

MODEL 8000 A TWO POST ASYMMETRIC LIFT

INSTALLATION AND OWNERS MANUAL

3/96

I MAN 991005

IMPORTANT NOTICE:

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.

FAILURE BY THE PURCHASER TO PROVIDE THE RECOMMENDED MOUNTING SURFACE COULD RESULT IN UNSATISFACTORY LIFT PERFORMANCE, PROPERTY DAMAGE, OR PERSONAL INJURY.

IMPORTANT NOTICE REGARDING CEILING HEIGHT:

THIS IS AN OVERHEAD TYPE LIFT WHICH REQUIRES A CEILING HEIGHT OF AT LEAST 12'- 0".

IMPORTANT:

READ THIS INSTALLATION MANUAL BEFORE INSTALLING THE LIFT.

READ THE ANCHOR BOLT INSTRUCTION PAGE BEFORE DRILLING AND INSTALLING THE ANCHOR BOLTS.

DO NOT RAISE A VEHICLE ON THE LIFT UNTIL THE LIFT HAS BEEN CORRECTLY INSTALLED AND ADJUSTED AS DESCRIBED IN THIS MANUAL.

DO NOT REMOVE A TRANSMISSION, SUSPENSION ASSEMBLY, OR OTHER HEAVY ITEM FROM THE FRONT OF A FRONT WHEEL DRIVE VEHICLE UNLESS THE VEHICLE IS ADEQUATELY SUPPORTED IN THE REAR.

IMPORTANT NOTICE REGARDING INSTALLATION:

THIS LIFT REQUIRES A CERTAIN PROCEDURE DURING INSTALLATION TO REDUCE THE AMOUNT OF AIR TRAPPED IN THE CYLINDERS. FAILURE TO FOLLOW THE PROCEDURE WILL RESULT IN UNSATISFACTORY LIFT PERFORMANCE.

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TOOLS FOR INSTALLATION

Concrete hammer drill with 3/4" solid drill bit with carbide
tip to ANSI standard B94.12-1977.
11/16" open end wrench
3/4" open end wrench
3/4" socket with ratchet drive
1-1/16" deep socket
1-1/8" socket or wrench
Level (18" length)
Vise grips
Tape measure
Funnel
Hoist or forklift
10' step ladder

ALSO REQUIRED FOR INSTALLATION:

3 gallons of petroleum base (mineral) hydraulic oil, non
foaming, non detergent, approximately 10 wt, such as Mobil DTE
25 or Texaco HD 46.

INSTALLATION

IMPORTANT NOTICE REGARDING CEILING HEIGHT:

THIS IS AN OVERHEAD TYPE OF LIFT WHICH REQUIRES A CEILING HEIGHT OF AT LEAST 12'-0".

1. Unpack the lift. Remove the power unit box, the swing arms, and the overhead beam. Remove loose items from the inside of the bottom leg.
2. Remove the 1/2" bolts which hold the two legs together. Separate the legs. Unbolt the top plates from the legs and remove the uprights from inside the legs.
3. Refer to Figure 2, Asymmetrical Two Post Lift Assembly. The right hand upright has a tab with two holes mounted on its tube. Bolt the right hand upright to the right hand leg, which has four mounting holes for the power unit.
4. Bolt the left hand upright to the left hand leg.
5. Refer to Figure #1, Asymmetrical Two Post Lift Placement, to determine the location for the legs. Mark the center line of the work bay. Measure and mark the leg locations.
6. Stand the legs up and position them in their marked spots.
7. With the mainside leg in the desired position, drill the 6 anchor bolt holes FOR THE MAINSIDE LEG ONLY. Install the anchor bolts but do not tighten the nuts. SEE THE CONCRETE ANCHOR BOLT INSTRUCTION PAGE FOR DRILLING AND INSTALLATION INFORMATION.
8. The mainside leg must be checked for vertical alignment, both side to side and front to rear. Use a level to check this. Shim the legs as necessary to level the legs. Use the provided shims.

IMPORTANT: THE LEGS MUST BE SHIMMED SO THAT THE BASES ARE ADEQUATELY SUPPORTED. IF MORE THAN 1/2" OF SHIMMING IS REQUIRED, DO NOT USE THE SMALL SHIMS PROVIDED. FABRICATE LARGER SHIMS FROM STEEL FLAT 1/2" THICK BY 2", OR WIDER.

Shim next to and on both sides of the anchor bolts. Tighten the anchor bolt nuts. Re-check the leg and make any necessary adjustments. See the concrete anchor bolt instruction page for tightening information.

9. Bolt the overhead crossmember into position. Use the graded 1/2" bolts supplied with the lift as packing bracket attachment bolts.

10. Level the offside leg in both the side to side and front to rear directions. Drill the anchor bolt holes for the offside leg. Install the anchor bolts, recheck the level, and tighten the anchor bolt nuts. Recheck the leg and make any necessary adjustments.
 11. Raise the two carriages approximately two feet so that they are supported by the safety latches. The carriages must be at the same height, resting on the same safety latch rack tooth in each leg. Measure the distance from the leg base to the bottom of each carriage. The two measurements should be within $3/8$ " of each other. If one carriage is low, raise it to the safety latch tooth which makes the two carriage heights approximately the same.
 12. Stretch out the two cables on the floor. The short cable is installed to the front of the lift and the long to the rear. Refer to Figure #3, Asymmetrical Two Post Lift Cable Installation. Assemble a $3/4$ " NF nylon insert nut with a SAE washer onto one end of each cable. Start with the right hand leg with the long cable installation. Start at the left rear hole of the carriage top. Run the cable end up and over the top pulleys, down thru the right rear hole of the left hand leg carriage, around the left hand leg pulley, and up thru the front right hole. Secure the cable end with a $3/4$ SAE washer and a $3/4$ nylock nut. Do not tighten the cable at this time.
 13. Run the short cable by starting at the right rear hole of the right carriage top. Run the cable end down and around the right leg pulley, up thru the right front carriage hole, up and over the top pulleys, and down to the left carriage front hole. Secure the cable end with a $3/4$ SAE washer and a $3/4$ nylock nut. Do not tighten the cable at this time.
 14. The carriages should be resting on the same safety rack tooth and the cables should be slack. The safety latch pull rods will not pull down, indicating that the weight of each carriage is on its safety latch. Measure the height above the base plate for each carriage. The measurements should be within $3/8$ " of each other, as determined in step 11. Make a note of the two measurements.
- IMPORTANT:** The carriages must remain at the same height while the cross cables are being tightened. Overtightening of one cable could raise the carriage in the opposite leg and cause the carriage safety latches to be out of sync.
15. Take out the slack, but do not tighten, both cables by turning down the nuts on the left hand carriage. Use vise grips to hold the cable end while tightening the nut.

Do not damage the threads with the vise grips. Measure the offside carriage height, or check the safety latch pull rod for the carriage weight, to be sure that the carriage has not been raised.

16. Alternately tighten both cable nuts at the left hand carriage until the cables are tightened. Correct tension in the cables is indicated by approximately 1/4" deflection of the cable in the leg when pulled at its midpoint.
17. Measure the carriage heights to verify that the carriages are within 1/8" of the original measurements noted in step 11. If a carriage has been raised more than 1/8" by the cable tightening procedure, loosen the cables and repeat the procedure.
18. Refer to Figure #4, Limit Cable Installation, for a picture of the power unit installation. Insert the 5/16 x 1 hex head bolts from inside the leg into the four holes in the right hand leg back. Secure with 5/16 nuts on the outside. Mount the power unit onto the bolts and secure with 5/16 nylon insert nuts. Attach the switch box to the bracket above the power unit with the self-tapping screws provided. The screws also retain the plunger guide inside the switch box. Attach the cover to the box.
19. Refer to Figure #4, Limit Cable Installation. A 1/16" cable is strung between the two uprights and it is connected to a switch in the motor circuit. It will cut off the power if a vehicle is in danger of contacting the top crossmember. Attach the ring weldment to the right hand upright using two 5/16 x 1 bolts and nylon insert nuts. Loop and clamp one end of the cable to the ring on the left hand upright. Thread the cable thru the ring on the front side of the right upright, thru the ring on the ring weldment, and down to the switchbox. Clamp the cable end to the pull rod on the switchbox. The cable should not have any slack, but it should not be holding the plunger off the limit switch. Check and adjust if necessary. Put a dab of grease on the rings where the cable rubs the ring.
20. Install the tee hydraulic fitting on the power unit port on the front of the power unit. Install the elbow fitting in the port on the right side of the power unit. Install the short hydraulic hose between the tee fitting and the fitting at the base of the leg. The long hose is connected to the tee fitting, routed up thru the overhead beam, down the back of the left leg, thru the hole in the leg stiffener, to the fitting at the base. Secure the hoses to the uprights and legs with the tie-wraps and adhesive tie wrap mounting pads.

21. Remove the screw just below the top of the tank mounting flange. Using a funnel in the elbow fitting on the side of the power unit, fill the tank until oil appears at the screw hole. Use a petroleum based hydraulic oil, non foaming, non detergent, such as Mobil DTE 25 or Texaco HD 46. DO NOT OVERFILL THE TANK. The tank should hold approximately 11 quarts. Install the breather cap on the elbow.
22. Lubricate the four inside corners of both legs with heavy duty bearing grease.
23. Install the swing arms on the carriages with the swing arm pins. The short arms go in the rear or narrow part of the lift, and the ears curve to the outside. The long arms go to the front or wide part of the lift. Lubricate the swivel pad screws and install them onto the arms.
24. Install the arm locks between the carriages and the swing arms. See Figure 8.
25. Establish electrical hook-up to 220-single phase power. See Figure 6, Electrical Wiring Diagram.
26. DO NOT ATTEMPT TO LIFT A VEHICLE AT THIS TIME. Verify that the lifting chains are centered on the chain rollers attached to the cylinder rams. Raise the lift approximately three feet by using the push button switch on the pump motor. The safety latches of the two carriages should "click" together as the lift goes up. If they do not, the cables should be loosened and the above procedure for tightening them should be repeated. Lower the carriages onto the safety latches. Lower the lift by pushing the lowering control lever on the power unit. To lower the lift, first raise the carriages slightly. Pull down the two safety latch rods which are located at the bases of the carriages. Lower the lift. If there are any problems, check the Troubleshooting section of the manual.
27. DO NOT ATTEMPT TO LIFT A VEHICLE AT THIS TIME. Raise the lift to the top of its travel. Lower the carriages onto the safety latches. Raise the carriages, release the safeties, and Lower the lift to the ground. If there are any problems, check the Troubleshooting section.

IMPORTANT: DO NOT ATTEMPT TO LIFT A VEHICLE UNTIL:

1. The cables are adjusted correctly and the carriage heights are within 1/8" of the measurements noted in step 14.
2. The legs have been leveled and the anchor bolts have been tightened.

3. The leg corners have been lubricated with heavy duty bearing grease.
28. THE FIRST TIME A VEHICLE IS PLACED ON THE LIFT, RAISE IT NO HIGHER THAN THREE FEET. Lower the vehicle onto the safety latches. Lower the vehicle to the floor using the procedure described in #26. The lift should move up and down smoothly. If there are any problems, check the Troubleshooting section of this manual. Correct any problems before continuing.
29. Raise a vehicle to the full height and lower the carriages onto the safety latches. Lower the vehicle to the floor using the procedure described in #26. If there are any problems, check the Troubleshooting section of this manual.
30. After cycling the lift a few times with a vehicle on it, recheck the tightness of the anchor bolt nuts. Check the nuts for tightness every week for the first month and every month afterwards.
31. After cycling the lift a few times with a vehicle on it, recheck the tension of the cross cables by comparing the cables in the two legs for equal tension. Correct tension in the cables is indicated by approximately 1/4" deflection of the cables when pulled at their midpoints. The latches in the legs should click at the same time as the lift moves up. Should it be necessary to re-sync the carriages, first lower the carriages onto the same height safety latch tooth, then adjust the cables as described in their installation. The carriages should be kept in sync for proper operation of the safety equipment.

MAINTENANCE, EVERY MONTH:

1. Lubricate the four inside corners of the two legs with heavy duty bearing grease.
2. Lubricate exposed chain surfaces.
3. Check the hydraulic fluid level. If necessary add petroleum base (mineral) hydraulic oil, non foaming, non detergent, approximately 10 wt, such as Mobil DTE 25 or Texaco HD 46.
4. Check cable tension. See Installation Instructions for adjustment procedure if required. Steps 14 thru 17.
5. Check anchor bolt nut tightness. If the anchor bolts are excessively loose, check more often.

OPERATING TIPS:

1. Keep the four inside corners of the legs lubricated with heavy duty bearing grease.
2. Position vehicles so that the load is evenly balanced on the lift.
3. If the carriages get out of sync (do not click at the same time), readjust the cables as described in the installation instructions.
4. Check the anchor bolt tightness every three months.
5. Do not remove the transmission, suspension assemblies, or other heavy items from the front end of front wheel drive vehicles without supporting the rear of the vehicle. See Figure #5.

CONCRETE ANCHOR BOLT INSTRUCTIONS

DRILLING PROCEDURE

1. The anchor bolts must be installed at least 5" from any edge of the concrete or any seam.
2. Use a CARBIDE TIP, SOLID DRILL BIT the same diameter as the anchor, 3/4". TIP DIAMETER TO ANSI STANDARD B94.12-1977. (.775 to .787 INCHES DIAMETER)
3. Use a concrete hammer drill.
4. Do not use excessively worn bits or bits which have been incorrectly sharpened.
5. Keep the drill in a perpendicular line while drilling.
6. Let the drill do the work. Do not apply excessive pressure.
7. Lift the drill up and down to remove dust and reduce binding.
8. Drill the hole to a depth equal to the full length of the fastener, or completely thru the slab.
9. Blow out the dust from the hole. This increases the holding power.

INSTALLATION

1. Drill the hole equal to the length of the anchor bolt, or thru the slab.
2. Assemble the washer and nut onto the anchor bolt. Thread the nut approximately 4/5's of the way onto the anchor bolt. Using a hammer on the nut, CAREFULLY tap the anchor bolt into the concrete. Do not damage the nut or the threads.
3. Insert the bolt so that the washers rest against the base of the lift.
4. Tighten the nut, two to three turns on average concrete, 28-day cure. If the concrete is very hard, only one to two turns may be required.

TROUBLESHOOTING

1. PUMP MOTOR WILL NOT RUN.
 1. Check electrical supply breaker.
 2. Check for activation of the travel limit switch by a tall vehicle. Normally, lowering a vehicle onto the safety latches will deactivate the switch and allow the motor to run. If the plunger in the switchbox has lifted off the microswitch and the carriages are on the latches, the pin on the microswitch must be manually held in to run the motor.
 3. Check adjustment of the overhead cable and microswitch in the switchbox. If the cable holds the plunger off the microswitch, the circuit is broken.
 4. Check microswitch on motor control box.

2. THE VEHICLE DOES NOT MOVE UP AND DOWN SMOOTHLY.

IMPORTANT: IF A VEHICLE DOES NOT GO UP SMOOTHLY, DO NOT CONTINUE TO RAISE IT. LOWER THE VEHICLE AND CORRECT THE PROBLEM.

1. Adjust vehicle placement on the lift for equal weight distribution.
2. Check the four inside corners of the two legs for roughness. Any rust or burrs must be removed with 120 grit emery paper. The surfaces must be smooth.
3. Lubricate the leg corners with heavy duty bearing grease.
4. Check the legs for vertical alignment both side to side and front to rear. Use a level to check this. Shim the legs as necessary to level the legs. Use steel 3/4" washers or 2"x 1"x 1/16" or 1/8" steel flat strips. Shim next to and on both sides of the anchor bolts.

IMPORTANT: The legs must be shimmed so that the bases of the legs are adequately supported. If more than 1/2" of shimming is required, fabricate shims from steel flat which is 1/2" thick x 2" wide.

3. THE LIFT WILL NOT PICK UP ITS RATED LOAD.

1. Adjust vehicle placement on the lift for equal weight distribution.
2. Check the voltage of the electrical supply with the unit running under load. The voltage should be at least 208 volts. Voltage less than this will not allow the motor to develop full power.
3. The relief valve in the Barnes power unit is preset at the Barnes factory and should not be adjusted. Call the lift manufacturer for assistance.

4. THE LIFT WILL NOT LOWER.

- A. THE LIFT WILL NOT LOWER. The lift will move down approximately 1", then it stops. Check the safety latch pull rods. If one of the rods has moved back up, that carriage is resting on its safety latch.

Explanation: The pull rod is out of adjustment and is rubbing on the leg. When the carriage is lowered, the rod is pulled in, engaging the safety latch.

To lower lift:

1. Raise the carriages slightly to clear the safety latches.
 2. Pull the safety latches out. Use a rolled up shop rag inserted between the pull rod and the carriage to hold the rod out.
 3. Lower the lift.
 4. Adjust the rod to clear the leg. This can be accomplished by pushing down on the first bend of the rod just inside the leg. Bend the rod slightly to allow it to move freely inside the leg.
- B. THE LIFT WILL NOT LOWER. The vehicle is at the top of the lift's travel and one safety latch will not disengage to allow the lift to lower.

Explanation: The carriages are out of sync. The carriage which is 'low' cannot be raised enough to clear the latch-rack so that it can be disengaged. This is confirmed by the inability to pull down the latch rod on that carriage. Also the carriages do not 'click' at the same time as the lift is raised.

To lower lift:

1. Raise the lift to full height.
2. Push IN both safety pull rods to engage the safety latches.
3. Use a hydraulic jack and a length of pipe to raise the low carriage enough to disengage the safety latch. It may be necessary to loosen the cable nut on top of that carriage. Pull the latch rod on that carriage only.
4. Remove the jack and pipe.
5. Pull the latch rod on the other carriage to disengage its safety.
6. Lower the lift and remove the vehicle.
7. Readjust the cables as described in the installation part of the manual.

- C. THE LIFT WILL NOT LOWER. The vehicle may or may not be at the top of the lift's travel. Both safety latches are disenged but the lift will not lower.

Explanation: Roughness in the leg corners and/or lack of lubrication and/or unequal vehicle weight distribution have resulted in too much friction to lower the lift. This is an extreme case of #2 under Troubleshooting, where the lift does not move smoothly. If the vehicle did not go up smoothly this is probably the reason the lift will not lower.

To lower lift:

1. Confirm that the carriages are supported by the cylinders. Do this by briefly energizing the power unit. If the carriages move up slightly, they are supported by the cylinders. If the carriages are at the top of their travel, the cylinders will top out and the power unit will squeal as the relief valve opens.
2. Push IN the safety pull rods to insure that the latches are engaged.
3. Apply grease lubrication to leg corners beneath the carriages.

Continued on next page.

4. Determine which end of the lift is heavy due to vehicle position, and which end is light.

DO NOT CONTINUE UNLESS THE CARRIAGES ARE SUPPORTED BY THE CYLINDERS. SEE #1 IMMEDIATELY ABOVE.

5. Pull out the safety pull rods to disengage both safety latches.
6. Use one or more helpers to pull down on the light end of the vehicle on the lift.

DO NOT ALLOW PERSONNEL AROUND THE HEAVY END OF THE LOAD DURING THIS PROCEDURE.

7. With the load in a more balanced condition, lower the lift.

IF THE LIFT WILL NOT LOWER, DO NOT ALLOW THE CYLINDERS TO DROP MORE THAN 1/4". THE CARRIAGES MUST NOT BE ALLOWED TO DROP WITHOUT BEING SUPPORTED BY THE CYLINDERS. USE ADDITIONAL HELPERS TO PULL DOWN ON THE LIGHT END OF THE LOAD. REPEAT THE PROCEDURE.

5. CYLINDERS LEAK DOWN.

There may be some trash in the check valve which prevents the valve from seating. Hold open the lowering valve while energizing the motor switch. Allow the motor to run for 30 seconds to flush the valve. Repeat 3 or 4 times. If the cylinder continues to leak down, the valve may be faulty. Contact the manufacturer.

6. POWER UNIT SWITCH WILL NOT RELEASE.

Contact the lift manufacturer for a replacement switch.

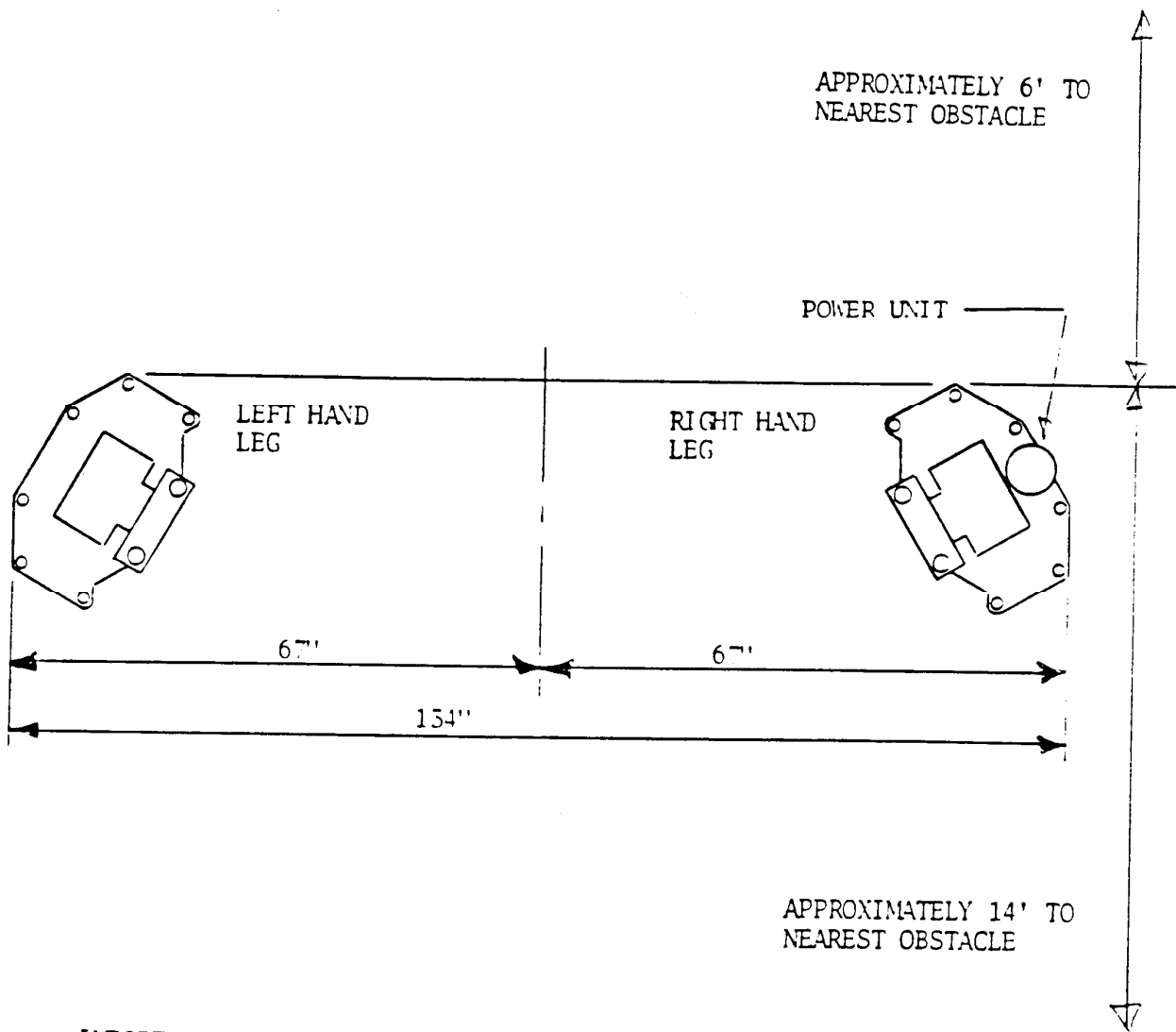
7. THE SWING ARMS MOVE WHEN THE LIFT IS RAISED.

Explanation: The lift's legs are not perpendicular, resulting in a changing distance between the legs as the vehicle moves up and down. The swing arms move to accommodate the change.

1. Check the plumbness of the legs. Move the bases to adjust and shim as required.

8. OIL LEAKS:

1. Power Unit. If the power unit leaks oil around the tank mounting flange, check the oil level in the tank at the fill screw hole just below the tank top. The oil level should be no higher than this hole.
2. Cylinder Top. If the cylinder leaks oil at the top or out the breather, the piston seal is leaking. Contact the factory for replacement.
3. Cylinder Bottom. If the cylinder leaks oil around the base, check the fittings on both the front and back of the cylinder for tightness. If the threads continue to leak, remove and clean the fitting, and reinstall with teflon tape.



IMPORTANT NOTICE:

THE FLOOR MUST BE 4" MINIMUM THICKNESS CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI, REINFORCED WITH WITH STEEL MESH OR BAR.

FIGURE #1

ASYMMETRICAL TWO POST LIFT PLACEMENT

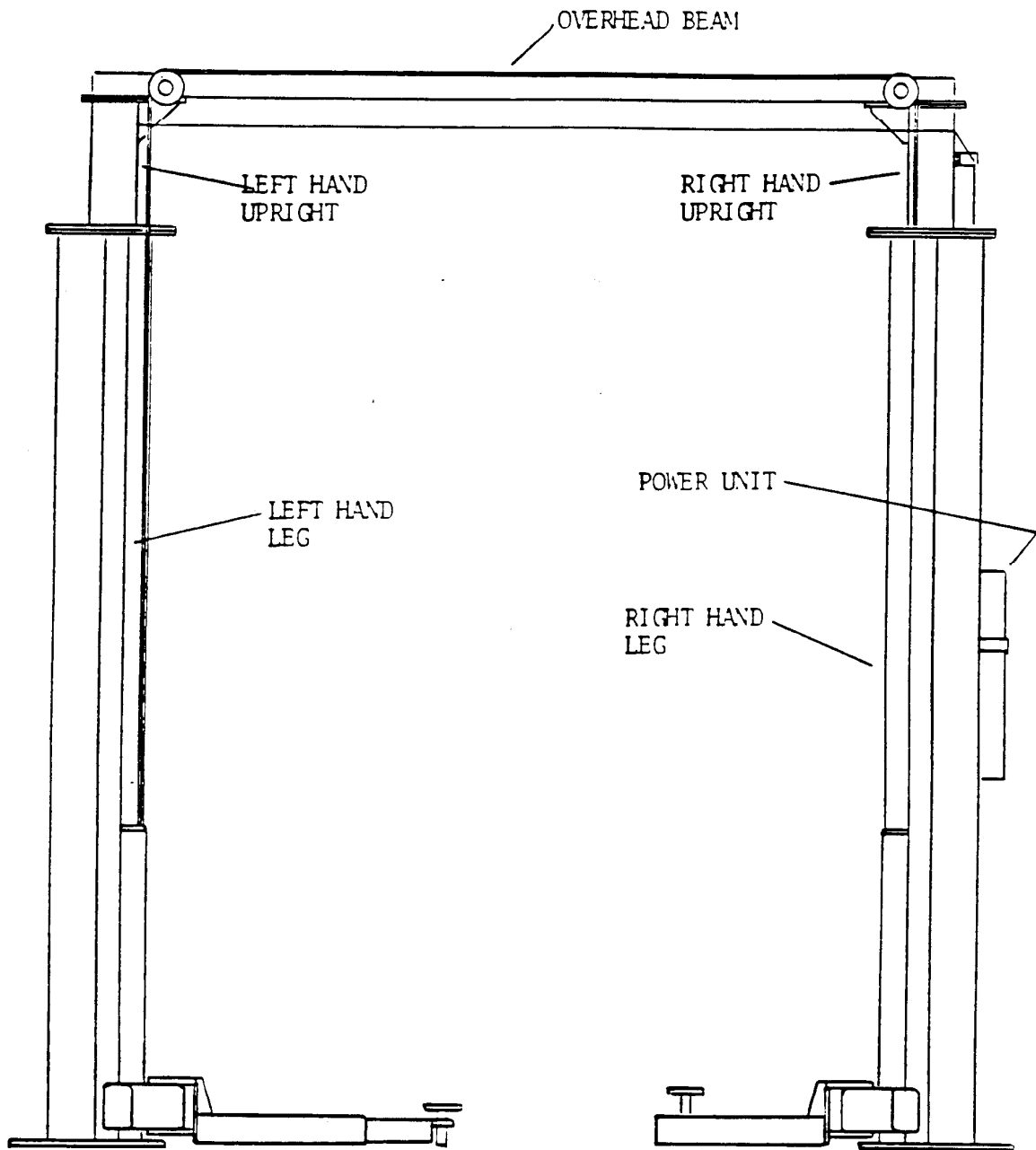


FIGURE #2

ASYMMETRICAL TWO POST LIFT ASSEMBLY

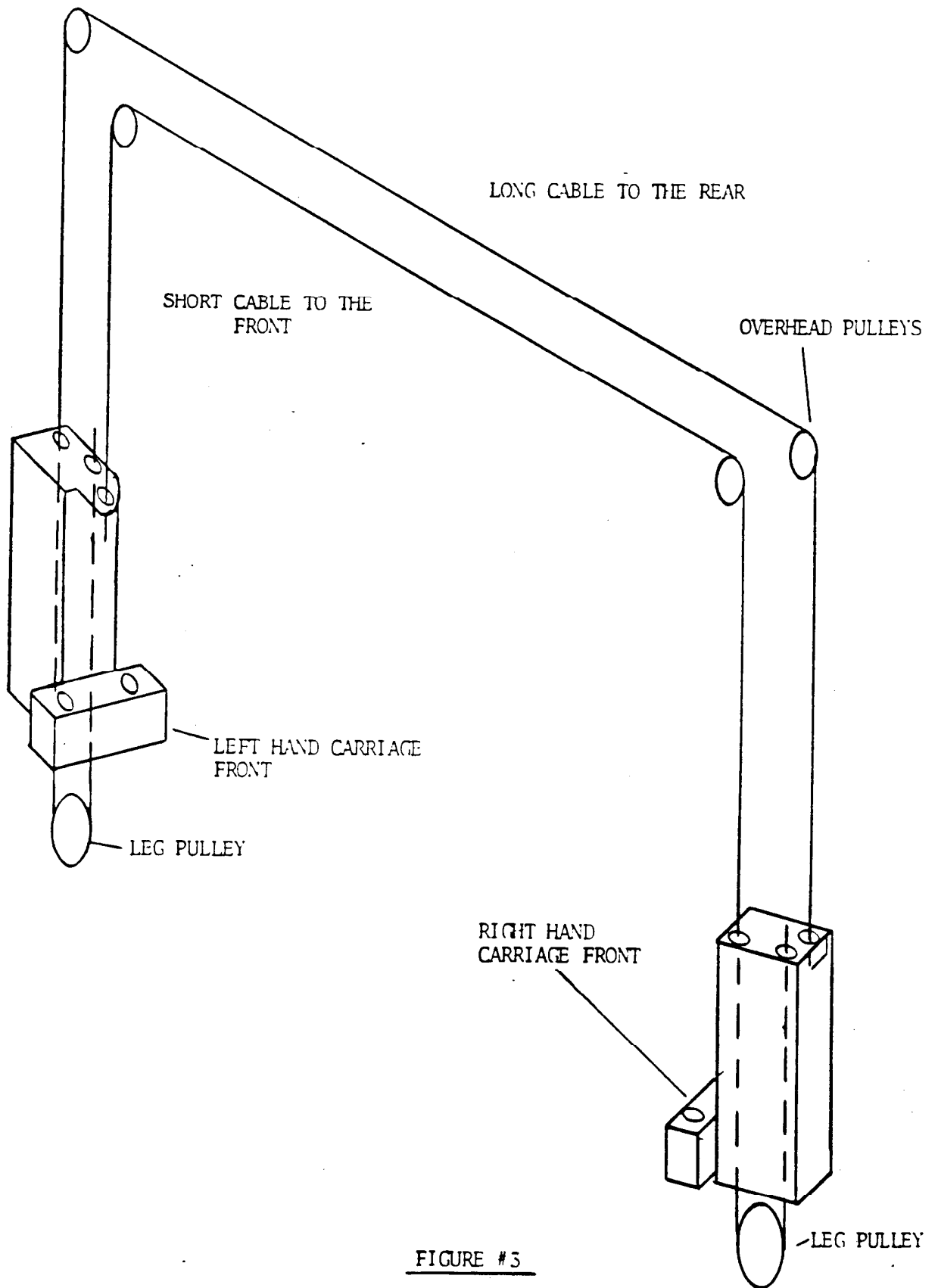


FIGURE #5

ASYMMETRICAL TWO POST CABLE INSTALLATION

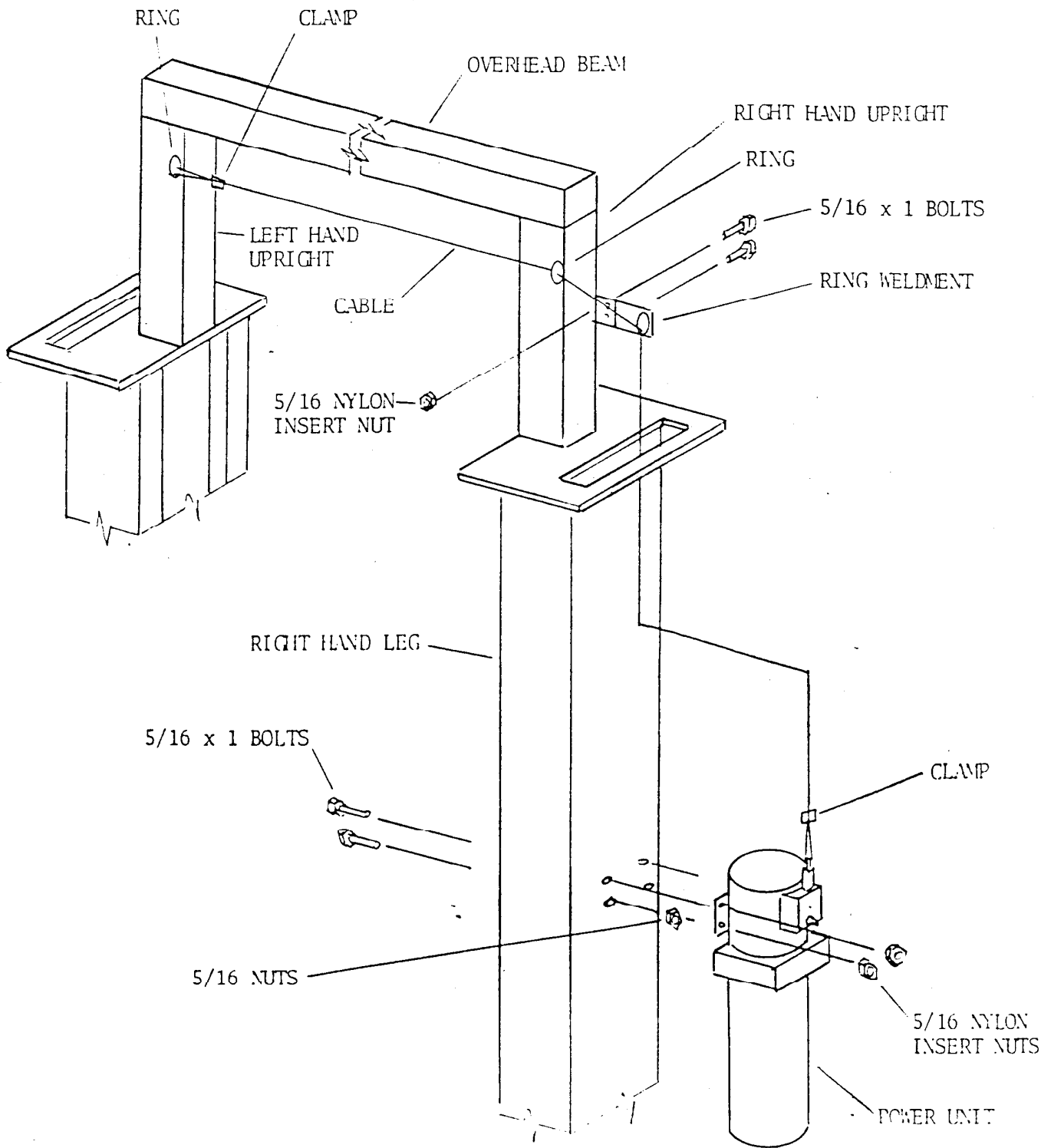


FIGURE #4

ASYMMETRICAL TWO POST LIMIT CABLE INSTALLATION

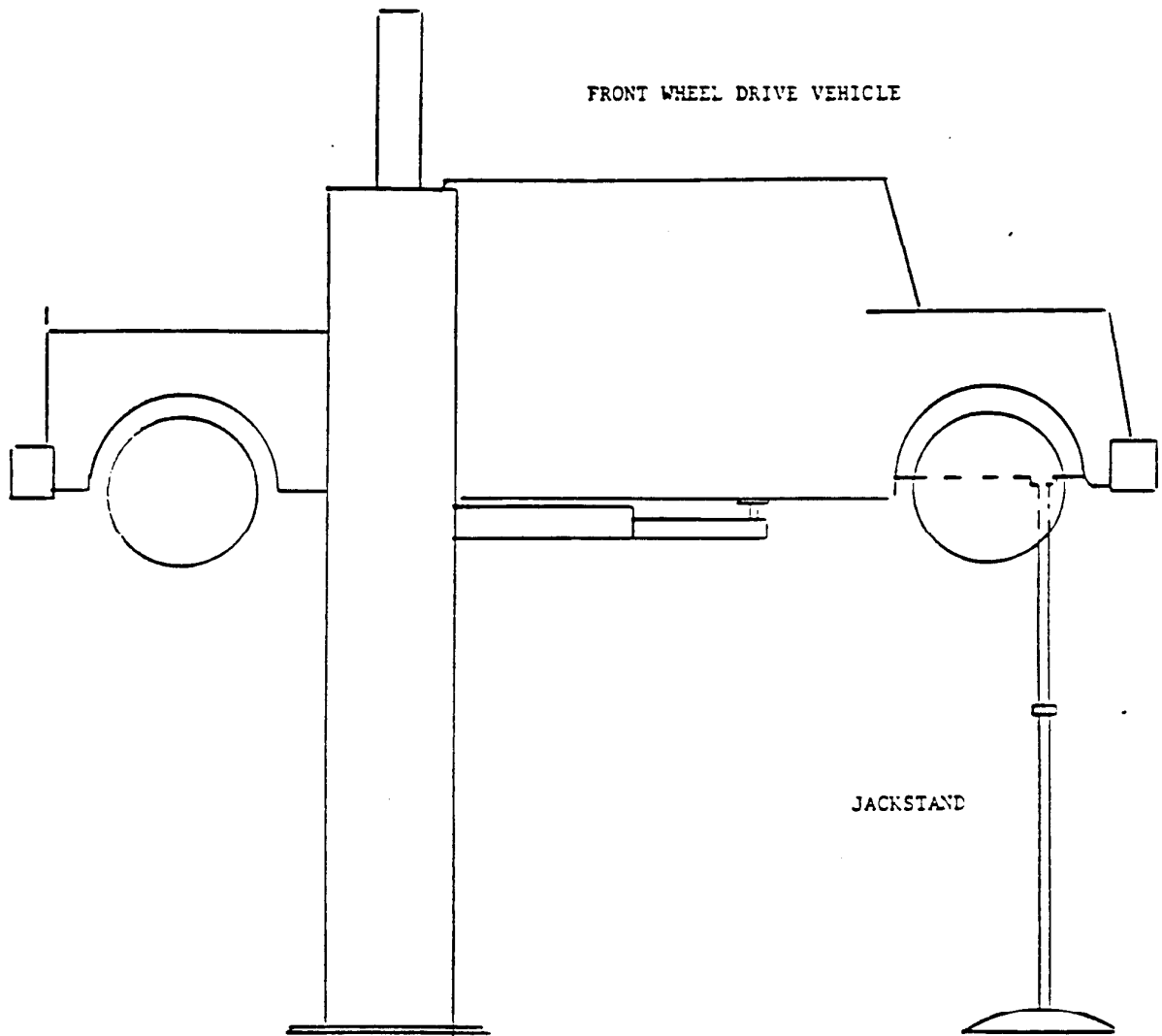
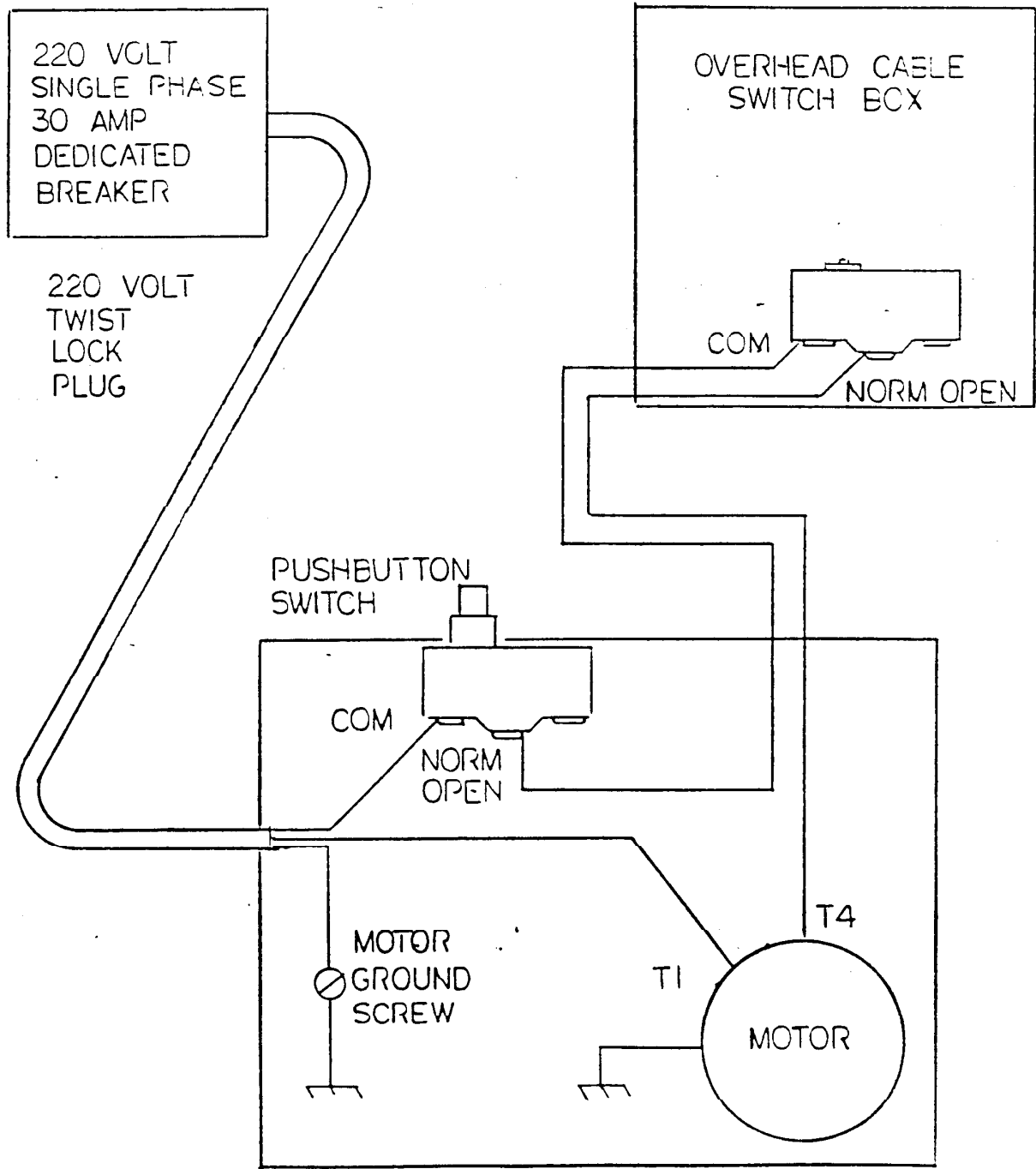


FIGURE #5
SUPPORT THE REAR OF A FRONT WHEEL DRIVE VEHICLE BEFORE
REMOVING HEAVY ASSEMBLIES FROM THE FRONT OF THE VEHICLE



WIRING DIAGRAM: FENNER POWER UNIT

FIGURE 6: MODEL 8000
ELECT. WIRING DIAGRAM

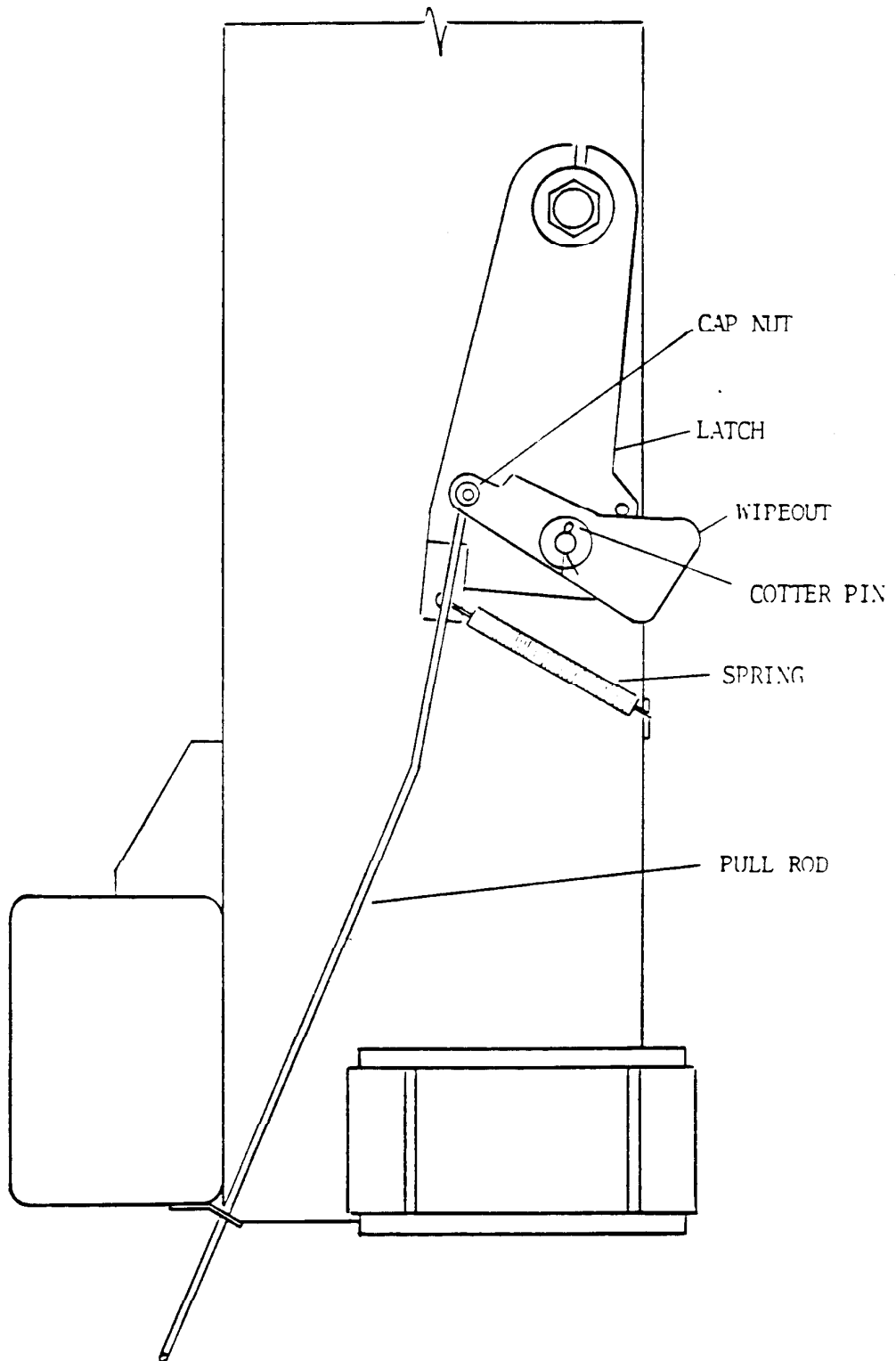


FIGURE #7

ASYMMETRICAL LIFT LATCH ASSEMBLY

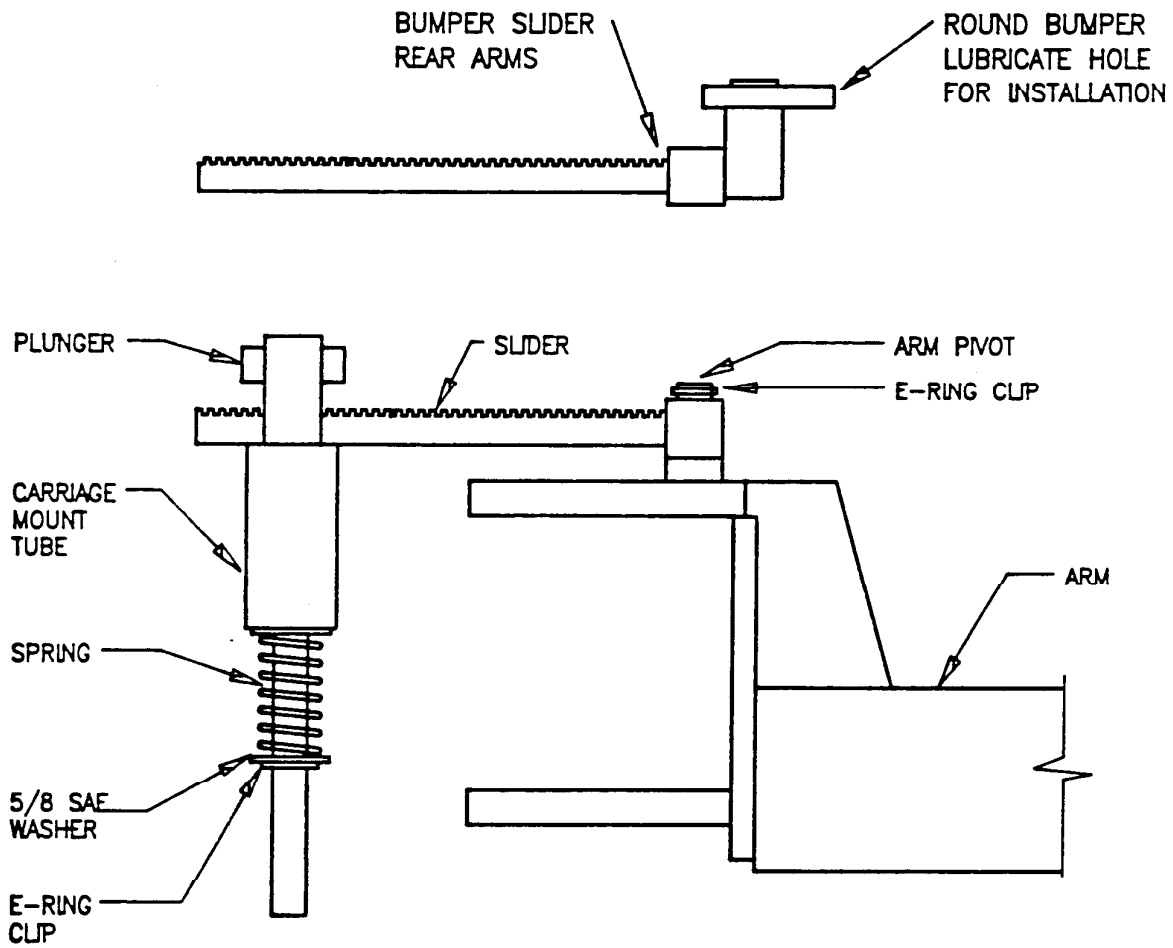


FIGURE 8

ARM LOCK ASSEMBLY

8000 TWO POST ASYMMETRIC LIFT ASSEMBLY PARTS LIST (3/96)

ITEM	PART NO.	NAME/DESCRIPTION	RQD.
1	994004	Bolt Box	1
2	037102	Mainside Leg Weldment	1
3	037202	Offside Leg Weldment	1
4	037500	Mainside Carriage Assembly	1
5	037501	Offside Carriage Assembly	1
6	070525	Safety Latch	2
7	070528	Wipeout	2
8	070530	Pivot, latch	2
9	991077	Cotter pin, 3/32 x 1-1/2	2
10	913682	Bolt, latch, 3/4 x 2 NC	2
11	913600	Nut, latch, 3/4 nyl insert, NC	2
12	913605	Washer, latch, 3/4 flat	4
13	912005	Washer, wipeout	4
14	090541	Pull rod	2
15	991071	Spring, latch	2
16	991070	Cap nut, 3/16	2
17	992613	644 Chain	2
18	911761	5/16 x 1 Shoulder Bolt	4
19	911403	1/4 NC Nylon Insert Nut	4
20	037604	Short Swing Arm Tube, Right Hand	1
21	037605	Short Swing Arm Tube, Left Hand	1
22	133603	Short Slider Weldment	2
23	037606	Long Swing Arm Tube Weldment	2
24	112608	Long Slider Weldment	2
25	037801	Overhead Wldmnt	1
26	057803	Mainside Upright Wldmnt	1
27	057802	Offside Upright Wldmnt	1
28	991030	1-3/8 Snap Ring	6
29	995020	4" Sheave	4
30	995030	5" Sheave	2
31	991211	Bushing, sheaves	6
32	992301	Cylinder, 2-1/2 x 36, with Plug	2
33	995060	Yoke Roller	2
34	991224	Glycodur Bearing	2
35	051804	Bearing Shaft Weldment	2
36	991223	1-1/4" Retaining Ring, Shaft	2
37	992404	Fitting, 3/8 FP to 3/8 MJIC	2
38	992405	Pipe Nipple, 6"	2
39	992459	Plastic Caps for Fittings	2
40	995120	Rub Block	16
41	992017	Power Unit, AB-1135	1
42	912701	1/2 x 2-1/2 NC Bolt	19
43	912601	1/2 NC Nut	19
44	912605	1/2 Flat Washer	38
45	037816	Upper Packing Brkt, Overhead	1
46	037817	Lower Packing Brkt, Overhead	1
47	912631	1/2 x 3/4 NC Bolt, S/A Assy	4
48	912607	1/2 Lock Washer, S/A Assy	4

BOLT BOX PARTS LIST, PN 994004 (2/94)

1	991005	Manual	1
2	992662	Cable, 3/8 dia x 33', 2-1/2"	1
3	992663	Cable, 3/8 dia x 32', 4-1/2"	1
4	992609	Cable, Limit Switch, 1/16 cable	1
5	995430	Swing Arm Pin, 8"	4
6	991124	Shims	16
7	037804	Upright Limit Cable Ring Wldmnt	1
8	911701	5/16 NC nut, power unit mnting	4
9	911703	5/16 Nyl ins nut, NC "	6
10	911741	5/16 x 1 NC bolt, 4 P/U, 2 ring	6
11	913604	3/4 Nyl Insert Nut NF, cable mnt	4
12	913606	3/4 SAE Washer, "	4
13	913828	3/4 x 5-1/2 anchor bolt	12
	037760	Arm Lock Assy, Asym	4
14	037703	Long Plunger	4
15	037704	Long Slider	2
16	070707	Long Bumper Slider	2
17	991216	Spring, 13/16 dia x 3	4
18	991209	E-Clip	8
19	913206	5/8 SAE Washer	4
20	991269	Rubber Bumper	2
21	992101	3/8 Hose x 68, High Pressure	1
22	992130	3/8 Hose x 28'-2", " "	1
23	992407	3/8 O-ring to 3/8 MJIC Tee	1
24	991084	1/16 Cable Clamp, Alum Squeeze	1
25	991244	1/8 Cable Clamp, Threaded	1
26	106605	Pad Wldmnt, Stack Type	4
27	995550	6" Pad Extension	4
28	995560	3" Pad Extension	4
29	996220	1-1/2" Pad Extension	4
30	991234	Rubber Pad Insert	4
31	991243	1/4 x 1 Elevator Bolt	8
32	911401	1/4 NC Nut	8
33	911405	1/4 Flat Washer	8