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## E-TUG Electric Load Transporters Instruction Manual



**Receiving Instructions:**

After delivery, remove the packaging from the product. Inspect the product closely to determine whether it sustained damage during transport. If damage is discovered, record a complete description of it on the bill of lading. If the product is undamaged, discard the packaging.

**NOTE:** The end-user is solely responsible for confirming that product design, use, and maintenance comply with laws, regulations, codes, and mandatory standards applied where the product is used.

**Technical Assistance & Replacement Parts:**

For answers to questions not addressed in these instructions and to order replacement parts, labels, and accessories, call our Technical Service and Parts Department at (260) 665-7586. The department can also be contacted online at [http://www.vestilmfg.com/parts\\_info.htm](http://www.vestilmfg.com/parts_info.htm).

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## SPECIFICATIONS:

Dimensions and other attributes appear in the table below. E-TUG's are type EE trucks.

NOTE: All figures presented in the table are subject to change without notice.

Model	Net Weight	Uniform Pulling Capacity	Drive Motor	Batteries (each unit has 2)	Overall Dimensions (L x W x H)
E-TUG-10	240 lb. 109.1 kg	1,000 lb. (454.5kg)	24V DC; 400W	12V; 55Ah	20 <sup>1</sup> / <sub>4</sub> " x 31 <sup>3</sup> / <sub>4</sub> " x 49 <sup>1</sup> / <sub>4</sub> " (51.4 x 81.6 x 125.1)cm
E-TUG-20	275 lb. 125 kg	2,000 lb. (909.1kg)	24V DC; 800W	12V; 70Ah	26" x 32" x 50 <sup>1</sup> / <sub>2</sub> " (66 x 81.3 x 128.3)cm
E-TUG-30	420 lb. 190.9 kg	3,000 lb. (1,364kg)	24V DC; 1,200W	12V; 70Ah	29" x 32" x 52" (73.7 x 81.3 x 132.1)cm

## SIGNAL WORDS:

This manual uses SIGNAL WORDS to direct the reader's attention to important safety-related messages. These messages describe uses of the product that could result in personal injury or property damage. Each signal word corresponds to a specific hazard level. The following are definitions of signal words that might appear in this manual.



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.



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



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



Identifies practices likely to result in product/property damage, such as operation that might damage the product.

## Hazards of Improper Use:

Vestil strives to identify all foreseeable hazards associated with the use of its products. However, material handling is dangerous and no manual can address every risk. Ultimately the most effective way to prevent injury is for the operator to apply sound judgment whenever using this device.



Improper or careless operation of this device might result in serious personal injuries.

*Read and understand this entire manual before assembling, using or servicing the product.* Read the manual whenever necessary to refresh your understanding of proper operation and maintenance procedures. Only use this machine if you are trained to use it and certified as a trained operator by your employer in accordance with US OSHA rule 29 CFR §1910.178.

- DO NOT exceed the capacity! See label 287 in the [Labeling Diagram](#) (p. 6) and *Specifications* table (above).
- Inspect the machine before each use as suggested in [Inspections & Maintenance](#) on page 6. DO NOT use the device unless it is in normal condition.
- Keep the E-TUG dry at all times. DO NOT use the unit outdoors if it is raining, snowing, etc.
- E-TUG's are type EE powered industrial trucks. Only use this truck in areas whose classifications are consistent with the type EE rating.
- ONLY use the tugger if you are familiar with the controls and trained to use it.
- ONLY use the mover on even, level surfaces! DO NOT use the E-TUG on sloped/angled surfaces.
- DO NOT park on sloped terrain, e.g. ramps.
- DO NOT leave a loaded E-TUG unattended.
- DO NOT ride on the tugger or allow other persons to ride on it or the load.
- Remove the unit from service if you hear unusual sounds or experience a malfunction. Report your observations to authorized maintenance personnel, or contact our *Technical Service Department*. The telephone number and web address are provided on the cover page of this manual.
- DO NOT modify the product in any way without express, written approval from Vestil. Unapproved modifications automatically void the [Limited Warranty](#) (p. 7) and might make the product unsafe to use.
- DO NOT use this product UNLESS every label shown in the [Labeling diagram](#) on p. 6 is easily readable.

## CONTROLS, SWITCHES, AND GAUGES:

Powered functions are controlled by the movement controllers, belly switch, and E-stop switch. Each element, and its operation, is described below.

### BATTERY CHARGE GAUGE:

The battery charge gauge indicates the status of the battery. To activate the gauge, turn the E-stop off (pull the red button up). The gauge is located on top of the main body and to the center of the machine cover. As the battery discharges, the display light shifts from right to left.



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



### BELLY SWITCH:

The belly switch protects the operator from injury while driving the unit in reverse. When pressed, the truck will change direction, i.e. move forward, for approximately 3 seconds and then stop. The controls will not work until the system is reset. Reset the circuit by either: 1) Raising the handle all-the-way up position (or releasing the handle); or 2) Pressing the handle all-the-way down.

- If the switch becomes jammed or stuck, controls will not reset even with the yoke in home position. The switch must be repaired.

### EMERGENCY STOP BUTTON (“E-STOP”):

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

1. During operation if the drive (forward and reverse) functions do not respond normally to operator commands.
2. To apply a magnetic parking brake to immobilize the E-TUG when not in use. Brakes are applied whenever the yoke is in the fully vertical “home” position or all the way down.



### MOVEMENT CONTROLLERS:

**Forward:** To drive the E-TUG forward, turn the movement controls forward with your thumbs.

**Reverse:** To drive the unit in reverse, rotate the control wheel with your thumbs in the opposite direction.

The degree of rotation determines the speed of movement, so the farther you press the wheel in either direction, the faster the E-TUG will travel. Maximum speed is ~2.0mph (3.3km/h) when loaded to full capacity and ~2.6mph (4.3km/h) when unloaded.

**NOTE:** Maximum speed figures are approximate and subject to change without notice.

**Stopping:** Release the movement control, the E-TUG will decelerate to a complete stop.

## OPERATION: Refer to diagrams on p. 3 as needed.

As long as the batteries are adequately charged, the unit is ready to use. Make sure that the E-stop button is engaged (pressed down) before proceeding to step 1.

1. Move the control yoke up and down to get a feel for the force needed to move it. The yoke should automatically return to the fully vertical "home" position when released. When the yoke is either all the way up or all the way down, the drive system is in neutral, i.e. the unit will not move. Engage the drive system by moving the yoke to an intermediate position.
2. Pull the E-stop button up to close the electrical circuit and provide power.
3. Check the battery charge gauge. Make sure that the batteries are adequately charged before proceeding to step 4.  
NOTE: If the gauge indicates that less than  $\frac{1}{4}$ -charge remains, charge the batteries before using the tugger. Press the E-stop button down and plug in the charger. See [Charging the Batteries](#) (below).
4. Grasp the handles at the top of the yoke. Press the yoke down to a comfortable height.
5. Use your thumbs to turn the movement controllers toward the tugger to move forward. Rotate the controllers in the opposite direction to move in reverse. Turn the controllers farther to increase speed.
6. Test the controls before using the tugger to move a load.
  - a. Press the horn button and confirm that the horn sounds.
  - b. Drive in reverse and press the belly switch. The unit should reverse direction (drive forward) for ~3 seconds; then stop.
  - c. Release the yoke. When the yoke returns to home position the controls will reset.

7. Carefully drive the unit to the load. Remove the hitch pin from the receiver. Align the receiver with the hitch on the piece of equipment you wish to move and reinstall the hitch pin.

NOTE: The position of the receiver is adjustable. Remove the 4 machine bolts to disconnect the receiver from the mounting plate on the front face of the tugger. Align the bolt holes in the receiver with the necessary holes in the mounting plate and reinstall the bolts.

8. Carefully move the load to its destination. Only traverse *even, level* ground. Lift the handle to the home position to stop. While driving forward (away from you), turn the handle/yoke to the left to turn left; turn the yoke to the right to turn right. In reverse, turn the handle in the direction opposite the direction of the turn.

NOTE: Although speed remains the same, it will feel like speed increases slightly during turns. This is only because we tend to reduce our walking pace, or shorten strides while turning.

9. Disconnect the load from the tugger by removing the hitch pin. Back away from the load and reinstall the hitch pin. Drive the unit to its storage location and press the E-stop button to engage the parking brake.



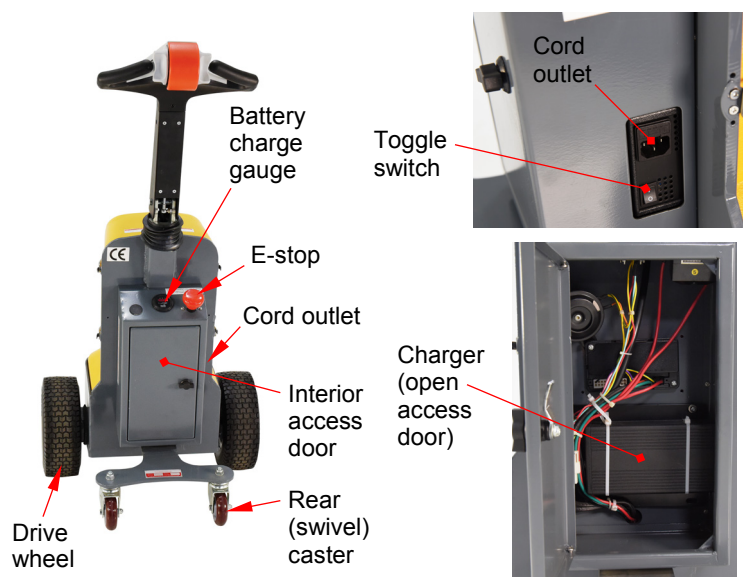
## CHARGING THE BATTERIES:

Begin by making sure that the E-stop is applied (press the button down).

Locate the charger on the right side of the unit below the E-stop button (arrow indicates location).

Plug the female end of the charging cord into the cord inlet; then plug the opposite end of the cord into a 115V AC outlet.

Find the toggle switch. The switch has 2 markings: | = ON; ○ = OFF. Turn on the charger and let it operate until the batteries are fully charged. To determine if the batteries are charged, open the interior access door by turning the black knob. AN LED on the left side of the charger (opposite side from cord outlet) is RED when batteries are charging and GREEN when they are charged. When the batteries are fully charged, turn off the charger and disconnect the charging cord.





## RECORD OF NORMAL CONDITION:

Before using the product for the first time, make a written record of its appearance and operation. Drive the unit forward and in reverse. Describe the motion (e.g. smooth and constant; comfortable walking pace). Include a description of how the unit sounds while in motion. Also describe how the unit stops. How long does it take for the unit to stop at various speeds? Drive the tugger in reverse and press the belly switch. Explain how the unit reacts to the switch. Thoroughly photograph the unit and each label applied to it. Add the photos to the record. Describe where each label is located. *This record establishes normal condition.* Whenever the unit is inspected, compare those observations to the record to determine if the mover is in normal condition. Do not use it unless it is in normal condition. Cosmetic changes, like damaged paint/powder coat and scratches on the housing do not constitute changes from normal condition. However, touchup paint should be applied to all areas where the coating is damaged as soon as damage occurs.

## INSPECTIONS & MAINTENANCE: Refer to the diagrams on pages 3 & 4.

### NOTICE

Proper storage and maintenance is essential to keep this product in normal condition and to maximize the service life of the unit.

- Always store the unit indoors in a dry location.
- DO NOT use it outdoors if it is raining, snowing, etc. The E-TUG must be kept dry.

Regular inspections and maintenance are necessary for this device to remain serviceable for as long as possible. Compare all observations made during an inspection to the *Record of Normal Condition*. Before performing any inspection, make sure that the E-stop is engaged by pressing down the (red) button. If problems are discovered during an inspection, restore the machine to normal condition before returning it to service. Contact the [Technical Service Department](#) if you need assistance with an issue discovered during an inspection.

A. Before each use – Each time the E-TUG is used the following components should be inspected beforehand.

1. Drive wheels and casters – Disengage the E-stop by pulling up the red button. Drive the tugger a short distance in both directions. Confirm that it rolls smoothly, without wobbling. Engage the E-stop by pushing the button down.
2. Yoke and handle – Move the handle down and release it. Confirm that the yoke returns to its home position.
3. Receiver and hitch pin – Make sure that the receiver is securely fastened to the mounting plate and the hitch pin is in place.
4. Labels – Make sure that all labels are easily readable.

B. At least once per month perform the following inspections:

1. Drive wheels and tires – This machine is equipped with solid foam tires and therefore require no inflation. Check the tires for punctures, cracks, and severe wear. Replace a tire if it is damaged or its tread is significantly worn. Pull the E-stop button up and drive the unit a short distance both forward and reverse. Listen for unusual sounds and watch for atypical movement as the unit moves. Press the E-stop button down.
2. Casters – Check each caster wheel for punctures, cuts, and severe wear. The rear casters (2) should swivel freely. All 3 casters should roll smoothly without wobbling or skidding. They should all be solidly attached to the E-TUG frame. Caster axels and threaded stems should be straight. Replace a caster if it is severely worn, bent, or damaged.
3. (Yellow) Housing/Cover – The cover should not be broken, torn, punctured, etc. Clasps should securely fasten the cover to the frame of the machine.
4. Receiver and hitch pin – Make sure that the receiver and hitch pin are in place and in normal condition. Tighten the machine screws, if necessary. Examine the mounting plate for damage such as warping around the machine screws.
5. Yoke, handle, and movement controls – Examine the yoke, handle, and controls for damage. Confirm that the yoke moves up and down and rotates normally side-to-side. Push the handle down and release it. The yoke should return to home position (vertical). Verify that the movement controls rotates normally and return to home position when released.
6. Batteries – Unbuckle the clasps and remove the yellow cover. Examine the batteries. Make sure that cables are securely fastened to the battery terminals. Remove corrosion from the terminals 1-at-a-time. DO NOT contact more than 1 battery terminal at the same time.
7. Labels – Replace damaged labels. All label content must be clearly visible.

## TROUBLESHOOTING:

If you encounter an issue with the machine, contact the [Technical Service](#) department for assistance. Contact information is provided on the cover page of this manual.

### LABELING DIAGRAM:

The unit should be labeled as shown in the following diagram. However, label content and location are subject to change without notice so your product might not be labeled exactly as shown. Thoroughly photograph the labels applied to the unit when you first receive it as discussed in the *Record of Normal Condition* on p. 5. Replace all labels that are damaged, missing, or not easily readable (e.g. faded). Contact the technical service and parts department online at [http://www.vestilmfg.com/parts\\_info.htm](http://www.vestilmfg.com/parts_info.htm) to order replacement labels. Alternatively, you may request replacement parts and/or service by calling (260) 665-7586 and asking the operator to connect you to the Parts Department.



C: Label 656

POWER OFF 5 SECONDS IF UNIT FAILS TO OPERATE  
 APAGUE 5 SEGUNDOS SI LA UNIDAD NO FUNCIONA  
 COUPER L'ALIMENTATION PENDANT 5 SECONDES SI  
 L'UNITÉ NE FONCTIONNE PAS

656  
REV0415

D: Label \*287 (Model; serial/order no.; capacity)

MODEL/MODELO/MODELE	_____
STATIC CAPACITY (evenly distributed)	_____ lbs.
LA CAPACIDAD CONSTANTE (distribuida uniformemente)	_____ kgs.
CAPACITÉ STATIQUE (distribuée régulièrement)	_____ kgs.
SERIAL/SERIE/SÉRIE	_____

287 REV 0812

\*NOTE: There are several forms of label 287. The label applied might look different than the example.

A: Label 295

**⚠ WARNING**

Enclosed battery contains hazardous chemicals.  
 DO NOT handle enclosed battery UNLESS wearing eye protection and other appropriate personal protective equipment.  
 DO NOT directly contact skin with battery.  
 DO NOT expose to sparks or extreme heat; battery contains explosive gases.

**⚠ ADVERTENCIA**

La batería incluida contiene materiales peligrosos.  
 NO use la batería incluida A NO SER que lleve protección de ojos y otros equipos de protección apropiados para el personal.  
 NO tenga contacto directo en la piel con la batería.  
 NO exponga a destellos o a calor excesivo, la batería contiene gases explosivos.

295  
rev 0111

B: 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:

- **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:
  - 3 **DO NOT** contact electrical lines or overhead objects with device or load;
  - 3 **DO NOT** travel up/down inclines if an alternate route is available;
  - 3 **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**

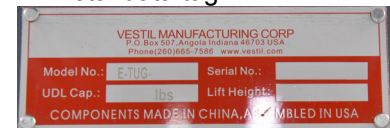
Solo personas entrenadas y autorizadas deben operar este equipo. La operación inadecuada podría resultar en daños serios al operario del camión y/o a los transeúntes. Los operarios deben observar y seguir las siguientes prácticas de seguridad:

- **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:
  - 3 **NO** toque las líneas eléctricas u objetos altos con el dispositivo o la carga;
  - 3 **NO** viaje en inclinaciones de subida y bajada si hay otra ruta alternativa;
  - 3 **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.

527-Rev 1109



E: Metal data tag



## LIMITED WARRANTY

Vestil Manufacturing Corporation (“Vestil”) warrants this product to be free of defects in material and workmanship during the warranty period. Our warranty obligation is to provide a replacement for a defective, original part covered by the warranty after we receive a proper request from the Warrantee (you) for warranty service.

Who may request service?

Only a warrantee may request service. You are a warrantee if you purchased the product from Vestil or from an authorized distributor AND Vestil has been fully paid.

Definition of “original part”?

An original part is a part used to make the product as shipped to the Warrantee.

What is a “proper request”?

A request for warranty service is proper if Vestil receives: 1) a photocopy of the Customer Invoice that displays the shipping date; AND 2) a written request for warranty service including your name and phone number. Send requests by one of the following methods:

<u>US Mail</u>	<u>Fax</u>	<u>Email</u>
Vestil Manufacturing Corporation 2999 North Wayne Street, PO Box 507 Angola, IN 46703	(260) 665-1339 <u>Phone</u> (260) 665-7586	info@vestil.com Enter “Warranty service request” in subject field.

In the written request, list the parts believed to be defective and include the address where replacements should be delivered. After Vestil receives your request for warranty service, an authorized representative will contact you to determine whether your claim is covered by the warranty. Before providing warranty service, Vestil will require you to send the entire product, or just the defective part (or parts), to its facility in Angola, IN.

What is covered under the warranty?

The warranty covers defects in the following original, dynamic parts: motors, hydraulic pumps, motor controllers, and cylinders. It also covers defects in original parts that wear under normal usage conditions (“wearing parts”), such as bearings, hoses, wheels, seals, brushes, and batteries.

How long is the warranty period?

The warranty period for original dynamic components is 90 days. For wearing parts, the warranty period is 90 days. Both warranty periods begin on the date Vestil ships the product to the Warrantee. If the product was purchased from an authorized distributor, the periods begin when the distributor ships the product. Vestil may, at its sole discretion, extend a warranty period for products shipped from authorized distributors by up to 30 days to account for shipping time.

If a defective part is covered by the warranty, what will Vestil do to correct the problem?

Vestil will provide an appropriate replacement for any *covered* part. An authorized representative of Vestil will contact you to discuss your claim.

What is not covered by the warranty?

The Warrantee (you) is responsible for paying labor costs and freight costs to return the product to Vestil for warranty service.

Events that automatically void this Limited Warranty.

- Misuse;
- Negligent assembly, installation, operation or repair;
- Installation/use in corrosive environments;
- Inadequate or improper maintenance;
- Damage sustained during shipping;
- Collisions or other accidents that damage the product;
- Unauthorized modifications: Do not modify the product IN ANY WAY without first receiving written authorization from Vestil.

Do any other warranties apply to the product?

Vestil Manufacturing Corp. makes no other express warranties. All implied warranties are disclaimed to the extent allowed by law. Any implied warranty not disclaimed is limited in scope to the terms of this Limited Warranty. Vestil makes no warranty or representation that this product complies with any state or local design, performance, or safety code or standard. Noncompliance with any such code or standard is not a defect in material or workmanship.

