#### **Owner's Manual**

# Coil Car

### **Powered Lift**



Model #	
Serial #	
Date placed in service	

## **SOUTHWORTH**

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#### INTRODUCTION

Southworth's coil car series is designed to lift and transport coils. This series contains many different combinations of load capacities, vertical travel, tabletop size and types, power sources and other characteristics.

This manual contains information to acquaint you with the safe and proper installation, use, and upkeep of a coil car series lift table. You should ensure that this manual is available to personnel working with and on the coil car and require its use by these personnel. The instructions set forth in this manual are not necessarily all-inclusive, as Southworth cannot anticipate all conceivable or unique situations.

In the interest of safety, please read this entire manual carefully, and be familiar with its contents before you install, use, or service the coil car. If you have any questions about any of the instructions in this manual, please contact your dealer or Southworth Products Corporation.

Southworth's product warranty is shown on the back cover of this manual. This instruction manual is **not intended to be or to create any other warranty, express or implied, including any implied warranty of merchantability or fitness for a particular purpose, all of which are hereby expressed excluded.** 

As set forth more specifically in the product warranty, Southworth's obligation under that warranty is limited to the repair or replacement of defective components, which shall be the buyer's sole remedy, and Southworth shall not be liable for any loss, injury, or damage to persons or property, nor for any direct, or consequential damage of any kind resulting from the coil car.

#### Responsibility of Owners and Users

#### **Inspection and Maintenance**

The device shall be inspected and maintained in proper working order in accordance with Southworth'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.

#### Deflection

It is the responsibility of the user/purchaser to advise the manufacturer where deflection may be critical to the application.

#### Repairs

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

#### **Operators**

Only trained personnel and authorized personnel shall be permitted to operate the lift.

#### **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 Southworth's specification shall be corrected before further use of the equipment.

#### **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 Southworth industrial positioning equipment shall be made only with written permission from Southworth.

#### 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.



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



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



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



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



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

(Green Background)

#### SAFE SERVICING OF THE LIFT

This is the only safe way to work under a coil car. In this manual, we will refer you to this procedure many times. In the interest of safety please follow all of these steps whenever you work under the coil car:

#### **AWARNING**

As the lift moves up and down, "pinch points" are created. If you are standing to close to the coil car when it is moving, your arm or leg may be caught in the moving parts, and you may be hurt. Stay away from the pinch points when the lift is moving see Figure 5.

#### **AWARNING**

Be sure to use both the left and right maintenance device. Both the left and right devices supplied with your machine must be used to support the table safely.

- · Remove the payload from the tabletop
- Raise the coil car platform to the full-up position.
   Don't let the table stop part way up.
- Move the maintenance devices into position as shown in Figure 1. Lower the table so the rollers are resting firmly against the devices. Note: Some Coil

Cars are designed so that the scissors legs lower only when powered down by the hydraulic power unit. In this event a manually operated ball valve is located in the drive housing so that the scissors leg set and tabletop may be lowered by gravity. Please refer to the hydraulic schematic for more information. **DO NOT** power the table down onto the maintenance devices as it may damage the machine. With the maintenance devices properly installed the pressure in the hydraulic system will be relieved. After maintenance has been performed the ball valve must be returned to the closed position so that the lift table may be powered up and the maintenance devices removed.

If you do not do this, pressure may remain in the hydraulic system. If this pressure is released suddenly, you may be hurt, or the Coil Car may be damaged. Once in position the devices will keep the legs from moving, and prevent the lift from dropping suddenly.

- Complete the work under the lift, then reverse the process to get the coil car ready for operation.
- Repeat this process every time you must work under the coil car. Do this even if you will only be under the table for a moment!

#### **SAFETY**

In the interest of safety, please read this entire manual carefully. Please understand the material in this manual before you operate the Southworth coil car. Please be sure that everyone who uses or services the coil car has read this manual. If you have any questions about any of the instructions in this manual, please contact your dealer or the Southworth Products Corporation.

Southworth is concerned about the safety of everyone who operates, maintains, repairs, or works near the Southworth coil car. It is a powerful machine with moving parts, and can cause personal injury if you do not take proper precautions. For this reason, through out this manual, we have pointed out some of the hazards that may occur as you use the machine. We have also listed the instructions or precautions you should take to avoid these hazards. In some cases, we have also pointed out the consequences that may occur if you do not follow these instructions or precautions. We will use the following system to identify the severity of the hazards:



Immediate hazard which will result in severe personal injury or death.

Hazardous or unsafe practice which could result in severe personal injury or death.

Hazardous or unsafe practice which could result in minor personal injury or property damage.

Please read and follow the instructions in this manual, including all safety instructions and precautions, carefully and completely.

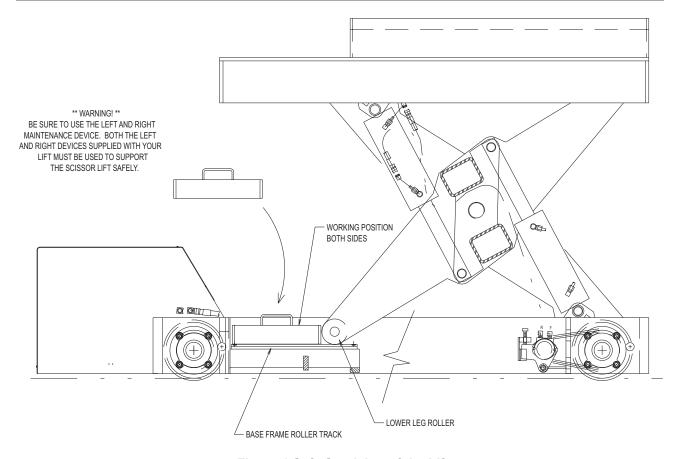


Figure 1 Safe Servicing of the Lift

#### **HAZARDS**

#### **A** DANGER

In the interest of safety, please read all of this manual carefully, and be familiar with its contents before you install, use, or service the coil car. If you have any questions about any of the instructions in this manual, please contact your dealer or Southworth Products Corporation.

#### **A** DANGER

The coil car may use a power supply of up to 575 volts AC. This voltage can kill you. Do not work with the electrical parts unless you are qualified electrician.

#### **▲** DANGER

Protect the power unit from rain or moisture. If the electrical parts in the power unit get wet, workers may be hurt by electrical shock. The electrical parts may fail if they are wet.

#### **A** DANGER

Safety guards need to be incorporated to ensure people and mobile equipment are kept from the traverse path of the coil car. If not, serious personnel injury or equipment damage may result.

#### **A** DANGER

The coil car must never be operated without all pin keepers properly installed. If not properly installed serious personnel injury or equipment damage may result.

#### **AWARNING**

Do not use to lift people. No riders.

#### **AWARNING**

Do not change the relief valve setting. This valve has been included for the protection of operators. Contact Southworth Products Corp. for instructions on the relief valve.

#### **AWARNING**

Be sure to use both the left and right maintenance devices. Both the left and right devices supplied with your machine must be used to support the table safely during routine maintenance see Figure 1.

#### **AWARNING**

As the lift moves up and down, "pinch points" are created. If you are standing too close to the coil car when it is moving, your arm or leg may be caught in the moving parts, and you may be hurt. Stay away from the pinch points when the lift is moving see Figure 5.

#### **AWARNING**

When adjusting the flow control, always raise the lift table and insert both maintenance devices. Do not try to adjust the flow control while pressing the "down" button. If you try this, the lift table may suddenly drop causing personal injury.

#### **AWARNING**

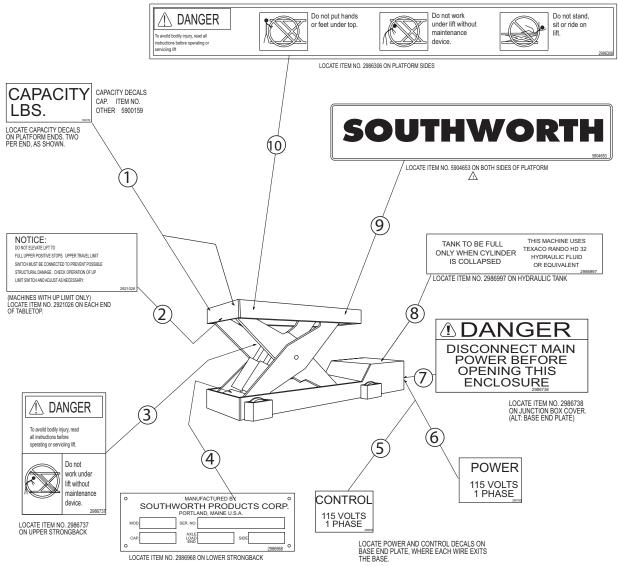
Do not try to lift or lower a load that exceeds the maximum rated capacity. If you try this, the lift may fail suddenly. Someone may be hurt, and the lift and load may be damaged.

#### **AWARNING**

The warning labels on the coil car are there for the safety of the operators. If the labels are worn or missing, or have been painted over, replace them before releasing the coil car for operation. Contact Southworth Products or your dealer for free replacement labels.

#### **AWARNING**

If a hydraulic fitting becomes loose, or if a hydraulic hose breaks, the hydraulic fluid may escape from the system under pressure. If the lift is raised when this happens, it can drop quickly. Someone may be hurt, or the lift or load may be damaged.



NOTE: THIS LOCATION DIAGRAM	
APPLIES TO ALL COIL CAR MODELS	

Item Part # Location	Item	Part #	Location
1 5900159 On platform ends	7	. 2986738	On junction box cover
2 2921026On tabletop ends			(alt: on base end plate)
3 2986737On upper strongback	8	. 2986997	On hydraulic tank
4 2986968On lower strongback	9	. 5904653	On both sides of platform
5 Control Decals:	10	. 2986306	On platform sides
2986999 (115/1/60)			
2986998 (24/1/60)			
5900166 (24VDC)			
5900167 (110/1/50)			
On base end plate where wire exits base			
6 Power Decals:			
2987000 (115/1/60)	2991783 (12VDC)		
5900160 (230/1/60)	5900161 (24VDC)		
2987001 (208/3/60)	5900163 (10/1/50)		
2987002 (230/3/60)	5900164 (220/1/50)		
2987003 (460/3/60)	2999416 (380/3/50)		Figure OI shala and
5900162 (575/3/60)	5900165 (415/3/50)		Figure 2 Labels and
On base end plate where wire exits base	,		Precautionary Markings

#### **INSTALLATION**

 Before you start to install the coil car, check for local codes and ordinances that may apply. It is your responsibility to obtain any necessary permits.

Read all of these installation instructions carefully and familiarize yourself with both the electrical and hydraulic schematic of the machine. Be sure to read and understand all of the warnings!

#### **AWARNING**

Do not change the relief valve setting. This valve has been included for the protection of operators. Contact Southworth Products Corp. for instructions on the relief valve.

#### **A**CAUTION

All valves are factory preset, only minor adjustment may be needed.

#### **A** DANGER

The coil car may use a power supply of up to 575 volts AC. This voltage can kill you. Do not work with the electrical parts unless you are qualified electrician.

2) Position the coil car on the tracks and make all necessary electrical and hydraulic connections.

#### **A** DANGER

Safety guards need to be incorporated to ensure people and mobile equipment are kept from the traverse path of the coil car. If not, serious personnel injury or equipment damage may result.

 Make sure the coil car tracks are installed to specification. Remove any debris or obstacles so the coil car can traverse safely.

## **OPERATING INSTRUCTIONS**USING THE SOUTHWORTH COIL CAR

Please read the whole section on "Safety" Before you operate the unit. The coil car has been designed to be as safe as possible for the operator. However, the unit is a powerful piece of machinery. You can be badly hurt if you bypass the safety switches or break some other safety rules.

This coil car has been designed and built by Southworth Products with hydraulic components & other material referenced within this manual. The controls & control logic for the operation of this equipment is supplied by others and the operating instructions must be provided by them.

#### **A** DANGER

The coil car may use a power supply of up to 575 volts AC. This voltage can kill you. Do not work with the electrical parts unless you are qualified electrician

#### **A** DANGER

Protect the power unit from rain or moisture. If the electrical parts in the power unit get wet, workers may be hurt by electrical shock. The electrical parts may fail if they are wet.

#### **A** DANGER

Safety guards need to be incorporated to ensure people and mobile equipment are kept from the traverse path of the coil car. If

not, serious personnel injury or equipment damage may result.

#### **AWARNING**

Do not try to lift or lower a load that exceeds the maximum rated capacity; someone may be hurt and the lift and load may be damaged.

#### **A**CAUTION

Brake valve - factory set - do not readjust.

- Once all connections are made, the following checks need to be performed:
  - check all limit switches
  - check interlocks

- traverse the coil car forward and reverse
- Test the coil car manually
- · Test the coil car under load
- As a final step, clean up any spilled hydraulic fluid. Spilled hydraulic fluid is slippery, and may present a fire hazard. Also, if you clean up any spilled fluid, you will be able to detect any leaks right away.
- 3) For proper operation of the coil car, the coil must be firmly seated on the cradle prior to the release of the winder chucks. This will ensure the coil can not fall onto the coil car possibly resulting in damage to the coil car, or the coil.
- 4) Coil cars equipped with "Blocker Rolls" or "Vee Cradle". (Reference the hydraulic schematic). The pressure switch for the reduced pressure lift valve is pre set at the factory. It should require no field adjustment.

The intended function is to allow the lift table "blocker rolls" to remain in contact with the coil during the final wraps onto the coil. When the blocker rolls meet up with the coil, the pressure switch senses this. The lifting circuit is then switched to holding. When the pressure applied, due to the final wraps of the coil enlarging the diameter, exceeds the setting of the relief valve in the line, hydraulic fluid is directed to tank.

The reduced pressure lift valve is to be open as the lift table raises to the coil and during the final wraps. This allows the leg sets to collapse just enough to allow the "blocker rolls" position to adjust to the face of the coil. The blocker rolls will not drift down due to the setting of the relief valve in the line.

Sometimes this arrangement is requested to be supplied with coil cars that are equipped with a "Vee Cradle" instead of the blocker rolls. In this case the pressure switch is used to indicate that there is intimate contact between the vee cradle and the coil. It is not to be used for final wraps to the coil. In either case it is important to make certain that the reduced pressure lift valve is in load check position prior to the release of the coil. At locations away from the winder, where coils must be lifted, the reduced pressure lift valve must remain un-energized, in the load check position.

5) Be sure all workers are clear of the coil car. Remove any lumber, debris or material that may fall in or around the coil car.

#### **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 trouble shoot live electrical circuits safely and in accordance with accepted practice.

**For safety sake**, if in doubt, please contact Southworth Products Customer Service Department at (800) 743-1000.

Before servicing the coil car, read and understand this entire section and the section entitled "Operating Instructions".

#### **HAZARDS**

There are hazards you should be aware of as you service the coil car:

#### **A** DANGER

The coil car may use a power supply of up to 575 volts AC. This voltage can kill you. Do not work with the electrical parts unless you are qualified electrician.

#### **A** DANGER

Protect the power unit from rain or moisture. If the electrical parts in the power unit get wet, workers may be hurt by electrical shock. The electrical parts may fail if they are wet.

#### **AWARNING**

Be sure to use both the left and right maintenance devices. Both the left and right devices supplied with your machine must be used to support the table safely during routine maintenance (see Figure 1).

#### **AWARNING**

As the lift moves up and down, "pinch points" are created. If you are standing too close to the coil car when it is moving, your arm or leg may be caught in the moving parts, and you may be hurt. Stay away from the pinch points when the lift is moving see Figure 5.

#### **AWARNING**

Release of fluids under high pressure can cause personal injury. Before you open any part of the hydraulic system, be sure to release the hydraulic pressure.

#### **AWARNING**

The warning labels on the coil car are there for the safety of the operators. If the labels are worn or missing, or have been painted over, replace them before releasing the lift for operation. Contact Southworth Products or your dealer for free replacement labels (see Figure 2).

### ROUTINE PERIODIC MAINTENANCE

\* Raise the lift and insert the maintenance devices see Figure 1.

Every month:

#### **AWARNING**

If a hydraulic fitting becomes loose, or if a hydraulic hose breaks, the hydraulic fluid may escape from the system under pressure. If the lift is raised when this happens, it can drop quickly. Someone may be hurt, or the lift or load may be damaged.

#### **A**CAUTION

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

Visually inspect the leg rollers, center pivot bushings and pins, cylinder clevis pins and bushings, and the leg set hinge pins and bushings for signs of wear. Look for loose or broken bolts or cotter pins, repair and replace as required.

- \* Apply light weight oil or WD-40 to all non-greased pivot points or rollers described above.
- \* Check the level and appearance of the hydraulic fluid if equipped inspect gauges or dial indicators. Add oil if necessary, change the oil if it has darkened, or feels gritty or sticky (see **Figure. 3**).

Southworth supplies the unit Texaco Rando HD 32. This may be replaced by any other good-quality oil with 150 SSU at 100° F and rust and oxidation inhibitors, and anti-foaming properties.

The following are equivalent to Texaco Rando HD32:

#### Once a month or 2500 cycles:

\* Grease all grease fittings (see **Figure. 4**)

#### Every six months or 15,000 cycles:

- \* Check all of the hydraulic fittings and hoses, and tighten the connections as necessary. Sometimes the vibrations from the power unit can work the fittings loose.
- \* Inspect the hydraulic oil and replace if necessary. The spin on hydraulic filter may be equipped with a gauge to indicate when replacement is necessary, otherwise, replace filter element. When the gauge has reached this point replace at once.
- \* Refill the tank with new hydraulic fluid. For any specific hydraulic fluid questions refer to the Material Safety Data Sheet in the back of the manual. For hydraulic fluid specifications refer to Figure 3.
- \* Be sure all Labels and Precautionary Markings are in position and legible. (See Figure 2)

If the labels are missing or have been painted over, replace them.

Туре	Manufacturer
D.T.E.24	Mobil Oil Company
Energol HLP32	Standard Oil Company
AW HYD32	Cities Service Oil Company
Survis 816 WR Oil	Sun Refining and Marketing Company
Magnus A32	Exxon Corporation
Amoco AW32	Amoco Corporation

Figure 3
Hydraulic Fluid
Specifications

#### ORDERING REPLACEMENT PARTS:

Southworth has carefully chosen the components in your coil car to be the best available for the purpose. Replacement parts should be identical to the original equipment. Southworth will not be responsible for equipment failures resulting from the use of incorrect replacement parts or from unauthorized modifications of the machine. Southworth will gladly supply you with replacement parts for your coil car.

With your order, please include the model number and the serial number of the coil car. You will find these numbers on the nameplate attached to the lower cylinder strongback.

To order replacement parts, please call the Parts Department

at (207) 878-0700 or (800) 743-1000. Parts are shipped subject to the following terms:

- FOB factory
- Returns only with the approval of our parts department
- Payment net 30 days (except parts covered by warranty).
  - Freight collect (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.



Southworth Products Corp.

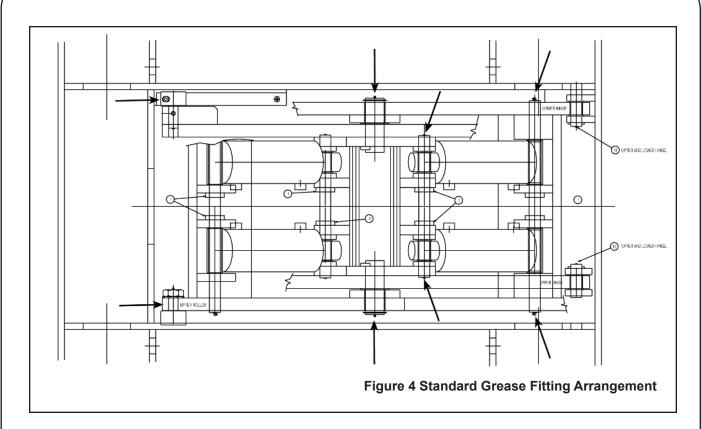
Parts Department

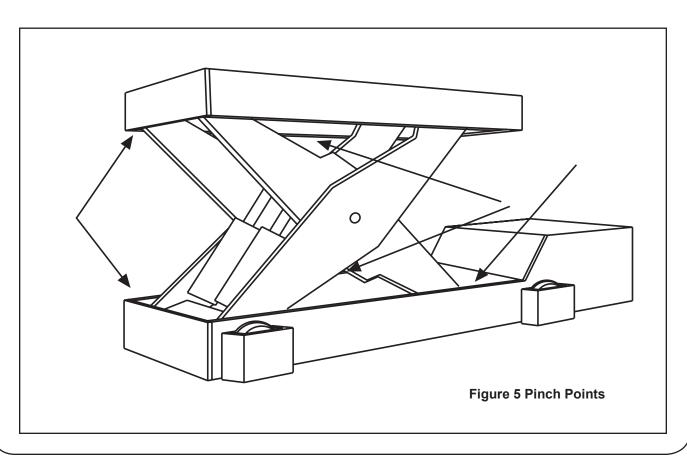
Telephone: (207) 878-0700 or (800) 743-1000

FAX: (207) 797-4734

repairparts@SouthworthProducts.com

#### **SOUTHWORTH**





COIL CAR OWNER'S					
	N	IOTES			

#### **Warranty**

Southworth Products Corp. warrants this product to be free from defects in material or workmanship for a **period of one (1) year** from date of shipment, providing claim is made in writing within said year. This warranty shall not cover failure or defective operation caused by misuse, misapplication, negligence or accident, exceeding recommended capacities, or altering or repairing, unless alteration is authorized by Southworth Products Corp. Except as set forth herein, there are no other warranties, express or implied, including the warranties of merchantability and fitness for a particular purpose, all of which are hereby excluded.

Southworth Products Corp. makes no warranty or representation with respect to the compliance of any product with state or local safety or product standard codes, and any failure to comply with such codes shall not be considered a defect of material or workmanship under this warranty. Southworth Products Corp. shall not be liable for any direct or consequential damages arising out of such noncompliance.

Southworth Products Corp.'s obligation under this warranty is **limited** to the replacement or repair of defective components at its factory or another location at Southworth Products Corp.'s discretion. The Southworth Warranty is for product sold with in North America. For products shipped outside of North America the warranty will be for replacement of defective parts only. Labor is not included. This is buyer's sole remedy. Except as stated herein, Southworth Products Corp. will not be liable for any loss, injury, or damage to persons or property, nor for direct, indirect, or consequential damage of any kind resulting from failure or defective operation of said material or equipment.

This warranty may be altered only in writing by Southworth Products Corp., Portland, Maine.

Southworth Products Corp. is widely acknowledged as the leading maker of hydraulic lifts and materials-handling equipment. Southworth machines are rugged and reliable, and are designed to provide years of trouble-free service. The designs are based on extensive engineering experience. These are good reasons for specifying Southworth machines in your plant.



P.O. Box 1380 Portland, ME 04104-1380 Telephone 1-800-743-1000 • FAX 207-797-4734

> www.SouthworthProducts.com service@SouthworthProducts.com



#### making work faster, safer, and easier

Southworth is the world class supplier of products designed to improve productivity and enhance safety. Our staff has over 400 years of engineering experience. If one of our standard products does not meet your needs, our engineers can custom design equipment specifically suited to your material handling application.



For more information, contact Southworth Products
Telephone (800) 743-1000 Fax (207) 797-4734

Email: salesinfo@SouthworthProducts.com