

M1-4.5 & M1-6.5

SINGLE POST LIFT

INSTALLATION & OWNER'S MANUAL

DATE OF INSTALLATION _____

SERIAL NUMBER _____

Carefully remove the banding, stretch film or pallet wrap and other packing materials. CAUTION! Be careful when cutting steel banding material as items may become loose and fall causing damage or injury. Inspect the lift and all components for any signs of concealed shipment damage or shortages. Remember to report any shipping damage to the carrier and make a notation on the delivery receipt. When this equipment is shipped, responsibility passes to the purchaser upon receipt from the carrier. Consequently, claims for the material damaged in shipment must be made by the purchaser with the transportation company at the time shipment is received.

Check the voltage, phase and proper amperage requirements for the motor shown on the motor plate. **Wiring should be performed by a certified electrician only.** Danger! The power unit used on this lift contains high voltage. Disconnect power at the before performing any service or repairs. Starting Capacitors can store charge. Guard against electric shock. This electric motor and controls must be grounded while to protect the operator from electric shock. Never connect the green wire to a live terminal. This is for ground use only. Read this manual carefully and completely until you understand all safety warnings & procedures before attempting to install, maintain or operate this lift. **We recommend that professional lift personnel install and maintain this equipment.**

IMPORTANT INSTRUCTIONS

1. Following the installation of this lift, this manual is to be delivered to the owner / user / employer of the lift.
2. ALWAYS make sure the lift is on a latch before going under the lift. NEVER allow anyone to go under the lift when raising or lowering. **DANGER WATCH OUT** - double check the latch before working under the carriage. **Before installation, before any repairs, maintenance, before moving the post or standing the post the first time - Make sure carriage is not binding on chain and the chain is not kinked. This lift is built from very heavy metal parts that can shift or move suddenly with tremendous force. The force can crush or dismember body parts. Use a fork truck and plenty of help when moving large pieces. Use proper lifting techniques when lifting lighter individual pieces. It is very important to wear work gloves to protect your valuable hands, steel toe boots to protect your valuable feet, and safety glasses to protect your valuable eyes.**
3. The lift is designed for concrete pad installation. The minimum concrete pad design must be 4 inch minimum thickness concrete with a minimum compressive strength of 3000 PSI, and reinforced with steel bar. New concrete must be cure at least 28 days. The floor should be test drilled to verify minimum floor thickness and to confirm building drawings. A core sample should be obtained and tested to verify minimum floor compressive strength. When investigating floor properties, consult building drawings to verify proper floor reinforcement. NOTE: When using the standard supplied 3/4" x 5 1/2" long anchors, if the top of the anchor exceeds 2 1/4" above the floor grade, you DO NOT have enough embedment. A level surface is recommended. The floor slope should be no more than 1" over 10' with drainage away from base plate. Slight changes in elevation may be compensated with shims. If the floor is questionable slope consider a survey of the site and/ or a new level slab. Do not install within 6" of expansion seams, or on asphalt, wood, cracked or defective concrete. All single-post lifts require a continuous single slab. Spanning expansion seams or positioning posts on separate slabs is not acceptable. Tighten to 150 ft.lbs. Use all 8 anchors. If concrete does not allow specified torque – replace with 96" W x 96" L pad 8" minimum keyed in to and flush top of existing floor – 3000 psi. Minimum compressive strength. Certified strength documentation should be obtained from the firm who supplies the concrete mixture at the time of the pour. All properties of the new concrete slab are mandatory and must conform to the above stated properties before installation of the lift is deemed acceptable. The new slab must be totally surrounded by an existing concrete floor. It is mandatory to reinforce the new slab to the pre-existing surrounding floor by using 3/4" rebar pins epoxied in to old floor. Care should be taken to locate these specific reinforcement bar pins away from any anchor positions of this specific lift or adjoining lift. Do not install this lift over a basement or on any level other than ground level (i.e.: second floor) without written authorization from a building engineer or architect. Failure by the purchaser to provide the recommended mounting surface could result in unsatisfactory lift performance, property damage, or personal injury. If the location of the lift is in a seismic zone, contact local certified engineer for seismic slab design.
4. Each lift requires 230 Volt, 60 HZ, single phase, 30 amp AC electrical service.
5. The lift requires 3 gallons of hydraulic oil, ISO 32, such as Mobil DTE 24, Texaco HD 32. DO NOT USE OILS WITH DETERGENTS
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. 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.
9. Do not raise a vehicle on the lift until the lift has been correctly installed and adjusted as described in this manual.
10. Do not exceed the rated capacity of the lift. This Single Post Lift rating is on name plate.
11. CAUTION: Lift should be raised high enough for locking device to be engaged when any portion of one's body including feet and or hands could be under vehicle or lifting arms.
12. Never use this lift to raise just one end of any vehicle – this includes mowers, and golf carts.
13. INSPECT your lift daily. Do not operate if it malfunctions or if it has broken or damaged or missing parts. Repairs should be made with original equipment parts.
14. ONLY trained and authorized personnel should do positioning of vehicle and operation of the lifts.
15. Operating controls are designed to close when released. NEVER block open or override them.
16. NEVER remove safety related components or use if damaged or missing.
17. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
18. Adequate ventilation should be provided when working on internal combustion engines.
19. Use only as described in this manual. Use only manufacturer's recommended attachments.
20. 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, chain or latch repair or replacement, Structural repair, or replacement including base, column, track, track brackets, arms, yoke or carriage. Moving the lift to a new location
21. Replace worn or broken parts only with genuine factory parts or approved equivalent.

SAVE THESE INSTRUCTIONS

SINGLE POST PARK LIFT OPERATION

1. Be sure front wheel stops are in position before driving vehicle onto lift.
2. Never force front wheels against the front wheel stops.
3. Carefully position the vehicle on the tracks. Set the vehicle's parking brake and leave the transmission in park / gear – ***Always use Wheel Stops.***
4. Stand clear of platform. Push the **UP** button to raise vehicle. Raise the vehicle until it stops. Push **DOWN** release handle to open the valve and lower carriage onto latch. This lift is a 2-Post Lift. The locking latch system is very similar to an extension ladder. The locking latch is in contact with the latch rack. As the lift rises the locking latch drops into place. The locking latch engages the latch rack in 3" increments starting at about 16" from the ground. The locking latches must be manually disengaged for the lift to lower. The locking latch is released by pulling the Release Cable, first raising the lift to get the latch up off the latch rack. Once the raise button is pressed, the latch will automatically reengage after approximately 3" of travel.
5. ***WARNING: Always lower the carriage onto the latch for maximum safety.***
6. ***WARNING: Always check clearance for tall vehicles with oversize tires and/or roof racks.***
7. ***Warning: Do not raise or lower if a vehicle is parked below. Always move the bottom vehicle before moving the platform.***
8. To lower lift: Push the **UP** button to raise the carriage off the latch. Open the latch. Push and Hold the **DOWN** release handle to open the valve and lower the lift.

WARNING IMPORTANT SAFETY INSTRUCTIONS

1. Do not use this lift unless you know the proper operation of the lift and its safety devices, and the hazards involved. Read all instructions.
2. Do not walk under the lift unless it is seated on its safety latch. Remain clear of the lift when the safety latch is released.
3. If any component of the lift is found to be defective, any hydraulic oil leakage seen, unusual noise is heard, or excessive wear discovered **DO NOT USE THE LIFT** until repairs are made! If a concrete anchor bolt becomes loose, cracks in concrete appear **DO NOT USE THE LIFT** until repairs are made!
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. Keep hair, loose clothing, fingers, and all parts of the body away from moving parts. Remain clear of the moving platform, carriage, chain rollers, and latch parts.
6. Use only as described in this manual. Use only manufacturer's recommended attachments.

7. The owner of the lift shall ensure that lift operators are qualified and that they are trained in the safe use and operation of the lift using the manufacturer's operating instructions.
8. The owner shall establish procedures to periodically inspect the lift in accordance with the lift manufacturer's instructions. The owner shall ensure that lift inspectors are qualified and that they are adequately trained in the inspection of the lift.

MAINTENANCE, EVERY MONTH

1. Check hydraulic fluid level at the power unit. Check the fluid with the lift down. The oil level should be between 3 and 4 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. The tank will hold approximately 12 quarts. Replace the oil every two years.
2. Check the levelness of the arms and tracks with the carriage parked on the first latch position.
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 150 foot-pounds. **Do not use impact. If concrete does not allow specified torque – replace with 60" x 80" pad 6" minimum keyed under and flush top of existing floor – 3000 psi. Minimum compressive strength.**
5. The trouble shooting 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 factory parts or approved equivalent.

GSP-4.5/ GSP-7 SPECIFICATIONS

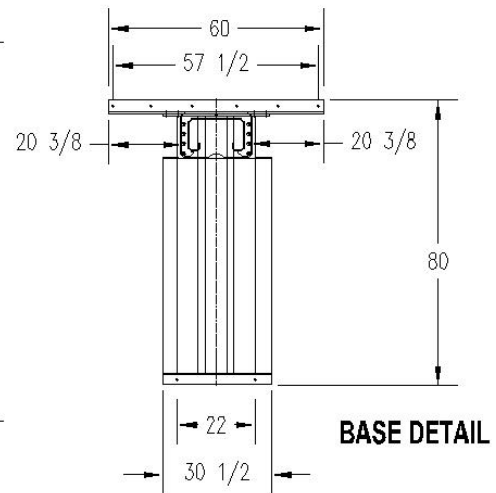
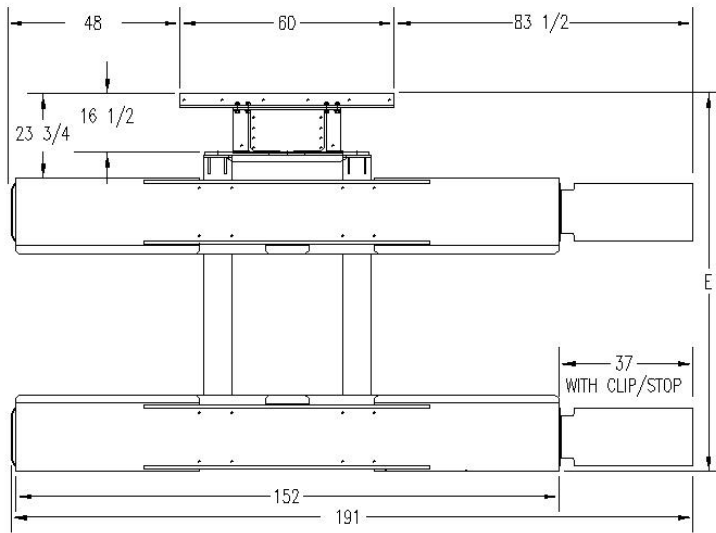
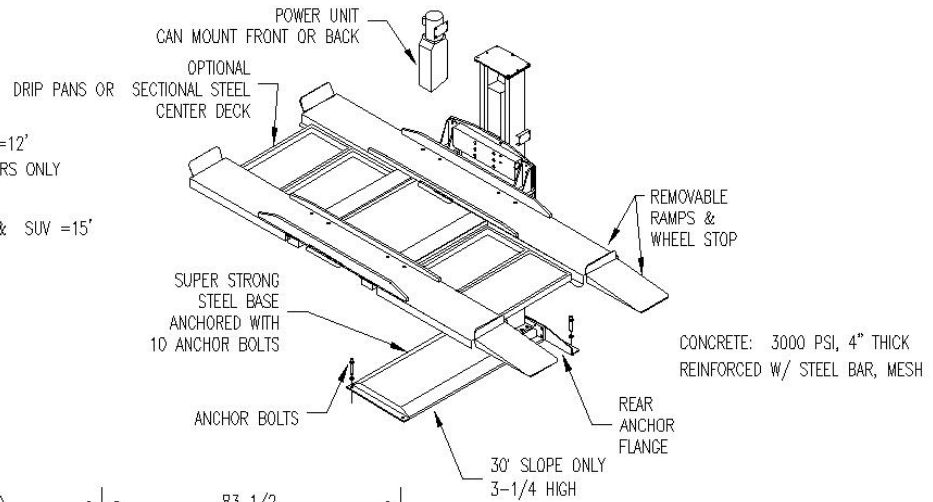
GSP-7 = MAX CAPACITY= 6500#
TYPICAL CEILING HT. FOR 2 FULL SIZE CARS=12'
MINIMUM CEILING H=9'-6" LOW PROFILE CARS ONLY

GSP-4.5 = MAX CAPACITY= 4500#
TYPICAL CEILING HT. FOR 2 FULL SIZE CAR & SUV =15'
MINIMUM CEILING HT.....12'

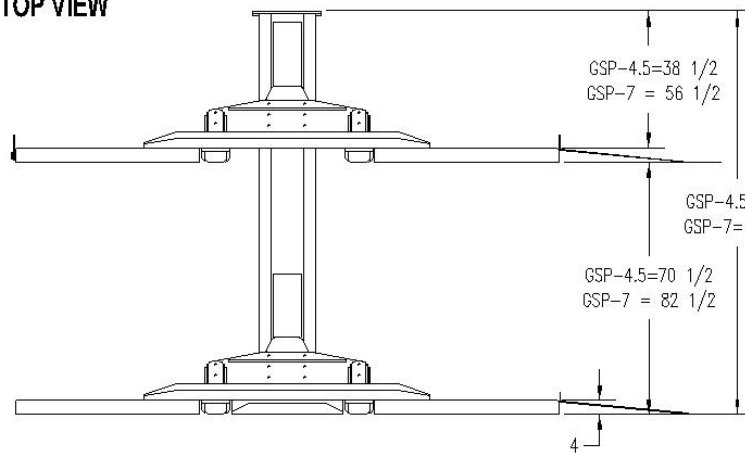
SPEED OF RISE.....60-80 SEC

MECHANICAL SAFETY LOCK
208-230 V SINGLE PHASE POWER UNIT

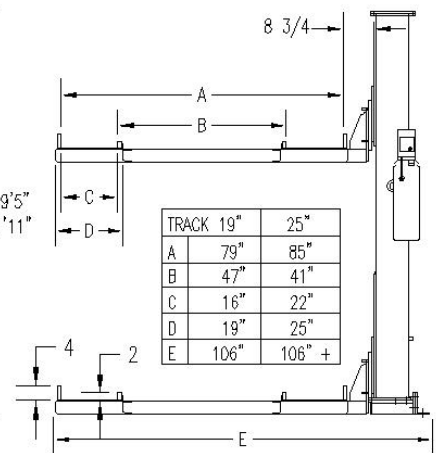
OVERALL LENGTH.....15'-11"
TRACK LENGTH.....12'-8"
MAXIMUM WHEELBASE.....130"



TOP VIEW



FRONT VIEW



SIDE VIEW

4.01.14 SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE OR LIABILITY

Fig.1 - GSP 4.5 & GSP-7

SINGLE POST PARKING LIFT

REV. 11.08.11

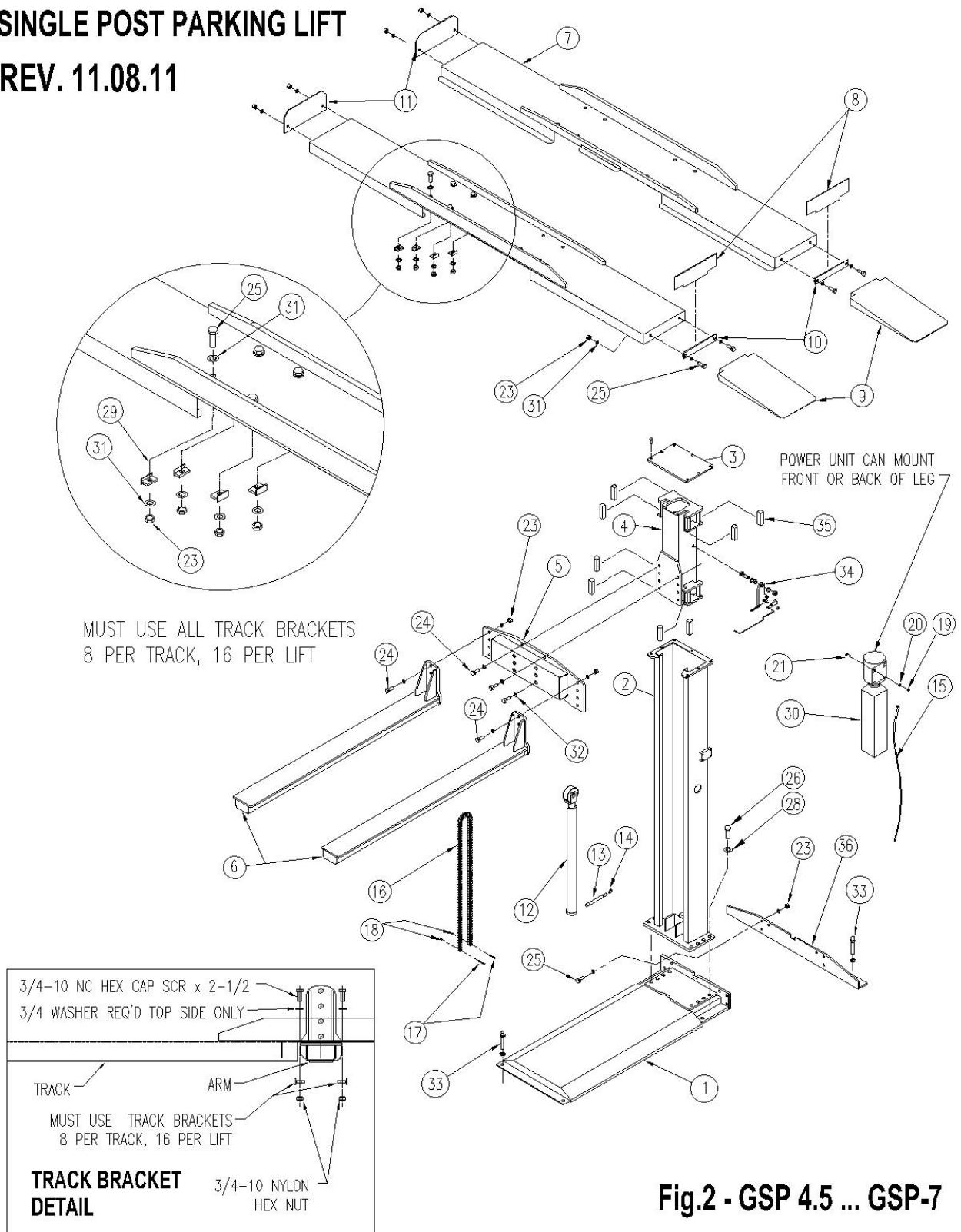


Fig.2 - GSP 4.5 ... GSP-7

PARTS LIST Fig.2 – GSP 4.5 & GSP-7

ITEM	PART NO.	REV	NAME	DESCRIPTION	RQD
36	P 0401 104		BASE ANCHOR FLANGE	4 x 6 x 1/2 ANGLE x 60	1
35			RUB BLOCKS	UHMW 5 x 1 1/2 x 1 1/2	8
34			LATCH ASSEMBLY	SEE FIG 5 FOR DETAILS	–
33			ANCHOR BOLTS SETS	3/4 x 5 W/NUT/ WASHER	10
32			WASHER	SAE WASHER 3/4	16
31			WASHER	FLAT WASHER 3/4	80
30			POWER UNIT	208/230 VOLT SINGLE PHASE	1
29			TRACK BRACKET		16
28			BASE/LEG MOUNT	1" WASHER	8
27			–	–	–
26			BASE/LEG MOUNT	1-8 NC HEX CAP SCR x 1-3/4 GR 8	8
25			BOLT- TRACK/RAMP/STOP	3/4-10 NC HEX CAP SCR x 3 GR 8	30
24			BOLT-ARM/YOKE/CARR.	3/4-10 NC HEX CAP SCR x 1-3/4 GR 8	16
23			BOLT- TRACK/RAMP/STOP	3/4-10 NC NYLON HEX NUT	38
22			–	–	–
21			HARDWARE POWER UNIT	5/16- NC HEX BOLT x 1 1/4	4
20			HARDWARE POWER UNIT	5/16- NC HEX NUT	4
19			HARDWARE POWER UNIT	5/16- NC NYLON HEX NUT	4
18			HEX NUT FOR SHOULDER BOLT	Nylon Hex Nut 5/16"-18 Thrd	1
17			3/8 SHOULDER BOLT	3/8" Shoulder Screw x 2" x 5/16"-18 Thrd	2
16			CHAIN (844)	GSP 4.5= 95" GSP-7= 109"	1
15			HOSE 81"		1
14			FITTING 90 FEMALE		1
13			PIPE NIPPLE 8"		1
12			CYLINDER 3" BORE	GSP 4.5= 36" STROKE GSP-7= 42"	1
11	–		WHEEL STOP – BOLT ON		1
10	GM_____		RAMP CLIP	GM STYLE	2
9	GM_____		FORMED RAMP	GM STYLE	2
8	–		WHEEL STOP – DROP IN		2
7	–		TRACK WELDMENT 19" OR 25" AS ORDERED		2
6	P 0401 503		ARM WELDMENT		2
5	P 0401 502		YOKE WELDMENT	3/4 PLATE	1
4	–		CARRIAGE WELDMENT	34-1/2" GSP-7= 53"	1
3	P 0401 103		TOP LEG CAP		1
2	–		LEG WELDMENT	GSP 4.5= 108" GSP-7= 138"	1
1	P 0401 101		BASE WELDMENT		1

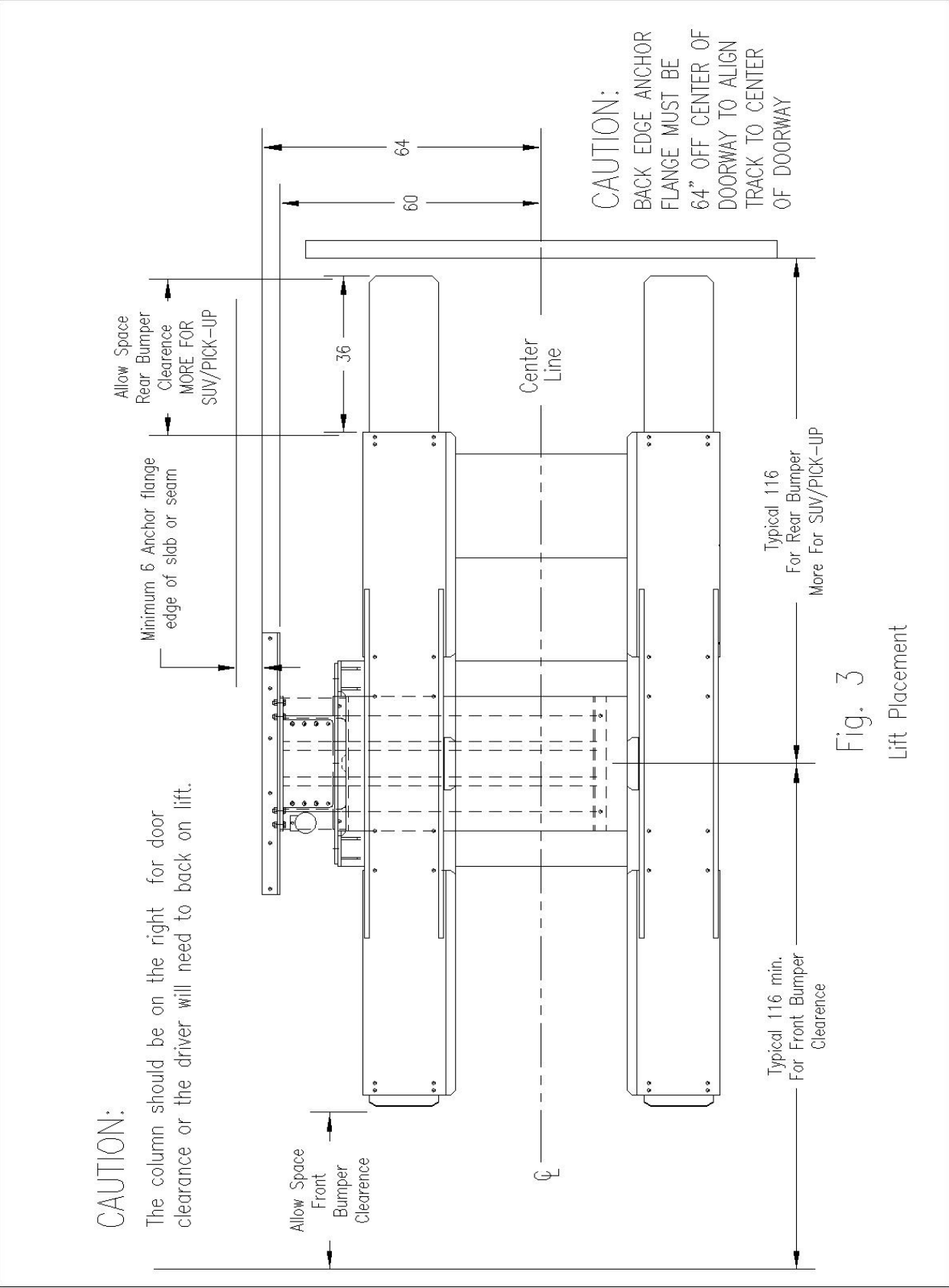


Fig. 3
Lift Placement

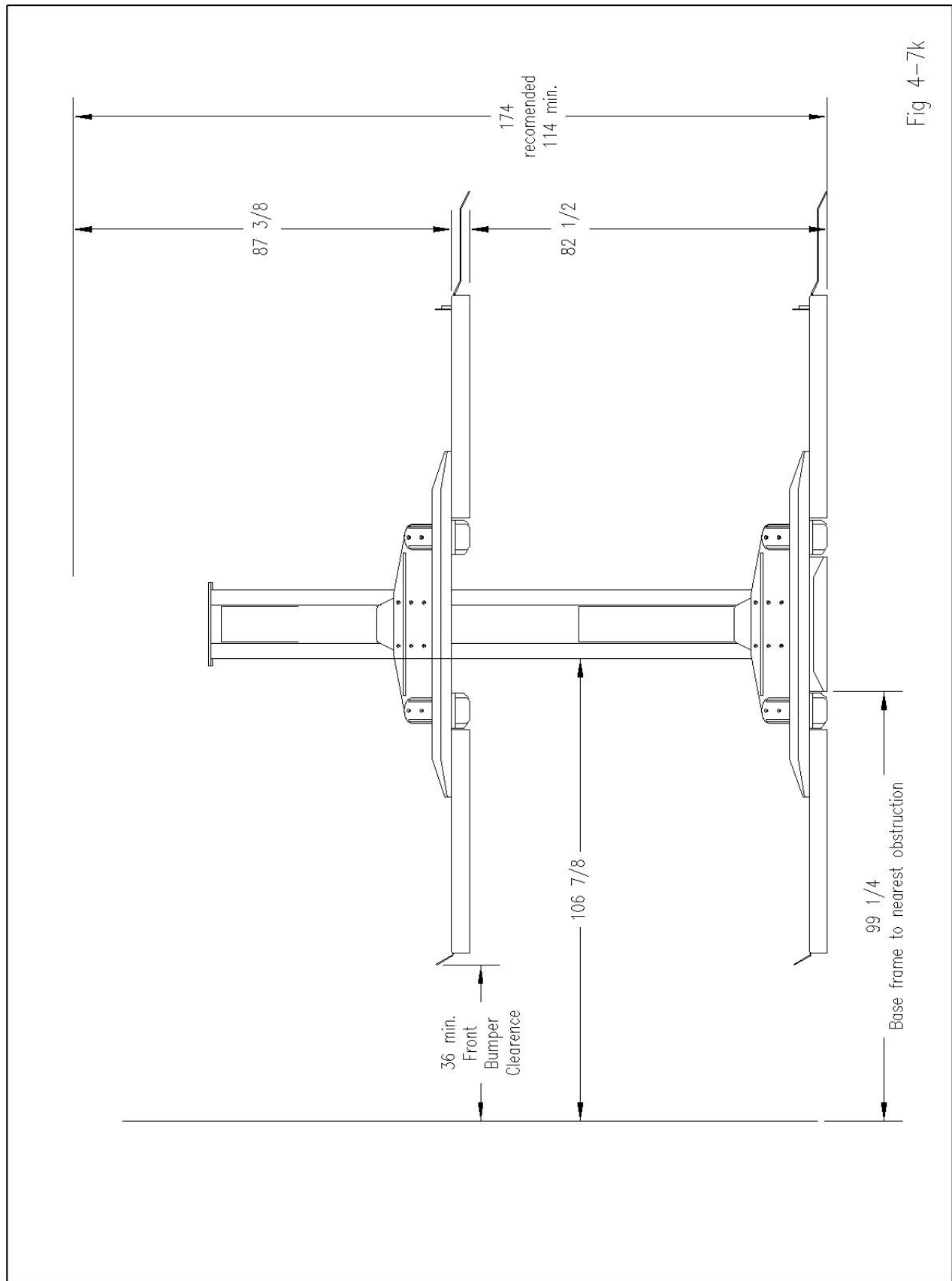


Fig 4-7k

SINGLE POST PARK LIFT INSTALLATION MANUAL

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

Tools Required

Torque wrench with 1-1/8" socket for anchors Wrenches (open end) 3/4", 11/16", 1-1/16", and 1-1/8"
Ratchet & Sockets 1/2", 9/16", 5/8", 3/4", 1-1/16", and 1-1/8"
Level, Rotary Hammer Drill with 3/4" concrete bit
Funnel, Vice Grip, Tape Measure 25' Calk line

1. Review all the figures in this manual as part of the preparation for locating this lift at the site. Also note the following:
 - a. If the site slopes, it will be necessary to compensate for this during the installation. Special parts are available for this.
 - b. When installed outdoors - it is necessary to cover the power unit from the elements.
2. Refer to **Fig.1** for lift specifications and concrete pad specifications, Read the anchor bolt instruction page before drilling and installing the anchor bolts. Refer to **Fig.2**, Lift Assembly, for an overview of the lift and its parts.
3. Refer to **Fig.3** and **Fig.4**, Base Layout, to begin the positioning of the lift structure which shows the base placement, the locations of the front and rear of the lift tracks, and recommended distance to the nearest obstruction.
4. Secure the Leg - **Item 2** to the Base - **item 1** using 1 - 8 NC Hex Bolt x 1 3/4 - **Grade 8**. Must use washers. See Fig.2
5. Bolt the Power Unit to the Leg using 5/16 NC Hex Bolt x 1 1/4, Nylon Lock Nut, and Flat Washer.

The electrical power must be connected by an electrician – follow local codes – this is a 220 volt power unit – the black and white are hot wires and the green wire is ground. Electrical connection must be done by certified electrician. Follow local codes in your area. Improper electrical hook-up can damage motor. The motor can not run on 50Hz with out a physical change to the motor. Use a separate breaker for each power unit. The standard power unit is 220 volt, 60 Hz, single phase. Protect each circuit with 25 amp time delay fuse or circuit breaker. It is recommended that a disconnect switch be located near the lift or controls and in site of operator incase of short circuit. Keep power unit free of moisture. Do not run without hydraulic oil or damage to pump may occur.

6. Install a 90 hydraulic fitting, male 1/2 SAE to male 3/8 JIC, into the pressure port of the power unit, Install the hydraulic hose - **item 15** between this fitting and the cylinder fitting - **Item 14** at the bottom of the leg.
7. Fill the power unit tank with oil. Each lift requires approximately 3 gallons. The oil level should be between 3 and 4 inches from the top of the tank. Use 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. DO NOT USE OILS WITH DETERGENTS

8. Bleed the air from the hydraulic line to the lift unit in the following way: Loosen the hose fitting at the hydraulic cylinder. Press the UP button for the unit. The pump motor will run. Continue to press the UP button until oil appears at the loosened fitting. Tighten the hose fitting. Insure all hydraulic connections are properly tightened before use. Run lift to full rise and continue running motor approximately 5 more seconds. Check hydraulic hose and connections for leaks. Re-tighten fitting if leaking.
9. Bolt the Yoke – **item 5** to the Carriage – **item 4** using 3/4 -10 NC Hex Bolt x 4 - Grade 8.
Caution - Must use SAE washers. Make sure yoke is square with carriage. See Fig.2
10. Bolt the Arms – **item 6** to the Yoke – **item 5** using 3/4 -10 NC Hex Bolt x 2 1/2 - Grade 8, Nylon Hex Nut, and Flat Washer.
11. Bolt the Tracks – **item 7** to the Arms – **item 6** using the Track Brackets – **item 29** and the 3/4 -10 NC Hex Bolt x 2 1/2 - Grade 8, Nylon Hex Nut, and Washer. The same Track Weldment is used on both sides by reversing the Ramp and Front Stop. Attach the Front Stop - **item 10** and the Ramp Weldment - **item 9** using 3/4 -10 NC Hex Bolt x 1 3/4 Grade 8, Nylon Hex NUT, and Flat Washer.
12. Check the alignment between the chain roller on the lifting cylinder - **item 12** and the lifting chain – **item 16** that runs over these rollers. As the rollers rise, they must engage the chain in order to lift the carriage. Push the UP button. The pump motor will run, the lift control valve will open, and the cylinder will extend and remove the slack from the lifting chain. The carriage and platform will begin to rise.
13. Raise the carriage to full height using the **UP** button. When the carriage stops at its full height, push the **DOWN** lever to open the valve and lower the carriage onto the safety latch. Raise the carriage off the latch by pushing the **UP** button. Pull the latch release. Push the **DOWN** lever to lower the carriage. Lower the carriage to the ground. Cycle the lift three times to remove air and to check the operation.
14. Install the Maintenance and Operation Decals on the tank below power unit.
15. Drill the anchor bolt holes and install the anchors. Refer to the Concrete Anchors Bolt Instructions on the. **Page 10**. Do not tighten at this time.
16. Using a 3' level, level and plumb the leg in both the front to rear and side to side directions. Shim the Base Frame as required and tighten the anchors to Tighten to 150 ft.lbs. Use 8 all anchors.
17. After loading a vehicle – always replace Wheel Stop - **item 8** in the holes provide in the Track -**item 7**

CONCRETE ANCHOR BOLT INSTALLATION INSTRUCTIONS

1. Drilling and Installation Procedure
2. The anchor bolts must be installed at least 6" from any edge of the concrete or any seam.
3. Use a Carbide tip, solid drill bit, $\frac{3}{4}$ " diameter. Tip diameter to ANSI Standard B95, 12-1977 (.775" to .787").
4. Use a concrete hammer drill only.
5. Do Not use excessively worn bits or bits that have been incorrectly sharpened.
6. Keep the drill perpendicular while drilling.
7. Let the drill do the work. Do Not apply excessive pressure.
8. Lift the drill up and down to remove dust and reduce binding.
9. Drill the hole completely through the slab.
10. Blow the dust from the hole. This increases the holding power.
11. 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.
12. Tap the nut and bolt so that the washer rests against the base of the leg. NOTE: When using the standard supplied $\frac{3}{4}$ " x 5 $\frac{1}{2}$ " long anchors, if the top of the anchor exceeds 2 $\frac{1}{4}$ " above the floor grade, you DO NOT have enough embedment.
13. Tighten the nut two or three turns using hand tools. Do Not use an impact wrench. Tighten to 150 ft.lbs. Use 8 anchors on each leg. **If concrete does not allow specified torque – replace with 96" x 96" pad 6" minimum keyed under and flush top of existing floor – 3000 psi. Minimum compressive strength. Do not use the lift if the concrete will not allow anchor bolts to be tighten to the specified torque.**

Addendum

Check the voltage, phase and proper amperage requirements for the motor shown on the motor plate. Wiring should be performed by a certified electrician only. Danger! The power unit used on this lift contains high voltage. Disconnect power at the before performing any service or repairs. Starting Capacitors can store charge. Guard against electric shock. This electric motor and controls must be grounded while to protect the operator from electric shock. Never connect the green wire to a live terminal. This is for ground use only.

Warning! Risk of explosion.

This equipment has internal arcing or sparking parts which should not be exposed to flammable vapors. This machine should not be located in a recessed area or below floor level. Any electrical components: wire connection, switches, relay, solenoids, and other devices can arc or spark igniting fuel, flammable liquids, gases or vapors. All wires and connection should be kept 24" above the floor. Extreme caution should be used with any vehicle that has a fuel or oil leak. Explosion proof lighting and control switches are recommended for hazards conditions such as lights mounted permanently or temporally on lift arms or track below an internal combustion type or electric automobile. Batteries can produce explosive gases. Use good ventilation when charging batteries to remove gases.

SAFETY LATCH ADJUSTMENT – caution – this is a safety device - check daily - listen for click of latch – adjust or repair before use.

1. Do not make any adjustments with anything on the lift.
2. If the safety latch does not engage properly, use the following procedure to adjust:
3. Raise the lift until you can see the latch through the access hole in side of the column.
4. Do not set lift on latch. Allow the hydraulic system to hold the lift up.
5. Pull the latch forward with a screwdriver.
6. If the latch is not working during ascent, tighten the adjustment bolt one full turn and test latch – follow this procedure until latch operates.
7. If the latch is not working during descent, loosen the adjustment bolt one full turn and test latch – follow this procedure until latch operates.

SAFETY LATCH ADJUSTMENT AND PARTS

ITEM #	NAME	DESCRIPTION
13		NYLON LOCKNUT 3/4"-16
12		WASHER 3/4 SAE
11		3/4"-16 X 2 1/2 HEX BOLT GR 5
10		3/8"-16 NC NYLON LOCK NUT
9		3/8"-16 NC HEX NUT
8		3/8"-16 NC x 1-3/8 HEX BOLT
7		WASHER 3/8" FLAT
6		HR 3/8 X 1/2 FLT X 1 '
5	SAFETY LATCH SPRING	
4	PULL CABLE	
3	RESET CAM	3/8"x1 3/4"x4 1/4" PL
2	LATCH ADJUSTMENT	3/8"-16 NC HEX BOLT x 1-1/2
1	LATCH PLATE	1/2"x4"x8 1/2 PL w/ hole

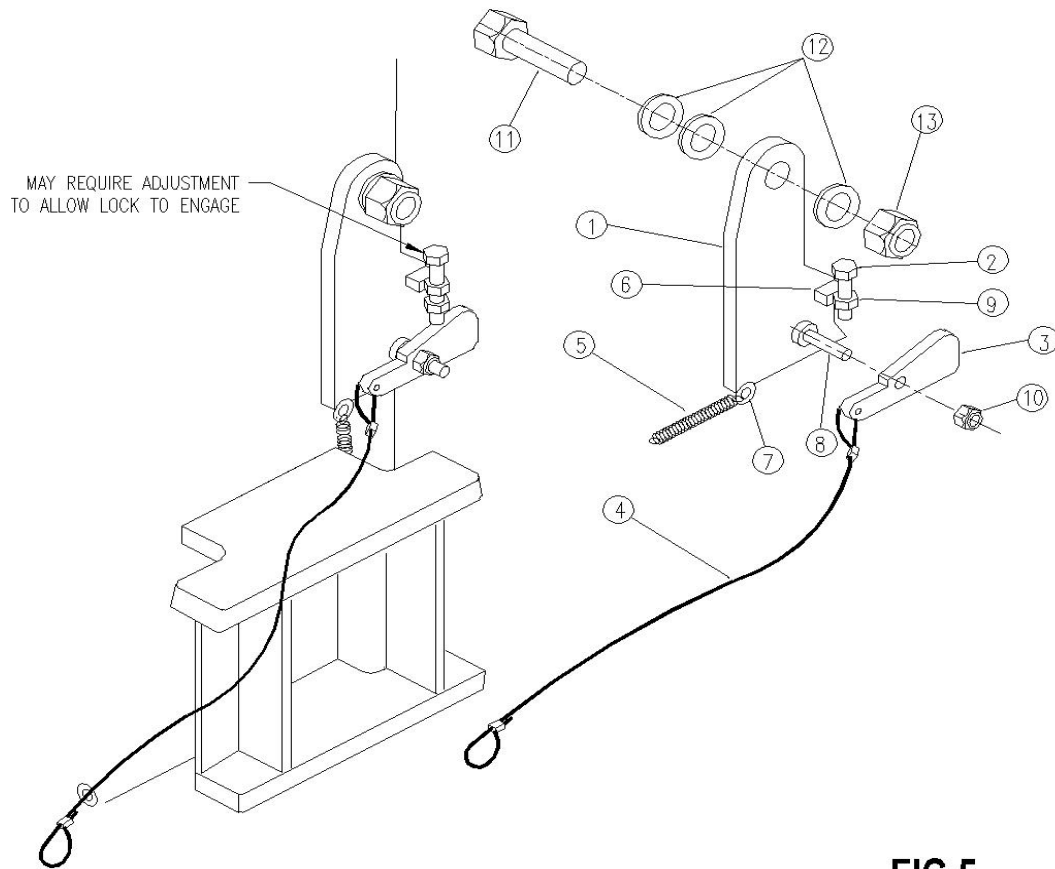


FIG.5

TROUBLESHOOTING

1. Pump motor will not run.

- i. Check electrical hook-up.
- ii. Check the electrical supply breaker and or fuse.
- iii. Motor thermal overload tripped – let cool

2. Lift does not move up and down smoothly.

- i. Bleed air lines. See installation instructions.
- ii. Check legs with level, re-shim as required.

3. Lift does not pick up rated load.

- i. Adjust vehicle position on tracks for a more balanced loading.
- ii. Check vehicle weight.
- iii. 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. Pressure is factory set at 2475 PSI and is not adjustable.
- iv. Check the electrical supply voltage 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.

4. Lift will not lower.

- i. Review the Operation Instructions. The lift must first be raised off the safety latches before they can be disengaged.
- ii. Check the safety latch operation. Check for correct mechanical operation of latch. The latch should pivot freely.
- iii. Check the operation of the power unit lowering valve. – valve may need adjustment or cartridge replacement.

Lockout/Tagout (Control of Hazardous Energy)

Purpose

This procedure establishes the minimum requirements for the lockout of energy that could cause injury caused by the unexpected energization, start up, or release of stored energy during service or maintenance to personnel. All employees and service personnel from outside service companies shall comply with this procedure. Use this procedure to make sure the machine or equipment is stopped and isolated from all potentially hazardous energy sources, and locked out before any employee begins work. The following lockout procedure contains the minimum information necessary to help you develop an energy control procedure that meets the requirements of Lockout/Tagout (Control of Hazardous Energy), Chapter 296-803 WAC.

For complex energy control systems, you may need to develop, document, and use more comprehensive procedures.

Responsibility

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

Preparation

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

Sequence of Lockout Procedure

The authorized employee will identify the type and magnitude of the energy that the machine or equipment uses, understand the hazards of the energy, and know the methods to control the energy.

Notify all of the following affected employees that the machine or equipment will be shut down and locked out for service or maintenance being performed and the reason for it.

Unload the subject lift. Shut it down and assure the disconnect switch is "OFF" if one is provided on the lift.

The authorized person must completely isolate the machine or equipment from its energy sources by using the appropriate energy-isolating devices. Lock out the energy isolating devices with assigned individual locks. If this is a lockable device, the authorized lockout person places the assigned padlock on the device to prevent its unintentional reactivation. An appropriate tag is applied stating the person's name, at least 3" x 6" in size, an easily noticeably color, and states not to operate device or remove tag. If this device is a non-lockable circuit breaker or fuse, replace with a "dummy" device and tag it appropriately as mentioned above. Attempt to operate lift to assure the lockout is working.

CAUTION: Return the operating controls to the safe, neutral, or off position, after verifying the equipment is isolated from its energy sources.

Dispel or restrain stored and residual energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, using methods such as grounding, repositioning, blocking, or bleeding down. The equipment is now locked out and ready for the required maintenance or service.

Restoring Equipment to Service

Restore the machine or equipment to service after the service or maintenance is completed and the machine or equipment is ready to return to its normal operating condition by following these steps:

Check the machine or equipment and the immediate area around it to make sure all nonessential items have been removed and that the machine or equipment is in operating condition and ready to energize. Make sure all employees are safely positioned for starting or energizing the machine or equipment. Verify that the controls are in neutral. After verifying all work on the lift is complete and the area is clear of tools, vehicles, and personnel remove the lockout devices and reenergize the machine or equipment.

Notify affected employees that the service or maintenance is completed and the machine or equipment is ready to use.

Never operate the lift by over riding the electrical controls (using the contactors located inside the control panel). All safety devices are by-passed in this mode of operation and lift damage or severe personal injury could occur.

Do not operate the lift using the operator pushbuttons prior to having all safety devices and/or gate interlocks wired and in the circuit. Never by-pass any safety device and/or interlock.

This is a vehicle lift installation / operation manual and no attempt is made or implied herein to instruct the user in lifting methods particular to any vehicle or an individual application. Rather, the contents of this manual are intended as a basis for operation and maintenance of the unit as it stands alone or as it is intended and anticipated to be used in conjunction with other equipment.

Proper application of the equipment described herein is limited to the parameters detailed in the specifications and the uses set forth in the descriptive passages. Any other proposed application of this equipment should be documented and submitted in writing to the factory for examination. The user assumes full responsibility for any equipment damage, personal injury, resulting from misuse, modification, or alteration of the equipment described in this manual or any subsequent damages.

Do Not Weld, Apply Heat, Or Modify This Equipment In Any Manner Without Written Authorization