

ZRT Floor Level Tilter

Installation, Operation and Service Manual

Model Number _____

Serial # _____

Date placed in service _____

**IMPORTANT: READ CAREFULLY
BEFORE INSTALLING OR OPERATING TILTER**

Part orders are subject to a \$50 minimum charge.



This manual was current at the time of printing. To obtain the latest, most updated version, please contact Presto Lifts Customer Service Department or go to our website: www.PrestoLifts.com -- you will find a complete list of current owner's manuals to print.

Presto Lifts Limited Warranty Policy

Presto Lifts warrants all of its products against defects in the welded structural frame and, if applicable, scissor legs from faulty material and workmanship for a period of five years from the date of invoice.

All other components have a limited warranty against defects in faulty material and workmanship for a two year period from the date of invoice and 30 day limited warranty on labor. Please note that prior authorization from Presto Lifts is required on all warranty work.

There are no implied warranties of any kind, more specifically, there are no warranties of merchantability or fitness for any particular purpose. Presto Lifts' sole warranty shall be as set forth in this limited warranty.

Presto Lifts will elect to repair or replace a defective component without charge, if any components should become defective within the limited warranty period. Proof of purchase is required for warranty. The charge for shipping the defective component is the responsibility of the buyer and must be accompanied with an RMA number. The shipping charge to return the component to the buyer is the responsibility of Presto Lifts, Inc.

This limited warranty does not cover labor expense for removal or reinstallation of components after thirty days. This limited warranty shall not cover, among other things: damages resulting from foreign matter or water, failure to provide reasonable and necessary maintenance, and if applicable, use of product while charger is plugged into an AC outlet, or failure to follow operating instructions. The limited warranty is not valid for damage resulting from negligence, accident, unreasonable use, abuse or misuse, exceeding data plate capacities or altering the product without Presto Lifts authorization.

Presto Lifts expressly disclaims and excludes any liability for consequential, incidental, indirect or punitive damages or financial loss to people or property resulting from any breach of warranty or the operation or failure of this product.

Presto Lifts makes no representation that this product complies with local, state, or federal safety/product standards codes. Should this product fail to comply in any way with those codes, it shall not be considered a defect of materials or workmanship. Presto Lifts shall not be held liable for any damages resulting from noncompliance. It is the dealer's responsibility to exercise this limited warranty. This limited warranty is provided to the original purchaser (defined as the original end user) and is nontransferable. This constitutes the complete and final agreement involving Presto Lifts and limited warranty obligations for products.

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SECTION 1

INTRODUCTION

The Presto ZRT Floor Level Tilters are designed for tilting and positioning a wide variety of loads. Each tilter is provided with an entrance ramp allowing easy access to the tilter and also acts as a safety toe bar for the operator during the lowering cycle. The ZRT Floor Level Tilters are designed for indoor non-hazardous location use.

This manual provides information necessary for the safe and proper installation, operation and maintenance of these tilters. It is important that this manual be read by all personnel involved with the installation, maintenance or operation of the tilter. Where unique situations arise, which are not covered in this manual, contact Presto Lifts, Inc. for further instructions. Additional manuals are available upon request.

The floor level tilters have a nameplate that provides the load capacity ratings, serial number and model identification. Please refer to these numbers when ordering parts or requesting further information.



Hazard or unsafe practice possibly resulting in personal injury or property damage.

Responsibility of Owners and Users

Inspection and Maintenance

The device shall be inspected and maintained in proper working order in accordance with Presto's owner's manual.

Removal from Service

Any device not in safe operating condition such as, but not limited to, excessive leakage, missing rollers, pins, or fasteners, any bent or cracked structural members, cut or frayed electric, hydraulic, or pneumatic lines, damaged or malfunctioning controls or safety devices, etc. shall be removed from service until it is repaired to the original manufacturer's standards.

Repairs

All repairs shall be made by qualified personnel in conformance with Presto's instructions.

Operators

Only trained personnel and authorized personnel shall be permitted to operate PowerStak.

Before Operation

Before using the device, the operator shall have:

- Read and/or had explained, and understood, the manufacturer's operating instructions and safety rules.
- Inspected the device for proper operation and condition. Any suspect item shall be carefully examined and a determination made by a qualified person as to whether it constitutes a hazard. All items not in conformance with Presto's specification shall be corrected before further use of the PowerStak.

During Operation

The device shall only be used in accordance with this owner's manual.

- Do not overload.
- Ensure that all safety devices are operational and in place.

Modifications or Alterations


Modifications or alterations to any Presto industrial positioning equipment shall be made only with written permission from Presto.


SECTION 2


SAFETY

The ZRT Floor Level Tilters are very powerful tilters capable of doing large amounts of work. They are hydraulically actuated and capable of causing serious injury or damage if adequate precautions are not taken. **DO NOT INSTALL OR OPERATE THESE TILTERS WITHOUT CAREFULLY READING THIS MANUAL.** Presto Lifts, Inc. has identified certain hazards which may occur during the installation, maintenance and use of these tilters.

The ZRT Floor Level Tilters are serviced or repaired in the collapsed position. The ZRT Floor Level Tilters are serviced in a raised position supported by safety devices. When the maintenance is performed properly according to Sections 5 and 6, it will greatly reduce the possibility of injury. the ZRT Floor Level Tilters have hydraulic safety fuses attached to each cylinder. These will prevent the tilters from lowering in the event of a catastrophic hydraulic pump or line failure.

 **DANGER** – Immediate hazard that will result in severe personal injury or death.

 **WARNING** – Hazard or unsafe practice that could result in severe personal injury or death.

 **CAUTION** – Hazard or unsafe practice that could result in minor personal injury or property damage.

In the interest of safety, please read the entire manual carefully. You must understand the material in this manual before you install, use, or service the unit. If you have any question about any of the instructions in this manual, please contact Presto Lifts Inc. at 1-800-343-9322.



Do not perform any repair work on a tilter in a fully extended position.

Do not put hands or feet under tilter.

Do not work under tilter without securing it first with proper maintenance devices.

Do not use the tilter on soft, uneven or unstable surfaces.

Do not exceed the load capacity rating on the data plate.

Do not place a load on a moving tilter.

SAFETY ALERT SYMBOLS AND SIGNAL WORDS

The safety of all persons operating, maintaining, repairing, or in the vicinity of this equipment is of paramount concern. This is a powerful machine with moving parts, and is capable of causing personal injury if proper precautions are not taken. Therefore, throughout this manual, certain hazards have been identified which may occur in the use of the machine, and there are appropriate instructions or precautions which should be taken to avoid these hazards. In some cases, there are consequences which may occur if instructions or precautions are not followed. Below are the symbols and signal words along with their definitions referenced from ANSI Z535.4 - Product Safety Signs and Labels.

Safety Alert Symbols

These are the safety alert symbols.. They are used to alert you to potential physical injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



For use with DANGER signal word
(Red Background)



For use with WARNING signal word
(Orange Background)



For use with CAUTION signal word
(Yellow Background)

Signal Words

The meaning of different signal words as defined by ANSI Standard Z535.4 indicates the relative seriousness of the hazardous situation.



(Red Background)

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.



(Orange Background)

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.



(Yellow Background)

CAUTION, used with the safety alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.



(Blue Background)

NOTICE is used to address practices not related to personal injury.



(Green Background)

SAFETY INSTRUCTIONS (or equivalent) signs indicate safety-related instructions or procedures.

SECTION 3 INSTALLATION

A. INSPECTION

Inspect the tilter completely to determine if there is any damage that occurred during shipment and that the tilter is complete. Do not use the tilter if there appears to be any damage. Check the following with the tilter in the collapsed position:

1. Check for signs of damage to the electrical and hydraulic components of the remote power pack. Check the hydraulic hoses going to the tilter and the hydraulic components on the tilter.
2. Check all connections for tightness. Check for visible hydraulic fluid around all components of the tilter and power pack or on the floor nearby.
3. Check base frames for flatness and for bent or damaged metal parts.

B. INSTALLING

Make sure that the electrical system is wired correctly and that there is full compliance with the local electrical codes and ordinances.

⚠ WARNING

These tilters require bolting to the floor before operation.

1. Floor Installation
 - a. Make sure that the floor in the installation area is flat, stable, relatively smooth and free from dirt, obstacles or surface defects.
 - b. Make sure that the complete base of the tilter is in contact with the floor. In order to provide complete contact with the floor, the base may be shimmed or grouted.

⚠ CAUTION

Do not spot shim. The complete base must be in contact with the floor. Shim to have continuous contact of base and floor.

- c. The tilter is provided with lag plates or brackets. Place the tilter in the exact operating position before spotting or drilling holes for the bolts. Bolt the tilter securely using at least four (4) large bolts with a minimum of 2,000 lb. Pull out strength per bolt.
- d. Electrical connections must be made according to the electrical schematics and information contained in Section 3C, and in compliance with local codes and ordinances.

C. ELECTRICALS

1. The motors on the ZRT power pack are intermittent duty motors with high pull up torque.

⚠ CAUTION

All wiring must conform to local code and must be performed by licensed electricians. The standard AC single phase motor requires a 120 volt 20 amp fused outlet, do not remove or replace the plug or cord set provided. Do not use an extension cord.

2. The following chart recommends the power source for various motors supplied with the ZRT Tilters:

AC Motor Size	Fuse	Breaker
1HP 120 Volt 1 PH	20 AMP	20 AMP
1HP 240 Volt 1 PH	15 AMP	15 AMP
1-1/2 HP 20S-240 Volt 3 PH	15 AMP	10 AMP
1-2 HP 460 Volt 3 PH	7-1/2 AMP	5 AMP

3. Wiring schematics for motors:
See Figure 2 for 115 Volts 1 PH

⚠ WARNING

Do not tamper with or remove the cover for the electrical junction box. Only authorized qualified personnel are allowed to service the electrical system.

⚠ WARNING

Failure to make electrical connections according to nameplate ratings and wiring diagrams may lead to pump and motor failure. The 3 phase motor direction is most critical. The pumps can not be

run backwards or in reverse for more than three (3) seconds. If tilter does not rise immediately. **STOP.** Inspect connections for correct wiring and polarity.

D. HYDRAULICS

1. Before using the tilter, check the hydraulic oil level and add oil if necessary. Check fittings for tightness.
2. Use hydraulic oil only for the tilter. The tilter has been supplied with Conoco Super Hydraulic 32. Use only the recommended oils listed in Table 1 or see hydraulic schematic located in the rear of this manual in Figure 4.

WARNING

Do not use automotive hydraulic brake or transmission fluids. They will destroy the pump and cylinder seals. They pose a serious fire hazard.

CAUTION

The ZRT Floor Level Tilters are designed for normal factory environments. Where below freezing temperatures sometimes exist, special oils must be used. Contact Presto Tilters, Inc. for information and recommendations when freezing conditions exist.

E. TESTING THE Tilter WITH NO LOAD

1. Before testing the tilter, clear the area of any loose material. Be sure the tilter has no obstructions above it or on any side. Briefly operate the tilter for 2-5 seconds. If the tilter begins to rise with a humming sound and functions properly, continue to the full upright position.

WARNING

If the tilter does not rise immediately or there is any operational problem, stop it. Before continuing, check the rotation of the motor and the voltage at motor terminals. Again, briefly operate the tilter. If the tilter does not move smoothly with the humming sound, stop and review the procedures in Section 5C, Troubleshooting Maintenance.

SECTION 4 **OPERATION**

A. METHOD OF OPERATION

All ZRT Floor Level Tilters are provided with a relief valve and are factory preset to the maximum safe load capacity of the tilter. Activating and holding the upswitch will energize the motor. The motor is attached to a positive displacement pump which draws hydraulic fluid from the reservoir and transfers it under pressure to the cylinders. This forces the ram forward and raises or tilts the platform. Releasing the up switch will stop the tilter. A check valve built into the pump holds the tilter in position. Depressing and holding the down switch of the switch will energize a solenoid which allows the oil from the cylinder to return to the reservoir through a pressure flow control valve and the pump. This allows the tilter to lower smoothly and at a controlled factory preset speed.

WARNING

Do not maintain the switches energized if the tilter does not move or has reached its up or down limits. This may cause damage to the motor, pump and controls.

B. OPERATION PROCEDURES

In order to operate the tilter, follow these operating procedures:

1. Read and understand all the instructions before operating. If the tilter has modifications or accessories, read and understand their functions. Review Section 4 and Pinch Points Figure 1.
2. Load the tilter correctly.
 - a. Do not exceed the maximum rated load capacity. The load capacity is marked on the data plate on the left.
 - b. Place the load in the center and at the very back of the platform.
 - c. If the load is unstable or may become unstable, fasten it into position.

- d. Use additional precautions when tilting a load of loose parts of the ZRT Tilters. Excessive tilting can cause parts to roll out.

3. Operate the tilter.

- a. To raise the tilter, press and hold the up switch.
- b. To lower the tilter, press the down switch.
- c. Release the switch to stop the tilter in either direction.

4. Wait until the tilter has come to a complete stop before loading or unloading.

5. All people and unrelated objects must stand clear of the tilter when operating in order to avoid personal injury or property damage.



a. Do not load or unload a moving tilter.

b. Stop immediately if the tilter fails to move or exhibits strange movements or sound. Do not continue to operate the tilter until it has been checked and repaired.

c. When operating the tilter, stand clear of the scissor legs and the platform.

d. Obey all warning labels.

e. Do not stand near the tilting side when tilting containers with loose parts. Parts may fall out of the container and could harm the operator.

SECTION 5 MAINTENANCE

All servicing should be done by qualified personnel. Qualified personnel should be able to read and understand wiring and hydraulic diagrams. They should be able to troubleshoot live electrical circuits safely and in accordance with accepted practice. **For safety's sake**, if in doubt, please contact your dealer or Presto Lifts Customer Service Department at (800) 343-9322. Before servicing the unit, please read and understand all of this section and the section entitled "Operation."

HAZARDS

There are several hazards you should be aware of as you service the unit:

Blocking Instructions

These models are designed to be serviced and maintained with the tilting platform in the fully lowered, down position.

DO NOT BLOCK THE PLATFORM
IN A RAISED POSITION.



- The unit uses a power supply of 115 Volts AC. This voltage can kill you. Do not work on the electrical parts unless you are a qualified electrician!



- Before performing any maintenance on the unit, lower the tilt platform completely. Failure to do so could result in severe personal injury.
- The relief valve has been included for the protection of all of the workers who use the unit. Don't change the relief setting! If the relief valve does not open when it should, the unit may fail. Someone may be hurt, and the unit and load may be damaged.
- If the hydraulic fluid is released under high pressure, it can cause personal injury. Before you open any part of the hydraulic system, be sure to release

the hydraulic pressure. You can do this by lowering the tilt platform all the way down.

- The warning labels have been included for the safety of the operator. If the labels are worn or missing, or have been painted over, replace them before releasing the lift for operation. Fig. 6 shows the safety markings on this unit.

Routine Periodic Maintenance

Every month:

Visually inspect the pins and bushings at each end of the cylinder(s) for signs of wear. Also check the pivot pins at both sides of the tilt platform. If any of these parts are worn, contact Southworth for repair instructions.

- Apply light machine oil or WD-40 to the parts listed in the last step.

Note: Although the busings are “lifetime lubricated” Teflon® bushings, their performance may be extended by additional periodic lubrication.

- Check the level and appearance of the hydraulic fluid. in order to check the level, lower the unit completely and unplug the power cord. Remove the rear cover on the unit. Lower the platform. Remove the red plastic vent plug on top of the hydraulic tank, and use a dipstick to check the oil level. When

the platform is fully lowered, the oil should be about 1/2 to 3/4 inches below the top of the tank. Add oil if necessary. Change the oil if it has darkened, or feels gritty or sticky.



It is important to use hydraulic fluid with the correct grade and properties. See the hydraulic oil specification in Table 1 of this manual.

Every six months or 500 hours of operation, whichever comes first:

- Check all of the hydraulic fittings and hoses, and tighten the connections if necessary. Sometimes the fittings can be worked loose by the vibrations from the power unit.



If a hydraulic fitting becomes loose, or if a hydraulic hose breaks, the hydraulic fluid may escape from the system under pressure. If the tilt platform is raised when this happens, it can drop quickly. Someone may be hurt, or the unit or load may be damaged. To avoid this problem, inspect all of the hydraulic hoses and fittings regularly, and replace them if they are worn or damaged.

Troubleshooting

Problem	Possible Cause	Check This
	Load is too heavy	Verify the load weight
	Unit is low on oil	Inside the tank, make sure the oil is full to the elbow in the filler pipe.
	Tank vent may be plugged.	Look to see that the solid plug is not in place of the vent plug.
	Suction filter may be clogged.	Remove and clean the suction filter.
	Down valve coil may be energized	Remove the down valve and ensure it is not being energized when the up button is pushed. Check wiring to the down valve.
Unit elevates but will not hold a load	Down valve coil may be energized.	Remove the down valve and ensure it is not being energized when the up button is pushed. Check wiring to the down valve.
		Ensure debris is not holding the down valve plunger open.
	Cylinder may be leaking	Check the vent line for signs of oil
Unit fails to lower	Down valve coil may not be energized	Make sure the coil is energized when the down button is pushed.
		Ensure the down valve itself is shifting and allowing oil to go back to the tank (do not remove this under pressure)
		Check that nothing is binding causing the unit not to lower.

If the steps listed above do not solve the problem, please call Presto Lifts Customer Service Department at 800-343-9322.

Troubleshooting

All servicing should be done by qualified personnel. Qualified personnel should be able to read and understand wiring and hydraulic diagrams. They should be able to troubleshoot live electrical circuits safely and in accordance with accepted practice. ***For safety's sake***, if in doubt, please contact Presto Lifts at 800-343-9322.

Before servicing the unit, read and understand this entire section and the section entitled "Operation."

⚠ WARNING

Before performing any maintenance on this unit, lower the tilt platform completely.

⚠ CAUTION

If the platform will not raise, do not continue to hold the Up button for more than 2 or 3 seconds. You may damage the pump.

⚠ WARNING

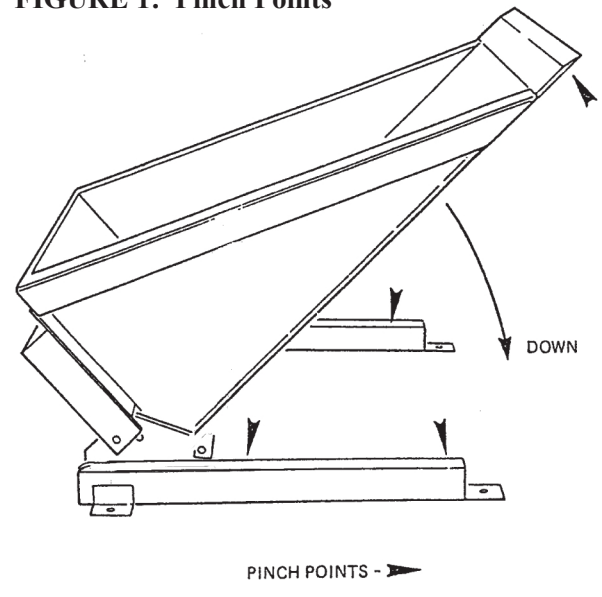
Don't change the setting of the relief valve. If you do change the setting, this may cause a hydraulic part to fail. The tilt platform may drop suddenly. Someone may be hurt, and the unit and load may be damaged. The hydraulic parts in the lift are designed to handle a certain amount of pressure. The relief valve is set to relieve this pressure before it becomes too great. The relief valve has been included for the protection of all of the workers who use the unit.

SECTION 6 **SERVICE**

A. ORDERING REPLACEMENT PARTS:

1. Standard replacement parts for each tilter are provided by part number and tilter models, see Figure 6.
2. All key parts are identified and must be replaced with original equipment components.
3. The warranty is void where original equipment components are not used.
4. Be sure to have the serial number and the model number of the tilter available when you are requesting replacement parts.

FIGURE 1: Pinch Points



BASE END PLATE

PUSHBUTTON OR FOOTSWITCH

POWER CORD

JUMPER "A"

GROUND LUG

DOWN VALVE

MOTOR

HYDRAULIC POWER UNIT MOTOR

MTR

T1 T3 T5 GREEN T6 T4 T2

5

1 1 1

2 2 2

3 4 5

1 2

PLUG

RECEPTACLE (NEMA 5-15R)

GROUND

FUSED DISCONNECT (BY OTHERS)

115V 1 PH 60 HZ

ATTACH ALL GROUNDS TO THE ENCLOSURE GROUNDING LUG

ONLY SWITCH THE HOT WIRE OF MOTOR

TO HAND OR FOOT CONTROL

TO PUSHBUTTON OR FOOTSWITCH

UP 1 4 2

DOWN 1 6 2

MOTOR CONTACTOR

DOWN VALVE

* NOTES:

1. GROUND WIRES FROM MOTOR, POWER CORD, AND PUSHBUTTON OR FOOTSWITCH ARE NOT SHOWN FOR CLARITY. ATTACH ALL GROUND WIRES TO THE ENCLOSURE GROUND LUG.
2. ENTRY LOCATIONS OF ELECTRICAL FITTINGS MAY DIFFER FROM THOSE SHOWN.

FIGURE 3: ZRT Electrical Arrangement

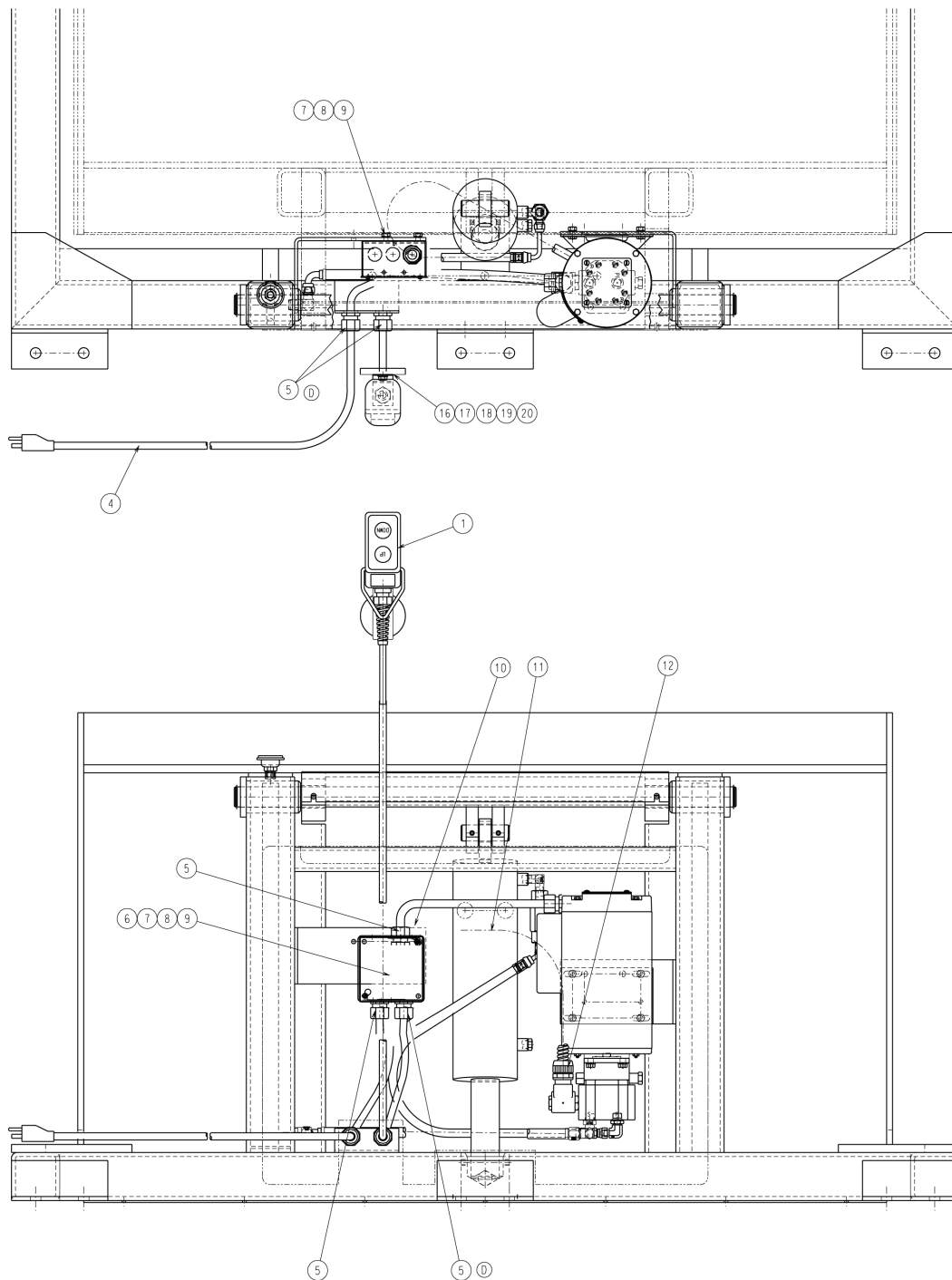


FIGURE 4: ZRT Hydraulic Schematic

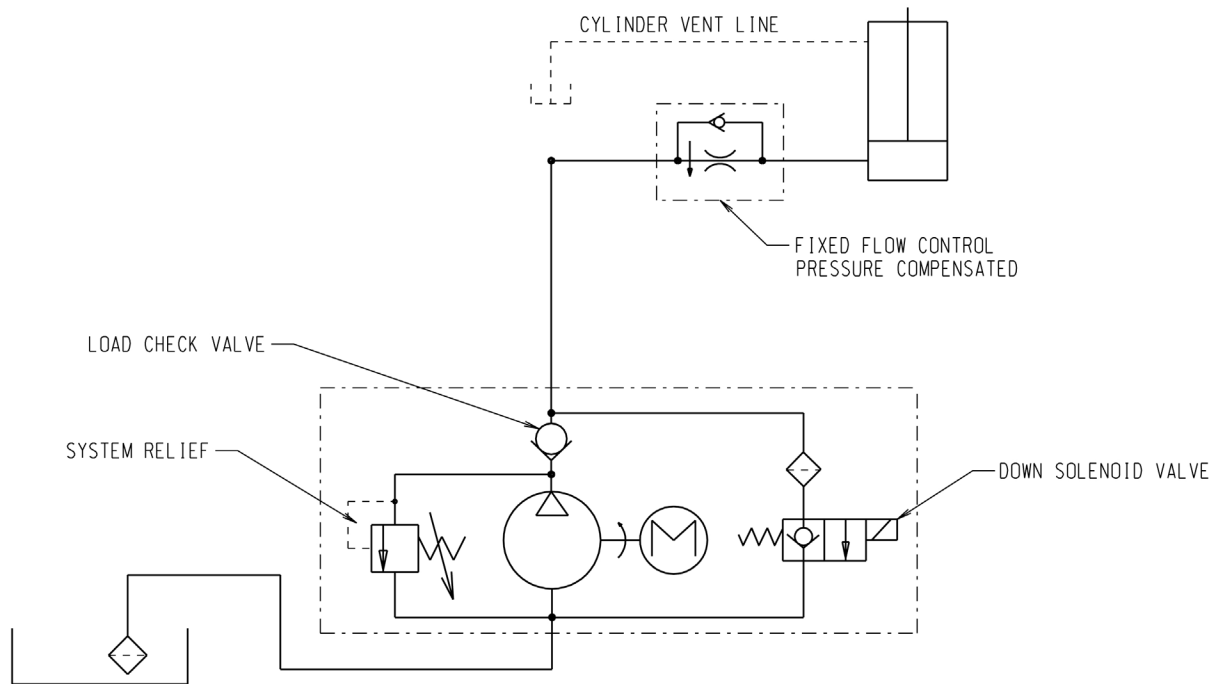


FIGURE 5: ZRT Hydraulic Parts Layout

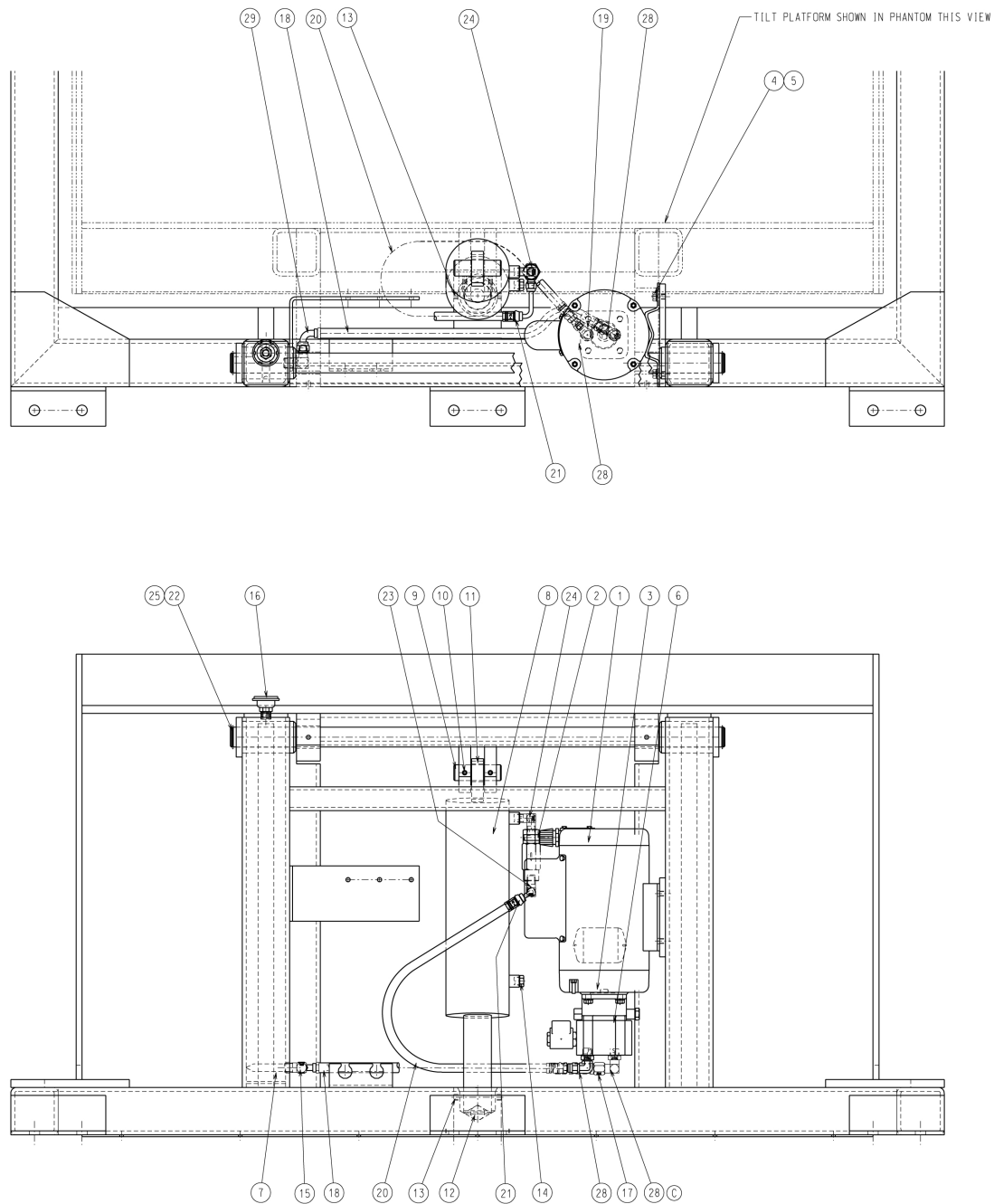


FIGURE 6: ZRT Tilters Label Location

This Label location drawing applies to all of the ZRT Tilters

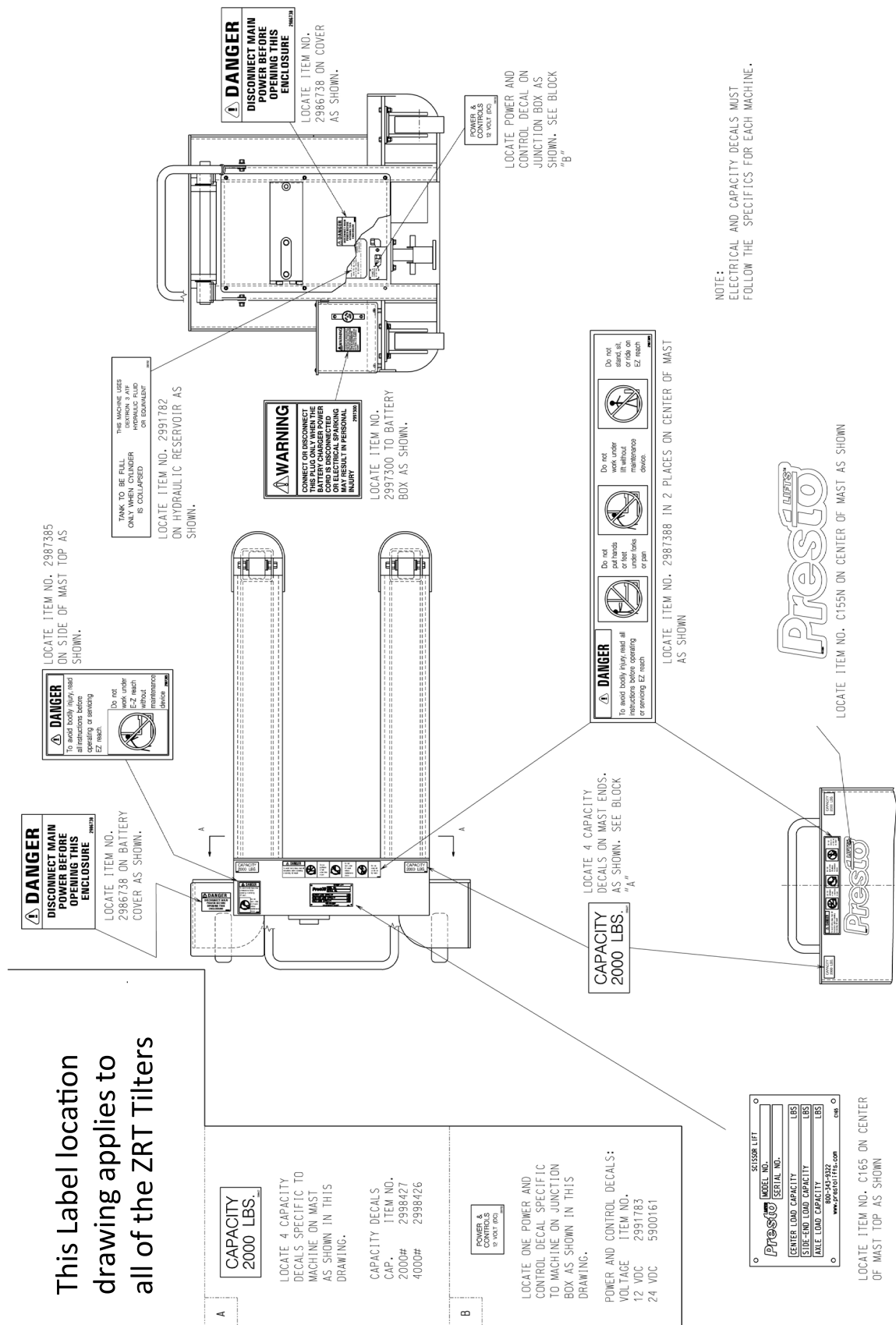


Table 1 – Hydraulic Oil Specifications

If the filter will be used at normal ambient temperatures, Presto supplies the unit with Conoco Super Hydraulic 32 oil. This may be replaced by any other good quality oil with 150 SSU at 100° F and rust and oxidation inhibitors and anti-wear properties.

If the filter will be used at ambient temperatures below 0°F, use aircraft hydraulic oil. Use Type 15 aircraft hydraulic oil.

The following are equivalent to Conoco Super Hydraulic 32:

TYPE	MANUFACTURER
AW32	CITGO
DTE 24	EXXON/MOBIL
NUTO H32	EXXON/MOBIL
AMOCO AW32	CHEVRON (AMOCO CO.)

CAUTION

It is very important to keep the hydraulic oil free of dirt, dust, metal chips, water, and other contamination. Most of the problems with hydraulic systems are caused by contamination in the oil.

Ordering Replacement Parts

Presto Lifts has carefully chosen the components in your unit to be the best available for the purpose. Replacement parts should be identical to the original equipment. Presto Lifts will not be responsible for equipment failures resulting from the use of incorrect replacement parts or from unauthorized modifications to the unit.

Presto Lifts can supply all replacement parts for your tilter. With your order, please include the model number and the serial number of the unit. You can find these numbers on the name plate. This plate is located within the scissors mechanism.

To order replacement parts, please call the Presto Parts Department. Parts are shipped subject to the following terms:

- FOB factory
- Returns only with the approval of our parts department.
- Credit cards preferred (except parts covered by warranty).
- Freight collect for truck (except parts covered by warranty).
- Freight – prepaid and invoice for small parcel shipments (except parts covered by warranty).
- The warranty for repair parts is 30 days from date of shipment.

Parts replaced under warranty are on a “charge-credit” basis. We will invoice you when we ship the replacement part, then credit you when you return the worn or damaged part, and we verify that it is covered by our warranty. Labor is not covered under warranty for Parts orders.

Presto Parts Department

50 Commerce Way
Norton, MA 02766

Telephone: 800-343-9322
FAX: 888-788-6496
Email: parts@PrestoLifts.com
www.PrestoLifts.com

PARTS

Standard parts may be returned with a 20% restocking fee. Modified or custom-engineered parts are not returnable. Unfortunately, due to potentially concealed damage, all sales of electrical assemblies are final.

QUALITY ISSUES

Should you feel there is a quality problem, please contact the seller to ask questions and gather information on how to rectify the issue. Presto Lift Inc. reserves the right to determine potential credits, as a result of factory defects, based on its inspection of the merchandise.

GENERAL

All products shipped from our factory have passed Quality Assurance inspection and testing. The carrier of choice has signed for, and accepted the product in new working condition. The customer should inspect to ensure it is not received damaged, has no concealed damage or is not incomplete. Parts orders are determined to be complete based upon Presto Lift, Inc. inspection sheets and carrier shipping weights.