CUSHMAN™

Owner's Guide

TUG



629732

ISSUED NOVEMBER 2012

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Read all of this manual to become thoroughly familiar with this vehicle. Pay particular attention to all Notices, Cautions, Warnings, and Dangers.

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CUSHMAN

MODEL: TUG
TYPE: ELECTRIC POWERED TRUCK
MODEL YEAR: 2013
Part No:. 628518



PRODUCT SPECIFICATION

CONFIGURATION HIGHLIGHTS

Speed Control: Programmable Solid State 350 amp controller. SRO Capable

- Direction Selector: Dash mounted (Forward-Neutral-Reverse)
- Batteries: Six, 6 Volt Deep Cycle
- State of Charge Meter: Dash Mounted

Battery Charger: 36 Volt On-Board. Fully line compensating. Underwriters Laboratories (U.L.) Recognized, and CE Marked

- Input: 100 – 240 Volt, 50/60 Hz, 12/6A
- Output: 36 Volt 21A, 17A @ 100Volts

Motor:	36 Volt DC SepEx, brazed armature, solid copper windings. 11.1 hp (8.28 kW) @ 1942 rpm
Drive Train:	Triple "V" belt connected to differential pinion shaft
Electrical System:	36 VDC, six, 6 volt deep cycle batteries (105 minute minimum, 225 amp-hour @ 20 hr. discharge rate)
Rearaxle:	Differential with worm pinion gear
Brakes:	All wheel hydraulic drum brakes. Hand operated mechanical park brake (rear wheels)
Convenience:	Cargo area with plywood deck that raises to provide access to powertrain. Seat with operator presence switch on adjustable track mounting
Steering:	Handlebars come standard. Optional steering wheel available
Towing:	Normal Draw Bar Pull 90 lb (41 kg). Maximum Draw Bar Pull 771 lb (350 kg) (Per ANSI B56.9)

PRODUCT OVERVIEW

Dimensions	
Overall Length	76.0 in (193 cm)
Overall Width	34.5 in (87.6 cm)
Overall Height	37.0 in (94 cm) (Top of handlebars)
Wheel Base	52.5 in (133.4 cm)
Front Wheel Track	N/A
Rear Wheel Track	29.7 in (75.4 cm)
Cargo Box Width (inside)	33.5 in (85 cm)
Cargo Box Length (inside)	21.0 in (53 cm)
Cargo Box Depth (inside)	1.75 in (4.4 cm)
Cargo Box material	Heavy Duty Plywood

Vehicle Power	
Power Source	36 Volts DC
Motor Type	SepEx
Horsepower (kW)	11.1 hp (8.28 kW) @ 1942 rpm
Electrical System	36 Volt
Batteries (Qty, Type)	Six, 6 Volt Deep Cycle
Key or Pedal Start	Pedal
Battery Charger	36 VDC On-board
Speed Controller	350 amp rated. Programmable. SRO capable
Drive Train	Triple "V" belt
Differential	Worm gear driven
Gear Selection	Dash Mounted Forward-Neutral-Reverse
Rear Axle Ratio	15.67:1

Performance	
Seating Capacity	1 Person
Dry Weight	571 lb (259 kg)
Curb Weight	940 lb (426 kg) with T 105 batteries
Vehicle load capacity	450 lb (200 kg)
Inside Clearance Circle (handlebar)	Turnabout rear wheel
Outside Clearance Circle (handlebar)	9 ft (2.8 m)
Intersecting Aisle Clearance	55 in (140 cm) minimum
Speed (Level Ground)	Up to 7.8 mph (12.6 kmh)
Towing Capacity (Draw Bar)	90 lb (41 kg) Normal, 771 lb (350 kg) Max.

Steering & Suspension	
Steering	Handlebar. Optional steering wheel
Front Suspension	Coil springs
Rear Suspension	Coil springs with hydraulic shock absorber
Service Brake	3 wheel hydraulic drum
Parking Brake	Hand lever, mechanical rear brakes
Front & Rear Tires	USA Trail 4.80 x 8 (Load range B) Industrial

Body & Chassis	
Frame	Welded Steel with DuraShield™ powder coat
Body & Finish	1 piece, 4-way embossed diamond pattern
Standard Color	Safety Yellow

Noise & Vibration	
Noise	Sound pressure; continued A-weighted ≤ 70 db(A)
Vibration, WBV	Highest RMS value of weighted acceleration is less than 2.5 m/s
Vibration, HAV	Highest RMS value of weighted acceleration is less than 2.5 m/s
	The uncertainty of measurement is 0.12 m/s

Type E and EE Vehicles certified to UL583

Some items shown may be optional equipment

Measurement methods were applied per the ISO 2631 and ISO 5349 standards under conditions of typical vehicle surfaces.

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Always remain seated and hold on while vehicle is in motion. Keep feet, legs, hands and arms inside vehicle at all items. NEVER allow a passenger to stand on the rear deck while vehicle is in motion.

NEVER use the vehicle in or near an area where there is explosive dust or fumes.

Cargo must be secured. Position cargo loads carefully, avoid shifting or top heavy loads.

To prevent inadvertent movement when vehicle is left unattended, engage the parking brake, move direction selector to neutral, turn key to OFF and remove the key.

Keep all labels (decals) and instructional literature legible and intact. Replacement labels (decals) and literature are available from your authorized dealer or from service parts.

STARTING AND DRIVING

⚠ WARNING

To reduce the possibility of roll-back which could result in severe injury or vehicle damage, do not release the service brake until motor has started.

All vehicles are equipped with an *interlock system* that disables the controller and prevents the vehicle from being operated or moved while the charger is connected. Disconnect the AC charger cord from the vehicle charger pigtail and properly store the cord prior to moving the vehicle.

To operate the vehicle:

- Operator is to be properly seated facing forward with feet on the floor.
- Apply the pressure to the brake pedal, place the key in the key switch and turn it to the ON position.
- Move the direction selector to the direction desired.
- Release the park brake.
- Slowly depress the accelerator pedal to start the motor. Release the brake pedal when the motor starts.
- When the accelerator pedal is released, the motor controls the deceleration. To stop the vehicle more quickly, depress the **brake pedal**.

NOTICE

When the direction selector is in the reverse position, a warning signal will sound to indicate that the vehicle is ready to run in reverse.

Starting Vehicle On A Hill

⚠ WARNING

To reduce the possibility of roll-back which could result in severe injury or vehicle damage, do not release the service brake until motor has started

⚠ CAUTION

Do not hold vehicle on hill by using accelerator and motor. Leaving motor in a stalled condition for more than 3 - 4 seconds will cause permanent damage to motor.

To reduce the possibility of permanent damage to the drive system, it is important to prevent excessive roll-back when starting the vehicle on a hill.

Place left foot on brake pedal and release the park brake. Depress accelerator with right foot and release the brake pedal by lifting the left foot.

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ROUTINE MAINTENANCE

⚠ CAUTION

To prolong vehicle life, some maintenance items must be serviced more frequently on vehicles used under severe driving conditions such as extreme temperatures, extreme dust/debris conditions, or frequent use with maximum load.

To access the powertrain for routine maintenance, remove the load bed. For major repair, refer to the appropriate Technician's Repair and Service Manual.

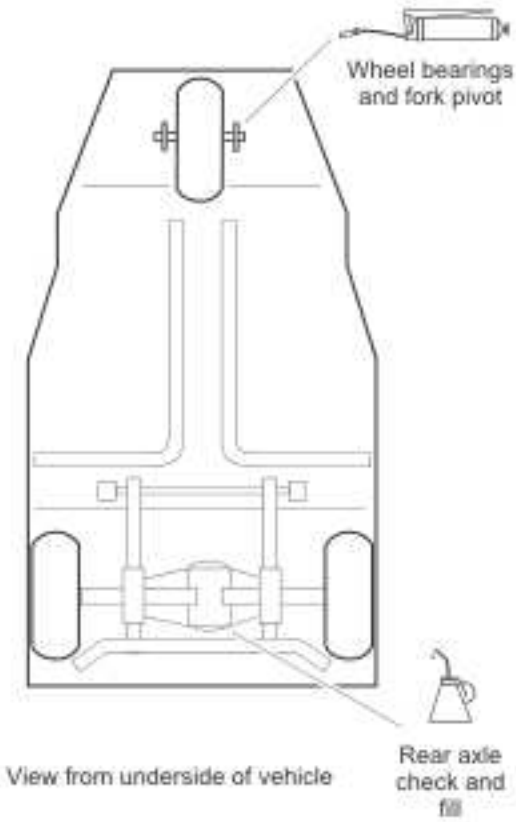
Some service procedures may require the vehicle to be lifted. Refer to LIFTING THE VEHICLE for proper lifting procedure and safety information.

Lubrication Points

⚠ CAUTION

Use maximum of three pumps of grease for each grease fitting - Over greasing may damage grease seals.

Putting more than three pumps of grease in a grease fitting could damage grease seals and cause premature bearing failure.

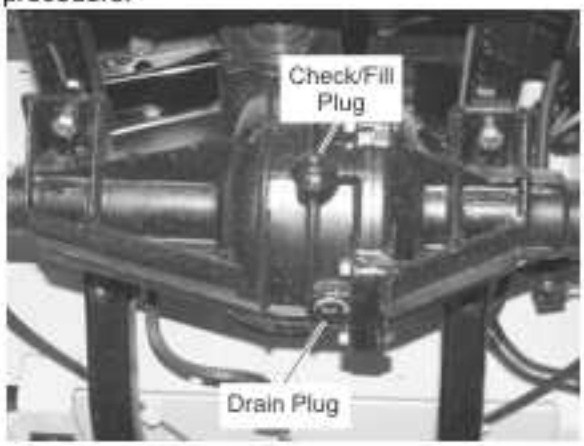


Tire Inspection

Tire condition should be inspected per the Periodic Service Schedule. Inflation pressures should be checked when the tires are cool. Be sure to install the valve dust cap after checking or inflating.

REAR AXLE

The only maintenance required for the first five years is the periodic inspection of the rear axle for lubricant leakage. Unless leakage is evident, the lubricant need only be replaced after five years. Refer to the Service and Repair Manual for the fluid replacement procedure.



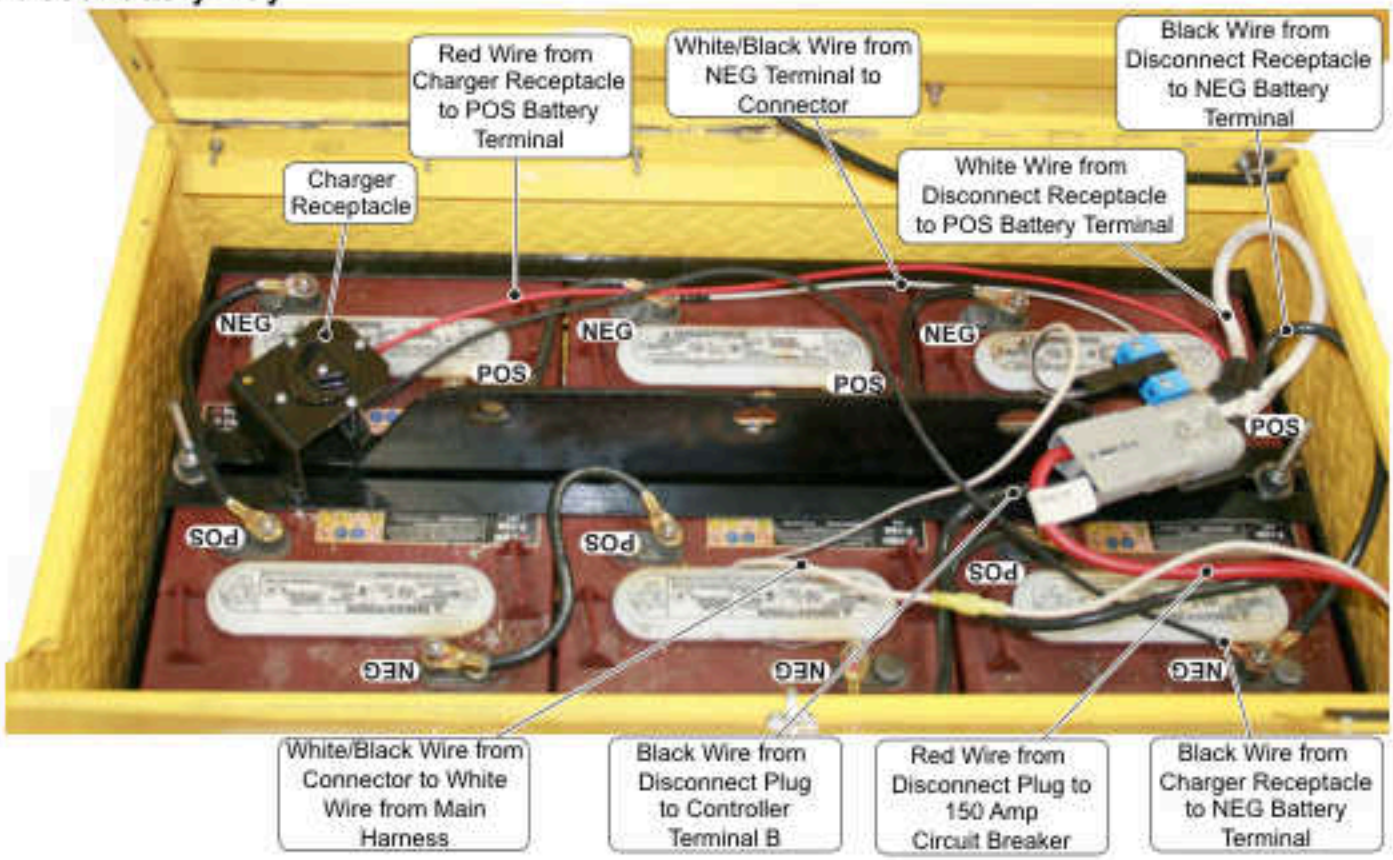
Checking The Lubricant Level

With the vehicle on level ground, clean the area around the check/fill plug and remove plug. The correct lubricant level is just below the bottom of the threaded hole. If lubricant is low, add as required. Add lubricant slowly until lubricant starts to seep from the hole. Install the check/fill plug.

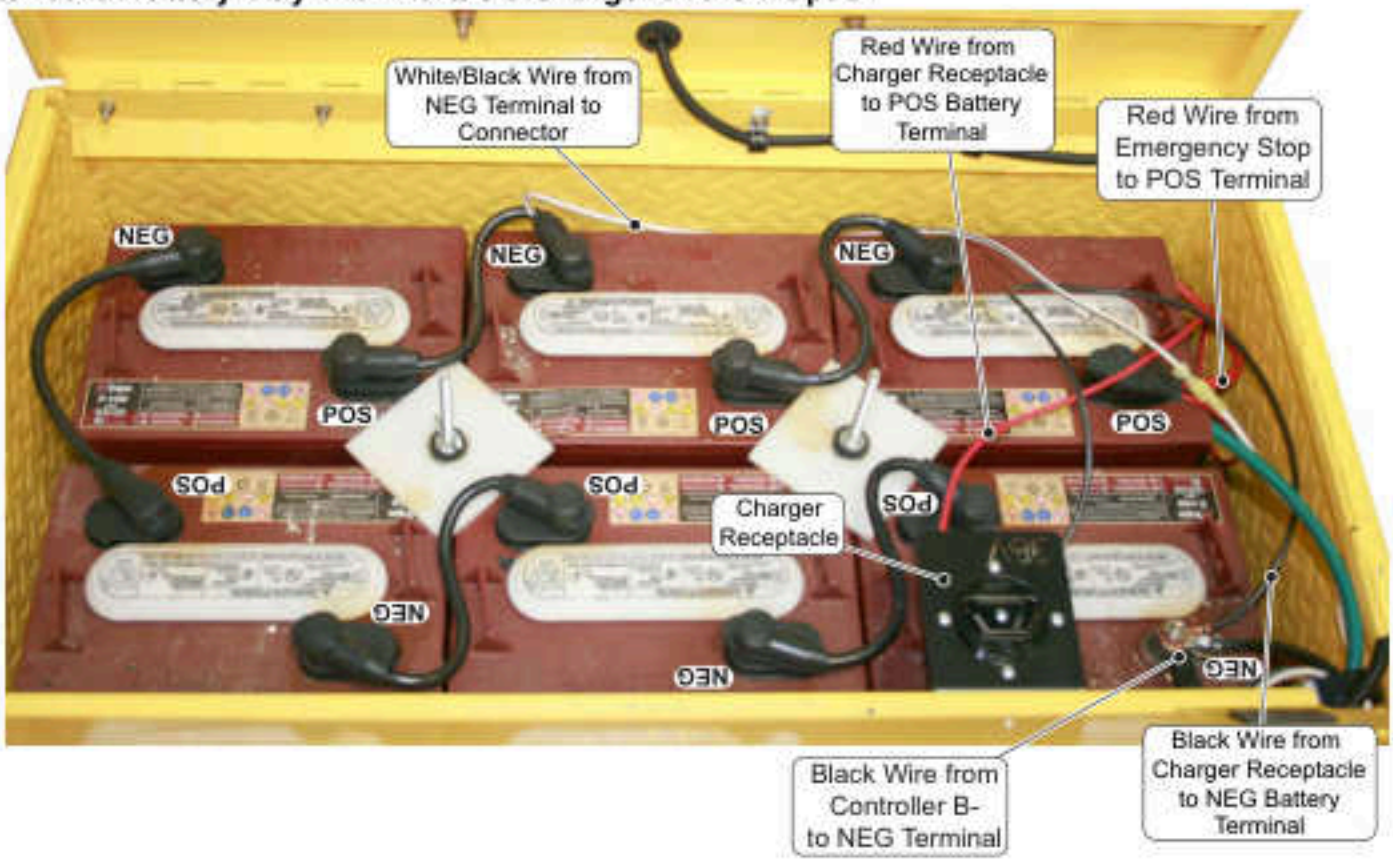
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Lift Out Battery Tray



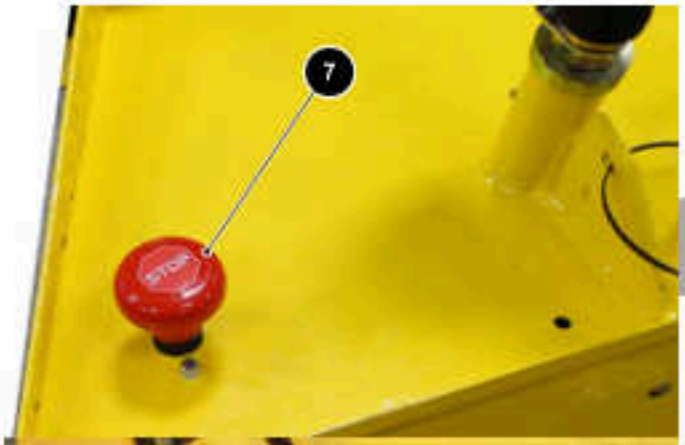
Standard Battery Tray With Portable Charger and CE Option



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7. Emergency Stop Switch (CE Vehicles ONLY)

The emergency stop switch is located on the front deck panel to the left of the handlebar. Pushing in on this switch will disconnect all electrical power to the vehicle motor.



8. Accelerator Pedal

The accelerator pedal is used to control the speed of the vehicle.

9. Brake Pedal

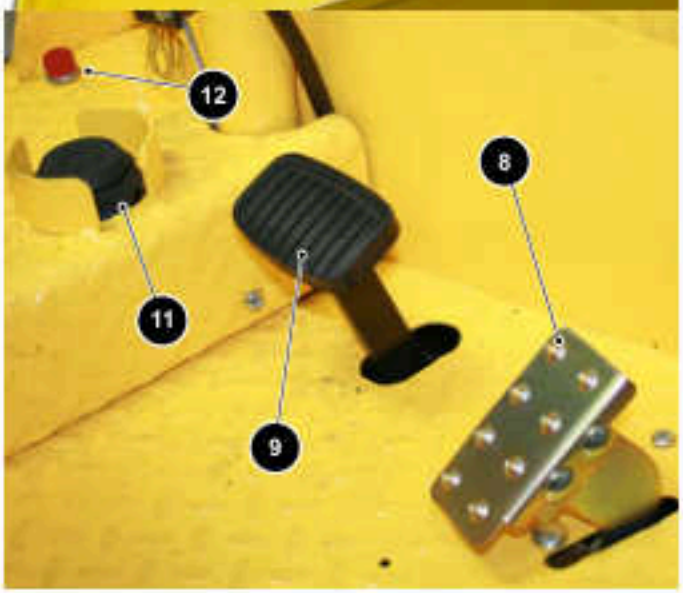
The brake pedal is used to slow or stop the vehicle.

10. Parking Brake

The parking brake is engaged by pulling up on the hand lever. Push the hand lever down to release. The parking brake can be adjusted by turning the knob at the end of the lever clockwise.

11. Brake Fluid Reservoir

Remove the reservoir cap to check brake fluid level or to add brake fluid.



12. Horn

To sound the horn, step on the red button located on the left side of the floorboard.

13. Seat

The seat can be adjusted forward or backward. The seat adjustment lever is located below the front edge of the of the seat bottom. To adjust the seat, move the lever to the left and slide the seat to the desired position. Releasing the adjustment lever locks the seat in place.

14. Cargo Bed Tie Down Holes

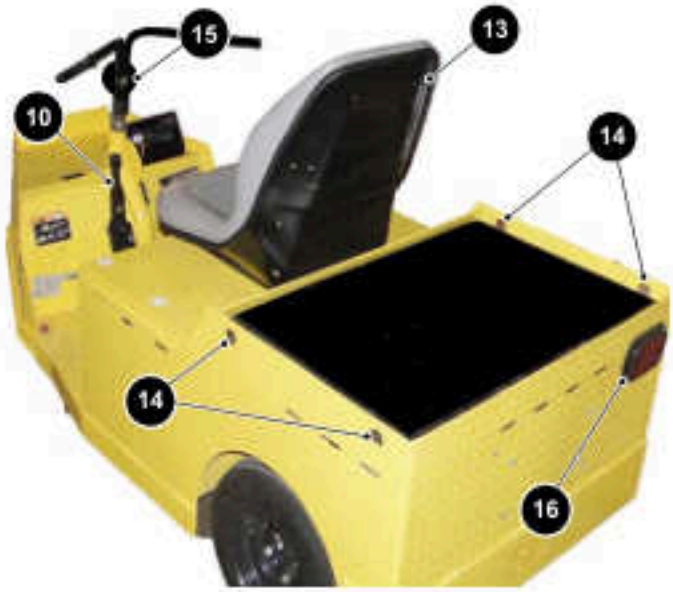
There are four holes located in the frame of the cargo bed, two along each side. These holes are for use with cargo straps with hooks on each end or cargo nets with hooks used for securing items to the deck during transport.

15. Headlight (if equipped)

A halogen headlight is available as an option or standard on the Type EE Vehicles.

16. Taillight

The taillight is connected to the light switch on the control panel.



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