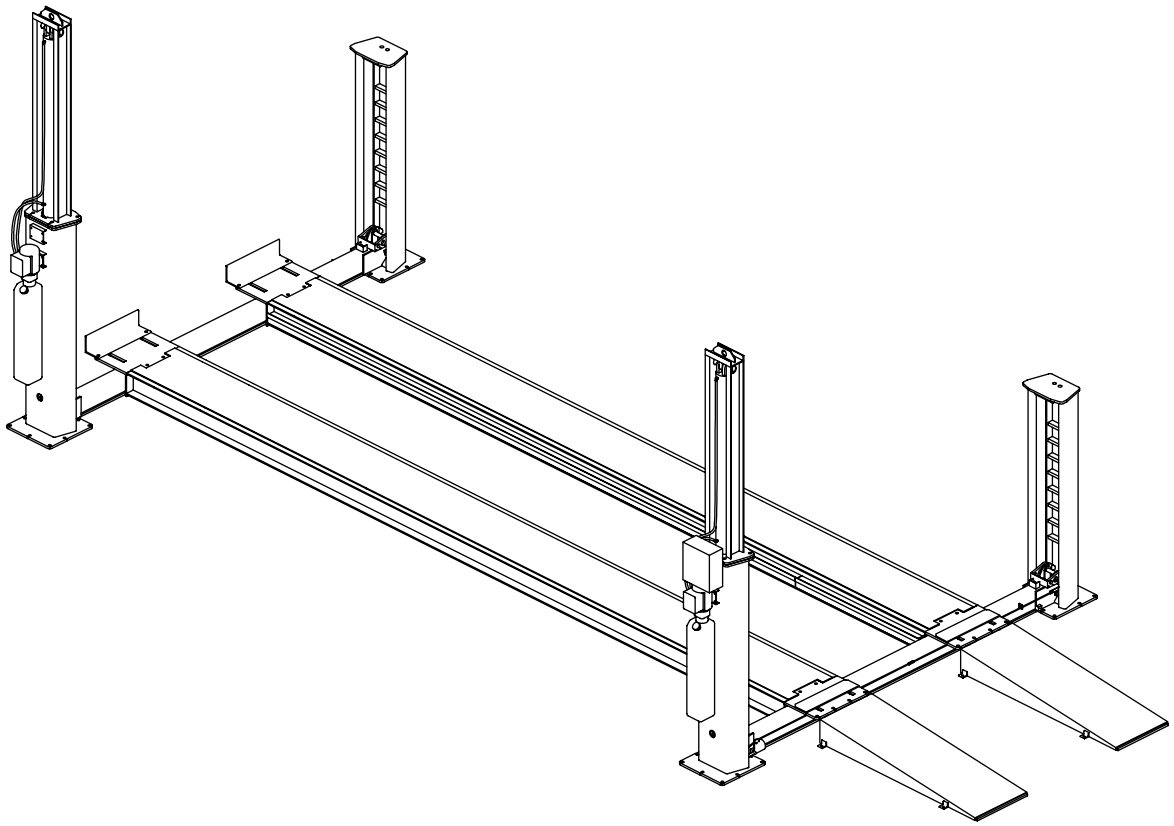
MODEL 40/50K

(000Series)

Capacity 50,000 lbs. (25,000 lbs. per axle)
Four Post Surface Mounted Lift



INSTALLATION INSTRUCTIONS

 CO6953.7

IN20380
Rev. B 9/24/2007

The floor on which the lift is to be installed must be 5-1/2" to 6" minimum thickness concrete, with a minimum compressive strength of 3000 psi, and reinforced with steel bar.

IMPORTANT Failure by the purchaser to provide the recommended mounting surface could result in unsatisfactory lift performance, property damage, or personal injury.

The 40/50K lift requires a ceiling height of at least 16' - 0".

The lifts require 208/230V, 60 hz, three phase, 25 amp ac electrical service.

The lifts are Designed for indoor use only.

Read the anchor bolt instruction page before drilling and installing the anchor bolts.

This lift requires a certain installation procedure to reduce the amount of air trapped in the cylinders. failure to follow the procedure will result in unsatisfactory lift performance.

Do not raise a vehicle on the lift until the lift has been correctly installed and adjusted as described in this manual.

Do not exceed the rated capacity of the lift.

Tools Required for Installation

Concrete hammer drill with 1/2" and 3/4" solid drill bit with carbide tip to ANSI Standard B94.12-1977.

Open end wrenches: 1/2", 9/16", 11/16", 3/4", 7/8", 1-1/16", 1-1/8", 1-13/16", or 16" crescent wrench.

Ratchet drive with sockets: 9/16", 7/8", 1-1/16", 1-1/8".

Hammer

Needle Nose Pliers

Snap Ring Pliers

Level

Pull wire or fish tape

Also Required for Installation

10 gal Dexron III ATF, or Hydraulic Fluid that meets ISO 32 specifications.

1. INSTALLATION:

A. Determine the location for the lift installation. This lift can be used with the main side legs, which hold the cylinders and power units, positioned at either side as shown in Fig. 1. The operator with the controls will stand on the mainside of the lift, between the two legs. For this reason, the mainside of the lift should be positioned away from any walls or obstructions. Fig. 2 gives the overall dimensions of the lift, including the drive on ramps. The area must be level and there must be free access to load and unload the vehicles. There must be enough overhead clearance to raise vehicles 6 feet above the floor. The floor must be concrete with a minimum thickness of 6 inches and steel reinforced per commercial practice. If pads are used, they must be 2'-6" square with a minimum thickness of 18 inches and steel reinforced per commercial practice. Fig. 3 gives the pad layout dimensions.

B. Refer to Fig. 3 to get the dimensions for the leg foot locations. Refer to Fig. 2 to determine where to locate the sides and ends of the leg foot rectangle with respect to walls and other obstacles at the installation. Include additional clearance where required near walls and obstacles.

C. Once the location is determined use a chalk line to make base line A-B to locate one side of the lift, Fig. 4. Use the width dimension of 13' - 3" to measure off the dimensions A-D and B-C. Draw arcs as illustrated in Fig. 4. Draw a chalk line D-C tangent to the two arcs to establish the other side of the lift.

D. Mark on one of the two parallel lines the Points 1 and 2 to establish the ends of the leg foot rectangle as determined from Figures 2 and 3. From points 1 and 2 measure diagonally 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 outside corners of the leg foot rectangle.

E. Stand at the end of the rectangle which will be drive on entrance to the lift. As you face the way the vehicles will enter the lift, the side you want the power units on will be the Mainside of the lift. This side will be where the mainside legs, cylinder mounts, and power units will be located. The end opposite you is the front, where the front of the vehicles stop. The end where you are is the back of the lift, where the drive on ramps are installed, Fig. 1.

F. Position the two mainside and the two offside legs as shown in Figure 1. Make sure that the legs are positioned correctly and square with the installation location.

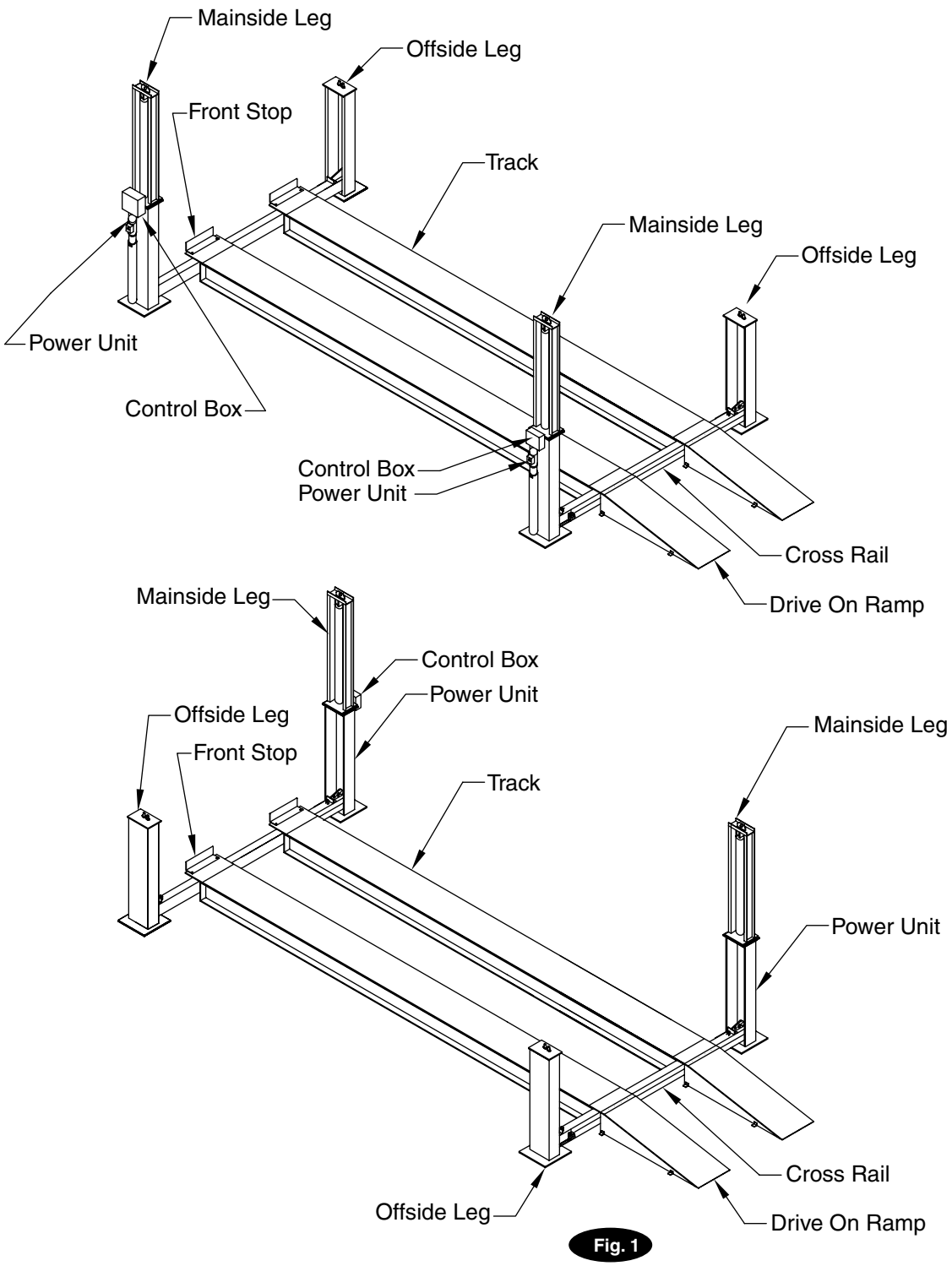

Mainside Leg
Offside Leg
Front Stop
Track
Mainside Leg
Offside Leg
Power Unit
Control Box
Control Box
Power Unit
Cross Rail
Drive On Ramp
Mainside Leg
Control Box
Power Unit
Offside Leg
Front Stop
Track
Mainside Leg
Power Unit
Cross Rail
Offside Leg
Drive On Ramp

Fig. 1

2. Anchoring:

A. Review the concrete anchor bolt instructions. Drill, install, but do not tighten the 8 anchor bolts for the two mainside legs.

IMPORTANT DO **NOT** drill or set offside leg anchor bolts at this time. The lift must be correctly aligned and cycled before the bolts are installed.

B. Refer to Figure 5, Mainside Leg and Cylinder Mount Shimming. Check the plumbness of the legs as shown. Shim as required and tighten the anchor bolts. Re-check the legs after tightening the bolts. Next, check the plumbness of the Cylinder Mounts Fig. 5. If required, loosen the mounting bolts, shim between the mounting plates as required, and retighten the bolts. Recheck the cylinder mounts after tightening.

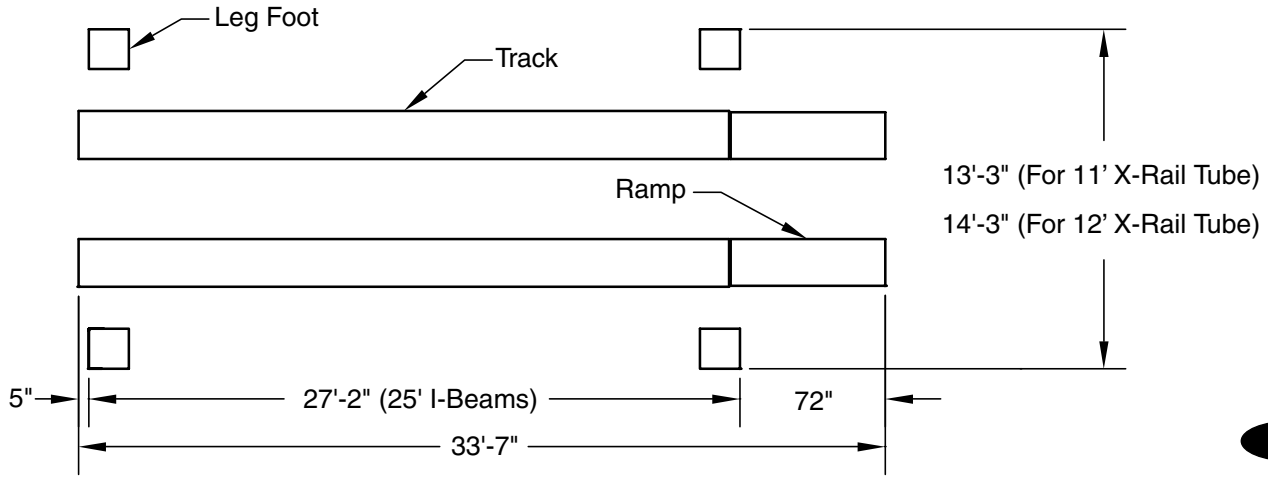


Fig. 2

Overall Dimensions

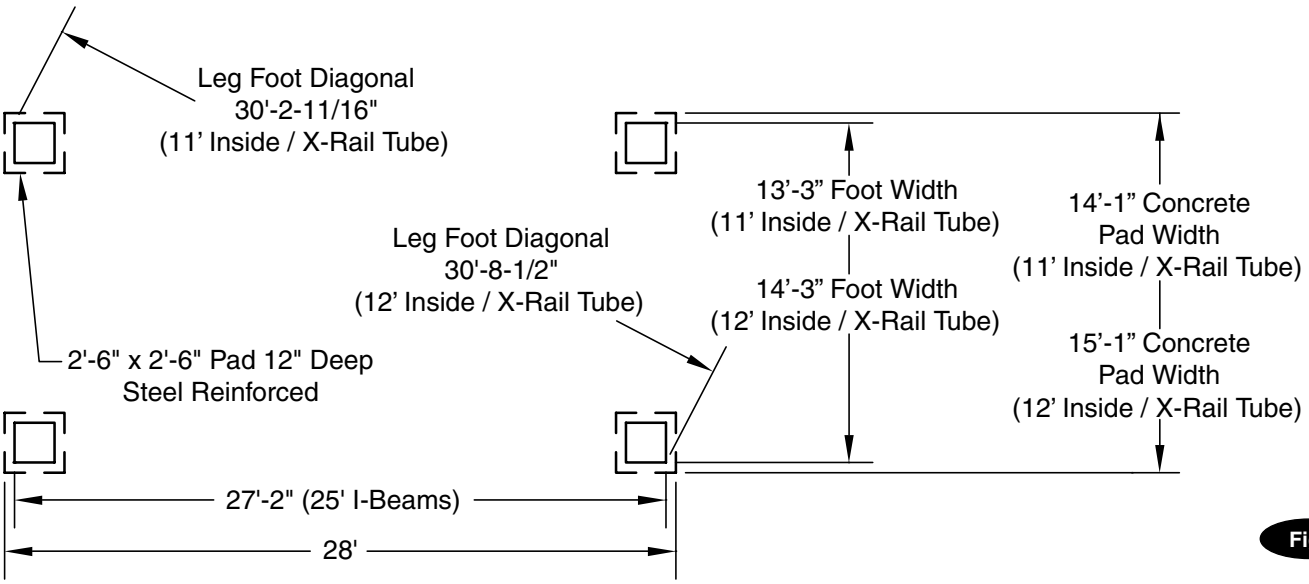


Fig. 3

Leg Foot Location

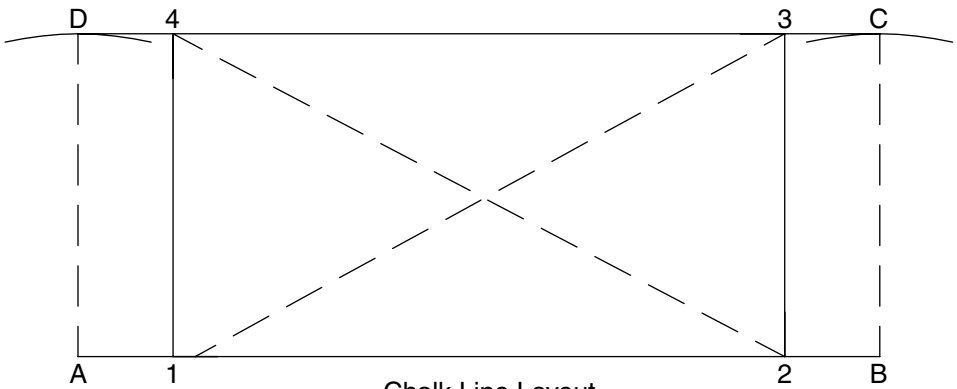


Fig. 4

Chalk Line Layout

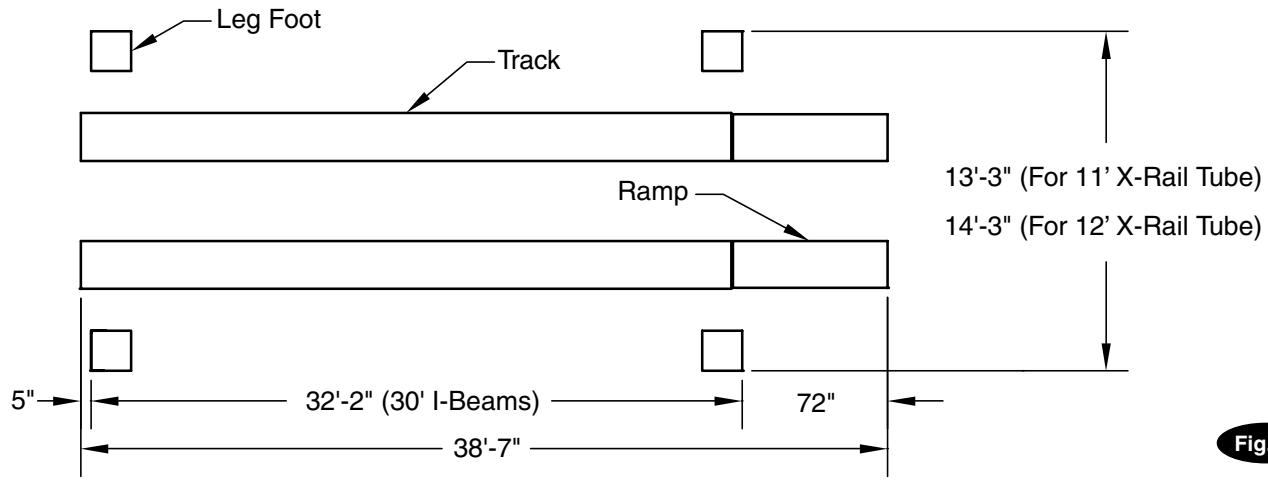


Fig. 2a

Overall Dimensions

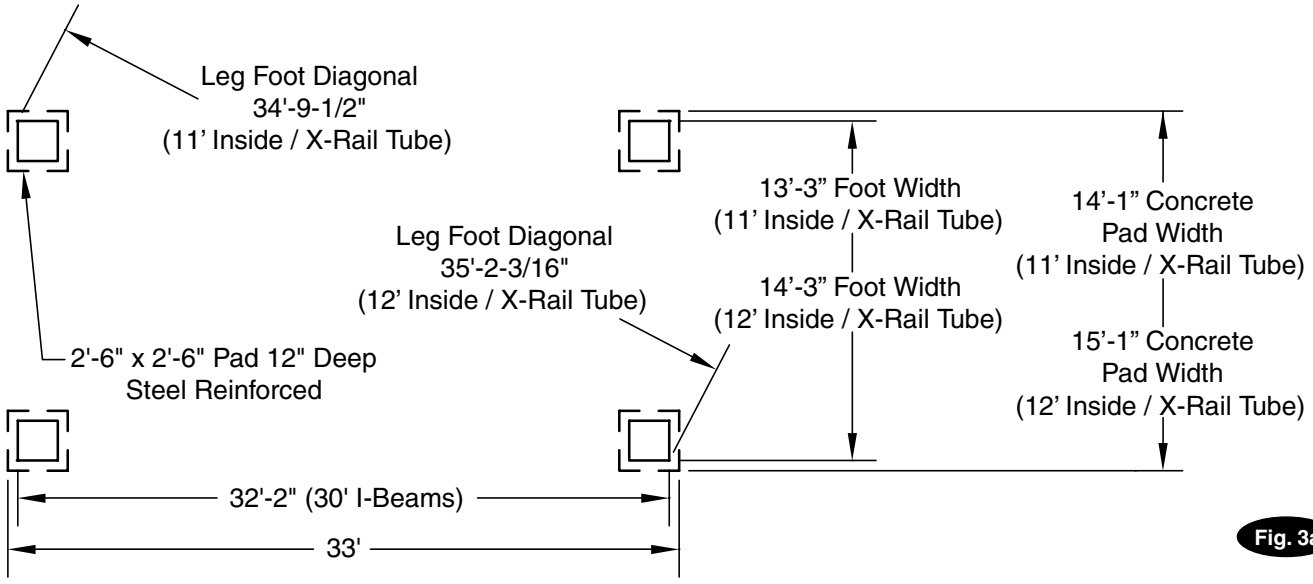


Fig. 3a

Leg Foot Location

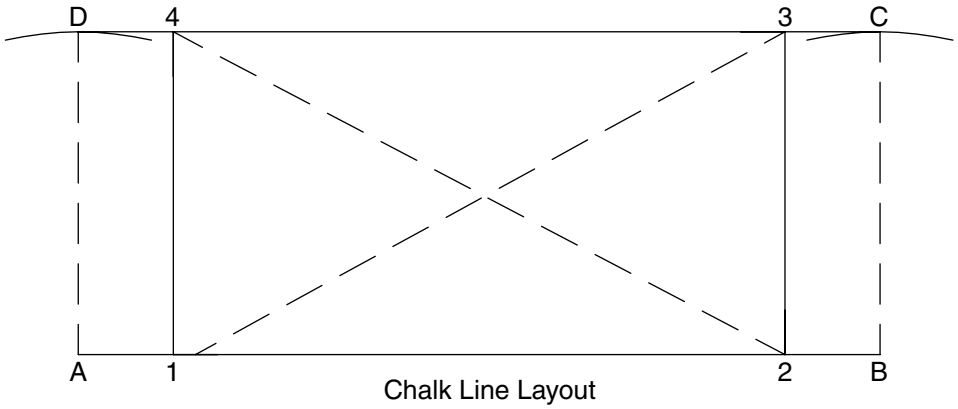
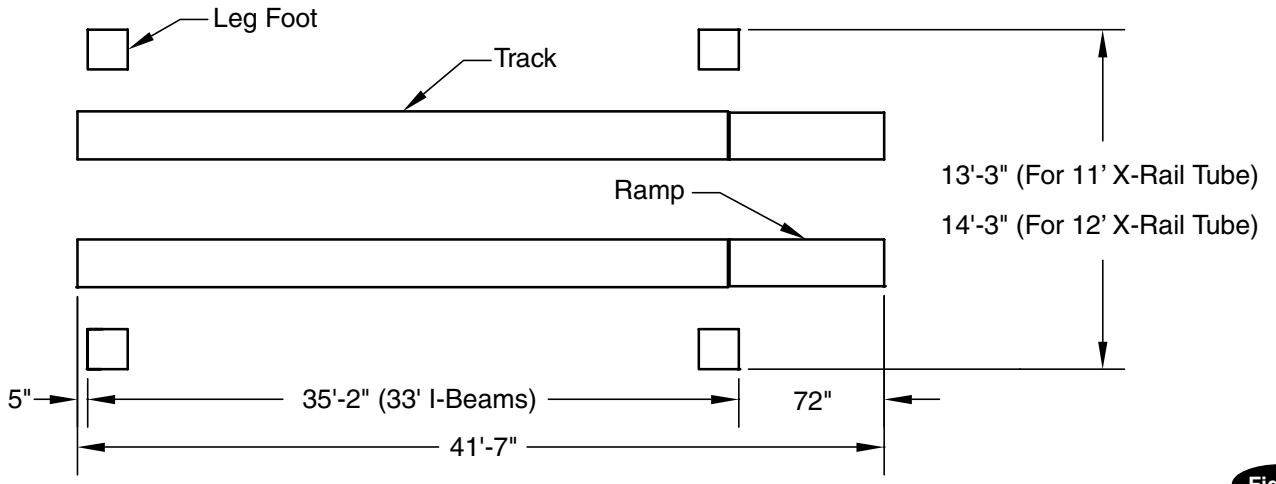


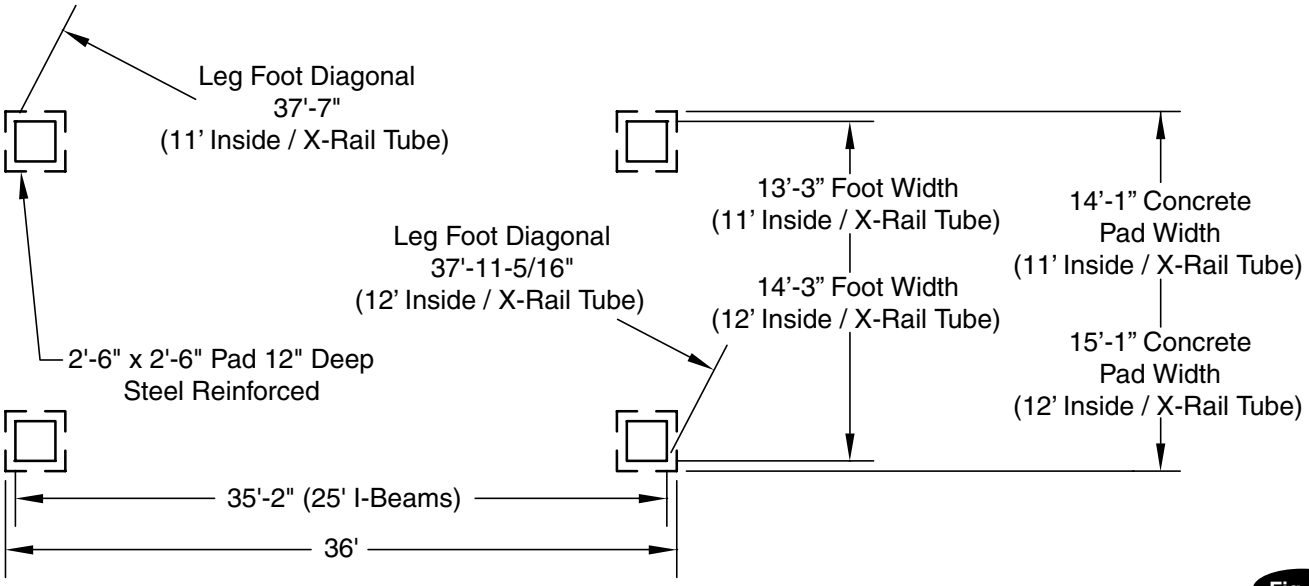
Fig. 4a

Chalk Line Layout



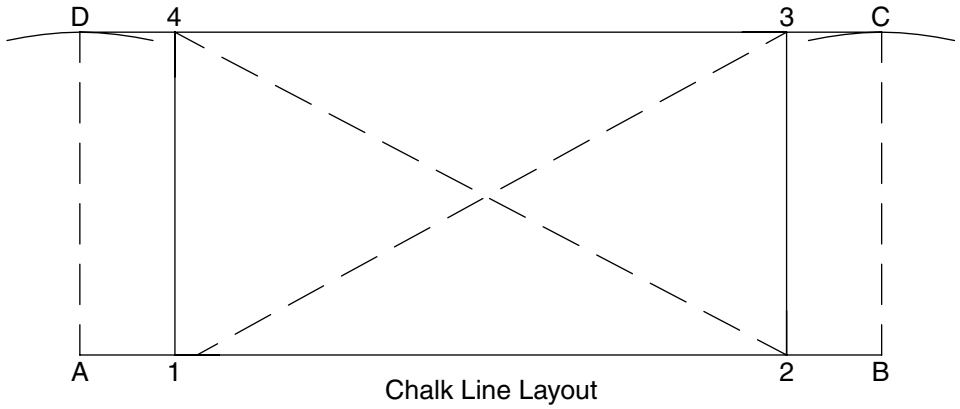
Overall Dimensions

Fig. 2b



Leg Foot Location

Fig. 3b



Chalk Line Layout

Fig. 4b

3. Drilling And Installation Procedure:

A. The anchor bolts must be installed at least 5” from any edge of the concrete or any seam.

B. Use a carbide tip, solid drill bit, 3/4” diameter. Tip diameter to ANSI standard B94.12-1977. (.775” to .787”).

C. Use a concrete hammer drill only!

D. **DO NOT** use excessively worn bits or bits which have been incorrectly sharpened.

E. Keep the drill perpendicular line while drilling.

F. Let the drill do the work. Do **NOT** apply excessive pressure.

G. Lift the drill up and down to remove dust and reduce binding.

H. Drill the hole completely through the slab.

I. Blow out the dust from the hole. This increases the holding power.

J. Assemble the washer and nut onto the anchor bolt. Thread the nut approximately 4/5’s of the way onto the anchor bolt where the top of the nut is just above the top of the bolt. Using a hammer on the nut, *carefully* tap the anchor bolt into the concrete. **DO NOT** damage the nut and threads.

K. Tap the nut and bolt so the washer rests against the base of the lift.

L. Tighten the nut two or three turns using hand tools. Do **NOT** use an impact wrench on anchor bolts.

4. Crossrail Installation:

A. Prepare to position crossrails in their approximate locations as shown in Figure 1. The cylinder connector must be at the mainside leg locations. The safety latch release levers must be to the outside of the lift and at the mainside leg side, Fig. 6. **IMPORTANT** At this time check the safety latch linkage on each crossrail for cor rect operation. Pull the lever down until it locks, Fig. 6. The latches at the ends of the crossrail will lock in the released position. If the mechanism does not work correctly, check for damage or misalignment and cor rect. Repeat for both crossrails.

B. Use the pull wire to pull the three crossrail chains through the crossrail tube. The chains run over the sheaves at the mainside end and under the sheaves at the offside end, Fig. 7. Repeat for the other crossrail.

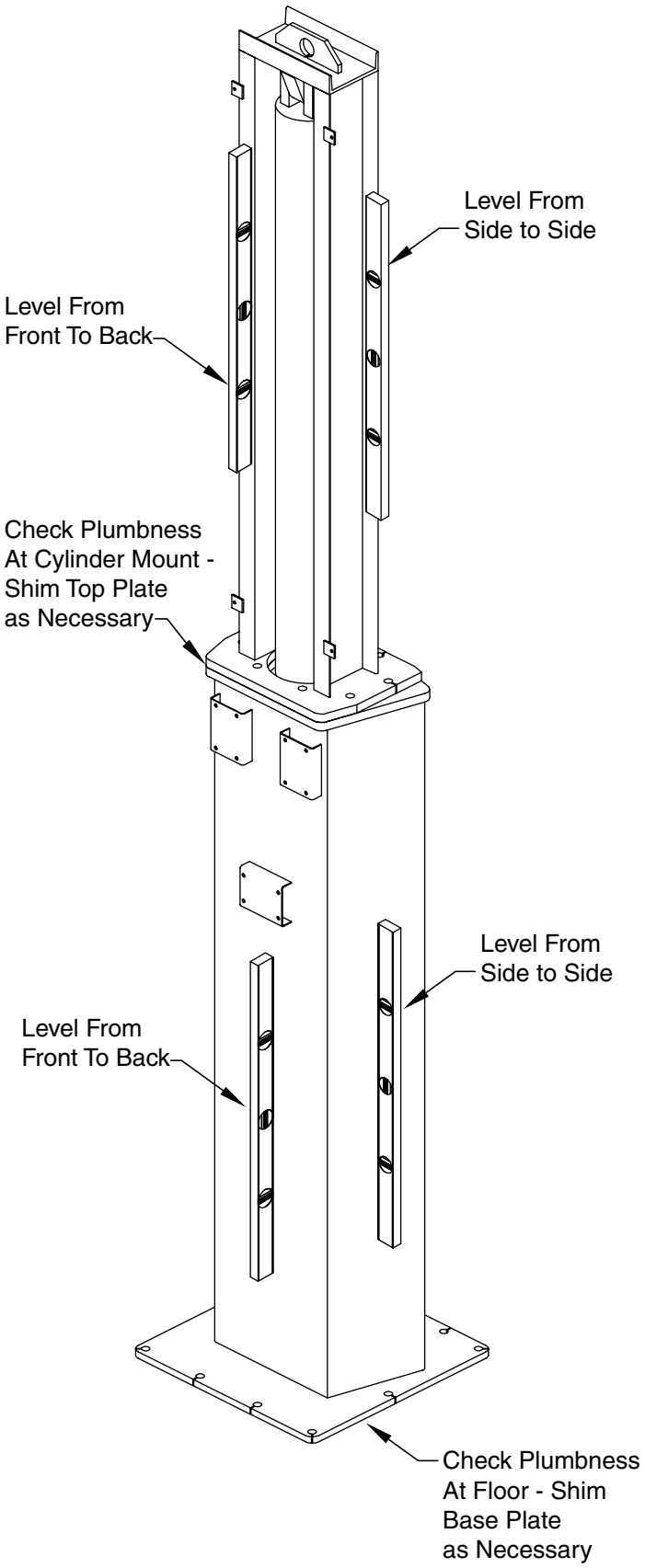
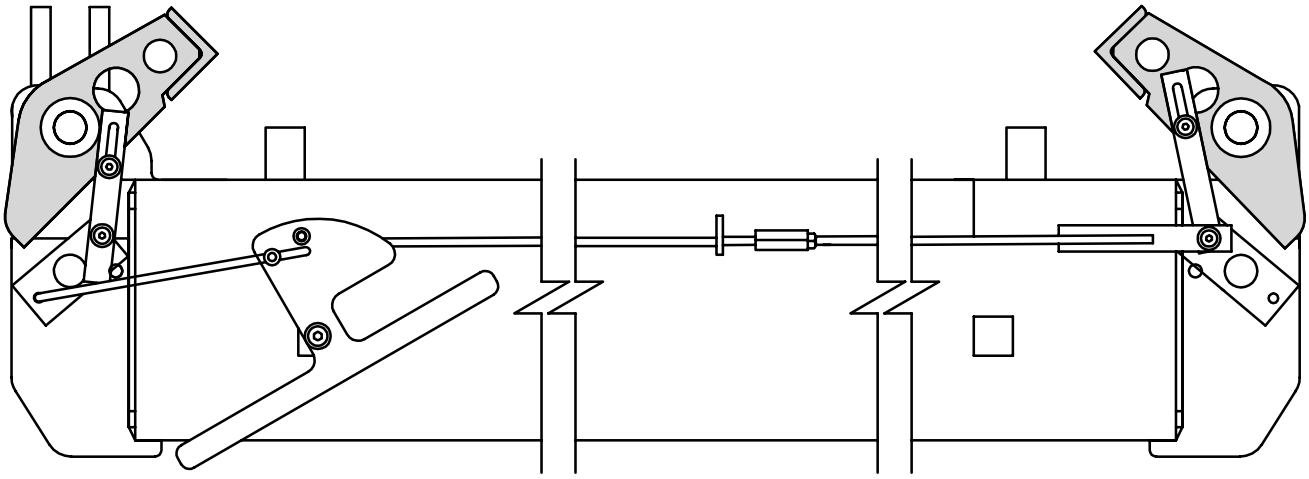


Fig. 5

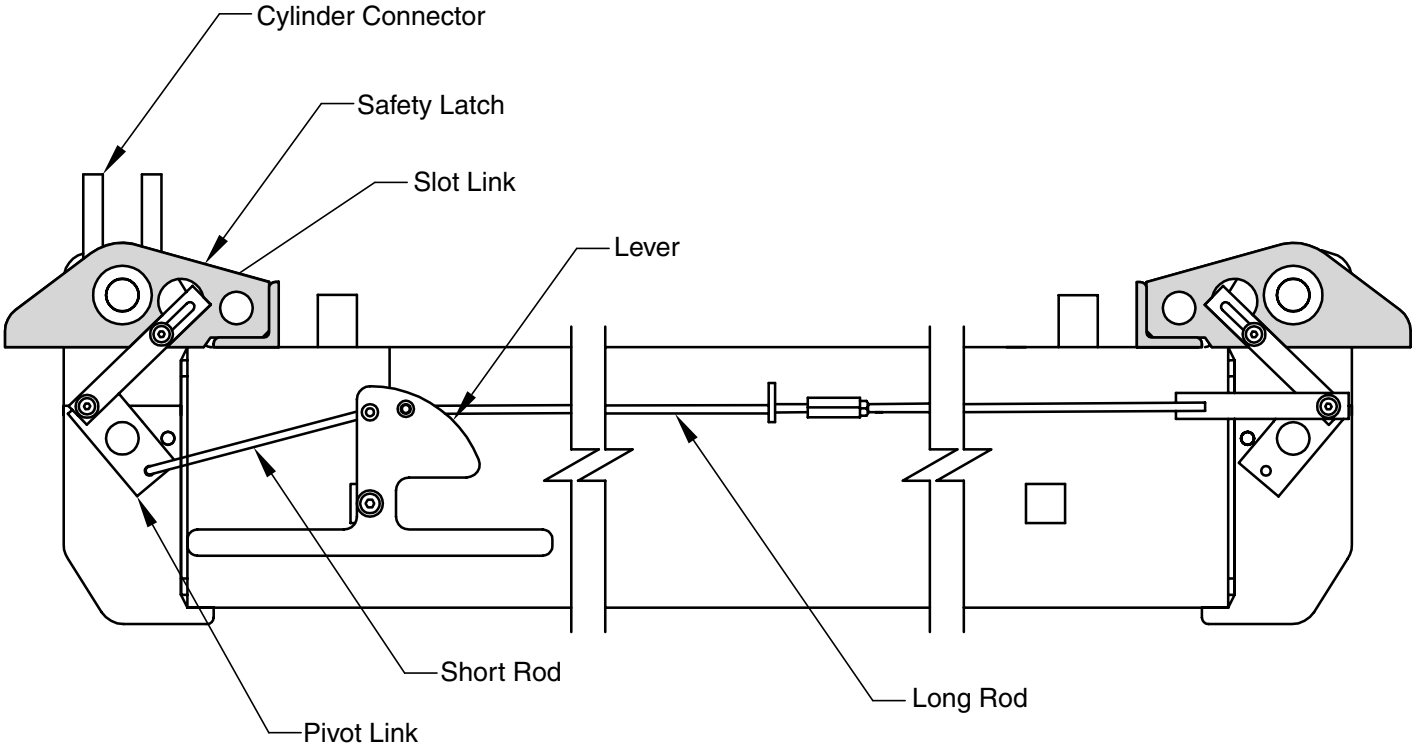
C. Using a forklift, position the rear crossrail between the two legs. With the crossrail 1' above the ground, attach the crossrail chains to the mainside leg chain anchor with the three 3/8" x 4-3/8" Grade 8 hex head bolts and 3/8" nylock nuts. Install the stud ends of the chains into the holes at the top of the offside leg, Install the 1-1/8" washers and nylock nuts to the studs.

Hold each chain with a crescent wrench while tightening the nuts. While holding the crossrail level, remove the slack from both chains.

IMPORTANT The chain anchor bolts must be a grade 8 hardened bolt, 3/8" diameter by 4-3/8" long. Failure to follow this requirement could result in bolt failure with possible personal injury and property damage.



Release Position



Latch Position

Fig. 6

D. Continue to support the crossrail with the forklift. Remove the caps from the cylinder ports on the rear leg cylinder. Pull down the connector on the rod end to the cylinder block on the crossrail. If the rod will not pull down, attach the long hose to the top port, and carefully apply compressed air to the hose end by holding a hand nozzle to the opening. **DO NOT** allow the rod to shoot downwards. Line up the holes in the two connector blocks and insert a 1-1/4" diameter by 3-5/8" pin. Install a 1-1/4" diameter snap ring in the groove on the back of the pin. Lower the crossrail to the ground. Install a 1-1/4" diameter snap ring thru the hole in the leg back into the inside groove on the pin,Fig. 8.

E. Repeat the procedure with the front crossrail.

F. Position the tracks on the crossrails. The tracks should be centered on the rails with 40" between them. The jack tracks should be to the inside of the tracks. There should be approximately 1/2" between the ends of the tracks and at each crossrail tube.

5. Power Unit Installation:

A. Install the male pipe to 3/8" male JIC 90 degree fittings into the cylinder ports. The top fitting should point downward. The bottom fitting should point directly to the left. Use teflon pipe tape on these pipe fittings. Start the teflon no closer than 1/8" to the end of the fitting.

B. Bolt a power unit mount bracket to each of the two mainside legs on the bottom mounting plates. Mount a power unit on top of each bracket with the 5/16" x 1" bolts and 5/16 nylon insert nuts. Install the power unit fittings. The Fenner unit uses a male pipe to 3/8 JIC straight fitting in the return port. The Fenner unit uses a 9/16" O-ring to male JIC straight fitting in the pressure port.

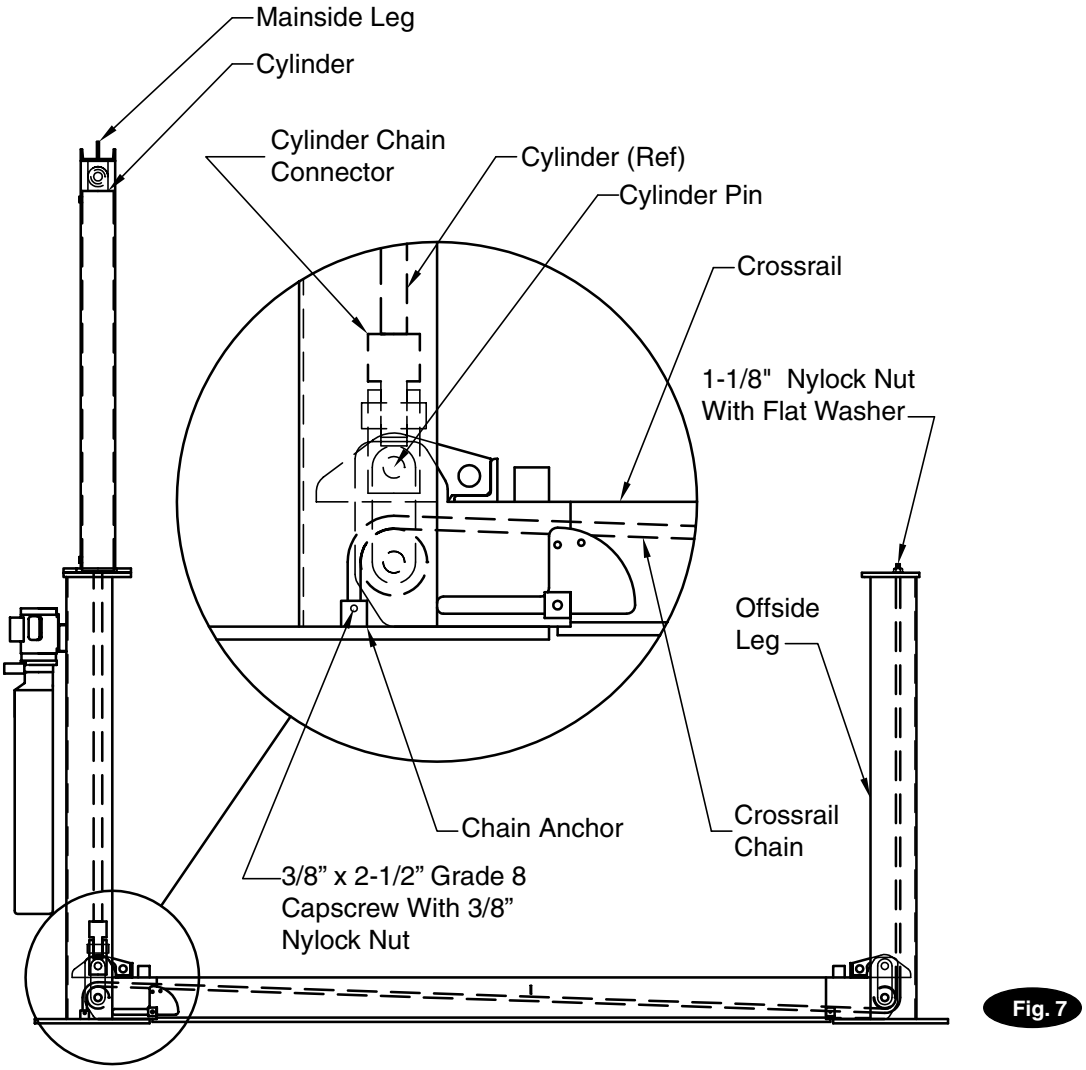


Fig. 7

Crossrail Chain Arrangement

IMPORTANT Position Crossrail Assemblies With Safety Latch Release Levers To The Outside Ends Of The Lift And At The Mainside End Of The Crossrail.

Both of these fittings have a 3/8” JIC swivel attached to them. The MTE unit uses two of the O-ring to male JIC straight fittings, each with the 90 swivel attached. The MTE pressure port is at the side of the unit, next to the handle. Refer to Fig. 9.

C. Attach the hoses between the cylinders and the power units. The long hoses attach between the upper cylinder port and the return port on the power unit. The return port is on the same side of the power unit as the electrical enclosure.

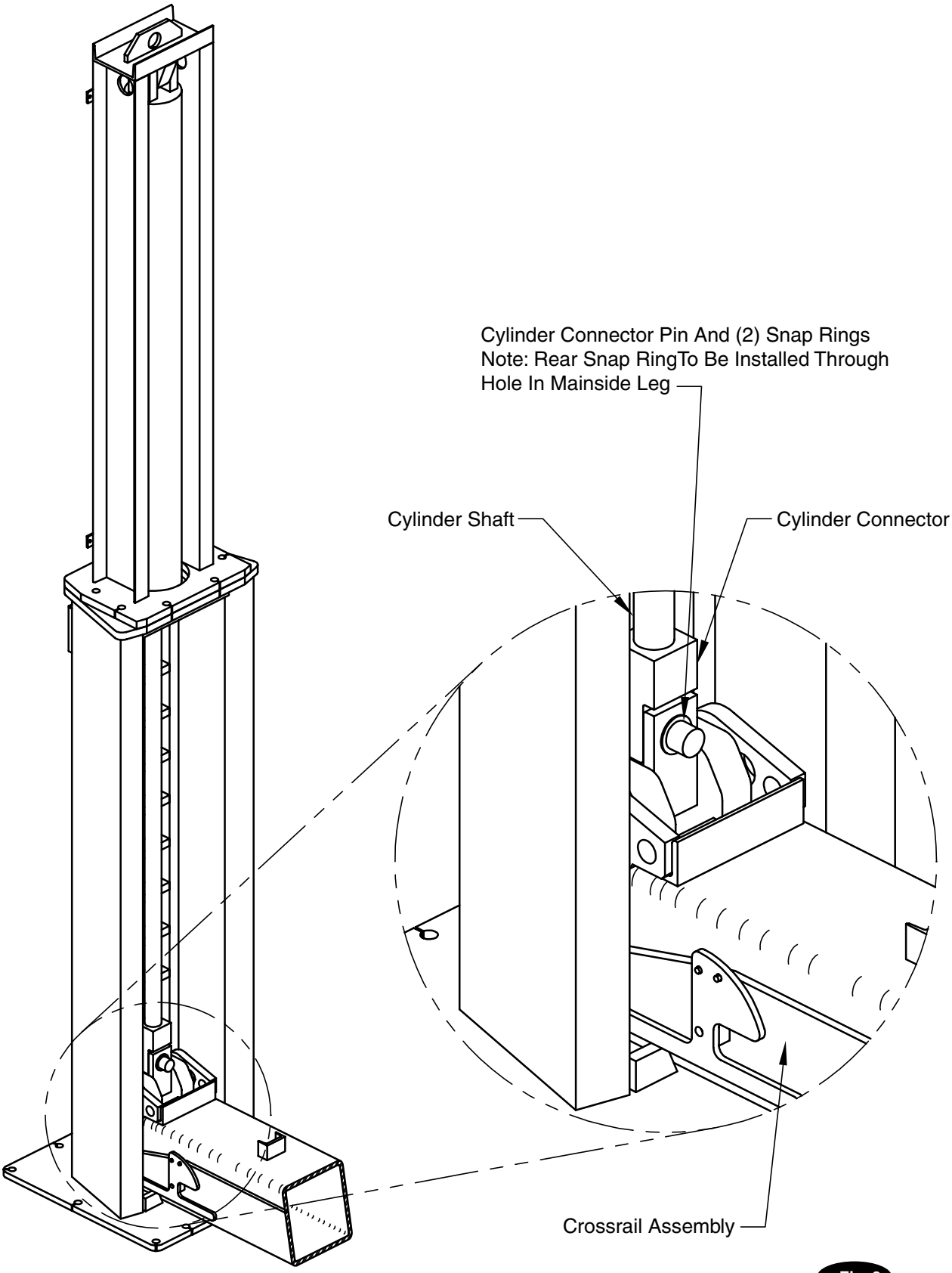
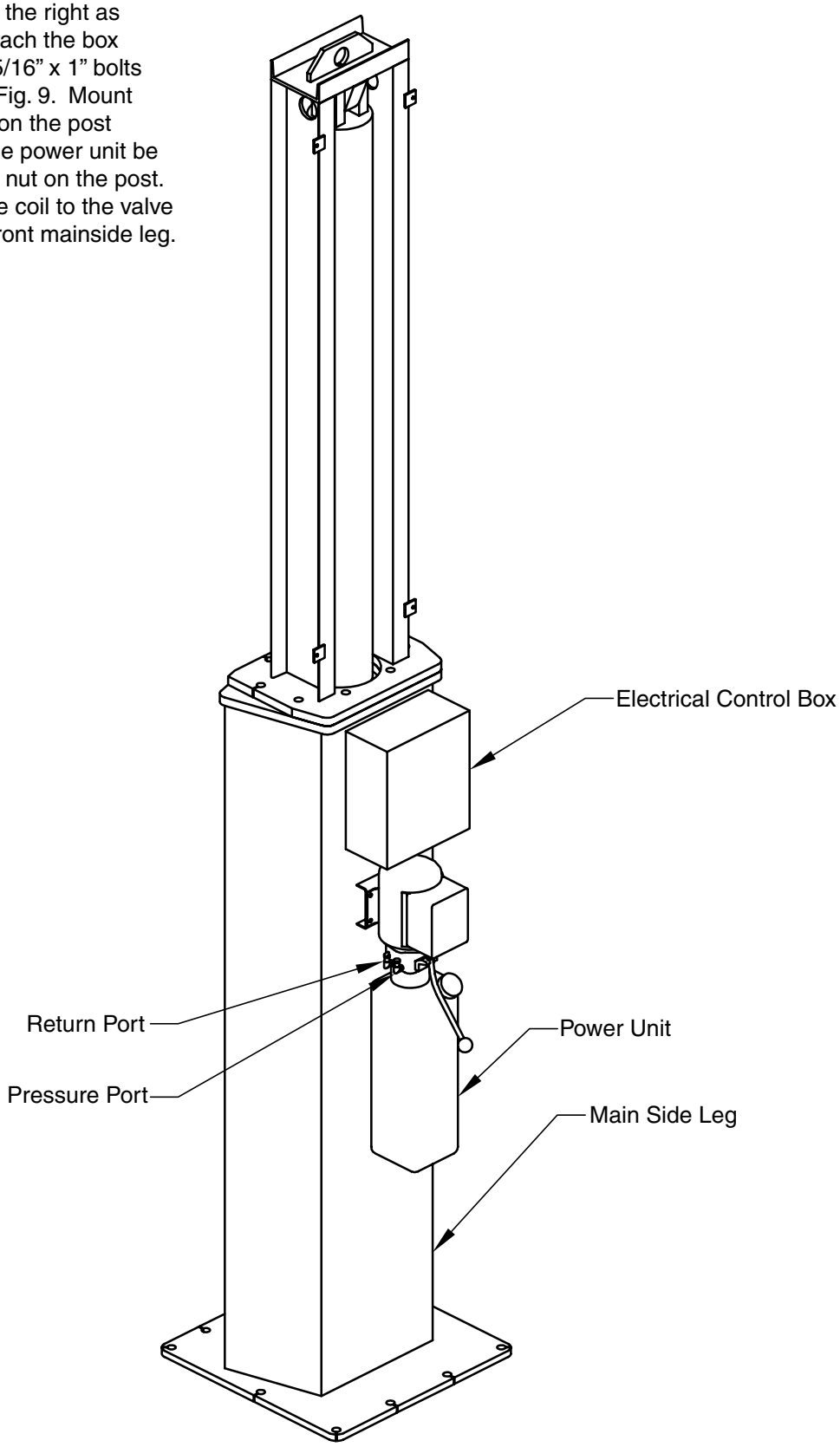


Fig. 8

Cylinder Attachment To Cross Rail

6. Electrical: (Refer to Figs. 10 - 10b)

A. Remove the cover of the electrical control box. If the lift has the mainside legs on the left as shown on the top of Fig. 1, attach the box to the top two holes of the top mounting bracket on the back of the rear main side leg. If the mainside legs are on the right as shown on the bottom of Figure 1, attach the box on the front mainside leg. Use two 5/16" x 1" bolts with two nylon insert nuts. Refer to Fig. 9. Mount the short cabled lowering valve coil on the post of the lowering valve assembly on the power unit be low the control box. Secure with the nut on the post. Mount the long cabled lowering valve coil to the valve assembly on the power unit on the front mainside leg. Replace the cover.



Mainside Leg, Power Unti And Electrical Box Mounting

Fig. 9

B. Remove the conduit box covers on the two electric motors. Hook up the short motor lead to the power unit below the control box. The three wires of the motor lead attach to the three single wires in the box using the wire nuts. The terminal on the ground wire of the motor lead is attached to the green ground screw in the motor conduit box. Hook up the long motor lead to the motor on the front power unit in the same way. Replace the covers and tighten the cable clamps.

C. Hook up the power pigtail to 208/230 volt service. If the lift is equipped with single phase motors, the requirement is 208/230 volt, single phase, 40 amp. If the lift is equipped with three phase motors, the requirement is 208/230 volt, three phase, 25 amp.

IMPORTANT It will be necessary to enclose the electrical cables in conduit after the lift is installed. Using tie wraps, the cables can be routed up the legs and across the span between the legs as a temporary installation.

7. Hydraulic / Cylinder Bleeding:

A. Fill each power unit reservoir with approximately 5 gallons of hydraulic oil. Loosen the hose fitting at the bottom of the rear cylinder. NOTE: When standing on the mainside (power unit) side of the lift, the right top button raises the right end of the lift. The top left button raises the left end of the lift. The two lower but tons lower their respective ends. Briefly run the rear pump until fluid appears at the cylinder fitting. Tighten this fitting and repeat for the front pump and hose.

8. Leveling And Latch Adjustment:

A. Raise both crossrails about 6". Level the crossrails by adjusting the crossrail chain lengths at the anchor stud nuts at the top of the offside legs. Use a level to check the crossrails. All three chains should have the same tension.

B. Adjust and plumb the offside legs so that the crossrail chains hang straight (use the level), the crossrails hang in the center of the leg opening, and the legs are plumb.

C. Raise the lift until the safety latches at each leg have cleared the first welded flat stop in the back of each leg. Lower the lift until the latches just clear the leg latch stops.

D. The two latches on each crossrail should be the same distance above the stops. If the floor is not level it may be necessary to shim the leg foot of the lower side. After adjusting the height, replumb the leg and check the crossrail for levelness. Adjust the crossrail chain anchor stud nuts on the offside leg if it is neces sary to re-level the crossrails. Check and adjust both cross rails as necessary.

IMPORTANT The latches on each crossrail must be within 1/4" of each other in height above the latch stops. This is with respect to the side to side adjustment of the lift.

E. Raise the lift clear of the stops. Pull down the safety release lever on each crossrail. The lever will lock in down position and the safety latches at each end of the crossrail will lock in the released position.

F. Lower the lift. The levers and latches should reset when the levers contact the leg bases.

IMPORTANT If the levers and latches do not reset when the lift is lowered to the ground, check and correct the problem.

G. Raise the lift. Check the alignment of the crossrails and operation of the safety latches as the lift is being raised. The latches should clear the leg stops by approximately 1/2" as the lift moves up and down. At the top of the lift's travel, lower the lift until the safety latches are just above the top stops in the leg. Check and if necessary, adjust the crossrails and legs as described above. Raise the lift to clear the latches, pull the release levers at each crossrail, and lower the lift to the ground.

H. If the alignment and operation of the safety latches is within the required specifications, drill and install the offside leg anchor bolts.

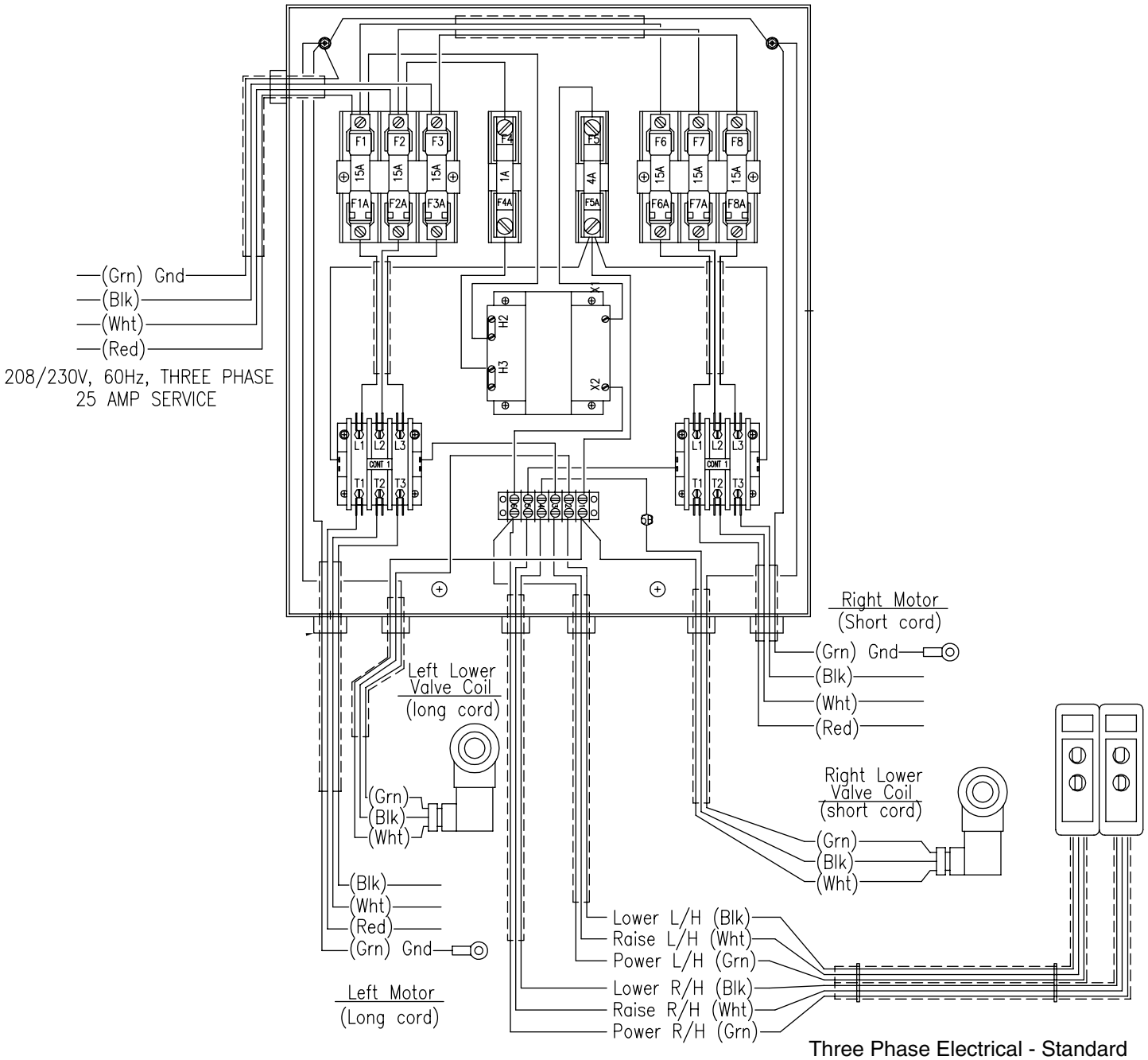
I. Cycle the lift to its maximum height and back to the ground three times to remove air.

9. Track Stops:

A. Install the track end stops at the front of the lift. Use two 3/4 x 2 bolts with washers and nuts.

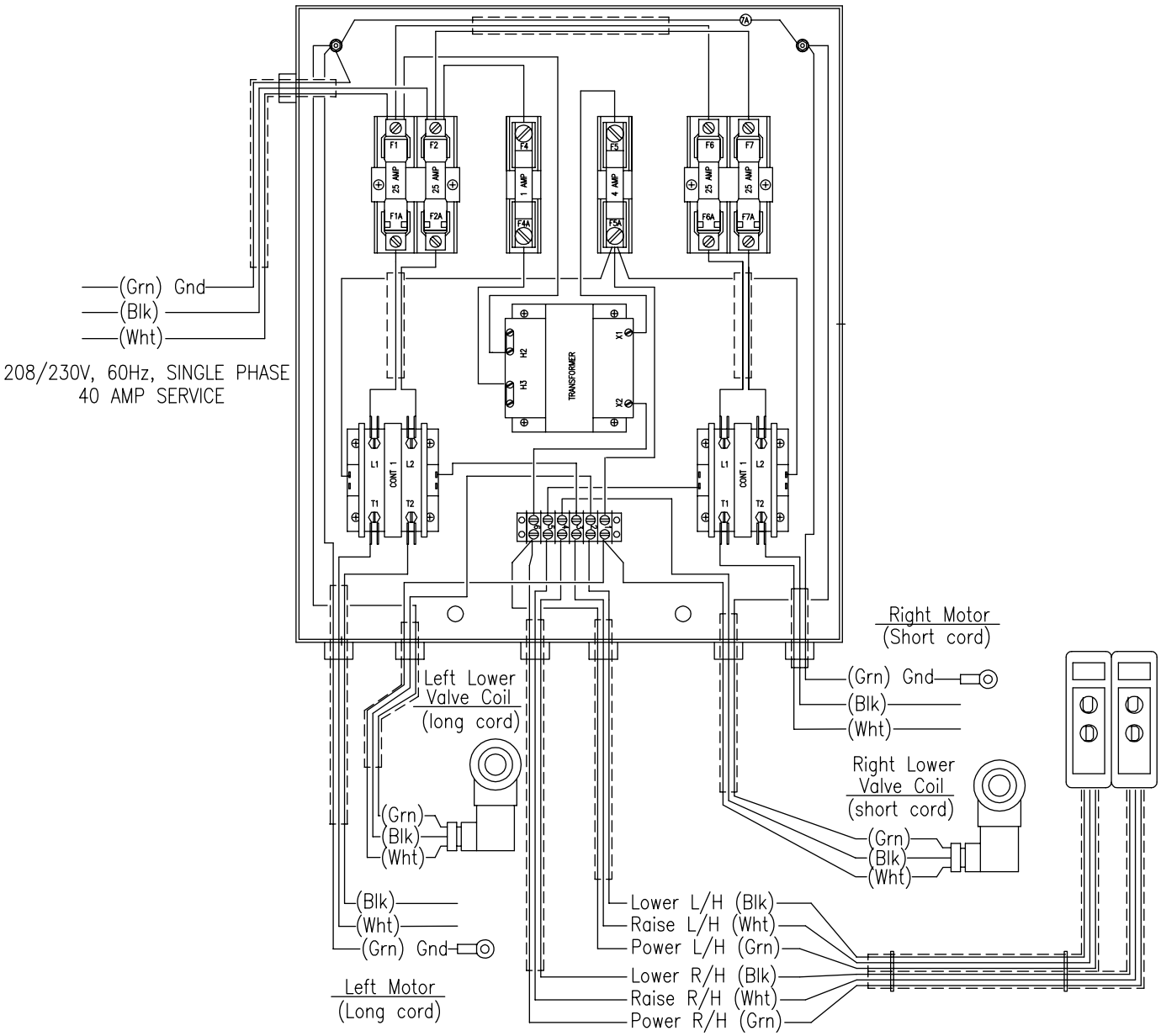
B. Refer to figure 11, Rear Stop Installation. Thread the weight support rods into the weight approximately 2". Position the weight assembly into the pivot stop at the rear of the lift. Secure the assembly with washers and cotter pins. The hanging length of the weight assembly can be adjusted by threading the rods further in or out.

C. Position the drive on ramps at the rear of the lift. The ramps should be located one inch away from the track end plate and in line with the tracks. Drill the 1/2" diameter holes in the floor and install the 1/2" diameter x 2-3/4" anchor bolts.



Three Phase Electrical - Standard

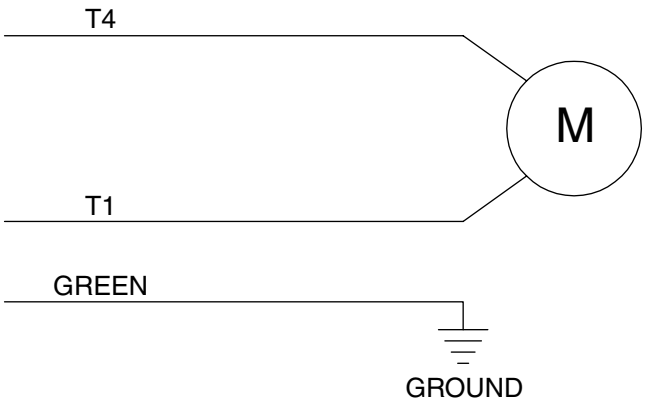
Fig. 10



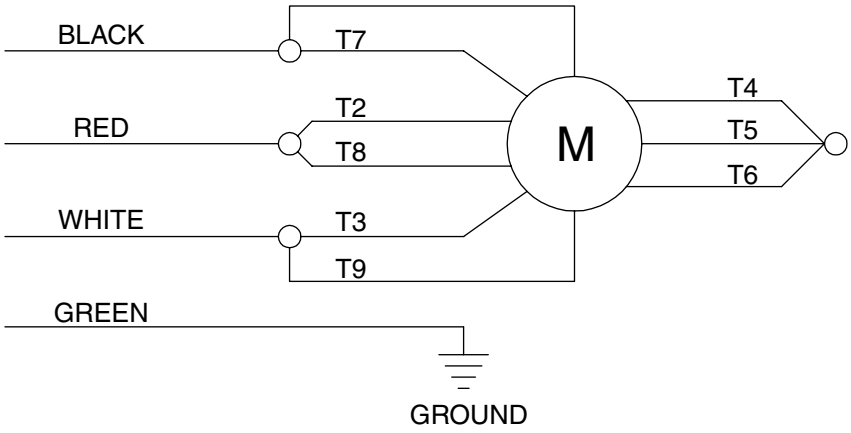
Single Phase Electrical - Optional

Fig. 10a

1ø, 220 VOLT

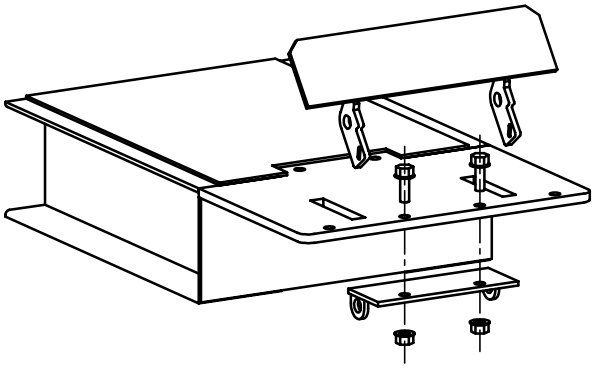


3ø, 220 VOLT

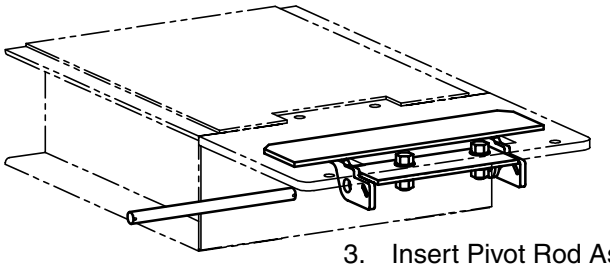


Electirc Motor Wiring Diagram

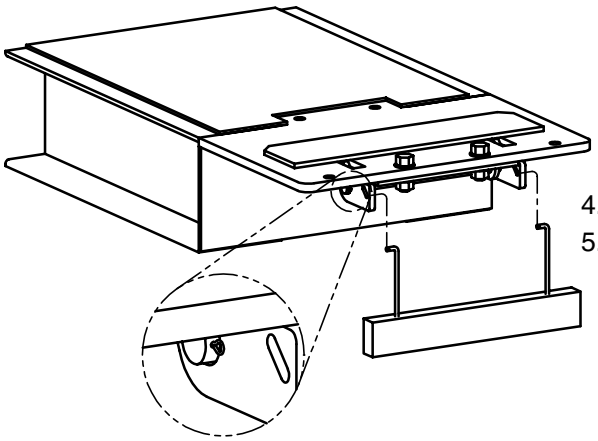
Fig. 10b



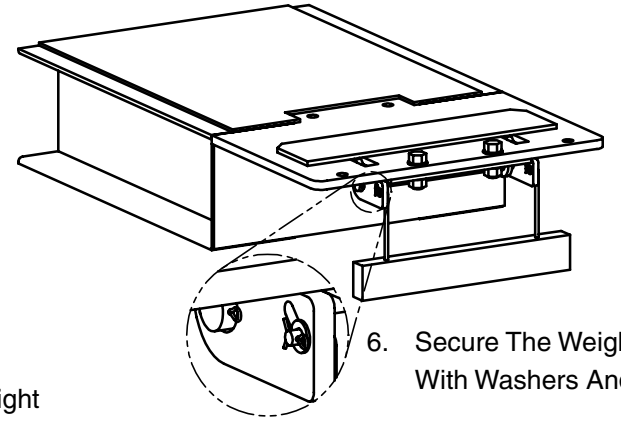
1. Bolt Pivot Plate To Bottom Of Track End Plate
2. Insert Pivot Stop Through Slots In Track End Plate



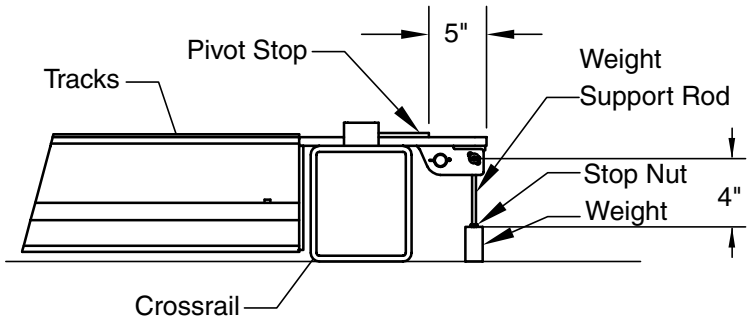
3. Insert Pivot Rod As Shown



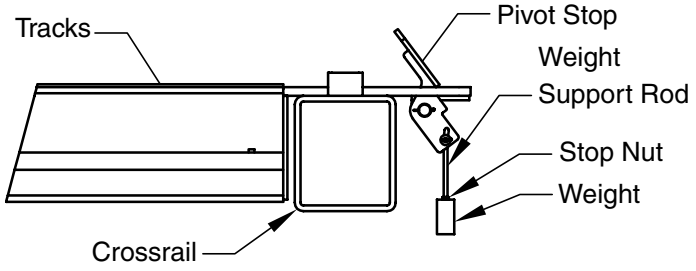
4. Secure The Pivot Rod With Cotter Pins
5. Insert The Weight Assembly As Shown (See Note Below)



6. Secure The Weight Assembly With Washers And Cotter Pins



Crossrail / Tracks On Floor



Crossrail / Tracks Elevated

Note:
Thread a nut (5/16"-18NC) onto each suspension rod. Thread the rods approximately 1-1/2" into the weight. Tighten the nuts down against the weight to lock it in place. The weight should have a suspension length such that when it comes into contact with the floor, the pivot stop will rotate down and the "hook" of the suspension rod will move to the approximate center of the slot.

Fig. 11

Notes

Notes

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

Thank You

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

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

DATE	REV.	CHANGE MADE
10.26.05	A	Combined 40K And 50K Literature
09.25.07	B	Updated concrete requirements

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