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OWNER'S MANUAL

MODEL ZLTT GROUND-CLEARANCE LIFT-AND-TILT TABLE

Serial number: _____

Installation Instructions	2	Electrical Diagram	10
Warnings & Safety Instructions	3	Hydraulic Diagram	11
Operation Instructions	4	Power Unit's Operation	12
Routine Maintenance & Safety Checks	5	Safety Labels	13
Exploded Structural Parts Drawing & BOM	6 - 7	Troubleshooting	14
Motor & Transformer Connections	8	Notes	15
Electric / Hydraulic BOM	9	Warranty	16

WARNINGS AND SAFETY INSTRUCTIONS

Ensure that all employees understand and follow the following.

- Read and understand the owner's manual before using or servicing the lift.
- The load must be removed and the platform fully lowered before any work is performed on the lift.
- Ensure that all safety and warning labels stay in place and are legible.
- Do not use the lift if any damage or unusual noise is observed.
- Always watch the platform and the container carefully when the lift is in operation.
- Do not perform any modifications to the lift without the manufacturer's approval. Failure to receive authorization for changes to the equipment could void the warranty.
- Maintenance and repairs are to be done only by personnel qualified to perform the required work.
- Do not use brake fluid or jack oils in the hydraulic system. If oil is needed, use an anti-wear hydraulic oil with a viscosity grade of 150 SUS at 100°F, (ISO 32 cSt @ 40°C), or Dexron transmission fluid.

WHEN ORDERING

REPLACEMENT PARTS:

We take pride in using quality parts on the equipment we manufacture. We are not responsible for equipment problems resulting from the use of unapproved replacement parts.

To order replacement or spare parts for this equipment, contact the factory.

In any communication with the factory please be prepared to provide the machine's serial number, which is indicated on the machine dataplate.

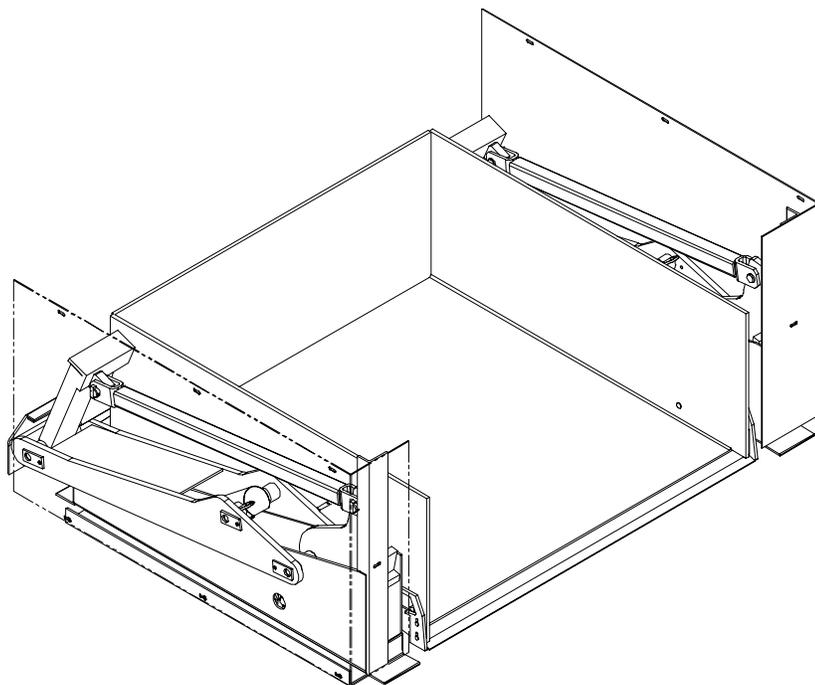
RECEIVING INSTRUCTIONS

Every unit is thoroughly tested and inspected prior to shipment. However, it is possible that the unit could incur damage during transit.

Inspect the unit closely when it arrives. *If you see evidence of damage or rough handling to either the packaging or to the product when it is being unloaded, immediately make a note of it on the Bill Of Lading!*

It is important that you remove the product's packaging upon its arrival to ensure that there is no concealed damage or to enable a timely claim with the carrier for freight damage.

Also, verify that the product and its specifications are as ordered.



INSTALLATION INSTRUCTIONS – MODEL ZLTT

Review this entire page before installing the lift. Consult the factory in the event there are any questions or problems at the time of installation.

The lift-and-tilt table must be removed from the shipping wood and securely anchored to the floor before use!

- The standard model ground-clearance lift-and-tilt table is suitable for use indoors in most industrial locations and many commercial locations, and is typically provided as a turnkey system. Anchoring the unit to the floor and an electrical supply to the remote power unit is typically all that is required for installation.
- Modifications or additions to the lift without prior manufacturer's authorization may void the lift's warranty (see ANSI MH29.1, Safety Requirements for Scissor Lifts, section 12.6.) The addition of ancillary equipment to the platform may necessitate that its load capacity be reduced.
- The installation must be made so that it complies with all the regulations applicable to the machine and its location. The end-user must verify that the supplied equipment is installed so it will be suited to the environment in which it will be used.
- Installation must be performed by suitably trained personnel with access to the appropriate equipment. The electrical aspects of the installation should be performed by an electrician.

For a standard installation you will need the following:

1. A smooth, level concrete surface on which to mount the lift.
2. A fork truck with fork extensions, or a hoisting means to unload the lift and its power unit from the freight truck and set it into place.
Caution: To prevent damage to the unit, careful consideration must be used when choosing a lifting method.
Note: *The unit must only be lifted when in the level and fully lowered position and fully supported underneath, across its width.*
3. Concrete anchors, a masonry drill, a masonry bit, hand tools, grout, steel shims, and tools to square up the frame before anchoring. Consult the building's architect or facility engineer to determine the best size and type of hardware with which to anchor the machine to the floor.
4. A power supply circuit and disconnect matching the motor voltage and current requirements. Refer to the labels on the control enclosure and to the electrical section in this manual for more information. The end-user is responsible for supplying the branch circuit's required overcurrent and short-circuit protection.

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1. Move the lift into place with forks placed under the unit's frame from the side. Use fork extensions if necessary. Use care to avoid damage to the electrical and hydraulic components mounted to the lift.
Note: *The lift must only be lifted when in the lowered position and fully supported underneath, across its width.*
 2. Temporarily connect the power supply to the pigtail cord supplied with the table, and raise the platform so the table's safety maintenance props can be utilized. Lower the platform so the unit is supported by the props.
 3. Square the frame to ensure the frame sides are parallel and square with each other.
 4. Use appropriate concrete fasteners to anchor the lift's frame to the floor, at each corner.
 5. Shim and/or grout under the full length of the frame sides.
 6. Make permanent connection to the power supply, using an appropriate wiring method.
 7. Raise and tilt the unit through several full up/down cycles. Verify that the upper travel limit switches (lifting and tilting) and the toe guard switch function properly.
 8. Check the hydraulic oil level. It should be filled to within 1" to 1½" of the reservoir's fill hole. If oil is needed, use an anti-wear hydraulic oil with a viscosity grade of 150 SUS at 100°F (ISO 32 at 40°C) or a non-synthetic automatic transmission fluid.
 9. Clean up any debris or spilled oil, and verify that all of the warning and safety labels are intact.

WARNINGS AND SAFETY INSTRUCTIONS, MODEL ZLTT

Ensure that all employees understand and follow the following instructions.

- Read and understand the owner's manual before using or servicing the lift.
- The unit must be lowered to the floor and the load removed from the platform before any work is performed on the lift.
- Ensure that all safety and warning labels stay in place and are legible. See the labels page in this manual.
- The lift's frame must be securely anchored to the floor. See the installation instructions.
- Do not use the lift if any damage or unusual noise is observed.
- Always watch the lift and any load on it carefully when it is in operation.
- The platform's load must be centered and evenly distributed on the platform.
- Do not perform any modifications to the lift without the manufacturer's approval. Failure to receive authorization for changes to the equipment could void the warranty.
- Maintenance and repairs are to be done only by personnel qualified to perform the required work.
- Do not use brake fluid or jack oils in the hydraulic system. If oil is needed, use an anti-wear hydraulic oil with a viscosity grade of 150 SUS at 100°F, (ISO 32 @ 40°C), or a non-synthetic automatic transmission fluid.
- Use only replacement parts either supplied or approved by the manufacturer.

OPERATION INSTRUCTIONS – MODEL ZLTT

- o *Ensure that all employees involved in the operation of this lift-and-tilt understand and follow these instructions!*

Loading:

The load rating, in pounds, is shown on the machine dataplate located on the torsion rod at the operator's right side corner. It indicates the net capacity of the ZLTT with the load centered and evenly distributed.

Warning: The vertical center-of-gravity of the load on the platform should be at least 12" inside the main box pivot point when the platform is tilted.

Note: The addition of any ancillary equipment to the platform by third parties must be taken into account when determining the maximum working load.

Warning: Do not exceed the platform's load ratings. Permanent damage to the equipment or injury to personnel could result from exceeding the listed capacity.

Operation:

Inspect the perimeter pinch point guards' operation daily.

Warning: Keep all personnel clear of the machine when it is in operation. Be certain no part of any person or object is under any part of the platform before lowering the unit.

Caution: Always carefully watch the platform and any load on it when it is in operation.

The ground-clearance lift-and-tilt table is furnished with either a constant-pressure (dead-man style) pushbutton (standard) or dual twin foot switch (optional) control.

Pressing either the "LIFT RAISE" or "TILT RAISE" pushbutton or foot switch will turn on the power unit to raise or tilt the platform, respectively. The platform will move only while the control is pressed. Upon releasing the control, the platform will stop and hold its position.

Pressing the "LIFT LOWER" or "TILT LOWER" pushbutton or foot switch will energize the corresponding lowering valve to allow the platform to descend by gravity (the motor does not run). Again, releasing the control will stop the platform movement, and the unit will hold its position.

Caution: Never use the lift if any damage or unusual noise is observed, if it is in need of repairs, or if it seems to be malfunctioning. Notify your supervisor or maintenance personnel if you notice anything out of the ordinary.

Ensure that all safety and warning labels stay in place and are legible. Refer to the labels page in this manual.

ROUTINE MAINTENANCE & SAFETY CHECKS – ZLTT

- *Warning: Care should be taken to identify all potential hazards and comply with applicable safety procedures before beginning work.*
- *Warning: Raise the platform and install the maintenance props before beginning any inspections or work on the unit.*
- *Only qualified individuals trained to understand mechanical devices and their associated electrical and hydraulic circuits should attempt troubleshooting and repair of this equipment.*

(A) Before each use inspect for the following:

- 1.) Frayed wires.
- 2.) Oil leaks.
- 3.) Pinched or chafed hoses.
- 4.) Damage or structural deformation to the structural members, cylinder brackets, etc.
- 5.) Unusual noise or binding, or evidence thereof.
- 6.) Proper functioning of all limit switches, including those on the loading-side pinch point guard or photoswitch.

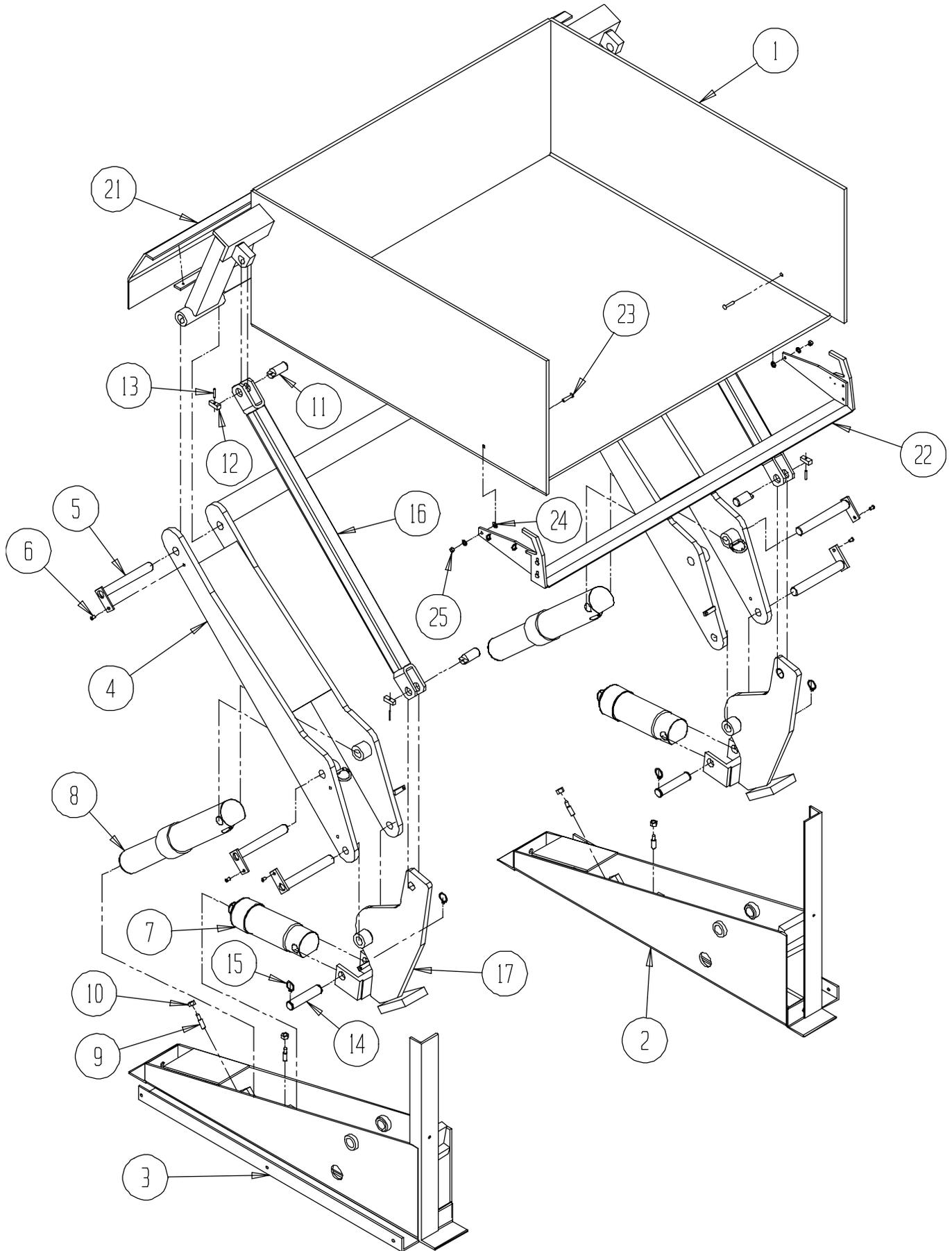
(B) Inspect monthly for:

- 1.) The oil level. Oil should be 1½" to 2" below the reservoir's fill hole with the lift in the fully raised position. See below for oil specification.
- 2.) Worn or damaged hydraulic hoses and electrical wires.
- 3.) Pivot point wear.
- 4.) Rollers' looseness and wear.
- 5.) Integrity of the retaining rings on all rollers and on all pivot point pins.
- 6.) The integrity of the frame anchor bolts, and for cracks in the concrete around them.
- 7.) Proper functioning of any hand- or foot-operated mechanisms.
- 8.) Unusual noises or movement during operation.
- 9.) All the information, safety, and warning labels being in place and in good condition.
- 10.) The need to clean off dirt and debris.

(C) Yearly inspection

The oil should be changed if the oil darkens, becomes gritty, or turns a milky color (indicating the presence of water). Replace with an anti-wear hydraulic oil with a viscosity grade of 150 SUS at 100°F, (ISO 32 at 40°C). Ex: AW 32 or HO 150 hydraulic oil, or a non-synthetic transmission fluid. You may use a synthetic transmission fluid if you flush the system with the synthetic fluid before filling the reservoir.

EXPLODED PARTS VIEW AND BILL OF MATERIALS -- MODEL ZLTT



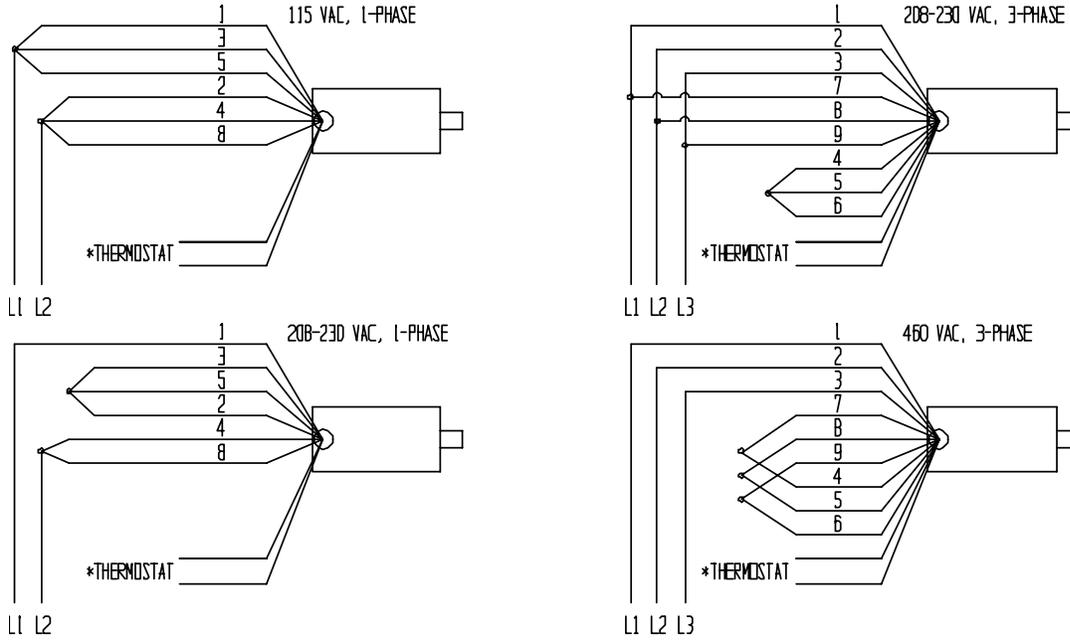
BILL OF MATERIALS -- MODEL ZLTT

25	N/A	NUT, HEX, NYLOCK, ϕ 5/16 - 18 UNC	2
24	N/A	WASHER, FLAT, 5/16 I.D.	4
23	N/A	BOLT, CARRIAGE, ϕ 5/16 - 18 UNC x 1 1/2 LG, ZINC PLATED	2
22	04-515-031	TOE GUARD WELDMENT	1
21	04-024-019	GUARD/ COVER PVC 16 GA. x 12 x 74 LG.	1
20	04-024-013	SHROUD / COVER OPTIONAL 10 GA. x 22 x 54 LG. (NOT SHOWN)	2
19	N/A	SCREW, SELF TAPPING 5/16 - 18 UNC x 1/2 LG. (NOT SHOWN)	12
18	04-024-012	SHROUD / SIDE COVER, FORMED (NOT SHOWN)	2
17	04-514-024	FRAME, ASSEMBLY PIVOT ARM	2
16	04-514-023	FRAME, ASSEMBLY LINKAGE ARM	2
15	15-117-001	SNAP RING, TRUARC NO. 5100-112	4
14	15-112-002	PIN, CYLINDER (TM) ϕ 1 1/8 x 5.28 LG.	2
13	N/A	PIN, ROLL PIN, ϕ 3/16 x 1 1/4 LG. (FN64135)	4
12	01-020-003	BOSS, PIN 1/2 x 1/2 x 1 1/2 LG.	4
11	01-112-008	BOLT, CYLINDER RETAINING	4
10	N/A	NUT, JAM 1/2 - 13 UNC	4
9	01-118-001	BOLT, CYLINDER RETAINING	4
8	99-021-901	CYLINDER 3 x 10	2
7	99-021-907	CYLINDER 3 x 7	2
6	N/A	SCREW, SELF TAPPING, 5/16 - 18 UNC x 1/2 LG.	6
5	04-612-006	PIN, RETAINING SUBASSEMBLY	6
4	N/A	RIGHT AND LEFT SIDE LEG WELDMENT WITH CROSSBAR	2
3	04-514-027	FRAME, WELDMENT RIGHT SIDE	1
2	04-514-026	FRAME, WELDMENT LEFT SIDE	1
1	N/A	DECK WELDMENT, W/TOE GUARD	1
ITEM NO.	PART NO.	DESCRIPTION	QTY.

MOTOR & TRANSFORMER CONNECTION DIAGRAMS

CAUTION! *If the motor voltage is changed, the wire on the control transformer's primary wire has to be changed to match the new motor voltage also.*

MOTOR LEAD CONNECTION DIAGRAM FOR ALL
.5HP, .75HP AND 3HP SINGLE-PHASE MOTORS AND FOR
ALL 2HP, 5.5HP, AND 6.5HP THREE-PHASE MOTORS

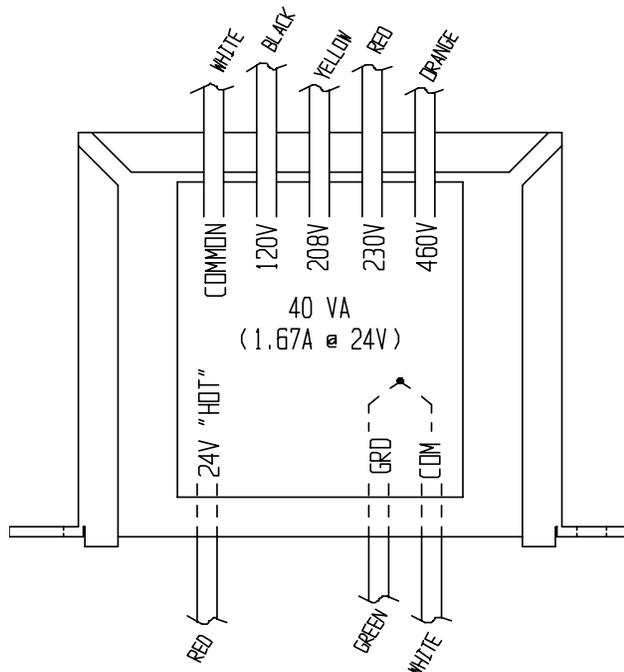


* The two thermostat leads go to: 1) the grounded side of the transformer secondary, and; 2) the motor relay coil, in either order.



BE SURE ALL POWER IS OFF BEFORE ATTEMPTING TO WORK ON THIS EQUIPMENT!

CAUTION: SERVICE WORK SHOULD BE PERFORMED ONLY BY TRAINED & QUALIFIED PERSONNEL.



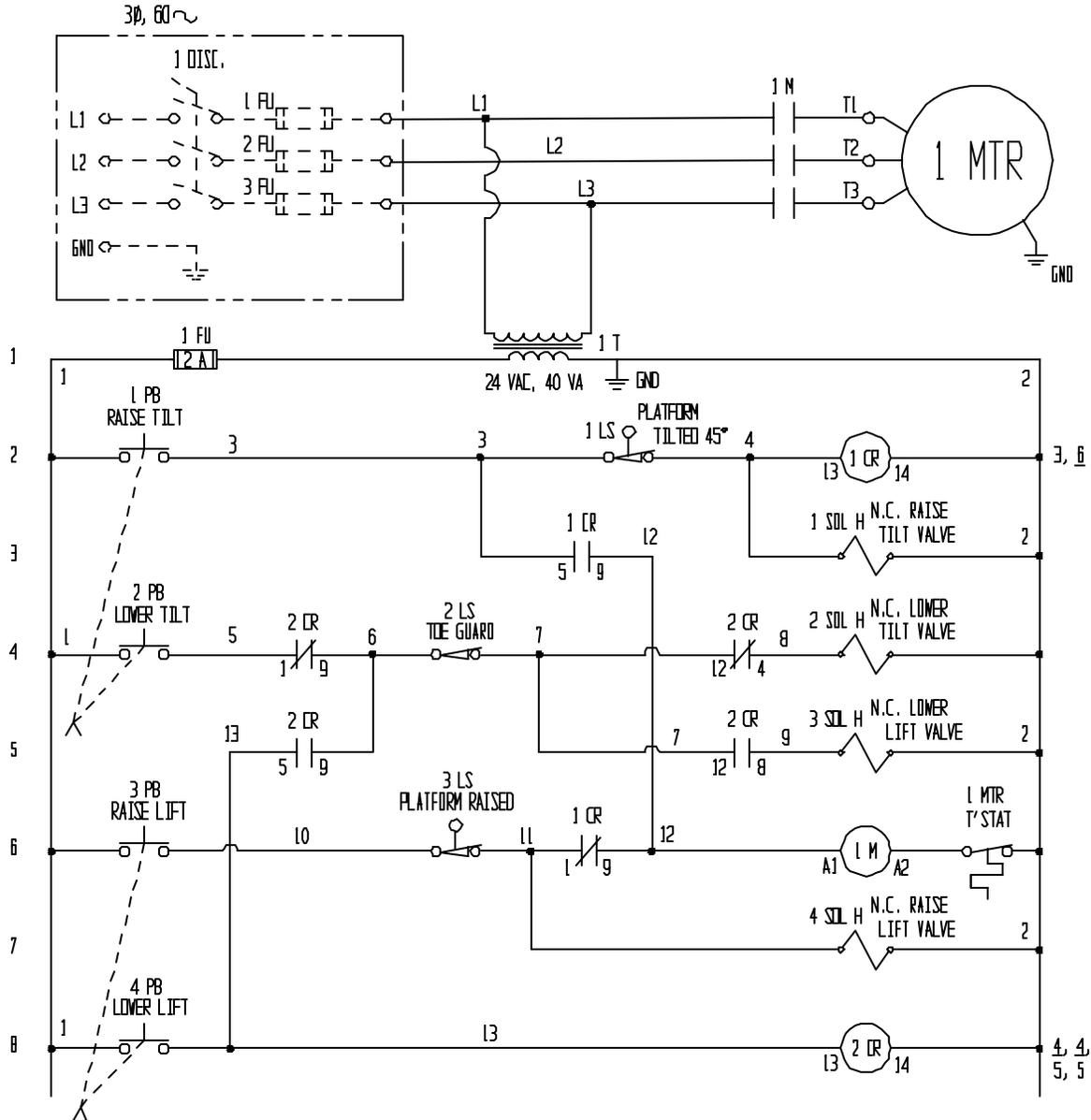
ELECTRIC / HYDRAULIC BOM -- MODEL ZLTT

Item #:	Qty.:	Part number:	Part description:
		Electrical parts:	
1	1	01-135-xxx	Motor, varies by request; consult factory
2	1	LC1-D1810-24V	Motor contactor, 30A, w/ 24 VAC coil
3	1	01-129-001	Transformer, control; w/ 24 VAC secondary
4	1	AGC 2	Fuse, for control circuit
5	1	01-029-006	Enclosure, control, 6" x 6" x 4" D
6	4	99-034-008	Solenoid coil, 24 VAC
7	4	01-533-xxx	Connector cord, for solenoid coil; can vary by model
8	1	01-029-025	Pushbutton control, 4-button
9	1	99-033-911	Cord, 18/5, 8' long
10	1	A-402DSC	Enclosure, junction box, 2" x 2" x 4" D
11	2	01-022-001	Switch, limit, roller-arm (N.C.)
12	1	01-022-022	Switch, micro (front toe guard)
		Hydraulic parts:	
13	1	99-153-005	Valve, relief, 210 bar
14	4	99-153-015	Valve, solenoid, N.C.
15	2	99-153-011	Valve, check
16	2	99-153-041	Flow control spool, 3 gpm
17	2	99-021-901	Cylinder, lift, displacement-style, 3" x 10"
18	2	99-021-907	Cylinder, tilt, displacement-style, 3" x 7"
19	1	99-127-005D	Manifold, zero lift-and-tilt
20	1	01-143-xxx	Pump, hydraulic, varies by voltage; consult factory
21	1	04-023-001	Reservoir, 6" x 6" x 16"
22	1	DPS-40-N06	Breather plug
23	1	01-031-005	Fitting, intake screen
24	2	HO 150	Hydraulic fluid (gallons)

ELECTRICAL DIAGRAM -- MODEL ZLTT

- *Warning: Care should be taken to identify all potential hazards and comply with applicable safety procedures before beginning work. The platform must be fully lowered and resting on the floor, and the system pressure and power supply must be removed, before attempting to work on any part of the hydraulic system!*
- *Only qualified individuals trained to understand mechanical devices and their associated electrical and hydraulic circuits should attempt troubleshooting and repair of this equipment*

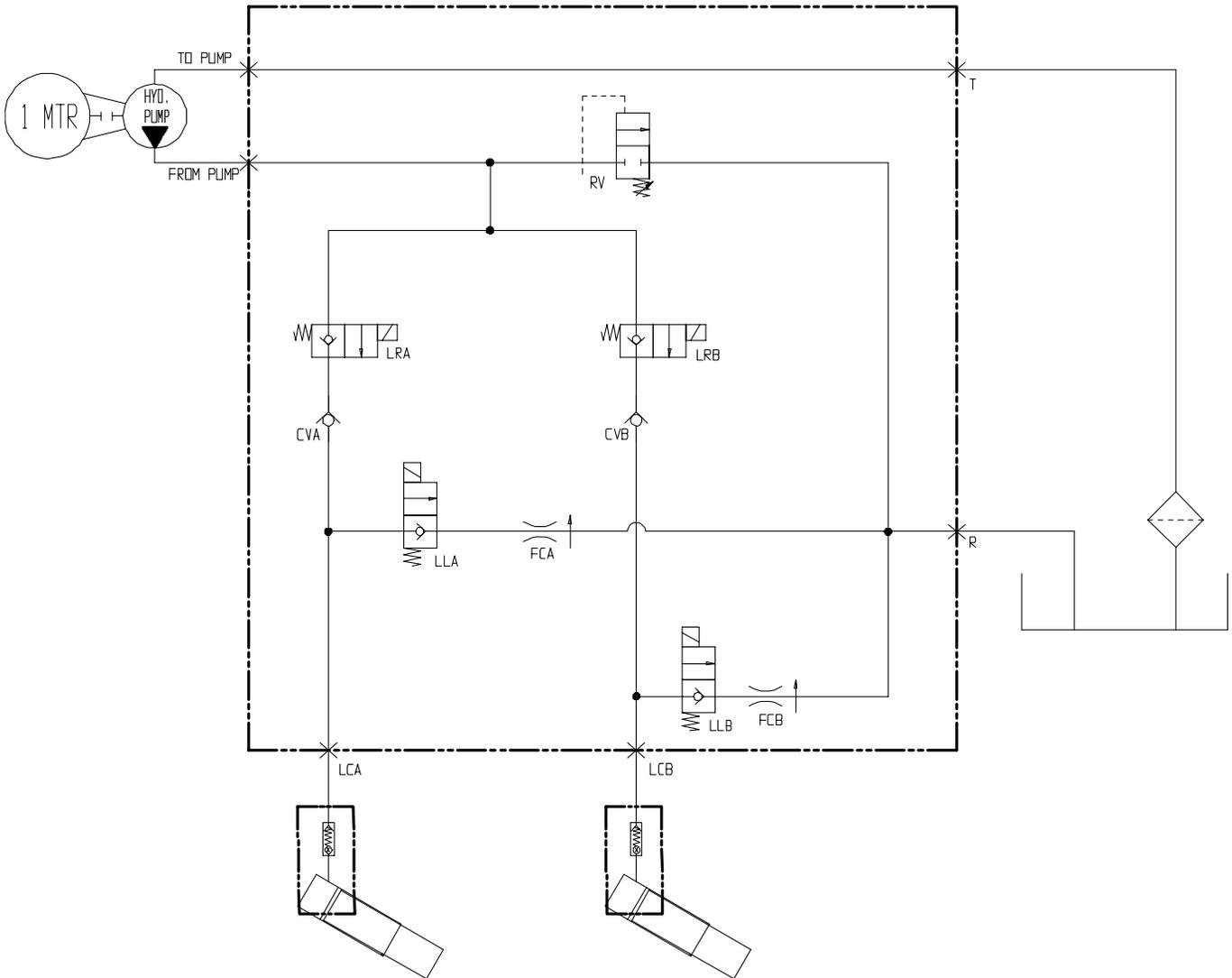
OVERCURRENT & SHORT-CIRCUIT PROTECTION, AND DISCONNECT ARE TO BE PROVIDED BY THE END-USER PER THE NEC (NFPA 70) AND LOCAL CODES.



BE SURE ALL POWER IS OFF BEFORE ATTEMPTING TO WORK ON THIS EQUIPMENT!
CAUTION: SERVICE WORK SHOULD BE PERFORMED ONLY BY TRAINED & QUALIFIED PERSONNEL

HYDRAULIC DIAGRAM – MODEL ZLTT

- *Warning: Care should be taken to identify all potential hazards and comply with applicable safety procedures before beginning work. The platform must be fully lowered and resting on the floor, and the system pressure and power supply must be removed, before attempting to work on any part of the hydraulic system!*
- *Only qualified individuals trained to understand mechanical devices and their associated electrical and hydraulic circuits should attempt troubleshooting and repair of this equipment*



Caution: Do not use brake fluid or jack oils in the hydraulic system. If oil is needed, use an anti-wear hydraulic oil with a viscosity of 150 SUS at 100°F (ISO 32 @ 40°C), or non-synthetic transmission fluid.

THE POWER UNIT'S OPERATION -- MODEL ZLTT

The electric / hydraulic zero-clearance lift-and-tilt utilizes an electric motor directly coupled to a gear-type hydraulic pump to produce the needed fluid pressure and flow to allow the cylinders to perform the work of lifting and tilting the platform.

A hydraulic manifold houses the hydraulic control components, and is bolted directly onto the gear pump. The power unit's hydraulic components are all rated for 3,000 psi working pressure.

- Important parts of the power unit include:
 - The electric motor. Motors are available for operation on single- or three-phase AC supplies (all are dual-voltage capable).
 - The gear pump. Its shaft is coupled directly to the shaft of the electric motor. Several displacements are available, depending on the motor horsepower used.
 - The check valve. Its purpose is to prevent the backflow of fluid through the pump. In this way it allows the platform to be held at a given elevation indefinitely.
 - The pressure relief valve. Its job is to open a path for fluid to flow back to the reservoir in the event that the fluid pressure built up by the pump exceeds 3,000 psi. Thus the system cannot develop more than 3,000 psi.
 - The lowering solenoid valve. This is an electrically-operated cartridge valve. It contains a screen to keep contaminants from entering the valve.
 - The pressure-compensated flow control spool. This regulates the fluid flow back to the reservoir when the valve opens. It allows the platform to always lower at the same rate regardless of whether there is a load on the platform or not. Several sizes are available.
 - The hydraulic lifting and tilting cylinders. These are displacement style cylinders. They have a bleeder valve located at their top end to allow air to be bled from the hydraulic system.
 - The safety velocity fuse. This is a device that is installed in the cylinder's hose port. It closes quickly in the event of a catastrophic hose failure to prevent the platform from collapsing down. The platform will remain stationary until pressure is reapplied to the system.
 - The hydraulic fluid. The system uses HO150 hydraulic fluid. Any anti-wear hydraulic fluid with a viscosity grade of 150 SUS at 100°F (ISO 32 @ 40°C) such as AW-32 or Dexron transmission fluid are acceptable.

- When the platform is to be lifted or tilted, press one of the "RAISE" pushbuttons. The motor turns, and in turning it spins the hydraulic gear pump. Oil is drawn from the reservoir through the suction filter and into the pump.
 - ◆ The pump pushes the pressurized oil through the check valve and out to the lift or tilt cylinders. Releasing the pushbutton at any point will stop the lift or tilt motion, and the platform will hold at that height and angle indefinitely.
 - An upper travel limit switch turns off the motor when the platform is at its full lift height or tilt angle.
 - When the platform is to be lowered, press one of the "LOWER" pushbuttons.
 - ◆ The lowering valve opens, bypassing the check valve and allowing the oil in the cylinders to return back to the reservoir through the return hose. The rate at which the platform lowers is regulated by the internal pressure-compensated flow spool. Releasing the pushbutton at any point will stop the lowering motion, and the platform will hold at that height and angle indefinitely.

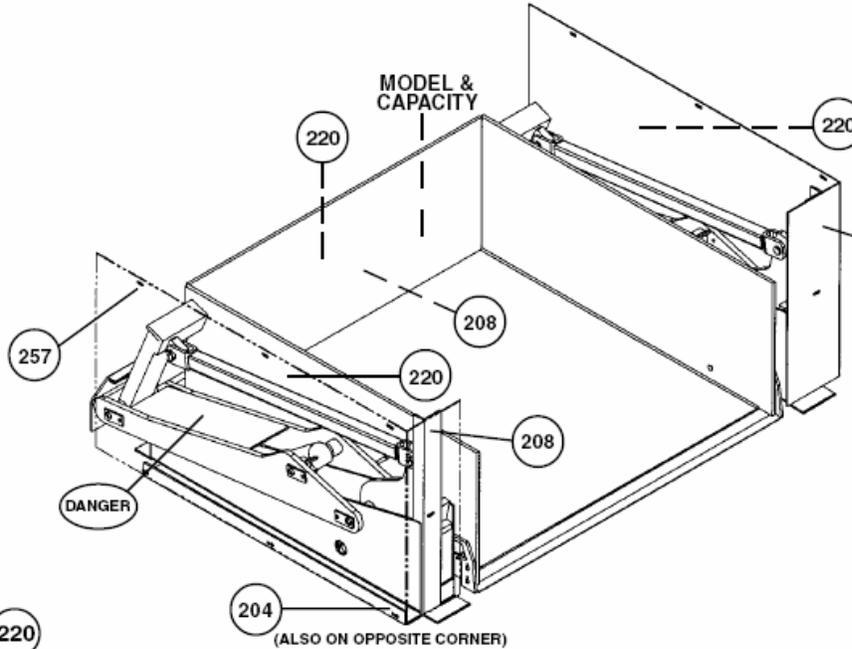
- In the event that the platform creeps down slowly after releasing a "LOWER" control, it will be necessary to remove the lowering cartridge valve (whichever is applicable) for inspection and cleaning, as follows:
 - ◆ Lower the platform until it is fully lowered.
 - ◆ Remove any load from the platform.
 - ◆ Remove the nut holding the solenoid coil on the valve stem, then remove the coil, and then unscrew the valve from the manifold.
 - ◆ Inspect the valve for contaminants, and the valve's o-rings and back-up washers for cuts, tears, or other damage.
 - ◆ With the valve immersed in mineral spirits or kerosene, use a thin tool such as a small screwdriver or a small hex wrench to push the poppet in and out several times from the bottom end of the valve. The valve should move freely, about 1/16" from closed to open position. If it sticks in, the valve stem could be bent and will need to be replaced if it doesn't free up after cleaning. Blow the valve off with a compressed-air gun while again pushing the poppet in and out.
 - ◆ Inspect the bottom of the manifold's valve cavity for contaminants.
 - ◆ Again with the thin tool, press on the middle of the flow control spool located in the bottom of the cavity. It should move down and back up freely.
 - ◆ Reinstall the valve into the manifold, tightening the valve with approximately 20 lb-ft of torque.

- If the platform lowers extremely slowly, or not at all, a cylinder's velocity fuse could be closing. This can be caused by air in the hydraulic cylinder. To bleed the air from the system:
 - ◆ Remove any load from the platform.
 - ◆ Position the platform so that it is tilted several degrees and approximately two inches off the floor.
 - ◆ Hold a rag over each cylinder's bleeder valve (it looks like a grease zirk) and open the valve about 1/2 turn with a 1/4" or 5/16" wrench.

SAFETY LABEL LOCATIONS -- MODEL ZLTT

WARNING LABEL IDENTIFICATION

MAKE SURE ALL WARNING LABELS ARE IN PLACE!



REMOTE POWER PLATE

221 249

*Product safety signs or labels should be periodically inspected and cleaned by the product users as necessary to maintain good legibility for safe viewing distance . . . ANSI 535.4 (10.21) Contact manufacturer for replacement labels if needed.

220 (ALSO ON OPPOSITE CORNER)

⚠ WARNING	⚠ ADVERTENCIA	⚠ AVERTISSEMENT
KEEP CLEAR WHEN IN USE	MANTENGASE ALEJADO CUANDO SE ESTA OPERANDO	SE TENIR A DISTANCE LORS DU FONCTIONNEMENT

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DANGER

SHUT POWER OFF AND CONSULT OWNER'S MANUAL BEFORE WORKING ON THIS EQUIPMENT.

T & S EQUIPMENT

221

⚠ DANGER	ELECTRICAL SHOCK Shut power off and consult owners manual before working on this equipment.
⚠ PELIGRO	EL GOLPE ELECTRICO Corte la corriente consulte el manual de propietario antes de trabajar en este equipo.
⚠ DANGER	CHOC ELECTRIQUE Couper le courant et consulter le manuel d'utilisation avant de travailler sur cet équipement.

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204

NOTICE	NOTA	AVIS
POWER SUPPLY: 208-230V/3 Phase/60 HZ CONTROL VOLTAGE: 24V AC		
CORRIENTE: 208-230V/3 Fase/60 HZ VOLTAJE DE CONTROL: 24V CA		
ALIMENTATION ELECTRIQUE: 208-230V/3 Monophasé/60 HZ VOLTAGE DE CONTRÔLE: 24V AC		

249

204

⚠ WARNING	⚠ ADVERTENCIA	⚠ AVERTISSEMENT
SECURE FRAME TO FLOOR	ASEGURE EL BASTIDOR AL PISO	FIXER SOLIDEMENT LE CADRE AU PLANCHER

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208

⚠ WARNING	⚠ ADVERTENCIA	⚠ ADVERTENCIA
KEEP CLEAR OF PINCH POINT	MANTENGASE ALEJADO DEL PUNTO DE CORTE	SE TENIR A DISTANCE DU POINT DE PINCEMENT

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257

⚠ DANGER	TO AVOID PERSONAL INJURY READ OWNER'S MANUAL BEFORE OPERATING OR REPAIRING SCISSOR LIFT.	⊘ DO NOT PUT HANDS, FEET OR OBJECTS UNDER TOP. LOWER PLATFORM SLOWLY. MOVE IN LOWERED POSITION ONLY. NO PONGA MANOS, PIES U OBJETOS DEBAJO DEL BORDE. DESCienda LA PLATAFORMA LENTAMENTE. MOVER SOLO EN POSICION INFERIOR.	⊘ DO NOT WORK UNDER LIFT WITHOUT SAFETY BLOCK OR WHILE LOADED. KEEP CLEAR OF MOVING SCISSOR MECHANISM. DO TRABAJO DEBAJO DEL ELEVADOR SIN LOS FRENS DE SEGURIDAD O CUANDO ESTE CARGADO. MANTENGASE ALEJADO DEL MECANISMO DE TIJERA EN MOVIMIENTO.	⊘ DO NOT STAND, SIT OR RIDE ON LIFT. NO SE SIENTE, SE PARA, O VIAJE EN EL ELEVADOR.
⚠ PELIGRO	PARA EVITAR DAÑOS PERSONALES LEA EL MANUAL DEL PROPIETARIO ANTES DE OPERAR O REPARAR EL ELEVADOR DE TIJERAS.	⊘ NE PAS METTRE LES MAINS, LES PIEDS OU TOUT OBJET SOUS LE PLATEAU SUPERIEUR. DESCENDRE LA PLATEFORME LENTEMENT. DEPLACER EN POSITION ABASSEE SEULEMENT.	⊘ NE PAS TRAVAILLER SOUS L'ELEVATEUR SANS BLOCS DE SECURITE OU LORSQU'IL EST CHARGE. RESTER A L'ECART DU MECANISME CISEAU LORSQUE L'ELEVATEUR EST EN FONCTIONNEMENT.	⊘ NE PAS SE TENIR DEBOUT, S'ASSEoir OU MONTER SUR L'ELEVATEUR.
⚠ ATTENTION	POUR EVITER TOUTE BLESSURE PERSONNELLE LIRE LE MANUEL D'UTILISATION AVANT DE METTRE EN MARCHE OU AVANT DE REPARER L'ELEVATEUR CISEAU.			

257

TROUBLESHOOTING GUIDE -- MODEL ZLTT

Before performing any task, always lower the platform fully to the floor and disconnect the power supply.
Consult the factory for problems at time of installation, or for any problems not addressed below.

<u>Problem:</u>	<u>Possible cause(s):</u>	<u>Action:</u>
Power unit doesn't run when one, or either, "RAISE" button is pressed.	Transformer fuse is blown. No supply voltage. Upper travel limit switch is engaged or bad. Bad connection in control circuit. Bad control transformer. Open motor relay coil.	Test with meter; replace if bad. Test with meter. Check fuses, breakers, and overloads to determine the cause. Inspect and test switch. Replace if bad. Test all parts of circuit with meter. Check for 24 VAC; replace if bad. Test with meter; replace if bad.
Motor runs properly, platform doesn't move. Motor and pump not noisy.	Motor rotation is wrong. Pump has failed. Fluid level is low.	Verify motor shaft rotates CCW. Consult factory for replacement. Ensure reservoir is filled.
Motor or control enclosure hums, chatters, or buzzes, or some type of squeal can be heard; the platform does not move, or the platform moves only slowly.	See second item above, for when platform doesn't raise. Excess voltage drop to motor, due to power wire size too small, wire run too long, or incoming voltage too low. Motor is "single-phasing". Pressure relief opening at full pressure. Contamination holding open the lowering valve or the check valve.	Same as above. Check power installation for adequacy. Check incoming voltage <i>while motor is running</i> . Correct any problem found. Determine cause of loss of voltage on one phase; correct. Check for structural damage of the legs, platform, etc. Check for platform overload condition. Remove and inspect. Clean per instructions in this manual.
Platform raises, then drifts down.	See last paragraph, above.	Same as last item, above.
Platform lowers too quickly.	See above. Flow control spool is stuck.	Same as above. See below.
Platform lowers too slowly.	Flow control spool is stuck. Pinched hose. Velocity fuse locking (platform only slowly creeps down).	Remove solenoid valve; push down on the center of the flow spool to ensure it moves freely. Check pressure, supply, and return hoses for kinks. Same as for jerky platform motion.
Platform won't lower.	Velocity fuse locking. Control transformer fuse blown. No supply voltage. Valve solenoid is bad. Bad connection in control circuit. Physical blockage of the structure. Solenoid valve or suction hose screen plugged.	Same as for jerky platform motion. Test with meter; replace if bad. Test with meter. Check for cause of power loss. Check with multimeter on diode-check function. (Reading for ohms will not provide an accurate test of the coil.) Test all parts of circuit with meter. Inspect for foreign material or objects under the leg set. Remove and inspect. Clean per instructions in this manual.
Spongy or jerky platform motion.	Excessive air in the hydraulic cylinders.	Bleed air per procedure described in this manual.

08/04

NOTES:

POWERED PRODUCTS' WARRANTY

ONE YEAR LIMITED WARRANTY

The manufacturer warrants for the original purchaser against defects in materials and workmanship under normal use one year after date of shipment (not to exceed 15 months after date of manufacture). Any part that is determined by the manufacturer to be defective in material or workmanship and returned to the factory, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at our option. Labor costs for warranty repairs and/or modifications are not covered unless done at manufacturer's facilities or pre-approved in advance by the manufacturer. Any modifications performed without written approval of the manufacturer may void warranty. This limited warranty gives purchaser specific legal rights which vary from state to state.

All specifications are subject to change without notice.

LIMITATION OF LIABILITY

To the extent allowable under applicable law, the manufacturer's liability for consequential and incidental damages is expressly disclaimed. The manufacturer's liability in any event is limited to, and shall not exceed, the purchase price paid. Misuse or modification may void warranty.

Warranty does not cover labor or consequential damages including, but not limited to, business interruption costs, lost profits, or lost business opportunities.

WARRANTY DISCLAIMER

The manufacturer has made a diligent effort to accurately illustrate and describe their products. However, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions.

The provisions of the warranty shall be construed and enforced in accordance with the Uniform Commercial Code and laws as enacted in the State of Indiana.

DISPOSITION

Our company will make a good faith effort for prompt correction or other adjustment with respect to any product that proves to be defective within the Limited Warranty Period. Warranty claims must be made in writing within said year.