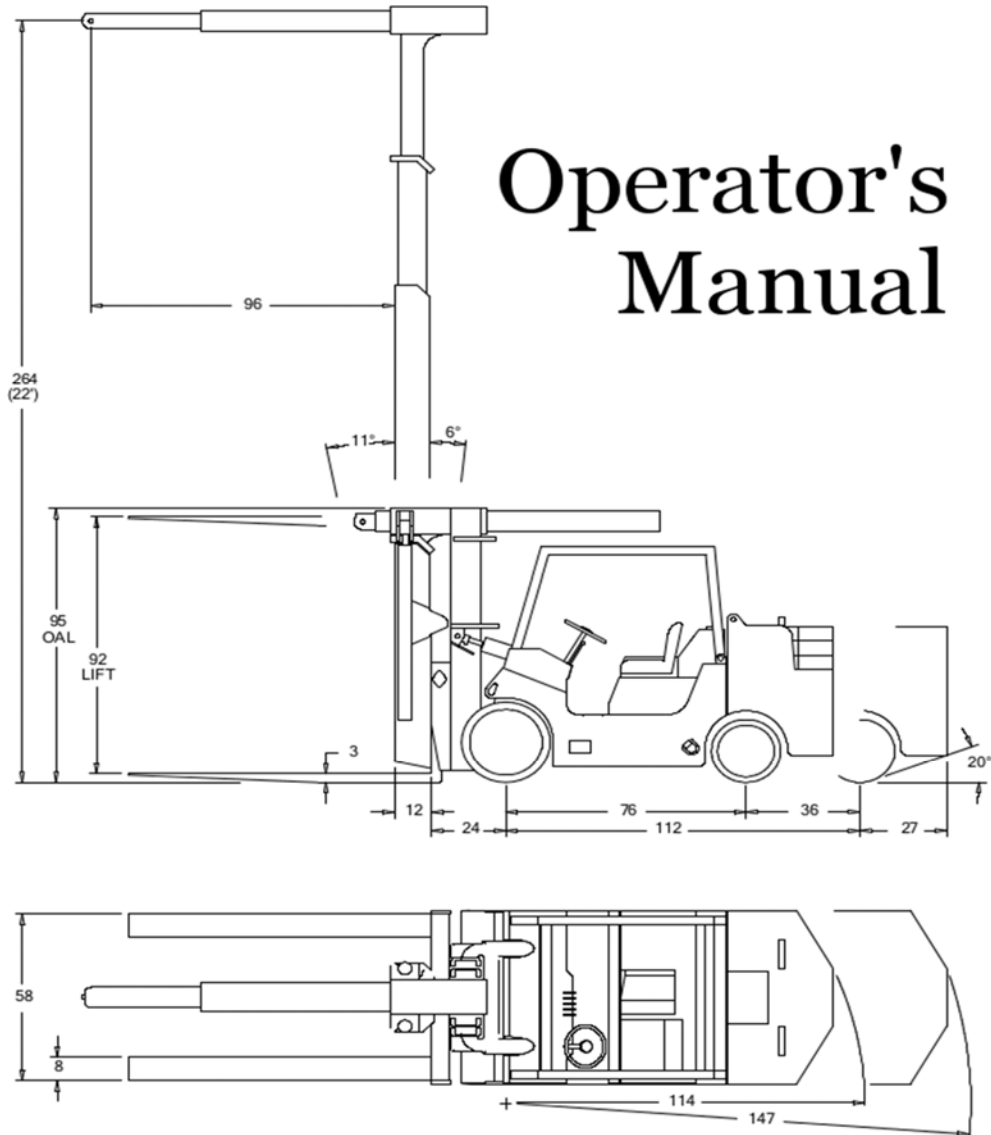


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VERSA-LIFT

Operator's Manual



Custom Mobile Equipment, Inc
439 East High Street
Baldwin City, KS 66006
P: 785-594-7474
F: 785-594-7475
www.versa-lift.com

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Introduction

This manual will cover general safety rules, basic operations of lift truck, and a lubrication schedule. This manual cannot include all possible operating hazards and procedures, but will give a general overview.

Lift Truck Application

The Versa-Lift is a specialty cushion (solid) tired machine for moving heavy loads on smooth dry surfaces. This machine should be operated using the same safety rules as any other lift truck. The Versa-Lift also has other features not found on common lift trucks like a telescoping frame, removable counterweights and a special boom attachment. These features allow for many variations in capacity and different methods of lifting a load.

General Safety Rules

- Inspect the lift truck before operations
- Never drive under the influence of drugs or alcohol
- Wear the proper safety equipment when required
- Be aware of no smoking areas
- Don't block safety or emergency equipment
- Watch for pedestrians
- Slow down when on slippery or loose surfaces
- Know your weight and axle loads when crossing floors
- Know your available capacity, load weight and the load center before attempting a lift
- Always use your seat belt
- No riders on the lift truck
- Do not lift anyone on the forks
- Do not allow anyone to walk under raised forks
- Sound horn when crossing intersections
- Watch out for people in your work area
- Keep under the overhead guard when lifting
- Keep hands and legs inside the operator's station
- If the load blocks your view, go backward
- Never turn on a grade
- Carry the load tilted back whenever possible
- Don't jump from a tipping lift truck. Stay in the seat
- Chock wheels of trailer when docking the machine
- Keep hands and legs out of all pinch points
- Stay clear of telescoping frame when operating
- Never park on a grade
- Set the parking brake when stopped
- Unplug battery before opening hood or before any electrical maintenance
- Neutralize liquid on top of battery with baking soda
- Charge battery in well ventilated area
- Read battery manual before working with battery

Operating Hazards

- Fast turning with an empty truck can turn over easier than a loaded truck
- Sharp turns with a load up can turn the truck over even when moving slowly
- Rear steering swings the tail of the machine out into possible obstacles or out of the aisle
- Telescoping frame with steer turned moves the lift truck sideways
- Never carry loose or uneven materials
- Spread the forks to fit the load
- Long loads reduce the capacity consult the capacity chart
- Avoid swinging the load with the boom
- Boom capacity is with a vertical mast
- Watch low overhead structures
- Operate machine in a well ventilated area

Accidents happen when:

- 1. The operator is not properly trained.**
- 2. The operator is not experienced with the lift truck.**
- 3. Basic safety rules are not followed.**
- 4. The truck was not maintained in a safe operating condition.**

Operating Procedures

How To Operate

Be sure that the operator understands the information in the operator's manual as well as general safety procedures for operating a lift truck. Check over the machine to make sure it is in good working condition. Put the safety belt on and follow the instructions above for starting the machine.

Starting Procedure

The right foot control pedal is the speed control forward as well as backward and must be in the centered neutral position in order for the engine to be started. Check to see that the parking brake knob located on the dash, to the operator's right, is pushed in so that the brake will be set when started. Turn on the main key switch to "ON" which enables all 12V functions. Push the motor switch to the "ON" position to turn on the electric motor and then all hydraulic functions are activated. Turn motor switch off whenever you are not driving or using any hydraulic function in order to conserve battery charge life.

Speed Selection

The Versa-Lift has two speeds which can be selected at any time by flipping the switch on the dash. The low speed is for when more power and finer control are required to handle a load and high speed is for traveling with no load. The foot pedal control on the right regulates speed forward and backward in whichever speed you have selected.

Brake

There are no service brakes on this machine because the hydrostatic transmission accelerates and decelerates the machine using the right foot control pedal. The only brake is a parking brake and it is spring actuated and hydraulically released so whenever the engine is off the brake is set. However, when the engine is running, the brake knob on the dash must be pushed to set the brake and pulled to release it.

ALWAYS SET THE PARKING BRAKE WHILE PARKED. THE MACHINE MAY MOVE EVEN WHEN THE OPERATORS FOOT IS OFF THE PEDAL.

The brake should be used during normal operations for holding the machine steady especially on inclines. The hydrostatic transmission is capable of holding the machine on an incline by applying the pedal in the opposite direction but for holding over long periods of time use the brake.

Hand Lever Controls

The control levers on the right control the lift, tilt and boom lift in order left to right. The levers are pulled to get lift or to tilt the mast back and the levers are pushed for lowering or tilting the mast forward. The frame extension is controlled by an electric switch on the dash. **THE OPERATOR MUST TURN AND LOOK AROUND THE BACK OF THE MACHINE TO MAKE SURE NO ONE IS NEAR WHEN MOVING THE FRAME. THE STEER WHEELS SHOULD BE IN THE STRAIGHT POSITION BEFORE TELESCOPING THE FRAME BECAUSE TURNED STEER WHEELS WILL SHIFT THE FRONT OF THE MACHINE SIDE TO SIDE.**

Fork Removal And Installation

The carriage has two fork shafts to make it easier to remove the forks. Unbolt the carriage shaft retainers on both sides of the carriage shaft. Pull out the shaft to release the fork. Repeat the procedure for the other side. The installation of the forks should be performed in the opposite order ending with the carriage shaft retainers being securely fastened. A large pinch bar is provided to aid in the positioning of the forks. Notches have been placed above the carriage bar to gain leverage on the fork eye.

Boom Removal and Installation

The boom attachment should be removed utilizing the boom stand provided. The horizontal boom should be extended all the way out so it will balance on the boom stand. Remove the retainer pin at the bottom of the boom and disconnect the hydraulics (The hydraulic quick-disconnects have a pressure release valve built into them and should be set to the closed position before disconnecting). Lower the boom onto the boom stand posts until the boom is released. The installation of the boom is performed in the opposite order ending with the installing of the retainer pin. The boom can also be lifted off the carriage using the lifting eyes on the upper stage if the pin connecting the upper stage to the intermediate stage is in place.

Boom Vertical Extension

The boom has two hydraulic cylinders that are attached to the intermediate stage and are controlled by the third hydraulic lever on the operator's dash. The upper boom stage can be lifted by disconnecting the boom cylinders from the intermediate stage and raising them into the upper stage sockets. The boom retainer pin connecting the intermediate stage to upper stage must be relocated to the lugs that connect the stationary boom to the intermediate stage (This is required to keep the intermediate stage from being dragged up with the upper stage). **IF A LOAD IS BEING LIFTED WITH THE UPPER STAGE, THE PINS MUST BE INSTALLED ON THE ROD END OF THE CYLINDERS. DO NOT USE THE CYLINDER SOCKETS ON THE UPPER BOOM TO LIFT A LOAD. THE UPPER BOOM SOCKETS ARE ONLY TO BE USED WHEN LIFTING THE UPPER BOOM SECTION WITHOUT A LOAD.** A rectangular pin is supplied in the storage compartment that will fit into a hole in the upper stage to retain it. The boom cylinders can then be lowered and pinned to the intermediate stage for achieving greater height.

Boom Horizontal Extension

The horizontal boom is to be extended back and forth to the required position for lifting each load in order to keep the center of gravity of the load as close to the boom face as possible. This is done by pulling the horizontal retainer pin and then turning the crank until a hole is lined up for the horizontal retainer pin to be installed. **THE HORIZONTAL BOOM RETAINER PIN MUST BE IN PLACE AT ALL TIMES EXCEPT WHILE MOVING THE HORIZONTAL BOOM. THE HORIZONTAL BOOM COULD COME OUT OF THE SOCKET IF THE PIN IS NOT IN PLACE.**

Boom Lifting Eye Insert

The lifting eye insert is retained by a pin into the end of the horizontal boom. This insert can be removed and turned around if the double lifting eye end is required. **THE LIFTING EYE INSERT CANNOT BE SLID OUT OF ITS LOCATION (FULLY INSERTED) TO ACHIEVE MORE REACH. DO NOT REPLACE THE LIFTING EYE INSERT WITH OTHER LONGER EXTENSIONS WITHOUT CONSULTING THE FACTORY.**

Remote Controls (Optional)

The remote control system is activated by the MANUAL/REMOTE switch located on the dash. The remote control transmitter hangs around the neck and buckles to the waist. Switch the XMIT toggle to the ON position and the red light beside the switch will flash showing the transmitter is on. The ENGINE switch is used to start the engine and to shut it off. The IDLE switch should be set to IDLE when starting the engine and then 1500 and 2000 RPM can be selected for more engine power and speed. The SLOW/FAST switch allows for all functions on the remote to be fine tuned if slower and smoother operation is required. The DRIVE, MAST, TILT, BOOM, optional WINCH, and STEER levers are all proportional controls where the function is faster when the lever is pushed.

The remote control system is activated by the MANUAL/REMOTE switch located on the dash. The remote control transmitter hangs around the neck and buckles

Maintenance Guide

Lubrication

Location	# of Fittings	# of Hours
Steer axle linkage and king pin bearings	10	50
Mast roller bearings	18	50
Steer axle/counterweight pivot bearings	2	100
Mast mounting trunnion bearings	2	100
Tilt cylinder pins	4	100
Steer axle wheel bearings	--	2000

Hydrostatic Transmission

Replace filter located on pump (KEEP FILTER AREA CLEAN) at 250 hours.

Hydraulic System

Check oil level at 50 hours. Replace in-tank filter at 500 hours. Change oil at 2000 hours. Change breather cap at 2000 hours. Use **universal hydraulic fluid**.

Wheel Ends

Check fluid level at 250 hours. Drain and replace oil at 2000 hours.

Critical Fastener Torque Specifications

Location	Foot-pounds
Drive wheel lug nuts	350
Wheel end mounting bolts	200
Tilt cylinder rod eye clamp bolts	90
Counterweight mounting bolts	400
Steer cylinder clamp bolts	175
Seat mounting nuts	15

Part Replacement

Call 785-594-7474 to order parts. Please have the part numbers at hand – see your parts manual.