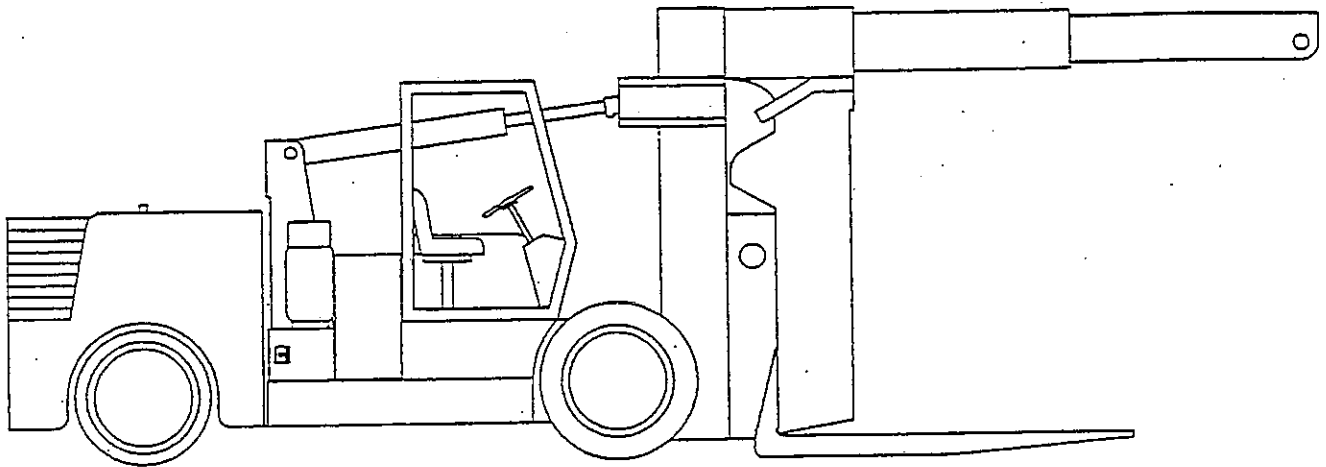


VERSA-LIFT 100/140

OPERATORS MANUAL



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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.

THIS MANUAL WILL COVER GENERAL SAFETY RULES, BASIC OPERATIONS OF LIFT TRUCK AND A LUBRICATION SCHEDULE. THIS MANUAL CAN NOT INCLUDE ALL POSSIBLE OPERATING HAZARDS AND PROCEDURES BUT WILL GIVE A GENERAL OVERVIEW.

GENERAL SAFETY RULES

- INSPECT THE LIFT TRUCK BEFORE OPERATION
- NEVER DRIVE UNDER THE INFLUENCE OF DRUGS OR ALCOHOL
- WEAR THE PROPER SAFETY EQUIPMENT WHEN REQUIRED
- WATCH 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 AND THE LOADS WEIGHT AND LOAD CENTER BEFORE ATTEMPTING A LIFT.
- ALWAYS USE YOUR SEAT BELT
- NO RIDERS ON 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 OPERATORS STATION]
- IF LOAD BLOCKS YOUR VIEW GO BACKWARD
- NEVER TURN ON A GRADE
- CARRY LOAD AND TILTED BACK WHENEVER POSSIBLE
- DON'T JUMP FROM A TIPPING LIFT TRUCK, STAY IN SEAT
- CHOCK WHEELS OF TRAILER WHEN DOCKING FORK LIFT
- KEEP HANDS AND LEGS OUT OF ALL PINCH POINTS
- STAY CLEAR OF TELESCOPING FRAME WHEN OPERATING
- NEVER PARK ON A GRADE
- SET PARKING BRAKE WHEN STOPPED

OPERATING HAZARDS

- FAST TURNING WITH AN EMPTY TRUCK CAN TURN OVER EASIER THAN A LOADED TRUCK
- SHARP TURNS WITH A LOAD UP CAN TURN OVER TRUCK EVEN WHEN MOVING SLOW
- REAR STEERING SWINGS THE TAIL OF THE MACHINE OUT INTO POSSIBLE OBSTICALS 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 VERTICLE MAST
- WATCH LOW OVERHEAD STRUCTURES
- OPERATE MACHINE IN A WELL VENTALATED AREA

ACCIDENTS HAPPEN WHEN:

- 1. OPERATOR IS NOT PROPERLY TRAINED*
- 2. OPERATOR IS NOT EXPERIENCED WITH LIFT TRUCK*
- 3. BASIC SAFETY RULES NOT FOLLOWED*
- 4. LIFT TRUCK WAS NOT MAINTAINED IN A SAFE OPERATING CONDITION*

OPERATING PROCEDURES

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 operators right, is pushed in so that the brake will be set when started. The engine idle control is also on the dash and should be adjusted to a low idle and then the ignition key can be turned to start the engine. If engine is running on gasoline the choke can be used to assist starting the engine when cold. Check gauges for normal conditions for water temp and oil pressure.

HOW TO OPERATE

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

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.

ENGINE SPEED

The engine rpm is controlled by the 4-position switch on the dash and most operations can be performed setting the engine speed below 2,000 rpm. Maximum allowable speed is 2,500 rpm and should be monitored using the tachometer on the dash.

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 WITH 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.

DUAL FUEL (if applicable)

The Versa-Lift is supplied with dual fuel capability to run on gasoline or liquid propane. To switch from gasoline to LP flip the switch on the dash to LP with the LP tank valve open. To switch from LP to gasoline close the tank valve and let the engine run out of LP. Flip the switch on the dash to GAS and start the engine.

HAND LEVER CONTROLS

The control levers on the right control the lift, tilt, boom and fork positioning in order from left to right. The first two 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 boom lever is pulled for up and pushed for down and each stage is determined by a switch box on the dash. The fork positioning function is controlled by pushing the lever to bring the forks together and pulling the lever to widen them. 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.** The frame lock must be pulled to disengage the lock before telescoping the frame back. This lock is only in the retracted position and should be used when chaining down the lift truck to a trailer for transporting.

TRACTION CONTROL

The traction control is activated by pressing, and holding a button on the dash. This control makes both drive wheels rotate at the same speed. **THE TRACTION CONTROL SHOULD ONLY BE ACTIVATED WHEN TRAVELING IN A STRAIGHT LINE. THE MACHINE WILL NOT TURN WHEN THE TRACTION ACTIVATION BUTTON IS PUSHED.**

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. A shaft puller is provided in the storage compartment and should be screwed into the end of a 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). Pull the red boom lock on the top of the carriage and 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.

BOOM VERTICLE EXTENSION

The boom has two hydraulic cylinders that are attached to the intermediate stage and one cylinders inside the boom that lift the upper boom stage. The operator can select which stage to lift and lower by utilizing the selector switch on the dash. It is recommended that the first stage be raised half way before activating the upper stage and then extend both as equally as possible, by alternating the stages. It is also recommended to use the mast for lifting and lowering loads and only using the booms hydraulic cylinders when additional stroke is required.

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 extending the horizontal boom by pushing the control switch to the pin hole desired and then reinstall the retainer pin. **THE HORIZONTAL BOON 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. The insert can be extended out for additional reach but only after the horizontal boom is fully extended. The insert is extended by removing the retainer pin at the tip of the horizontal boom and then activating the switch mounted on the boom till the desired hole lines up and the retainer pin installed.

LUBRICATION GUIDE

85/115

LUBRICATION

Steer axle linkage and king pin bearings	(10) fittings	50 hours
Mast roller bearings	(18) fittings	50 hours
Steer axle / counterweight pivot bearings	(2) fittings	100 hours
Mast mounting trunion bearings	(2) fittings	100 hours
Tilt cylinder pins	(4) fittings	100 hours

ENGINE LUBRICATION

Replace oil and filter		200 50 hours
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FUEL SYSTEM

Replace fuel filter		2000 hours
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AIR INTAKE

Replace air filter		250 hours
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HYDROSTATIC TRANSMISSION

Replace filter located on pump (CAUTION KEEP FILTER AREA CLEAN)		250 hours
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COOLING SYSTEM

Check coolant condition		1000 hours
Drain and flush radiator		2000 hours

HYDRAULIC SYSTEM

UNIVERSAL HYDRAULIC FLUID

Check level		50 hours
Replace in-tank filter		500 hours
Change fluid		2000 hours
Change breather cap		2000 hours

WHEEL ENDS

80W-90 GEAR OIL

Check fluid level		250 hours
Drain and replace oil		2000 hours

STEER AXLE WHEEL BEARINGS

Lubricate		2000 hours
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CRITICAL FASTENER TORQUE SPECIFICATIONS

DRIVE WHEEL LUG NUTS	750 FT.-LBS.
STEER AXLE PIVOT RETAINER BOLTS	310 FT.-LBS.
TILT CYLINDER ROD EYE CLAMP BOLTS	310 FT.-LBS.
COUNTERWEIGHT MOUNTING BOLTS	400 FT.-LBS.
STEER CYLINDER CLAMP BOLTS	400 FT.-LBS.
SEAT MOUNTING BOLTS	15 FT.-LBS.