

GR-50

50,000 LB CAPACITY TRUCK LIFT INSTALLATION AND OWNER'S MANUAL

DATE OF INSTALLATION _____

SERIAL NUMBER _____

WHEELBASE _____

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50K TRUCK LIFT

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IMPORTANT INSTRUCTIONS:

1. Read this manual thoroughly before installing, operating, or maintaining this lift.
2. Following the installation of this lift, this manual is to be delivered to the owner / user / employer of the lift.
3. The floor on which the lift is to be installed must be 5 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.
4. The lift requires 230/460 Volt, 60 HZ, three phase, 30 amp AC electrical service.
5. The lift requires 15 gallons of hydraulic oil, ISO 32, such as Mobil DTE 24, Texaco HD 32.
6. The lift is designed for indoor use. Lifts placed outdoors must have the electrical motor and components, and the hydraulic control valves, protected from moisture and the elements.
7. Lifts placed outdoors should not be used unless the components are protected from moisture and the elements, and the conditions are dry. Do not operate the lift if moisture is present.
8. Read the anchor bolt instruction page before drilling and installing the anchor bolts.
9. Follow the procedure to reduce the amount of air trapped in the cylinders during installation and the initial powering of the cylinders. Failure to do so can result in unsatisfactory lift performance.
10. Do not raise a vehicle on the lift unit the lift has been correctly installed and adjusted as described in this manual.
11. Do not exceed the rated capacity of the lift. The GR 50 is rated at 50,000 LB capacity.
12. Never use this lift to raise just one end of any vehicle.
13. The troubleshooting and maintenance procedures described in this manual can be done by the lift's owner / employer. Any other procedure should be done only by trained lift service personnel: These include cylinder replacement, leg and cross rail replacement.
14. Replace worn or broken parts only with genuine Gemini Auto Lift parts or their equivalent.

SAVE THESE INSTRUCTIONS

TRUCK LIFT OPERATION

1. Drive the vehicle onto lift. Set the vehicle's parking brake. Chock the vehicle's wheels.
2. Start the pump motor. The right valve handle controls the right end of the lift. The left valve handle controls the left end of the lift. Pull the two valve handles back to raise the lift. Modulate the two valves to keep the tracks level as the lift moves up.

Do not allow the tracks to get more than 3" out of level.

Do not activate the safety latch release mechanism. Allow the latches to remain engaged in the leg racks as the lift moves up.

Remain clear of the lift while the tracks are in motion.

3. When the vehicle has reached the desired height, lower the lift so that each of the four latches are fully seated in their racks. The lift is lowered by pushing forward on the two control valves.

Remain clear of the lift unless the latches are fully engaged.

Turn off the pump motor.

4. To lower the lift, first start the pump motor. Raise the lift off the latches using the two control valves. Depress the foot air valve to disengage the latches. Push the two valve handles forward to lower the lift. Modulate the two valves to keep the tracks level as the lift moves down.

Remain clear of the lift while the tracks are in motion.

Turn off the pump motor. Remove wheel chocks. Remove vehicle from the tracks.

WARNING

1. Do not use this lift unless you know the proper operation of the lift and its safety devices, and the hazards involved.
2. Do not walk under the lift unless it is seated on its safety latches. Remain clear of the lift when the safety latches are released.
3. Any hydraulic oil leakage, unusual noise, or excessive wear must be fixed before using lift.
4. It is the user's responsibility that the lift is maintained and used in a safe manner and that unauthorized persons are kept away from the lift.
5. Never use this lift to raise just one end of any vehicle.

MAINTENANCE, EVERY MONTH

1. Check hydraulic fluid level. The oil level should be between 3 and 5 inches from the top of the tank. If necessary add oil cross referenced to Mobil DTE 24 or Texaco HD 32. These are petroleum based hydraulic oils, non-foaming, non-detergent, ISO 32. Do not overfill.
2. Check the latch operation at each leg. The foot operated air valve should move each latch out from its rack on the leg. The spring return in the air cylinders should move each latch back in to the leg rack when the foot air valve is released. Check for correct operation of these mechanisms. Check for leaks in the air lines between the valve and the tracks and through the tracks to the latch cylinders.
3. Check for oil leakage, unusual noises, and excessive wear. Repair any problems before returning the lift to service.
4. Check anchor bolt tightness. Torque anchor nuts to 60 to 70 foot-pounds.
5. The troubleshooting and maintenance procedures described in this manual can be done by the lift's owner/employer. Any other procedure should only be done by trained lift service personnel.
6. Replace worn or broken parts only with genuine Gemini Auto Lift parts or their equivalent.

IMPORTANT SAFETY INSTRUCTIONS

1. Read all instructions.
2. Care must be taken as burns can occur from touching hot parts.
3. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
4. Adequate ventilation should be provided when working on internal combustion engines.
5. Keep hair, loose clothing, fingers, and all parts of the body away from moving parts.
6. To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
7. Use only as described in this manual. Use only manufacturer's recommended attachments.
8. Always wear safety glasses. Every day eyeglasses only have impact resistant lenses. They are not safety glasses.

SAVE THESE INSTRUCTIONS

50K TRUCK LIFT INSTALLATION MANUAL

NOTE: PREVENT MAJOR PROBLEMS. READ THIS MANUAL BEFORE INSTALLING LIFT.

1. Determine the Wheelbase of the tracks you received by measuring the length of the I Beam of the tracks. Refer to the measurements table in Figure 2. Determine the placement of lift components in the bay by referring to Figures 1, 2, and 3.
2. Refer to the Chalk Line Layout of Figure 4. Lay a chalk line to mark the centerline of the bay. Make sure that this centerline is square with the bay. Using the Leg Base Plate measurements in the table for your lift's wheelbase, lay a second chalk line parallel to this centerline and located at $\frac{1}{2}$ the base plate width from the centerline. This is line 1 – 2. Lay a third parallel chalk line, starting at the second line and moving over the full Base Plate Width. This is line 3 – 4.
3. Refer to Figure 2, Top View, Truck Lift. Determine where along the first outside line, line 1 – 2, the leg base plates need to be positioned. Using the correct Base Plate Length measurement for your lift, mark points A and B.
4. Using the correct outside diagonal measurement for your lift, start at point A and mark point D. Next, start at point B and mark point C. Lay chalk lines to mark lines A – C and B – D. This rectangle drawn on the floor is the Leg Base Plate Rectangle shown in Fig. 4.
5. Position the mainside legs as shown in Figures 2 and 4. Do Not drill the floor anchor holes at this time.
6. Refer to Figures 2 and 5. Check the location of the rings on the crossrail sides. These rings must be placed to the inside of the lift as shown in Figure 2. Position the two crossrails two feet outside their positions in the mainside legs, but lined up with the opening in the legs. Using a pull tape, install the crossrail chains as indicated in Figure 5. Attach the crossrail chains to the anchor blocks in the mainside legs using the $\frac{3}{8}$ x 4-1/2 Grade 5 bolts and nylon insert nuts provided.
7. Insert the crossrails into the mainside legs. Temporarily install a 90 degree fitting in the cylinder top ports. Using compressed air applied at the top cylinder fittings, CAREFULLY extend the cylinder rams down to the crossrails. Attached the cylinders to the crossrails using the 1-1/2 x 6-3/4 cylinder pins and secure the pins with snap rings.
8. Position the offside legs as shown in Figures 2 and 4. Attach the crossrail chains to the tops of the offside legs and secure with the washers and nylon insert nuts provided.
9. Using a 3' carpenter's level, check the plumbness of all 4 legs both side to side and front to rear. Shim as necessary. Do Not drill any floor anchor holes at this time
10. Install the tracks with the jack rails to the inside of the lift as shown in Figure 2. Leave 4' between the crossrails.

11. Refer to Figures 2 and 6. Position the power unit and the valve stand as shown. Do Not drill any floor anchor holes at this time. Install the valve body and hoses as shown. Note the "P" port on the power unit is connected to the valve body relief side, left, and the "T" port on the power unit is connected to the right side of the valve body. The right valve is connected to the right cylinder at the rod end port using a 3/8 x 81" hose. The left valve is connected to a 3/8 x 81" hose, which is joined to the steel overhead line, which is joined to a 3/8 x 18" hose, which is joined to the left cylinder at the rod end port.
12. Refer to Figure 3. Attach the two right angle steel oil lines to the mainside leg uprights using the clamps and hardware provided. Assemble the overhead line using the JIC couplers provided. It may be necessary to cut and flare the tubing lengths for correct installation. These are 1/2" OD x 3/8" ID stainless steel hydraulic tubes. Use only the tubes provided or equivalent.

Note: It will be necessary to support the overhead hydraulic line by fabricating and installing hanging brackets from the ceiling.
13. Attach the hydraulic hoses to the steel lines using the 3/8 to 1/2 JIC adapters provided. Attach the hydraulic hoses to the 90 degree fittings installed at the rod ends of the cylinders. Leave the hose connections loose at the cylinders to allow for venting the air from the lines at the initial start up.
14. Wire the motor to 3 phase electrical service. The motor can be wired for either 230 or 460 volt 3 phase service. The power disconnect and motor starter can be mounted to the leg near the power unit.
15. Fill the reservoir with 15 gallons of non-foaming, non-detergent, hydraulic oil, ISO 32 weight. Mobil DTE 24 and Texaco HD 32 are excellent oils for this application.
16. Loosen the right cylinder hose at the port fitting. Using the right valve, run oil to the cylinder until oil appears at the fitting. Tighten the hose. Repeat for the left cylinder hose to remove as much air as possible from the line.
17. Raise the tracks approximately one foot. Set the carpenter's level on the right crossrail. Adjust the nuts at the offside chain studs to level the crossrail. Repeat for the left crossrail.
18. Raise the tracks until the latches are just below the first stop on the leg fronts. Pull the valves back to raise the two ends of the lift. The two valves are modulated by the operator to make the lift rise in a level manner. Check for hydraulic leaks and satisfactory operation. Lower the lift to the floor.
19. Refer to Figures 2, 6, and 7 for the air operated latch mechanism. Install the components as shown, raising the tracks for underside access. Do not walk under the lift unless all four latches are engaged in their stops on the leg fronts. Lower the lift slightly to fully engage the latches in their stops. It is recommended that the air supply be filtered and lubricated to insure good operation and long life for the components.

20. To lower the lift, the lift must first be raised so that the latches clear their stops. The foot pedal is depressed to retract the latches. The valves are pushed forward to lower the lift. Cycle the lift several times to remove any trapped air, verify satisfactory operation of the hydraulic and air systems, and to check for leaks.
21. Refer to Figures 1, 2, 3, and 8. Position the drive on ramps and attach the front and ramp stops. Cycle the lift to check the operation of the automatic ramp stops. The stops will flip up as the lift clears the drive on ramps going up, and the stops will drop down when they contact the ramps on the down cycle.
22. Recheck the plumbness of the four legs and the base plate locations with respect to the floor layout shown in Figure 4. Cycle the lift up and down, checking the clearances inside the legs and the operation of the 4 latches. Make any necessary adjustments.
23. After verifying that the lift is functioning correctly and that the locations of the components are correct, drill and install the leg floor anchors, the drive on ramp anchors, and the valve stand anchors. Refer to the Anchor Bolt Installation Instructions.
24. The first time a vehicle is placed on the lift, raise it no higher than the first latch stop. Lower the lift onto the latch stop. Raise the lift a few inches, push on the air latch release pedal, and lower the lift to the ground. Correct any problems before continuing.
25. Raise the vehicle to full height and lower the lift onto the top latch stop. Repeat the lowering procedure and lower the lift to the ground. Correct any problems before continuing.
26. Cycle the lift a few times with a vehicle on it. Recheck the plumbness and the anchor bolt tightness.

CONCRETE ANCHOR BOLT INSTALLATION INSTRUCTIONS

Drilling and Installation 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, $\frac{3}{4}$ " diameter. Tip diameter to ANSI Standard B95,12-1977 (.775" to .787").
3. Use a concrete hammer drill only.
4. Do Not use excessively worn bits or bits that have been incorrectly sharpened.
5. Keep the drill perpendicular 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 completely through the slab.
9. Blow the dust from the hole. This increases the holding power.
10. Assemble the washer and nut onto the anchor bolt. Thread the nut approximately $\frac{4}{5}$'s of the way onto the anchor bolt so that 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 or the threads.
11. Tap the nut and bolt so that the washer rests against the base of the leg.
12. Tighten the nut two or three turns using hand tools. Do Not use an impact wrench.

TROUBLESHOOTING

1. Pump motor will not run.

Check the electrical supply breaker.

Check the motor start switch.

2. Lift does not move up and down smoothly.

Bleed air lines. See installation instructions, item 11.

Check plumbness of legs with level, re-shim as required.

Check leg foot location and squareness of installation. See Figure 4.

3. Lift does not pick up rated load.

Adjust vehicle position on tracks for a more balanced loading.

Check vehicle weight.

Check relief valve setting at power unit and relief valve setting at valve body.

Raise lift to full height to determine pressure setting. Cylinders will stop and maximum pressure will be indicated on the gage. Loosen lock nut, screw in adjustment to increase pressure. Set pressure at 2500 PSI for both relief valves. See Figure 6.

Check the electrical supply voltage with the unit running under load. The voltage should be at least 208/420 volts. Voltage less than this will not allow the motor to develop full power.

4. Lift will not lower.

Review the Operation Instructions and Figure 6. The lift must first be raised off the safety latches before they can be disengaged.

Check the safety latch operation at each leg. Activation of the foot air valve should cause all the air cylinders to pull their latches out of their leg racks. Check for sufficient air pressure at each cylinder. Check for air leaks and correct routing of the air lines. Figure 7.

Check for correct mechanical operation of each latch. The latch should pivot freely. The spring in the cylinder should move the latch smartly back into its leg rack.

50K TRUCK LIFT PARTS LIST

Item	Part Number	Name	Description	Req'd
1	F5001 101	Mainside Leg Wldmnt		2
1.1		Cylinder, 5 x 60, 1.75 Rod		2
1.2		Cylinder Mount Pin	1-1/2 Dia x 5 long	2
1.3	F5001 441	Cylinder Connector		2
1.4	F5001 442	Cylinder Connector Pin	1-1/2 Dia x 6-3/4	2
1.5		1-1/2 Dia Snap Ring		16
1.6		1/4 x 2 Roll Pin		6
1.7		Breather, Cylinder	3/8 NPT	2
1.8		Fitting, Cylinder	3/8 NPT to 3/8 JIC	2
1.9		Anchor Bolt	3/4 Dia x 5-1/2	38
2	F5001 201	Offside Leg Wldmnt		2
3	F5001 440	Crossrail Chain	BL 834 x 237 Pitch	4
3.1		Master Link	BL 834	4
3.2		834 Chain Anchor Stud		4
3.3		1-1/8 Dia NF Nut		4
3.4		1-1/8 Flat Washer		4
3.5	F5001 131	Bolt, Crossrail chain mount	3/8 Dia Special x 4-1/2	2
3.6		3/8 NC Nut, Nyl Ins.		2
4	F5001 401	Crossrail Wldmnt		2
4.1	F5001 402	Latch Wldmnt		4
4.2	F5001 443	Latch Pin	1-1/2 Dia x 8	4
4.3		4" Chain Sheave		8
4.4		3/4 Dia x 7 NF Gr 8 Bolt		4
4.5		3/4 Dia NF Nyl Ins Jam Nut		4
4.6		Air Cylinder, 1-1/2 x 3		4
4.7		Clevis, Air Cylinder		4
4.8		3/8 x 1-3/4 NC Bolt		4
4.9		3/8 NC Nyl Ins Nut		4
4.10		Cylinder Fitting, Male 90 Swivel	1/8 Pipe x 3/8 Tube	4
5	F5001 601	20' Track Wldmnt		2
5.1	F5001 501	25' Track Wldmnt		2
5.2	F5001 502	30' Track Wldmnt		2
5.3	F5001 504	72" Ramp Wldmnt		2
5.4	F5001 505	Ramp Stop Wldmnt		2
5.5	F5001 506	Ramp Stop Mount Wldmnt		2
5.6	F5001 552	Pin, Ramp Stop	3/4 Dia x 12-7/8	2
5.7	F5001 521	Front Track Stop	6 x 6 x 3/8 Angle x 24	2
5.8		3/4 Dia x 2-1/2 NC Bolt		8
5.9		3/4 Dia NC Nut, Nyl Ins.		8
5.10		3/4 SAE Washer		16

50K TRUCK LIFT PARTS LIST, cont.

Item	Part Number	Name	Description	Req'd
7		Power Unit	10 HP/5 GPM/20 Gal	1
7.1	F5001 701	Valve Stand Wldmnt		1
7.2		Valve Assy		2
7.3		Adapter, power unit hose	½ MNPT to ½ MJIC	2
7.4		Adapter, power unit hose	MSAE 10 to ½ MJIC	2
7.5		Adapter, cylinder hose	MSAE 8 to 3/8 MJIC	2
7.6		Hose, power unit to valve	½ x 30", ½ FJIC swivel ends	1
7.61		Hose, power unit to valve	½ x 40", ½ FJIC swivel ends	1
7.7		Hose, power unit to leg	3/8 x 81, 3/8 FJIC swivel ends	2
7.8		Hose, leg to cylinder	3/8 x 18, 3/8 FJIC swivel ends	1
7.9		Adapter, hose to hard line	3/8 MJIC to ½ MJIC	2
7.10		Hard line end section w/90	½ OD x 3/8 ID Stainless 1' x 5'	2
7.11		Hard line straight for 20' tracks	½ OD x 3/8 ID stainless 18'-4"	1
7.12		Coupling	½ MJIC to ½ MJIC	4
7.13		Clamp, hard line	½ OD	4
7.14		3/16 x 1 screw		4
7.15		3/16 nut		4
7.16		5/16 x 1 NC bolt	valve mount	2
8.1		Foot pedal air valve		1
8.2		¼-20 screw x 1-1/2	air valve mount	3
8.3		Male elbow swivel 90	W169PL -6-2	4
8.4		Male run tee swivel	W171PL-6-6	3
8.5		Male connector	W68 PL-6-6	4
8.7		Coiled hose 3/8 x 12'		1
8.8		3/8 dia polyethylene tube		100'