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CART-400-D-LA LIN AR ACT AT R D L SCISS R CART 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.

<u>TABLE OF CONTENTS</u>	<u>PAGE</u>	<u>TABLE OF FIGURES</u>	<u>PAGE</u>
Safety Principles	2	Fig. 1 CART-400-D-LA PARTS DRAWING (2014)	4
Product Introduction	2	Fig. 2 CART-400-D-LA PARTS LIST (2014)	5
Safety Guidelines	3	Fig. 3 Function Controls, Gauges, & Safety Features	6
Removing LA Table from Pallet	3		
Use, 1 st Inspection, & Functions Tests	7		
Lifting & Transporting Loads	8		
Batteries & Charger	8		
Troubleshooting	9		
		Maintenance & Inspections	10-11
		Markings	12

PRODUCT INTRODUCTION



Thank you for purchasing linear actuator table (“CART-400-D-LA,” “cart,” “table,” or “unit”) offered by Vestil Manufacturing Corporation (“Vestil”). Our LA tables 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	Net Wt. (lbs.)	Service Range (in)	Platform (WxL) inches	Capacity (lbs.)
CART-400-D-LA	360	15 to 50	23½x35½	400

Vestil Manufacturing Corp. created this manual to acquaint owners and users of our electric pallet trucks 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 LA must read and understand every instruction BEFORE using the device. Cart 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

We offer two types of Linear Actuator Tables (LA): CART-400-D-LA 400 lbs (~181kg) capacity double scissor model, and CART-400-LA 400 lbs (~181kg) capacity single scissor model. Each 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 cart. If you do not understand an instruction, 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 pallet truck constitutes misuse of the product. Study the entire manual before you use the truck for the first time and before each subsequent use. Read the manual to refresh your understanding of the safe use and maintenance procedures on p. 50-51. If questions remain after you finish reading the manual, contact Vestil for answers. DO NOT attempt to resolve any problem with the truck unless you are certain that it will be safe to use afterwards.

⚠ DANGER

To decrease the risk of electrocution:

- DO NOT *contact* or *operate* the pallet truck *close to* electrified wires or other sources of electricity;
- Before operating the LA, always inspect the area where you will use it.

⚠ 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 LA must read, understand and apply the following instructions:

- DO NOT operate the LA unless and until you are:
 1. Trained to use the machine; AND
 2. Certified as a trained operator by your employer in accordance with U.S. OSHA regulations (29 CFR §1910.178) and any standards incorporated by reference (e.g. ANSI/ITSDF B56.1-2005).
- **DO NOT attempt to lift or transport loads that exceed the rated capacity.**
- Inspect the machine before each use; DO NOT use the LA unless it is in normal condition. Normal operating condition exists if the LA passes the inspection and functions tests described under the heading, "Inspect the LA & Perform a Functions Tests" on p. 20.
- DO NOT use the unit until you read and understand the entire owner's manual. Review the manual before each use AND before performing maintenance on the device.
- DO NOT use the LA 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 LA if it makes unusual noises during operation.
- DO NOT allow people to ride on the pallet truck. Only the operator of an LA equipped with a properly installed rider platform (LA)
- DO NOT attempt to lift an unevenly distributed load. Always center and evenly distribute the load on the table.
- DO NOT operate the LA on surfaces ramps or grades.
- DO NOT leave the LA unattended while it supports a load. Always fully lower the table,
- DO NOT modify the table without first receiving written authorization from Vestil. Unauthorized modifications may make the LA unsafe to use.

NOTICE

To maximize the service life of the LA and to prevent damage:

- Always store the machine in a secure, dry location where it will not interfere with traffic or other activities.
- Maintain the product as suggested in "Maintenance & Inspections" on p. 49-50.

REMOVING THE Table FROM THE SHIPPING PALLET:

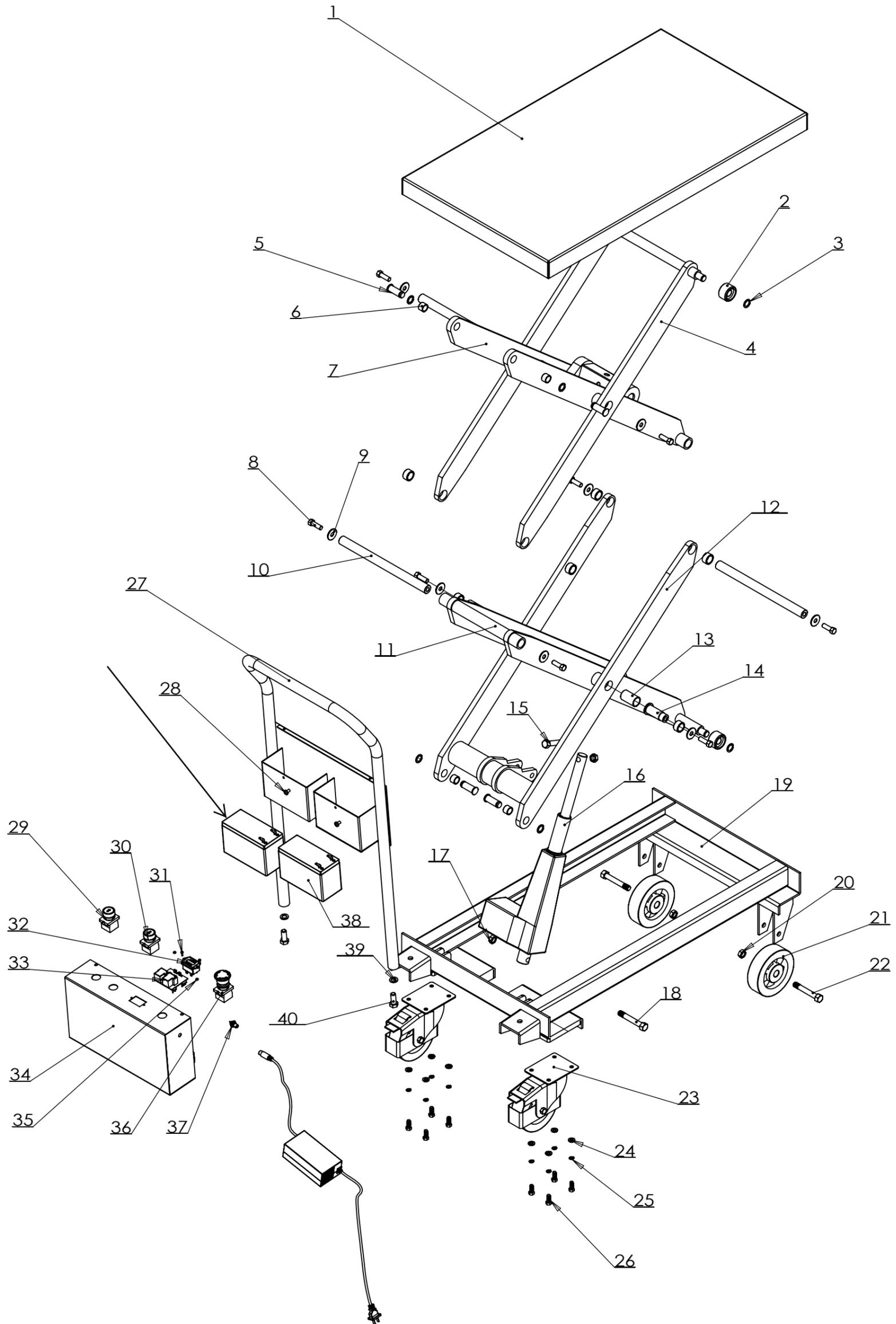
The LA Table is shipped in ready-to-use condition. However, it must first be removed from the shipping pallet before it can be used for the first time.

⚠ WARNING

DO NOT attempt to roll the table 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:

1. Remove all packing material.
2. Inform all personnel not participating in the unpacking process to clear the area.
3. Lift the Table off of the pallet using either a hoist. Always apply the proper hoisting procedures

FIG. 1: CART-400-D-LA PARTS DRAWING (2014)



CART-400-D-LA (2014) Parts List		
Part Number	Description	Qty.
CART-400-D-LA-14-1	Platform (23 ³ / ₈ x35 ¹ / ₂ "	1
CART-400-D-LA-14-2	Guide Roller (Ø38)	4
CART-400-D-LA-14-3	C-Ring (Ø16)	8
CART-400-D-LA-14-4	Leg Assembly, Outer (up)	1
CART-400-D-LA-14-5	Shaft (Ø16)	4
CART-400-D-LA-14-6	Bushing (Ø16)	4
CART-400-D-LA-14-7	Leg Assembly, Inner (up)	1
CART-400-D-LA-14-8	Bolt, Hex head (M10x30)	4
CART-400-D-LA-14-9	Washer, Flat (M10)	1
CART-400-D-LA-14-10	Rod, Scissor Leg	2
CART-400-D-LA-14-11	Leg Assembly, Inner (bottom)	1
CART-400-D-LA-14-12	Leg Assembly, Outer (bottom)	1
CART-400-D-LA-14-13	Bushing (4
CART-400-D-LA-14-14	Shaft	4
CART-400-D-LA-14-15	Bolt, Hex Head (M12x55)	1
CART-400-D-LA-14-16	Linear Actuator (24V)	1
CART-400-D-LA-14-17	Nut (M12)	1
CART-400-D-LA-14-18	Bolt, Hex Head (M12x65)	1
CART-400-D-LA-14-19	Frame, Base	1
CART-400-D-LA-14-20	Nut (M12)	2
CART-400-D-LA-14-21	Wheel, Front (Ø5")	2
CART-400-D-LA-14-22	Bolt, Hex Head (M12x70)	2
CART-400-D-LA-14-23	Wheel, Swivel (Ø5")	2
CART-400-D-LA-14-24	Nut (M8)	8
CART-400-D-LA-14-25	Washer, Flat (M8)	8
CART-400-D-LA-14-26	Screw (M8x25)	8
CART-400-D-LA-14-27	Handle	1
CART-400-D-LA-14-28	Screw (M6x12)	8
CART-400-D-LA-14-29	Switch, Raise	1
CART-400-D-LA-14-30	Switch, Lower	1
CART-400-D-LA-14-31	Screw (M3)	2
CART-400-D-LA-14-32	Battery Charge Indicator	1
CART-400-D-LA-14-33	Circuit Board (24V)	1
CART-400-D-LA-14-34	Battery Box	1
CART-400-D-LA-14-35	Nut (M3)	2
CART-400-D-LA-14-36	Switch, Emergency On/Off	1
CART-400-D-LA-14-37	Battery Charger & cord (24V-1.8A)	1
CART-400-D-LA-14-38	Battery (2x12V/7Ah)	2
CART-400-D-LA-14-39	Washer, Lock (Ø12)	2

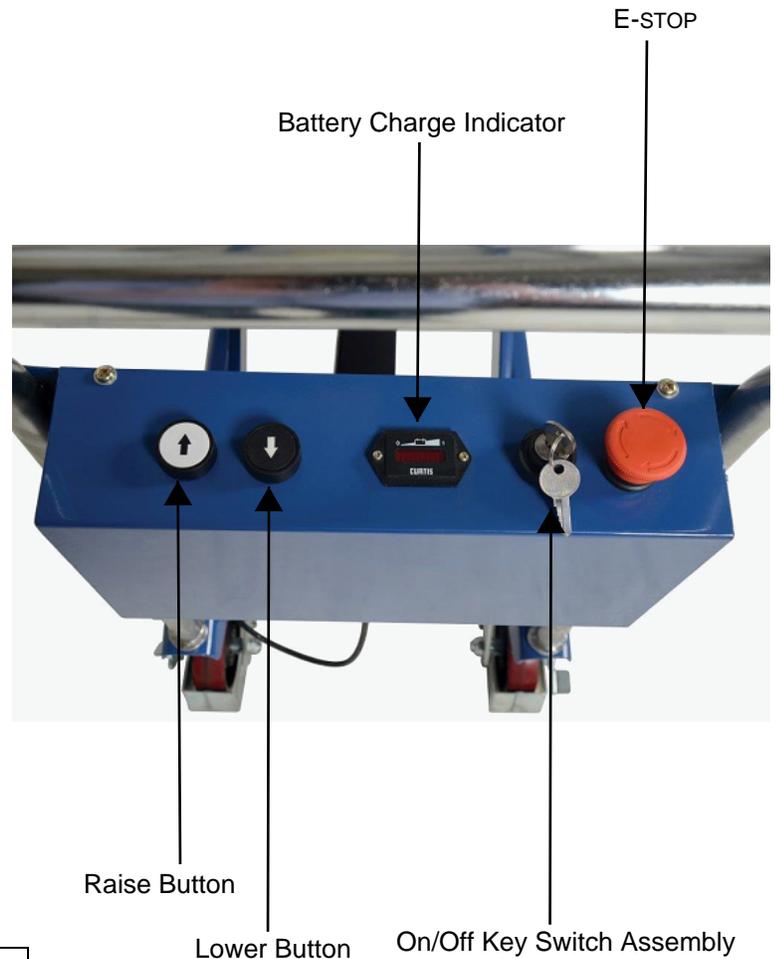
FIG. 3: Function Controls, Gauges, and Safety Features

BATTERY CHARGE GAUGE:

The battery charge gauge indicates the status of the battery. It is located on top of the EPT 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.



EMERGENCY STOP (“E-STOP”) BUTTON:

Press the E-stop button to immediately interrupt all powered functions.



USE INSTRUCTIONS:

1. Determine Condition of Floor or Other Supporting Surface: Inspect the floor (or other surface; for example a parking lot, dock board or dock leveler) 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 Table to stop suddenly. A sudden stop can cause the load to shift and the load and table might tip over.

2. Inspect the LA Table & 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 platform , and then:

- a. Check the scissor legs for deformation and cracks;
- b. Check the floor beneath the table and the truck itself for leaked battery acid.

⚠ WARNING DO NOT use the LA Table 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 Table to a location where the following tests can be performed without contacting items on the ground:

1. Raise the table to the maximum elevation;
2. Lower the table to the lowest position.
3. Raise the table, and while raising them, press the E-stop button. The table should immediately stop moving. Reset the E-stop.
4. Fully raise the table, and while lowering the table press the E-stop. The table should immediately stop moving. Reset the E-stop.

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

Lifting and Transporting Loads:

- ⚠ WARNING** DO NOT operate the LA Table 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 LA Table.
 2. Make sure that the net weight to be lifted (load) does not exceed the rated load (capacity) of your table.
 3. Center and evenly distribute the load on the table. The load must not project more than 2” beyond the tips of the table.
 4. Review the safety guidelines on p. 3 before each use:
 - Apply proper loading techniques (p. 8);
 - Ask a coworker to help you load and unload the table.
4. “Operator” means a person, who is trained and authorized to use a manually propelled 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 CART-400-D-LA. 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 loads with the table beforehand. Do not use the LA table if the floor (or other supporting surface) is uneven or damaged or cannot support the combined weight of the operator, the table and the load.
 - Make sure that the table has been inspected as recommended in the “Inspections & Maintenance” section of this manual (p. 9). Use the lifter ONLY IF it is deemed safe to use by designated inspection personnel.

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 LA Table is outdoors. Only recharge the batteries indoors.

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

- the AC cord is hooked to end of the battery charger

Plug Ac cord end into a standard 115 volt outlet and charge batteries for at least 8 hours. The charger will not overcharge the batteries, so leaving the unit plugged in overnight or over a weekend is ok. However, the **charger should only be used indoors!** When the charge cycle completes, disconnect the AC cord from the outlet.

NOTICE A proper storage location is one where the unused table 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 raise/lower switches (does not raise or lower).	Battery voltage low (battery charge lower than 17 Volts)	Charge batteries. Bad batteries; load test batteries and replace if necessary.
Unit will not charge	Charger malfunction	Verify output voltage on charger, it should be 26 to 30 volts, dc, connected to batteries, and plugged into 115vac.
Unit will not raise/lower	Bad batteries Broken wire, loose connection or bad linear actuator	Load test the batteries Trace wiring to contactor and verify connection. Replace linear actuator
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 the battery box looking for voltage on each side of the connectors until the bad connection is found.
Unit will not lower	Bad batteries Broken wire, loose connection or bad linear actuator	Load test the batteries Trace wiring to contactor and verify connection. Replace linear actuator

Maintenance and Inspections:

According to ANSI MH29.1, the lift table is a “mobile scissor lift table”. For this type of lift table, 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 table if an inspection reveals structural damage. Structural damage includes, but is not limited to, cracked welds, warping or other deformation of the cylinder brackets, scissor legs, front wheels and wheel(s), handle, or the housing that protects the electrical components.
If an inspection exposes any problem, restore the TABLE to normal operating condition BEFORE returning it to regular service. The TABLE must not be used until all repairs have been completed.

NOTICE According to ANSI MH29.1-2012:

- “Authorized” means any person designated by the user to operate or maintain the table. In other words, the owner, most likely your employer, is responsible for training and selecting people to inspect and maintain the TABLE. **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.**
- Only use replacement parts either supplied or approved by the manufacturer.

The person(s) authorized **by the end-user** to inspect the TABLE must do so before it is used for the first time, and before each subsequent use. If the TABLE is rarely used, inspect the unit at least once per month, or before each use, whichever is more frequent.

Inspect the LA table prior to each use. Specifically look for:

1. Frayed wires;
2. Battery leaks;
3. Structural damage: cracked welds, warping or other deformation of the actuator brackets, scissor legs,
4. front rollers or swivel wheel(s), handle, or the housing that protects the electrical components;
5. Proper function of all switches;
6. 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.
7. Proper rotation of all wheels.

Inspect the LA Table each month:

1. Damage to or excessive wear of:
 - a. Pivot points;
 - b. Electric wires;
 - c. Retaining rings for the rollers, drive wheels, and all pivot points;
 - d. Bearings
2. Wobbliness or looseness of rollers and/or 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.

⚠WARNING The user is responsible for training persons to work on the LA Table. “Work on” refers to operating, loading, cleaning, servicing, maintaining, or repairing the product.

Step 1: Tag the LA Table, "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 LA TABLE. Contact Vestil for instructions.

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

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

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 #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 08/03		



Label #527

⚠ WARNING
<p>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:</p> <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
<p>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:</p> <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>VESTIL MANUFACTURING CORPORATION Phone (260) 665-7586 • www.vestil.com 527 • Rev 11/09</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		