-SPECIFICATION-
UNDER TAILGATE SPREADER

TC-160

GENERAL

Under Tailgate Spreader, available in 88” or 96” wide versions, all electric, that attaches to any one-ton standard dump body, and uses the dumping action of the body to move material through the tailgate opening and into the spreader auger.

Weight of the complete unit is 296 lbs.

Unit shall have a positive feed from the entire width of the dump box by means of a chain driven, variable speed, stainless steel feed auger.

Unit shall be designed to spread all free flowing granular materials, abrasives and chemicals of ¾” diameter or less.

The unit shall be complete and assembled, ready for operation after initial 5-hour installation.

The TC-160 assembly unit shall be removable in 10 minutes by two persons by pulling two retaining pins, and disconnecting the power cable.

The auger & spinner motor controller shall be lighted and provide independently variable speed control with built-in electrical overload protection.

AUGER

FEATURES

Material shall be fed to the discharge port by means of a variable speed auger.

Unit shall permit regular use of dump body without removing spreader by closing the top auger access lid to: (1) permit dumping light materials over the access lid, or (2) allow truck tailgate to be lowered from top for heavy dumping.

TC-160 housing trough shall allow quick access to auger jams via flip latches on the auger clean-out cover.

CONSTRUCTION

Housing shall be manufactured of minimum 3/16” thick cross section T5 alloy aluminum extrusion for rigidity, strength, and corrosion resistance.

TC-160

Housing shall contain two adjustable baffle plates to minimize material bounce-out through spinner feed opening while moving the vehicle with auger off.

The dual diameter auger shall be constructed of 3/16" thick stainless steel flights welded to 2" Sched 40 stainless steel pipe, and incorporates stainless steel stub shafts.

Self-aligning ball bearings shall be non-rusting food-grade industry type, sealed, and further protected from granules and liquids by means of a slinger and labyrinth chamber inboard of the bearings. A protective cap shall be installed on the outside of the bearings to further seal out outside elements.

The auger drive shall consist of a ¾ HP, 12 volt electric motor coupled to a 97% efficient in-line helical gear reducer, and incorporating a final #50 roller-chain drive.

SPINNER ASSY

SPINNER FEATURES

The spinner shall be variable speed with built-in motor overload protection.

The spinner shall have four stainless blades that result in a flat trajectory and uniform spreading pattern.

The complete spinner assembly shall be adjustable, to provide for various spreading patterns - left, right and center.

The entire spinner assembly shall be easily removable by disconnecting one Packard-style connector and two hairpin clips, then sliding unit from hanger bracket.

The spinner assembly shall remain horizontal to the road surface at all dump box angles without use of a separate leveling link.

SPINNER CONSTRUCTION

The spinner plate assy shall be 12" diameter and be constructed of 1/8" stainless steel plate with keyed hub, and shall be driven through a 2:1 ratio right-angle gear reducer housed in a T5 aluminum alloy enclosure.

The spinner motor shall be a Leeson WASHGUARD® type, or equivalent, 1/6 HP, 12V, Frame 31S, with 303 stainless steel shaft, white epoxy coated outer housing, enamel & polyester coated interior, equipped with a one-way stainless condensation drain, double sealed ball bearings, and motor shall be

further protected in a T5 alloy aluminum enclosure to prevent direct saltwater spray.

ELECTRICAL CONTROL UNIT

FEATURES

In-cab Electronic Control Unit (ECU) shall be capable of handling 100 AMPS to the drive motors, and have lighted control buttons for easy night viewing.

The ECU eight segment display shall be capable of providing the following electrical operating parameters of the spreader: “BATTERY VOLTAGE”, “SOLENOID VOLTAGE”, “ELECTRONIC BOARD TEMPERATURE”, “OPERATING STATUS”, “SPINNER/AUGER AMP LEVELS”.

All ECU connections at rear of ECU housing are plug-in style, and are sized & keyed in such a manner as to prevent accidental mis-connection of plugs.

The ECU shall provide internal motor overload protection by sensing motor current requirements.

The ECU will display a real-time current reading of both motors on the status readout.

ECU temperature operating range shall be - 40 to +185 degrees F.

Lighted touch key button will set variable Auger speed.

Lighted touch key button will set variable Spinner speed.

HARDWARE

The ECU shall be connected to the vehicle battery with a factory-supplied wiring harness employing a replaceable 100 AMP main fuse and automotive type solenoid.

ECU power wires to be sized as follows: 12V Battery input - #6 ga; Auger motor – #5 ga; Spinner motor – #13 ga; Control Solenoid – #16 ga.

The rear wiring harness shall provide power from the ECU to the connectors for the Spinner & Auger at the factory-supplied stainless steel mounting plate.

Mounting plate connectors to be Deutsch 100 AMP for the auger, and Packard Style for the spinner.

All necessary wiring harnesses and connectors shall be provided to complete installation of unit.

OPERATION

A single key button labeled “MOTOR” shall turn both motors on and off simultaneously, and shall return both motors to operation at the last preset numerical setting to allow quick starting and stopping both motors simultaneously. Each motor shall have its own key button to select speed settings.

In the event of motor stall, the ECU will try to pulse-start the motor 5 times at successively higher current levels. If the jam cannot be cleared, the ECU will shut down both motors and will exhibit an “ERROR” message on the display readout. After clearing the jam, the “motor” button must then be disengaged & re-engaged and a new motor speed selected to restart the motor.

MOTOR DRIVES

AUGER DRIVE - Auger motor shall be ¾ HP, 12V, F.L.A. 58, frame XS56C, non-ventilated motor enclosed in a formed aluminum housing. Gear reducer shall be 97% efficient helical, in-line type. Final drive shall be #50 roller chain.

SPINNER DRIVE - Spinner motor shall be 1/6 HP, frame 31S, F.L.A. 15, LEESON WASHGUARD®, non-ventilated motor, with double-sealed bearings, 303 stainless steel shaft, epoxy coating. Final drive to be a 2:1 ratio right-angle bevel-gear reducer with sealed bearings & stainless steel shaft. Entire drive to be protected from salt environment by an aluminum enclosure extruded of T5 alloy.