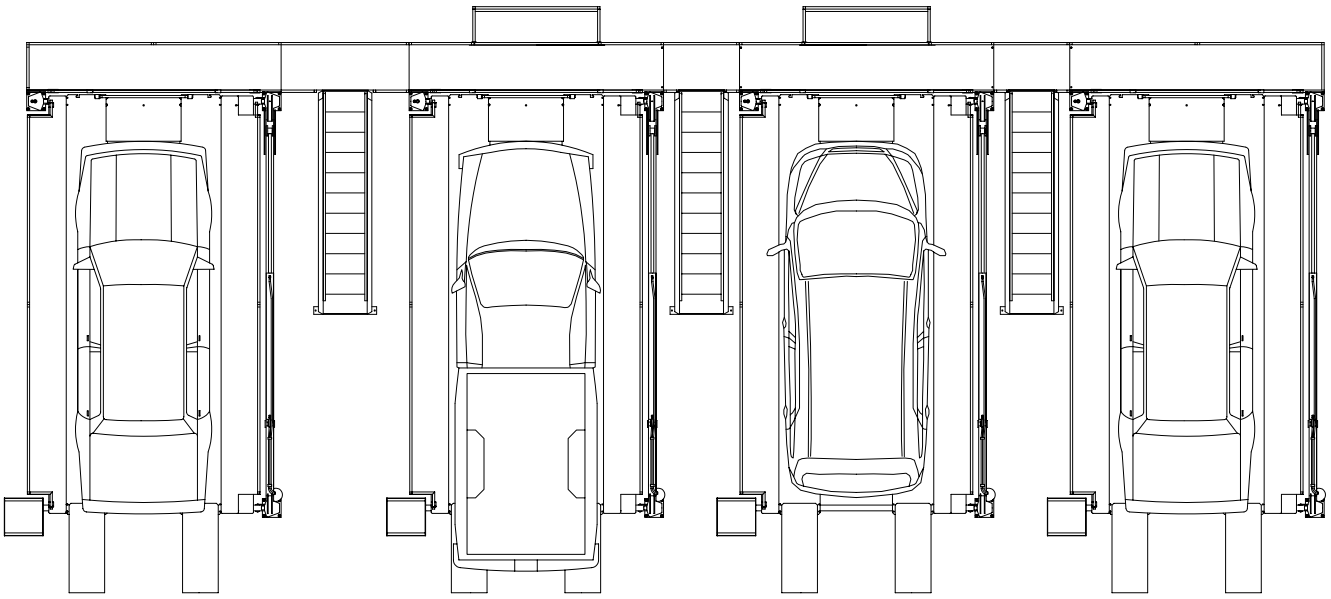
Mezzanine/Rural 98

Multi-Bay Lube Lift Systems
Installation And Owner's Manual

994333

Rev G April 2007 CO6886



12000LR-M1
Single Bay Mezzanine Lube Lift - 12,000 Pound Capacity x 1

12000LR-M2
Double Bay Mezzanine Lube Lift - 12,000 Pound Capacity x 2

12000LR-M2-98
Double Bay Mezzanine Lube Lift - 12,000 Pound Capacity x 2

12000LR-M3
Triple Bay Mezzanine Lube Lift - 12,000 Pound Capacity x 3

12000LR-M4
Quad Bay Mezzanine Lube Lift - 12,000 Pound Capacity x 4

TABLE OF CONTENTS

Important Information……..2

Section 1 Owner's Manual

Safety Instructions.....3

Operating Instructions……4

Monthly Maintenance……..4

Troubleshooting……5

Section 2 Installation Instructions

Tools Required for Installation……7

Procedure……..7

Section 3 Parts Breakdown

Parts List……32

Important Information:

1. **Read this manual thoroughly** before installing, operating, or maintaining this lift.
2. This lift is designed for indoor use only, and should not be installed in a pit or depression.
3. The floor on which the lift is to be installed must be 4" inch minimum thickness concrete, with a minimum compressive strength of 3000 psi, and reinforced with steel bar.
4. The lifts require 208-230V, 60 hz, single phase, 20 amp AC electrical service.
5. The lift has a minimum ceiling height requirement as described in the Installation Instructions section of the manual.
6. This lift system has specific requirements for bay door spacing. See pages 9-13 for the specifications of your lift.
7. This lift is designed to be leveled to accommodate sloping floors.

8. **Failure by the owner to provide the recommended shelter, mounting surface, electrical supply, and ceiling height could result in unsatisfactory lift performance, property damage, or personal injury.**

Section 1

Owner's Manual

Safety Instructions:

1. **Do not raise a vehicle on the lift until the installation is completed as described in this manual.**
2. **Anyone who will be in the vicinity of the lift** when it is in use should read and refer to the following publications supplied with this lift:
    - "INSTALLATION AND OWNERS MANUAL"
    - "LIFTING IT RIGHT", ALI SM93-1.
    - "AUTOMOTIVE LIFT SAFETY TIPS", ALI-ST90.
    - "SAFETY REQUIREMENTS FOR OPERATION, INSPECTION, AND MAINTENANCE", ANSI/ALI ALOIM-1994.
3. **Technicians** should be trained to use and care for the lift by familiarizing themselves with the publications listed above. The lift should never be operated by an untrained person.
4. **Do not overload the lift.** The capacity of the lift is shown on cover of this document.
5. **Keep everyone clear of the lift when the lift is moving, the locking mechanism is disengaged, or the vehicle is in danger of falling.**
6. **Unauthorized personnel** should never be in the shop area when the lift is in use.
7. **Inspect the lift daily**. The lift should never be operated if it has damaged components, or is malfunctioning. Only qualified technicians should service the lift. Replace damaged components with manufacturer's parts, or equivalent.
8. **Keep the area around the lift clear** of obstacles.
9. **Never** override the self-returning lift controls.
10. **To reduce the risk of personal injury**, keep hair, loose clothing, fingers, and all body parts away from moving parts.
11. **To reduce the risk of electric shock**, do not use the lift when wet, do not expose the lift to rain.

12. **To reduce the risk of fire**, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
13. **Use the lift only as described in this manual**, use only manufacturer's recommended attachments.
14. Unusual vehicles, such as limousines, RV's, and long wheelbase vehicles, may not be suitable for lifting on this equipment. If necessary, consult with the manufacturer or the manufacturer's representative.
15. The troubleshooting and maintenance procedures described in this manual can be done by the lift's owner/employer. Any other procedure should only be performed by trained lift service personnel. These restricted procedures include, but are not limited to, the following: cylinder replacement, safety latch replacement, and leg replacement.

OPERATING INSTRUCTIONS

RAISING VEHICLES

1. Drive vehicle onto lift. Set Parking Brake.
2. Push button on power unit to raise lift to desired height.
3. Use the lever on the power unit to lower the lift onto the safety latch.
4. **Before** walking under the lift, verify that the safety latch pivot pin is positioned in the latch rack under the toprail tube.

LOWERING VEHICLES:

1. Raise the lift off of the safety latch using the push button switch on the power unit.
2. Release the safety latch by holding down on the latch until the cam sets to hold it down.
3. Lower the lift using the valve lever on the power unit.

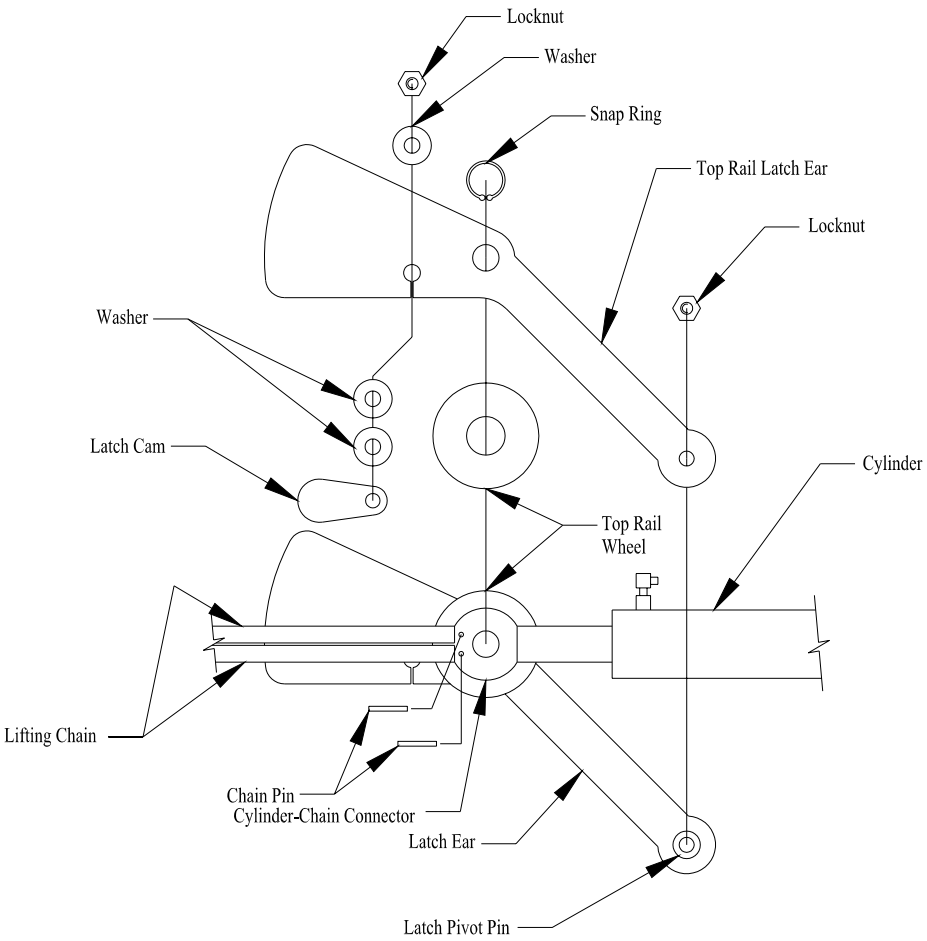
Monthly Maintenance:

1. With lift lowered check the hydraulic fluid level. If necessary add oil as described in the Installation Instruction section of this manual
2. Check the safety latch mechanism: correct alignment of legs and crossrails, and correct linkage problems as required.
3. Check tightness of all bolts.
4. Check anchor bolt tightness. If the anchor bolts are loose, they should be re-torqued to 90ft/lbs.
    - Check the nuts for tightness every week for the first month, and every month afterwards.

5. Lubricate the lifting and crossrail chains with a quality chain lubricant.
6. Replace worn or broken parts only with lift manufacturer's parts, or their equivalent.

Troubleshooting Instructions

1. **Lift will not raise or raises part way**.
   - Not enough oil in the reservoir.
   - The electrical hook up is not 220V or the voltage is not adequate for the pump motor. Check for a minimum of 208V at the power unit while the motor is running under load.
   - Foreign matter in valving. Hold the lowering control in and run the motor with the push button switch for 60 seconds to flush the system. Repeat several times.
2. **Lift will not pick up a heavy vehicle**.
   - The lift is overloaded. The lift is rated to pick up 12,000 lb. The relief valve will not allow overloading.
   - The voltage at the power unit is not adequate. Check for a minimum of 208 V at the power unit while the motor is running under load.
   - The piston seal of the cylinder is damaged. Raise the lift to full height. Disconnect the return line at the power unit and place the hose end in a bucket. Run the power unit at the full relief valve bypass setting. A flow of oil from the hose indicates a bad piston seal.
3. **Lift drifts down when the push button is released**.
   - Foreign matter in valving. Hold the lowering control in and run the motor with the push button switch for 60 seconds to flush the system. Repeat several times.
4. **Toprail safety latch does not work smoothly**.
   - Latch ear drags on one side of the top rail tube. Adjust the cylinder position by bending the cylinder locating ears on top of the tube near the rod end of the cylinder. If this does not solve the problem, loosen the attachment nuts on the latch pivot pin. If this stops the problem, space out the latch ears using ¾ flat washers. The figure on the following page shows latch assembly.
   - Latch will not stay up for reset and lowering. Check the cam for free operation. If the latch drops during lowering, see step just above.



12000 lb Lift, Single Point Safety Latch

5. **Oil leaks**.
   - Power Unit.
     - If the power unit leaks hydraulic oil around the tank mounting flange, check the oil level in the tank by removing the bleed screw just below the top of the tank.

   - Cylinder.
     - Some seepage from the rod end of the cylinder is normal. Oil in minute quantities adheres to the rod when the lift is lowered. The oil is removed by the rod wiper when the lift is raised. This oil will drip down and collect on the top rail. To check for a leak condition, raise the lift until the cylinder bottoms out. Hold the power unit run button for one minute. The system pressure at this time will be the maximum and the cylinder will leak if the seals are bad.

Section 2. Installation Instructions

TOOLS FOR INSTALLATION

- Concrete hammer drill with 1/2" and 3/4" bit
- Open end wrenches: 1/2, 9/16, 11/16, 3/4
- Hex head allen wrenches: 3/16
- Ratchet & sockets: 3/8, 1/2 deep socket
- 12" crescent wrench
- Hammer
- Needle nose pliers
- Level, 3' minimum
- Pull wire
- Chalk line
- Small punch

Procedure

1. Read the Notices on the first page.

2. Begin by referring to Figures 1, 2, 3 & 4 for overall dimensions, positioning of the components of the lift, and chalk line layouts. Determine how many lifts are to be installed and use the corresponding figure.
   - The area must be level side-to-side and have free access to load and unload vehicles.
   - There must be enough overhead clearance to raise vehicles 6 feet above the floor. 13 feet is the minimum recommended ceiling height.
   - Use the chalk lines to position the lifts in the bays.
     - The centerlines of the lifts should correspond with the centerlines of the bay doors.
     - When locating the ends of the chalk line rectangles take care to position the lift with respect to walls and other obstacles.
     - For each bay, move 73-1/4" as shown and draw chalk lines A-B. Use the 11' 3-1/2" width dimension to draw the arcs A-D and B-C. Draw chalk lines D-C tangent to their respective arcs.
     - Mark on lines A-B points 1 and 2 to establish the ends of the rectangle.
     - From points 1 and 2 measure diagonally 21' 11-1/2" to the opposite parallel line to determine points 3 and 4.
     - Draw a chalk line between points 1 and 4 and points 2 and 3.
     - The four lines locate the four corners of the leg foot rectangle.

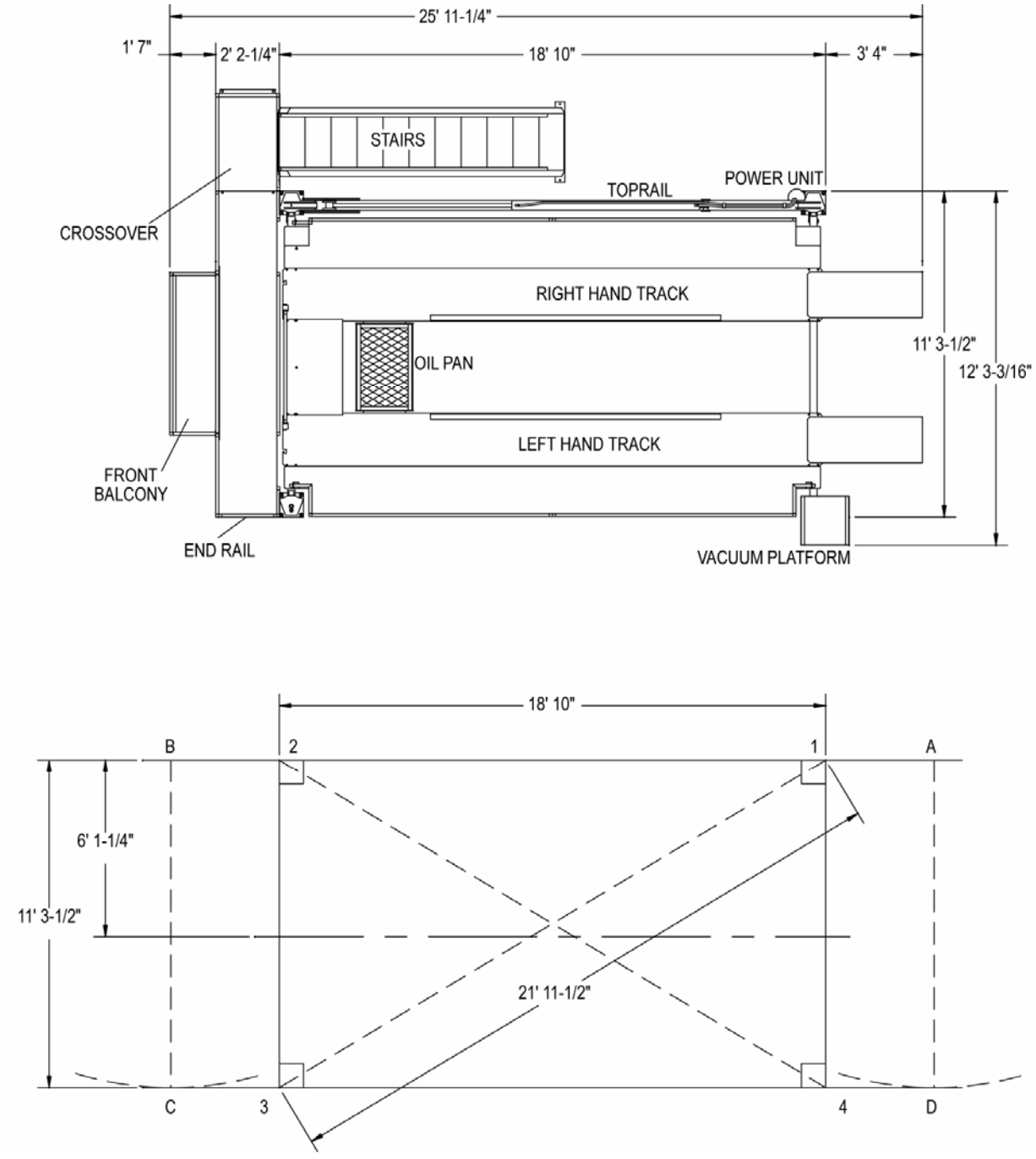

25' 11-1/4"
1' 7"
2' 2-1/4"
18' 10"
3' 4"
STAIRS
TOPRAIL
POWER UNIT
CROSSOVER
RIGHT HAND TRACK
OIL PAN
11' 3-1/2"
12' 3-3/16"
LEFT HAND TRACK
FRONT
BALCONY
END RAIL
VACUUM PLATFORM
18' 10"
B
2
1
A
6' 1-1/4"
11' 3-1/2"
21' 11-1/2"
C
3
4
D

Figure 1

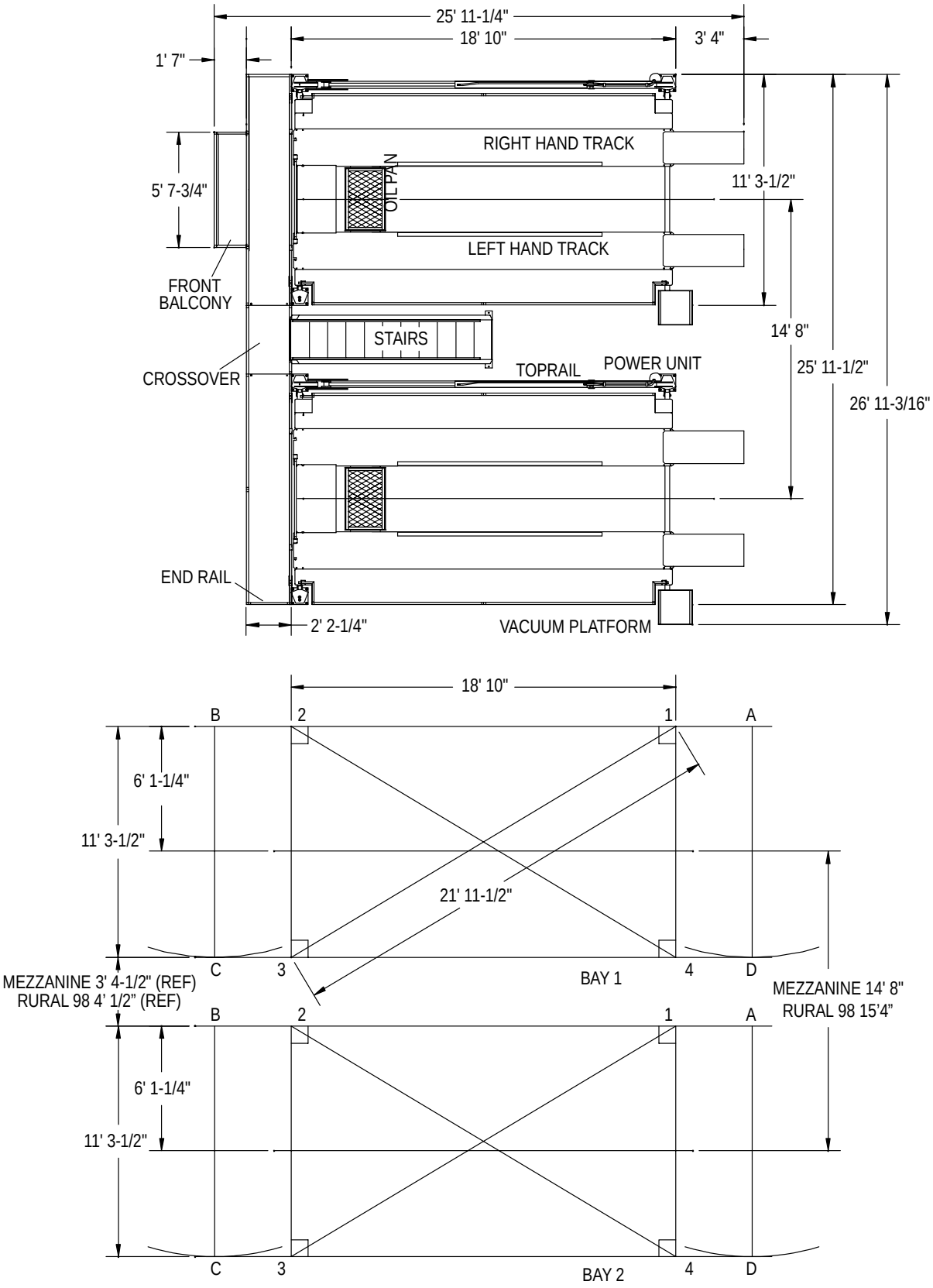

25' 11-1/4"
18' 10"
3' 4"
1' 7"
RIGHT HAND TRACK
OIL PAN
5' 7-3/4"
11' 3-1/2"
LEFT HAND TRACK
FRONT
BALCONY
STAIRS
14' 8"
25' 11-1/2"
CROSSOVER
TOPRAIL
POWER UNIT
26' 11-3/16"
END RAIL
2' 2-1/4"
VACUUM PLATFORM
18' 10"
B
2
1
A
6' 1-1/4"
11' 3-1/2"
21' 11-1/2"
C
3
BAY 1
4
D
MEZZANINE 3' 4-1/2" (REF)
RURAL 98 4' 1/2" (REF)
MEZZANINE 14' 8"
RURAL 98 15'4"
B
2
1
A
6' 1-1/4"
11' 3-1/2"
C
3
BAY 2
4
D

Figure 2

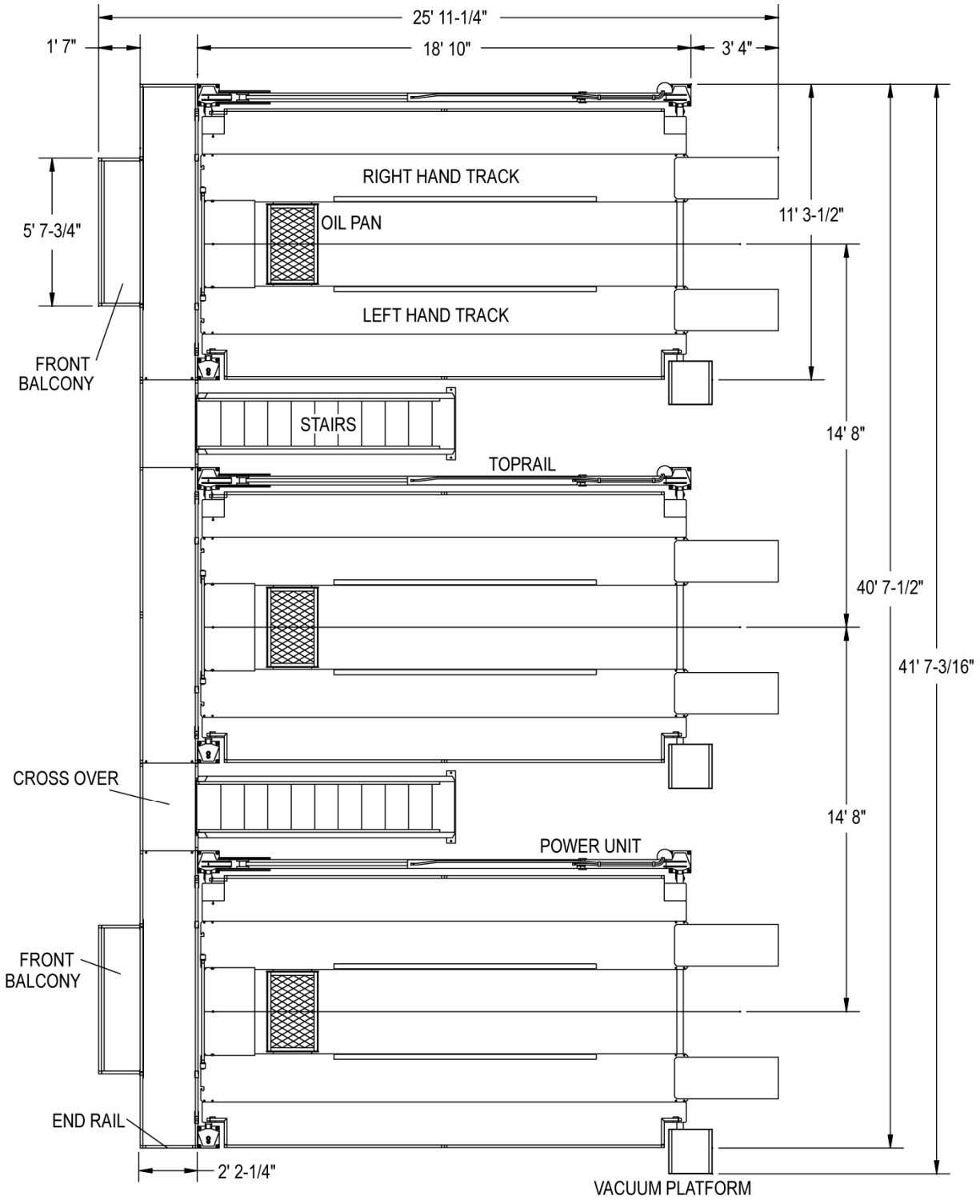

25' 11-1/4"
1' 7"
18' 10"
3' 4"
RIGHT HAND TRACK
OIL PAN
LEFT HAND TRACK
5' 7-3/4"
11' 3-1/2"
FRONT
BALCONY
STAIRS
14' 8"
TOPRAIL
40' 7-1/2"
41' 7-3/16"
CROSS OVER
14' 8"
POWER UNIT
FRONT
BALCONY
END RAIL
2' 2-1/4"
VACUUM PLATFORM

Figure 3

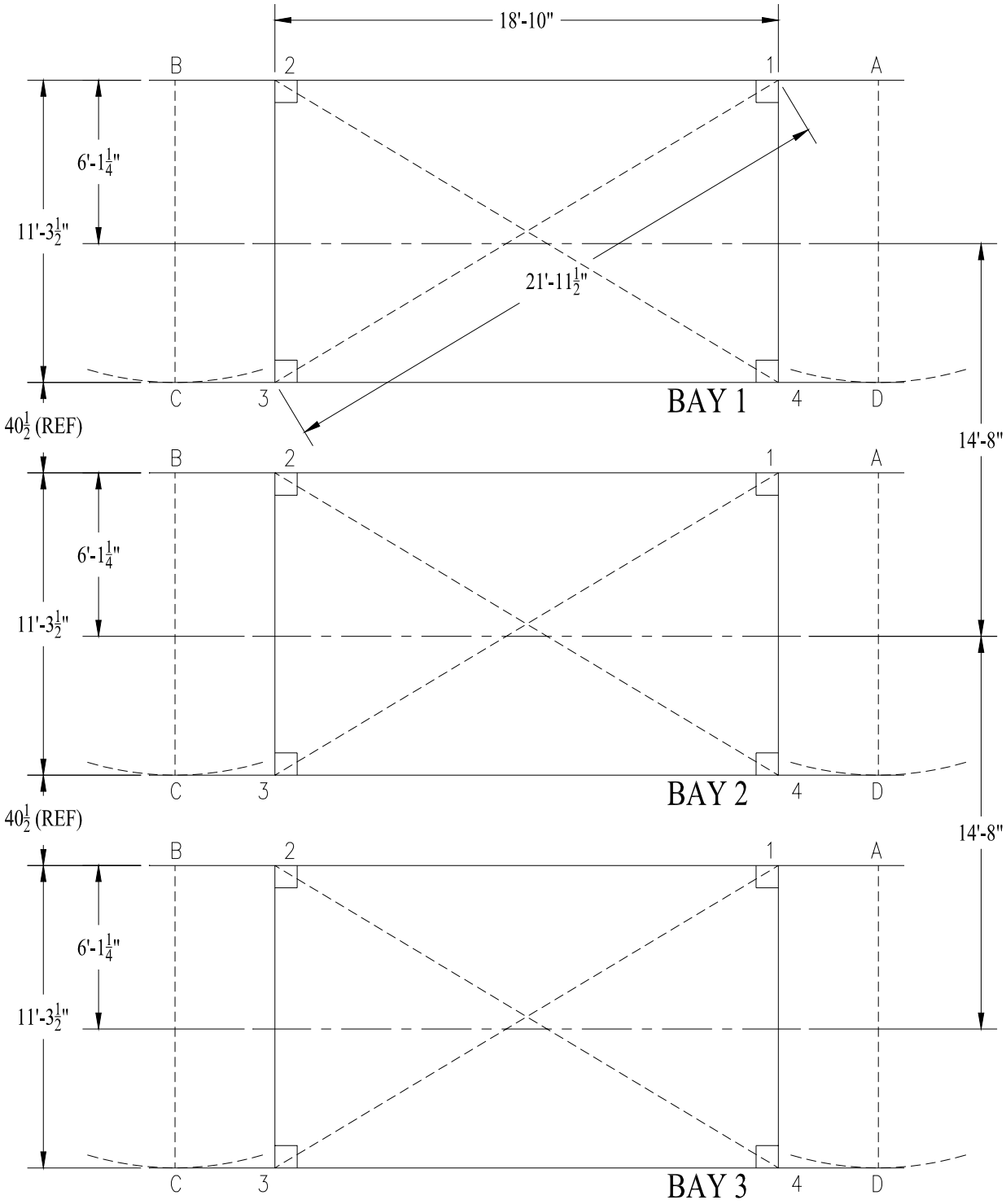


Figure 3a

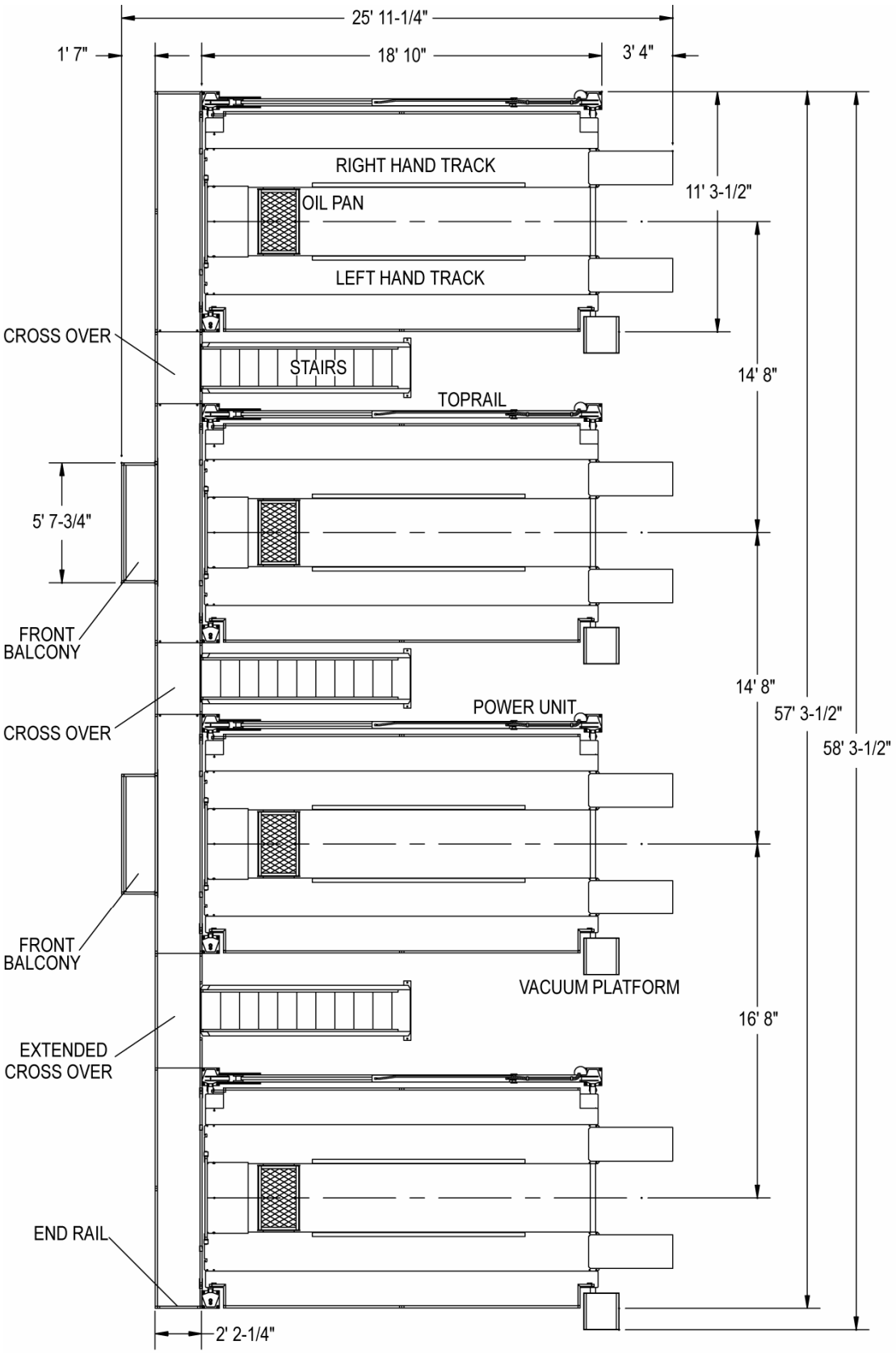

25' 11-1/4"
1' 7"
18' 10"
3' 4"
RIGHT HAND TRACK
OIL PAN
LEFT HAND TRACK
11' 3-1/2"
CROSS OVER
STAIRS
TOPRAIL
14' 8"
5' 7-3/4"
FRONT
BALCONY
14' 8"
POWER UNIT
57' 3-1/2"
58' 3-1/2"
CROSS OVER
FRONT
BALCONY
VACUUM PLATFORM
16' 8"
EXTENDED
CROSS OVER
END RAIL
2' 2-1/4"

Figure 4

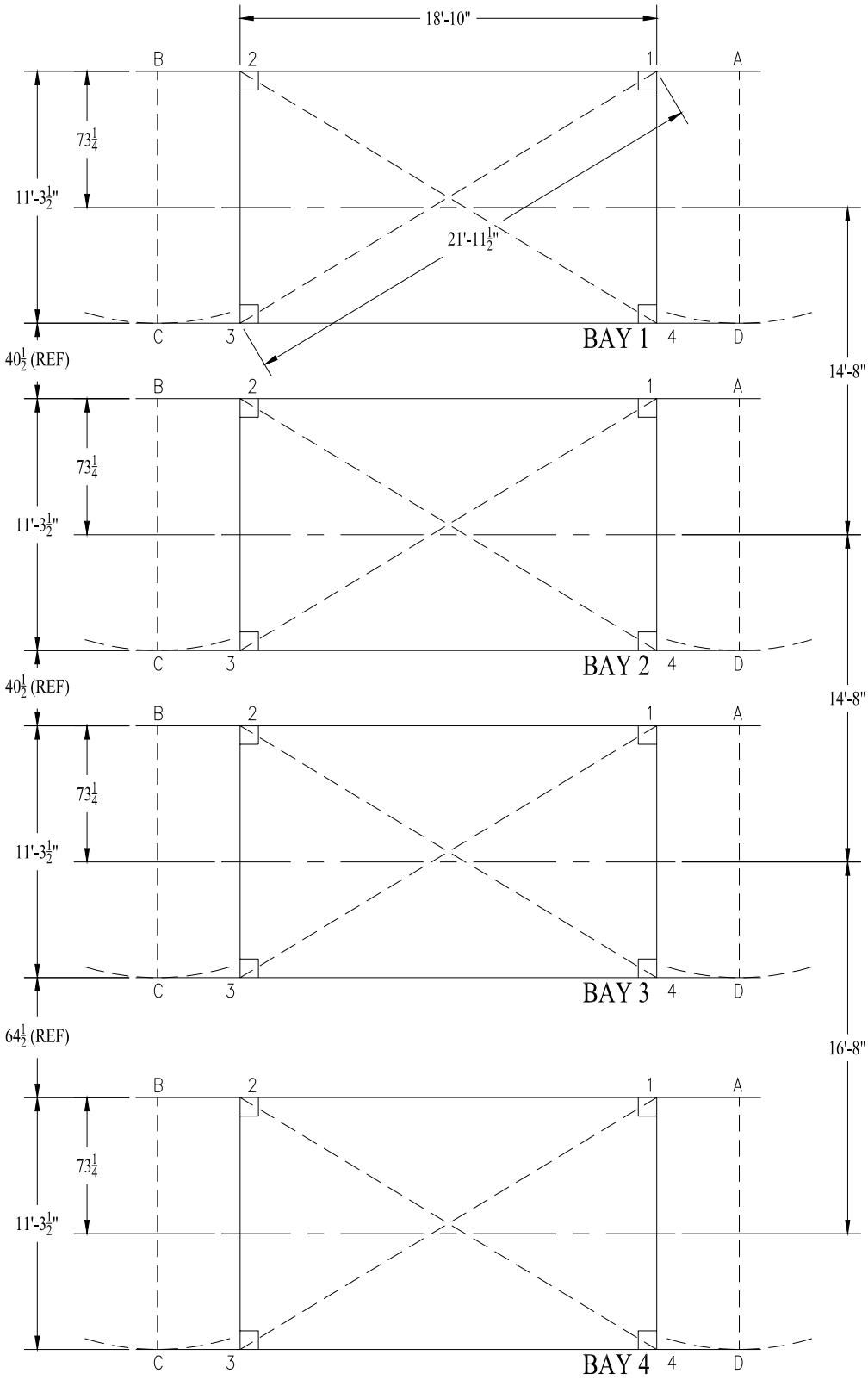

18'-10"
B
2
1
A
73¼
11'-3½"
21'-11½"
C
3
BAY 1
4
D
40½ (REF)
14'-8"
BAY 2
BAY 3
64½ (REF)
16'-8"
BAY 4

Figure 4a

3. Unpack and disassemble the lifts. Save all the packing hardware.

4. Position one toprail and one set of mainside legs for the starting bay as shown in Figure 5. The toprail should be oriented with the cylinder's pinned end to the rear of the lift and resting on blocks to assist in positioning the legs. The Power Unit leg has a formed bracket on one side for mounting the power unit. This leg should be located on the rear of the lift. The mainside leg with the mezzanine mount bracket should be at the front. Bolt the top rail to the mainside legs using the 1/2 x 1-3/4 bolts, washers, and nuts provided.

5. Lift the assembled toprail and legs to the upright position. Place the leg feet into their corners of the chalk line rectangle. Check the centering of the bolting slots of the toprail and mainside leg tops. Correct as necessary and tighten the nuts.

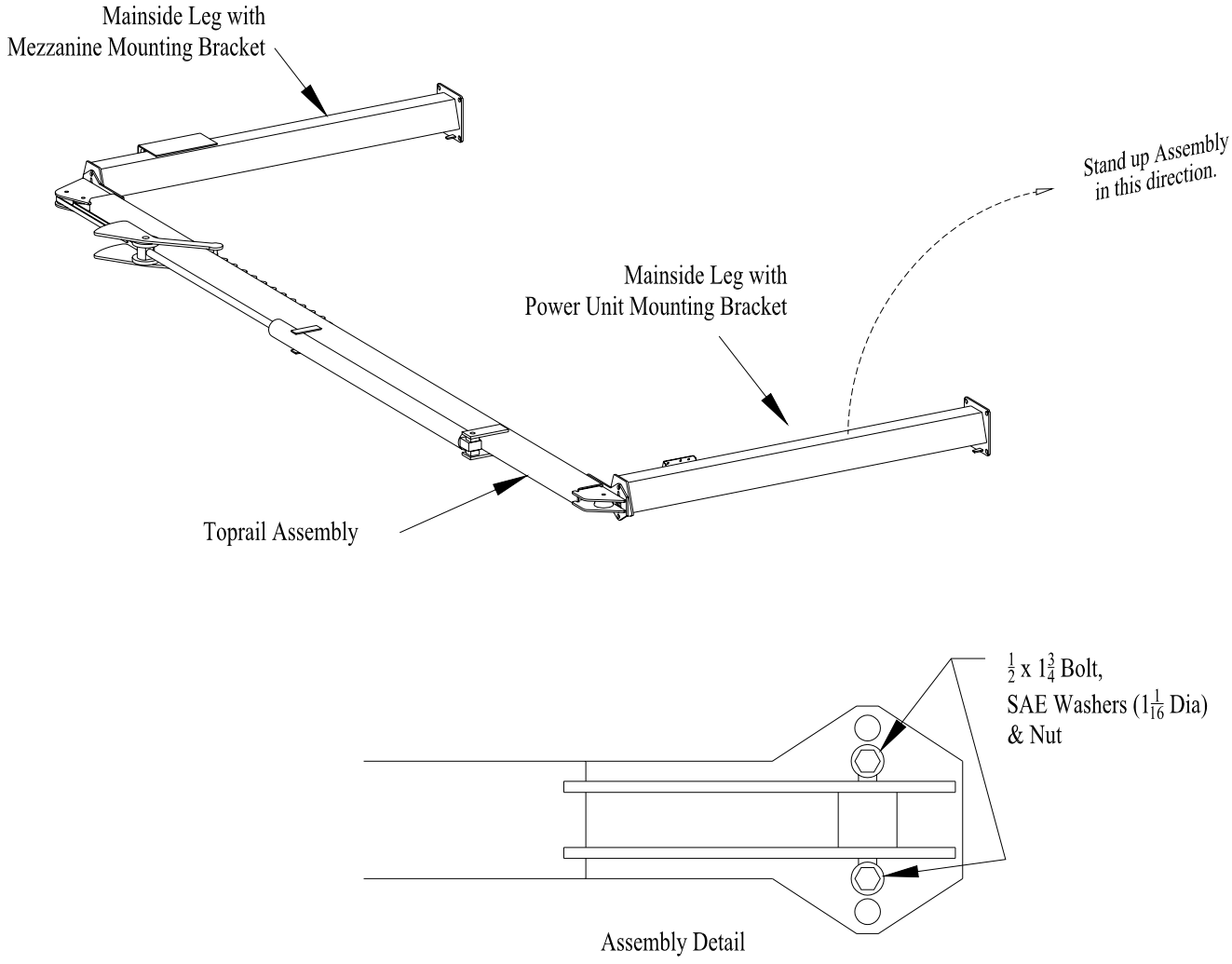


Figure 5

6. Install the anchor bolts for the ***REAR MAINSIDE LEG ONLY.***
   - Be certain that the rear mainside leg is in the desired mounting location
   - The anchor bolts must be installed at least 5-11/16” from any edge or seam in the concrete.
   - The concrete must be at least 4” thick with 3000 psi compression strength.
   - Using the rear mainside leg as a template, drill the four anchor bolt holes.
     - Use a hammer drill with a carbide tip, 3/4” diameter, solid drill bit. The bit tip diameter should be to ANSI Standard B95.12-1977 (.775” to .787”).
     - Keep the drill perpendicular to the floor while drilling.
     - Let the drill do the work. Do not apply excessive pressure.
     - Lift the drill up and down to remove dust and reduce binding.
     - Holes should be 4” deep.
     - Clean the dust from the hole.
   - Assemble the washers and nuts onto the anchor bolts. Thread the nuts onto the anchor bolts where the tops of the nuts are just above the top of the bolts. *Carefully* tap the anchor bolts into the concrete until the washer rests against the baseplate. **Do not tighten the nuts.**

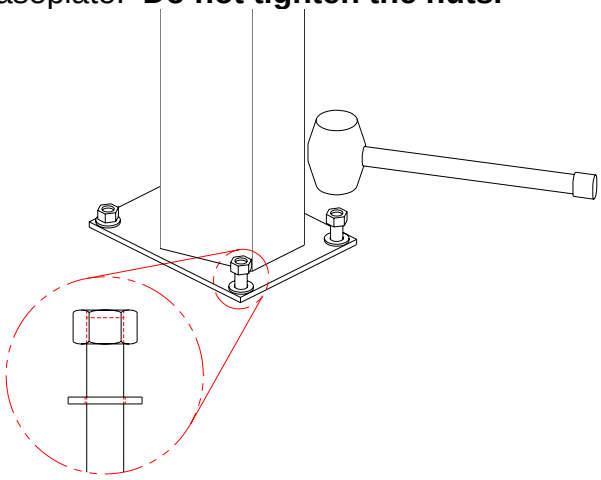


Figure 6

7. Plumb the post so that it is perpendicular. Use a level and check both side to side and front to rear. Use the shims provided with the lift. Tighten the anchor bolts and recheck the plumbness. Adjust if necessary.

8. After anchoring the rear mainside post, align the front post with the chalk lines. Check and adjust the plumbness of the front leg. The foot may vary from the measured dimension slightly; it is more important that the leg be plum and parallel with the other leg. Install the anchor bolts in the ***FRONT MAINSIDE LEG ONLY***.

9. Position the offside legs and crossrails in their approximate locations as shown in Figures 1, 2, 3 & 4.

10. Use the pull wire to pull the crossrail chain through the crossrail tube. The chain runs over the roller at the mainside end and under the roller at the offside end. Assemble the chain anchor stud to the cross rail chain at this time using a master link. Do not assemble the chain anchor stud to the top plate of the offside legs at this time. See Figure 7. Repeat for the other crossrail.

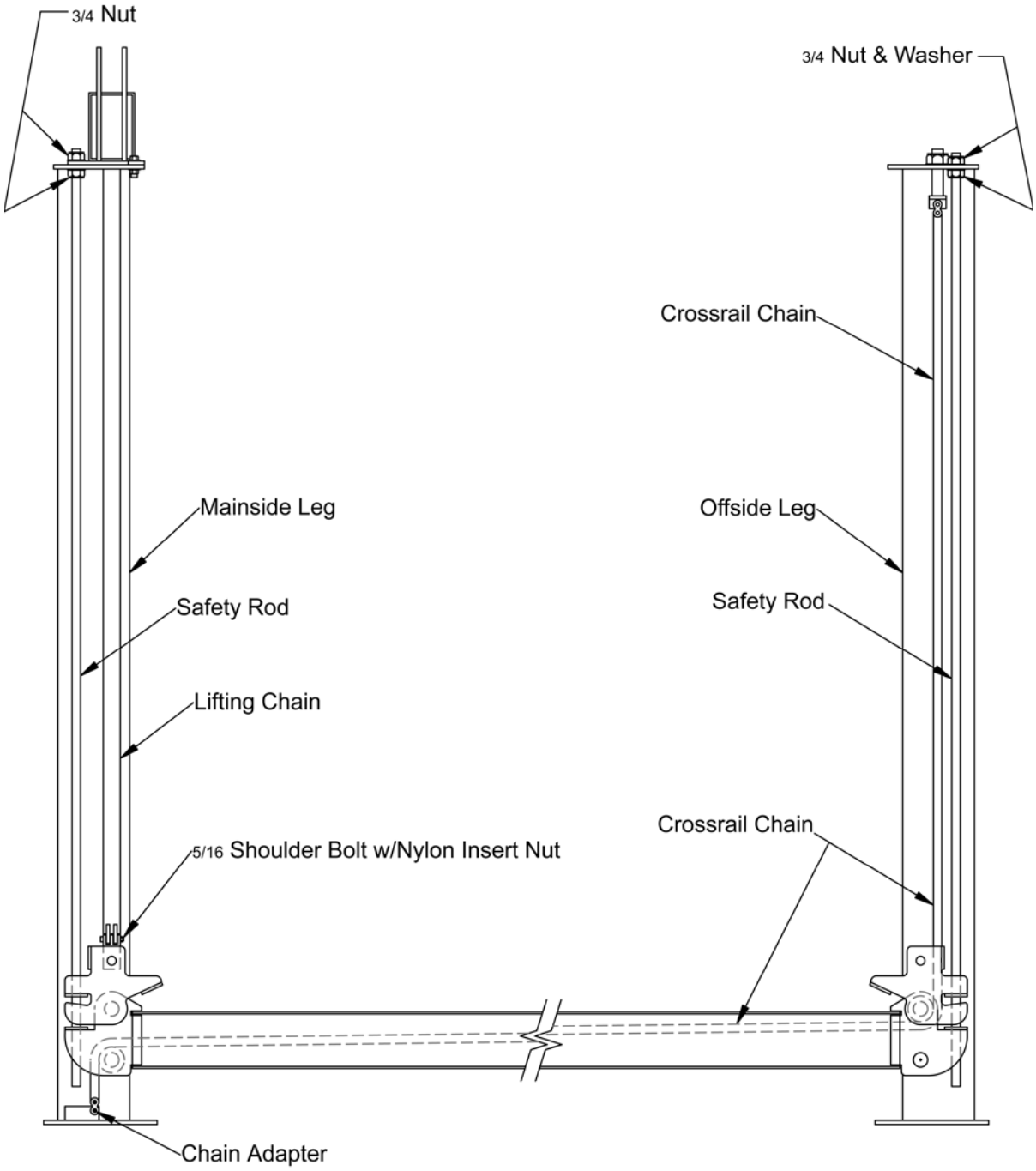


Figure 7

11. If required, position a 2 x 4 block under the safety latch on the mainside end of the crossrail as shown in Figure 8. Install a 3/4" nut onto the safety rod and turn it down to the end of the threads on the rod. Remove the hair cotter pin from the top end of the packing pin in the crossrail. Push the pin down and out using the safety rod, leaving the safety rod in the latch mechanism. While pulling up on the safety latch as shown in Figure 8, and while a helper pulls on the other end of the crossrail chain, insert the top end of the safety rod into the rear hole at the top of the mainside leg and slide the crossrail end into the mainside leg. Secure the top of the safety rod with a 3/4" nut. The top 3/4" nut should be flush with the end of the safety rod and the bottom nut should be tightened against the leg top. Remove the wooden block. Repeat for the other crossrail.

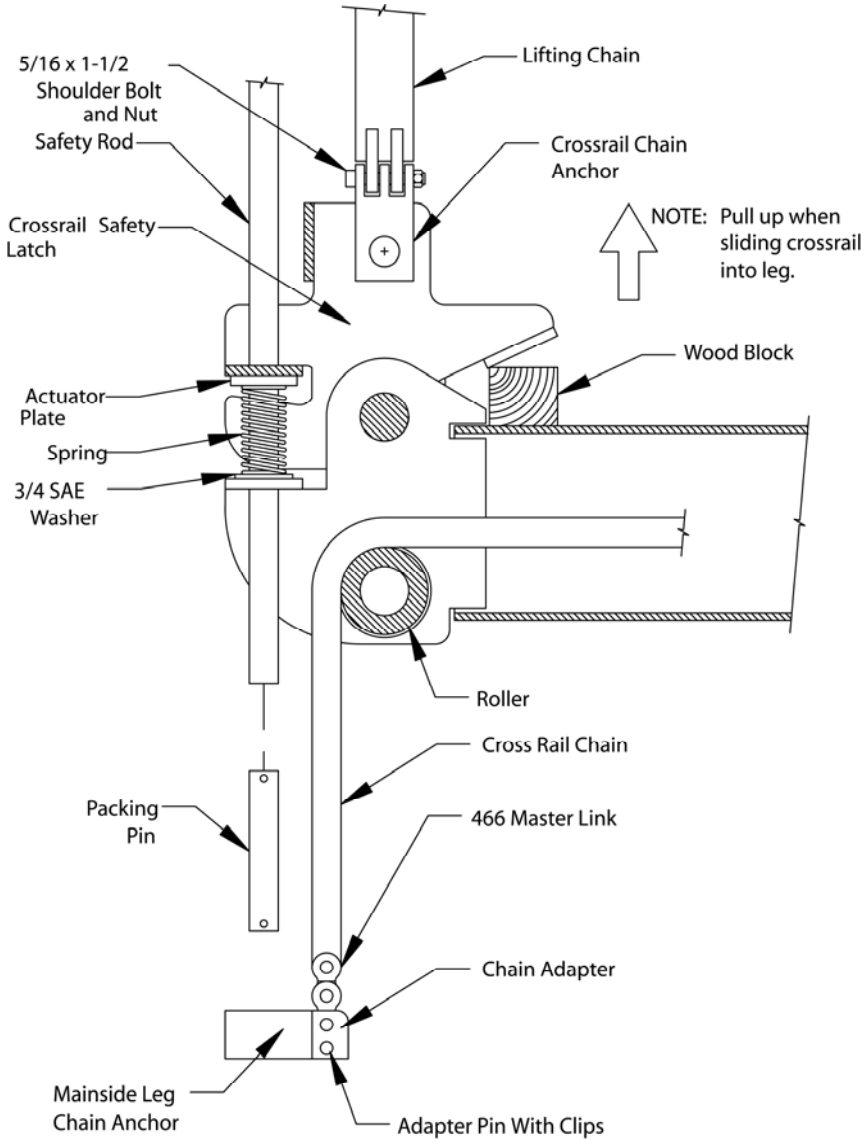


Figure 8

12. Secure four 5/16 x 1-1/4" bolts onto the power unit mount bracket with 5/16 hex nuts. See Figure 9.

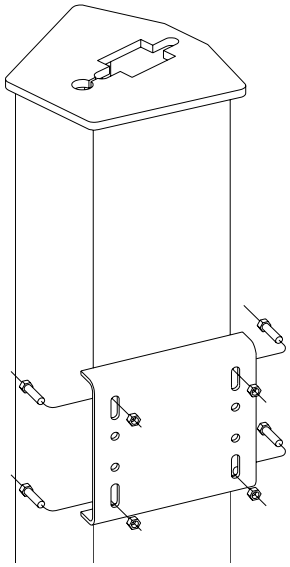


Figure 9

13. Mount the power unit onto the four bolts with 5/16 Flange Locknuts. See Figure 10.

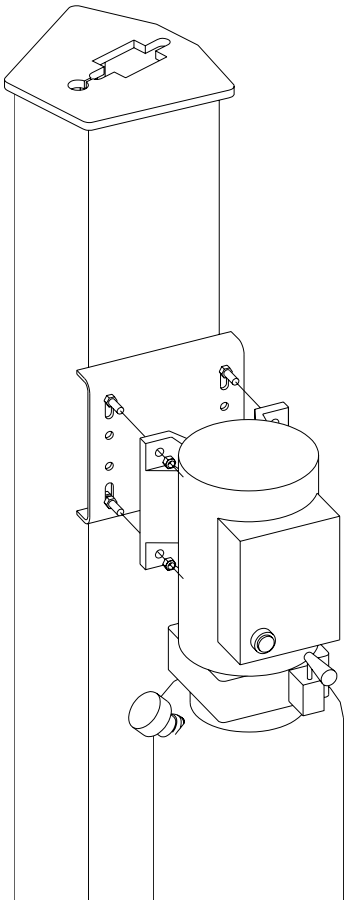


Figure 10

14. It is advisable to use compressed air to extend the cylinder Ram. Remove the port caps from the cylinder carefully and gradually apply compressed air to the cylinder port near the rear or pin end of the cylinder. Do not allow the cylinder ram to shoot out of the cylinder. It is necessary to pull down on the lifting chains as the ram extends.

    - If compressed air is not available, the cylinder ram can be pulled out manually.

15. Refer to Figure 11. The port immediately to the right of the lowering handle is the high pressure port. Install the O-Ring to 3/8 male JIC elbow.

16. Install the 3/8 male pipe to 3/8 JIC 90 fitting into the front or rod end cylinder ports. Use teflon pipe tape on the pipe threads of the fittings.

17. Install the 3/8NPT to 1/4NPT adapter and 1/4NPT to 1/4 Tube 90 degree elbow to the rear or pin end port of the cylinder.

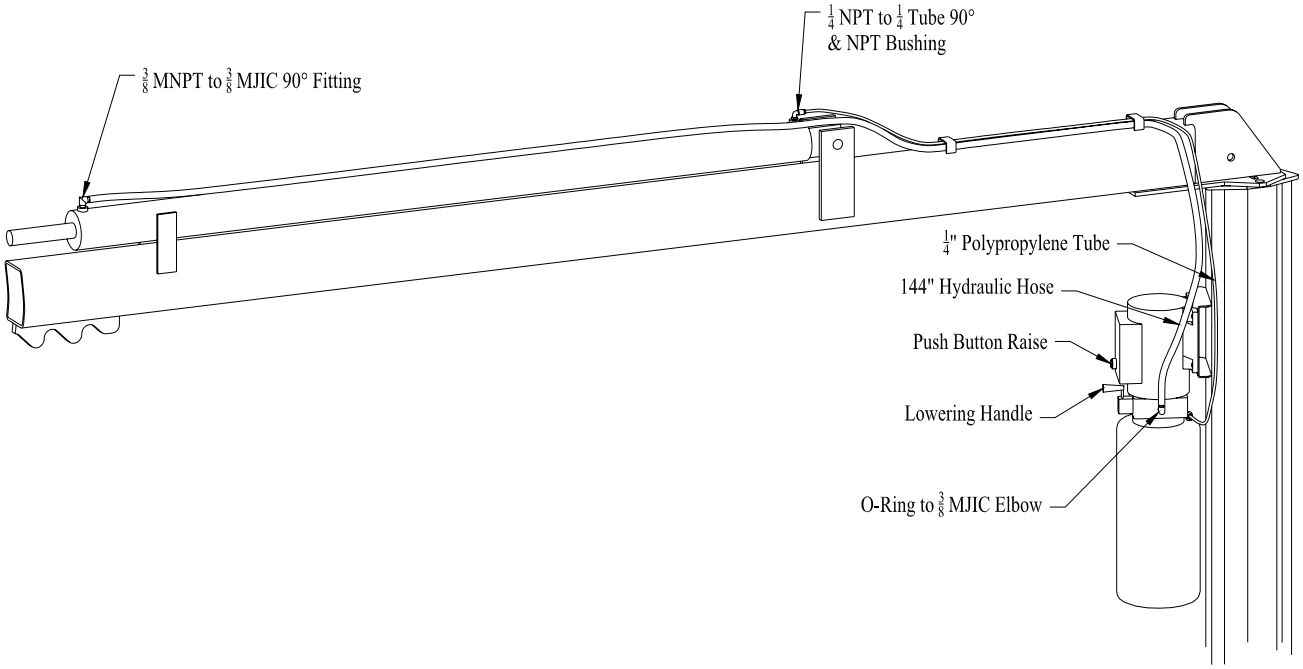


Figure 11

18. Fill the reservoir until oil reaches the MIN fill line on tank. Install the breather cap.

    - DO NOT OVERFILL THE TANK.

    - Use only Dextron III ATF or petroleum base (mineral) oil, non-foaming, non-detergent, such as Mobil DTE 24 or Texaco HD 46.

19. Make the electrical hookup to the power unit, 208-230 Volt single phase. See to Figure 12.

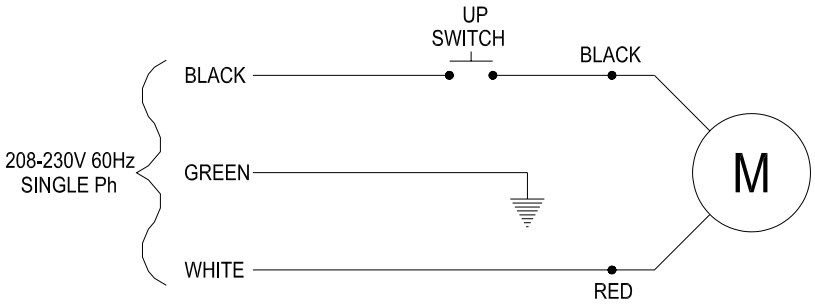


Figure 12

20. Attach the lifting chains to each cross rail chain connector using the 5/16 x 1-1/2 long Grade 8 shoulder bolt and 1/4" nylon insert locknut. The floor may slope significantly from the front of the lift to the rear. If the slope is known, apply the necessary corrective measure as indicated in Figure 13.
    - **THIS BOLT MUST BE THE 5/16 X 1-1/2 LONG GRADE 8 SHOULDER BOLT. FAILURE TO FOLLOW THIS REQUIREMENT COULD RESULT IN PERSONAL INJURY OR PROPERTY DAMAGE.**

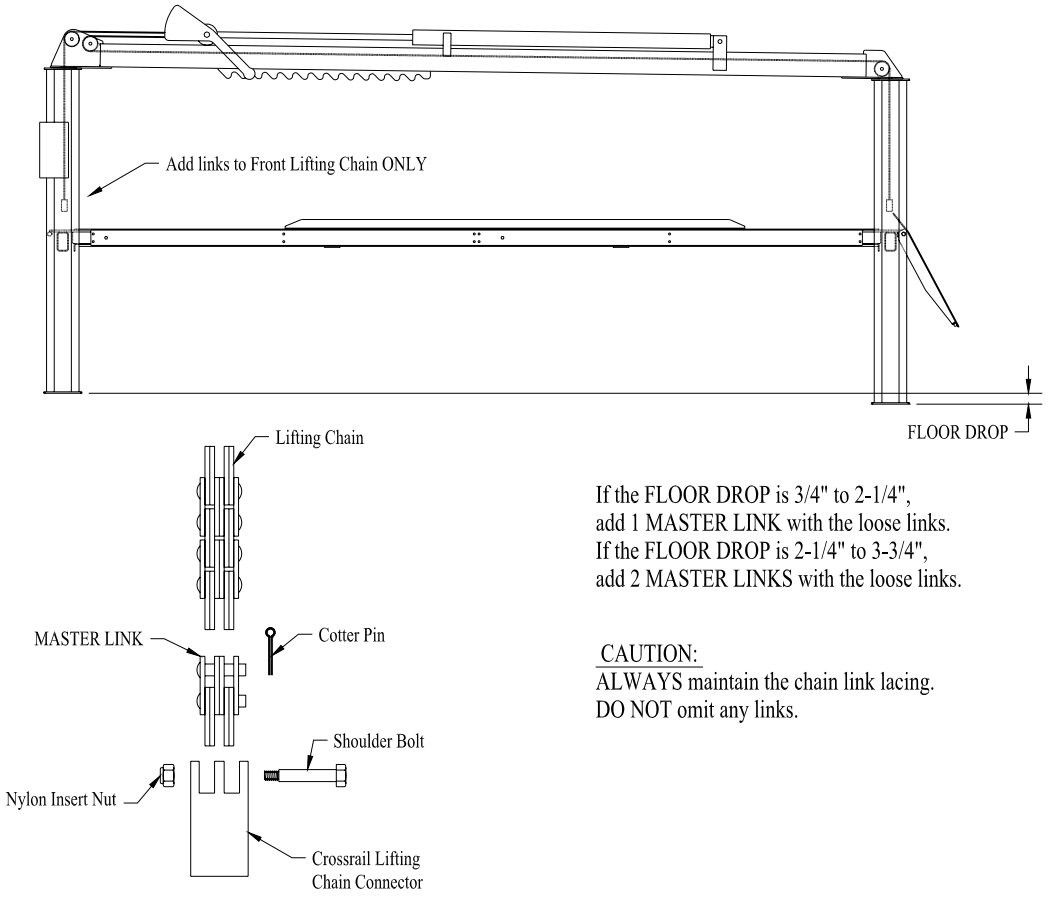


Figure 13

21. Refer to Figure 14, Vacuum Platform Installation. It is advisable to install the offside vacuum platform while finishing the installation of the rear offside leg. The vacuum platform is mounted using the hardware for the safety rod installation and the cross-rail chain installation.

22. Position the Offside Legs in their approximate positions. The Offside Leg with the Mezzanine mount bracket is at the front. The Vacuum Platform will be at the rear.

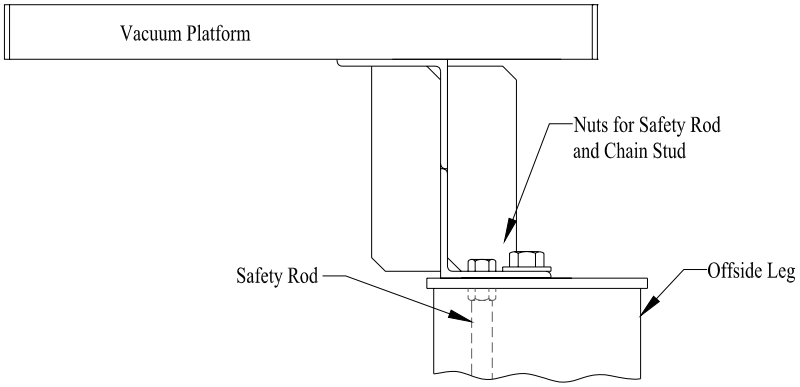


Figure 14

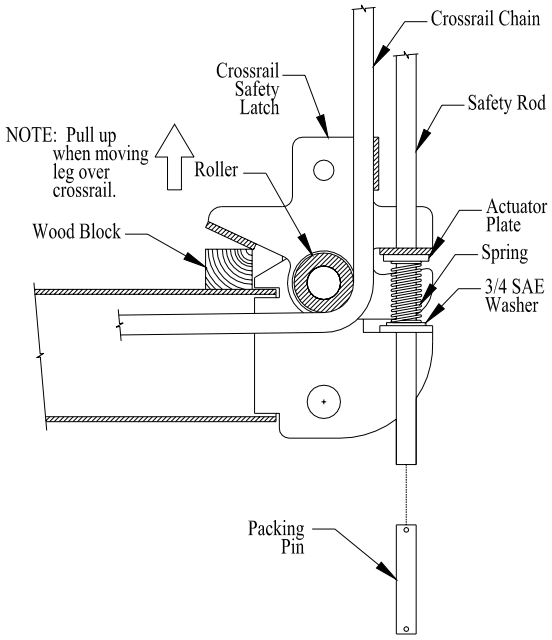


Figure 15

23. Refer to Figure 15. Thread a 3/4 nut onto a safety rod, position the wood block, and remove the hair cotter pin from the packing pin. Insert the safety rod into the cross-rail assembly as described in Step 11. While pulling up on the safety latch, guide the safety rod end into the rear hole of the offside leg top and position the leg over the end of the crossrail. Secure the top end of the safety rod with a 3/4 nut as described in Step 11.

24. Install the bolt end of the crossrail chain into the hole at the top of the offside leg. Attach the 1" washer and nylon insert nut to the bolt. While holding the chain tighten the nut to remove most of the slack. Repeat for the other crossrail. The Vacuum Platform is mounted under this nut and the Safety Rod nut.

25. Position the tracks on the crossrails. Note that there is a different track for the left and right sides of the lift. Note the location of the crosswalk mount angle at the front inside of each track.

26. Using the power unit, raise the crossrails enough to pick up the tracks. Level the crossrails by adjusting the chain tension at the anchor bolt nut at the top of the offside legs. Use a level to check the cross rails.

27. Lower the tracks to the ground. Position the two tracks approximately 38-1/2" apart. Measurement is made from inside of runways, not inside of rail for jack. Make sure that the tracks, crossrails, and legs are square with each other and positioned evenly.

28. Raise the tracks 6" above the ground. Adjust and plum the offside legs so that the crossrail chains in the offside legs hang straight as indicated by a level, the lifting chains in the mainside legs hang straight, the crossrails hang in the center of the leg opening, the legs are plumb, and the tracks are positioned correctly.

    - **DO NOT DRILL OR INSTALL THE ANCHOR BOLT FOR THE OFFSIDE LEGS AT THIS TIME. THE LIFT MUST BE CYCLED UP AND DOWN AND CHECKED FOR CORRECT ALIGNMENT BEFORE THE BOLTS ARE INSTALLED.**

    - **THE OFFSIDE LEGS MAY VARY SLIGHTLY FROM THE CHALK LINE LAYOUT POSITIONS. IT IS MORE IMPORTANT THAT THE LEGS BE SQUARE AND PLUMB AND THAT THE LIFT MOVE UP AND DOWN FREELY.**

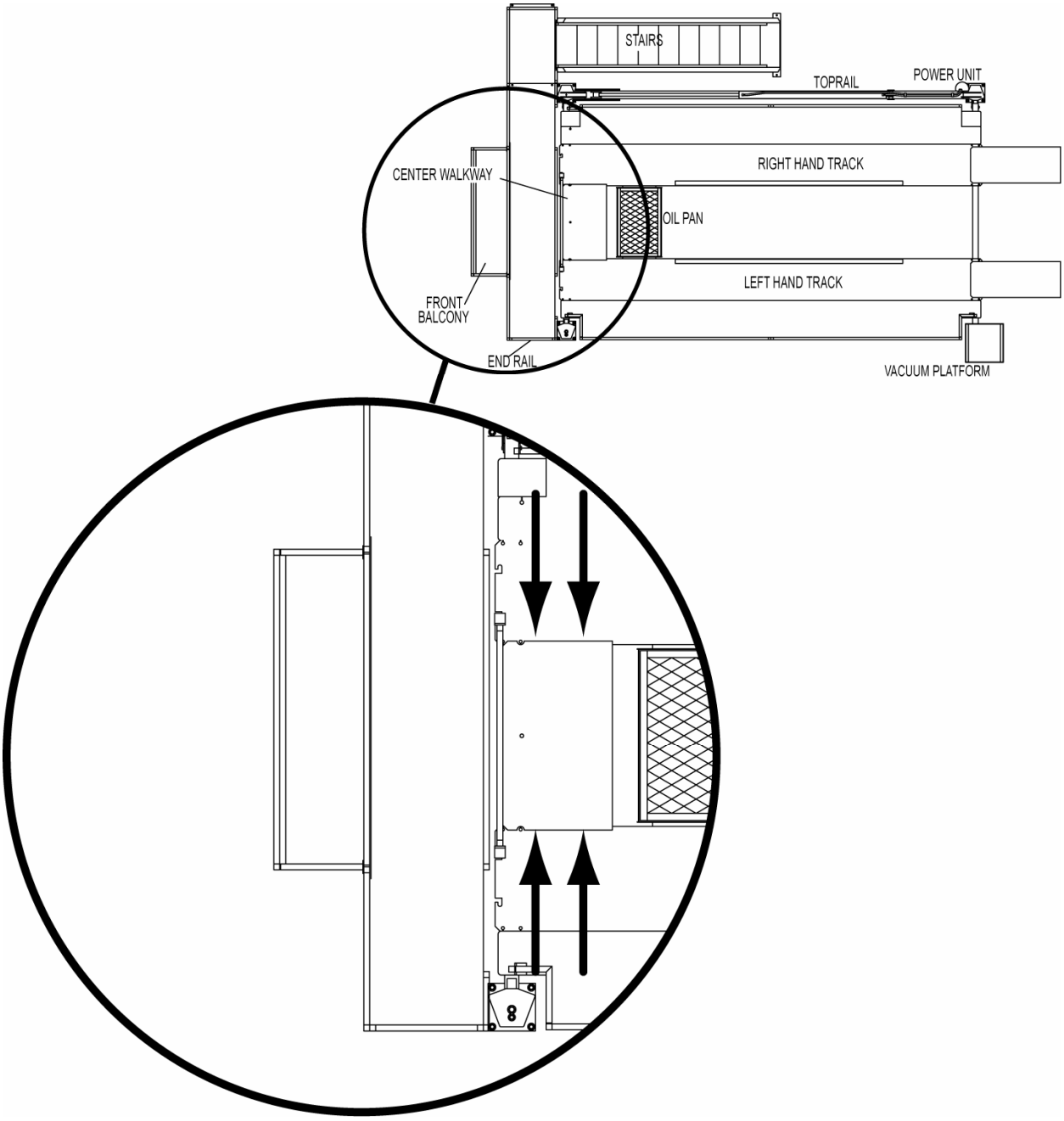
29. Raise the lift to the top of its travel. Check the positioning of the crossrails in the legs as the lift is raised. The single point safety release will move across the rack at the bottom of the toprail. At the top of the lift's travel, pull down the safety release until the cam locks it down. Lower the lift. Check the operation and positioning of the lift as it is being lowered. Correct any problems by adjusting the position and plumbness of the offside legs. If the top rail safety latch mechanism does not work correctly, refer to the Troubleshooting section of this manual.

30. When the lift is operating correctly, drill and install the anchor bolts for the offside legs.

31. Proceed with the installations of the other lift in it's bay as described above.

MEZZANINE, HANDRAILS, AND OIL PAN INSTALLATION

32. Position the center walkways and secure them to the tracks with 1/2 x 1 hex head bolts and washers. Attach at location shown at arrows in illustration below.



33. Refer to Figure 1. Attach the mezzanines to the leg brackets at the fronts of the lifts using the 3/4" Dia x 2 bolts and hardware. Attach the balcony to the mezzanine using the 3/4" Dia x 2 bolts, washers, and nylon insert nuts. Install the crossovers between the mezzanines using the 1/2" Dia x 1-3/4 bolts and hardware. Install the

stairs to the crossovers using the 1/2" Dia x 1-3/4 bolts and hardware. Drill 1/2" Dia holes in the floor at the stair bases and install the 1/2" Dia x 4-1/2" anchors.

34. Place wood blocks under the safety latches as described in steps 11 and 23. Place blocks that are at least 6" high under the rear of each track. Lower the tracks onto the blocks and continue to lower the lift until the rear crossrail drops below the inside flanges of the track. Slide the oil tank into the track with the drain valve to the front of the tracks. Raise the lift with the power unit until the rear crossrail is up to the track end plates.

35. It may be necessary to install or adjust the oil pan brake.

- Insert the pins thru the holes and springs and thread into the brake flat.

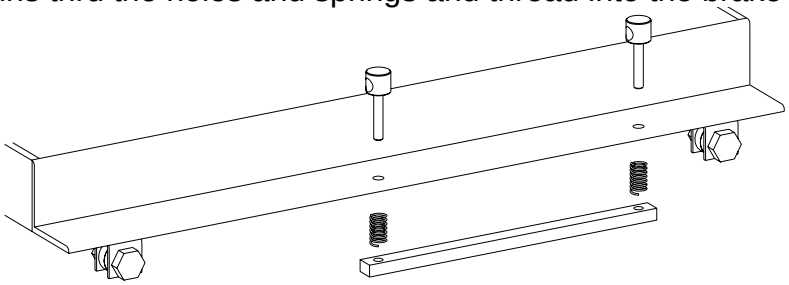


Figure 16

- Insert the brake handle through the holes in the pins.

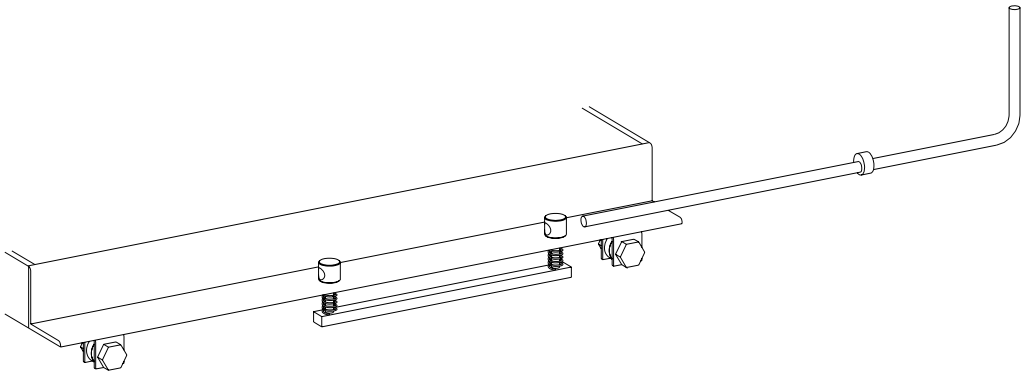


Figure 17

- Assemble the nuts and cam onto the end of the handle.

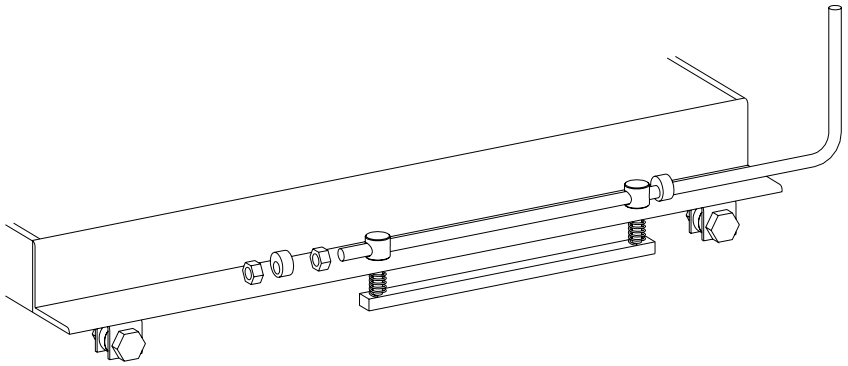


Figure 18

- Orient the threaded cam to the same position as the welded cam and lock into place with the nuts.

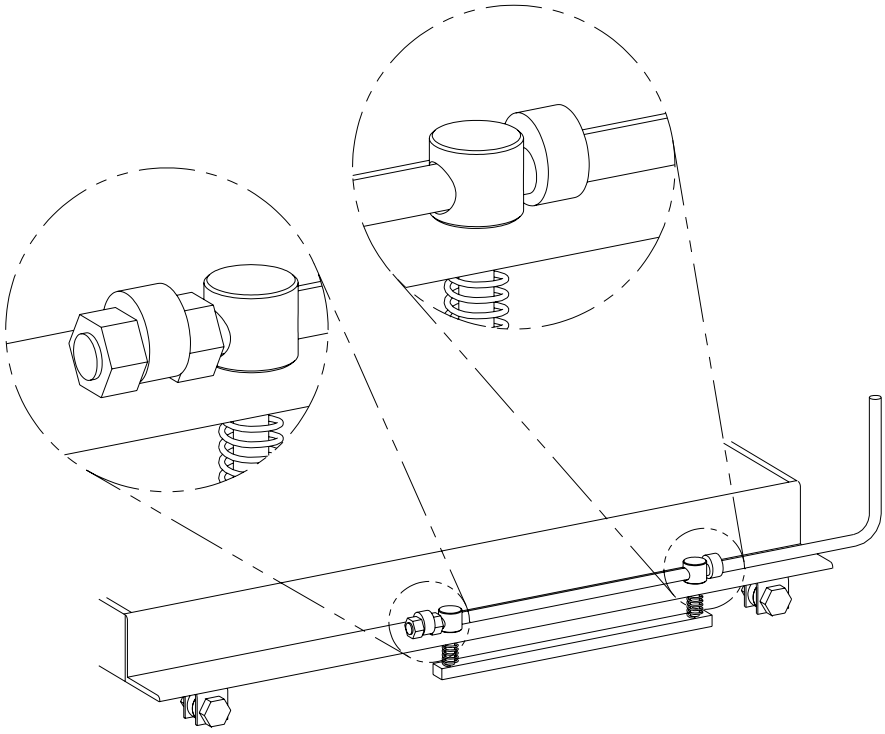


Figure 19

36. Check the location of the tracks as described in step 27. Secure the front and rear of each track with 2 U-bolts and hardware. Remove the blocks from the safety latches and under the tracks.
    - The U-bolts should be ground off at the top of the nut to protect tires.

37. **NOTE: Rails shown in Figs. 20-23 are typical. Rural 98 rails actually look different than those shown. They are dimensionally the same in height and width.** Raise the lifts to about 2'. For each lift, attach the rear post to both ends of

the offside tracks using the 1/2" Dia x 1-3/4 bolts and hardware. Install the gates using the 3/8 Dia x 2-1/2 bolts with nylon insert nuts. Install one ear with washers between the ear and the rail to provide clearance. Attach the track front rail to the slots at the track fronts using the 3/4 Dia x 2-1/2 bolts and hardware.

38. Attach the end rails to the track using 3/8 x 3-1/2 bolts and hardware. Attach the remaining rails to the tracks, platforms, and stairs using the 3/8 dia x 2-1/2 bolts. Where holes are provided, the rails are bolted to each other using 3/8 dia x 3 bolts. Attach the corner rails with 3/8 dia x 2-1/2 bolts.

39. Install the plastic cap plugs on the open tube tops of the handrails.

40. Install the drive on ramps at the rear of the tracks using the 3/4 diameter ramp pins and secure with cotters pins.

41. Install the safety chains on the rings on the stair rails and hang the “Danger” signs on the chains using the “S” hooks. Attach two “Caution” decals to the front and two decals to the rear of each Mezzanine.

42. Install the round tube foam padding to the horizontal bars of the track front rails using tie wraps.

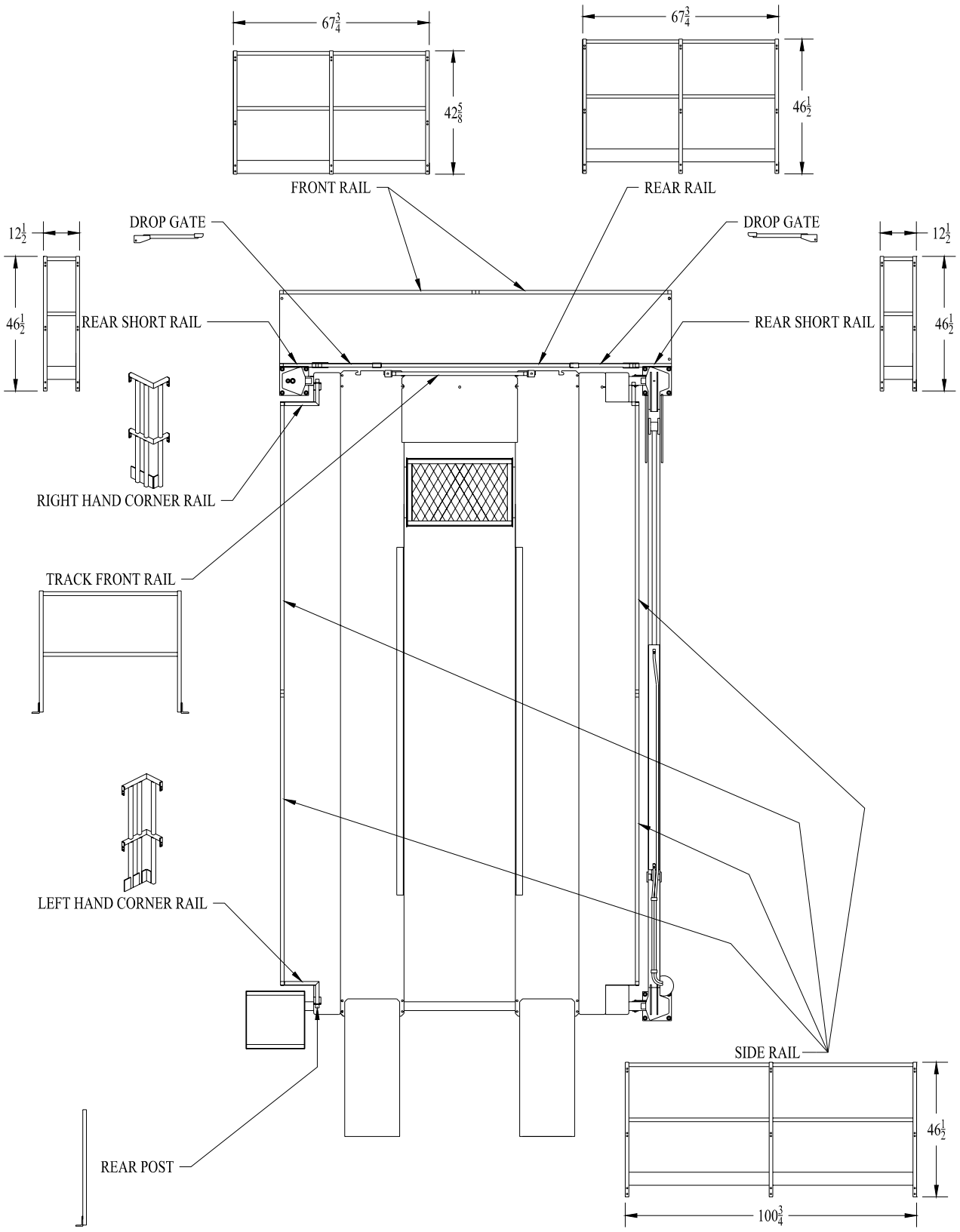

$67\frac{3}{4}$
$42\frac{5}{8}$
$67\frac{3}{4}$
$46\frac{1}{2}$
FRONT RAIL
REAR RAIL
$12\frac{1}{2}$
DROP GATE
DROP GATE
$12\frac{1}{2}$
$46\frac{1}{2}$
REAR SHORT RAIL
REAR SHORT RAIL
$46\frac{1}{2}$
RIGHT HAND CORNER RAIL
TRACK FRONT RAIL
LEFT HAND CORNER RAIL
SIDE RAIL
REAR POST
$46\frac{1}{2}$
$100\frac{3}{4}$

Figure 20

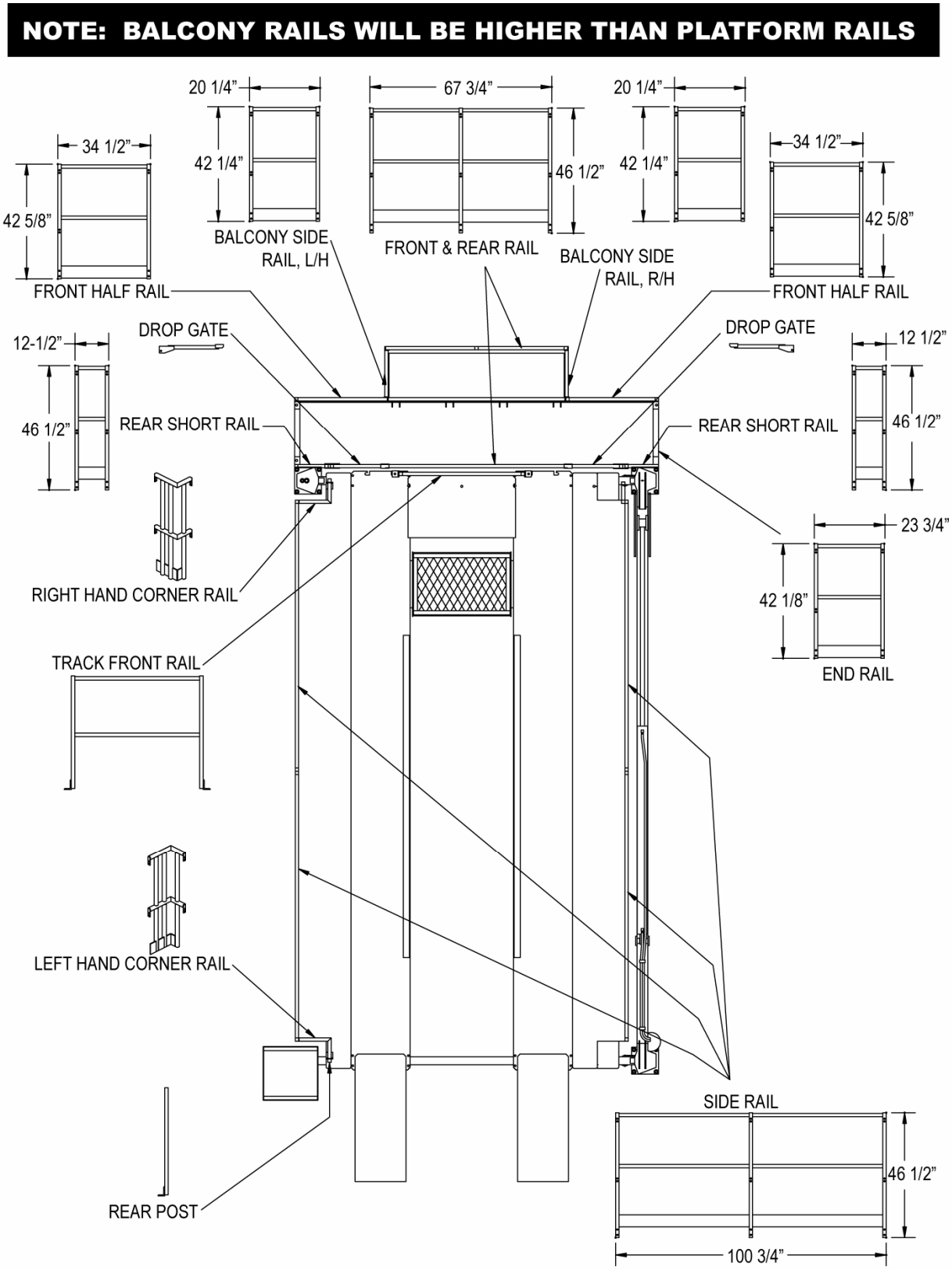

NOTE: BALCONY RAILS WILL BE HIGHER THAN PLATFORM RAILS
20 1/4"
67 3/4"
20 1/4"
34 1/2"
34 1/2"
42 1/4"
46 1/2"
42 1/4"
42 5/8"
42 5/8"
BALCONY SIDE RAIL, L/H
FRONT & REAR RAIL
BALCONY SIDE RAIL, R/H
FRONT HALF RAIL
FRONT HALF RAIL
DROP GATE
DROP GATE
12-1/2"
12 1/2"
46 1/2"
REAR SHORT RAIL
REAR SHORT RAIL
46 1/2"
23 3/4"
RIGHT HAND CORNER RAIL
42 1/8"
TRACK FRONT RAIL
END RAIL
LEFT HAND CORNER RAIL
SIDE RAIL
46 1/2"
REAR POST
100 3/4"

Figure 21

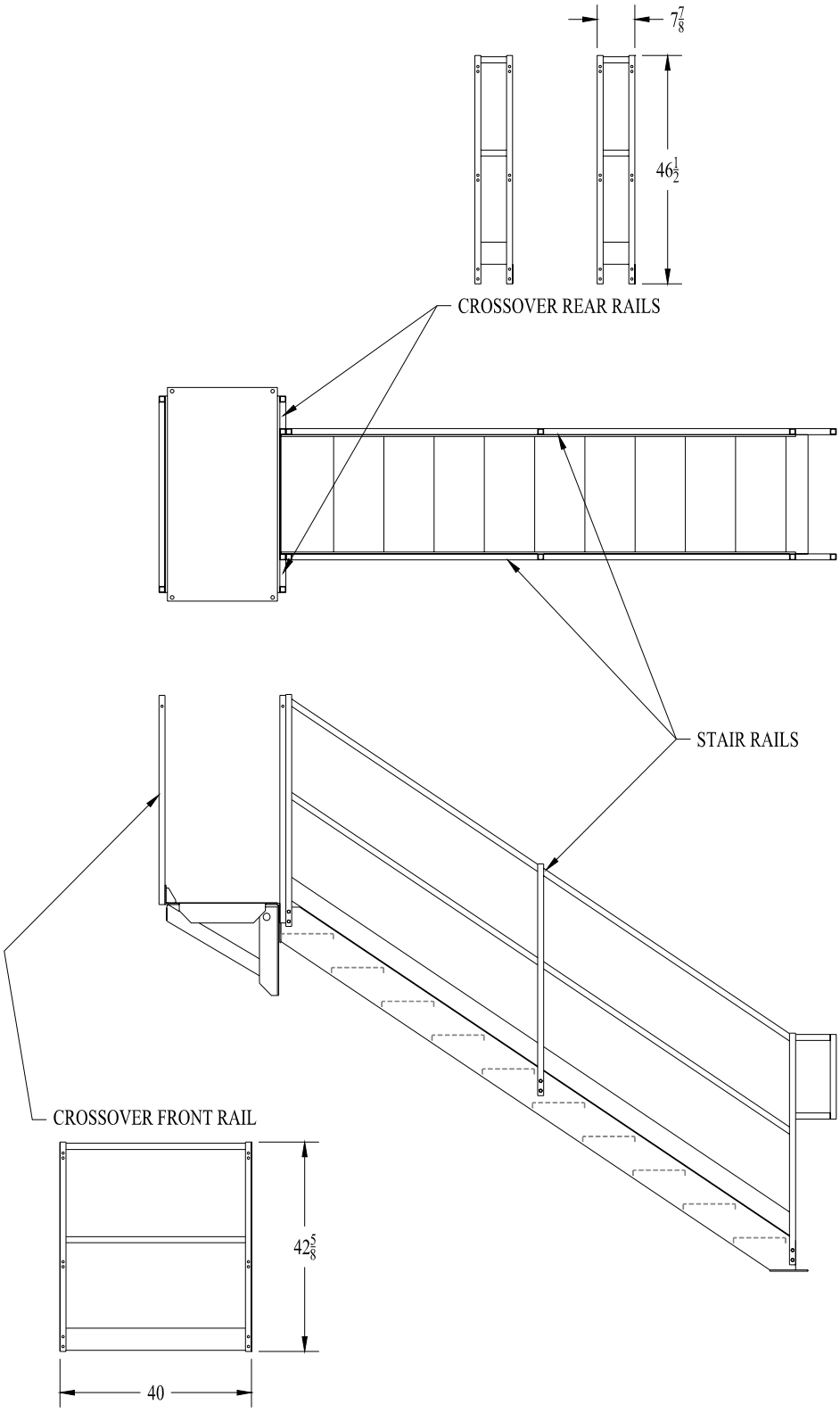

$7\frac{7}{8}$
$46\frac{1}{2}$
CROSSOVER REAR RAILS
STAIR RAILS
CROSSOVER FRONT RAIL
$42\frac{5}{8}$
40

Figure 22

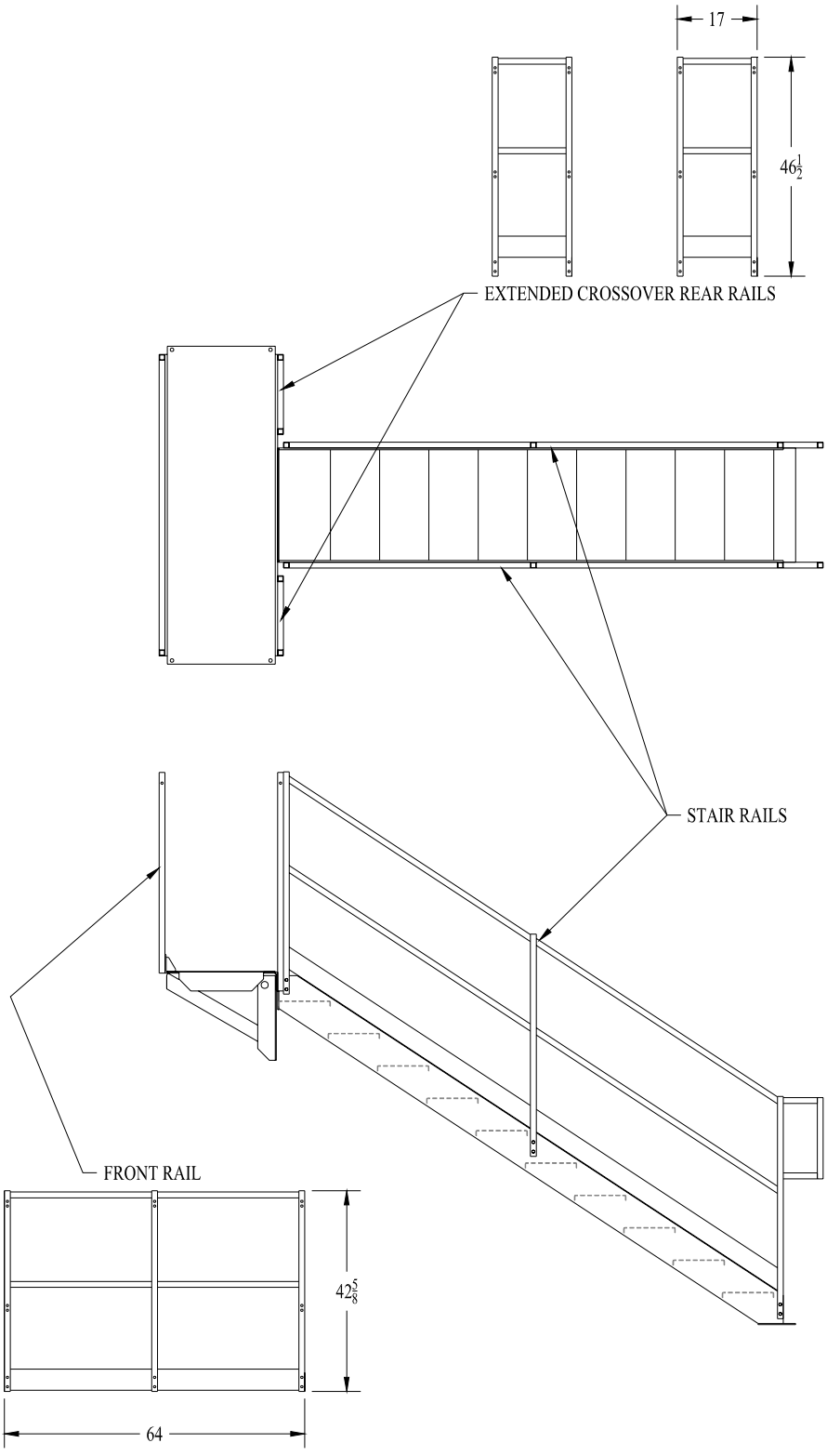

17
46½
EXTENDED CROSSOVER REAR RAILS
STAIR RAILS
FRONT RAIL
42⅝
64

Figure 23

SWAY GUIDE INSTALLATION

43. Refer to Figure 24 for sway guide location. Two guides are used on each lift. The guides should be placed on the front and rear column of the side with the top rail only. Both guides should be placed on the out side of the lift.

44. Raise the lifts approximately 2 feet. Insert the nylon rub blocks into the sway guide weldments. Tap the block gently with a hammer.

45. Working under the crossrail, place the rub block end of the guide into the corner of the leg. Push the sway guide up onto the cross rail until seated. Secure the guide with a ½ x 4-1/2 NC bolt, nut and washers over the crossrail.

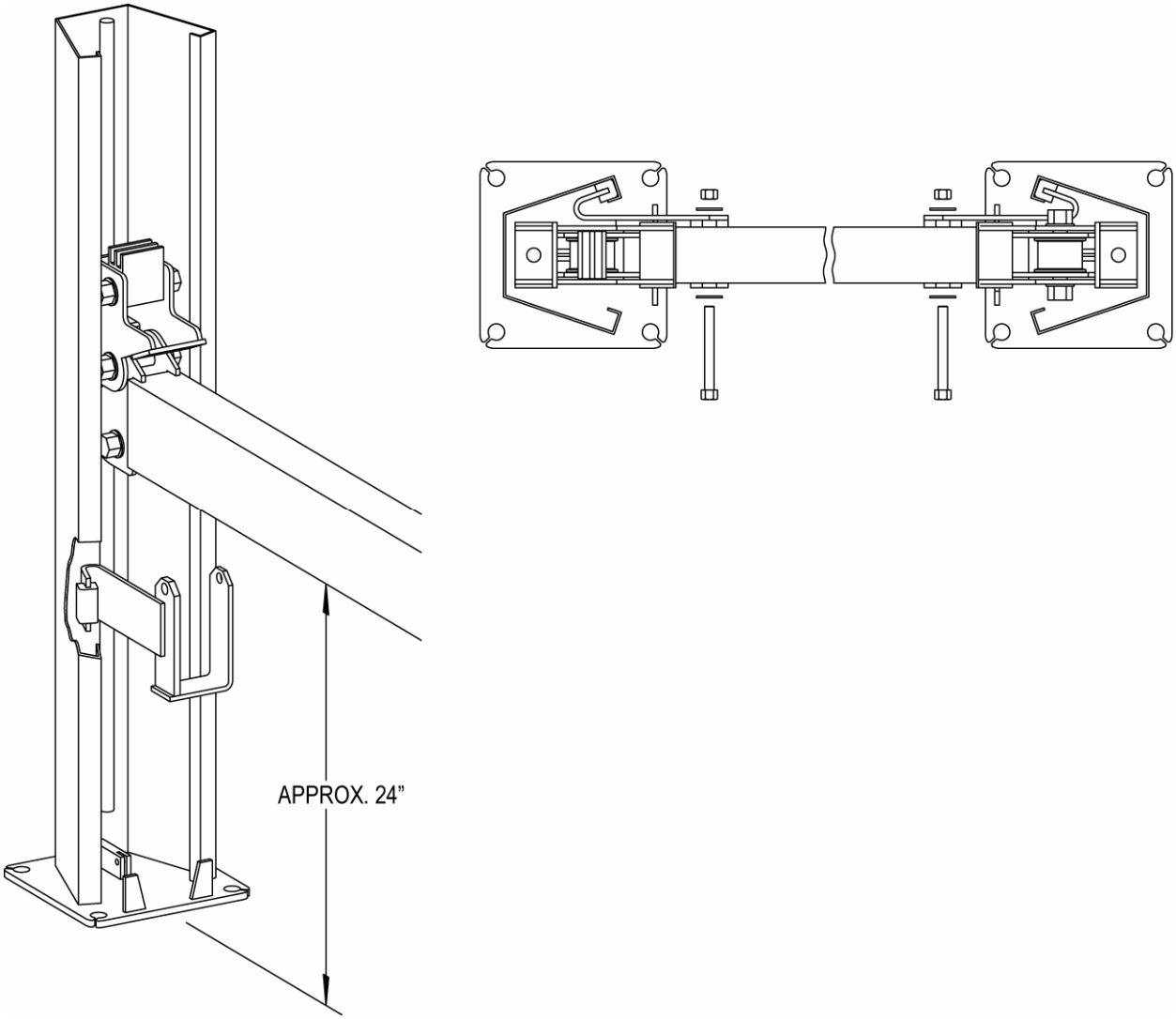
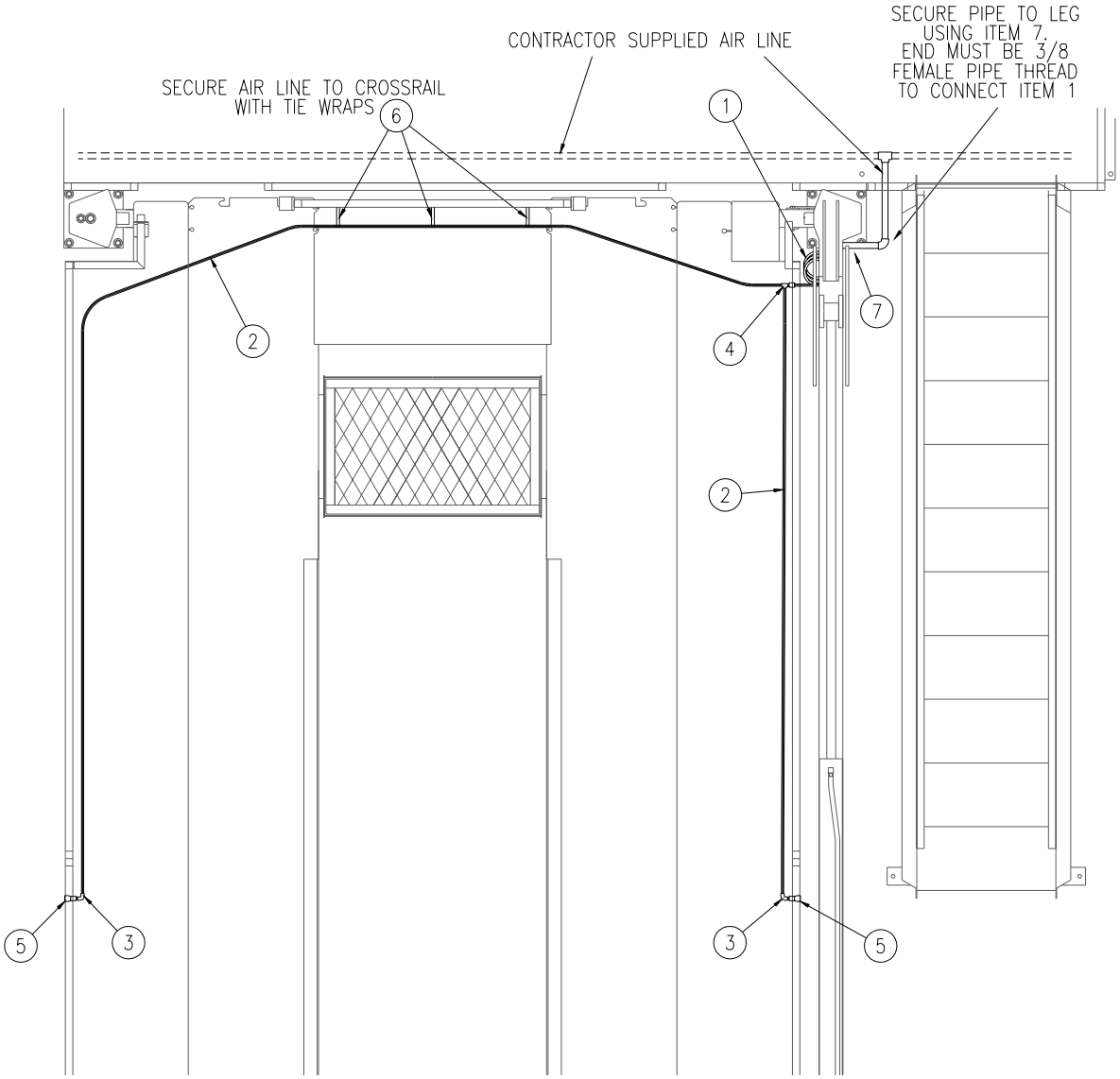


Figure 24



ITEM	P/N	NAME	DESCR.	RQD.
7	991396	U-BOLT	3/16 x 1-3/8 WITH PLATE & NUTS	1
6	991082	TIE WRAP	24"	3
5	992469	FEMALE QUICK DISCONNECT	1/4 MALE NPT	2
4	992448	MALE RUN TEE SWIVEL	171PL-6-4	1
3	992449	MALE ELBOW SWIVEL	169PL-6-4	2
2	992127	PLASTIC AIR LINE	3/8 DIA 300 PSI	30'
1	992148	COILED AIR LINE	3/8 x 10'	1

Figure 25

Lift (no balcony)

201101	1	Mainside Leg, mezzanine mount
201201	1	Offside Leg, mezzanine mount
120102	1	Mainside Leg, power unit mount
120201	1	Offside Leg
995210	4	Safety Rod
913601	8	3/4NC Hex Nut
214300	1	Toprail Assembly
120400	2	Crossrail Assembly
992691	2	Crossrail Chain
996742	2	Chain Anchor Stud
992692	2	BL466 Master Link
914404	2	Nyloc Hex Nut, 1”-14
992028	1	Power Unit
221101	1	Mainside Track
221102	1	Offside Track
032301	1	Center Walkway
059400	2	Ramp Assembly
033000	1	Oil Pan Assembly
201301	1	Mezzanine
201601	1	Vacuum Platform, offside/mezzanine
221910	4	Track Rail
222950	1	Corner Rail, right
222960	1	Corner Rail, left
224400	2	Rear Post
201308	1	Track Front Rail
201309	1	Rail Extension
201307	2	Drop Gate
994266	1	Bolt Box
994241	1	Hydraulic Kit
221K01	1	Airline Kit
120701	1	Sway Guide Kit

Mezzanine Rails (with Balcony)

221920	2	Mezzanine Front Rail
221930	2	Mezzanine Rear Rail, short
221940	1	Mezzanine Rear Rail, long

Rural 98 Rails (with Balcony)

222920	2	Rural 98 Front Rail
222930	2	Rural 98 Rear Rail, short
222940	1	Rural 98 Rear Rail, long

Mezzanine Lift (with balcony)

201101	1	Mainside Leg, mezzanine mount
201201	1	Offside Leg, mezzanine mount
120102	1	Mainside Leg, power unit mount
120201	1	Offside Leg
995210	4	Safety Rod
913601	8	3/4NC Hex Nut
214300	1	Toprail Assembly
120400	2	Crossrail Assembly
992691	2	Crossrail Chain
996742	2	Chain Anchor Stud
992692	2	BL466 Master Link
914404	2	Nyloc Hex Nut, 1”-14
992028	1	Power Unit
221101	1	Mainside Track
221102	1	Offside Track
032301	1	Center Walkway
059400	2	Ramp Assembly
033000	1	Oil Pan Assembly
201301	1	Mezzanine
221302	1	Balcony
201601	1	Vacuum Platform, offside/mezzanine
222950	1	Corner Rail, right
222960	1	Corner Rail, left
224400	2	Rear Post
201308	1	Track Front Rail
201309	1	Rail Extension
201307	2	Drop Gate
994266	1	Bolt Box
994241	1	Hydraulic Kit
221K01	1	Airline Kit
120701	1	Sway Guide Kit

Mezzanine Rails (with Balcony)

221910	4	Track Rail
221830	1	Balcony Side Rail, left
221840	1	Balcony Side Rail, right
221850	2	Mezzanine Front Rail, short
221930	2	Mezzanine Rear Rail, short
221940	2	Mezzanine Rear Rail, long

Rural 98 Rails (with Balcony)

222910	4	Track Rail
222830	1	Balcony Side Rail, left
222840	1	Balcony Side Rail, right

Rural 98 Rails (with Balcony) cont.

222850	2	Rural 98 Front Rail, short
222930	2	Rural 98 Rear Rail, short
222940	2	Rural 98 Rear Rail, long

994266, Mezzanine Lift Bolt Box

40234	2	5/16 x 1-1/2 Long Shoulder Bolt
40642	2	1/4NC Nylon Insert Locknut
991077	6	Cotter Pin
995320	2	Ramp Pin
40678	4	Flanged Hex Nut, 5/16NC
911701	4	Hex Nut, 5/16NC
40447	2	3/4NC x 2-1/4 Long Bolt
991751	4	5/16NC x 1-1/4 Long Bolt
912003	101	Nyloc Hex Nut, 3/8NC
912005	202	Washer, 3/8
40205	85	3/8NC x 2-1/2 Long Bolt
912121	16	3/8NC x 3 Long Bolt
912603	14	Nyloc Hex Nut, 1/2NC
912605	24	Washer, 1/2
912641	4	1/2NC x 1 Long Bolt
40310	10	1/2NC x 1-3/4 Long Bolt
917001	8	U Bolt
913603	10	Nyloc Hex Nut, 3/4NC
913605	20	Washer, 3/4
913682	8	3/4NC x 2 Long Bolt, GR 8
994102	1	Anchor Bolt Kit (16 Anchors, 3/4 x 4-3/4 long)
994104	1	Shim Kit (20 Plastic)
991358	2	DECAL
991386	2	Pipe Insulation, 1-3/4 ID x 44 Long
991387	8	10" Tie Wrap
991082	4	24" Tie Wrap
991227	2	BL646 Master Link
991350	12	Chain Link, #6
991204	26	Plastic Plug
40712	16	Nyloc Hex Nut Thin

994241, Mezzanine Hydraulic Kit

992184	1	Hydraulic Hose
992410	1	9/16 O-Ring - 3/8 MJIC Adj. Elbow
992402	1	Forged Elbow, 3/8 MJIC - 3/8 MNPT
992496	1	Swivel Elbow, 1/4 NPT - 1/4 Tube
992501	1	Bushing, 3/8 NPT - 1/4 NPT
992213	1	1/4 Black Polypropylene Tube, 16’ long

221K01, Mezzanine Airline Kit

992148	1	Coiled Air Line, 12’
992127	1	Plastic Air Line, 30’
992449	2	Male Elbow, Swivel
992448	1	Male Run Tee, Swivel
992469	2	Female Quick Disconnect
991082	3	Tie Wrap, 24”
991396	1	3/16 x 1-3/8 U-Bolt w/plate & nuts

120701, Mezzanine Sway Guide Kit

120704	2	Sway Guide
912606	4	1/2 SAE Washer
912603	2	1/2NC Nyloc Nut
912603	2	1/2NC x 4-1/2 long bolt
120743	2	Rub Block

Mezzanine 40” Crossover/Stairs

201401	1	Crossover
221950	1	Front Rail
221820	2	Rear Rail
221800	1	Stairs
221810	2	Stair Rail
994267	1	Bolt Box

Mezzanine 64” Crossover/Stairs

224501	1	Crossover
221870	1	Front Rail
221860	2	Rear Rail
221800	1	Stairs
221810	2	Stair Rail
994267	1	Bolt Box

Rural 98 Crossover/Stairs

222700	1	Crossover
222970	1	Front Rail
222980	2	Rear Rail
222800	1	Stairs
222810	1	Stair Rail, Left
222820	1	Stair Rail, Right
994267	1	Bolt Box

994267, Crossover/Stairs Bolt Box

912003	50	Nyloc Hex Nut, 3/8NC
912005	100	Washer, 3/8
40205	38	3/8NC x 2-1/2 Long Bolt
912121	6	3/8NC x 3 Long Bolt
912603	8	Nyloc Hex Nut, 1/2NC
912605	16	Flat Washer, 1/2
912671	8	1/2NC x 1-3/4 Long Bolt
912728	2	Anchor Stud, 1/2 x 2-3/4 Long
991344	2	S Hooks, 3/16
991343	1	3/16" Chain, 2' Long
991384	1	Sign, 7 x 10, "DANGER, DO NOT ENTER"
991204	14	Plastic Plug
912141	6	3/8NC x 3-1/2 long bolt

12000LRMZ/98 TOP RAIL REPAIR PARTS

PART No.	QTY/LIFT	DESCRIPTION
120K10	1	COMPLETE CHAIN & SHEAVE RETRO KIT
992302	1	CYLINDER, 3-1/2 x 72 STROKE
120K12	3	TOP RAIL HV SHEAVE KIT
996734	3	TOP RAIL HV SHEAVE
996737	3	TOP RAIL HV SHEAVE SPACER
992603	1	TOP RAIL CHAIN, SHORT
992611	1	TOP RAIL CHAIN, LONG
40434	3	TOP RAIL SHEAVE BOLT
991360	3	TOP RAIL SHEAVE NUT
991227	2	TOP RAIL MASTER LINK
991350	12	TOP RAIL #6 LEAF
120303	1	TOP RAIL LATCH CAM
41021	3	TOP RAIL LATCH CAM WASHER
991360	1	TOP RAIL LATCH CAM JAM NUT

12000LRMZ/98 CROSS RAIL REPAIR PARTS

120K13	2	MAINSIDE CROSS RAIL HV SHEAVE KIT
120K14	2	OFFSIDE CROSS RAIL HV SHEAVE KIT
996738	4	CROSS RAIL HV SHEAVE
992691	2	CROSS RAIL CHAIN
991223	4	CROSS RAIL SHEAVE PIN RING
FC5843-3	14	PLASTIC SHEAVE SHIM
051804	2	CROSS RAIL SHEAVE PIN
120403	2	CROSS RAIL SHEAVE PIN
992692	4	CROSS RAIL MASTER LINK
996742	2	CHAIN ANCHOR STUD
996741	2	CHAIN ADAPTER, COLUMN
996743	2	CHAIN ADAPTER PIN
41489	4	CHAIN ADAPTER PIN “E” CLIPS

12000LRMZ/98 POWER UNIT REPAIR PARTS

992172	1	POWER UNIT HYDRAULIC HOSE
FJ7224	1	POWER UNIT ELBOW, HYDRAULIC HOSE
992402	1	CYLINDER ELBOW, HYDRAULIC HOSE
992213	1	HYDRAULIC RETURN LINE
992496	2	HYDRAULIC RETURN LINE ELBOW
992501	1	HYDRAULIC RETURN LINE BUSHING