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S-MU-VDGR-64 FULLY POWERED DRUM GRIPPER ROTATOR

OPERATION AND MAINTENANCE MANUAL



Receiving instructions:

After delivery, IMMEDIATELY remove the packaging from the product in a manner that preserves the packaging and maintains the orientation of the product in the packaging; then inspect the product closely to determine whether it sustained damage during transport. **If damage is discovered during the inspection, immediately record a complete description of the damage on the bill of lading.** If the product is undamaged, discard the packaging.

NOTES:

1) Compliance with laws, regulations, codes, and non-voluntary standards enforced in the location where the product is *used* is exclusively the responsibility of the owner/end-user.

2) VESTIL is **not liable** for any injury or property damage that occurs as a consequence of failing to apply either:
a) Instructions in this manual; or b) Information provided on labels affixed to the product. Neither is Vestil responsible for *any* consequential damages sustained as a result of failing to exercise sound judgment while assembling, installing, using or maintaining this product.

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PRODUCT INTRODUCTION



Thank you for purchasing Powered Vertical Drum Gripper/Rotator (“S-MU,” “Fully Powered Stacker,” “truck,” or “unit”) offered by Vestil Manufacturing Corporation (“Vestil”). Our heavy duty stackers are durable, high-quality products that combine safety features and low-maintenance mechanisms. Despite the product’s relatively simple mechanics, all personnel must familiarize themselves with the safe operation instructions provided in this manual.

Specifications appear in the table below:

Model	Dispensing Height	Uniform Capacity	Acceptable Drum types
S-MU-VDGR-64	64"	800lbs	Steel 55 Gal.

Vestil Manufacturing Corp. created this manual to acquaint owners and users of our powered stacker with safe operation and maintenance procedures. **Employers are responsible for instructing employees to use the product properly. Employees and any other persons, who might foreseeably use, repair, or perform maintenance on the stacker must read and understand every instruction BEFORE using the device. Stacker operators should have access to the manual at all times and should review the directions before each use. Contact Vestil for answers to any question you have after reading the entire manual.**

Although Vestil diligently strives to identify foreseeable hazardous situations, this manual cannot address every conceivable danger. The end-user is ultimately responsible for exercising sound judgment at all times.

SAFETY PRINCIPLES

S-MU-VDGR-64 unit conforms to the generalized specifications disclosed in this manual and fulfills our demanding standards for quality, safety and durability.

Vestil Manufacturing Corp. recognizes the critical importance of workplace safety. Each person who **might** participate in operation or maintenance of the product must read this manual. **Read the entire manual and fully understand the directions BEFORE using or performing maintenance on the stacker. If you do not understand any instructions, contact Vestil for clarification. Failure to adhere to the directions in this manual might lead to serious personal injury or even death.**

Vestil is **not liable** for any injury or property damage that occurs as a consequence of failing to apply the safe operation and maintenance procedures explained in this manual or that appear on labels affixed to the product. Furthermore, failure to exercise good judgment and common sense may result in property damage, serious personal injury, or death, and also are **not the responsibility of Vestil**.

This manual applies the hazard identification methods suggested for instruction manuals by the American National Standards Institute (ANSI). In accordance with ANSI guidelines for hazard identification language, this manual classifies personal injury risks and situations that could lead to property damage with SIGNAL WORDS. These signal words announce an associated safety message. The reader must understand that the signal word chosen indicates the seriousness of that hazard according to the following convention:

⚠ DANGER Identifies a hazardous situation which, if not avoided, WILL result in DEATH or SERIOUS INJURY. Use of this signal word is limited to the most extreme situations.

⚠ WARNING Identifies a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY.

⚠ CAUTION Indicates a hazardous situation which, if not avoided, COULD result in MINOR or MODERATE injury.

NOTICE Identifies practices not related to personal injury, such as operation that could damage the cart. No safety alert symbol (equilateral triangle enclosing an exclamation point) accompanies this signal word.

SAFETY GUIDELINES

Failure to read and understand the instructions included in this manual before using or servicing the stacker constitutes misuse of the product. Study the entire manual before you use the stacker for the first time and before each subsequent use. Read the manual to refresh your understanding of the safe use and maintenance procedures. If questions remain after you finish reading the manual, contact Vestil for answers. DO NOT attempt to resolve any problem with the stacker unless you are certain that it will be safe to use afterwards.

<p>⚠ DANGER To decrease the risk of electrocution:</p> <ul style="list-style-type: none"> ➤ DO NOT <i>contact</i> or <i>operate</i> the stacker <i>close to</i> electrified wires or other sources of electricity; ➤ Before operating the Stacker, always inspect the area where you will use it.
<p>⚠ WARNING Improper use might result in serious personal injuries to the operator and/or bystanders. To minimize the possibility of injury, ALL persons who might operate, perform maintenance on, or service the S-MU must read, understand and apply the following instructions:</p> <ul style="list-style-type: none"> • DO NOT operate the Stacker unless and until you are: <ol style="list-style-type: none"> 1. <u>Trained to use</u> the machine; AND 2. <u>Certified as a trained operator by your employer</u> in accordance with U.S. OSHA regulations (29 CFR §1910.178) and any standards incorporated by reference (e.g. ANSI/ITSDF B56.1-2005). • <u>DO NOT attempt to lift or transport loads that exceed the rated capacity.</u> • Inspect the machine before each use; DO NOT use the Stacker unless it is in normal condition. Normal operating condition exists if S3 passes the inspection and functions tests. • DO NOT use the unit until you read and understand the <u>entire</u> owner's manual. Review the manual <u>before each use</u> AND <u>before performing maintenance</u> on the device. • DO NOT use the Stacker if the load-supporting elements sustain any structural damage. Structural elements include, but are not limited to, the forks, carriage, and wheels. If structural damage is present, immediately tag the unit "Out of Service" and inform maintenance personnel of the problem. • DO NOT use the Stacker if it makes unusual noises during operation. • DO NOT attempt to lift an unevenly distributed load. Always align the gripper to center of the drum and make sure gripper is tightly holding the drum before picking or rotating the drum. • DO NOT operate stacker on ramps or grades. • DO NOT leave S-MU unattended while it supports a load. Always fully lower the drum carriage, and then completely disengage the drum. • DO NOT modify the stacker without first receiving written authorization from Vestil. <u>Unauthorized modifications may make S-MU unsafe to use.</u>
<p>NOTICE To maximize the service life of the stacker and to prevent damage:</p> <ul style="list-style-type: none"> • Always store the machine in a secure, dry location where it will not interfere with traffic or other activities.

REMOVING THE Stacker FROM THE SHIPPING PALLET:

Stacker is shipped in ready-to-use condition. However, it must first be removed from the shipping pallet before it can be used for the first time.

<p>⚠ WARNING DO NOT attempt to drive the stacker off of the pallet; it might tip over and cause bodily injuries or property damage. To minimize the risk of injury to yourself or other persons, perform the following steps to remove the machine from the shipping pallet:</p> <ol style="list-style-type: none"> 1. Remove all packing material. 2. <u>Inform all personnel not participating in the unpacking process to clear the area.</u> 3. Lift the S-MU off of the pallet using a hoist or a with a capacity of at least 2,000 pounds. Always apply the proper hoisting procedures or forklift operation practices you learned during your training program.
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To remove the S-MU-VDGR-64 stacker from the shipping pallet using a hoist:

Connect the sling to both hook points on the Mast (1 on each side; the picture below only shows the hook point on the left side); then lift the unit no more than 6 – 8 inches above the pallet. The S-MU stacker will tilt towards the front end. Additionally, it may swing from side-to-side once free of the pallet if you did not properly position the hoist above the center of the sling. Stabilize the suspended stacker with one hand, and stand safely to the side while operating the hoist.

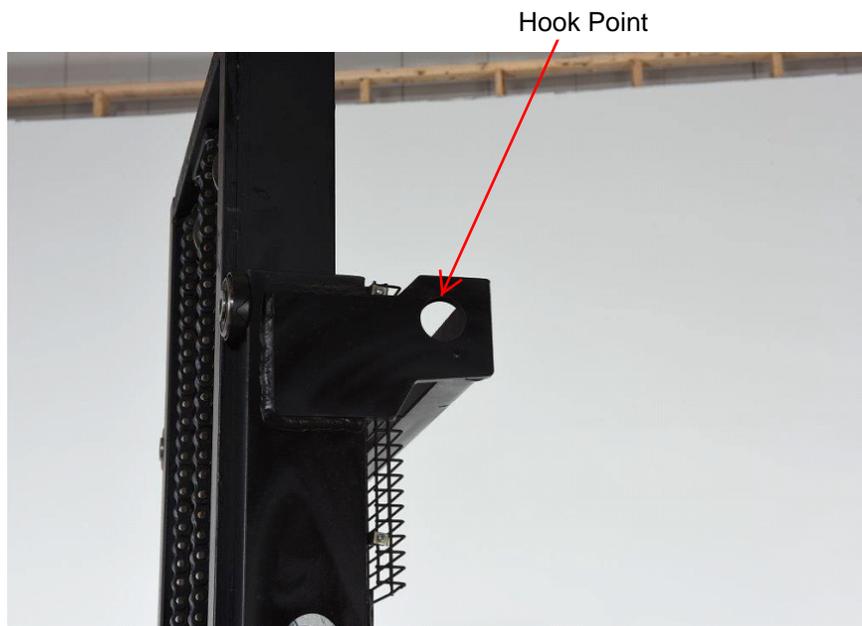


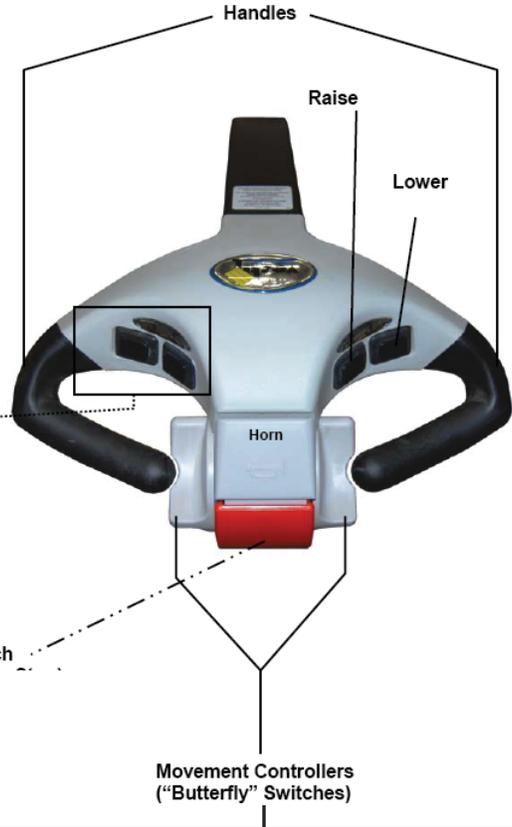
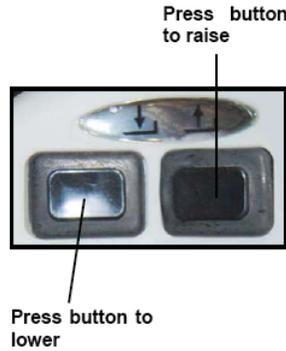
FIG. 1: Function Controls, Gauges, and Safety Features

BATTERY CHARGE GAUGE:

The battery charge gauge indicates the status of the battery. It is located on top of the S3 main body and to the right of the control yoke. As the battery discharges, display lines disappear from right to left.



Always check the gauge before using the device; make sure that the battery is charged before using the pallet truck.



BELLY SWITCH:

The belly switch protects the operator from injury while driving the S-MU in reverse. When pressed, the truck will change direction, i.e. move forward, for approximately 3 seconds; after 3 seconds it will stop completely. If the belly switch becomes jammed or stuck, the stacker will move forward (away from the operator) for at most 3 seconds; the control circuit will remain disabled until reset.

- To reset the circuit, either raise the handle to the fully vertical position (or simply release the handle), or press it downwards to the fully horizontal position.

EMERGENCY STOP ("E-STOP") BUTTON:

Press the E-stop button to immediately interrupt all powered functions. Use the E-stop during operation if the travel or fork (raise and lower) functions do not respond normally to operator commands.



Use the E-stop as a service brake to secure the stacker when parked

MOVEMENT CONTROLLERS:

To drive the S-MU in the **forward** direction, rotate the movement control forward with your thumbs as indicated by the solid arrow superimposed on photograph below. To move the pallet truck in **reverse**, rotate the control wheel in the opposite direction, which is shown with



Reverse Forward



The degree of rotation determines the speed of movement, so the farther you press the wheel in either direction, the faster the S3 will travel, up to a maximum speed of ~3mph when unloaded or ~2.6mph when loaded to capacity. Simply by releasing the movement control, the S3 will decelerate to a complete stop.

RAISE/LOWER, ROTATION-L/R & CLAMP CLOSE/OPEN LEVERS:

Clamp close/open
Press red button
and at the same
time pull/push
lever to close or
open the clamp



Rotation L/R

Raise/Lower

USE INSTRUCTIONS:

1. Determine Condition of Floor or Other Supporting Surface: Inspect the floor or other surfaces prior to use. The supporting surface must be smooth and dry so choose a route that avoids obstacles, spills, and surface damage.

CAUTION Casters might become stuck in gaps or cracks in the surface, which could cause the S-MU to stop suddenly. A sudden stop can cause the load to shift and the load and stacker might tip over.

2. Inspect the S-MU & Perform a Functions Test:**Inspection Prior to Use:**

ALWAYS inspect the unit before you use it. Begin the inspection by removing all debris found on the surface of the forks and the housing, and then:

- a. Check the carriage for deformation and cracks;
- b. Check the floor beneath the truck and the truck itself for leaked hydraulic fluid or battery acid.

WARNING DO NOT use the S-MU if you discover any damage or abnormalities. Tag the unit "Out-of-Service" and report the problem[s] to authorized maintenance personnel.

Functions Test:

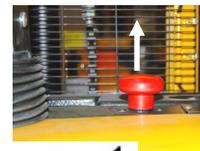
Verify that the unit works properly. Drive the stacker to a location where the following tests can be performed without contacting overhead obstructions or items on the ground:

1. Raise the carriage to the maximum elevation;
2. Return the carriage to the lowest position.
3. Raise the carriage, and while raising it, press the E-stop button. The carriage should immediately stop moving. Reset the E-stop by returning the control yoke to either position 1 or 3 (see Operation Step 3 below on this page), and then pull up on the red button.
4. Fully raise the carriage, and while lowering the carriage press the E-stop. The carriage should immediately stop moving. Reset the E-Stop.
5. Drive the S-MU in reverse at low speed and while driving press the belly switch. The machine should immediately move in the opposite direction for ~3 seconds and then stop. Reset the control yoke.
6. Drive the S-MU in both the forward and reverse directions for a few seconds.
7. Test the horn.
8. Verify that the control yoke automatically returns to the vertical position when released (see Operation Step 3 on this page).

WARNING Only use the stacker if all mechanisms function normally. If [a] malfunctions occurred, park the stacker in a safe location, tag it "Out-of-Service" and then report the malfunctions to maintenance personnel.

Operation:

Step 1: Pull the red E-Stop button up to disengage the service brake and to turn the power ON.



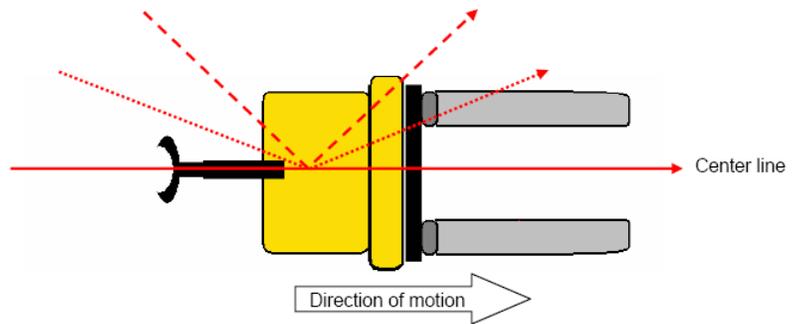
Step 2: Tilt the control yoke to the drive position (#2), which is shown in the photograph to the right.



NOTE: The S-MU uses magnetic brakes, which engage when the handle is in or near either of the neutral positions (1 and 3). The yoke is designed to automatically return to neutral position #1 after the handle is released; therefore, the brakes will engage automatically as well.

Step 4: Rotate the movement control wheel in the appropriate direction to move either forward or in reverse.

Step 5: Drive the stacker to the desired location. To steer the unit, turn the yoke to the right or left of the center line. Moving the yoke to the right will cause the Stacker to turn to the right, and moving the yoke to the left of the center line will cause the unit to turn left. The degree of deflection from the centerline determines how sharply the Stacker turns. The illustration at right demonstrates how the position of the yoke determines the direction the machine follows.



Lifting and Transporting Loads:

WARNING DO NOT operate the S-MU until you read AND understand every instruction. If you do not understand an instruction, contact Vestil for clarification. To reduce the possibility of sustaining or causing serious personal injuries, ALWAYS:

1. Make sure that all other persons clear the area while you use the S-MU.
2. Apply the fork truck operation and lifting practices learned during your operator training, and applied by your employer. Follow the instructions below ONLY to the extent that they do not disagree with the operating practices required by your employer.
 - Make sure that the net weight to be lifted does not exceed the rated load (capacity) of the stacker;
3. Review the safety guidelines on p. 3 before each use:
 - Apply proper loading techniques;
 - Ask a coworker to help you load and unload the lifter.
4. "Operator" means a person, who is trained and authorized to use a manually propelled high lift device. ONLY persons who have successfully completed a training program, like the courses outlined on p. 4-5 of B56.10-2006, should operate the S-MU. Safe operation requires operators to:
 - Develop safe working habits and a process for identifying hazards that exist or might be encountered during operation;
 - Conduct thorough inspections of the usage area to identify unusual/hazardous conditions. Walk the path you will use to transport drums with the lifter beforehand. Do not use the S-MU lift if the floor (or other supporting surface) is uneven or damaged or cannot support the combined weight of the operator, the lifter and the load.
 - Make sure that the lifter has been inspected as recommended in the "Inspections & Maintenance" section of this manual. Use the lifter ONLY IF it is deemed safe to use by designated inspection personnel.

To engage a drum, drive the unit to a position in front of the intended load. Before engaging the load, confirm that the clamp will fit around the drum. Lower the clamp to the center of drum. Move the stacker with clamps fully open around the drum. . Confirm that the net weight of the drum do not exceed the capacity of the Stacker. When clamps are around the drum, put the yoke in neutral position to stop forward motion. Wait until stacker stops completely. Close the clamps to grip the drum. Lift the drum off of the ground/supporting surface by pressing one of the two carriage raising buttons.

Proper Transportation Configuration: To avoid contact between the drum and surface, transport the drum to desired location with drum elevated.

To tilt the drum, push the lever up to turn it to left side and pull the lever down to turn to right side.

To release the drum, stop in the desired location, fully lower the drum, push the lever to open the clamps fully, and then slowly drive the S-MU backward until the clamps are no longer in the range of drum.

Batteries and Charger:

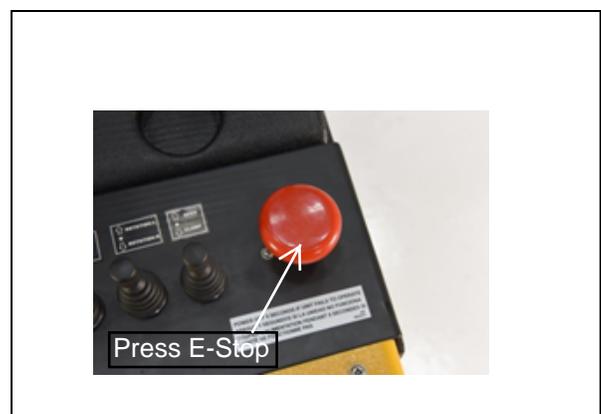
DANGER The charger allows electrical current to flow from a wall socket through the batteries. While operating the charger, contact with water (rain, snow, etc.) could result in electric shock or electrocution. Do NOT recharge the batteries if the Stacker is outdoors. Only recharge the batteries indoors.

Turn off your S-MU:

- Push E-stop down to turn off the S-MU

Plug the charger's AC cord into an 115VAC power source:

The AC cord is tucked inside the battery box on the left side



NOTICE

A proper storage location is one where the unused lifter will not:

1. Interfere with or obstruct traffic or other operations;
2. Be exposed to corrosive chemicals or water, either as a consequence of weather or of worksite **conditions.**

TROUBLESHOOTING:

⚠WARNING Before performing any corrective action described in the following table, block the drive wheel off of the ground.

Contact Vestil for problems at time of installation, or for any problems not addressed below.

<u>Problem:</u>	<u>Possible cause(s):</u>	<u>Action:</u>
Unit does not respond to movement controls (does not move either forward or in reverse).	Battery voltage low (battery charge lower than 17 Volts)	Charge batteries. Bad batteries; load test batteries and replace if necessary.
	Problem with motor controller (check for LED flash code on side of controller)	Consult diagnostics page Table 2 Troubleshooting Chart; or Refer to 15-124-029 electrical drawing for proper voltage readings and operation; or Consult Factory
Unit will not charge	Fuse blown	Remove back shroud and check fuses (3 fuses).
	Charger malfunction	
Unit will not go forward; reverse works; belly switch just kills unit (does not go forward and faults out)	Bad batteries Broken wire, or loose connection	Load test the batteries Locate Pin 2 on Molex connector at motor controller. Trace wiring to contactor and verify connection.
	Contactor bad, motor controller bad	While attempting to go forward, tap on the contactor with a screwdriver handle. If the unit moves forward, then the contactor may need replaced, or plungers lubed with a light oil. Remove both wires from each side of the contactor, and check with ohm meter; resistance should be approximately 38 ohms. If it's open or zero, the contactor should be replaced. Consult diagnostics page Table 2 Troubleshooting Chart; or Refer to 15-124-029 electrical drawing for proper voltage readings and operation; or Consult Factory.
Unit will not go reverse; belly switch works (i.e. when the handle is in operating range and rotating throttle in reverse and the belly switch is hit, the unit moves forward and times out)	Broken wire, or loose connection, contactor bad, motor controller bad	Same as above; except locate Pin 3 on Molex connector on motor controller...and follow procedure.

Problem:

Unit will not go forward, or reverse.

Possible cause(s):

Broken wire, or loose connection, bad motor controller.

Action:

Locate Pin 6 on Molex connector at the motor controller. Try to drive the unit in forward, there should be 0 to 5 volts (5V is full throttle) at this pin. If there is voltage at pin 5, and 24 volts on either pin 11, or 12 and the unit does not move, the motor controller may be bad. Consult diagnostics page Table 2 Troubleshooting Chart; or Refer to 15-124-029 electrical drawing for proper voltage readings and operation; or Consult Factory.

Throttle assembly bad

If the connections are all good, and there is no voltage coming out of throttle assembly, then the throttle assembly may be bad. Verify there is 24 volts going into the throttle assembly, and that there is a good ground. If there is still no output voltage for pin 6, or forward and reverse outputs replace throttle assembly. Consult diagnostics page Table 2 Troubleshooting Chart; or Refer to 15-124-029 electrical drawing for proper voltage readings and operation; or Consult Factory

Unit will not move forward, or reverse, and the Belly switch will not function, unit does turn on as indicated by the battery gage lighting up.

Blown fuse

Verify fuses are good, replace if blown.

Broken wire, or loose connection

Locate Pin 7 on Molex connector at the motor controller. Trace wire back up to tiller head and verify continuity all the way to the throttle assembly. Repair any loose connections.

When replacing throttles, it may be necessary, and does not hurt to run a jumper wire from pin 7 to B-.

Check the ground wire that comes off of "B-" on the motor controller. Re-terminate with a ring terminal if loose.

Run jumper wire around large diode coming off of small AGC fuse. If this diode is bad it can cause the unit to not move.

Problem:

Unit will not go forward; the belly switch functions; reverse works.

Possible cause(s):

Broken wire, or loose connection, bad motor controller

Action:

Locate Pin 11 on Molex connector at the motor controller. Try to drive the unit in forward, there should be 24 volts at this pin. If there is voltage and the unit does not move, the motor controller may be bad. If there is no voltage, trace the wiring back towards the tiller head and check voltage on each side of connectors. Continue this until bad connection is found.

Bad throttle assembly

If the connections are all good, and there is no voltage coming out of throttle assembly, then the throttle assembly may be bad. Verify there is 24 volts going into the assembly, and that there is a good ground. If there is still no output voltage for pin 11, replace throttle assembly. Reference 15-124-029.

Belly switch does not function; forward ok; reverse ok

Broken wire, or loose connection, bad motor controller

Locate Pin 13 on Molex connector at the motor controller. Try to drive the unit in reverse, and hit the belly switch... there should be 24 volts at this pin. If there is voltage and the unit does not move, the motor controller may be bad. If there is no voltage, trace the wiring back towards the tiller head and check voltage, or continuity on each side of connectors. Continue this until bad connection is found.

Bad belly switch

If the connections are all good, and there is no voltage, then the switch may be bad. Verify there is 24 volts going into the switch; and check to see if it is coming back out of the switch when depressed. If there is no output voltage, replace the switch.

Unit will not move at all.

Stuck Switch

The belly switch is stuck on. Tap the orange belly switch assembly to see if the switch can be freed. If this doesn't work, disassemble the tiller head by removing 3 screws from bottom. Slightly loosen up the two screws that hold the switch in place, this may free the switch. If it is still stuck, contact the factory for a replacement switch.

<u>Problem:</u>	<u>Possible cause(s):</u>	<u>Action:</u>
Unit will not raise; motor does not run	Loose wire	Verify 24 volts at coil when raise is pushed, if no voltage, trace wiring back to tiller head looking for voltage on each side of the connectors until the bad connection is found.
	Bad solenoid	If voltage is present at the solenoid and the unit does not raise, remove the two wires to the coil and measure the coil resistance. It should be around 19 ohms. If it's open, or shorted replace the solenoid.
	Upper limit switch out of adjustment	By pass upper limit switch and see if the unit raises...DO NOT TAKE IT ALL THE WAY UP... If it does raise, verify the limit switch is normally closed and will open when activated. If the limit switch is ok, try to adjust the switch accordingly so that the units raise height is approximately 7 to 8"
Unit will not raise; motor runs	Blown fuse	Check fuses.
	Lower solenoid stuck on	Check to see if the lowering switch is stuck on. If it is, remove the tiller head via 3 screws on bottom and replace switch, or tap on switch to see if it can be freed up. If the lower switch is not stuck "on," the pump could be bad, consult factory.
Unit will not lower	Loose wire; bad coil	Verify 24 volts at coil when lower is pushed, if no voltage, trace wiring back to tiller head looking for voltage on each side of the connectors until the bad connection is found.
		If voltage is present at the coil and the unit does not lower, remove the connector to the coil and measure the coil resistance. It should be around 39 ohms. If it's open, or shorted replace the coil.
Unit keeps blowing fuses when the raise button is pressed	Upper limit switch out of adjustment	Loosen hydraulic line at pump to relieve pressure build up. Re-adjust limit switch so unit stops at 7 to 8 inches above the ground.
	Shorted solenoid for motor raise	Remove the wire to the solenoid coil on the pump motor. Measure the resistance, it should be around 19 ohms. If it is nearly zero ohms replace the solenoid.

Problem:

Unit will not reverse; belly switch does not function; forward ok

Possible cause(s):

Broken wire, or loose connection, bad throttle assembly, bad motor controller.

Action:

Locate Pin 12 on Molex connector at the motor controller. Try to drive the unit in reverse, there should be 24 volts at this pin. If there is voltage and the unit does not move, the motor controller may be bad, consult factory. If there is no voltage, trace the wiring back towards the tiller head and check voltage on each side of connectors. Continue this until bad connection is found. If the connections are all good, and there is no voltage coming out of throttle assembly, then the throttle assembly may be bad. Verify there is 24 volts going into the assembly, and that there is a good ground. If there is still no output voltage for pin 12, replace throttle assembly. Reference 15-124-029.

Maintenance and Inspections:

According to ANSI B56.1, the S3 is a “motorized hand truck” (MHT). For this type of stacker, only trained, authorized persons should perform inspections or maintenance.

Inspections: ALWAYS review the following warning messages and procedures BEFORE inspecting the MHT.

⚠WARNING DO NOT use the stacker if an inspection reveals structural damage. Structural damage includes, but is not limited to, cracked welds, warping or other deformation of the cylinder brackets, forks, front rollers and wheel(s), handle, or the housing that protects the electrical components.

If an inspection exposes any problem, restore the MHT to normal operating condition BEFORE returning it to regular service. The MHT must not be used until all repairs have been completed.

NOTICE According to B56.1-2005:

- A “User” is “a person or organization responsible for employing powered industrial trucks.” Therefore, the person or business that owns the MHT is a user.
- “Authorized” means any person designated by the user to operate or maintain the equipment. In other words, the owner, most likely your employer, is responsible for training and selecting people to inspect and maintain the MHT.

NOTE: A user may choose to contract with a person or an organization for maintenance services. **Vestil is not responsible for the actions of independently contracted maintenance service providers.**

- DO NOT use brake fluid or jack oil in the hydraulic system. If oil is needed, use an anti-wear hydraulic oil, viscosity grade 150 SUS at 100°F, (ISO 32 @ 40°C), or a non-synthetic transmission fluid.
- Only use replacement parts either supplied or approved by the manufacturer.

The person(s) authorized **by the end-user** to inspect the MHT must do so before it is used for the first time, and before each subsequent use. If the MHT is rarely used, inspect the unit at least once per month, or before each use, whichever is more frequent. Before the inspection, a) disconnect the battery, and b) either chock the wheels or lift the MHT until the drive wheels no longer contact the ground.

Inspect the stacker prior to each use. Specifically look for:

1. Frayed wires;
2. Oil leaks;
3. Pinched or damaged hoses;
4. Structural damage: cracked welds, warping or other deformation of the cylinder brackets, forks, front rollers or drive wheel(s), handle, or the housing that protects the electrical components;
5. Proper function of all limit switches;
6. Proper horn operation;
7. Normal battery condition: clean, not leaking electrolyte solution, secure connections with both terminals. Also make sure that the battery is immobilized so that it cannot move during operation.
8. Proper rotation of all wheels.

Inspect the MHT each month:

1. Oil level: raise the carriage to the maximum height; when the cylinder(s) are properly filled, the oil level should be 1-1/2 to 2 inches below the reservoir fill hole. Return the carriage to the fully lowered position.
2. Damage to or excessive wear of:
 - a. Pivot points;
 - b. Hydraulic hoses;
 - c. Electric wires;
 - d. Retaining rings for the rollers, drive wheels, and all pivot points;
 - e. Bearings
3. Wobbliness or looseness of rollers and/or drive wheels;
4. Proper function of the hand or foot actuated mechanisms;
5. Proper battery water level;
6. Unusual noise or abnormal movement during operation;
7. Legibility and undamaged condition of all product labels.

Maintenance: the end-user must implement a scheduled maintenance program to ensure the proper function and safety of the lifter. Pages 12-13 of ANSI/ITSDF standard B56.1-2005 describe some recommended maintenance procedures, and the following steps should be utilized in conjunction with those recommendations.

⚠WARNING The user is responsible for training persons to work on the MHT. “Work on” refers to operating, loading, cleaning, servicing, maintaining, or repairing the product. ONLY trained, authorized maintenance personnel or independent contractors chosen by the user should perform inspection, maintenance, or repair work.

Step 1: Tag the MHT, “Out of Service.”

Step 2: Complete an every use and a monthly inspection. If deformity, corrosion, rusting, or excessive wear of structural members is present, DO NOT use the MHT. Contact Vestil for instructions.

Step 3: Remove any dirt or other matter from the forks and other surfaces.

Step 4: Perform all other necessary adjustments and/or repairs, but DO NOT modify the truck.

⚠WARNING

The reader should understand the significant difference between necessary adjustments and repairs, and modifications.

An adjustment is a simple correction that restores the MHT to normal operating condition, such as tightening loose fasteners, or removing dirt or other debris from the surface; a repair refers to replacing worn parts with new or replacement parts.

➤ DO NOT use the truck if adjustments and/or repairs are incomplete! Return it to service ONLY after finishing all necessary repairs and adjustments.

A modification is a change that alters the MHT from normal operating condition, like bending the structural members or removing a part or several parts. **NEVER modify the unit without the express, written approval of Vestil.**

Modifications may render the product unsafe to use.

Step 5: Make a dated record of the repairs, adjustments and/or replacements made.

MARKINGS:

Only use the lifter if ALL labels are readable and undamaged. Contact Vestil for replacement labels if necessary, and DO NOT use the pallet truck until all replacement labels are affixed to the device.

Proper label placement is shown below:

Label #206

ISO 32 / 150 SUS	
HYDRAULIC OIL OR NON-SYNTHETIC TRANSMISSION FLUID	
ACEITE HIDRAULICO O LIQUIDOS DE TRANSMISION NO SINTETICOS	
HUILE OU LIQUIDE HYDRAULIQUE NON-SYNTHEIQUE	206 Rev.1003
VESTIL MANUFACTURING CORPORATION • Phone (260) 665-7586 • www.vestil.com	

Label #220

⚠️ WARNING	⚠️ ADVERTENCIA	⚠️ AVERTISSEMENT
KEEP CLEAR WHEN IN USE	MANTENGASE ALEJADO CUANDO SE ESTA OPERANDO	SE TENIR À DISTANCE LORS DU FONCTIONNEMENT
VESTIL MANUFACTURING CORPORATION • Angola, Indiana USA • Phone (260) 665-7586 • sales@vestil.com • www.vestil.com 220 Rev 0803		



Label #527

⚠️ WARNING
Only trained, authorized persons should operate this device. Improper operation might result in serious personal injuries sustained by the truck operator and/or bystanders. Operators must observe the following safety-enhancing practices:
<ul style="list-style-type: none"> • BEFORE operating, inspect mast, carriage, forks/deck, cable/chain, wheels, and brakes for damage. DO NOT use if damaged. • ALWAYS walk travel path before using truck to identify hazards: <ul style="list-style-type: none"> ✓ DO NOT contact electrical lines or overhead objects with device or load; ✓ DO NOT travel up/down inclines if an alternate route is available; ✓ DO NOT travel over debris. • ONLY travel with forks/deck in lowest position appropriate for conditions. • ALWAYS center and evenly distribute loads on forks/deck. • ALWAYS secure load to forks/deck. • ONLY drive or operate truck functions from operator position. • DO NOT exceed maximum rated load (capacity). • DO NOT allow people to ride on device. • DO NOT lift loads over people; DO NOT permit people to walk beneath the forks/deck when raised (loaded or unloaded). • DO NOT leave unattended UNTIL fully lowered AND unloaded. • DO NOT modify device in any way.
⚠️ ADVERTENCIA
Solo personas entrenadas y autorizadas deben operar este equipo. La operación inadecuada podría resultar en daños serios al operario del camión y/o a los transeuntes. Los operarios deben observar y seguir las siguientes prácticas de seguridad:
<ul style="list-style-type: none"> • ANTES de usar, inspeccione el mástil, el equipo, las horquillas/plataforma, cable/cadena, ruedas y frenos por daños. NO use si se observan daños. • SIEMPRE camine el trayecto de viaje antes de usar el camión para identificar riesgos: <ul style="list-style-type: none"> ✓ NO toque las líneas eléctricas u objetos altos con el dispositivo o la carga; ✓ NO viaje en inclinaciones de subida y bajada si hay otra ruta alternativa; ✓ NO viaje sobre desechos. • SOLO viaje con las horquillas/plataforma en la posición de descenso más apropiada para las condiciones. • SIEMPRE centre y distribuya las cargas uniformemente en las horquillas/plataforma • SIEMPRE asegure la carga a las horquillas/plataforma. • SOLO conduzca u opere las funciones del camión desde la posición del operario. • NO exceda la capacidad máxima tasada de carga. • NO permita que la gente viaje en el equipo. • NO eleve las cargas sobre la gente; NO permita que la gente camine debajo de las horquillas/plataforma cuando este elevada (con carga o sin carga). • NO deje el equipo desatendido HASTA que este completamente cargado Y descargado. • NO modifique el equipo de ninguna manera.
<p align="center">VESTIL MANUFACTURING CORPORATION Phone (260) 665-7586 • www.vestil.com 527 • Rev 1109</p>

Label #295

DANGER
CORROSIVE MATERIAL
PELIGRO
MATERIAL CORROSIVO
DANGER
MATIÈRES CORROSIVES
<p>T & S Equipment Company Ph (219)665-9521 • Fax (219)665-1339 New area code (260) in 2002 295</p>

Label #208

⚠️ WARNING	⚠️ ADVERTENCIA	⚠️ AVERTISSEMENT
KEEP CLEAR OF PINCH POINT	MANTENGASE ALEJADO DEL PUNTO DE CORTE	SE TENIR À DISTANCE DU POINT DE PINCEMENT
VESTIL MANUFACTURING CORPORATION • Phone (260) 665-7586 • Fax (260) 665-1339 • sales@vestil.com • www.vestil.com 208 Revision 0803		