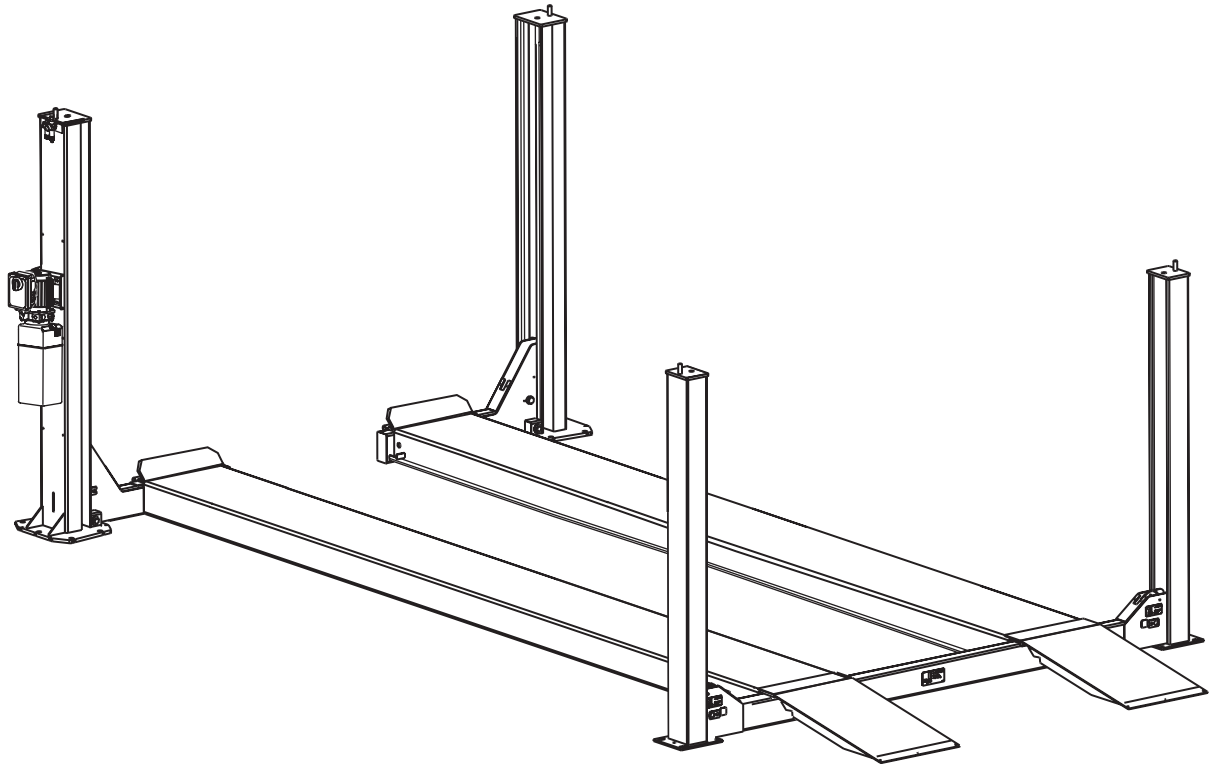
OR14
Installation and Owners Manual

Four Post Surface Mounted Lift

Capacity 14,000 lbs. (7,000 lbs. per axle)

Maximum Wheelbases of 212-1/2", 192-1/2" & 158-1/2"



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 Replacement Parts.

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Rev. - 6/8/2007

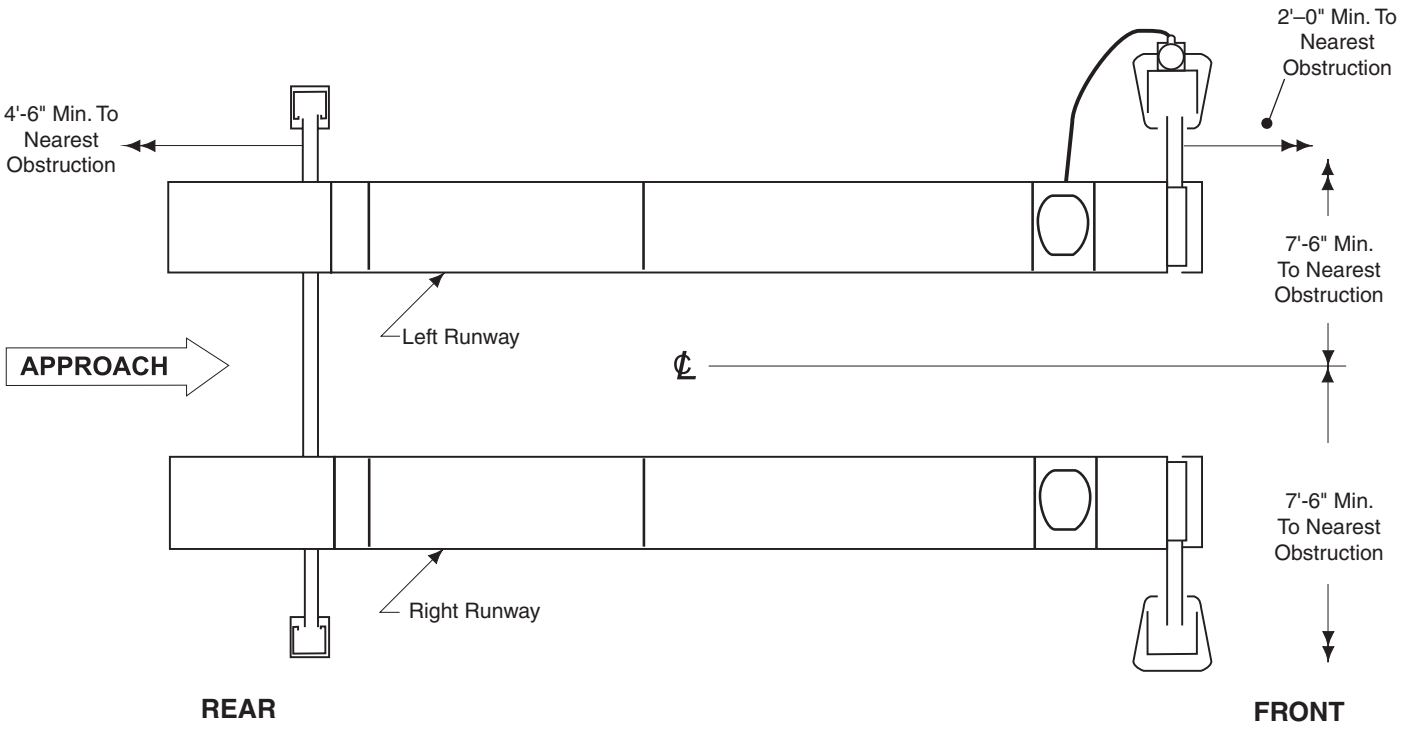


Fig. 1

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.

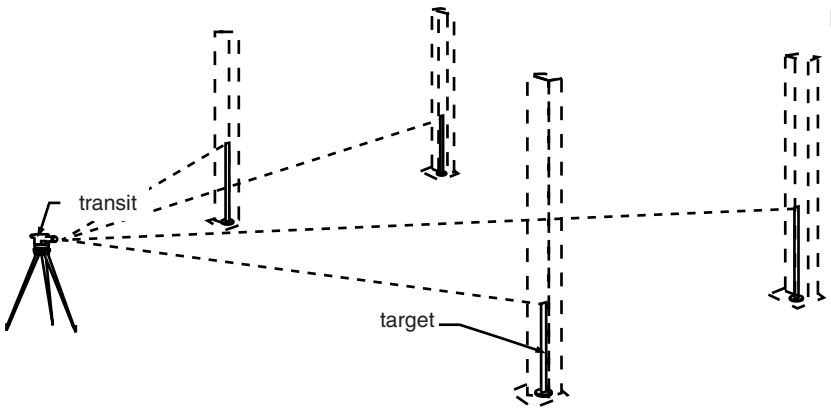
⚠WARNING DO NOT install on asphalt or other similar unstable surface. Columns are supported only by anchors in floor

2. Ceiling or overhead clearance must be 80" 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" per column using shims and anchors provided with lift. Shim thickness of 2" is possible by using optional shim kit and longer anchors. Contact your authorized Rotary Parts Distributor for ordering information.



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. 2

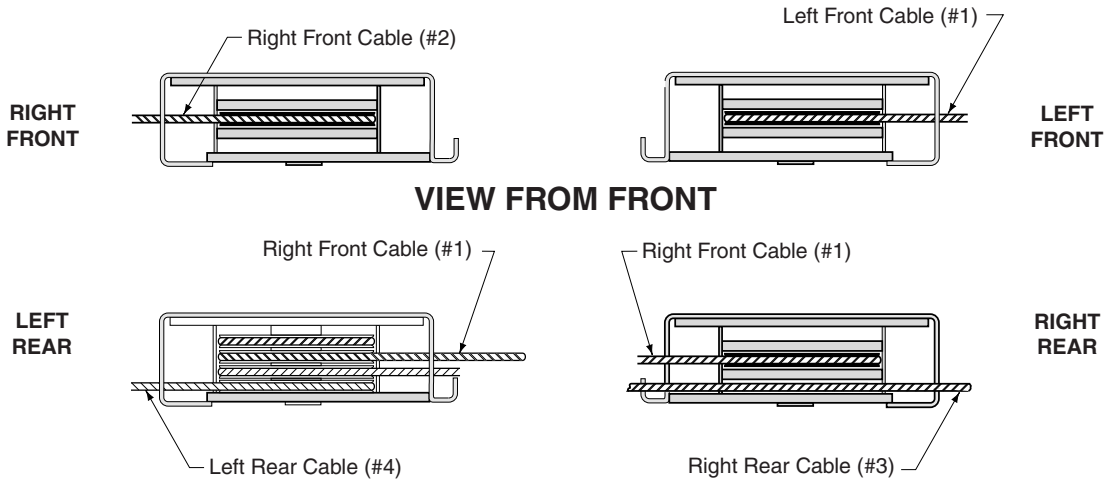


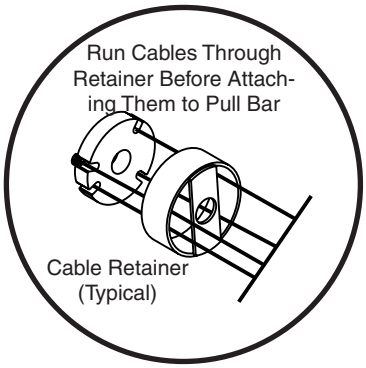
Fig. 3

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 rear of bay. Cables and sheaves are pre-assembled in left runway but not in the right runway. Runway needs to be up off 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 #1 through right runway, Fig. 3 and 4. Assemble sheaves and bearings into both ends of right runway, Fig. 5. Make sure cables are in proper sheave grooves, Fig. 3. Do not assemble sheaves in yoke ends at this time.



Do Not Cross Cables

Cable Retainer Not Shown to Clarify Cable Roping Illustration

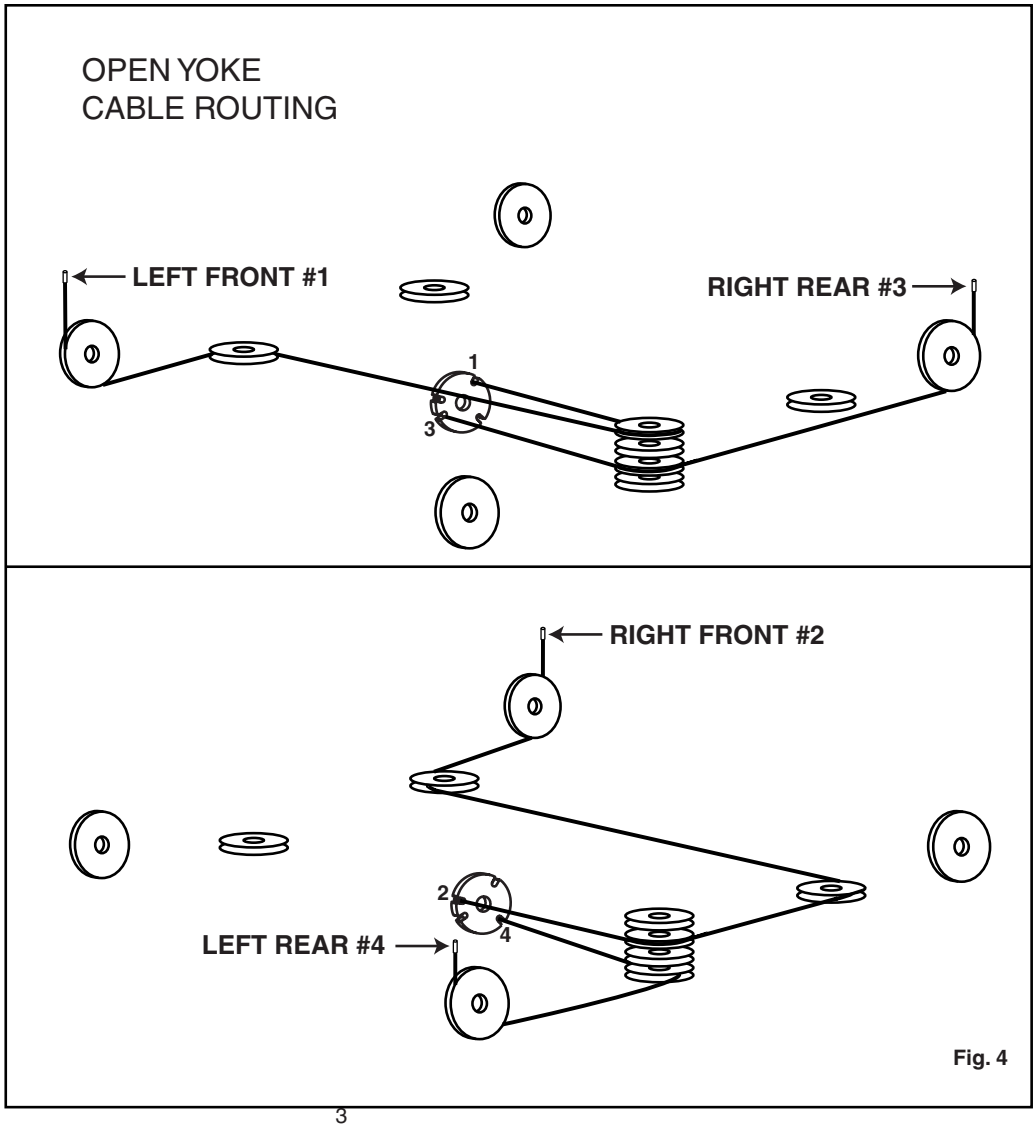


Fig. 4

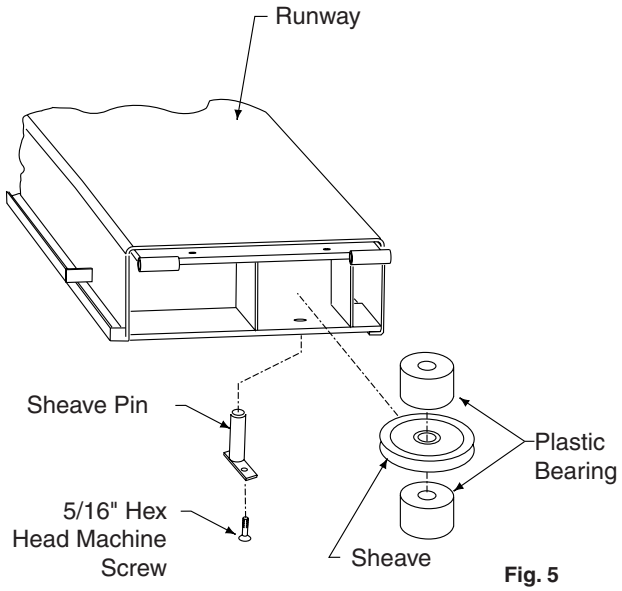


Fig. 5

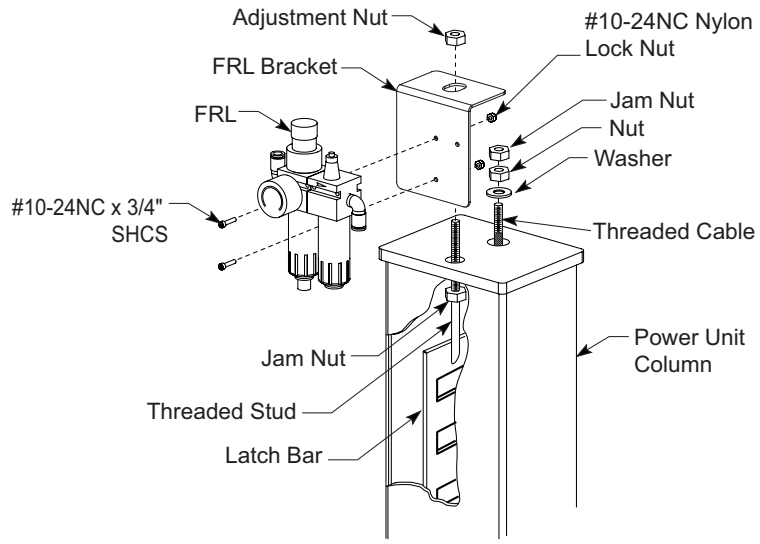


Fig. 7a

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. Bolt runways to the rear yoke using four 1/2" x 1-1/4" hex flange bolts, Fig. 6.

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. Attach rubber bumper to latch bar, see Fig. 8. Place the latch bar into the back of the column. The latch bar is offset from the center line of the threaded stud. The latch bar should be oriented toward the back of the column from center line of the threaded stud, Fig. 7b.
Thread the adjustment nut down the threaded stud until the nut and top plate are flush, Fig. 7a. Repeat for other columns.

C. Install rear yoke end sheaves and plastic spacers, Fig. 9. A plastic spacer is placed on each side of the sheave, see inset, Fig. 9. Retain with sheave pin and 5/16" button head machine screw.

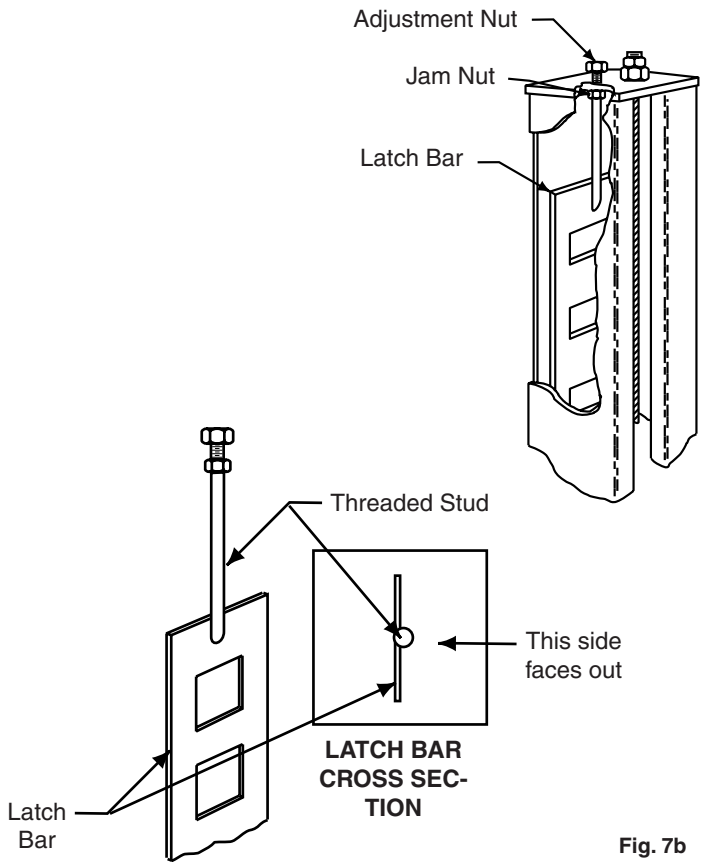


Fig. 7b

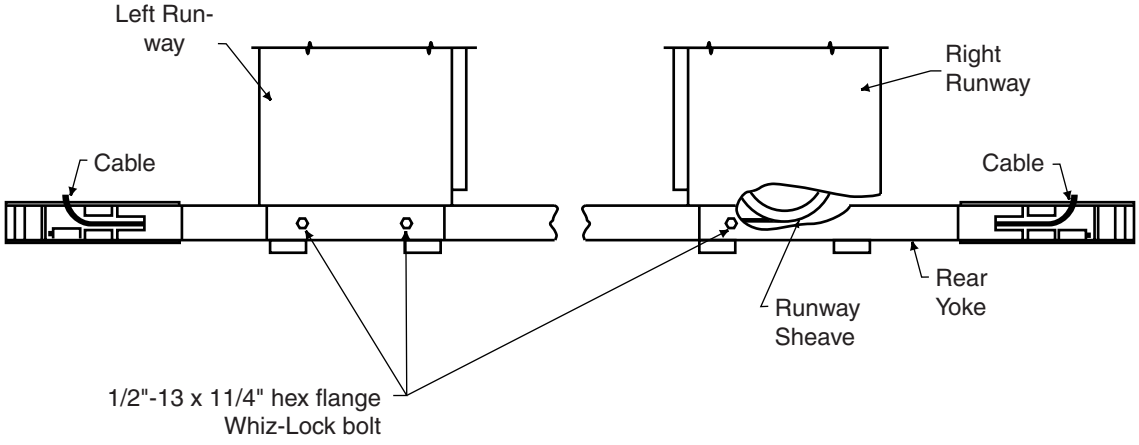


Fig. 6

D. Start yoke end into the column, allowing slider bolt holes to stay exposed, Fig. 8. Apply thread locking compound to screw threads then bolt sliders onto each side of the yoke end with 5/16" screws provided. 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. Lower the latch bar into the sliders. Tighten latch bar jam nut against column top plate. Run latch bar adjustment nut down and tighten. The latch bar should engage the sliders for at least 1" when the lift is completely lowered. Repeat this procedure for each rear yoke end and column.

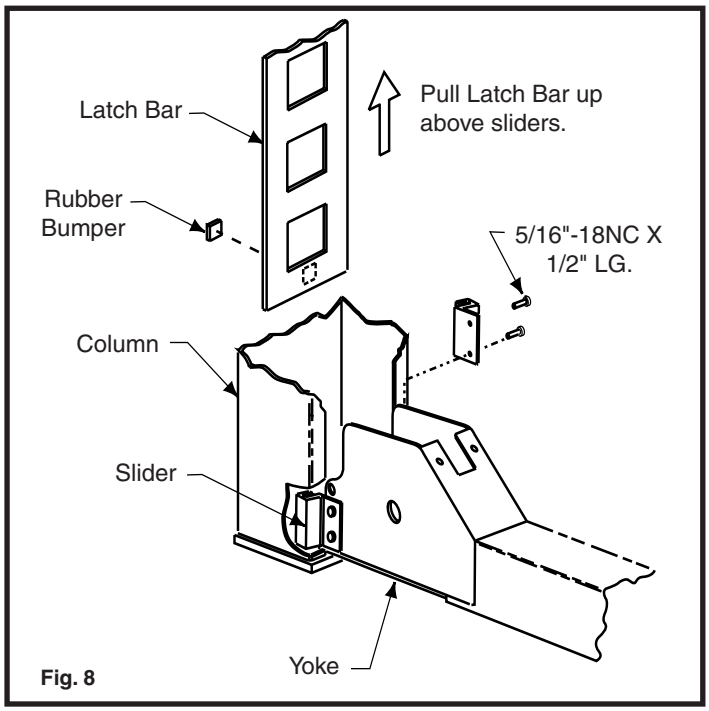


Fig. 8

F. **IMPORTANT** Be sure cable is isolated in the sheave groove. Attach each cable to column top plate with washer, nut, and jam nut, Fig. 9. Install rubber sheave guard on each yoke end. Roping diagram shows a view of completed roping, Fig. 4.

Note: Failure to install plastic spacers and bearings will result in premature failure and void warranty.

6. Front Latch Bar Install:

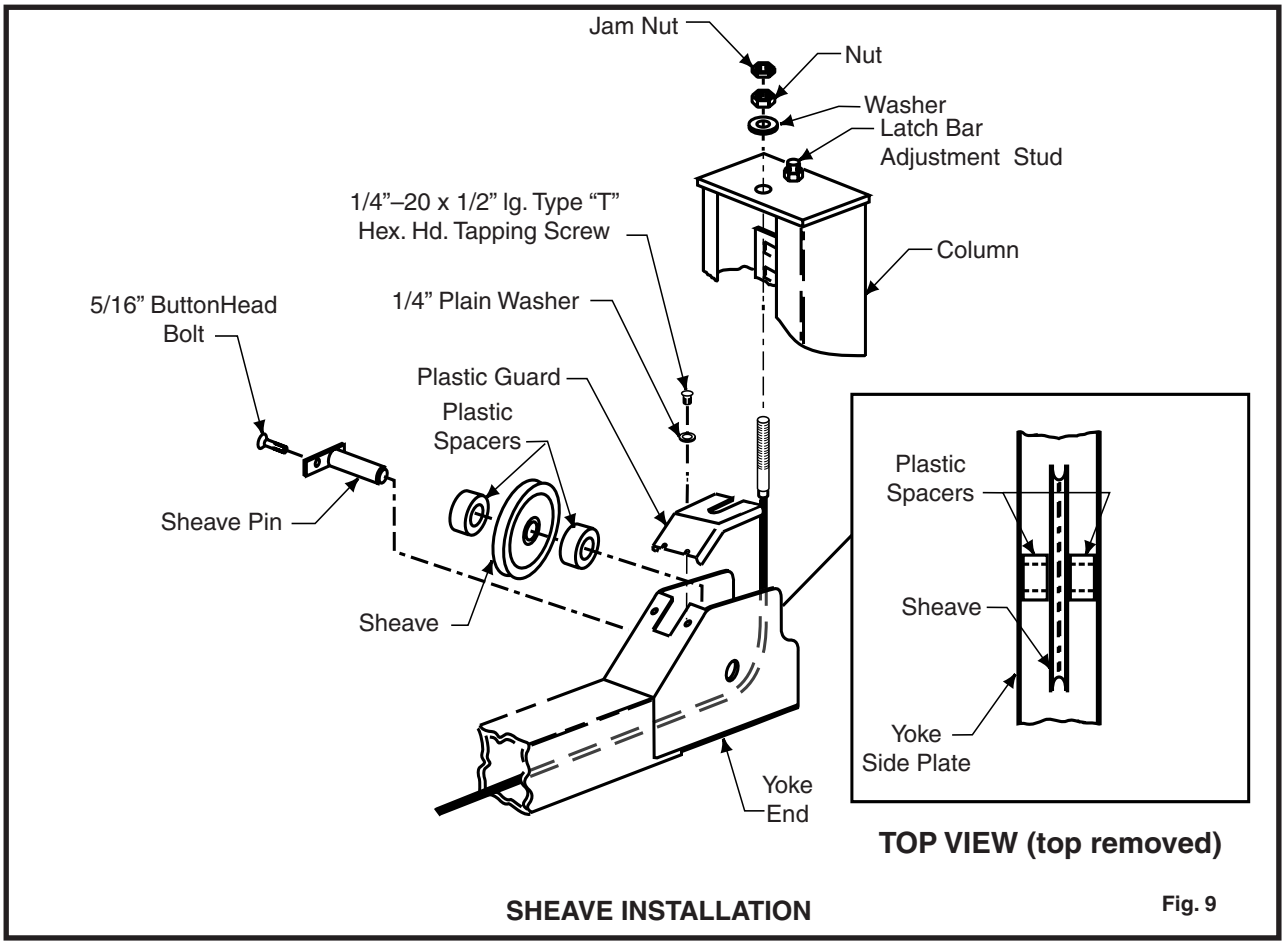
Note: Front columns are the taller columns.

A. Place power unit column at the left front corner of lift.

B. Install latch bars into front columns following Steps 5(A) to 5(C). Secure bottom of latch bar with long bolt, washer and nut, Fig. 10.

C. Place FRL Bracket on top of power unit column. Guide the threaded stud through the hole in the column top plate and bracket, Fig. 7a.

7. **Front Yoke Roller Assembly:** Assemble yoke rollers and bearings for both front yokes, Fig 11.



SHEAVE INSTALLATION

Fig. 9

A. Slip a disc spacer onto each of the four roller pins.
B. Assemble roller and slider onto top pins.
C. Assemble roller and bearing onto lower pins. Secure roller cover, open side toward column, with 5/8" flat washer and 5/8" x 1" lg. bolt.
D. Insert the slider into the 3/4" hole in each yoke side plate.

8. Lay column down, with back of column to the floor.

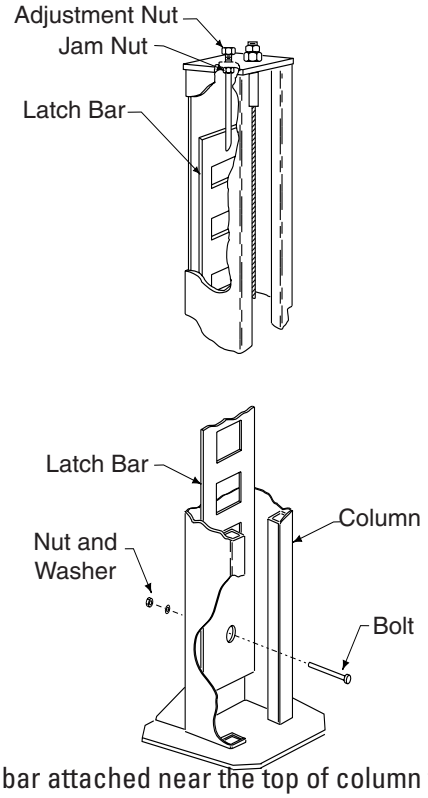


Fig. 10

Remove tie bar attached near the top of column tubes. Slide yoke into the top of the column and slide to bottom of column, Fig. 12. Reinstall the tie bar.

9. Raise yoke and column assembly to upright position and slide yoke under runway end. 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. Align bolt holes in top of yokes with slots in runways. Attach runway to the front yoke using a single 1/2" x 1-1/4" flanged hex head bolt inserted in the outside hole of each runway.

10. **Front Sheave Install:** Install yoke end sheaves and plastic bearings. A plastic bearing is placed between each side of the sheave and the sheave spacers, Fig. 13, also refer to inset in Fig. 9. Retain with sheave pin and 5/16" button head machine screw. Be sure cable is located in the sheave groove.

11. **Cable Install:** Attach each cable to column top plate with nut, jam nut, and washer, Fig. 13. Install rubber sheave guard on each yoke end.

Note: Cable tube spacer is not used on front column cables.

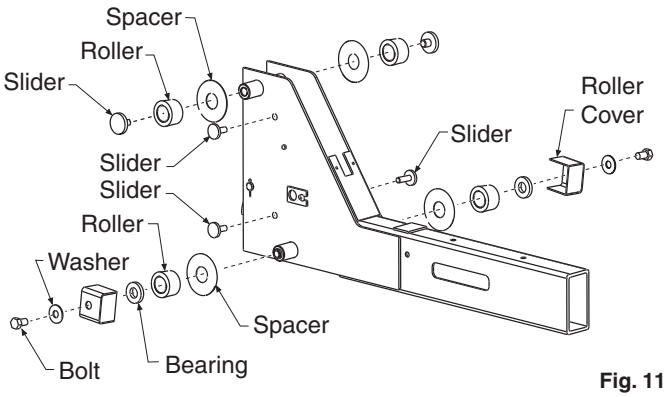


Fig. 11

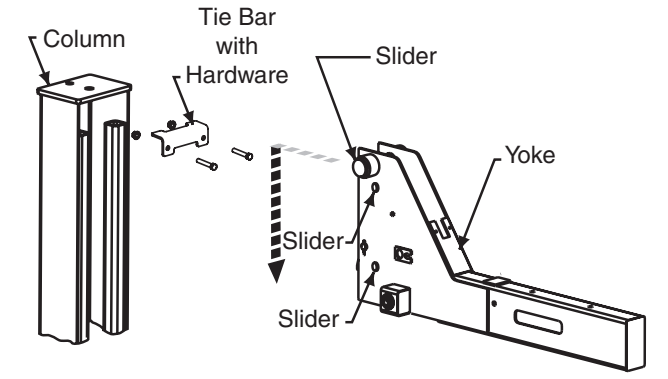


Fig. 12

12. **Concrete and Anchoring:** Concrete shall have a compression strength of at least 3,000 PSI and a minimum thickness of 4-1/4".

A. Square up runways. Install spacer bar and bolts, to help maintain the runway spacing, Fig. 14. Adjust runways until diagonals are equal. Check lift location in the bay. Check dimensions side-to-side, equal to within 1/8", Fig. 15.

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

B. Rear Column Install.
   1. Move rear column towards yoke until the sliders contact the back of column. Center yoke in column, Fig. 16.
   2. Place shims (estimated from Step 3) under each column. Drill four 5/8" diameter holes through concrete floor using holes in baseplate as guide, Fig. 17.
   3. Insert anchors with washers, Fig.'s 17 and 18. 5/8" anchors must have a minimum anchor embedment of 2-3/4". If the top of the anchor exceeds 1-1/2" above the floor grade, you DO NOT have enough embedment.
   4. Tighten 5/8" anchor bolts to an installation torque of 90 ft-lbs. Shim thickness MUST NOT exceed 1/2" when using the standard anchors provided with the lift. Check columns for plumb. Re-shim if necessary. Repeat for other column.

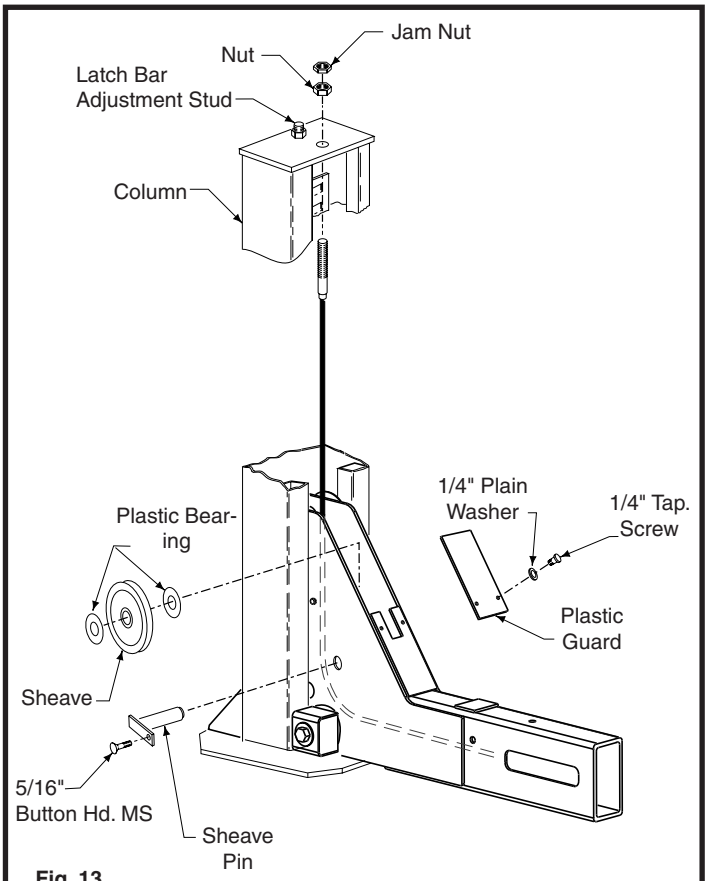


Fig. 13

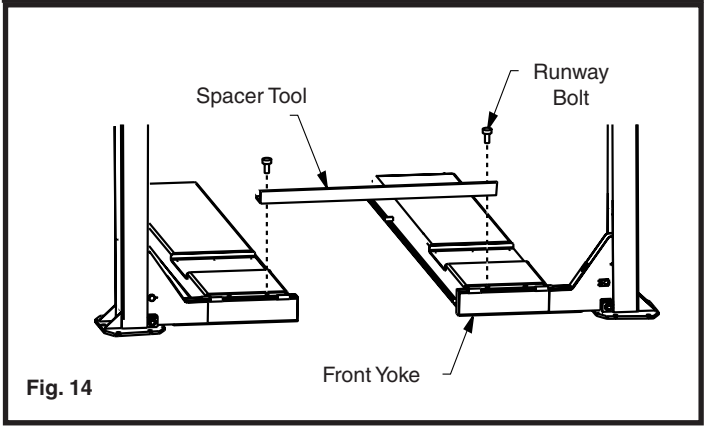


Fig. 14

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

C. Front Column Anchoring:

1. If necessary, readjust runways until diagonals are equal. Remove Spacing Tool and reattach yoke/ runway bolts. Hold runway spacing at 43".
2. Position front column where both outer yoke wheels are in contact with the column. Shim and plumb front of column, taking care to push column in to contact lower rollers. Push opposite column in to contact rollers.
3. Drill five 3/4" holes through concrete floor using holes in baseplate as guide.
4. Insert anchors with washers, Fig. 18. 3/4" anchors must have a minimum anchor embedment of 3-1/4". If the top of the anchor exceeds 2-1/4" above the floor grade, you DO NOT have enough embedment.

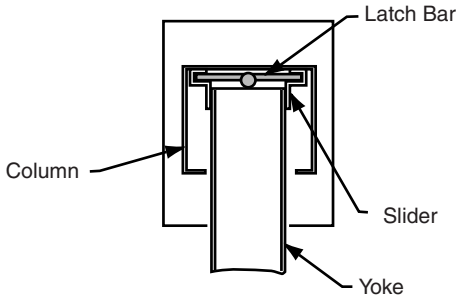


Fig. 16

Column Cross Section

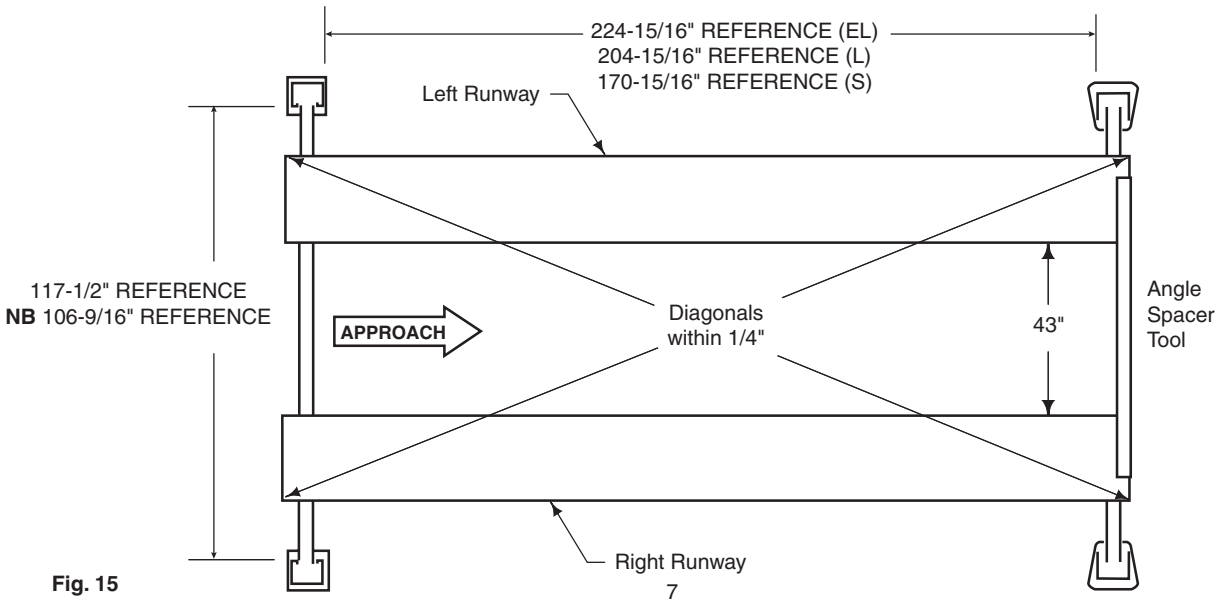
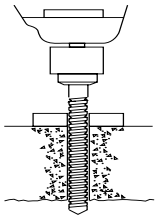
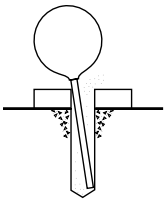


Fig. 15

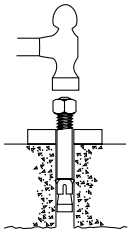


Drill holes in rear column using 5/8" carbide tipped masonry drill bit per ANSI standard B94.12.1977.

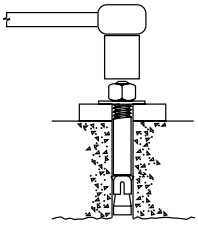
Drill holes in front column using 3/4" carbide tipped masonry drill bit per ANSI standard B94.12.1977.



Clean out holes using blow out bulb or air hose



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



Torque nut with torque wrench to 90ft-lbs. on rear columns and 150ft-lbs. on front columns

Fig. 17

ANCHORING

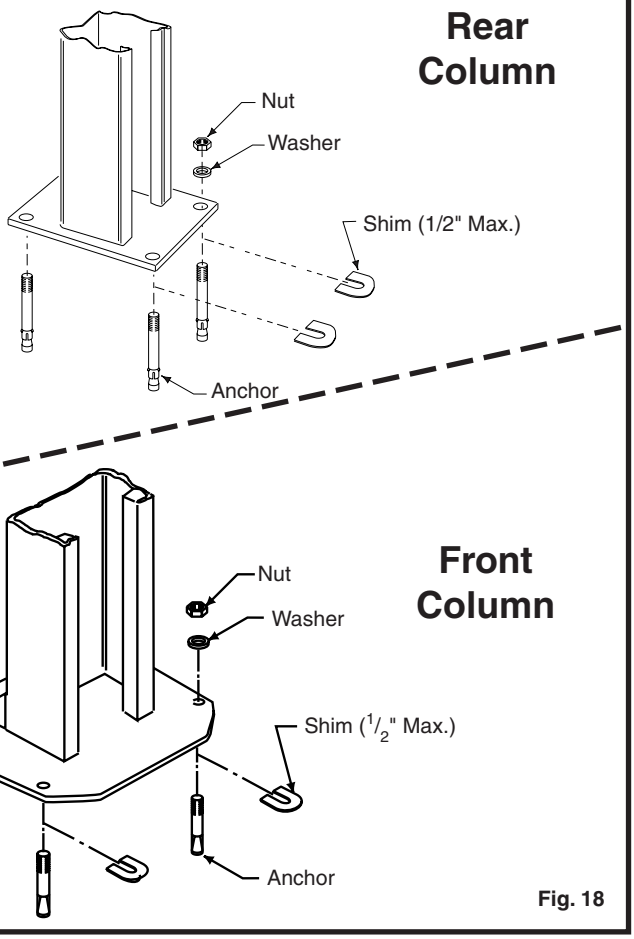


Fig. 18

5. Tighten 3/4" anchor bolts to an installation torque of 150 ft-lbs. Shim thickness MUST NOT exceed 1/2" when using the standard anchors provided with the lift. Check columns for plumb. Re-shim if necessary. Repeat for other column.

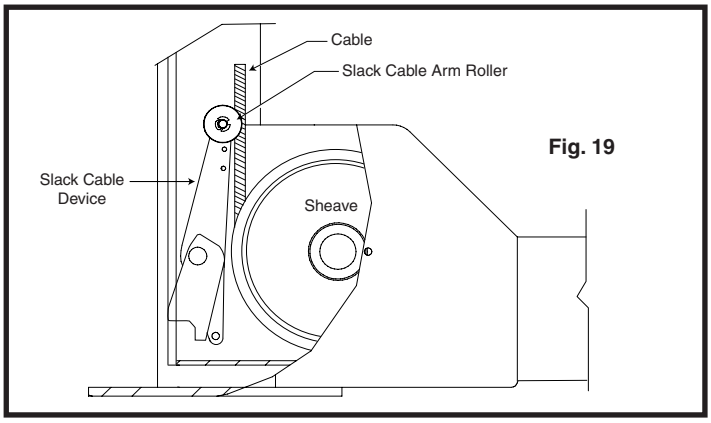


Fig. 19

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

13. **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". Back off nut one turn. Retighten jam nut. Repeat for all four cables. Cables must fit in slack cable arm rollers, Fig. 19.

14. **Power Unit:**

A. Put (4) 5/16" x 1-1/2" hex bolts through holes in column bracket using push nuts to hold in place.
B. Mount power unit, with motor up, to column bracket and install lock washers and nuts, Fig. 20. Run hydraulic hose from runway through slot in side of runway to power unit output port, Fig. 22. DO NOT use Teflon tape on hydraulic hose connections.
C. Install and hand tighten elbow to pump until O-ring is seated and elbow is oriented downward at approximately 45°, Fig. 21. Continue to tighten the locknut to 10-15 ft-lbs., or until the nut and washer bottom out against the pump manifold. NOTE: You may still be able to rotate the elbow. This is acceptable unless there is seepage at the o-ring. If so, slightly tighten the locknut.
D. Run hydraulic hose from runway through slot in side of runway to elbow, Fig. 22. DO NOT use Teflon tape on hydraulic hose connections. Clean elbow and hose. Inspect all threads for damage and hose ends to be sure they are crimped. Attach hose to elbow using

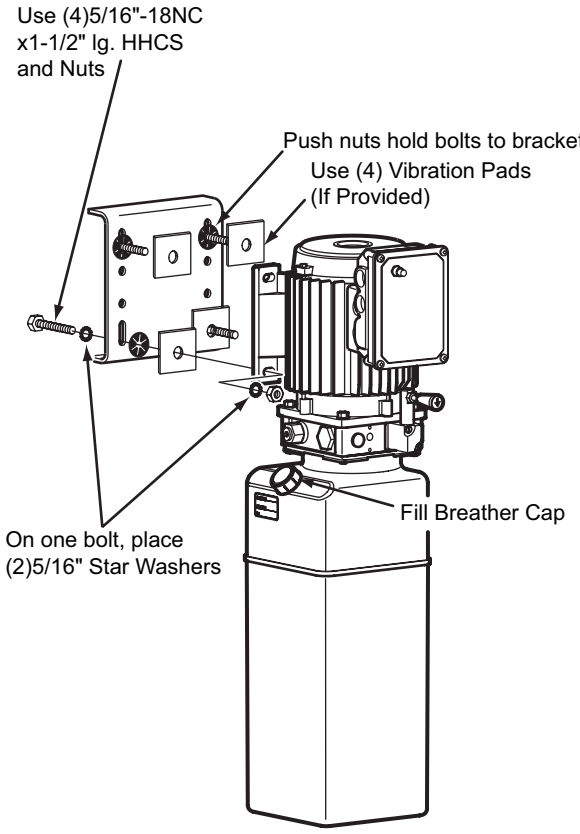


Fig. 20

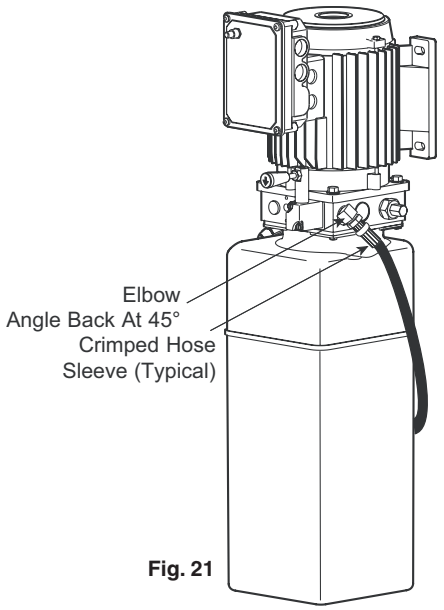


Fig. 21

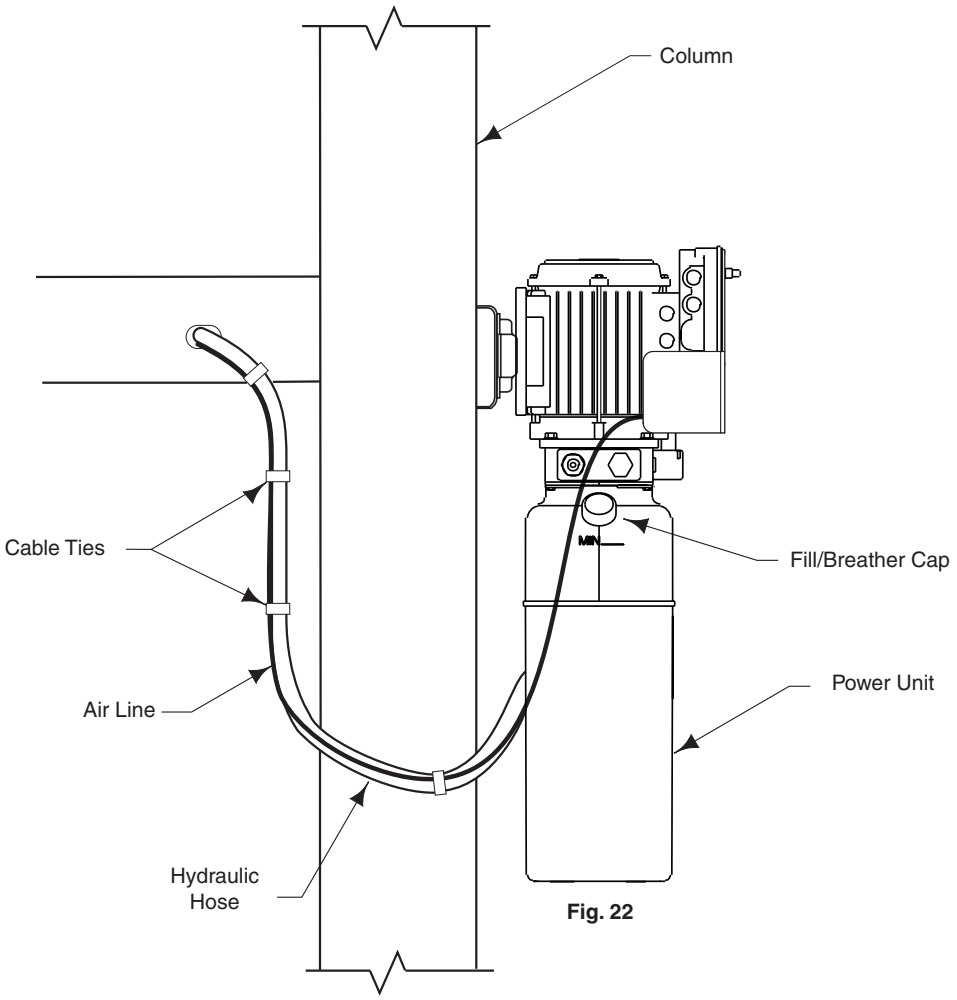


Fig. 22

Flared Fittings Tightening Procedure.

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.

15. **Electrical:** Have a certified electrician run appropriate power supply to motor, Fig. 24 and Fig. 25. 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 15 amp fuse. For three phase 400V and above, use 10 amp fuse. For wiring see Fig. 24 and Fig. 25. All wiring must comply with NEC and all electrical codes.

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

16. **Oil Filling:** Use Dexron III ATF, or hydraulic fluid that meets ISO 32 specifications. System capacity is thirteen (13) quarts. Use Dexron III ATF or equal. Fully lower lift. Remove fill/breather cap, Fig. 22. Fill to minimum fill line on tank, replace cap.

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

17. **Air Line Connections:**

Note: Locking latches require 100 psi. min. to 120 psi. 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. 26. 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.

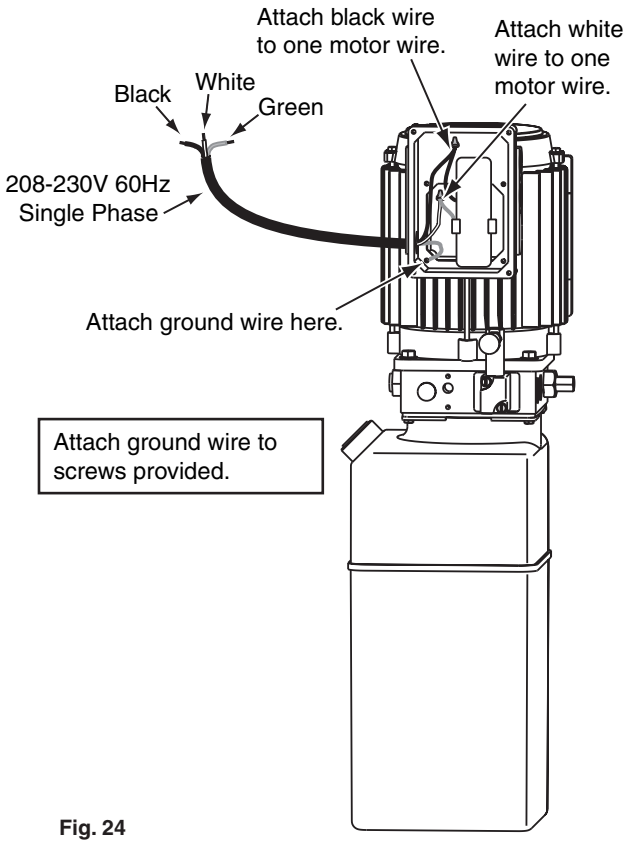
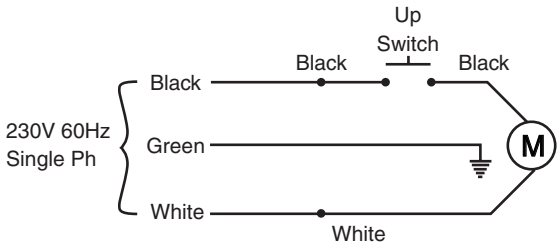


Fig. 24

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**

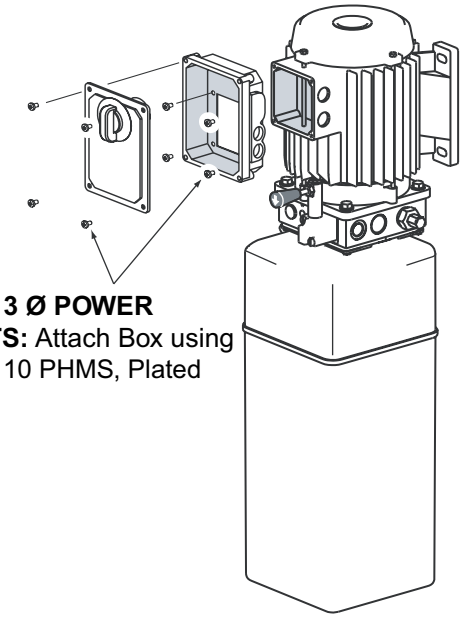
Note: 60Hz. Single phase motor CAN NOT be run on 50Hz. line without a physical change in the motor.



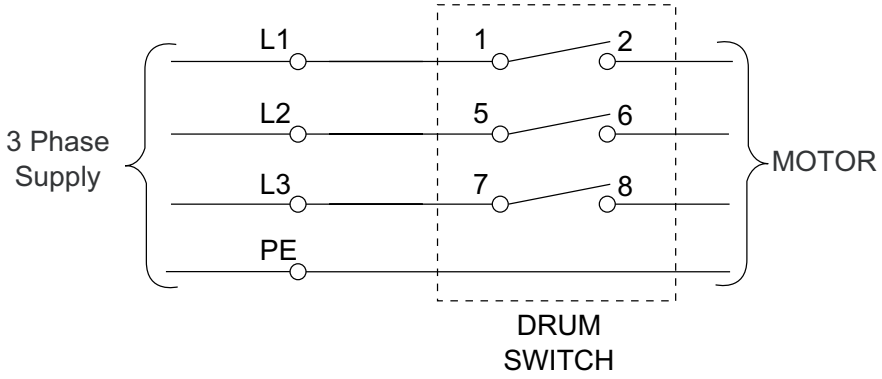
MOTOR OPERATING DATA TABLE - THREE PHASE	
LINE VOLTAGE	**RUNNING MOTOR VOLTAGE RANGE**
208-240V 50/60Hz.	**197-253V**
400V 50Hz.	**360-440V**
440-480V 50/60Hz.	**396V-528V**
575V 60Hz.	**518V-632V**

NOTES:

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



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



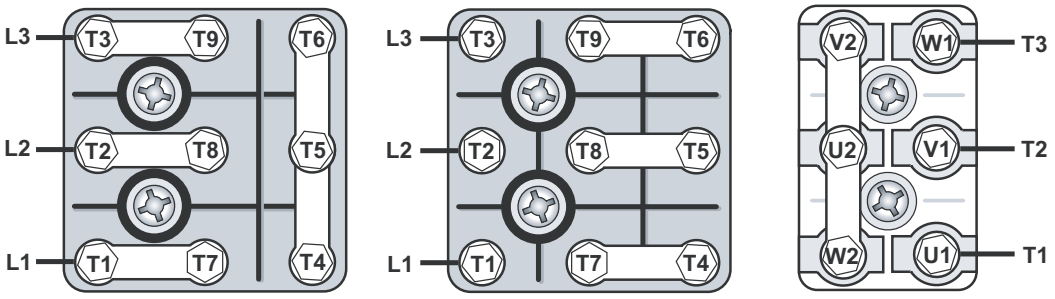


Fig. 25

A. Lift should be at full height and lowered on latches.
B. Run 3/8" air line from existing facility main air supply to the FRL. Run 3/8" air line from FLR to reducing tee, Fig. 27.
C. Connect reducing tee to air valve, Fig. 27.
D. Attach air valve to air valve bracket, Fig. 27.
E. **Air Valve Bracket:**
Remove motor cover screws. Place air valve bracket on top of motor cover so that the raise switch protrudes through the hole in the air valve bracket. Mount air valve bracket and motor cover with the existing single phase or supplied three phase (4) M5 x 0.8 PHMS motor cover screws, Fig. 27.

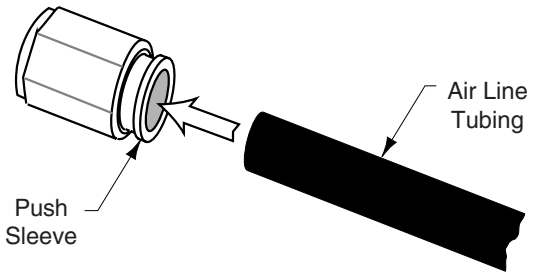


Fig. 26

Air Valve Assembly For Motor Brackets

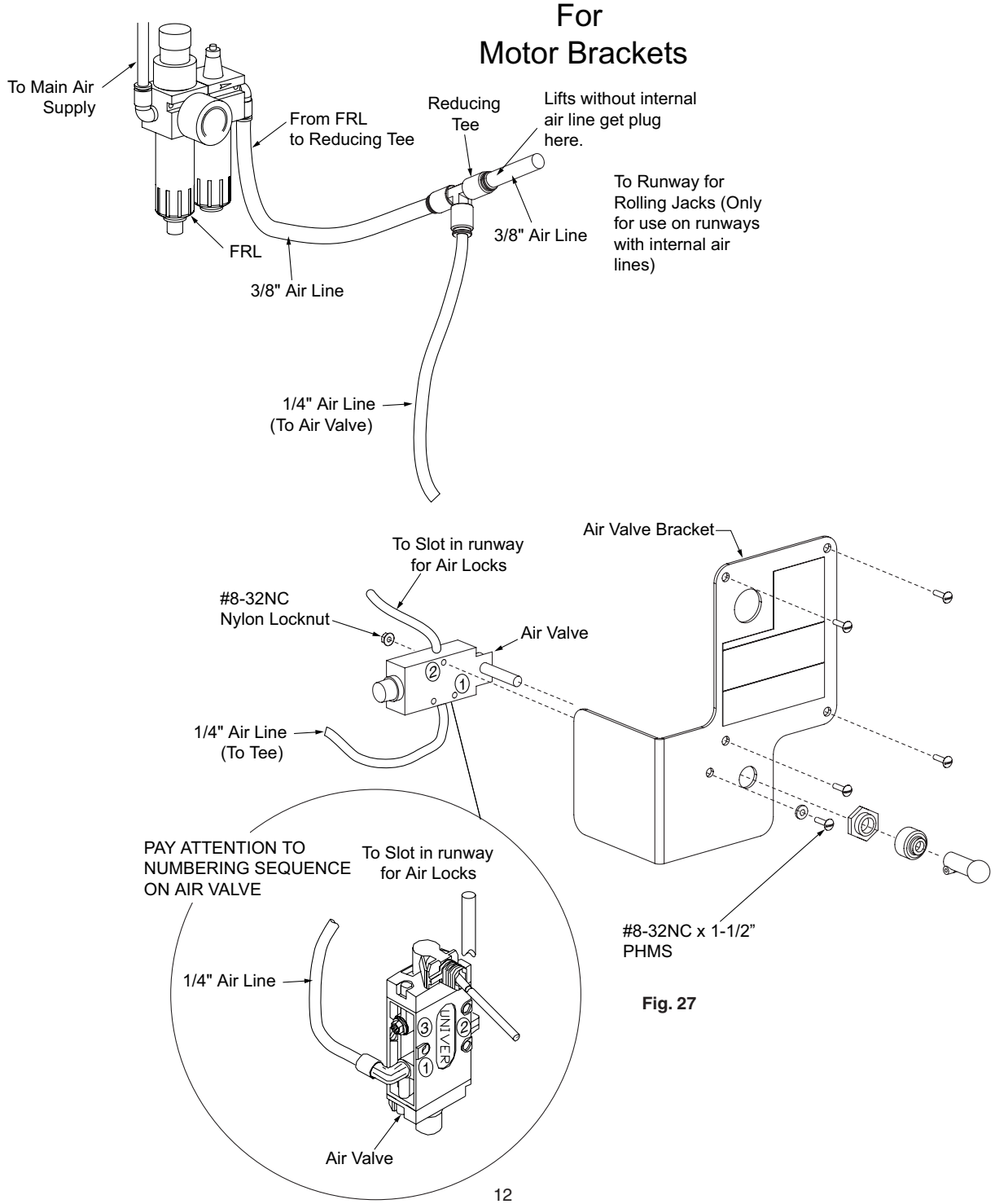


Fig. 27

F. Attach enclosed NP280 decal (ACTUATE TO RELEASE LATCHES) on air valve bracket. Run 1/4" air line from air valve to the slot in the fixed runway. Cut air line and attach to Tee in front yoke, Fig. 28. This air line is for locking latches.
G. Run 1/4" air line from the Tee of the runway slot through the hole in the rear yoke and into the air cylinder, Fig. 28.
H. If lift has internal air, remove plug in reducing tee and connect the 3/8" line coiled inside of runway, Fig. 27.
I. Check for air leaks by depressing air valve. Repair as required.
J. Use provided cable ties to tie air line to hydraulic hose between power unit and lift.
K. 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, Fig. 29.
L. Use cable ties provided to tie 3/8" air supply to electrical supply conduit at approximately 2'-0" intervals.

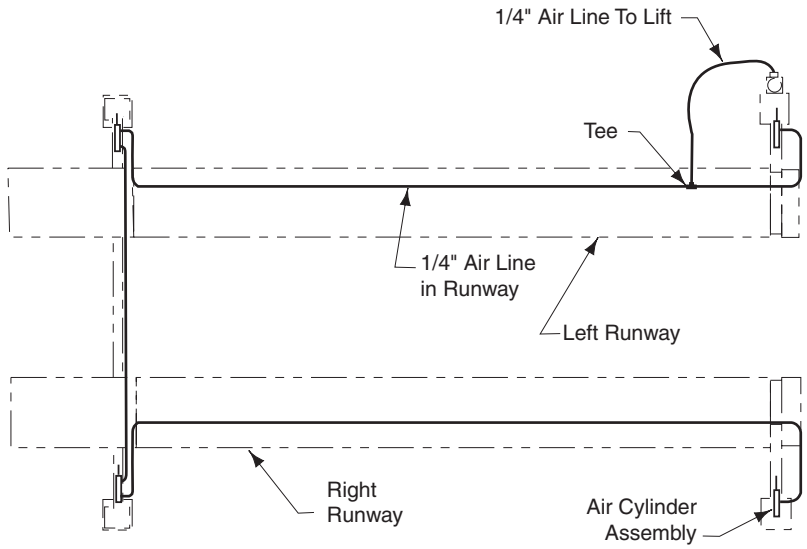


Fig. 28

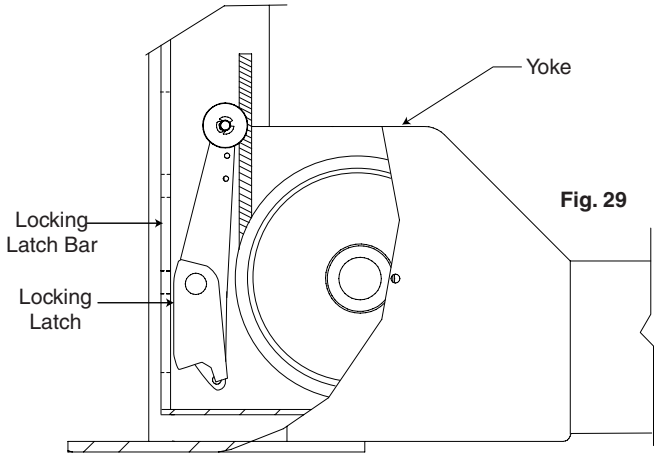


Fig. 29

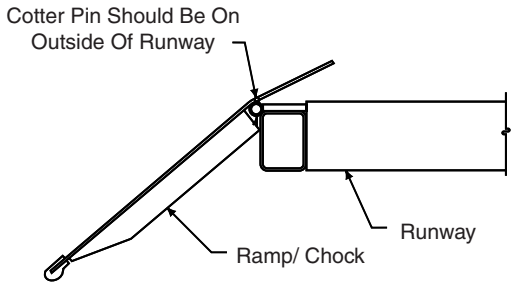
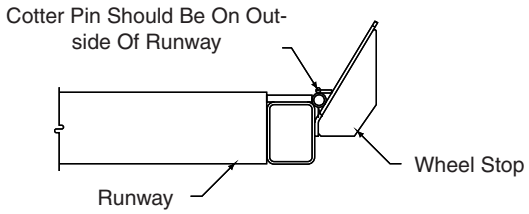


Fig. 30



18. **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 16. 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. 22, is lost or broken, order replacement.

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

19. **Assemble** ramp/chocks and wheel stops to runways using hinge pins and cotter pins. Ramp chocks go on rear and wheel stops go on front of runway, Fig. 30.

Note: For drive-thru applications, ramp chocks will go on both ends of runways.

20. **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. 31, 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.

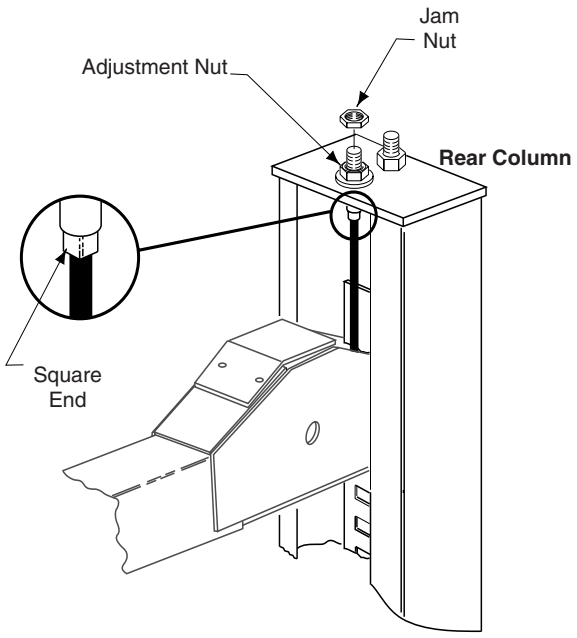
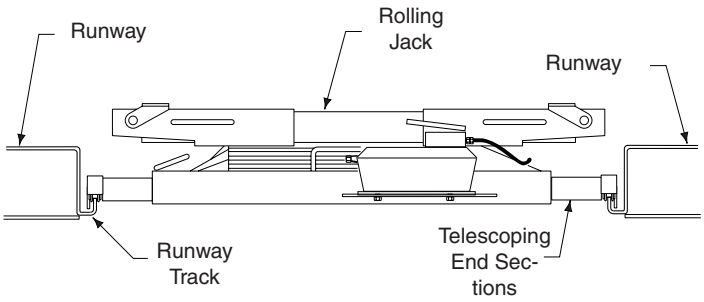
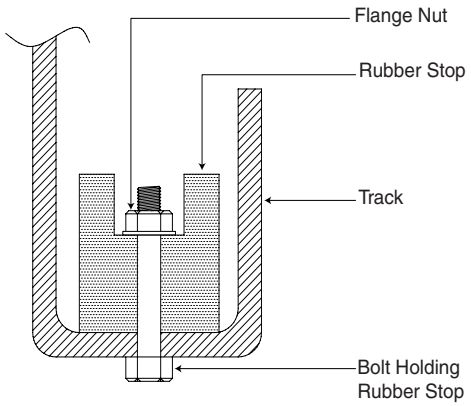


Fig. 31





Attach rubber bridge stops to 5/16" holes 14" off center of runways. Insert 1/4" bolt up through runway and stop. Attach 1/4" flange nut to top of stop.

Fig. 32

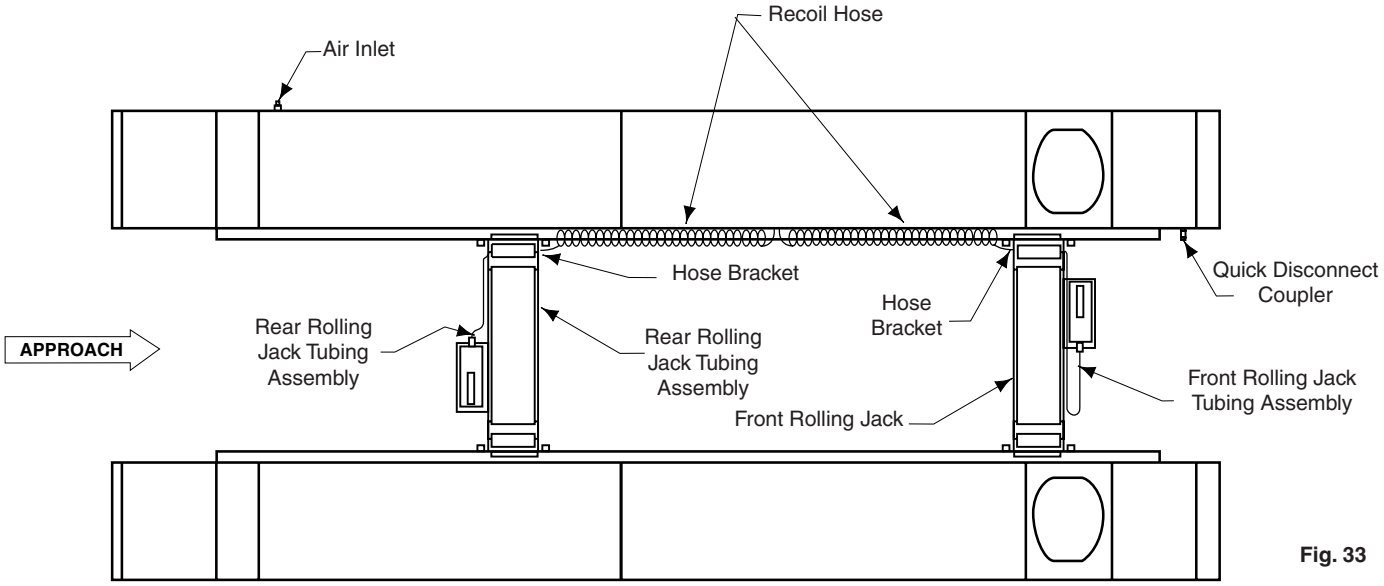


Fig. 33

⚠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.

21. **Rolling Jack:**

A. Adjust rolling jack telescoping ends until roller rests on runway track, Fig. 32. Make sure wheels are on tracks and center rolling jack between runway on end sections.

B. Place jack on runway track at front and rear with air pump facing ends of runways.

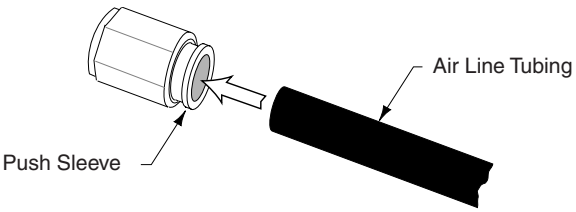
C. Recommended operating pressure is 100-120 PSI.

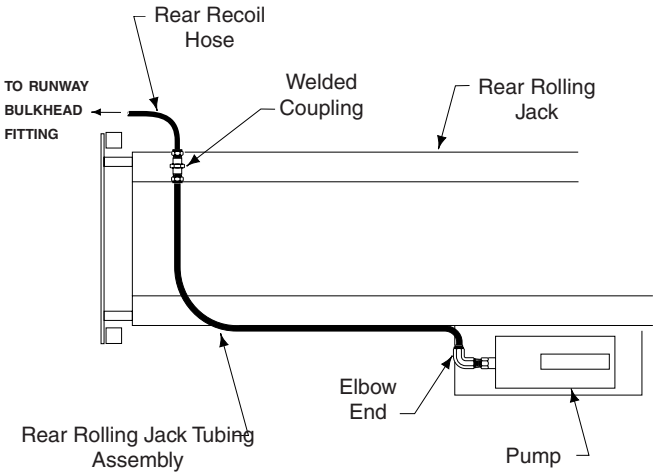
D. Attach rubber stops see Fig. 32.

22. **Internal Air Line: (If Installed)** 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. 33. All internal air lines are factory assembled.

23. **Rear Recoil Hose Installation:**

A. Attach retainer brackets for the rear recoil hose with 3/8"-16NC x 3/4" Lg. hex cap screw, flat washer, lock washer and nut, Fig. 37.





CONNECT TO REAR RECOIL HOSE

Fig. 34

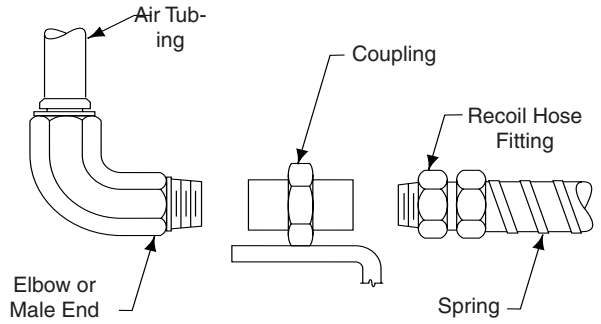
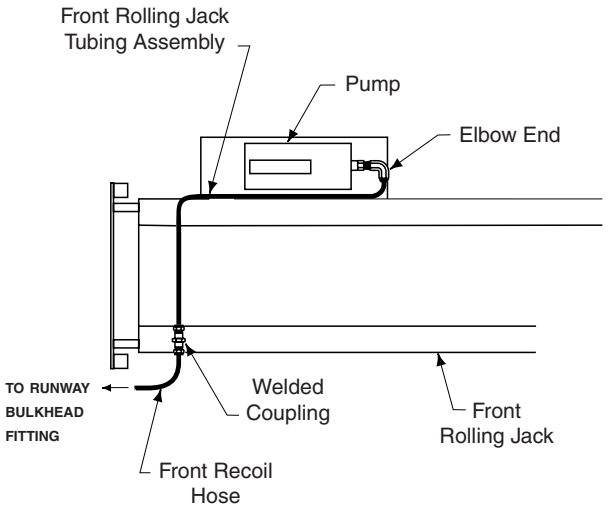


Fig. 35



CONNECT TO FRONT RECOIL HOSE

Fig. 36

B. Insert retainer cable through coils of recoil hose, Fig. 37. Run a 1/4"-20NC hex nut down onto each end of retainer cable. Insert each end of cable into retainer brackets. Secure each cable end with another 1/4"-20NC hex nut. Tighten jam nuts, Fig. 37.
C. Connect one end of provided rear recoil hose to bulkhead T-fitting at midpoint of runway. Connect other end of recoil hose to coupling welded on rolling jack, Fig. 34 and 35.
D. Connect elbow end of rolling jack tubing assembly to air pump and male end to the coupling, Fig. 34 and 35.

24. **Front Recoil Hose Installation:**

A. Insert retainer cable through coils of recoil hose, Fig. 37. Connect one end of recoil hose to coupling welded on rolling jack, Fig. 35 and 36.
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. 35 and 36.

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.

1. **Aligning Turning Radius Guide Bars:**

A. Slightly loosen the turning radius gauge guide bar mounting bolts.
B. Place a weighted string, Fig. 38, across the runways so that the string is touching along the full length of both rear guide bars. If the string is not touching, tap the ends of the guide bars lightly until the guide bars make full contact against the string. Tighten the rear guide bar mounting bolts securely and remove the string.
C. Place the turning radius gauges in the recesses of both runways with the pointer and lock pin to the outside of lift, Fig. 39. Position each gauge against the rear guide bars. Then position the front guide bar just against the front edge of the turning radius gauge. Repeat on other runway. (A tolerance of 1/16", end-to-end, is acceptable). Tighten the mounting bolts securely. The turning radius gauges are now square and in proper alignment with each other.

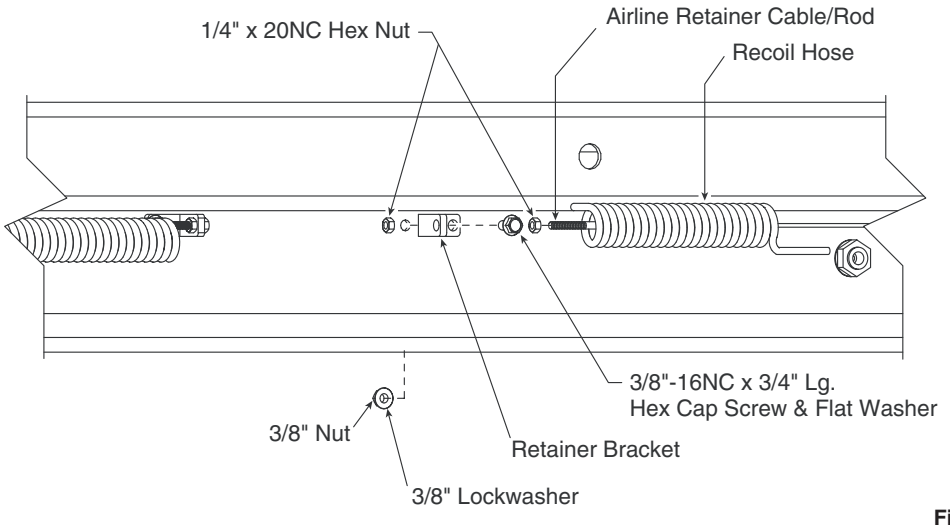


Fig. 37

WHEEL SERVICE
(ALIGNMENT MODELS ONLY)

2. **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", 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. 40, 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. 41.

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

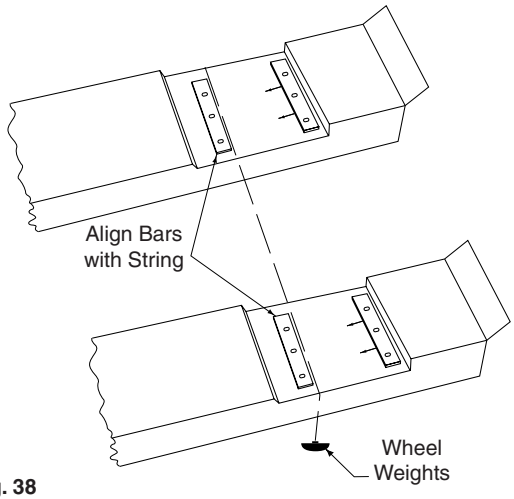


Fig. 38

E. Next, move the target and place it on the turning radius gauge at point "B", Fig. 40.

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

G. Adjust the adjustment nut on the locking latch plate adjustment stud at the top of the column at "B", Fig. 40, by loosening the jam nut and turning adjustment nut 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 locking latch plate adjustment stud at each corresponding column until the reference mark on the target scale is on the crosshairs of the Level.

Rack Runways Must Be Level Side To Side, Maximum Tolerance Front To Rear 1/16".

I. Always recheck the level of the runways to be sure all four locking latch plates are adjusted correctly. Start at point "A" and recheck level at points "B", "C", and "D", Fig. 40. Readjust, if needed. The runways are now level at all four points.

J. To complete the leveling procedures, lock each locking latch plate jam nut tightly against bottom of column top plate, Fig. 42. Also tighten down 1/4" bolt on front latch bar bases.

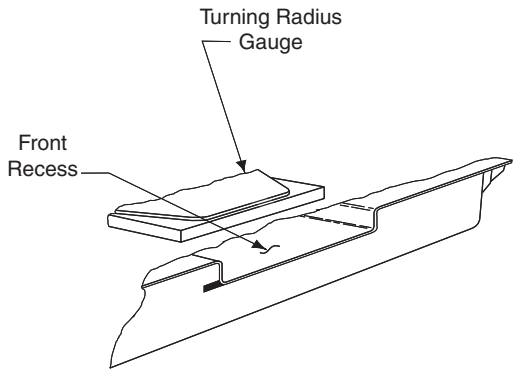


Fig. 39

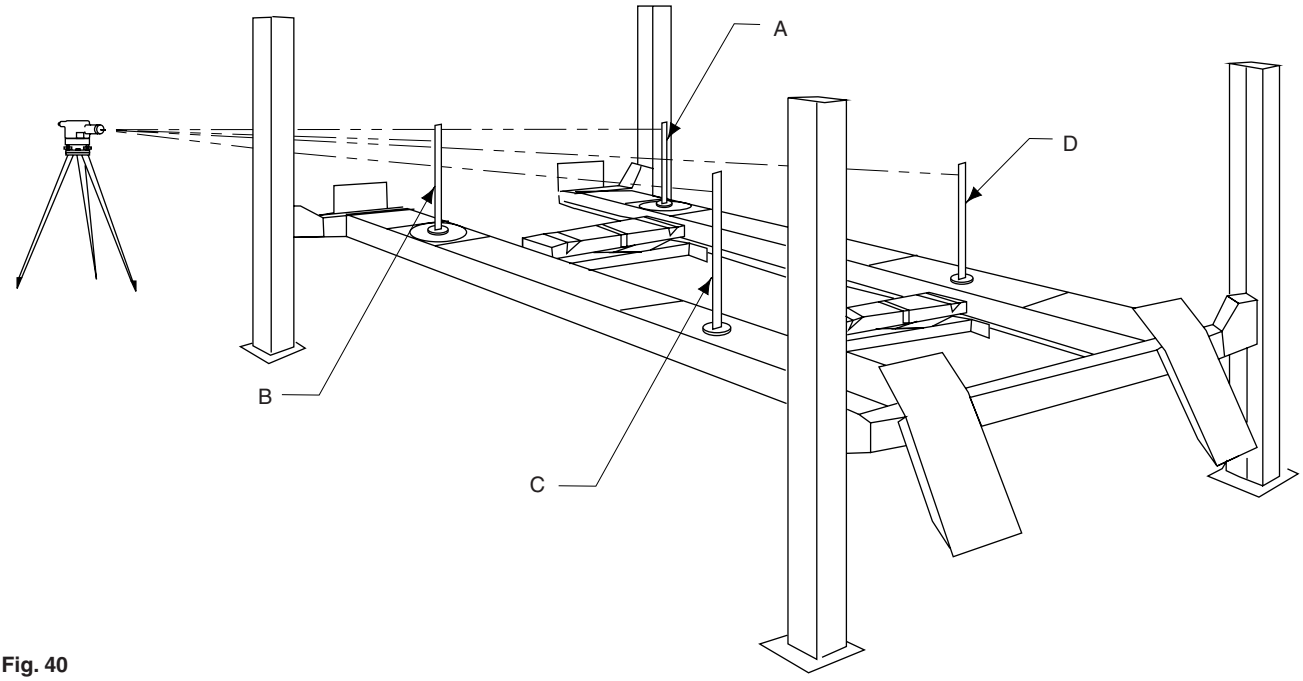
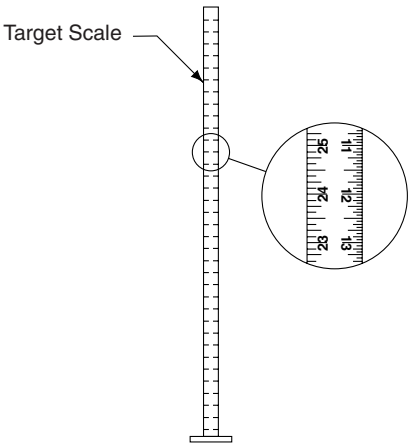


Fig. 40



TARGET

Fig. 41

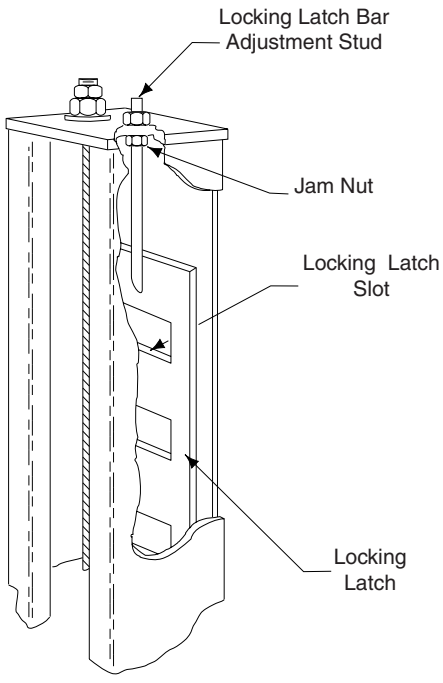
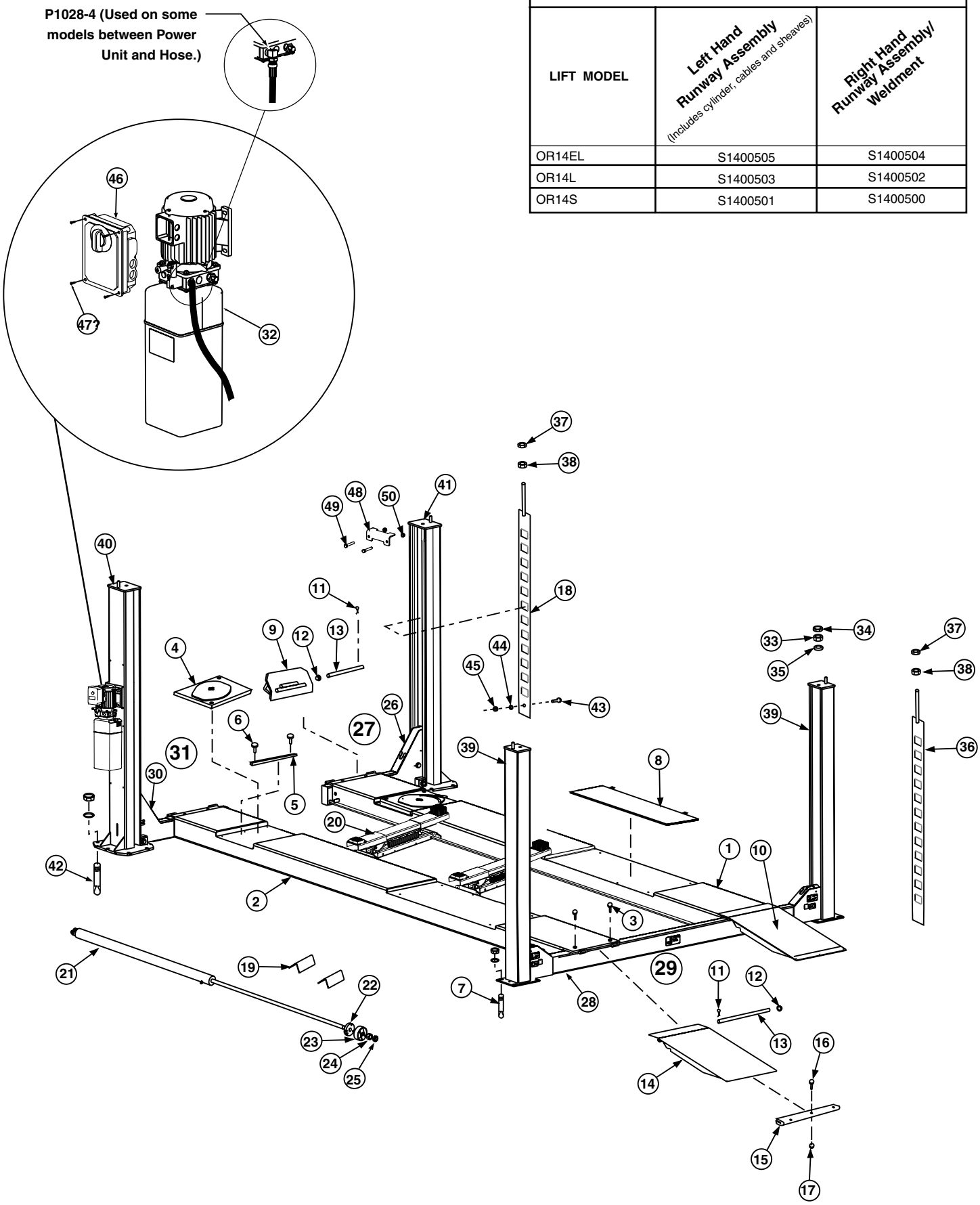


Fig. 42

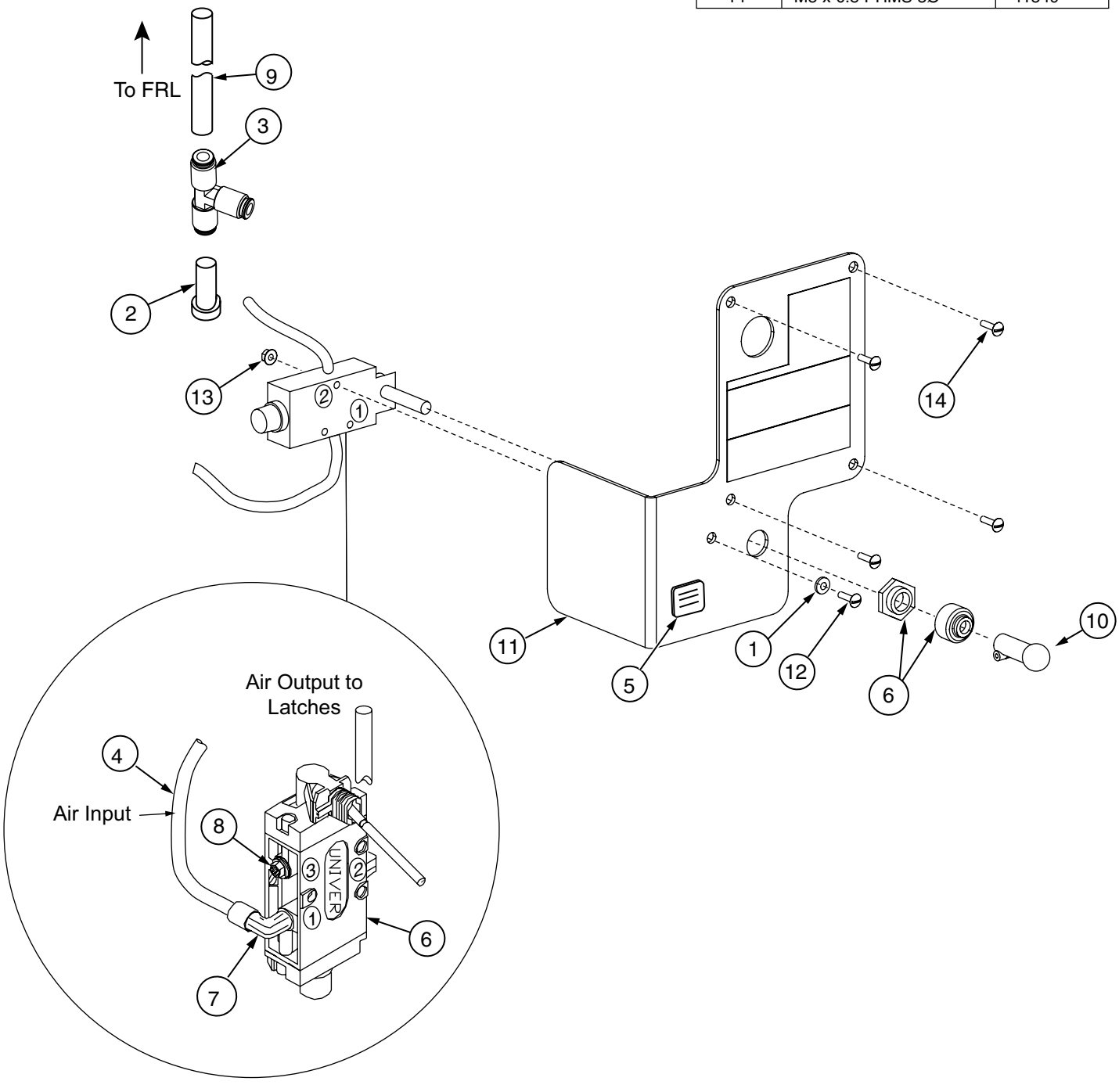
RUNWAYS		
LIFT MODEL	Left Hand Runway Assembly (Includes cylinder, cables and sheaves)	Right Hand Runway Assembly/ Weldment
OR14EL	S1400505	S1400504
OR14L	S1400503	S1400502
OR14S	S1400501	S1400500



OR14 PARTS

ITEM NO.	DESCRIPTION	PART NO.
1	R.H. Runway Assembly	Refer to Table on Opposite Page
2	L.H. Runway Assembly (Includes cylinder, cables and sheaves)	
3	1/2" — 13NC x 1 1/4" Flg. Whiz-Lock HHCS (High Strength)	40279
4	Turning Radius Gauge Assembly	Optional
5	Turntable Guide Bar--Stainless Steel	1400542
6	5/16"-18NC x 5/8" Whiz-Lock	42073
7	5/8" Anchor Bolt	FC5228
8	Rear Slip Plate Kit * *** For Slip Plate Parts, See Slip Plate Parts Breakdown - Later In Booklet**	1400519
9	Wheel Stop	1400524
10	Ramp Chock Assembly (Standard)	1400506
	Ramp Chock Assembly (Extended)	1400525
11	5/32" x 1" Lg. Cotter Pin	41202
12	5/8" Push Nut Fastener — TRW #PW625019 Or Equal	FC5179-4
13	Hinge Pin	1400508
14	Ramp Chock Weld (Standard)	1400507
	Ramp Chock Weld (Extended)	1400526
15	Ramp Chock Slide	1400948
16	#10-24NC x 3/4" SLTRUSSHMS	40050
17	#10-24NC Flg. Whiz-Lock Nut	40633
18	Front Latch Bar	1400105
19	Triangular Wheel Chock	1400947
20	Rolling Jack	Optional
21	Hydraulic Cylinder	1400949
22	Cable Pull Bar	1400522
23	Cable Retainer	1400518
24	1 3/8"-6NC Hex Nut	40771
25	1 3/8"-6NC Hex Jam Nut	40773
26	Right Front Yoke Weldment	1400403
27	Right Front Yoke Ass'y (Including Latches)	1400401
28	Rear Yoke Weldment	1400405
29	Rear Yoke Ass'y (Including Latches)	1400404
30	Left Front Yoke Weldment	1400402
31	Left Front Yoke Assembly (Including Latches)	1400400
32	1Ø Power Unit	P3536
	3Ø Power Unit	P3047
33	1"-8NC Hex Nut	40763
34	1"-8NC Hex Jam Nut	40767
35	1" Flat Washer	41113
36	Rear Latch Bar	1400106
37	3/4"-10NC Hex Jam Nut	40759
38	3/4"-10NC Hex Nut	40760
39	Rear Column	1400102
40	Power Unit Column	1400100
41	Front Column	1400101
42	3/4" x 5-1/2" Anchor Bolt	FJ7380
43	1/4"-20NCx1 3/4" HHCS	40101
44	1/4" USS Flat Washer Plated	40782
45	Nut	40642
46	Control Box	1400950
	Capacitor Box	1400951
	Capacitor Box Cover Plate	1400952
	Drum Switch	1400953
	Drum Switch Handle	1400954
47	M5 x 10 PHMS, Plated	40275
48	O.F. Column Tie Bar	1400107
49	1/2"-13NCx3" HHCS Grade 8	40247
50	1/2"-13NC Whiz-Lock Nut	40704

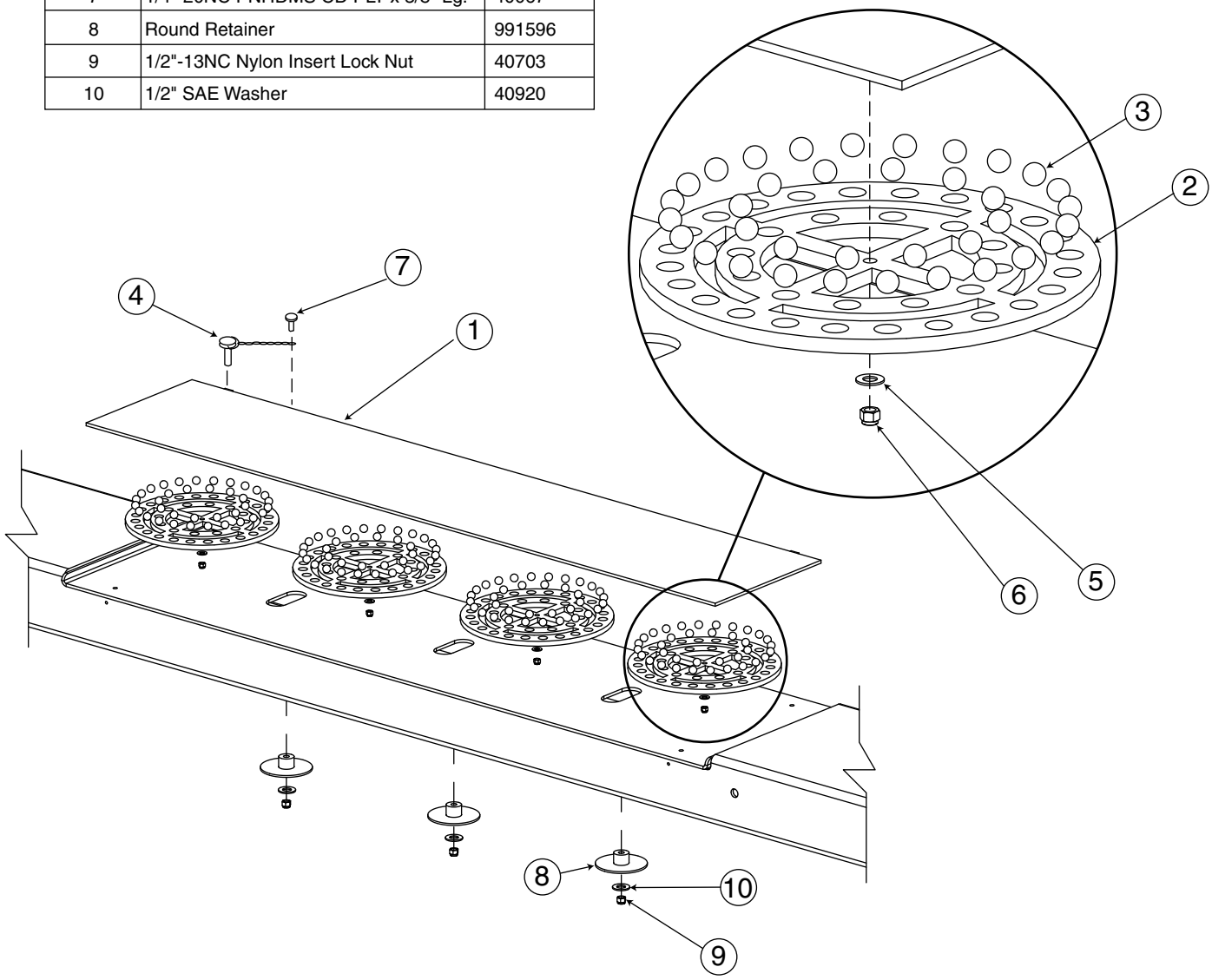
AIR LOCK RELEASE VALVE DETAIL		
ITEM NO.	DESCRIPTION	PART NO.
1	#8 SAE Flat Washer	40788
2	3/8" Plug	1400955
3	Union Tee	1400956
4	1/4" Tubing	1400943
5	Nameplate	NP280
6	Control Ass'y.	1400944
7	Swivel Elbow	1400957
8	Filter / Muffler	1400958
9	3/8" tubing (40ft roll)	1400942
10	Air Lock Handle	1400939
11	Control Bracket 1Ø	1400946
	Control Bracket 3Ø	1400945
12	#8-32NC x 1-1/2" PHMS	40007
13	#8-32NC Nylon Locknut	40649
14	M5 x 0.8 PHMS 3Ø	41549

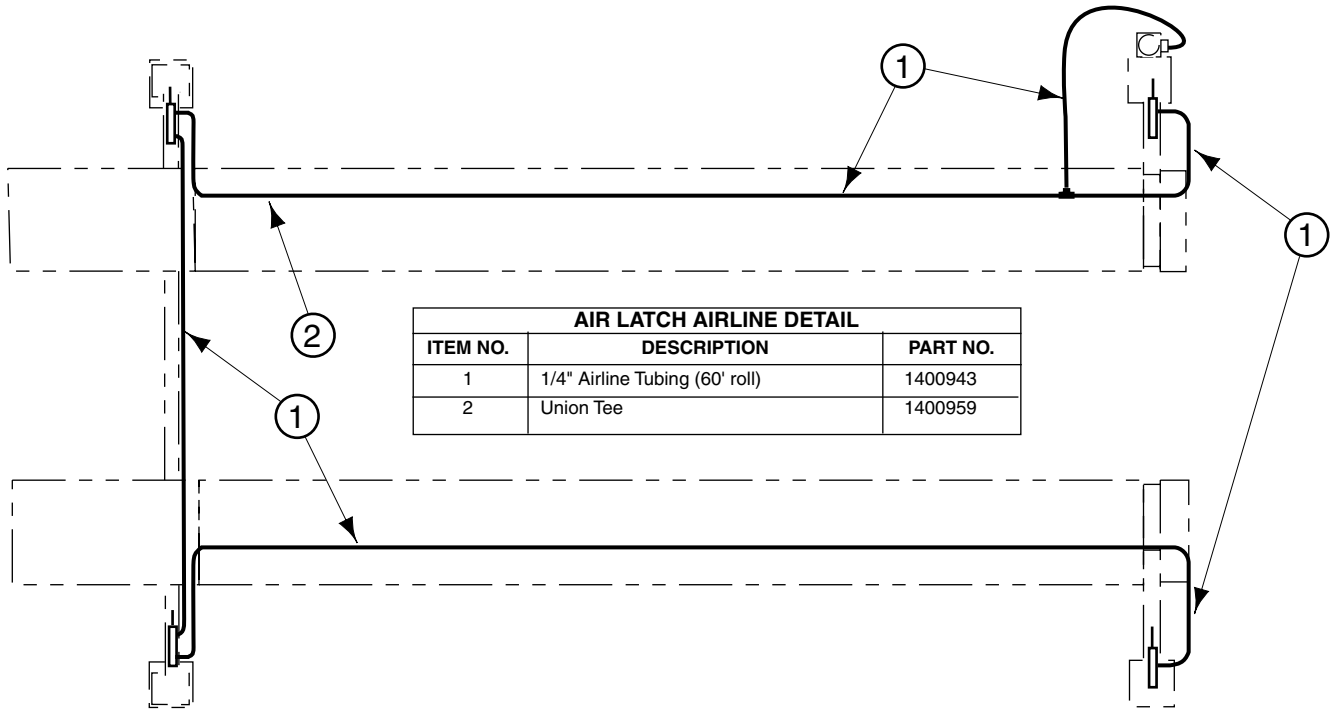


4 WS SLIP PLATE PARTS		
ITEM NO.	**DESCRIPTION**	**PART NO.**
1	Slip Plate Weldment	1400520
2	Ball Retainer Assembly	991582
3	Ball	991583
4	Lock Pin Assembly	991595
5	3/8" SAE Washer	40805
6	3/8"-16NC Nylon Insert Jam Nut	40657
7	1/4"-20NC PNHDMS CD PLT x 3/8" Lg.	40067
8	Round Retainer	991596
9	1/2"-13NC Nylon Insert Lock Nut	40703
10	1/2" SAE Washer	40920

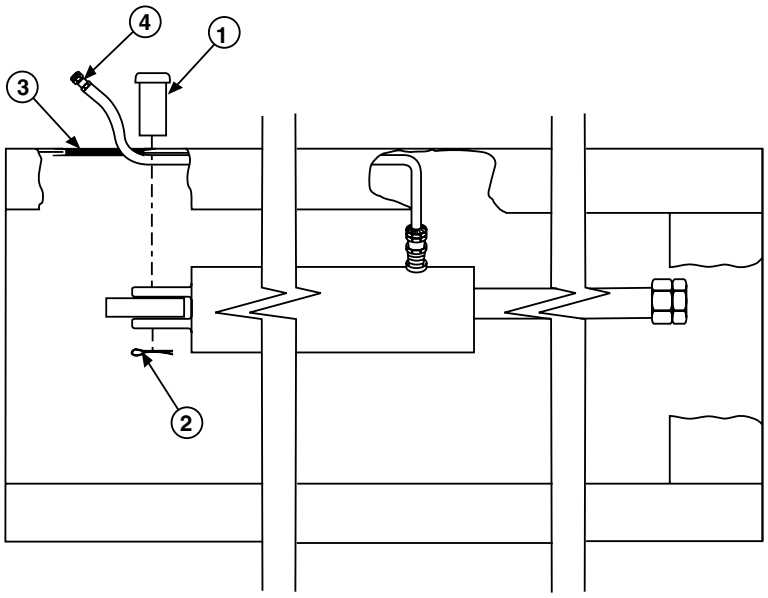
Slip Plate Rebuild Kit 991517

Includes: (4) Ball Retainer Assembly 991582
(144) Balls, 991583
(4) 3/8" SAE Washer
(4) 3/8"-16 Nylon Inset Jam Nut
(3) Round Retainer
(3) 1/2"-13 Nylon Insert Lock Nut
(3) 1/2" SAE Washer

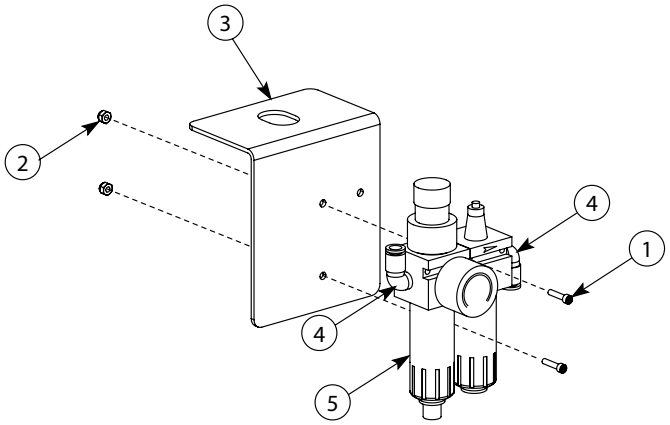




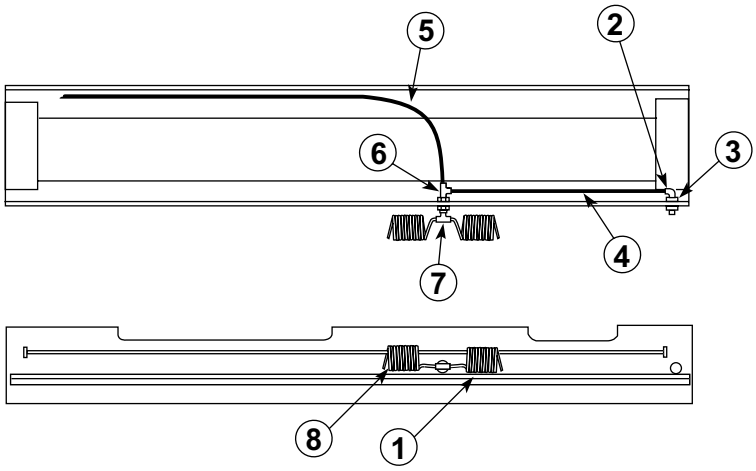
AIR LATCH AIRLINE DETAIL		
ITEM NO.	**DESCRIPTION**	**PART NO.**
1	1/4" Airline Tubing (60' roll)	1400943
2	Union Tee	1400959



HYDRAULIC HOSE DETAIL			
ITEM NO.	**DESCRIPTION**		
1	Clevis Pin		1400527
2	3/16" x 1-1/4" Lg. Cotter Pin		41247
3	Grommet	2 1/2" Hole	1400960
		1 1/2" Hole	1400961
4	Hose		
	"S" Model		1400962
	"L" Model		1400963
	"EL2" Model		1400964

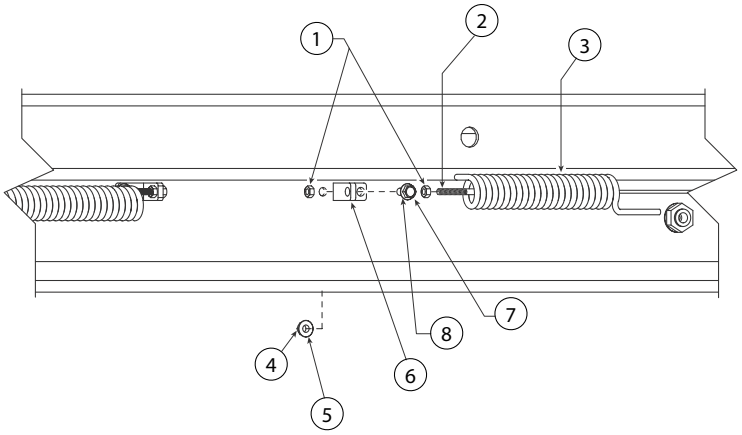


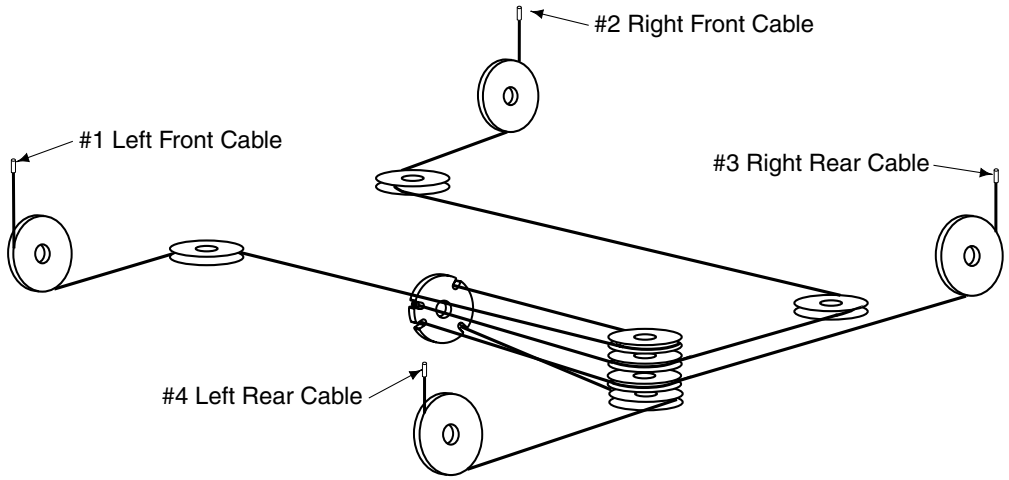
FRL DETAIL		
ITEM NO.	**DESCRIPTION**	**PART NO.**
1	#10-24 x 3/4" Hex SHCS	AP00027
2	#10-24 Nylon Lock Nut	40811
3	Adapter Bracket	1400940
4	Elbow	1400965
5	Filter/Regulator/Lubricator	1400941



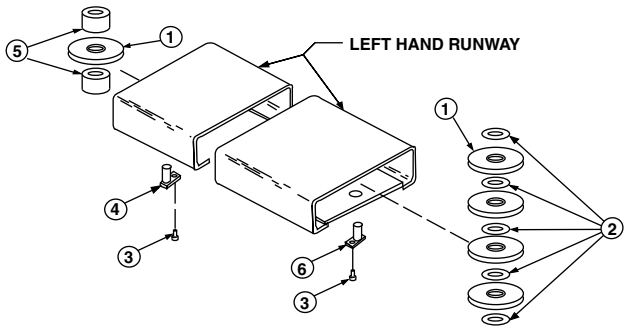
INTERNAL AIRLINE PARTS			
ITEM NO.	**DESCRIPTION**	**PART NO.**	**PART NO.**
		STANDARD	EXT & EEXT
1	Front Recoil Hose	1400934	1400934
2	Male Elbow	1400965	1400965
3	Female Bulkhead	1400935	1400935
4	Runway Tubing	1400967	1400967
5	Tubing	1400968	1400968
6	Male Run Tee	1400969	1400969
7	Male Branch Tee	1400970	1400970
8	Rear Recoil Hose	1400934	1400935

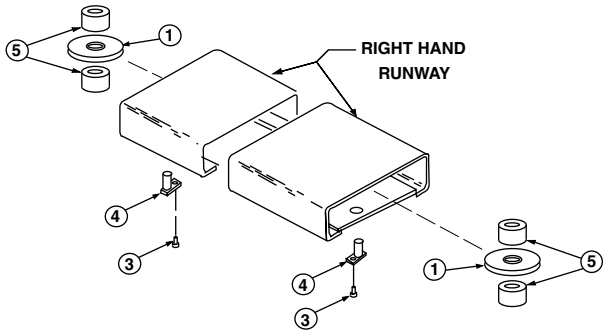
Retainer Cable Detail			
ITEM NO.	**DESCRIPTION**	**PART NO.**	**PART NO.**
		STANDARD	EXT & EEXT
1	1/4" x 20NC Hex Nut	40625	40625
2	Rear Airline Retainer Cable	1400529	1400536
	Front Airline Retainer Cable	1400529	1400529
3	Recoil Hose	-	-
4	3/8" Nut	40660	40660
5	3/8" Lockwasher	40845	40845
6	Retainer Bracket	1400528	1400528
7	3/8"-16NC x 3/4" Lg. HHCS	40130	40130
8	3/8" Flat Washer	40820	40820



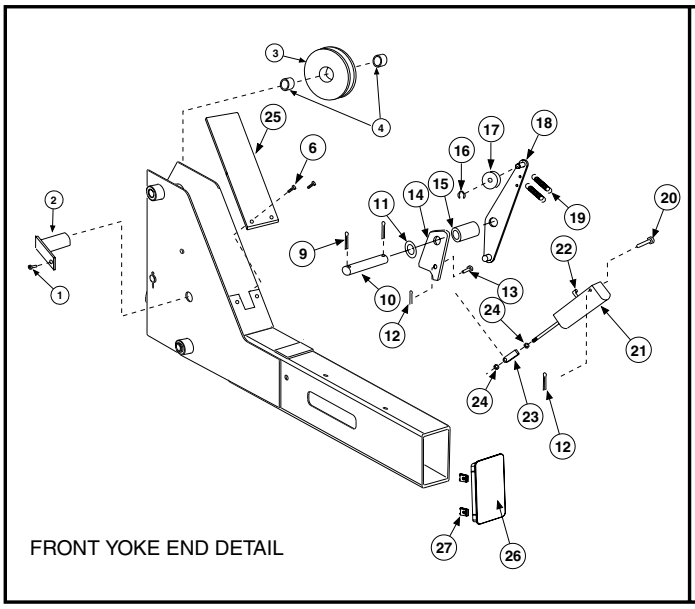


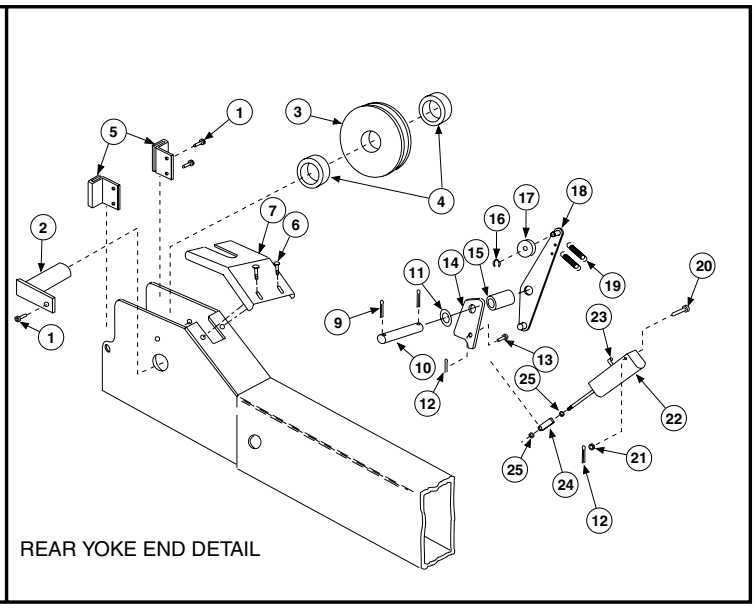
CABLES				
ITEM NO.	DESCRIPTION	PART NO.		
		OR14		
		158 1/2" WB	192" WB	212" WB
1	Left Front Cable	1400530	1400537	1400538
2	Right Front Cable	1400534	1400535	1400539
3	Right Rear Cable	1400532	1400532	1400532
4	Left Rear Cable	1400533	1400533	1400533





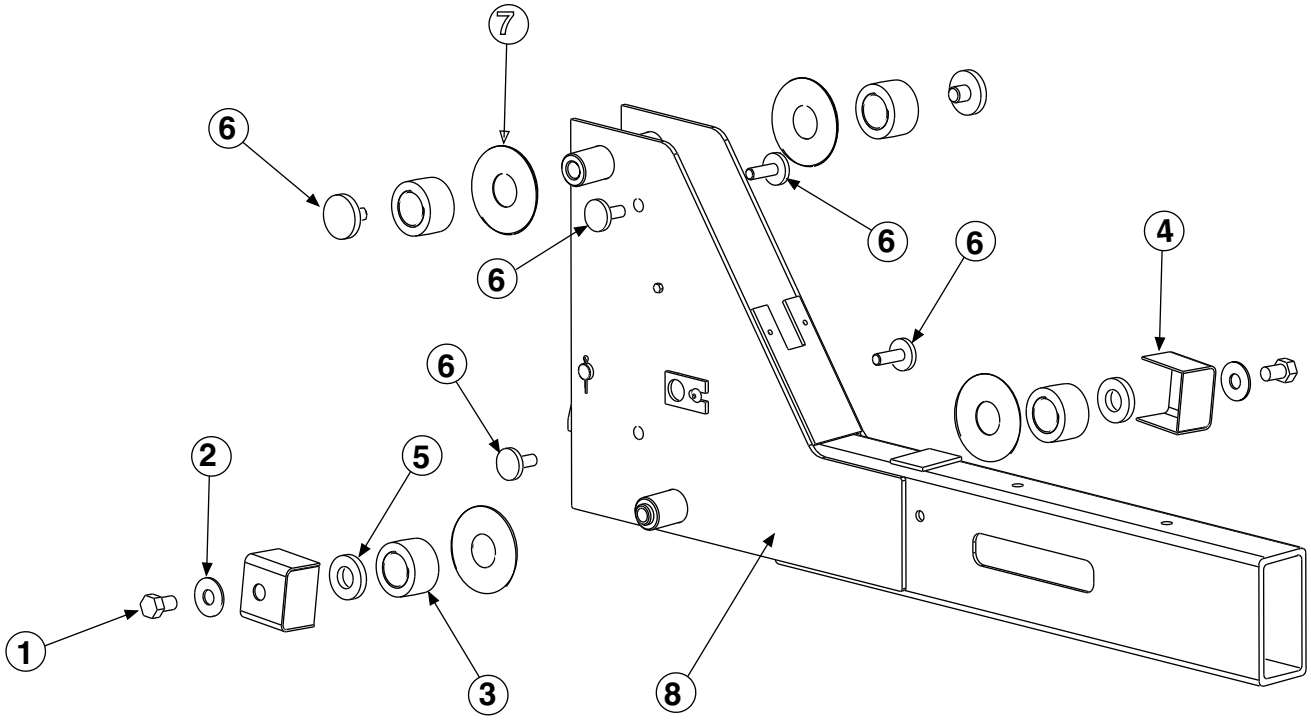
SHEAVE DETAIL		
ITEM NO.	DESCRIPTION	PART NO.
1	Sheave	1400511
2	Bearing	1400523
3	5/16"-18NC x 1/2" Lg. HHCS	40401
4	Sheave Pin	1400509
5	Sheave Spacer	1400510
6	Sheave Pin (STD)	1400529





FRONT YOKE END DETAIL					
ITEM	**DESCRIPTION**	**PART NO.**	**ITEM**	**DESCRIPTION**	**PART NO.**
1	5/16"-18NC x 3/4" Lg. HHCS	40252	16	3/8" Snap Ring TRUARC #5304-37	41410
2	Sheave Pin	1400413	17	Slack Cable Roller	1400411
3	Sheave	1400511	18	Kicker	1400421
4	Plastic Spacer	1400414	19	Extension Spring	1400422
5	Slider	1400410	20	Clevis Pin	1400423
6	Nylon Tree Rivet	S130120	21	Air Cylinder	1-Port \ 1400424
7	Number Not Used	N/A			2-Port \ 1400425
8	Number Not Used	N/A	22	Elbow	1400426
9	Cotter Pin, 1/8" X 1 1/4"	41201	23	Clevis	1400427
10	Latch Shaft	1400416	24	1/4" -28NF Hex Nut	40622
11	Washer	1400417	25	Guard	1400415
12	1/4" Hairpin Cotter Pin (.05" dia. wire)	41901	26	Tube Cap	1400409
13	Clevis Pin	1400418	27	Spring Clip	1400428
14	Latch	1400419			
15	Spacer	1400420			

REAR YOKE END DETAIL					
ITEM	**DESCRIPTION**	**PART NO.**	**ITEM**	**DESCRIPTION**	**PART NO.**
1	5/16"-18NC x 3/4" Lg. HHCS	40252	16	3/8" Snap Ring TRUARC #5304-37	41410
2	Sheave Pin	1400413	17	Slack Cable Roller	1400411
3	Sheave	1400511	18	Kicker	1400421
4	Plastic Spacer	1400414	19	Extension Spring	1400422
5	Slider	1400410	20	Clevis Pin	1400423
6	Nylon Tree Rivet	S130120	21	1/4" Flat Washer	40782
7	Guard	1400408	22	Air Cylinder	1-Port \ 1400424
8	Number Not Used	N/A			2-Port \ 1400425
9	Cotter Pin, 1/8" X 1 1/4"	41201	23	Elbow	1400426
10	Latch Shaft	1400416	24	Clevis	1400427
11	Washer	1400417	25	1/4" -28NF Hex Nut	40622
12	1/4" Hairpin Cotter Pin (.05" dia. wire)	41901			
13	Clevis Pin	1400418			
14	Latch	1400419			
15	Spacer	1400420			



ROLLER ASSEMBLY AND SLIDERS			
ITEM NO.	**DESCRIPTION**		**PART NO.**
1	5/8"-11 x 1" lg. HHCS		40340
2	5/8" Flat Washer		40980
3	Roller Assembly		1400406
4	Wheel Cover		1400407
5	Wheel Bearing		1400429
6	Slider (7/32" thick)		1400412
7	Wheel Spacer		1400430
8	Front Yoke	Left	1400402
		Right	1400403

The Owner/Employer:

- **The Owner/Employer shall** ensure that lift operators are qualified and that they are trained in the safe use and operation of the lift using the manufacturer's operating instructions; ALI/SM 93-1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; ALI/WL Series, ALI Uniform Warning Label Decals/Placards; and in the case of frame engaging lifts, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts.

- **The Owner/Employer shall** establish procedures to periodically inspect the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and The Employer Shall ensure that lift inspectors are qualified and that they are adequately trained in the inspection of the lift.

- **The Owner/Employer shall** establish procedures to periodically maintain the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and The Employer Shall ensure that lift maintenance personnel are qualified and that they are adequately trained in the maintenance of the lift.

- **The Owner/Employer shall** maintain the periodic inspection and maintenance records recommended by the manufacturer or ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance.

- **The Owner/Employer shall** display the lift manufacturer's operating instructions; ALI/SM 93-1, ALI Lifting it Right safety manual; ALI/ST-90 ALI Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts-Safety Requirements for Operation, Inspection and Maintenance; and in the case of frame engaging lifts, ALI/LP-GUIDE, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts; in a conspicuous location in the lift area convenient to the operator.

- **The Owner/Employer shall** provide necessary lockout/tagout means for energy sources per ANSI Z244.1-1982 (R1993), Safety Requirements for the Lockout/Tagout of Energy Sources, before beginning any lift repairs.

- **The Owner/Employer shall** not modify the lift in any manner without the prior written consent of the manufacturer.

SAFETY INSTRUCTIONS

• **Never** allow unauthorized or untrained persons to operate lift or rolling jacks.

• **Shop** Policy should prohibit customers or non-authorized persons from being in shop area while lift is in use.

• **Thoroughly** train all employees in the use and care of lift and rolling jacks.

• **Be Sure** no one is standing in front or behind lift while vehicle is being driven onto or backed off the lift.

• **DO NOT** allow rear tires or portion of vehicle to interfere with ramp/chocks.

• **Be Sure** front wheel stops are in raised position before driving vehicle onto lift.

• **Never** allow front wheels to strike the front wheel stops.

• **DO NOT** permit employees or customers on lift when it is either being raised or lowered.

• **Always** stand clear of lift when raising or lowering and observe "Pinch Points" Warning.

• **Never** overload lift: capacity of lift is 14,000 lbs. (7,000 lbs. per axle). CAPACITY SHOULD NOT BE EXCEEDED.

• **Always** engage parking brake and use the rear wheel chocks to keep the vehicle from rolling freely on the runways.

• **Always** lower lift on locks before working on vehicle.

• **Keep** area around lift clean of tools, debris, grease, and oil.

• **Always** keep runway clean.

• **Replace** all caution, warning, or safety related decals on the lift when unable to read or missing.

• **For Rolling Jack Safety Instructions** see Rolling Jack Installation, Operation and Maintenance Instructions in the rolling jack box.

• **Never** use work step while lift is in a raised position.

OPERATING INSTRUCTIONS

⚠WARNING To avoid personal injury and/or property damage, permit only trained personnel to operate lift.

After reviewing these instructions, get familiar with lift controls by running the lift through a few cycles before loading vehicle on lift.

Observe and heed SAFETY and WARNING labels on the lift.

NOTE: The EL2 Model was designed for 124" or longer wheelbase at the rated 14,000 lb. capacity.

1. **Loading:** Lift must be fully lowered and no one in service bay while the vehicle is brought on lift.
2. If lift is equipped with rolling jacks, jacks must be fully lowered and the rear jack pushed toward center of lift to provide under car clearance.
3. Stop vehicle when it contacts the front wheel stops. At all times, be sure rear wheels are forward of the ramp/chocks and the ramp/chocks will clear tires when the lift is raised, Fig. 1. Driver and passengers must exit before raising.
4. Place triangular wheel chocks on each side of one of the rear tires, Fig. 1.
5. **To Raise Lift:** Push the **"RAISE"** button on the power unit. Release button at desired height, Fig. 2.
6. For Rolling Jack Operating Instructions see Rolling Jack Installation, Operation and Maintenance Instructions in the rolling jack shipping carton.
7. **Before Lowering Lift:** Be sure no one is in the lift area and that all tools, tool trays, etc. have been removed from under the lift and vehicle.

⚠WARNING The runways, ramps and connecting yokes at each end of lift are designed to rest on the floor when fully lowered. Observe pinch point warning decals, Fig. 3.

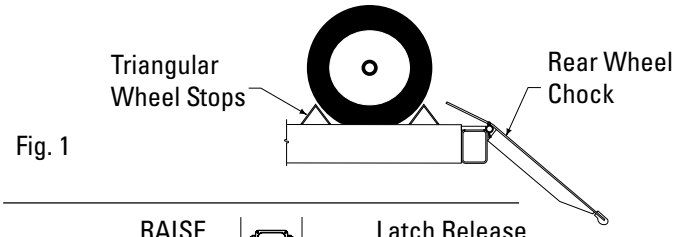


Fig. 1

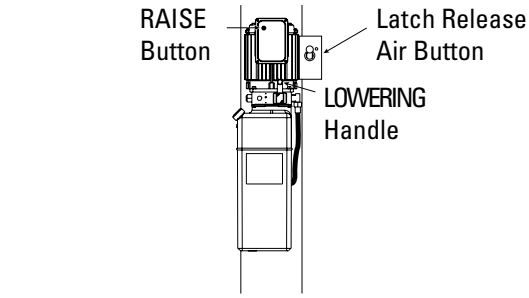


Fig. 2

8. **Repeat Step 2.**
9. **To Lower Lift:** If lift has been resting on the locking latches, lift must be raised high enough for all four latches to clear the latch plate slots inside the columns.
10. Actuate the latch release valve on the power unit column to disengage all four locking latches, Fig. 2. Hold actuator until lift has fully lowered.

Note: If actuator on air valve is released, the latches will automatically reset to the engaged position.

11. Push the lowering handle on the power unit to lower lift, Fig. 2. Lowering speed can be controlled by the force applied to the lowering handle.
12. Observe lift and vehicle to be sure lift is level while being lowered. If not, STOP repeat Steps 10 through 13.
13. Fully lower lift, remove the triangular wheel chocks and check to be sure area is clear before removing vehicle from lift, Fig. 1.
14. If your lift is not operating properly, DO NOT use until adjustments or repairs have been made by qualified lift service personnel.

⚠WARNING Keep hands clear of yoke ends while the lift is being raised or lowered, Fig. 3.

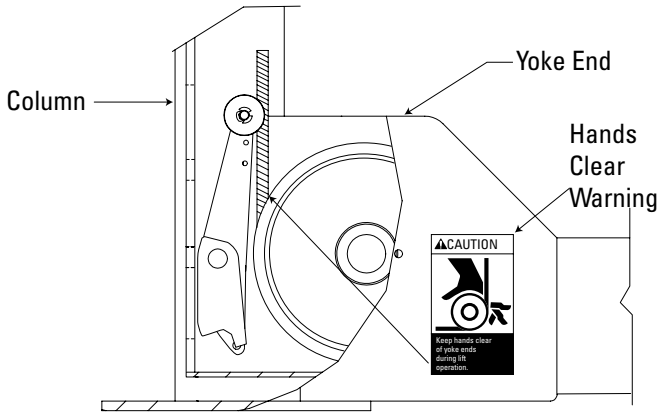


Fig. 3

MAINTENANCE INSTRUCTION

⚠WARNING If you are not completely familiar with automotive lift maintenance procedures, STOP. Contact factory for instructions.

To Avoid Personal Injury, permit only qualified lift service personnel to perform maintenance on this equipment.

• **Periodically:** Check all column, lift/runway attaching bolts for tightness.

• **Always** raise lift when cleaning floor area with solvents and/or cleaning compounds.

• **Always:** Replace slack cable device springs when replacing new cables.

• **Daily:** Check cables and sheaves for wear.

• **Daily:** Inspect front wheel stops and ramp/chocks for damage or excessive wear. Replace as required with genuine parts.

• **Daily:** Check locking latch operation and reset. Adjust per instructions or repair if required with genuine parts.

• **Weekly:** Clean foreign debris from rear wheel slip plates and turning radius gauges by blowing out with shop air. **DO NOT GREASE BALL BEARINGS.**

• **Weekly:** Check torque on the column anchor bolts per specifications .

• **Monthly:** Check cable. Adjust per instructions.

• **Monthly:** Check level of runway. Adjust per instructions.

• **Monthly:** Lubricate Guide on each turning radius with a dry film lubricant. Clean and lubricate more often as conditions warrant.

• **Semi-Annually:** Check fluid level of lift power unit and refill if required. If fluid is required, inspect all fittings, hoses and seals. Repair as required.

• **Semi-Annually:** Lubricate front wheel stop and ramp/ chock hinge pins.

IMPORTANT Cable adjustment should be checked by an authorized installer after the first 50 loaded lift cycles and after 300 loaded lift cycles.

• **For Rolling Jack** Maintenance Instructions see Rolling Jack Installation, Operation and Maintenance Instructions in the rolling jack box.

TROUBLE SHOOTING

Trouble	Cause	Remedy
Motor does not run.	1. Check fuse or circuit breaker.	1. Replace blown fuse or reset circuit breaker.
	2. Check for correct voltage to motor.	2. Supply correct voltage to motor.
	3. Inspect all wiring connections.	3. Repair and insulate all connections.
	4. Switch burned out.	4. Replace switch.
	5. Motor windings burned out.	5. Replace motor.
Motor runs but will not raise lift.	1. Open lowering valve.	1. Repair or replace lowering valve.
	2. Pump sucking air.	2. Tighten all suction line fittings.
	3. Suction stub off pump.	3. Replace suction stub.
	4. Low fluid level.	4. Fill tank with Dexron III ATF.
Motor runs—raises unloaded lift but will not raise vehicle.	1. Motor running on low voltage.	1. Supply correct voltage to motor.
	2. Trash in lowering valve.	2. Clean lowering valve.
	3. Improper relief valve adjustment.	3. Replace relief valve cartridge.
	4. Overloading lift.	4. Check vehicle weight and/or balance vehicle weight on lifts.
Lift slowly settles down.	1. Trash in check valve seat.	1. Clean check valve.
	2. Trash in lowering valve seat.	2. Clean lowering valve.
	3. External fluid leaks.	3. Repair external leaks.
Slow lifting speed or fluid blowing out filler breather cap.	1. Air mixed with fluid.	1. Change hydraulic fluid to Dexron III ATF.
	2. Air mixed with fluid suction.	2. Tighten all suction line fittings.
	3. Fluid return tube loose.	3. Reinstall fluid return tube.
Lift going up unlevel.	1. Cables out of adjustment.	1. Adjust slack out of cable.
	2. Lift installed on unlevel floor.	2. Shim lift to level columns (Not to exceed $^1/_2$" per column). **Note:** Shim thickness of 2" is possible by using optional shim kit. Contact your authorized parts distributor for ordering information.
Lift stops short of full rise or chatters.	1. Low on fluid.	1. Check fluid level and bleed cylinder If fluid is required inspect all fittings, hoses, and seals. Repair as required. Clean power unit pickup stub filter.
Anchors will not stay tight.	1. Holes drilled oversize.	1. Use a fast setting cement to pour into oversize holes and reset anchors -or- relocate lift using a new bit to drill holes.
	2. Concrete floor thickness or holding strength not sufficient.	2. Break out old concrete and repour new pads for lift.
Lift will not lower.	1. Insufficient air supply to lift.	1. Check air pressure. Air supply to lift should be between: min. 100 p.s.i. and max. 120 p.s.i. Check all lines and fittings for leaks or crimps. Repair or replace as required.
	2. Latches out of adjustment.	2. Check latches.

LIFT LOCKOUT/TAGOUT PROCEDURE

Purpose

This procedure establishes the minimum requirements for the lockout of energy that could cause injury to personnel by the operation of lifts in need of repair or being serviced. All employees shall comply with this procedure.

Responsibility

The responsibility for assuring that this procedure is followed is binding upon all employees and service personnel from outside service companies (i.e., authorized installers, contactors, etc.). All employees shall be instructed in the safety significance of the lockout procedure by the facility owner/manager. Each new or transferred employee along with visiting outside service personnel shall be instructed by the owner/manager (or assigned designee) in the purpose and use of the lockout procedure.

Preparation

Employees authorized to perform lockout shall ensure that the appropriate energy isolating device (i.e., circuit breaker, fuse, disconnect, etc.) is identified for the lift being locked out. Other such devices for other equipment may be located in close proximity of the appropriate energy isolating device. If the identity of the device is in question, see the shop supervisor for resolution. Assure that proper authorization is received prior to performing the lockout procedure.

Sequence of Lockout Procedure

1) Notify all affected employees that a lockout is being performed and the reason for it.
2) Unload the subject lift. Shut it down and assure the disconnect switch is "OFF" if one is provided on the lift.
3) The authorized lockout person operates the main energy isolation device removing power to the subject lift.
    - If this is a lockable device, the authorized lockout person places the assigned padlock on the device to prevent its unintentional reactivation. An appropriate tag is applied stating the person's name, at least 3" x 6" in size, an easily noticeably color, and states not to operate device or remove tag.
    - If this device is a non-lockable circuit breaker or fuse, replace with a "dummy" device and tag it appropriately as mentioned above.
4) Attempt to operate lift to assure the lockout is working. Be sure to return any switches to the "OFF" position.
5) The equipment is now locked out and ready for the required maintenance or service.

Restoring Equipment to Service

1) Assure the work on the lift is complete and the area is clear of tools, vehicles, and personnel.
2) At this point, the authorized person can remove the lock (or dummy circuit breaker or fuse) & tag and activate the energy isolating device so that the lift may again be placed into operation.

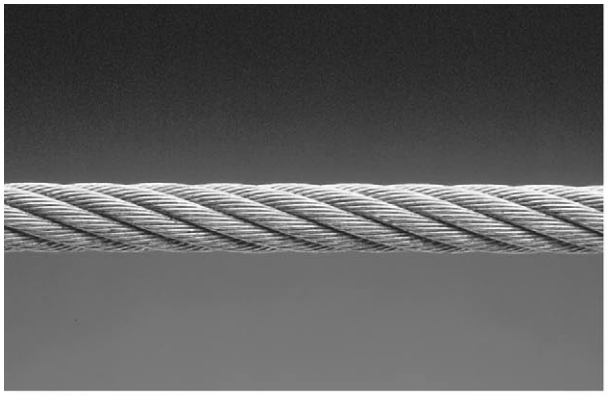
Rules for Using Lockout Procedure

Use the Lockout Procedure whenever the lift is being repaired or serviced, waiting for repair when current operation could cause possible injury to personnel, or for any other situation when unintentional operation could injure personnel. No attempt shall be made to operate the lift when the energy isolating device is locked out.

OPERATING CONDITIONS

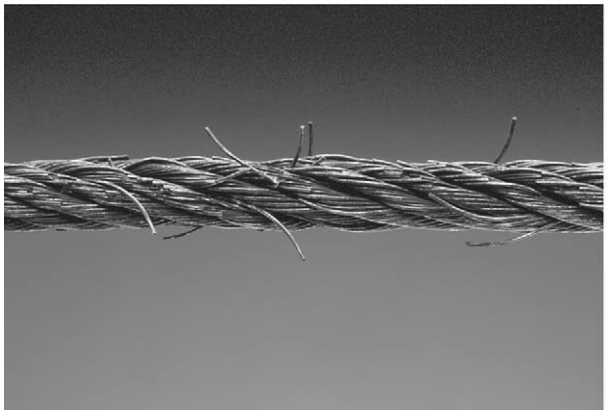
Lift is not intended for outdoor use and has an operating ambient temperature range of 41º-104ºF (5º-40ºC).

Maximum Allowable Cable Necking	
Nom. Cable Diameters	Max. Reduction in Diameter
Up to 5/16″	1/64″
3/8″ to 1/2″	1/32″
9/16″ to 3/4″	3/64″
7/8″ to 1-1/8″	1/16″
1-1/4″ to 1-1/2″	3/32″

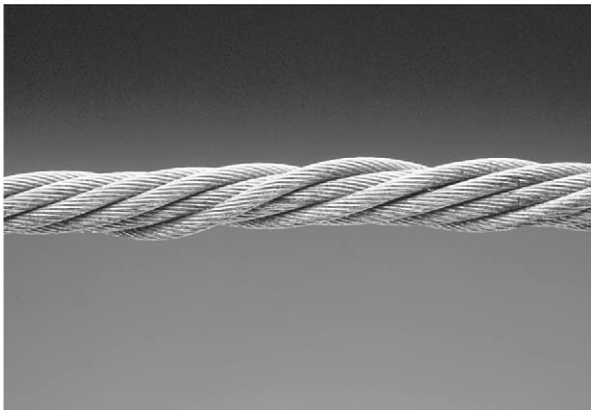


Typical Good Cable

Cable With Broken Wires



Cable With Severe Corrosion



Cable With Necking

Daily Inspection & Maintenance

1. Cleanliness: Cables, Columns, Runways and other lift parts should be kept free of corrosive agents, solvents, and road salts. If such agents are spilled or splashed on any lift component, immediately rinse thoroughly with water and wipe down with a clean rag. Spray wire rope cables as required with Penetrating Oil and wipe down.

Failure to keep lift free of corrosive agents and solvents will lead to reduced component service life, cable failure, etc., which could result in property damage and/or personal injury.

2. Fasteners: Check all the attaching bolts and nuts for tightness.

Air cylinder bolt and nut should be loose enough to allow movement of cylinder.

3. Cables: Check wire rope cables for wear or damage. Any cable with broken wires, severe corrosion, excessive stretch, deformed strands, variations in diameter (necking), or any change from its normal appearance, must be replaced. If any cable is found to be in need of replacement, the entire cable set must be replaced immediately. Refer to figures below.

4. Sheaves: Check sheaves (pulleys) for wear or damage, i.e. wobble (tilt), cracks, loose on pin, or excessive noise during operation.

5. Sheave Pins: Check for loose or missing sheave (pulley) pins.

6. Locking Latches and Slack Cable Devices: Watch locking latches and slack cable devices during lift operation to ensure that latches work properly and line up with slots in latch plate located in columns.

7. Compressed Air Supply: Check filter/regulator/lubricator in air line to lift. Drain filter bowl and fill lubricator with oil as specified by manufacturer. Adjust oil feed according to manufacturer's instructions.

Monthly Inspection & Maintenance

1. Cables

   1.1 Clean wire rope cables with lift in both lowered and raised position by spraying with Penetrating Oil and wiping the cable down.

   1.2 Adjust cables using procedures on following pages.

2. Slack Cable Device: Inspect slack cable devices using procedure on page 5.

3. Column Anchor Bolts: Check column anchor bolts for tightness. Re-torque anchors bolts to 65 ft/lbs. If anchors do not tighten to the required installation torque, replace concrete under each column base per installation instructions. Let concrete cure before installing lifts and anchors.

4. Columns: Look for corrosion, giving special attention to the area at the base of the column. Check severely corroded areas by pecking with an awl or welder's chipping hammer. If column is corroded through at any point it must be replaced immediately. If not corroded through, remove old paint and rust scale, then coat with a high quality corrosion resistant paint.

NOTE

A thorough inspection of the lifting system must be performed quarterly by qualified lift service personnel; more frequently (monthly) under extreme service conditions such as outside installations or high usage (10 or more cycles per day, etc.).

Quarterly Inspection & Maintenance

1. Cables

1.1 Inspect cables in both lowered and raised position. The cables may also be viewed through various inspection holes and openings in yokes and runways. Check all the following:

a. That cables have no broken wires visible, reference Daily Inspection & Maintenance.

b. That cables are free of severe corrosion and pitting, reference Daily Inspection & Maintenance. A light surface corrosion on exposed outer wires is normal. Penetrating Oil should be applied during monthly periodic inspection.

c. That there are no areas on the cable that have a greatly reduced diameter or "necking", reference Daily Inspection & Maintenance. When any cable is found with excessive necking, all cables must be replaced immediately.

d. That cables do not have excessive stretch. It is normal for new cable to require adjustment during "break-in", after which small periodic adjustments may be required. However, if a cable that has been in service for 6 months should suddenly require frequent adjustments or has used all the cable adjustment available, all cables must be replaced immediately.

e. If any cable is found to be in need of replacement, the entire cable set must be replaced immediately.

f. Cables are expendable items and should be replaced as a set every 20,000 cycles (estimated) or every 6 years, unless earlier replacement is indicated during inspection.

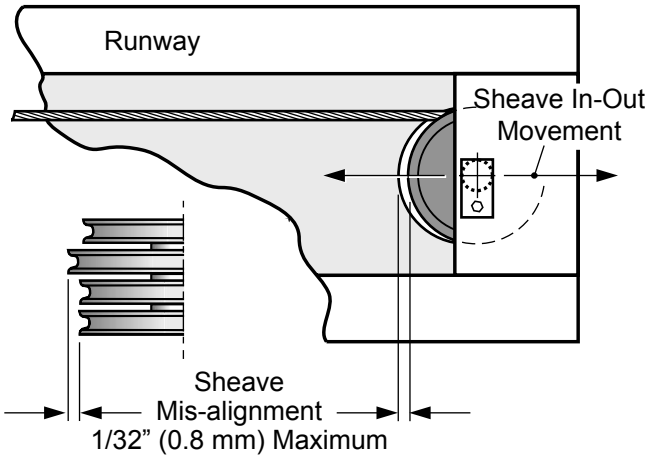
2. Sheaves and Pins

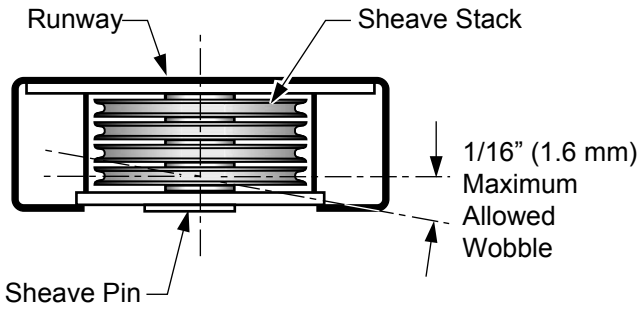
Inspect sheaves and pins in yokes and runways. Sheaves are expendable items. Sheaves and pins should be replaced when worn. Use of sheaves and pins with excessive wear will lead to reduced service life of cables.

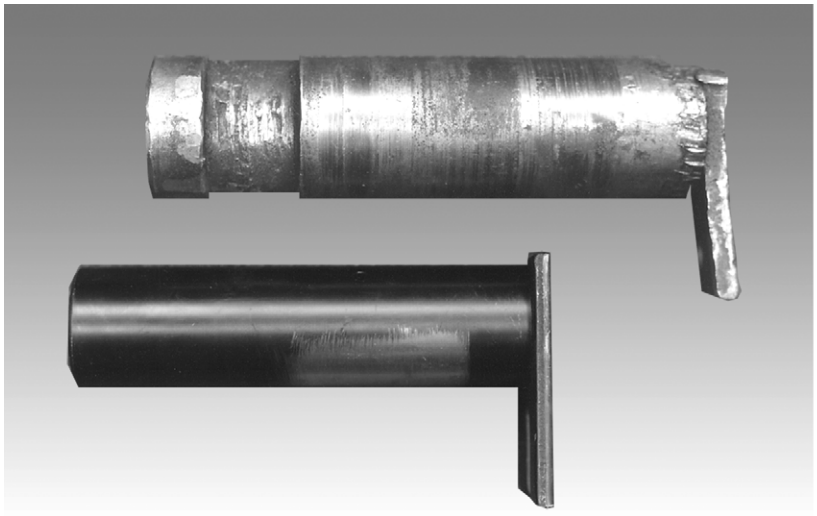
2.1 Inspect sheaves (pulleys) in yoke ends with lift in lowered position or resting on the locking latches.

a. Hold lowering handle down and pull on cable in column to create slack in cables.

b. Check for excessive side to side wobble. Grasp rim of sheave and attempt to wobble (tilt) side to side. If sheaves wobble (tilt) more than 3/16" (4.8 mm) side to side or move up and down on shaft more than 1/32" (0.8 mm), the sheave and pin (shaft) should be replaced, refer figures below.







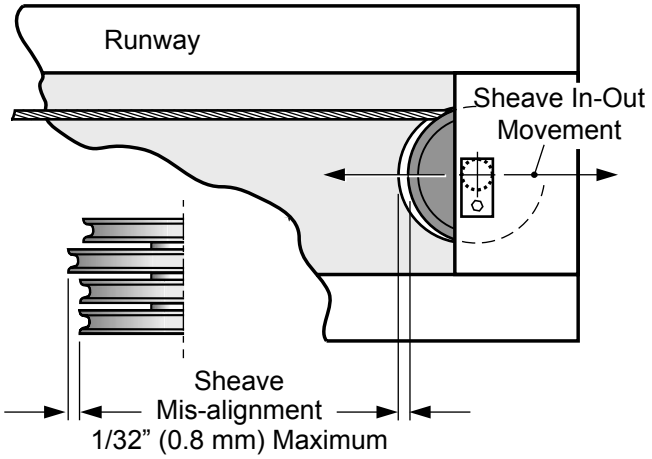
TOP PIN With Excessive Scoring and Wear

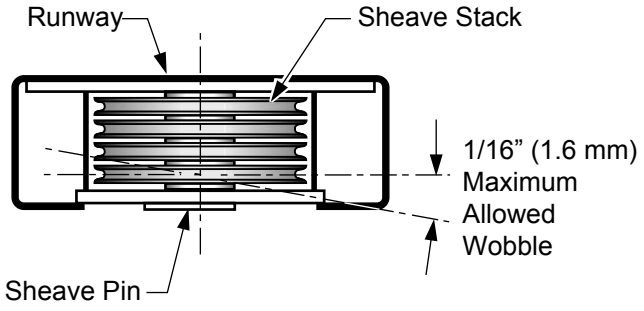
BOTTOM PIN With Normal Wear

c. Check sheaves and replace if cracks are found.

d. Check for ease of rotation. If sheaves do not turn freely, the sheave and sheave pin should be removed, inspected, lubricated, and reinstalled or replaced.

2.2 Fully raise lift. Inspect sheaves (pulleys) in runway ends with lift in raised position.





a. Visually inspect alignment of sheaves, see figure above. Misalignment of sheave(s) indicates excessive wear; the sheave(s) and sheave pin should be removed and inspected. Replace as required.

b. Hold lowering handle down to lower lift onto latches. Pull on cables under runway to create cable slack.
c. Check for excessive side to side wobble. Grasp rim of sheave and attempt to wobble (tilt) side to side, refer to figures above. If sheaves wobble (tilt) more than 1/16" (1.6 mm) side to side, or move in and out more than 1/32" (0.8 mm), the sheave and sheave pin (shaft) should be replaced, refer to figures above.

3. Hydraulic Cylinder

Inspect the hydraulic cylinder mounting to the runway. Inspect cylinder and hydraulic hoses for leaks. Repair or replace as required.

1 Check and tighten the hydraulic cylinder rod nuts holding the cable pull bar.

4. TRACKS for Rolling Jack and Oil Drain Pan
Inspect rolling jack/oil drain pan tracks for cleanliness, corrosion, excessive wear or damage. Clean dirty tracks. Worn or damaged tracks must be repaired immediately.

WARNING!

Failure to do so will lead to reduced service life which could result in property damage and/or personal injury.

5. Latch Inspection and Adjustment

Check locking latches for proper operation. Inspect for worn or missing parts, Fig. 9a, and Fig. 9b. Replace worn or damaged parts and adjust as required.

1. Air Latches

Depress air valve and check latch operation on all four corners.

NOTE

Locking latches require 100 psi. min. to 120 psi. max. air pressure. Excessive air pressure can affect lock release mechanism and air cylinder wear.

2. Latch and Latch Bar Line-Up

Observe locking latches during lift operation to ensure that all latches line up with slots in latch bar located in all four columns. If not, relocate and/or re-shim columns.

1. Check slack cable devices for proper operation. Inspect for worn or missing parts. Replace worn or damaged parts as required.

2. Observe both locking latches and slack cable devices during lift operation to ensure that all latches line up with slots in latch bar located in all four columns.

Cable Adjustment

1. Initial Adjustment

Adjust cable with lift fully lowered. Loosen jam nut and tighten nut on cable stud on top of column until yoke end is raised 1/4" (6.4 mm) and back off nut one turn. Retighten jam nut. Repeat for all four cables. Refer to figures below.

CAUTION!

Cables must fit in slack cable arm rollers.

2. Final Adjustment

a. Load a vehicle such as a 3/4 ton pickup or van on lift.
b. Raise lift as high as it will travel (full height). You should hear the locking latches click through all latch slots simultaneously.
c. Lower lift onto top latch position.
d. Check clearance:
e. Starting with the right front column, use a straight edge to mark the position of the yoke bottom on the column, Fig. 10.
f. Raise lift to full height again. Mark second position, Fig. 10. If gap between two marks is less than 2", adjust locking latch bar to reach clearance of 2". Repeat for the other three columns.
g. Adjust locking latch bar adjusting nut so that the bottom of the topmost latch bar slot is at least 2" below locking latch, Fig. 11. After adjustment, tighten jam nut underneath column top plate, Fig. 11.
h. If entire 2" clearance cannot be attained by adjusting the locking latch bar, adjust the cable. Turn cable adjusting nut to raise the locking latch 2" above bottom of latch bar slot. Tighten cable jam nut.
i. Lower lift and remove vehicle.
j. Raise the lift to full height. LISTEN and WATCH as the first locking latch clicks into place. Synchronize the other three columns with this column by adjusting their cables so all four latches click at same time. Tighten jam nuts.

CAUTION!

When making changes to adjustment nuts on cable end or latch bar stud, always leave at least two threads showing between nut and stud 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.