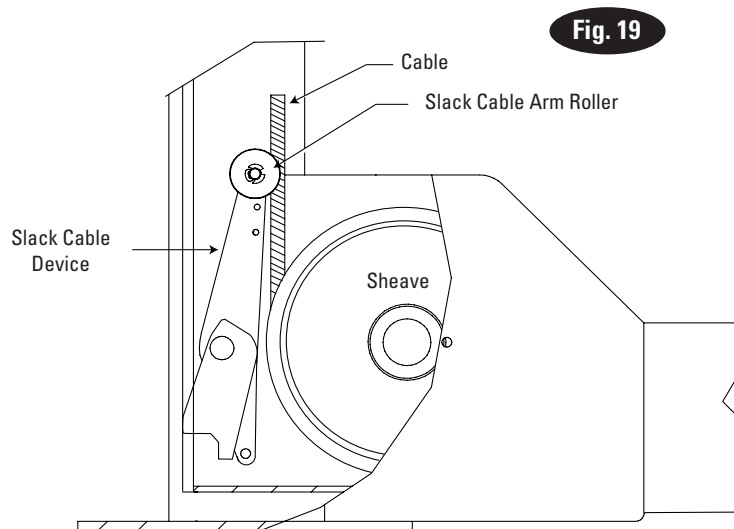
**To REAR 1/16" (1.6mm)**

**Note:** Use a pencil, marking pen or attach a paper clip on to the target scale at the crosshair reference.

- D. Next, move the target and place it on the runway at point "B", Fig. 18. Rotate the Level and focus on the target scale. Adjust the column at "B" using shims under base plate, Figs. 14 and 15, until the cross-hairs of Level align to reference mark on the target scale. Repeat for points C and D.

## 10. Cable Adjustment:

Adjust cable with lift fully lowered. Loosen jam nut and tighten nut on cable stud on top of column until yoke end raises 1/4" (6mm). Back off nut one turn. Retighten jam nut. Repeat for all four cables. Cables must fit in slack cable arm rollers, Fig. 19.



## 11. Power Unit:

A. Attach M8 x 35mm Lg. HHCS to the mounting plate as shown using 8mm Tooth Washers, Fig. 20.

B. Attach Power Unit using M8 Hex Flanged WZ Lock Nuts, Fig. 20.

C. Run hydraulic hose from runway through hole in side of runway to power unit output port, Fig. 21.

**DO NOT** use Teflon tape on hydraulic hose connections.

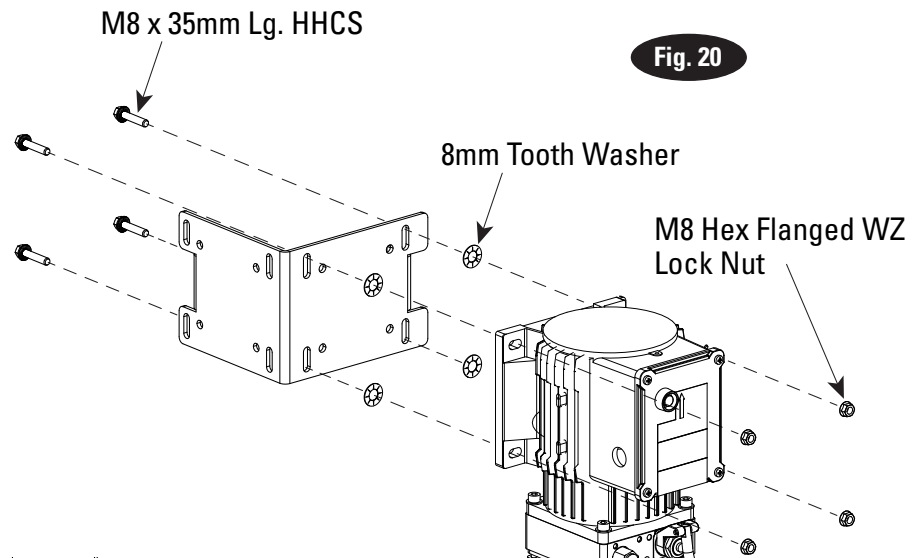


Fig. 21

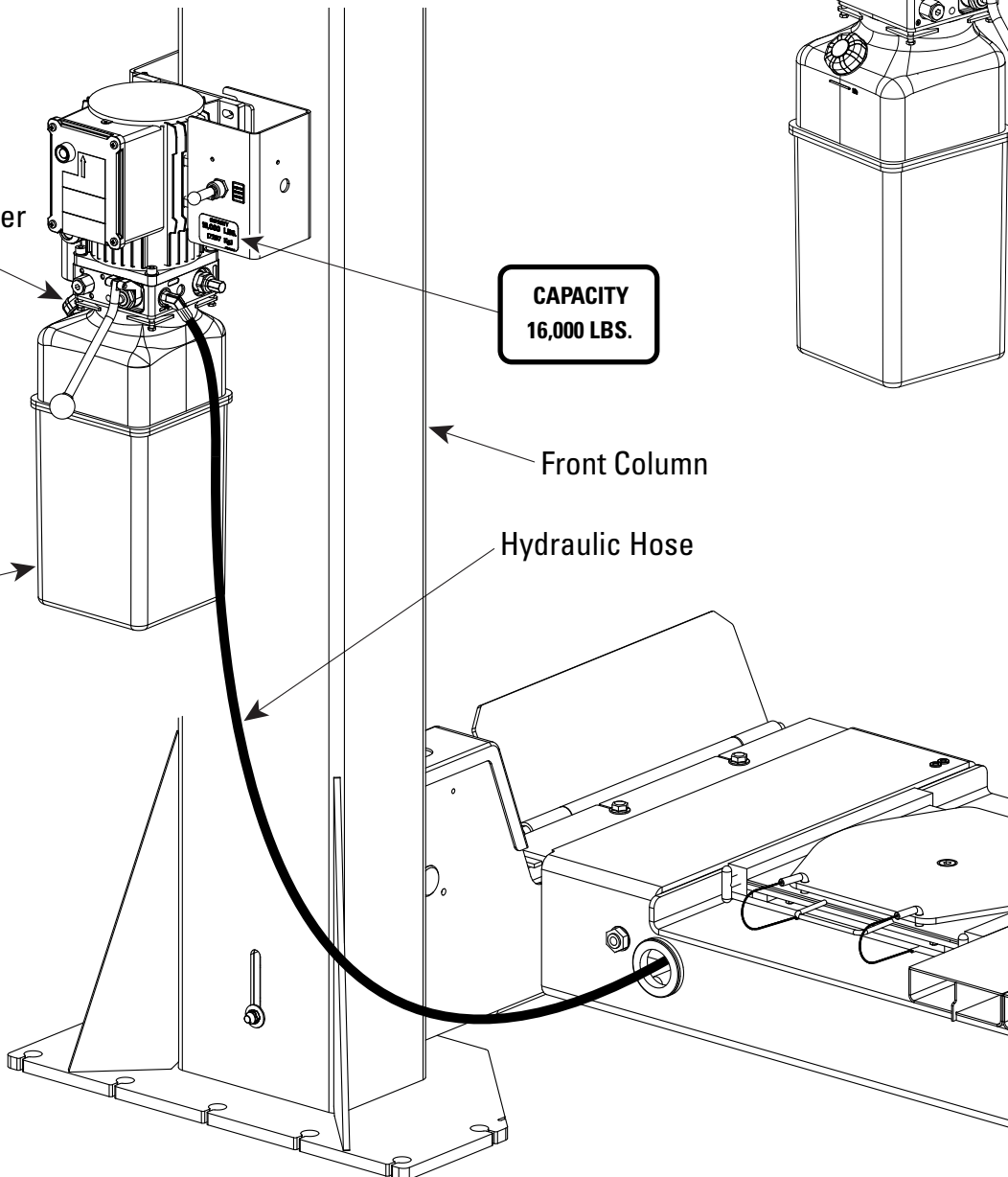
Fill/Breather Cap

Power Unit

CAPACITY  
16,000 LBS.

Front Column

Hydraulic Hose



- D. Install and hand tighten elbow to pump until O-ring is seated and elbow is oriented downward at approximately 45°, Fig. 22. Continue to tighten the locknut to 10-15 ft-lbs. (14-20 Nm), or until the nut and washer bottom out against the pump manifold. Clean elbow and hose. Inspect all threads for damage and hose ends to be sure they are crimped. Attach hose to elbow using Flared Fittings Tightening Procedure.

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

#### Flared Fittings Tightening Procedure

1. Screw the fitting 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.

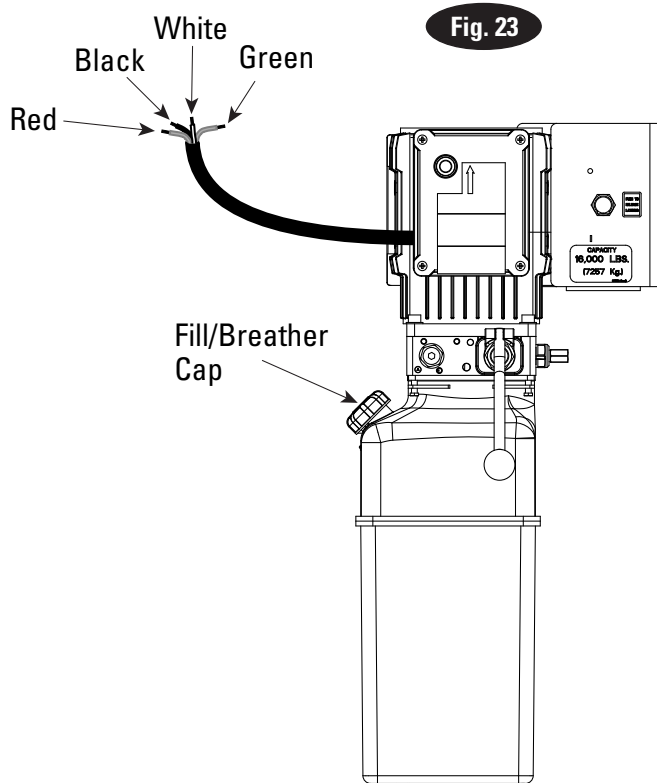
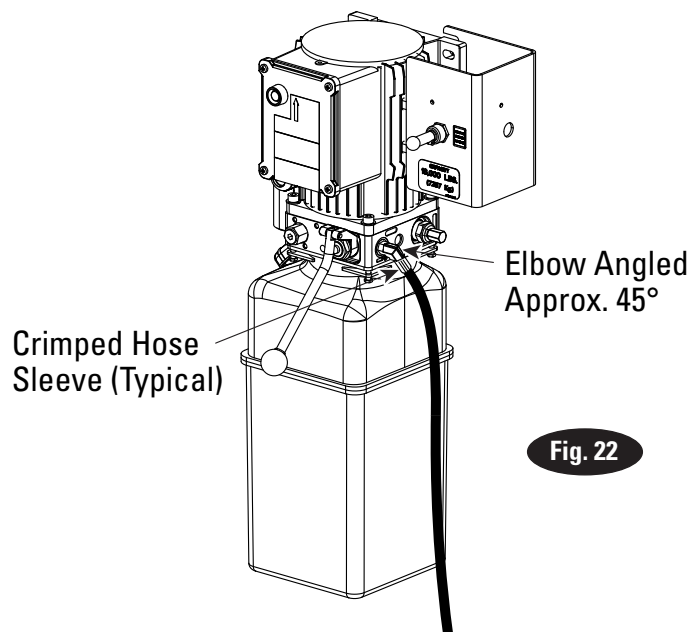
2. Back the fitting off one full turn.
3. Again tighten the fittings finger tight; then using a wrench, rotate the fitting 2-1/2 hex flats. This will complete the tightening procedure and develop a pressure tight seal.

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

- 12. Electrical:** Route supplied attached motor wire from controller to motor, Fig. 23.

**CAUTION** Never operate the motor on line voltage less than 208V. Error codes will occur.

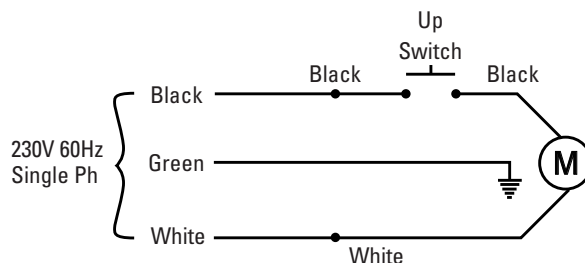
**IMPORTANT** Use separate circuit for each power unit. Protect each circuit with time delay fuse or circuit breaker. For wiring see Fig. 23. All wiring must comply with NEC and all electrical codes.



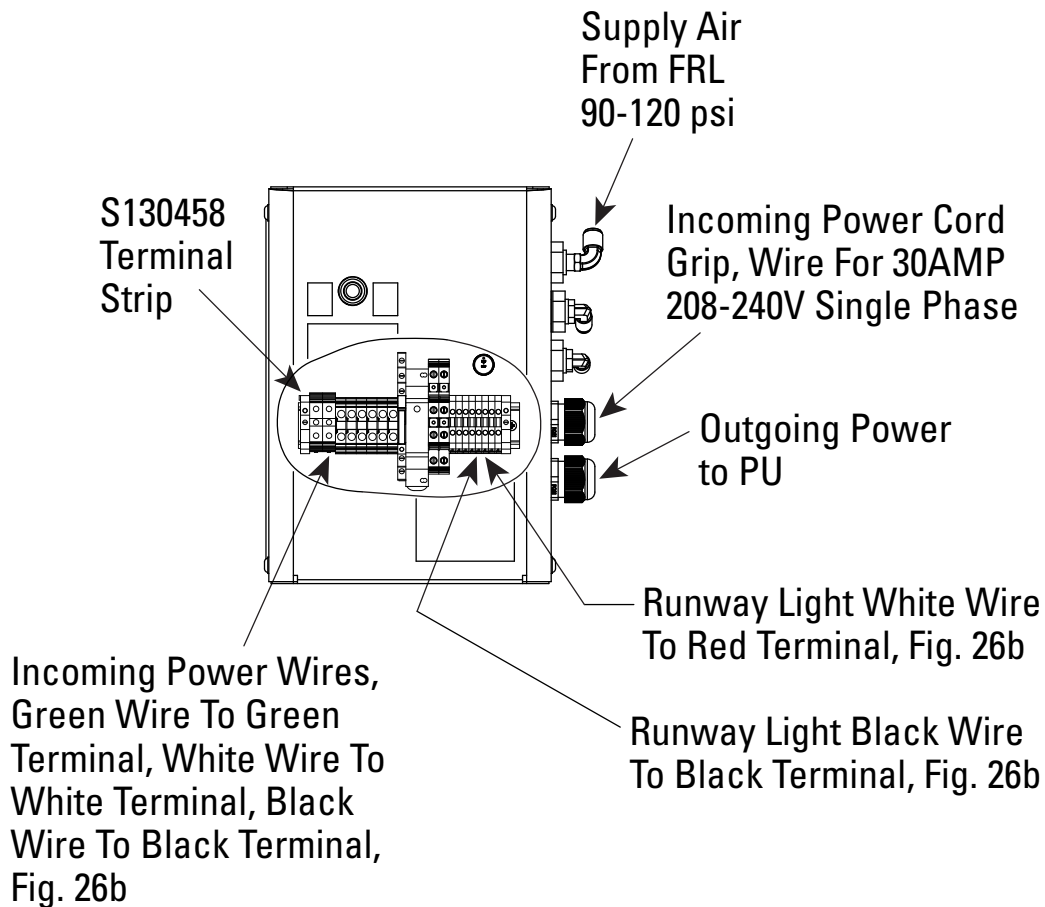
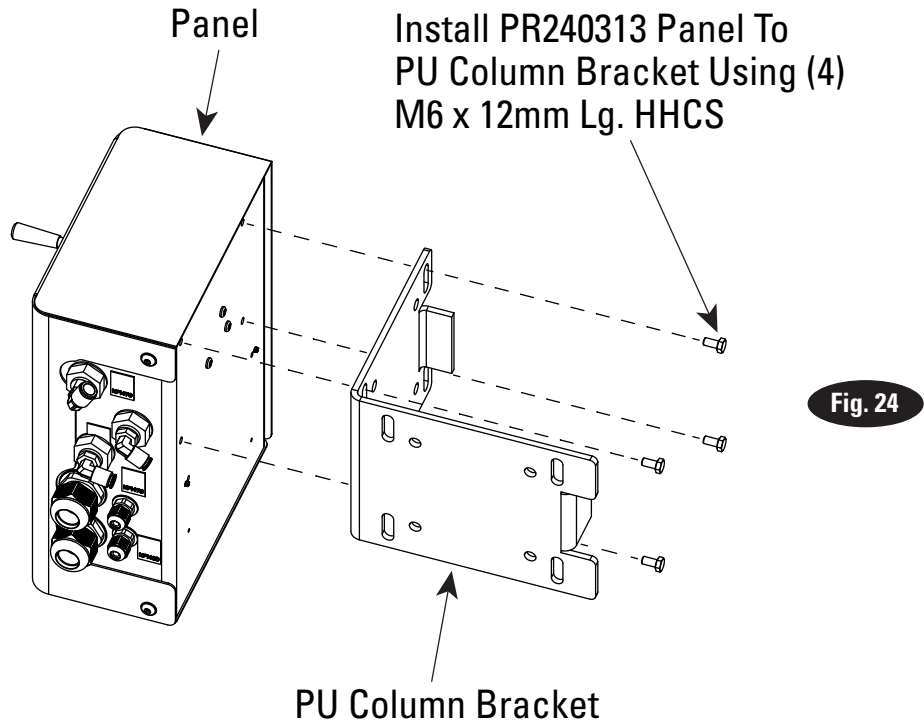
#### Single Phase Power Unit

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.



- 13. Panel Installation:** Install panel to power unit column bracket using M6 x 12mm Lg. HHCS, Fig. 24. Have a certified electrician run appropriate power supply to the panel, Fig. 25. Size wire for 30 amp circuit. See Motor Operating Data Table.



#### 14. Photo Eye w/Supplied Bracket Installation:

1. After installing the panel and running the runway lights to the correct terminals, Fig. 25, install the pre-wired photo eye to the front side of the column with supplied bracket and hardware, Fig. 26.

**IMPORTANT** Verify photo eye does not protrude through column. Photo eye should be flush with inside of column.

2. Attach the supplied 3M reflective tape to the side opposite of the photoeye installed above, centering the tape on the beam emitted from the eye, Fig. 26, (eye will have to be powered on to achieve this).

Fig. 26

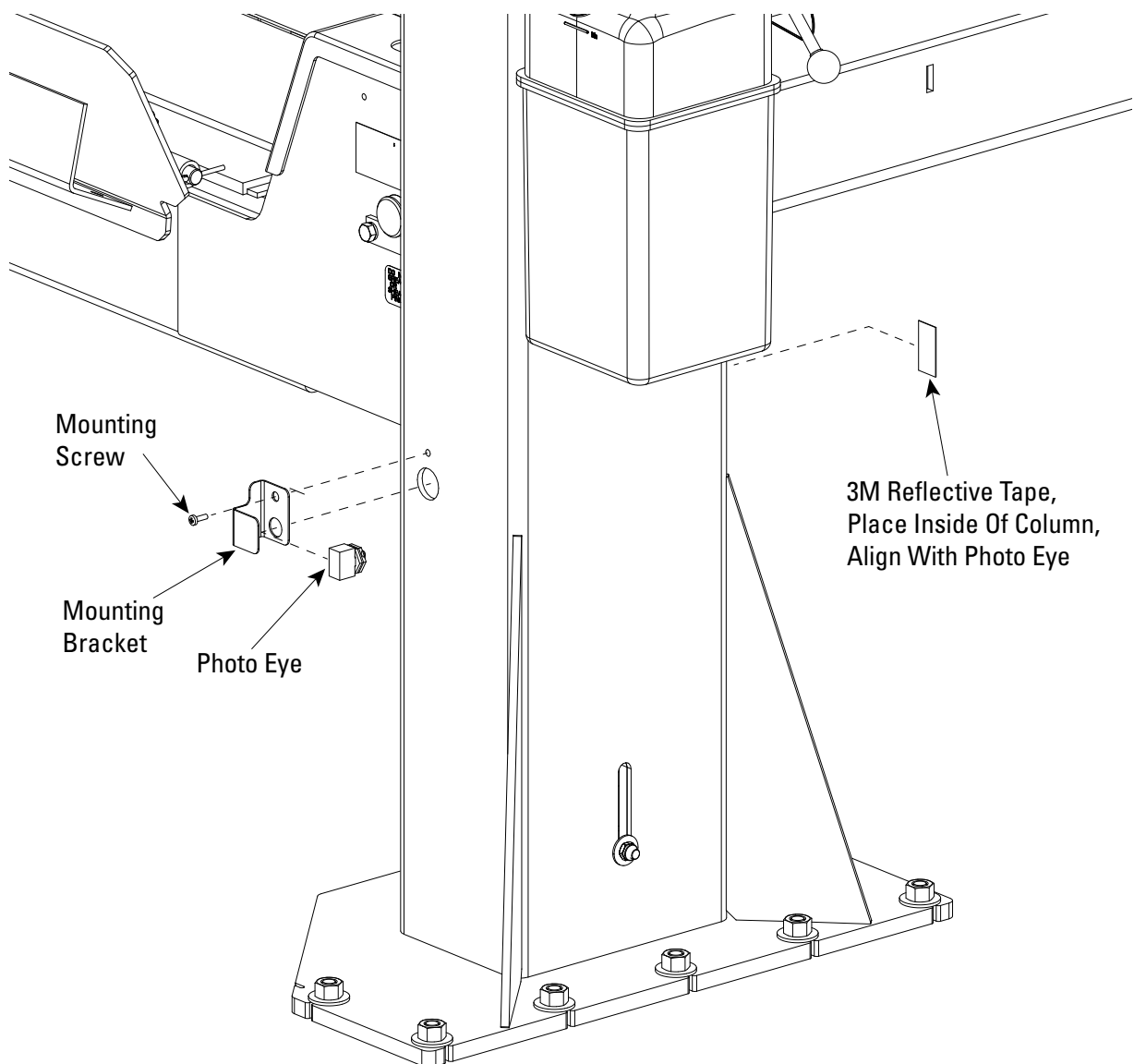
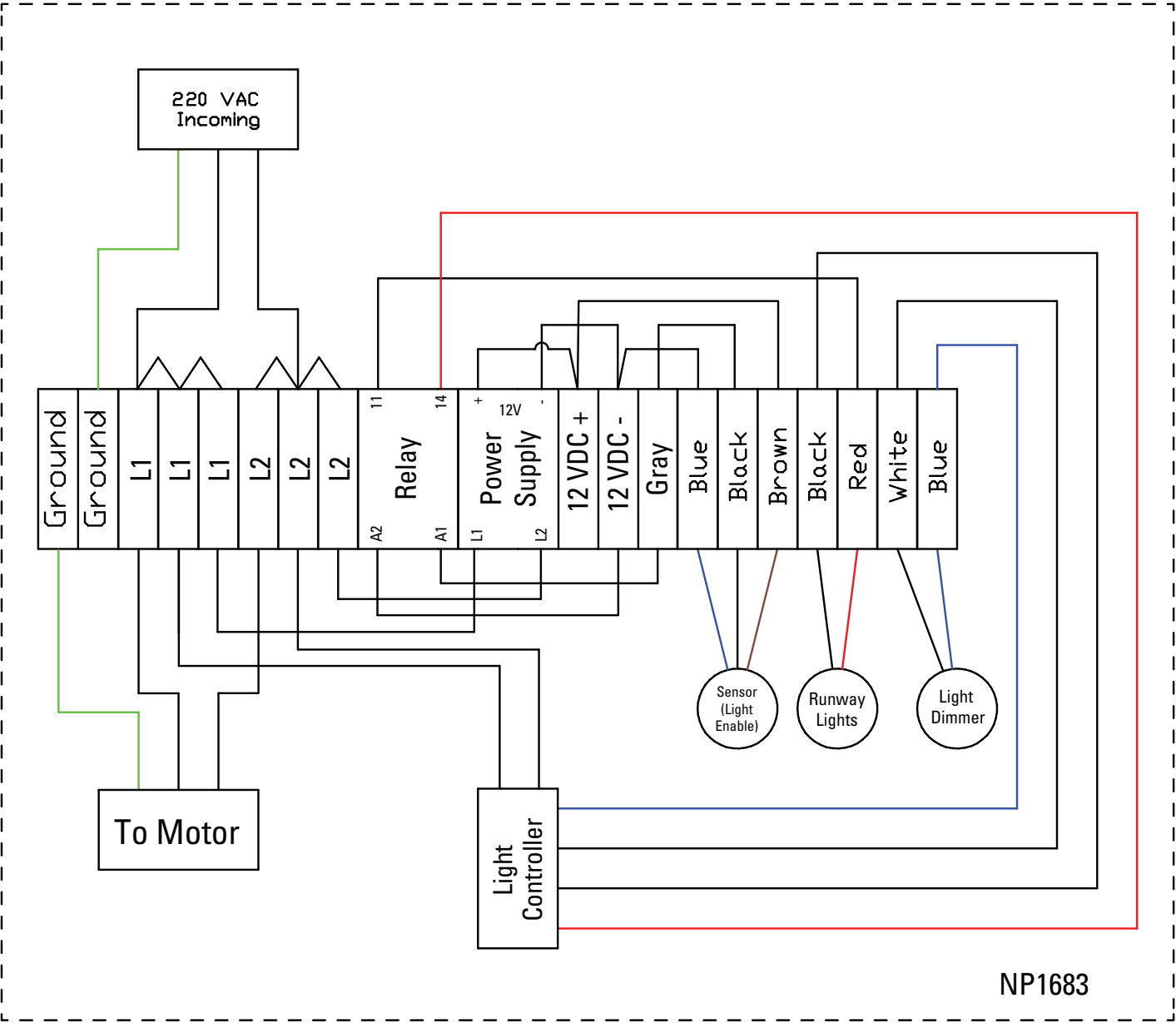


Fig. 26a



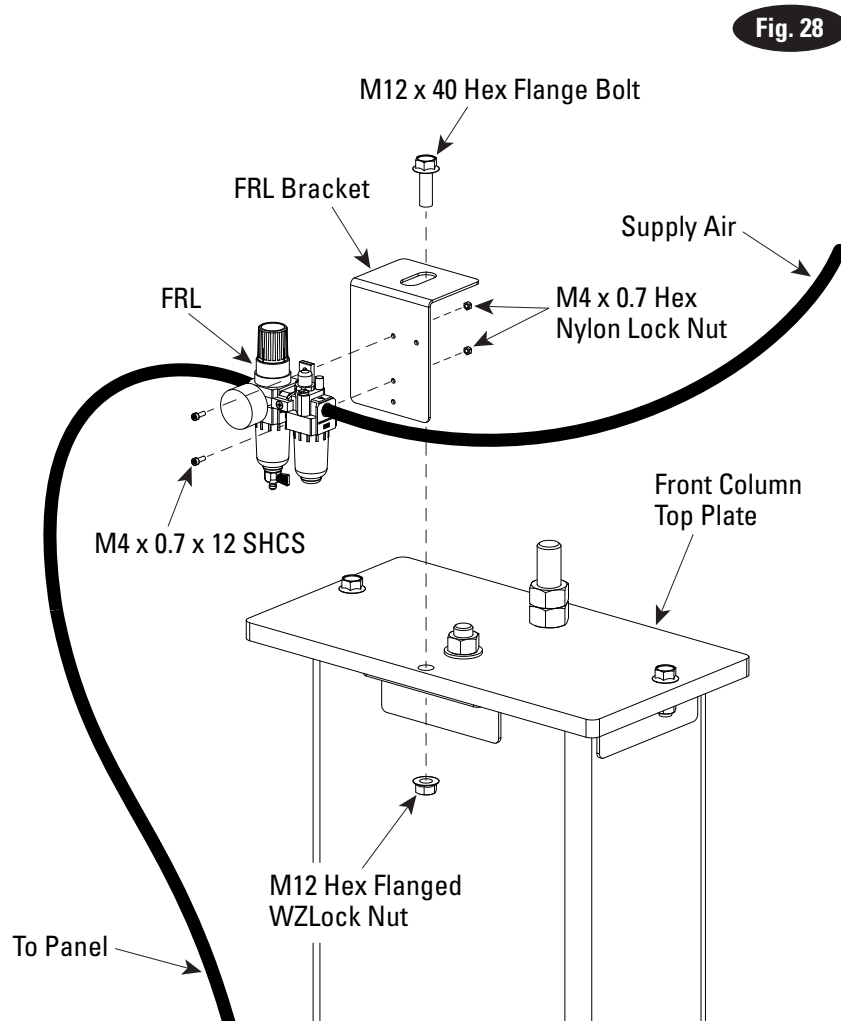
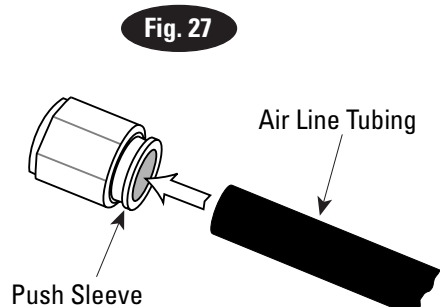


## 15. Air Line Connections:

**Note:** Locking latches require 100 psi. (689 kPa.) min. to 120 psi. (827 kPa.) max. air pressure.

**IMPORTANT** A filter/regulator/lubricator must be installed on air supply at lift. Failure to do so will void the warranty.

**Note:** Cut air line 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, Fig. 27. 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.



- A. Lift should be at full height and lowered on latches.
- B. **FRL Installation:** Remove M12 x 40 Hex Flange Bolt and M12 Hex Flanged WZLock Nut and place FRL Bracket as shown, Fig. 28.
- C. Attach FRL using M4 SHCS and M4 Hex Nylon Lock Nut, Fig. 28.
- D. Connect 3/8" air line from existing facility supply air to the FRL. Run 3/8" air line from FLR to Smart Fill Controller, Fig. 28 and Fig. 29.

**E. Airline Connections and Routing:**

Place air lock valve bracket behind left hand side of motor using existing power unit attaching hardware.

**F.** Attach enclosed NP280 decal (ACTUATE TO RELEASE LATCHES) on bracket.

**G.** Run 1/4" airline from air lock valve to opening in runway. After passing through runway hole, attach "T", run 1/4" airline from one side of "T" to front L/H yoke air lock and 1/4" airline from the other side of "T" to the rear yoke.

The rear yoke air locks have been pre-plumbed so connect the new 1/4" airline just run from the "T" to the pre-plumbed yoke with a union fitting supplied in the air fitting bag. Repeat on opposite side of yoke, running 1/4" airline to R/H front yoke. Fig. 30.

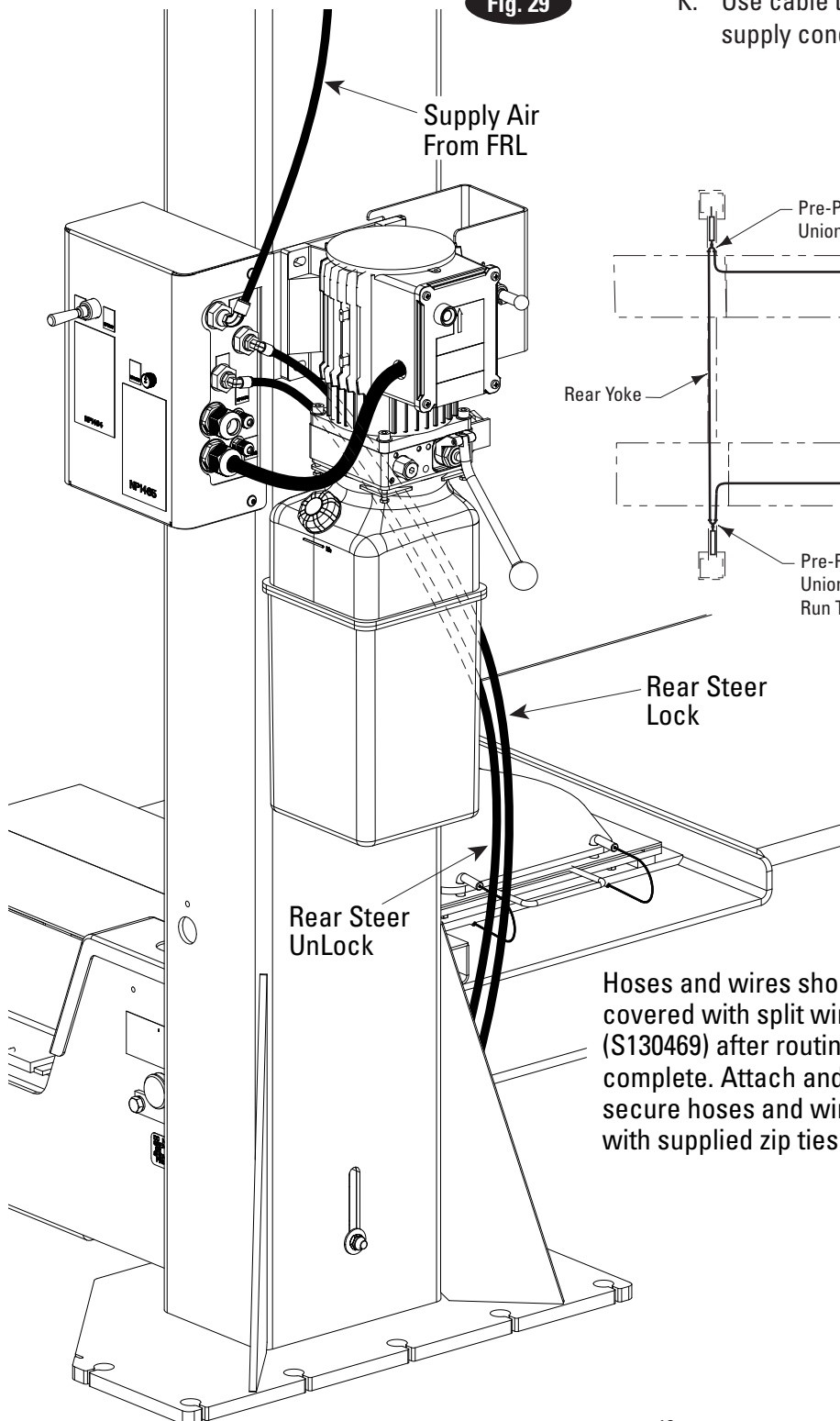
**H.** Check for air leaks by depressing air valve. Repair as required.

**I.** Use provided cable ties to tie air line to hydraulic hose between power unit and lift.

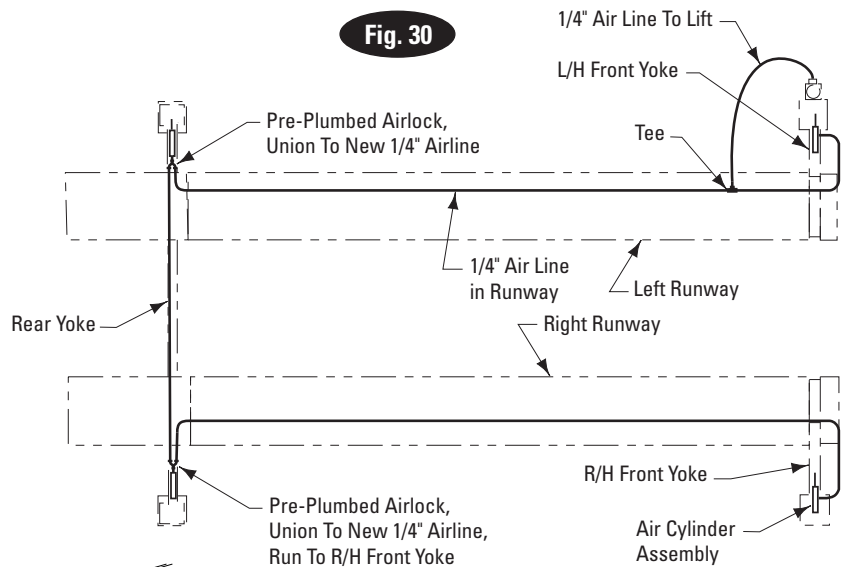
**J.** Actuate air valve and check latch operation on all four corners. The locking latches should pull in beyond yoke ends to clear the latch bars located in all four columns.

**K.** Use cable ties provided to tie 3/8" air supply to electrical supply conduit at approximately 2'-0" (51mm) intervals.

**Fig. 29**



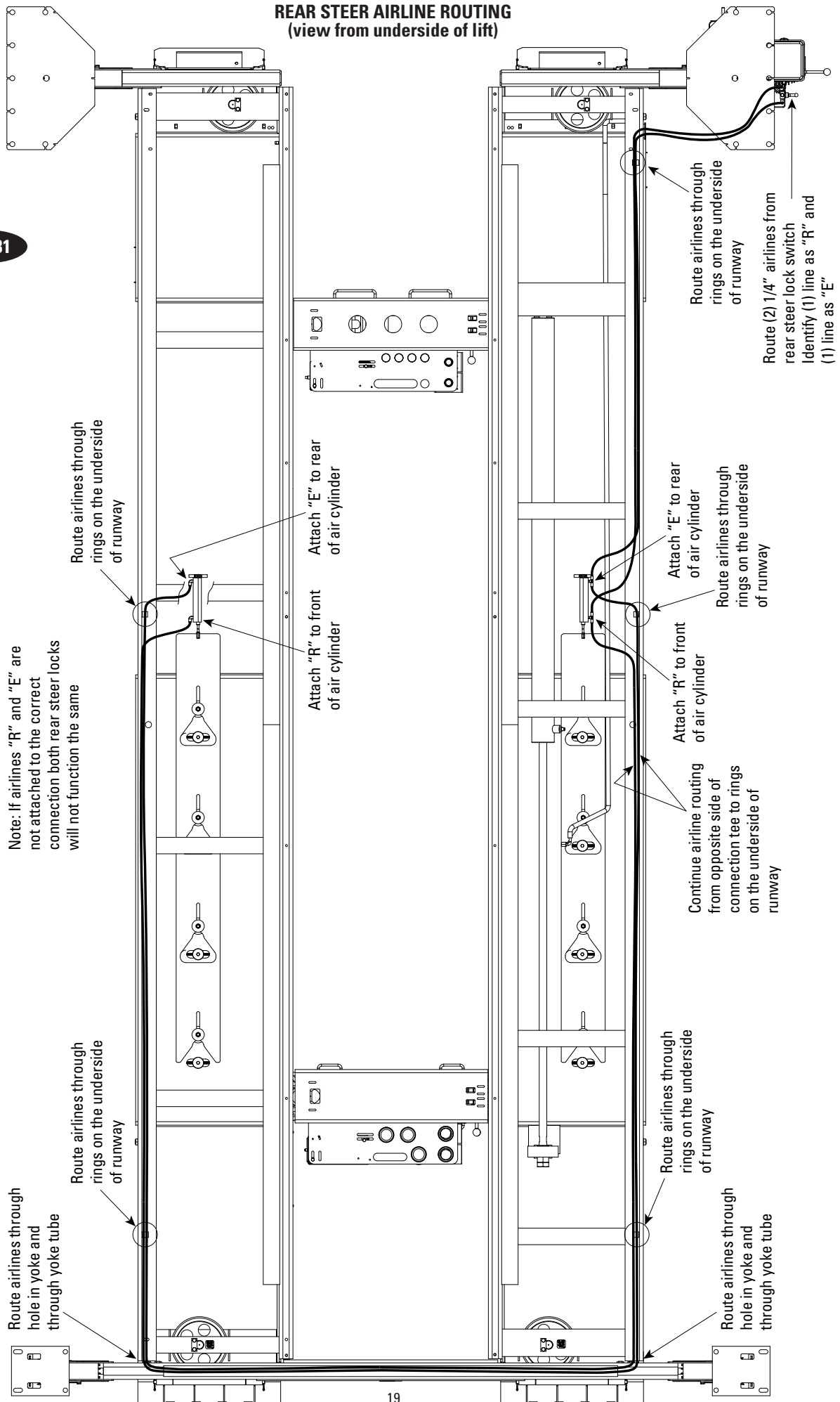
**Fig. 30**



Hoses and wires should be covered with split wire loom (S130469) after routing is complete. Attach and secure hoses and wires with supplied zip ties.

Fig. 31

# REAR STEER AIRLINE ROUTING (view from underside of lift)



- 16. Oil Filling:** Use Dexron III ATF, or hydraulic fluid that meets ISO 32 specifications. System capacity is 19-1/2 quarts or 18-1/2 liters. Use Dexron III ATF or equal. Fully lower lift. Remove fill/breather cap, Fig. 32. Fill to minimum fill line on tank, replace cap.

**Note:** If fill/breather cap is lost or broken, order replacement, Fig. 32.

- 17. Bleeding:** Lift must be fully lowered before changing or adding fluid. Raise and lower lift six times. The cylinder is self-bleeding. After bleeding system, fluid level in power unit reservoir may be down. Add more ATF or ISO32 hydraulic oil, if necessary, following instructions in Step 19. To pressure test, run lift to full rise and run motor for approximately 5 seconds. Stop and check all fittings and hose connections. Tighten or reseal if required. Lower lift. If fill/breather cap, Fig. 32, is lost or broken, order replacement.

**Note:** Some test fluid may be spilled from the cylinder breather vent during bleeding of the system.

- 18. Assemble** ramps and wheel stops to runways using hinge pin and cotter pin. Install ramp to rear of runway and wheel stops to front of runway, Fig. 33.

Fig. 32

Fill / Breather Cap

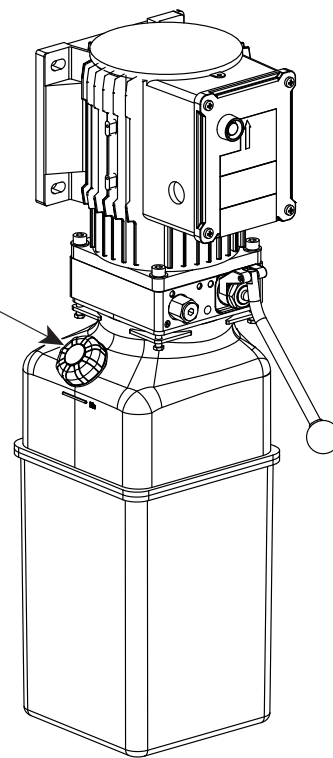
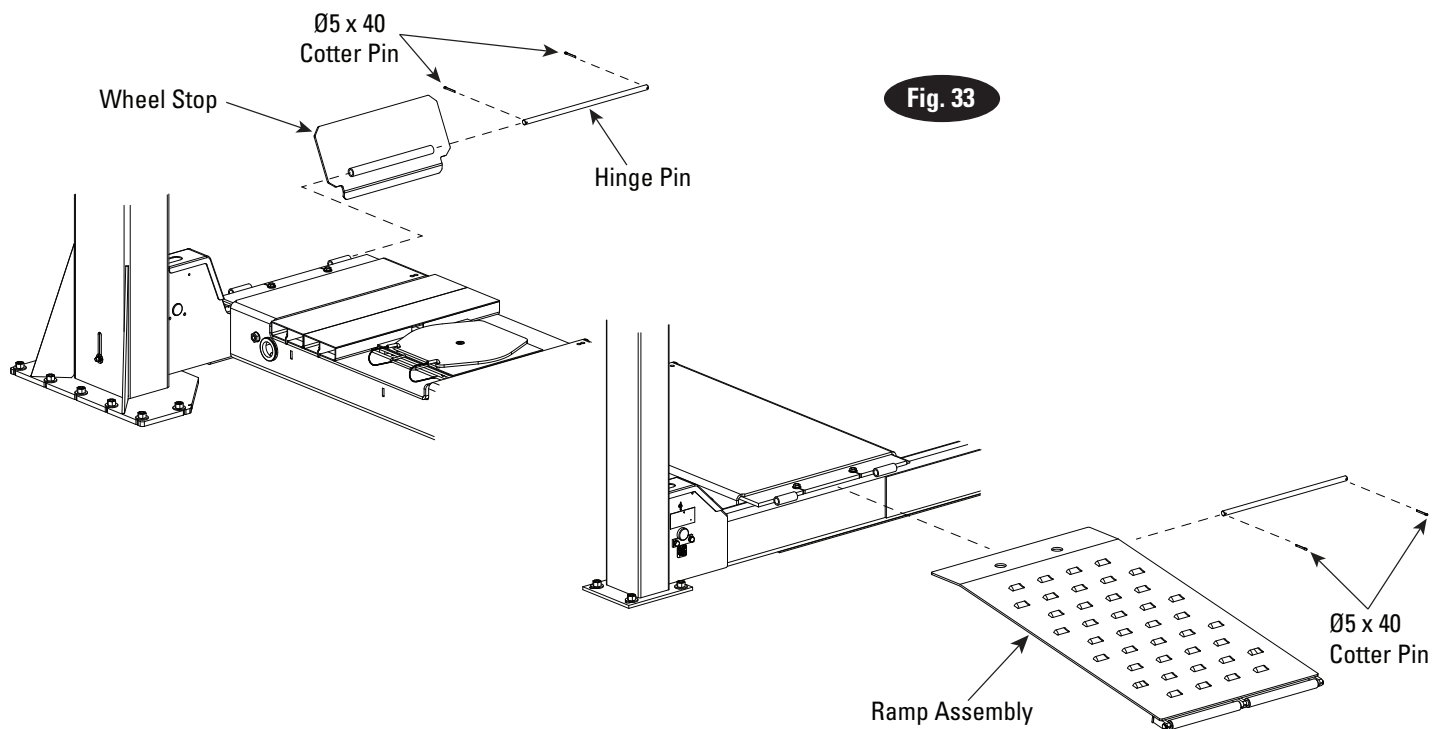


Fig. 33



## 19. Final Adjustments:

- A. Load vehicle such as 3/4 ton truck or van onto lift.
- B. Cable Adjustment:
  1. Slowly jog the power unit, allowing two seconds between jogs, until a latch or latches are heard engaging. Check all corners to see which latch(es) have engaged. The corner(s) that are engaged will not be adjusted. Proceed to one of the corners that has not engaged and loosen the cable jam nut. Turn the cable adjustment nut clockwise, holding the cable with the square end of the threaded portion under the top plate, Fig. 34, until you hear the latch engage, then stop. Lock down the adjustment nut with the jam nut.
  2. Proceed to the other corners until all latches have clicked into locking position.
  3. Raise and lower lift to check for lock engaging sequence. The sound of lock engagement should sound simultaneously, the front cables may click slightly before the rear to compensate for the loaded condition.

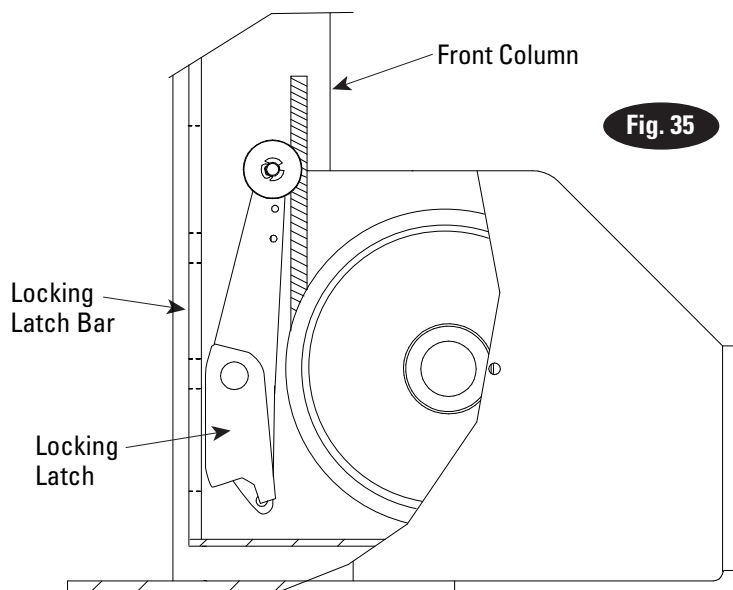
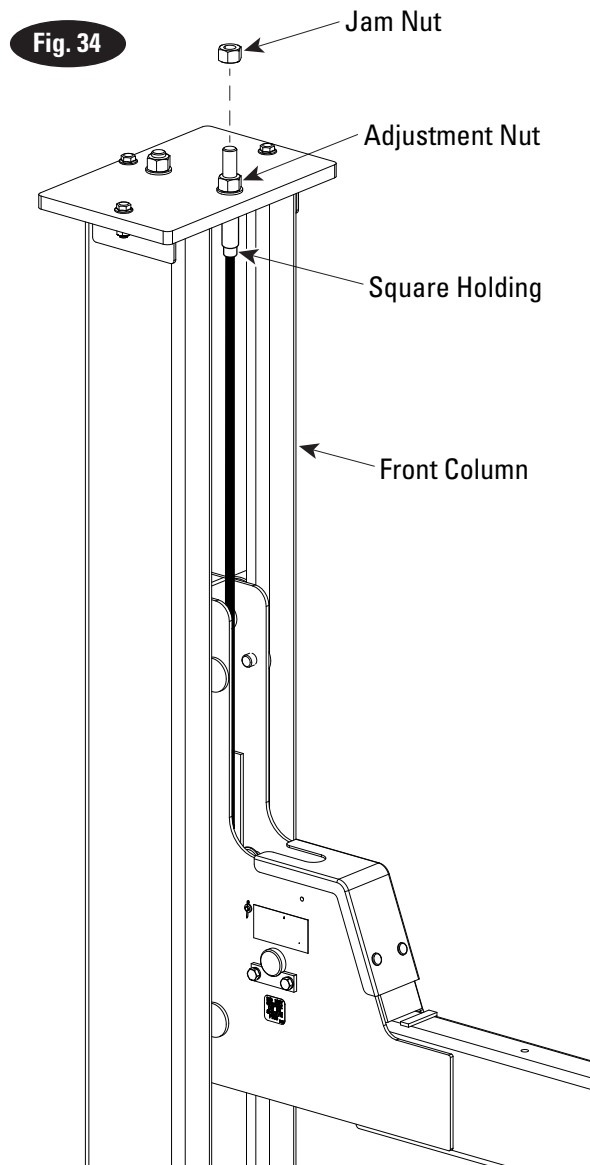
**CAUTION** If you run out of the square holding area on the cable under the top plate, grip the top threaded portion with Locking Pliers to tighten. If the nut bottoms out or is close to bottoming out on the cable adjustment thread, then all the cables, sheaves and pins should be replaced. See 4-Post Inspection and Maintenance Guide and check for broken cable strands if you must grip the top threaded portion with Locking Pliers. If a broken cable is detected, ALL the cables, sheaves, and pins should be replaced before lift is put into operation.

**CAUTION** When making changes to adjustment nuts on cable end always leave at least two threads showing between nut and end.

**Note:** Latches may not click in at the same time when vehicle is being raised. They should be close. Be sure all four corners have passed the locking latch bar slot before lowering lift on locking latches.

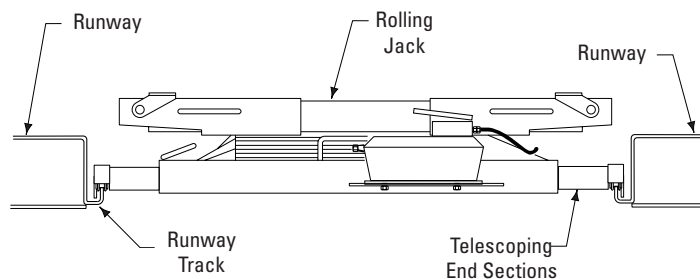
**Note:** All bolts and nuts mentioned in this booklet are grade 5 unless otherwise stated.

**Note:** Cotter pins are usually good for one time use only. Replace any cotter pin, if removed, with a new cotter pin.

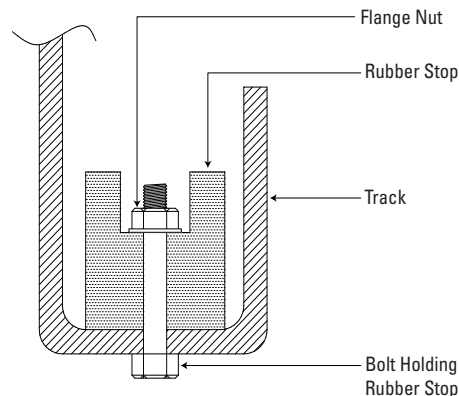


## 20. Rolling Jack:

- Adjust rolling jack telescoping ends until roller rests in runway track, Fig. 36. Make sure wheels are on tracks and center rolling jack between runway on end sections.
- Place jack on runway track at front and rear with air pump facing ends of runways.
- Recommended operating pressure is 100-120 PSI. (689-827 kPa).
- Attach rubber stops see Fig. 36.



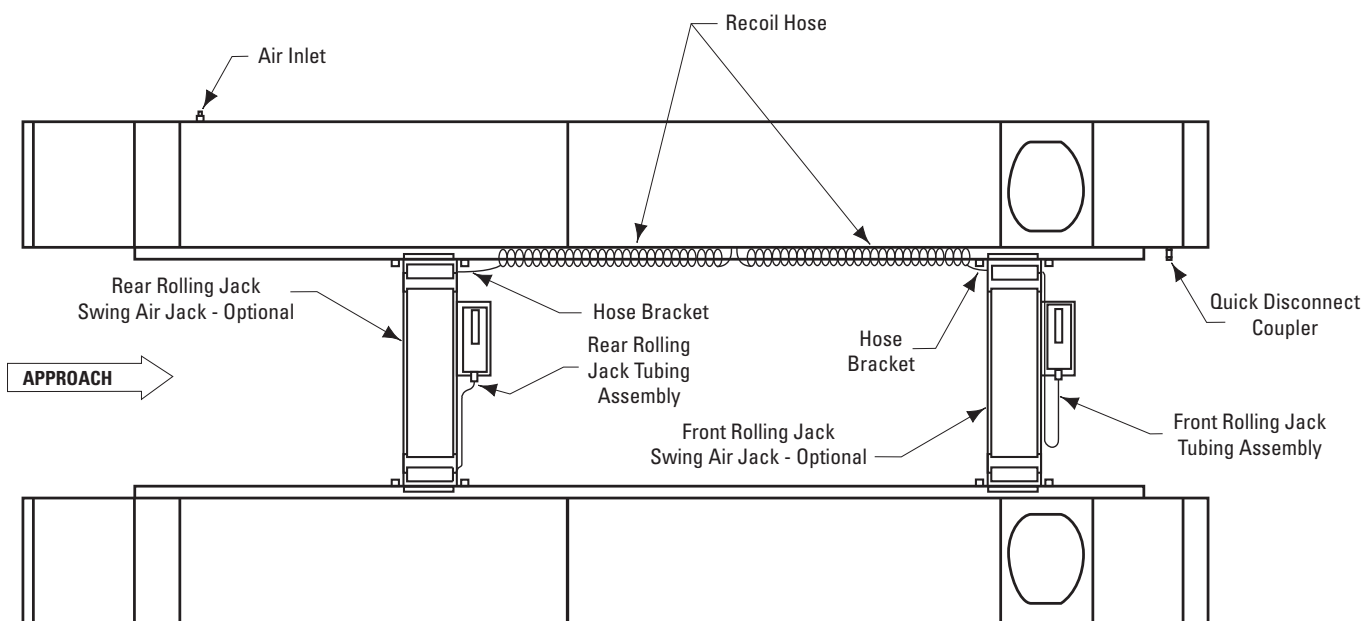
**Fig. 36**



Attach rubber bridge stops to 9.5mm holes 14" (356mm) at end of each runway. Insert 1/4-20 bolt up through runway and stop. Attach 1/4-20 and 1/4 flat washer to top of stop.

- 21. Internal Air Line:** This lift is equipped with an internal airline that provides air to both rolling jacks and extra access point for air driven tools (Quick Disconnect Coupler), Fig. 37. All internal air lines are factory assembled.

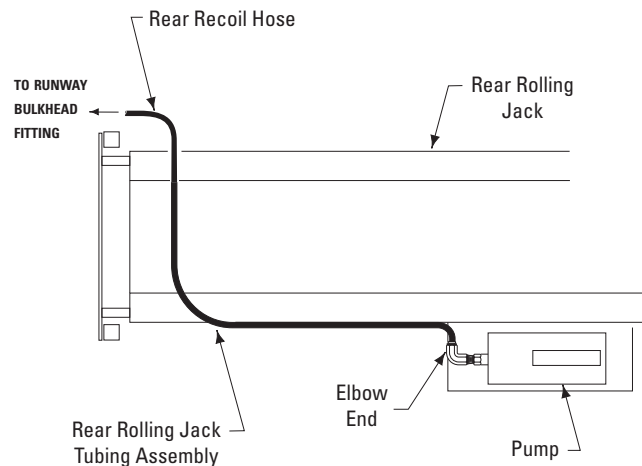
**Fig. 37**



## 22. Rear Recoil Hose Installation:

- A. Assemble retainer cable. Insert retainer cable through coils of recoil hose, Fig. 41. Connect one end of recoil hose to coupling welded on rolling jack, Fig. 40.
- B. Connect other end of front recoil hose to bulkhead T-fitting in center of runway.
- C. Connect elbow end of rolling jack tubing assembly to air pump, and male end to the coupling, Fig. 40.

**Note:** Cut air line 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.



CONNECT TO REAR RECOIL HOSE

Fig. 38

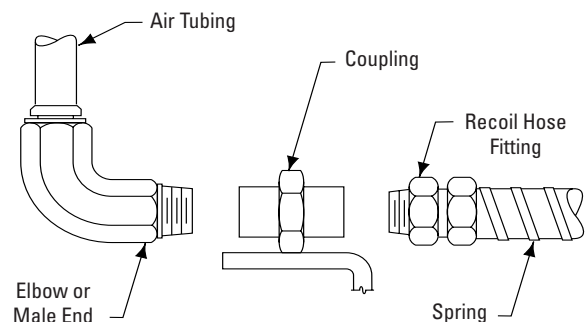
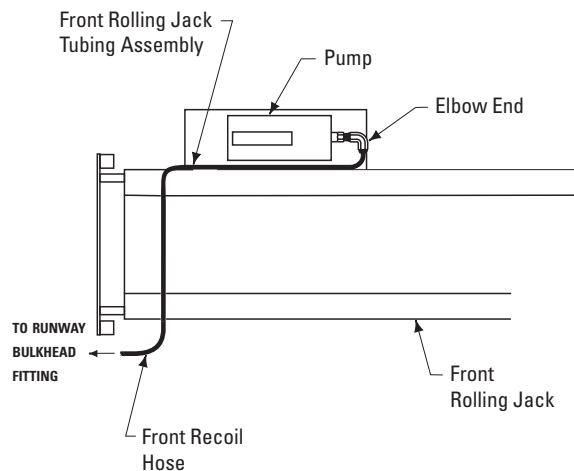


Fig. 39



CONNECT TO FRONT RECOIL HOSE

Fig. 40

23. Front Recoil Hose Installation:

- A. Assemble retainer cable. Insert retainer cable through coils of recoil hose, Fig. 41. Connect one end of recoil hose to coupling welded on rolling jack, Fig. 40.
- B. Connect other end of front recoil hose to bulkhead T-fitting in center of runway.
- C. Connect elbow end of rolling jack tubing assembly to air pump, and male end to the coupling, Fig. 40.

**Note:** Cut air line 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. 42.

Fig. 41

RETAINER CABLE DETAIL		
ITEM	PART NO.	DESCRIPTION
1	FC147-9	RETAINER BRACKET
2	40191	3/8"-16NC x 1-1/4" Lg. HHCS
3	40820	3/8" USS FLAT WASHER
4	40845	3/8" EXT TOOTH LW
5	40660	3/8"-16NC HEX NUT
6	40625	1/4"-20NC HEX NUT
7	XS130063	FRONT AIRLINE RETAINER CABLE
8	S130159	REAR AIRLINE RETAINER CABLE, EL
	S130485	REAR AIRLINE RETAINER CABLE, L

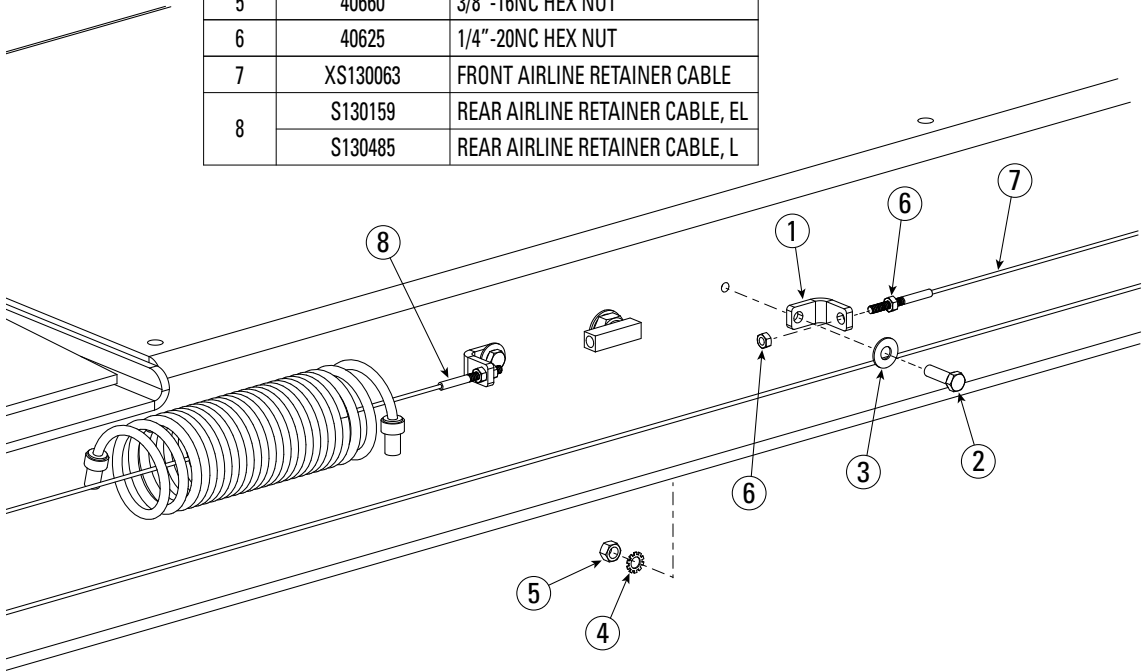
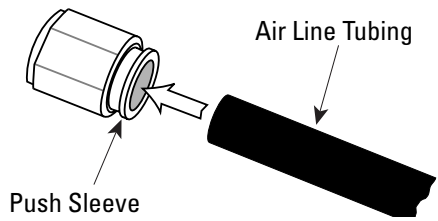


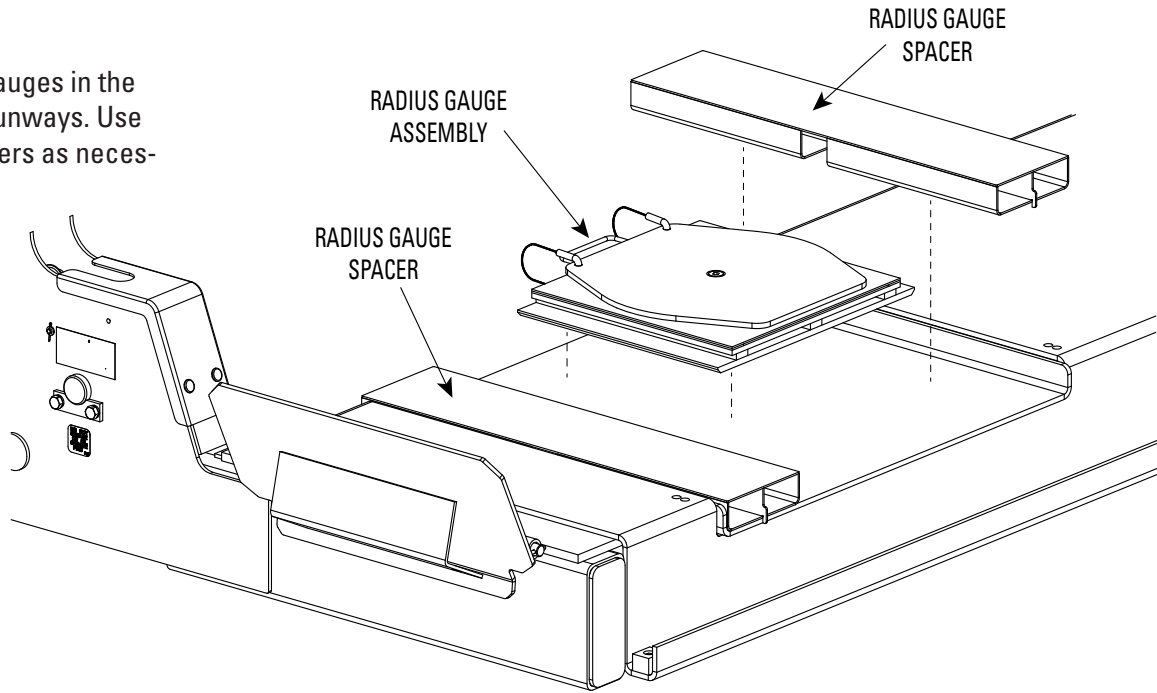
Fig. 42



24. Radius Gauges:

- A. Place the radius gauges in the recesses of both runways. Use radius gauge spacers as necessary, Fig. 43.

Fig. 43





## 25. Runway Leveling Adjustments:

### A. Engineer's automatic level (transit):

1. Locate the Level, at a convenient location in the shop that allows an unobstructed view of all four corners of the Lift's runways.
2. Follow the Level manufacturer's instructions for proper setup of the Level. Be sure it is adjusted level in all directions.
3. Readjust Level if tripod or Level is bumped or disturbed.

### B. Raise lift approximately 28" - 32" (711-813mm), then lower lift until all locking latches are engaged in each column and the runways are in full down position on locks.

### C. Place the Level target on the right/front wheel turning radius gauge.

### D. Beginning with "A" position, Fig. 44, sight the Level to the target and mark the number or the graduation on the inch scale of the target that aligns to the crosshairs of the Level, Fig. 45.

**Note:** Use a pencil, marking pen or attach a paper clip onto the target scale at the crosshair reference.

### E. Next, move the target and place it on the turning radius gauge at point "B", Fig. 44.

### F. Rotate the Level and focus on the target scale.

### G. Adjust the latch bar adjustment nut at the top of the column at "B", Fig. 44, by loosening the jam nut and turning adjustment nut, Fig. 46, until the crosshairs of Level align to reference mark on the target scale.

### H. Repeat steps E., F. and G., locating the target assembly at points "C" and "D" and adjusting the latch bar at each corresponding column until the reference mark on the target scale is on the crosshairs of the Level.

**Note:** Runways Must Be Level Side To Side, Maximum Tolerance Front To Rear 1/16" (1.6mm).

### I. Always recheck the level of the runways to be sure all four latch bars are adjusted correctly. Start at point "A" and recheck level at points "B", "C", and "D", Fig. 44. Readjust as needed. The runways are now level at all four points.

### J. To complete the leveling procedures, lock each latch bar jam nut tightly against bottom of column top plate, Fig. 46. Finally, tighten 3/8"-16NC x 1-3/4" Lg. bolt and 3/8"-16NC hex flanged WZ lock nut on front latch bar bases, ref Fig. 13.

Fig. 44

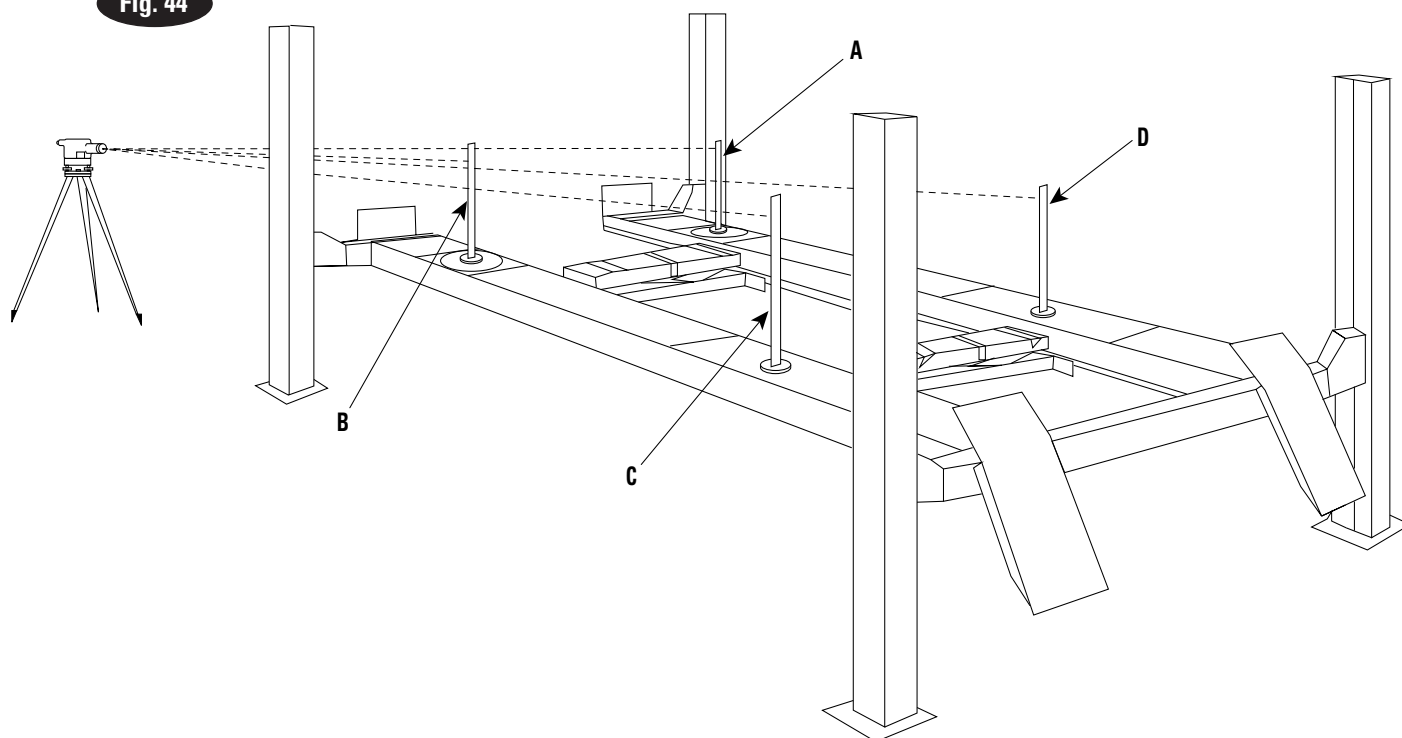


Fig. 45

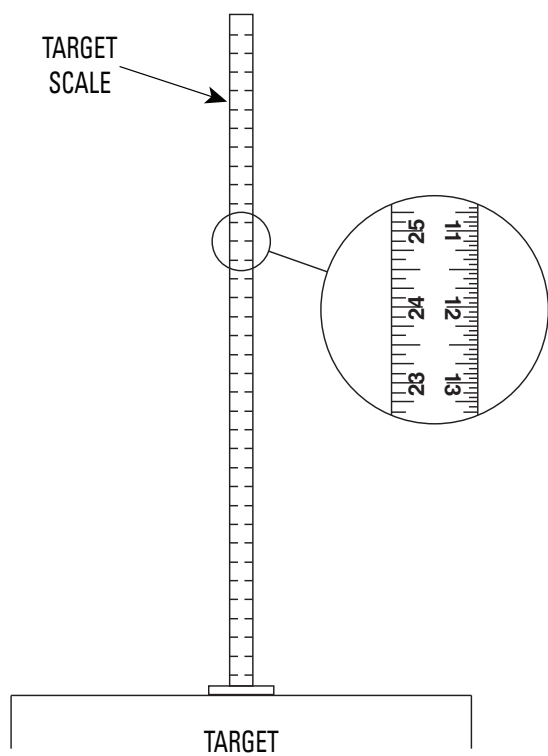
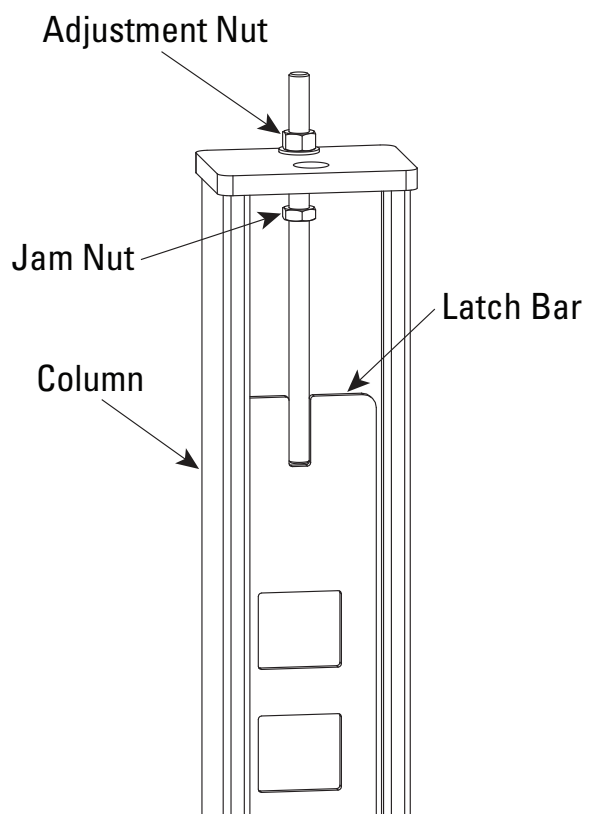


Fig. 46



## Notes

# ATTENTION INSTALLER:

Please return this booklet to literature package and give to lift owner/operator.

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

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



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[www.vsgdover.com](http://www.vsgdover.com)  
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##### Tech. Support:

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[technicalsupport@rotarylif.com](mailto:technicalsupport@rotarylif.com)

##### Government Sales:

800.445.5438 X5655  
[rotarylif.com/Government-Purchasing-Assistance/](http://rotarylif.com/Government-Purchasing-Assistance/)

**Additional information at** [rotarylif.com](http://rotarylif.com)

#### Global Contact Information

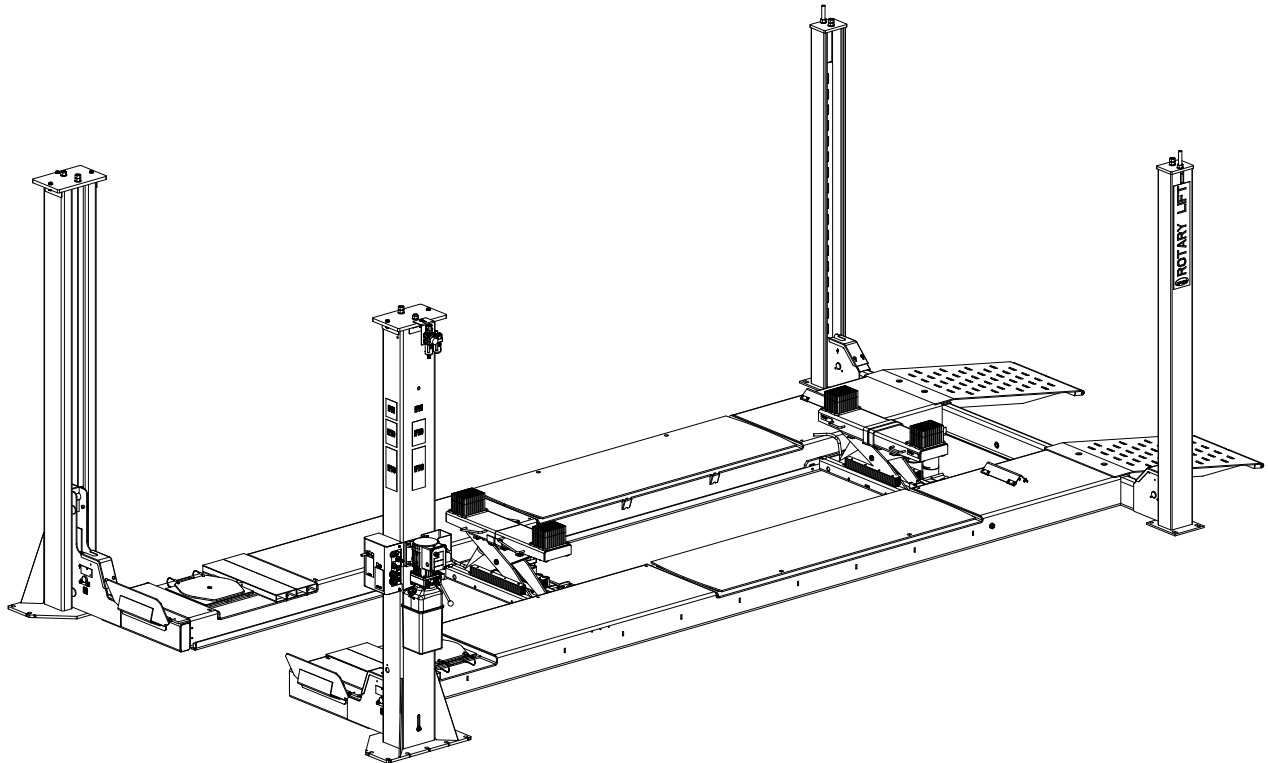
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Canada: 1.905.812.9920  
European Headquarters/Germany: +49.771.9233.0  
Latin America/Caribbean: 1.812.273.1622  
Middle East/Northern Africa: +49.771.9233.0  
Southern Africa: 1.812.273.1622  
United Kingdom: +44.178.747.7711



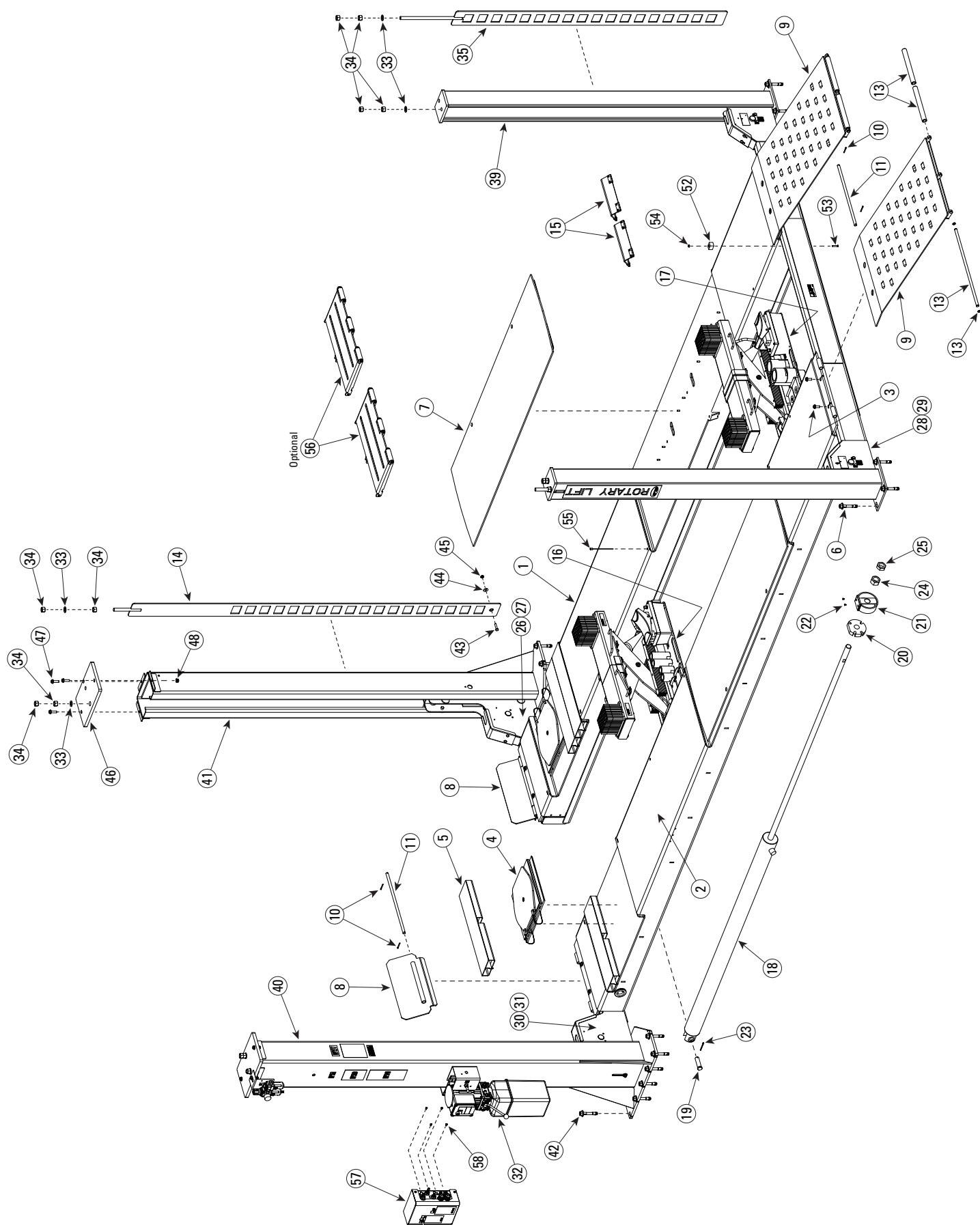


# AR016

Four Post Surface Mounted Lift  
Capacity 16,000 lbs. (7,257 kg.)  
7,000 lbs. (3,175 kg.) Front Bridge  
9,000 lbs. (4,082 kg.) Rear Bridge  
Min. Wheelbase: 131" (332.7 cm)  
Max. Wheelbase: L - 194" (4,928 mm)  
EL - 217" (5,512 mm)



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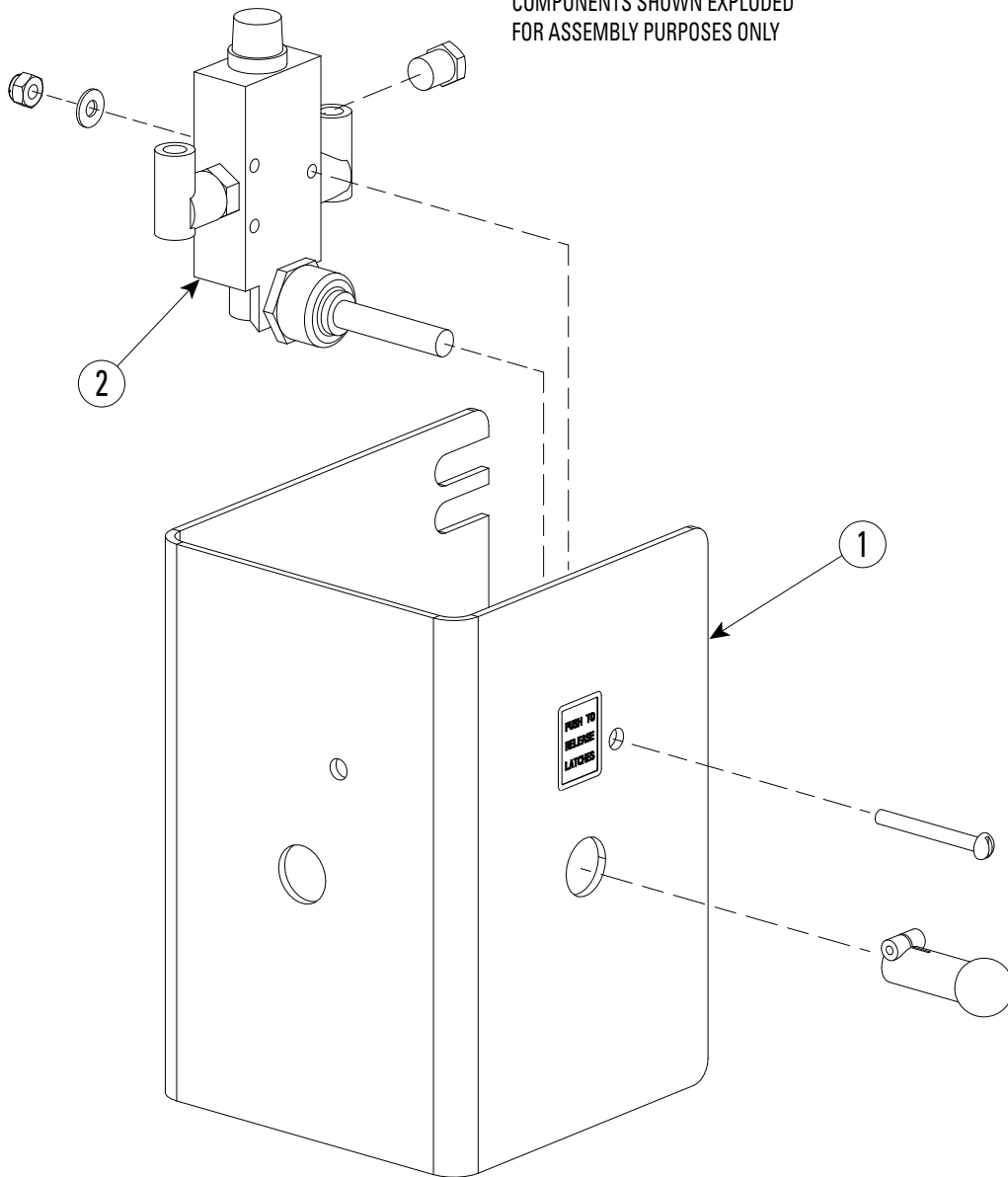


ARO16 PARTS LIST		
ITEM NO.	DESCRIPTION	PART NO.
1	R.H. Runway Assembly ARO16L	S110674Y
	R.H. Runway Assembly ARO16EL	S110676Y
2	L.H. Runway Assembly ARO16L (Includes cylinder, cables and sheaves)	S110673Y
	L.H. Runway Assembly ARO16EL (Includes cylinder, cables and sheaves)	S110675Y
3	1/2"-13 Flg. Whiz-Lock HHCS (High Strength)	B18-12x30
4	Stainless Radius Gauge Assembly	S110653
5	Turntable Spacer Assembly	S110627Y
6	5/8" x 4-3/4" Anchor Bolt	FJ7386
7	Rear Slip Plate *See Rear Slip Plate Parts Kit (S100200) Later In Booklet	S110628Y
8	Wheel Stop	S121678Y
9	Ramp Chock Assembly (Standard)	S110642Y
10	1/8" x 1" Cotter Pin	B52-5x40
11	Hinge Pin	FC5989Y
12	NA	NA
13	Ramp Roller & Roller Pin Kit	S100199
14	Front Latch Bar	S121714Y
15	Triangular Wheel Chock	H4P-R3100
16	Front Rolling Jack	RJ7100Y
17	Rear Rolling Jack	RJ9100Y
18	Hydraulic Cylinder	S130243Y
19	Clevis Pin	S130158Y
20	Cable Pull Bar	S120706YA
21	Cable Pull Bar Retainer	S120068YA
22	Screw	B26-5x10
23	3/16" x 3" Lg. Cotter Pin	B52-5x60
24	1 3/8"-6NC Hex Nut	40771
25	1 3/8"-6NC Hex Jam Nut	40773
26	Right Front Yoke Weldment	S110692Y
27	Right Front Yoke Assembly (Including Latches)	S110690Y
28	Rear Yoke Weldment	S121669Y
29	Rear Yoke Ass'y (Including Latches)	S110680Y
30	Left Front Yoke Weldment	S110693Y
31	Left Front Yoke Assembly (Including Latches)	S110691Y

32	Power Unit	P3905
33	Ø20 Flat Washer	B41-20
34	M20 Hex Nut	B30-20
35	Rear Latch Bar	S121154Y
36	NA	NA
37	NA	NA
38	NA	NA
39	Rear Column	S110445Y
40	Power Unit Column	S110687Y
41	Front Column	S110684Y
42	3/4" x 5-1/2" Anchor Bolt	FJ7385
43	M10 x 45 Lg. HHCS	B10-10x45
44	10mm Flat Washer Plated	B42-10
45	M10 Flanged WZLock Nut	B33-M10
46	Front Column Plate	S121691Y
47	M12 x 40 Lg. Flanged WZLock HHCS	B18-12x40
48	M12 Flanged WZLock Nut	B391-12
49	NA	NA
50	NA	NA
51	NA	NA
52	Rubber Stop	FC7112Y
53	M6 x 35 Lg. HHCS	B10-6x35
54	M6 Flanged WZLock Nut	B30-6
55	LED Light Kit L Length Lifts	S100216
	LED Light Kit EL Length Lifts	S100217
	LED Replacement Light Kit (Available 2 Lights Per Kit)	S100196
56	Articulating Ramp Kit (Optional)	S100193
57	Light/Rear Steer Control Panel	ARO16-08-00
58	M6 x 12 Lg. HHCS	41622

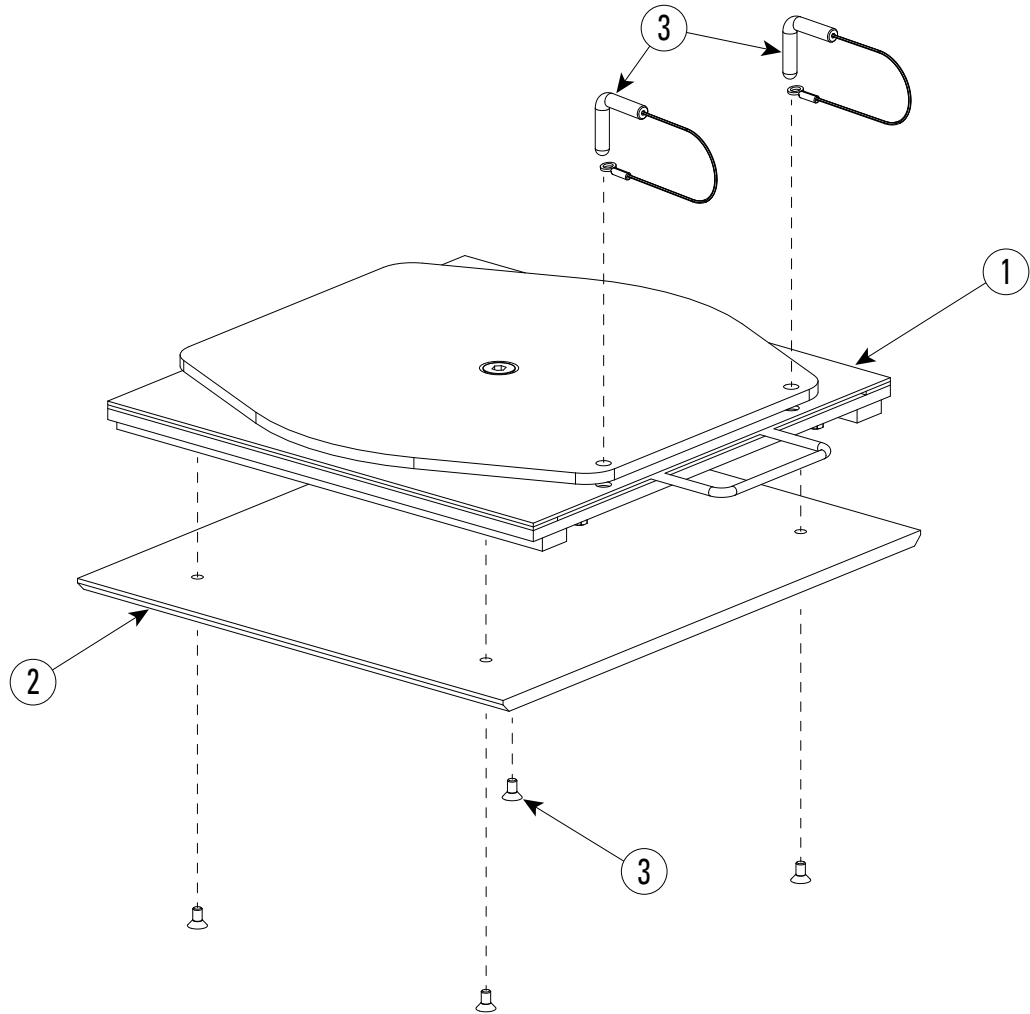
ITEM	QTY	PART NO.	DESCRIPTION
1	1	S121642	AIR VALVE BRACKET
2	1	T100045	AIR VALVE REPLACEMENT KIT

COMPONENTS SHOWN EXPLODED  
FOR ASSEMBLY PURPOSES ONLY

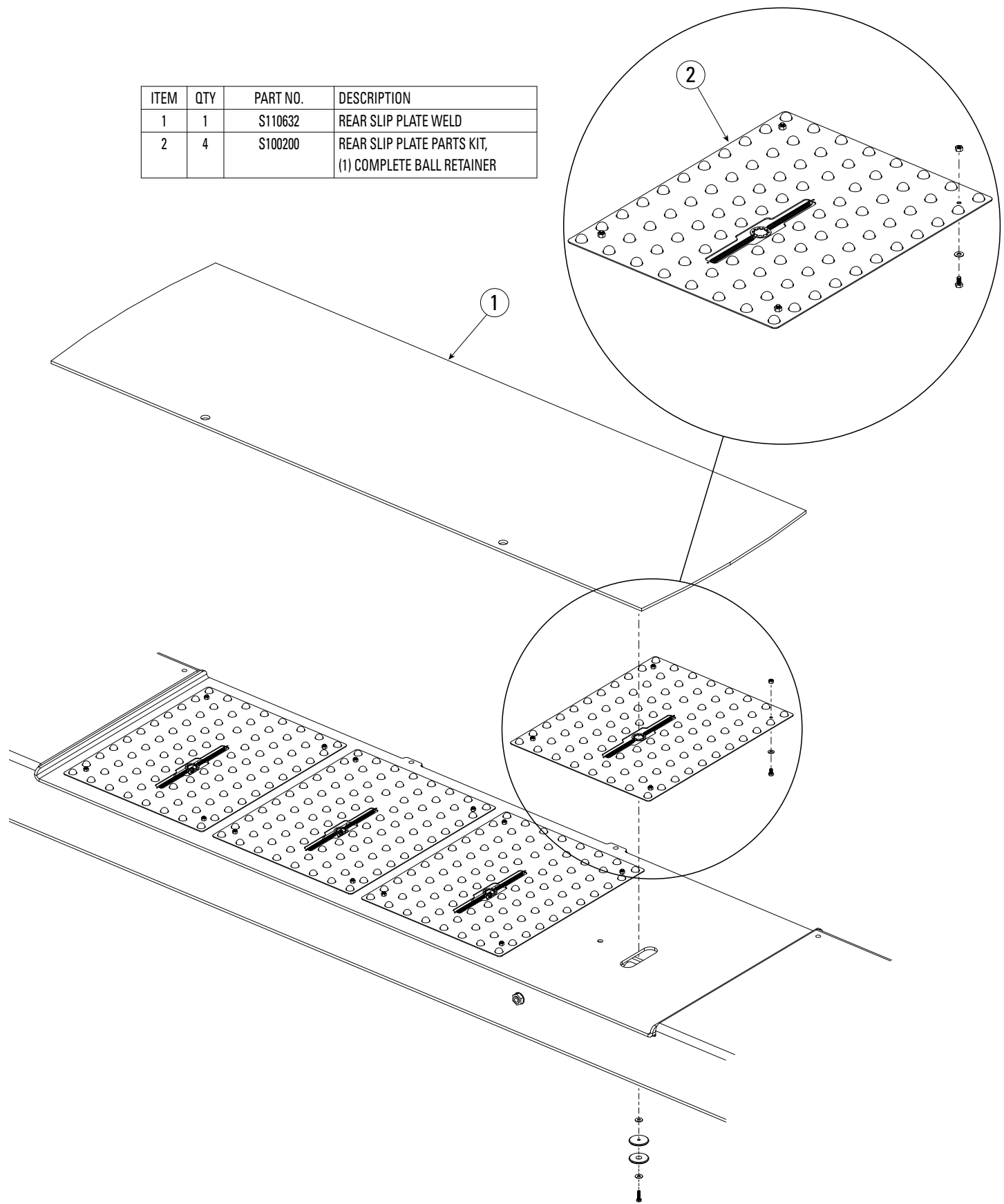


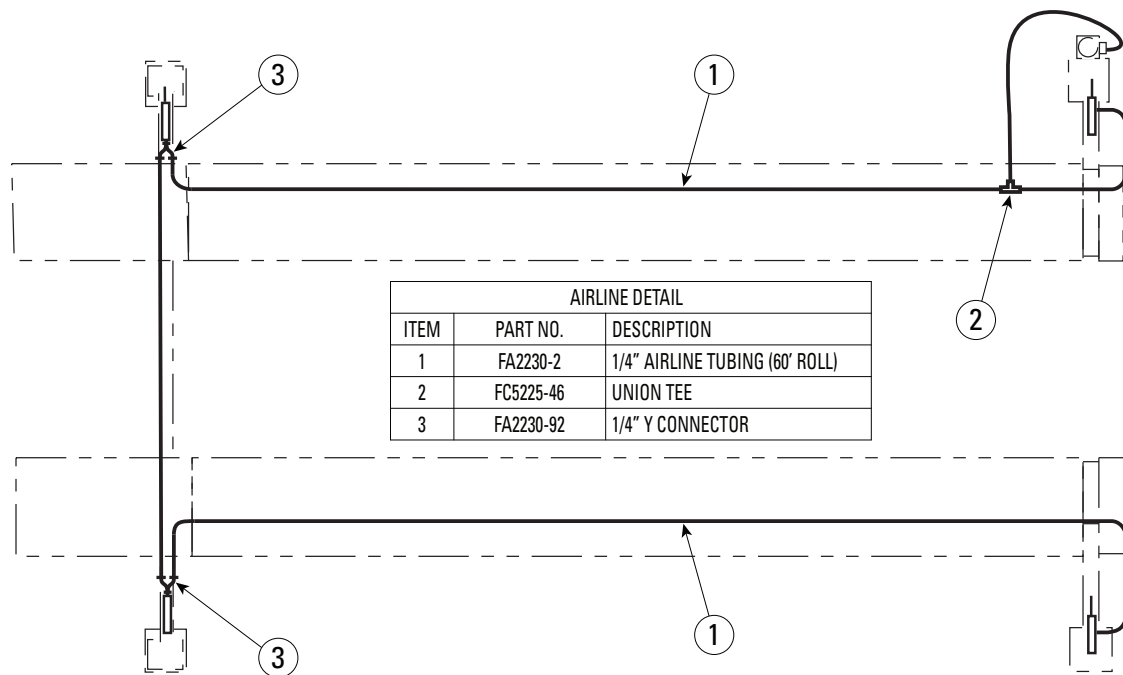


ITEM	QTY	PART NO.	DESCRIPTION
1	1	S110653	RADIUS GAUGE
2	1	S121604	TURN TABLE GAUGE SPACER
3	1	S100198	PIN AND BOLT KIT

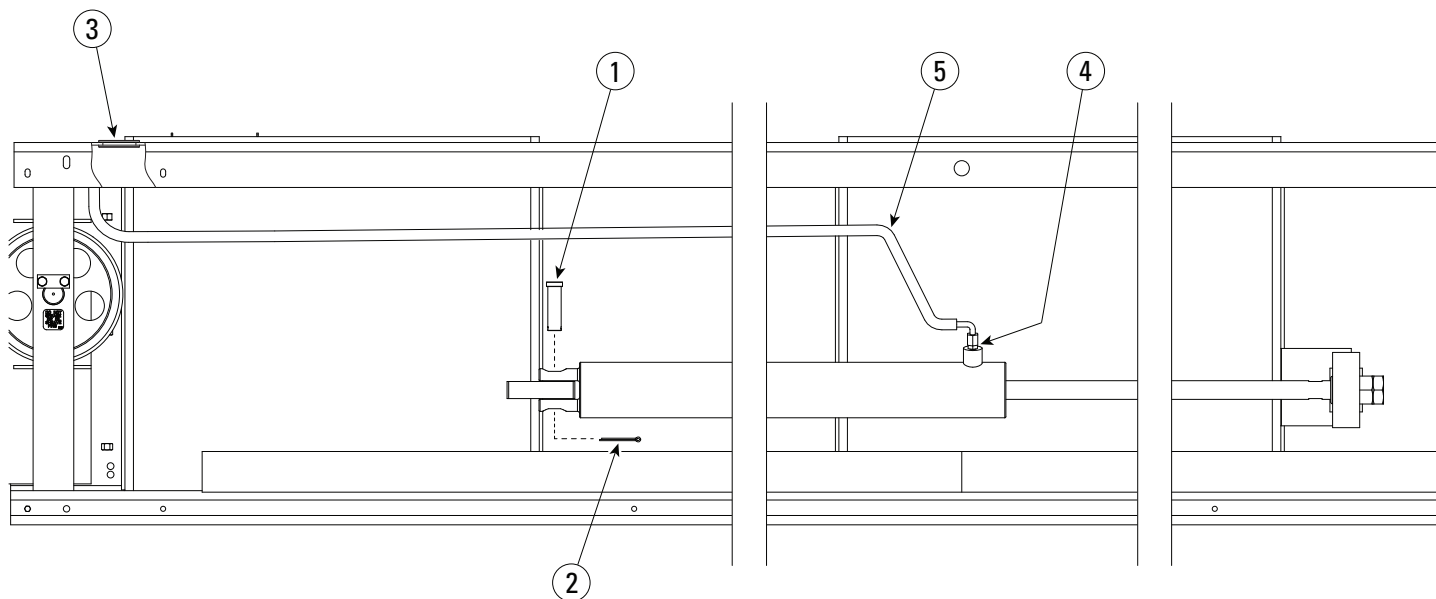


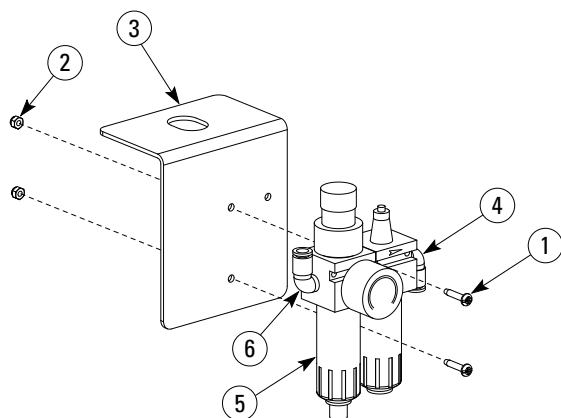
ITEM	QTY	PART NO.	DESCRIPTION
1	1	S110632	REAR SLIP PLATE WELD
2	4	S100200	REAR SLIP PLATE PARTS KIT, (1) COMPLETE BALL RETAINER



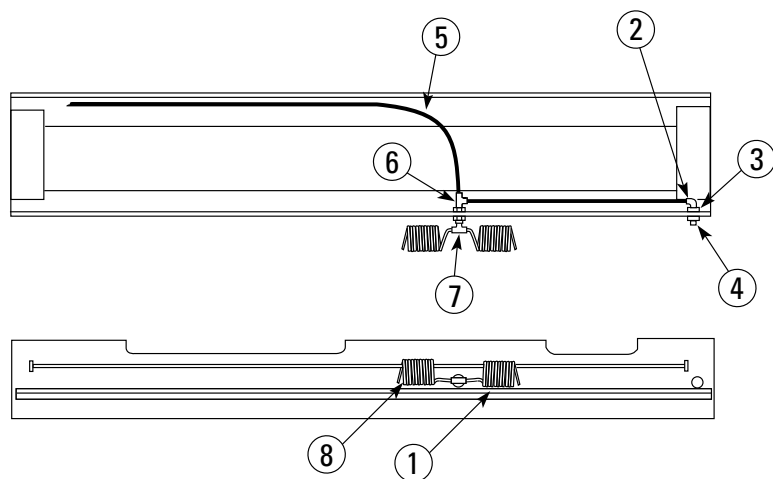


HYDRAULIC HOSE DETAIL				
ITEM	QTY	PART NO.	DESCRIPTION	
1	1	S130158Y	CLEVIS PIN	
2	1	B52-5x60	3/16" x 3" Lg. COTTER PIN	
3	1	S130421	RUNWAY RUBBER GROMMET	
4	1	FJ7352-3	STRAIGHT O'RING REDUCER	
5	1	CR14-9801-2	HYDRAULIC HOSE	



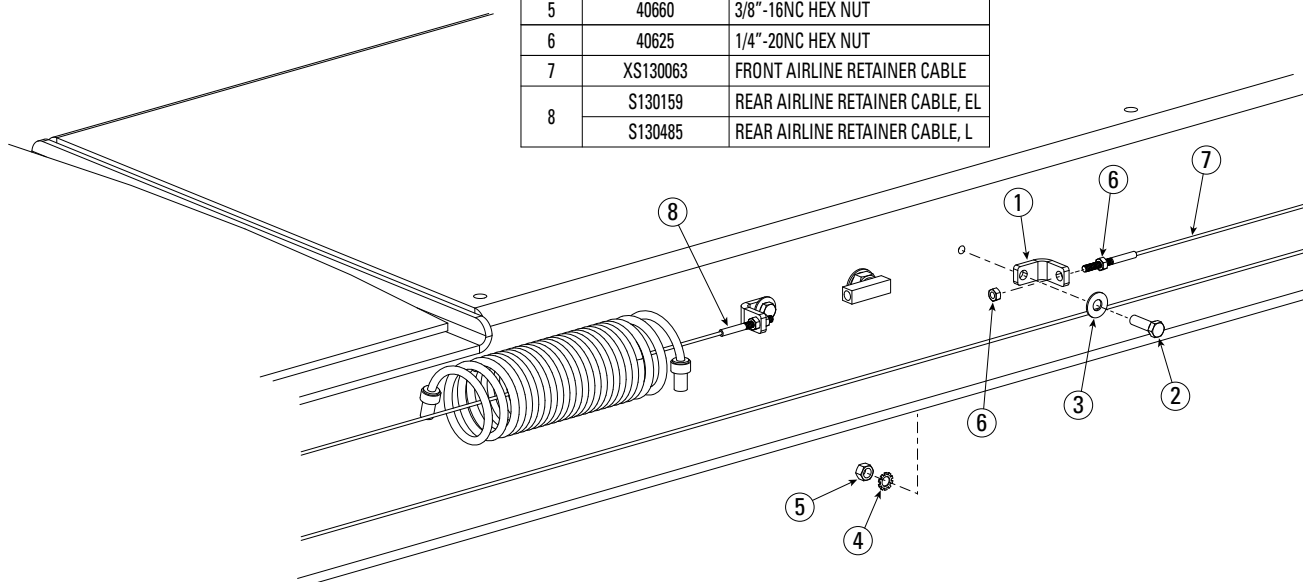


FRL DETAIL		
ITEM NO.	DESCRIPTION	PART NO.
1	M4-20 Phil PHMS	41682
2	M4 Nylon Lock Nut	41558
3	Adapter Bracket	S120674
4	Elbow	FC147-7
5	Filter/Regulator/Lubricator	S130080
6	Elbow	FC147-7

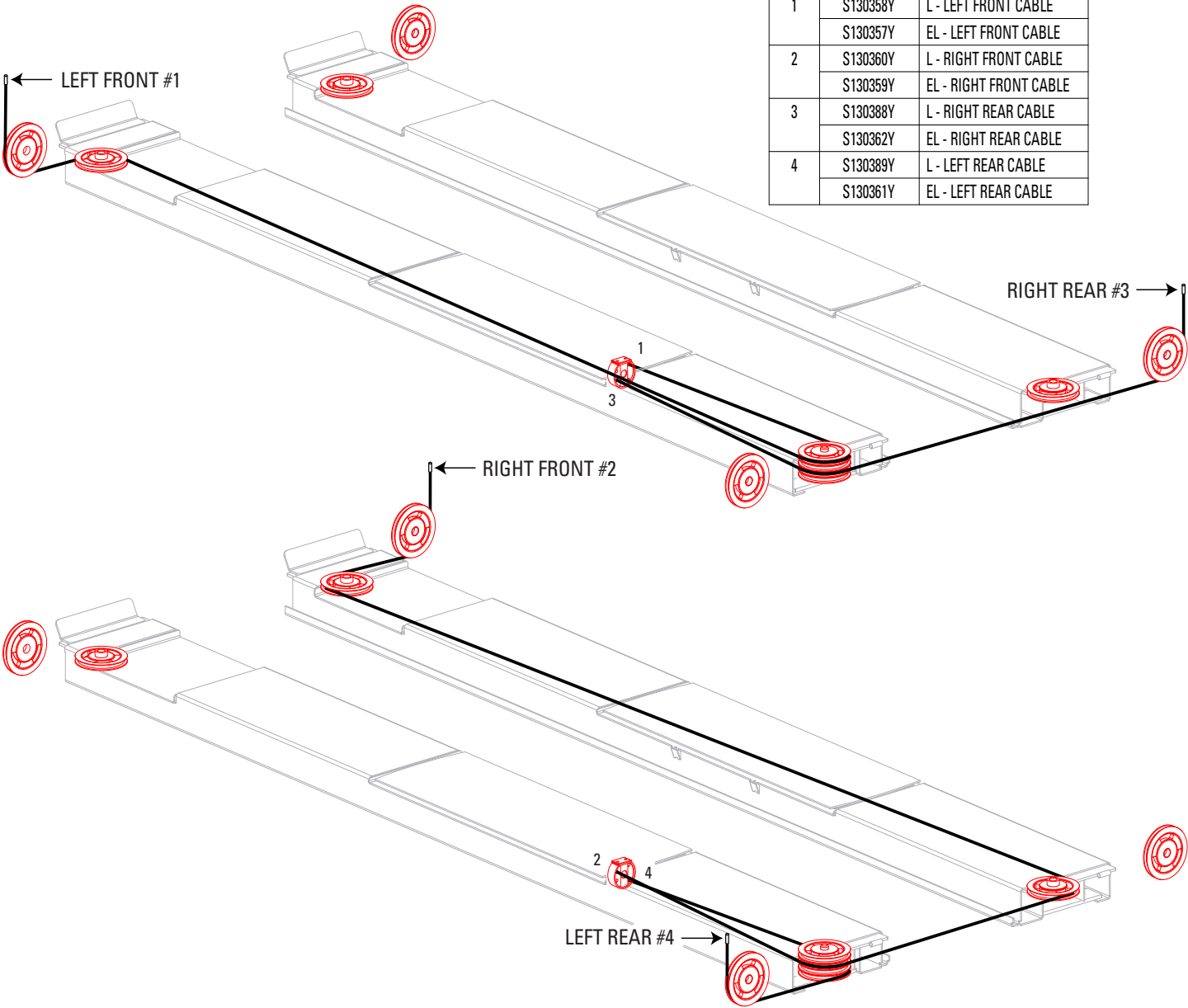


INTERNAL AIRLINE PARTS		
ITEM NO.	DESCRIPTION	PART NO.
		L, EL MODEL
1	Front Recoil Hose	FC147-14
2	Male Elbow	FC147-7
3	Female Bulkhead	FC147-1
4	1/4" Hex Plug	40639
5	Tubing	FA2230-15
6	Male Run Tee	FC147-3
7	Male Branch Tee	FC147-5
8	Rear Recoil Hose	S130160

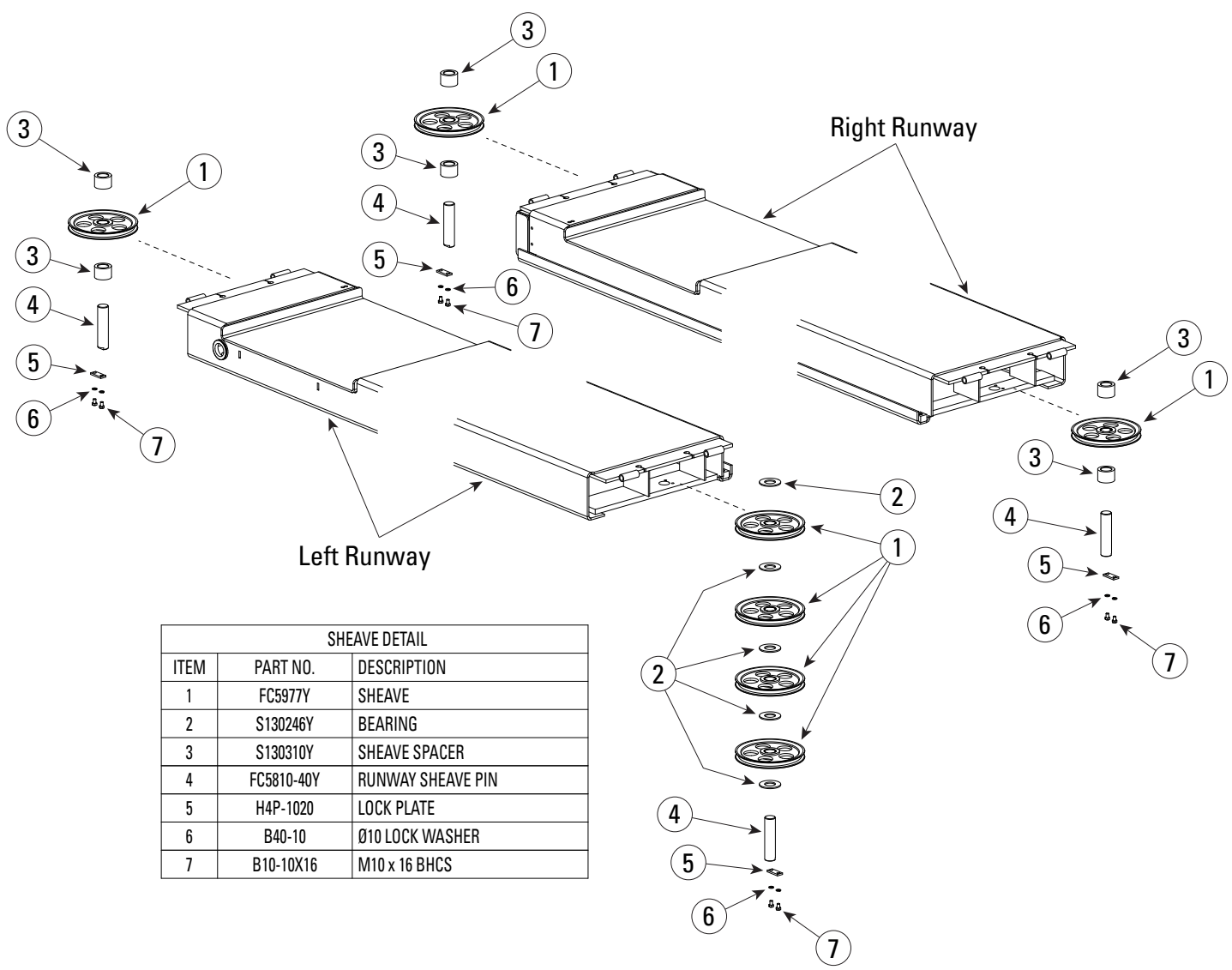
RETAINER CABLE DETAIL		
ITEM	PART NO.	DESCRIPTION
1	FC147-9	RETAINER BRACKET
2	40191	3/8"-16NC x 1-1/4" Lg. HHCS
3	40820	3/8" USS FLAT WASHER
4	40845	3/8" EXT TOOTH LW
5	40660	3/8"-16NC HEX NUT
6	40625	1/4"-20NC HEX NUT
7	XS130063	FRONT AIRLINE RETAINER CABLE
8	S130159	REAR AIRLINE RETAINER CABLE, EL
	S130485	REAR AIRLINE RETAINER CABLE, L



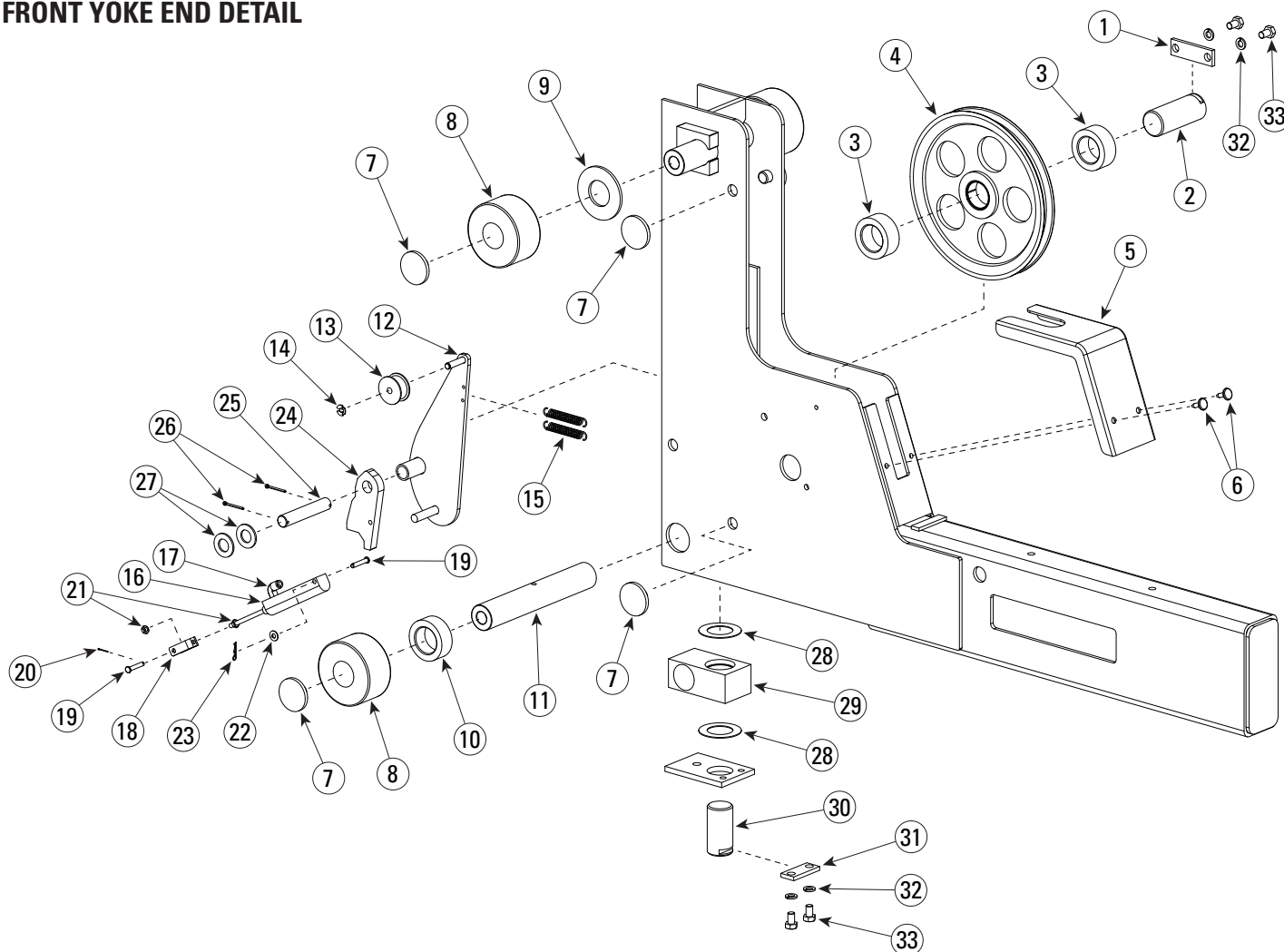
CABLES		
ITEM	PART NO.	DESCRIPTION
1	S130358Y	L - LEFT FRONT CABLE
	S130357Y	EL - LEFT FRONT CABLE
2	S130360Y	L - RIGHT FRONT CABLE
	S130359Y	EL - RIGHT FRONT CABLE
3	S130388Y	L - RIGHT REAR CABLE
	S130362Y	EL - RIGHT REAR CABLE
4	S130389Y	L - LEFT REAR CABLE
	S130361Y	EL - LEFT REAR CABLE



SHEAVE DETAIL

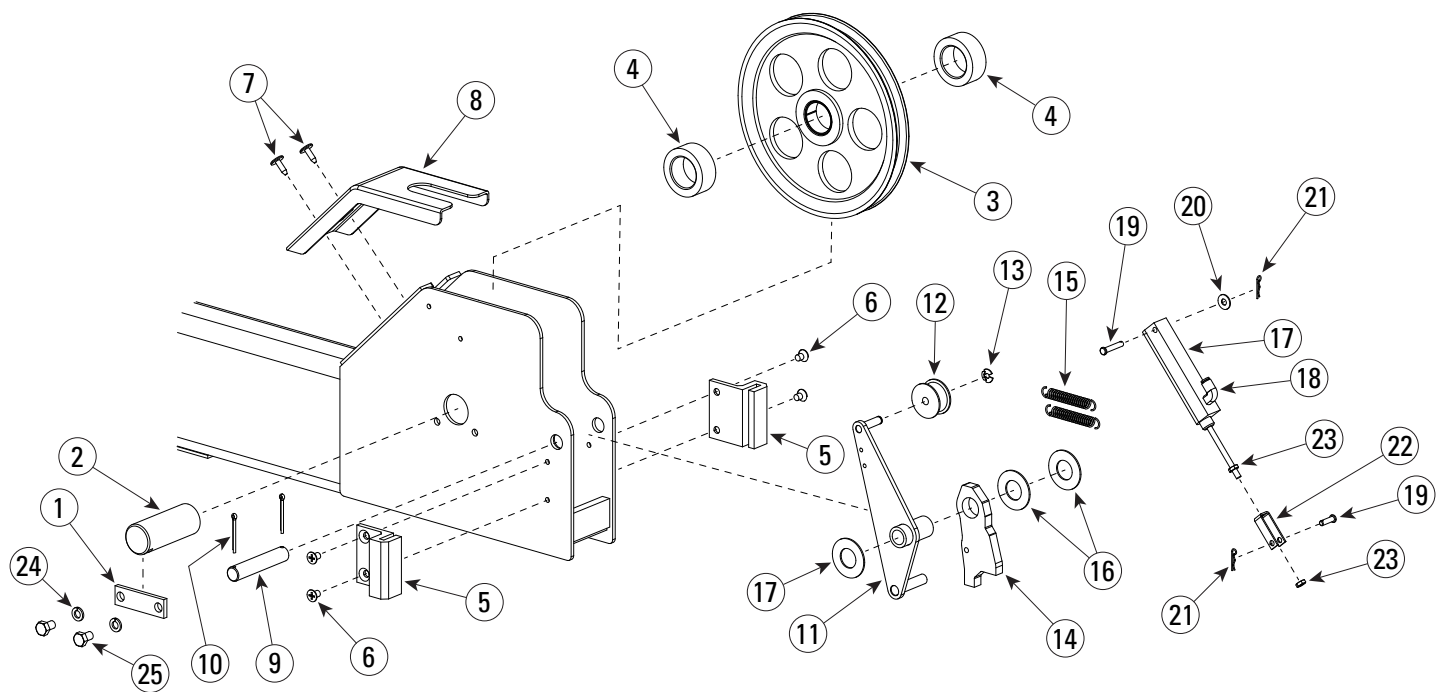


## FRONT YOKE END DETAIL



FRONT YOKE END DETAIL			17	Elbow Fitting	FC5224-39
ITEM	DESCRIPTION	PART NO.	18	Clevis	FC5993Y
1	Lock Plate	H4P-3006	19	1/4" x 1-3/8" Clevis Pin	S130287Y
2	Sheave Pin	FC5981-1Y	20	1/16" x 3/4" Lg. Cotter Pin	B52-2x20
3	Sheave Spacer	S130286Y	21	1/4"-28NF Hex Jam Nut	40622
4	Sheave	FC5977Y	22	1/4" Flat Washer	B41-6
5	Front Yoke Cover	S130349Y	23	1/4" Hairpin Cotter Pin	B52-2x20
6	Nylon Tree Rivet	460440	24	Locking Latch	FC5986Y
7	Carriage Slider	S130206Y	25	Latch Shaft	FC5901-7Y
8	Roller	D12201Y	26	3/16" x 1-1/2" Lg. Cotter Pin	B52-4x40
9	Upper Roller Thrust Bearing	S121748Y	27	Machine Bushing	B41-20
10	Yoke Lower Roller Sleeve	S130486Y	28	Plastic Spacer (on Block)	S130311Y
11	Front Yoke Roller Pin	S121697Y	29	Roller Pin Block Asm	S110688Y
12	Front Yoke Kicker Asm	S110432Y	30	Block Pin	S121258Y
13	Slack Cable Roller	FC553-21Y	31	Block Pin Retainer	H4P-1020
14	3/8" Shaft Retaining Ring	B60-9	32	10mm Helical Spring LW	B40-10
15	Spring	FC522-25	33	M10 x 16 Lg. HHCS	B10-10x16
16	Air Cylinder	S130061			

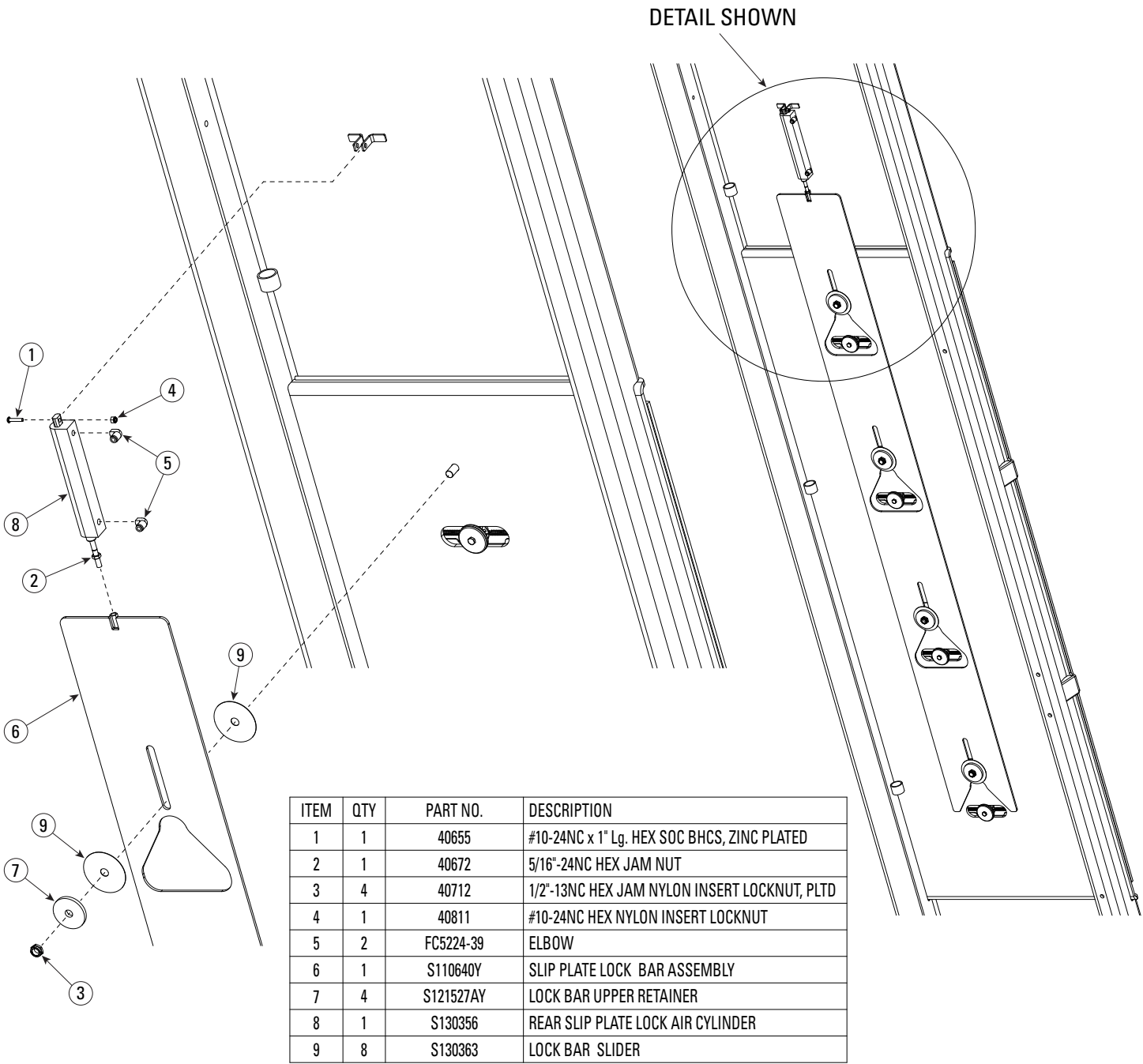
## REAR YOKE END DETAIL



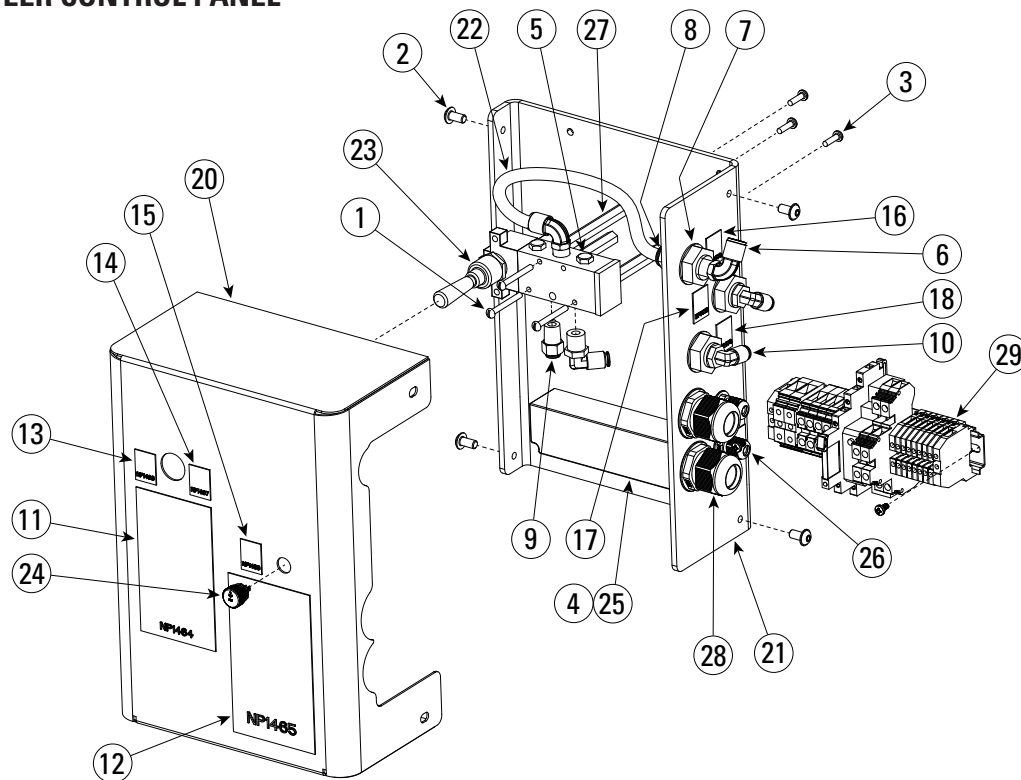
REAR YOKE END DETAIL			13	3/8" Shaft Retaining Ring	B60-9
ITEM	DESCRIPTION	PART NO.	14	Rear Yoke Locking Latch	FC5986Y
1	Lock Plate	H4P-3006	15	Extension Spring	FC522-25
2	Sheave Pin	FC5981Y	16	Machine Bushing	B41-20
3	Sheave	FC5977Y	17	Air Cylinder	S130061Y
4	Sheave Spacer	S130286Y	18	Elbow	FC5224-39
5	Slider	FC622Y	19	1/4" x 1-3/8" Clevis Pin	S130287Y
6	5/16"-18NC x 5/8" WLCS	B24-8x12	20	1/4" Flat Washer	B41-6
7	Nylon Tree Rivet	460440	21	1/4" Hairpin Cotter Pin	B52-2x20
8	Rear Yoke Cover	FC5985Y	22	Clevis	FC5993Y
9	Latch Shaft	FC5901-7Y	23	1/4"-28NF Hex Jam Nut	40622
10	3/16" x 1-1/2" Lg. Cotter Pin	B52-4x40	24	10mm Helical Spring LW	B40-10
11	Rear Kicker Weld	S121272Y	25	M10 x 16 Lg. HHCS	B10-10x16
12	Slack Cable Roller	FC553-21Y			



REAR STEER LOCK

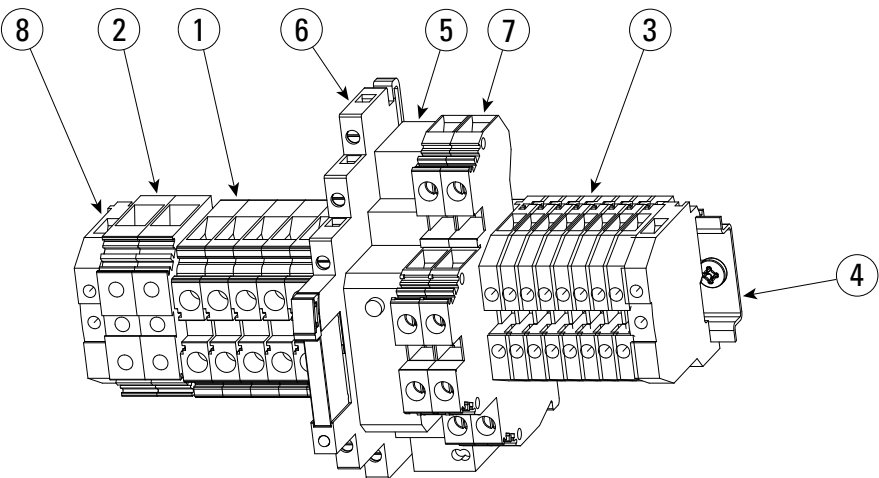


## LIGHT/REAR STEER CONTROL PANEL



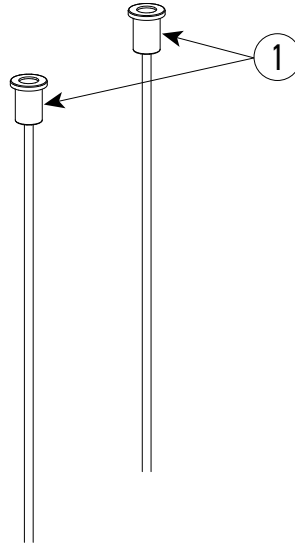
ITEM	QTY	PART NO.	DESCRIPTION
1	3	40007	#8-32NC x 1-1/2" SLOTTED RHMS
2	4	40094	1/4"-20NC x 1/2" Lg FLGD HEX SOC BHCS
3	3	41457	#8-32NC x 5/8" Lg. PHIL TYPE B PHTS, PLTD
4	2	41463	#6-32NC x 1/4" Lg. SLOTTED PHMS
5	2	FA3151-2	1/4" NPT BREATHER VENT
6	2	FA3207	ELBOW
7	3	FC147-1	BRASS ANCHOR CONNECTOR
8	1	FC147-8	MALE CONNECTOR
9	3	FC5191-6	1/4" TUBE TO 1/4" NPT PUSH CONNECTOR
10	3	FC5341-90	MALE ELBOW CONNECTOR
11	1	NP1464	SLIP PLATE LOCK NAMEPLATE
12	1	NP1465	LIGHT ON/OFF/DIMMER NAMEPLATE
13	1	NP1466	PUSH TO LOCK SLIP PLATE NAMEPLATE
14	1	NP1467	PUSH TO UNLOCK SLIP PLATE NAMEPLATE
15	2	NP1468	RUNWAY LIGHTS NAMEPLATE
16	1	NP1470	INCOMING AIR INLET NAMEPLATE
17	1	NP1472	REAR SLIP PLATE LOCK RELEASE NAMEPLATE
18	1	NP1473	REAR SLIP PLATE LOCK ENGAGE NAMEPLATE
19	1	NP1683	ARO16 CONTROLS WIRING DIAGRAM
20	1	ARO16-08-01	PANEL FRONT COVER
21	1	ARO16-08-02	LIGHT/REAR STEER PANEL BACK PLATE
22	1	PR240316	ARO16 CONTROL PANEL SUPPLY TUBING
23	1	S130415	AIR VALVE, SLIP PLATE LOCK
24	1	S130428	PANEL MOUNT POTENTIOMETER
25	1	S130429	DIMMABLE POWER SUPPLY, LIGHTS
26	2	S130430	CORD GRIP, NEMA4 .118-.168 RANGE
27	3	S130432	3 ALUMINUM FEMALE- FEMALE STANDOFF, 8-32
28	2	S130435	CABLE GLAND
29	1	S130458	ARO22 DIN RAIL ASSEMBLY
30	1	S130462	PHOTO EYE KIT

**LIGHT/REAR STEER DIN RAIL ASSEMBLY**



ITEM	QTY	PART NO.	DESCRIPTION
1	6	FA9147-4	TERMINAL BLOCK 600 VOLT 50 AMP 8MM
2	2	FA9147-5	TERMINAL BLOCK GROUND BLOCK 10MM
3	8	MC130016	TERMINAL BLOCK
4	1	S130397	SmartFill 35mm DIN RAIL KIT
5	1	S130416	ACCESSORY POWER SUPPLY
6	1	S130417	PLUG IN SOCKET, RELAY
7	2	S130463	DIODE DIN RAIL TERMINAL BLOCK
8	2	XS130085	END STOP

ITEM	QTY	PART NO.	DESCRIPTION
1	1	S100196	REPLACEMENT LIGHT KIT (2 LIGHTS PER KIT)



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