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.
Introduction

The Southworth PTU-Series “EZ-Reach” Portable Tilter allows staged containers to be picked up, moved into position, and tilted for easy access. Southworth has produced the units described in this manual for the use of the U.S. Postal Service.

The PTU-2 units have a maximum capacity of 2,000 lbs. These are DC-powered units, and have an on-board battery (12V unit). Once the battery has been charged, the unit can be operated without a connection to an outlet. When the battery requires recharging, the 12V unit must be connected to a battery charger (not included).

This manual contains instructions on the safe and proper installation, use, and maintenance of a PTU-Series EZ-Reach unit. Be sure that this manual is available to the people who install, use, or service the unit. Be sure that all personnel read this manual before they install, use, or service the unit.

EZ-Reach units may be used in a wide variety of industrial settings. The instructions 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 whole manual carefully. Please understand the material in this manual before you install, use, or service the E-Z Reach unit. If you have any questions about any of the instructions in this manual, please contact Southworth Products Corporation.

Southworth’s product warranty is shown on the rear 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 expressly 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, indirect, or consequential damage of any kind resulting from the EZ-Reach Portable Tilter unit.

Safety

The safety of all persons installing, using, servicing, or working near the EZ-Reach unit is of paramount concern to Southworth. The EZ-Reach unit is a powerful machine with moving parts, and is capable of causing personal injury if proper precautions are not taken.

Therefore, throughout this manual, Southworth has identified certain hazards which may occur in the use of the EZ-Reach unit, and provided appropriate instructions or precautions which should be taken to avoid these hazards. In some cases, Southworth has also pointed out the consequences which may occur if Southworth’s instructions or precautions are not followed. Southworth uses the following system of identifying the severity of the hazards associated with its products:

- **DANGER** – Immediate hazard which will result in severe personal injury or death.
- **WARNING** – Hazard or unsafe practice which could result in severe personal injury or death.
- **CAUTION** – Hazard or unsafe practice which could result in minor personal injury or property damage.

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

Installation Instructions

Preparation

1. Before you start to use the unit, check for local codes and ordinances which may apply. It is your responsibility to obtain any necessary permits.
2. Read all of these installation instructions carefully. Be sure to read and understand all of the warnings.
3. The unit should only be used indoors, or it should be protected from the weather.

   **WARNING!**
   - Protect the 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.
   - This unit has an electric motor which can create sparks. Don’t use the unit in an area where flammable gases may be present.

4. Remove the shipping material and remove the unit from the skid. You will need a crane or lift truck which can lift the unit safely.
CAUTION!
Do not try to move the lift by supporting the tilt platform. One end of the tilt platform is free.

5. On the front of this manual, write down the model number, serial number, and date the unit is placed in service.

6. Before using the unit, plug it in and allow the battery to charge overnight.

7. If your unit has a battery (12V DC unit) and if a battery charger is included – The unit may be supplied with a power cord which is 10’ long (304 cm). Decide where you will place the unit while it is recharging. You must provide a three-prong outlet at this location. The circuit should be provided with a 20 amp circuit breaker or fuse.

8. Check the level of the hydraulic fluid in the tank. In order to check the level, lower the tilt platform completely and unplug the power cord. Remove the rear cover on the unit. Open the filler cap on the side of the power unit. See Fig. 11. The fluid should reach the elbow in the filler pipe. Do not fill to the top of the filler pipe – there should always be an air space at the top of the tank.

9. Be sure the tank vent is not plugged. Before operating the unit, you must remove the solid plug from the top of the tank and insert the red plastic vented plug. Also check to be sure the vent line is clear.

Testing
1. Be sure the battery is charged. (See page 11.) Clear the area around the unit, and warn others to stay away from the unit.

2. Operate the unit through its full range of travel. The unit should rise smoothly with a quiet humming sound, and lower smoothly and quietly. Raise and lower the unit a few times to check the lifting action.

WARNING!
As the tilt platform moves up and down, “pinch points” are created at the places shown in Fig. 2. If you are standing too close to the unit 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 unit is moving.

3. Test the unit with the rated load. If the unit does not rise, and you hear a loud squealing noise, the pressure relief valve is operating. Contact Southworth for instructions.

WARNING!
Don’t continue to use the unit if this happens – the pump will overheat very quickly, and may be permanently damaged. Do not try to adjust the relief valve. If you change the setting on the relief valve, you may overwork the unit. This can cause the unit to fail suddenly, and you may be hurt.

4. Clean up any spilled hydraulic fluid. Spilled hydraulic oil is slippery, and may present a fire hazard. If you clean up any spilled fluid, you will be able to tell right away if the unit begins to leak.

5. Figure 1a and Fig. 1b show the safety labels on this unit. Check to be sure all of the labels are in place. For complete label locations, see pages 6 and 7.
Fig. 1c  Labels and Precautionary Markings
Fig. 1d  Labels and Precautionary Markings
Operating Instructions

Safety Instructions

**WARNING!**
- To avoid bodily injury, please read all instructions before operating or servicing the unit.
- Do not work under the tilt platform when it is raised. Before servicing the unit, always lower the unit and unplug the power cord. Remember that the battery is still connected, and can still provide power to the unit.
- Never put your hands or feet under the tilt platform.
- As the unit is operating, stay away from the moving parts shown in Fig. 2a and Fig. 2b.
- Do not stand, sit or ride on the tilt platform.
- Before raising or lowering the tilt platform, always set the floor lock so the unit cannot roll out of position.

### Loading the unit

1. Before operating the unit, please read and understand all of this section.
2. Load the unit correctly.

   Before lifting, push the lifting arms of the unit completely under the load so that no space is left between the load and the tilting platform, as shown in Fig. 3. If you do not do this, the container may slide down and create dangerous "pinch points."

   Be sure that the load weighs no more than the maximum rated for the unit. The maximum rated load is listed on the data plate. Remember that the lifting container may weigh 75 lbs. or more.

   **WARNING!**
   The tilt platform should always be pushed against the load. If the load is placed far out on the lifting arms, the unit may not be able to lift the full rated load safely. See Fig. 4. (The unit is designed so that the center of load should be 17" from the bottom of the tilt platform, and 20" from the face of the platform.)
WARNING!
Don’t try to lift a load that exceeds the maximum rating. Only lift a load if the center of load is within the allowable range. If you do not follow these rules, the unit may fail suddenly. Someone may be hurt, and the unit and load may be damaged.

3. The load should be balanced in the side-to-side direction. Whenever possible, place the load in the center of the tilting platform, as shown in Fig. 5. If the load is off-center on the pallet, place the heaviest part of the load near the back of the tilt platform – never near the front!

4. Sometimes the unit may be used to lift parts which can roll. If possible, stack the parts in the parts container so they cannot roll. Do not over-fill the lifting container. See Fig. 6. If the container is too full, some of the parts may roll out of the front of the container.

Raising the Tilt Platform
1. Before raising the tilt platform, be sure all workers are clear of the unit.

WARNING!
As the tilt platform moves up and down, “pinch points” are created as shown in Fig. 2a and Fig. 2b. Stay away from these pinch points! Part of your body or clothing may become caught, and you may be hurt. Do not put your hands or feet under the tilt platform. Do not stand or sit on the tilt platform.

2. Before lifting, set the floor lock shown in Fig. 10. This will keep the unit in position so that it cannot move accidentally.

3. Before lifting, be sure the parts container is pushed up against the tilt platform, as shown in Fig. 3. Be sure the load is balanced side-to-side, as shown in Fig. 5.

4. Operate the unit. Press and hold the Up button to raise the tilt platform, and Down to lower it. If the unit does not operate right away, call a qualified maintenance worker.

WARNING!
If you hear a squealing noise from the pump, the pressure relief valve is operating. The pump will overheat very quickly, and may be permanently damaged. The relief valve is included to protect the machine operators. If you do change the set-
Moving the Unit
1. Before moving the unit, always lower the tilt platform. You should do this even if the unit is not loaded.

   **WARNING!**
   If you try to move the unit while the tilt platform is raised, the unit may be unstable. You may be hurt, and the lift or load may be damaged.

2. Before moving, release the floor lock.
3. Always roll the unit across a stable, solid surface.

   **WARNING!**
   If the floor is not stable or solid, the unit may tilt over. You may be hurt, and the unit or load may be damaged.

Lowering the Tilt Platform
1. Before lowering the tilt platform, be sure the floor lock is set. This will keep the unit from moving accidentally.

2. Before lowering the tilt platform, be sure all workers are clear of the unit.

   **WARNING!**
   As the tilt platform moves up and down, “pinch points” are created as shown in Fig. 2a and 2b. Stay away from these pinch points! Part of your body or clothing may become caught, and you may be hurt.

3. Press the Down button to lower the tilt platform. The tilt platform should lower at a uniform speed.

Charging the Unit
1. The battery used in the unit is an automotive-type lead-acid battery. Follow all safety precautions you would follow with an automotive battery.

   **WARNING!**
   • The acid used in this type of battery can cause burns. Never touch the acid with your bare hands. Always wear eye protection if you have damaged part of
the case around the battery, and part of
the battery is exposed. If any of the acid
touches your skin or eyes, flush the area
immediately with large amounts of water.
Consult a doctor right away.

Before connecting or disconnecting the bat-
tery charger to the EZ Reach unit (using
the the round connector), be sure to unplug
the AC plug for the battery charger (three-
prong plug). This will reduce any chance of
sparking, and reduce the possibility of in-
jury.

2. The battery power system is designed for inter-
mittent duty. The unit is not designed to operate con-
tinuously. If fully-charged, the battery should operate
the unit for about 35 lift cycles per charge. The battery
should require about 4 hours to recharge completely.

3. To begin charging, plug in the large connector on
the side of the battery case. Next, plug in the power
cord for the battery charger. The switch on the charger
should be set to the “12 V” setting.

Maintenance
All servicing should be done by qualified personnel. Quali-
fied personnel should be able to read and understand
wiring and hydraulic diagrams. They should be able to
troubleshoot live electrical circuits safely and in accor-
dance with accepted practice. For safety’s sake, if in
doubt, please contact your dealer or Southworth Prod-
ucts Corporation Customer Service Department at (207)
878-0700. Before servicing the unit, please read and
understand all of this section and the section entitled
“Operating Instructions.”

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

WARNINGS!
• As the unit moves up and down, “pinch
points” are formed as shown in Fig. 2.
Keep hands, feet, and loose clothing away
from these pinch points. If your hand or
arm or a part of your clothing is caught,
you may be hurt.

• Before performing any maintenance on
the unit, lower the tilt platform completely.
Failure to do so could result in severe per-
sonal 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 in-
jury. Before you open any part of the hy-
draulic system, be sure to release the hy-
draulic pressure. You can do this by lower-
ing 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. 1 shows the safety
markings on this unit.

Routine Periodic Maintenance

Every month:
• Visually inspect the pins and bushings on the cy-
linder 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 oil or WD-40 to the parts listed in the last
step. Note – Although the bushings are “lifetime lubri-
cated” Teflon® bushings, their performance may be ex-
tended by additional periodic lubrication.

• Check the hydraulic oil level. In order to check
the level, lower the tilt platform completely and unplug
the power cord. Remove the rear cover on the unit.
Open the filler cap on the side of the power unit. See
Fig. 11. The fluid should reach the elbow in the filler
pipe. Do not fill to the top of the filler pipe - there should
always be an air space at the top of the tank.

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

Every six months or 500 hours of opera-
tion, 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.

WARNING!
If a hydraulic fitting becomes loose, or if
a hydraulic hose breaks, the hydraulic fluid
may escape from the system under pres-
sure. 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.

- The clear plastic vent line and the cylinder rod should be free of hydraulic fluid. If you find much fluid in either place, the cylinder seals may be leaking. (It is also possible the tank may be over-filled.) If the worn parts must be replaced, see the section on “Repacking the Cylinder.”
- Disassemble the down valve. Blow the valve plunger clean with compressed air. Reassemble the valve and reinstall it.
- Drain and discard the hydraulic fluid. The suction filter is in the tank, at the point where the suction line runs out to the pump. Unscrew the hydraulic line, then remove the filter. Blow the filter clean with compressed air. Reinstall the filter in the tank and reassemble the hydraulic line.
- Refill the tank with new hydraulic fluid.

CAUTION!
If you continue to use fluid after it has “worn out,” the moving parts in the system will wear more quickly.

- Be sure all of the warning labels are in position and legible. See Fig. 1. The warning labels are intended to protect your workers. If the labels are missing, or if they have been painted over, replace them.

Hydraulic Fluid Specifications

If the EZ-Reach unit will be used at normal ambient temperatures, Southworth supplies the lift with Texaco Rando Oil 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-wear properties.

If the EZ-Reach unit will be used at ambient temperatures below 0° F, use aircraft hydraulic oil. Use Texaco type BB or an equivalent.

The following are equivalent to Texaco Rando HD 32:

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<th>TYPE</th>
<th>MANUFACTURER</th>
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<tr>
<td>D.T.E.24</td>
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</tr>
<tr>
<td>ENERGOL HLP32</td>
<td>STANDARD OIL COMPANY</td>
</tr>
<tr>
<td>AW HYD 36</td>
<td>CITIES SERVICE OIL CO.</td>
</tr>
<tr>
<td>SURVIS 816 WR OIL</td>
<td>SUN REFINING AND MARKETING CO.</td>
</tr>
<tr>
<td>NUTO H32</td>
<td>EXXON CO.</td>
</tr>
<tr>
<td>AMOCO AW32</td>
<td>AMOCO CO.</td>
</tr>
</tbody>
</table>

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.

Changing the Hydraulic Fluid

In order to change the fluid, lower the tilt platform completely and remove the rear cover on the unit.

To change the fluid, you must remove the power unit from the machine. See Fig. 11. Disconnect the electrical wiring, the hydraulic hose, and the vent line. Once the power unit has been removed, you can remove the filler cap and pour out the old fluid. Fill with fresh fluid up to the elbow in the filler pipe. Do not fill to the top of the filler pipe – there should always be an air space at the top of the tank.

CAUTION!
As you disconnect the hydraulic lines, be sure to keep them free of dirt or contamination.

Repacking the Cylinder

1. Remove the cylinder from the machine. Clean the outside of the cylinder. Push the piston into the cylinder as far as possible. Drain the oil from the cylinder. Clear an area near the cylinder so that you can lay out the parts as you remove them.
2. Secure the cylinder in a vise, or use another method to keep it from rotating.
3. Using snap ring pliers or a screwdriver, remove the snap ring from the gland of the cylinder. Pull the rod out to within 3 to 6 inches of full extension. Compress the ring and, at the same time, pull the rod and drive the gland out of the cylinder.
4. Carefully remove the rod assembly from the cylinder and remove the gland. Slip the gland over the end of the rod. Be careful not to damage the finish on the rod.
5. Carefully examine the seals on the piston and gland. Remember the positions of these parts so that you can place the replacement parts correctly. Notice that the lip on the rod wiper faces upward. Remove all seals from the piston and gland.
6. Inspect the parts for damage - nicks, scratches, cracks, etc.
7. Install new seals on the piston and gland. Be sure that all parts are free of dirt or contamination. Install the snap ring on the gland.
8. Coat the inside diameter of the gland with light grease and replace it on the rod.

9. Coat the outside diameter of the piston and seal area on the gland with light grease. Apply a light coat of hydraulic oil to the inside diameter of the cylinder. Insert the rod assembly into the cylinder. Be careful not to damage the threads, rod, or seals.

10. Rotate the gland so that the port for the hydraulic oil lines up with the hole in the side of the cylinder. Compress the snap ring and lightly tap the gland into place. Relax the snap ring. **Be sure that the snap ring is seated in the groove.** If the snap ring is not seated, the gland may pop out of the end of the cylinder under pressure.

11. Install the cylinder in the machine and test it. Operate the cylinder through several complete cycles to work out any air bubbles in the hydraulic fluid.

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**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 Southworth Products Corporation at (207) 878-0700.

Before servicing the unit, read and understand this entire section and the section entitled “Operating Instructions.”

**WARNING!**

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

If the tilt platform will not raise:

**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.

1. The battery may need charging. Plug in the unit, and allow the battery to charge overnight.

2. The load may be too heavy. Check the actual weight of the load. The rated capacity of the unit is shown on the name plate. Be sure the center of the load is within allowable limits. See Fig. 4.

**WARNING!**

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.

3. The hydraulic oil level may be low. In order to check the level, lower the tilt platform completely and unplug the power cord. Remove the rear cover on the unit. Open the filler cap on the side of the power unit. See Fig. 11. The fluid should reach the elbow in the filler pipe. Do not fill to the top of the filler pipe – there should always be an air space at the top of the tank.

4. The correct voltage may not be reaching the motor. In order for the motor to receive power, the motor starter relay must be energized. When you press the Up button,
12V DC should appear at the small center terminal of the relay. (If you do not see this voltage, check for a problem with the Up button switch.)

As soon as there is 12V at the center terminal, you should also see 12V at the larger terminal on the left side of the relay. This is the output from the relay to the motor. (If you do not see this output voltage, the motor starter relay may be bad.)

5. The tank vent may be plugged. Before operating the unit, you must remove the solid plug from the top of the tank and insert the red plastic vented plug. The vent line must be clear.

6. The suction filter may be clogged. Clean the suction filter as described in the section on "Periodic Maintenance."

7. A vacuum leak may be allowing air into the suction line, causing cavitation (loss of suction) in the pump. Check all fittings in the suction line, and tighten or replace them if necessary.

CAUTION!
If cavitation is allowed to continue, the pump may be damaged, and may have to be replaced.

8. For the tilt platform to raise, the down valve must be de-energized and closed completely. Check for a problem with the wiring to the down valve. Check the solenoid in the valve with a voltmeter. The valve must be clean and free to operate. To check this, remove the solenoid and then the valve. Look for dirt or metal chips which could block the valve action. Clean the valve plunger with kerosene, then blow it clean with compressed air. The expansion nut which holds the solenoid should be finger tight only!

If the unit elevates, but fails to hold a load:
1. The check valve may be leaking. Dirt on the valve seat can prevent the valve from closing fully.

The check valve is located in the pump assembly, near the center of the power unit. See Fig. 11. Remove the check valve cap and inspect the valve for dirt or metal chips which may be preventing it from closing. You may be able to restore the seal by lightly rapping the ball into the seat using a 1/4" diameter rod and a small hammer.

2. The down valve may be energized. While the unit is holding a load, the down valve should be de-energized and fully closed. Check the solenoid in the valve with a voltmeter. The valve must be clean and free to operate.

Be very careful not to remove the down valve while the hydraulic system is pressurized. It can be dangerous to release the pressure suddenly.

Set the floor lock and lower the tilt platform onto blocks, so it cannot possibly move. Next, jack up the tilt platform slightly above its stopping point. This will de--

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Fig. 8 Hydraulic/Electrical Diagram
pressurize the hydraulic system. Now it is safe to re-
move the down valve.

Remove the solenoid and then the valve. Look for
dirt or metal chips which could block the valve action.
Clean the valve plunger with kerosene, then blow it
clean with compressed air. The expansion nut which
holds the solenoid should be finger tight only!

3. The cylinder may be leaking. Look for oil on the
cylinder rod and in the vent line. (This may also occur
if the oil tank has been over-filled.) If you find much oil
in either place, and the tank is not over-filled, the cy-
linder must be repacked. See the section in this manual
on “Repacking the Cylinder.”

If the unit fails to lower:
1. While the lift is lowering, the down valve should
be energized and fully open. Check the solenoid in
the valve with a voltmeter.
2. The valve must be clean and free to operate. In
order to check the down valve when the tilt platform is
raised, you must take some special precautions. Be
very careful not to remove the down valve while the
hydraulic system is pressurized. It can be dangerous
to release the pressure suddenly.
3. Set the floor lock and lower the tilt platform onto
blocks, so it cannot possibly move. Next, jack up the
tilt platform slightly above its stopping point. This will
depressurize the hydraulic system. Now it is safe to
remove the down valve.
4. Remove the solenoid, then the down valve. Look
for dirt or metal chips which could block the valve ac-
tion. Clean the valve plunger with kerosene, then blow
it clean with compressed air. Before reassembly, de-
press the plunger manually several times to be sure it
moves freely. The expansion nut which holds the so-
enoid should be finger tight only!
5. Once the unit is reassembled, press the Up but-
ton to take the weight of the tilt platform off of the blocks.
If the steps listed above do not solve the problem,
please call the Southworth Products Corp. Customer
Service Department at (207) 878-0700.

Parts Listing

The parts included in this E-Z Reach unit are detailed on the following pages.

Ordering Replacement Parts

Southworth has carefully chosen the components in your unit to be the best available for the purpose. Re-
placement parts should be identical to the original equipment. Southworth will not be responsible for equip-
ment failures resulting from the use of incorrect replacement parts or from unauthorized modifications to the
machine.

Southworth can supply all replacement parts for your Southworth lift. Key parts are identified in Figures 9
through 17. With your order, please include the model number and the serial number of the unit. You will find
these numbers on the name plate.

To order replacement parts, please call the Parts Department at (207) 878-0700. 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).

Parts replaced under warranty are on a “charge-credit” basis. We will invoice you when we ship the replace-
ment part, then credit you when you return the assumed substandard part.
Fig. 9   Parts Identification, Front View

Fig. 10   Parts Identification, Rear View

Fig. 11   Parts Identification, Cover Removed
Fig. 12
Hydraulic Power Unit (Top View, See Fig. 14)

12V DC motor
Start switch
Relief valve
Solenoid release valve
2 qt. reservoir
Breather cap

Southworth part no. C-3041942P

Fig. 13
Hand Control

Southworth part no. 3003856
Fig. 14
Hydraulic Arrangement
## Hydraulic Arrangement

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Including:

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<td>25 2997742P</td>
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<td>26 3041947P</td>
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<td>27 2997762P</td>
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### Key | Part No. | Part Description | Qty |
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1 | 2985629P | Battery 12V - Power Sonic PS1233OU1NB (33 A.H.) | 1 |
2 | 2997745P | Screw, Rnd Hd Mach 1/4-20 x 5/8 | 4 |
3 | 2991707P | Mounting Plate, 1/2 x 1/2 x 5 1/2 long | 2 |
4 | 29977468 | Lockwasher, Split 1/4 | 6 |
5 | 2991706P | Battery Box, 8x8x7D - Cane989SSX | 1 |
6 | 2997747P | Welding Cable #6 GA - McMaster 7940A11, Cut A/R | 3 Ft. |
7 | 2997748P | Screw, Hex Head Cap 1/4-20 x 3/4 | 2 |
8 | 2997749P | Nut Hex Head Cap 1/4-20 | 2 |
9 | 2997735P | Cable Lug - McMaster 7913A1 | 4 |
10 | 2997750P | Receptacle Turn & Lock - McMaster 7162K28 | 1 |
11 | 2997751P | Screw Rnd Hd Mach #8-32 x 5/8 | 2 |
12 | 2997752P | Nut Hex #8-32 ESNA | 2 |
13 | 2997736P | Welding Cable #4 GA, Cut A/R | 3 Ft. |
Key | Part No.  | Part                          | Qty
---|---------|-------------------------------|---
1  | 3041943P | Base & Wheel Weldment         | 1
2  | 3041939P | Tipper Weldment               | 1
3  | 2997792P | Plug, Turn & Lock - McMaster #7162K26 | 1
4  | 3003856  | Hand Control                  | 1
5  | 3043858P | Kit. Battery Attachment Assy  | 1
6  | 2997670P | Name Plate                    | 1
7  | 2997671P | Flat Bar HRS 3/16" x 1" x 2" long | 1
8  | 2997672P | Hook                          | 1
9  | 3041944P | Kit, Push Handle Assy         | 1
     |          | Including:                    |   
     | 2985628P | Rectangular Washer 1/8" x 1/3"  | 2
     | 3041954P | Handle Weldment               | 1
     | 2997744P | Sq. Rar Hrs 1/2" x 3/4"        | 2
     | 2997743P | Nut, Hex Jam Nylon 3/8-16     | 2
     | 2997742P | Lockwasher Split 3/8"         | 4
     | 2997741P | Screw, Hex Hd Cap 3/8-16 x 1.1/4" | 2
     | 2984183P | Hinge plate                   | 2
### Key

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<td>Floor Lock Albion 16-LF-0580</td>
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<td>Axle 1/2&quot; x 4.1/2&quot; - Albion ZJ087209</td>
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<td>6 2997795P</td>
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**Fig. 17**

Base and Wheel Assembly
## Complete Part Listing

In this section, we have listed all of the parts which may be removed from the lift.

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<tr>
<th>Item No.</th>
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Warranty

Southworth Products Corp warrants its products to be free from defects in material or workmanship for a period of **two (2) years** from date of shipment, providing claim is made in writing within that time period. The structural assemblies (bases, legs, platforms) are covered under the parts provision of this warranty for an additional **three (3) years** and a **lifetime** warranty on the hydraulic cylinder rod bearings and seals.

This warranty shall not cover failure or defective operation caused by misuse, misapplication, negligence or accident, exceeding recommended capacities, failure to perform required maintenance or altering or repairing, unless alteration is authorized by Southworth Products Corp. Except as set forth herein and including the warranties of merchantability and fitness for the USPS application, there are no other warranties, express or implied.

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 not mentioned in the Solicitation No: 1CIEQU-03-A-1187, 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. This is the 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 product.

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

*Southworth Products Corp is widely acknowledged as the leading maker of hydraulic lifts, tilters and other 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.*
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, we can design custom equipment specifically suited to your material handling application.