

HTS500

Instruction Manual

HTS500 Spreader Hopper Poly Electrical 0.65 cubic yards

Table of Contents

General Information	1
Warranty Information	1
Safety Precautions	2
Installation Instructions	2-3
Spreader Operation	4
Spreader Maintenance	4
Repair Parts & Drawings	5-8

General Information

HTS500- spreader with standard length chute
Overall Length: 55-1/2 inches
Overall Width: 48 inches
Overall Height (installed): 28 inches
Empty Weight: 205 lbs
Capacity Struck: .65 cu. yd.

Vehicle Requirements:

½ ton pick-up truck or utility vehicle with 500 lbs. capacity minimum.



WARNING

Do not overload vehicle beyond the vehicle's GVWR or GAWR. Check vehicle's load rating certification sticker for maximum vehicle capacity.

Average Material Weights

<u>Materials to use</u>	<u>Weight (pounds per cubic yard)</u>
Fine Salt-Dry	2,250
Coarse Salt-Dry	1,431
Sand/Salt 50/50 Mix-Dry	2,700

Note: To calculate the total spreader weight (including ice control material), add the empty spreader weight plus the ice control material and spreader accessories.



SPREADER WARRANTY INFORMATION

This warranty replaces all previous warranties and no employee of this company is authorized to extend additional warranties, or agreements, or implications not explicitly covered herein.

Oy Hilltip Ab warrants all parts of the product to be free from defects in material and workmanship for a period of one (1) year. Parts must be properly installed and used under normal conditions. Normal wear is excluded.

Any part, which has been altered, including modifications, misuse, accident, or lack of maintenance will not be considered under this warranty.

The sole responsibility of Oy Hilltip Ab under this warranty is limited to repairing or replacing any part(s), which are returned, prepaid, 30 days after such defect is discovered, and returned part(s) are found to be defective by Hilltip.

Authorization from Oy Hilltip Ab must be obtained before returning any part. The following information must accompany defective parts returned to Hilltip: RMA #, spreader model, serial number, date installed, and distributor from whom purchased.

Oy Hilltip Ab shall not be liable for damage arising out of failure of any unit to operate properly, or failure, or delay in work, or for any consequential damages. No charges for transportation or labor performed on any part will be allowed under this warranty.

HTS500

Safety Precautions

WARNING

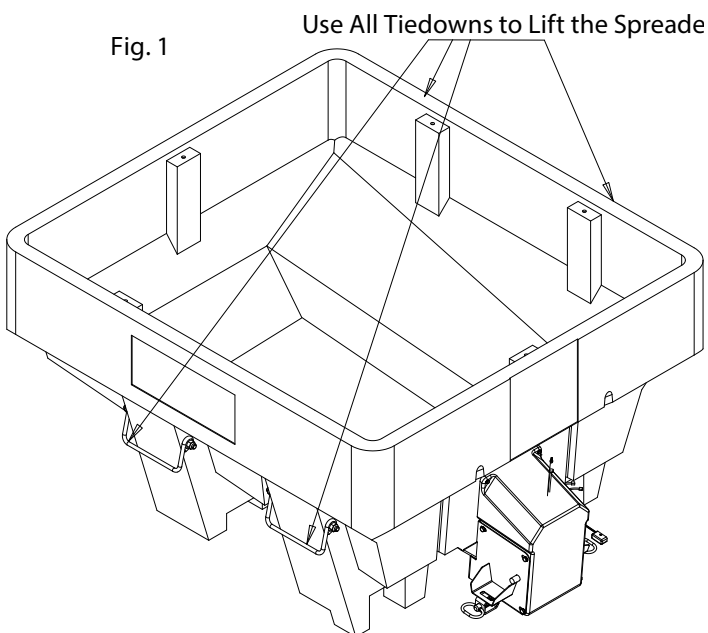
Observe the following Safety Precautions before, during and after operating this spreader. By following these precautions and common sense, possible injury to persons and potential damage to this machine may be avoided.

1. Read this entire Owners Manual before operating this spreader.
2. Read all safety decals on the spreader before operating.
3. Check to make sure all safety guards are securely mounted into place before operating this spreader.
4. Verify that all personnel are clear of the spreader spray area before starting or operating this spreader.
5. Do not over-load your vehicle beyond payload limits. If there are any questions, contact the vehicle manufacturer.
6. Do not adjust, clean, lubricate or unclog material jams without first turning off the spreader.
7. Do not climb on or in the spreader during operation. Do not ride on the spreader while the vehicle is in motion.
8. Make sure the spreader is securely fastened to the vehicle in accordance with this manual.
9. Do not operate a spreader that is in need of maintenance or repairs.
10. Always disconnect the battery before removing or replacing electrical components.

Installation Instructions

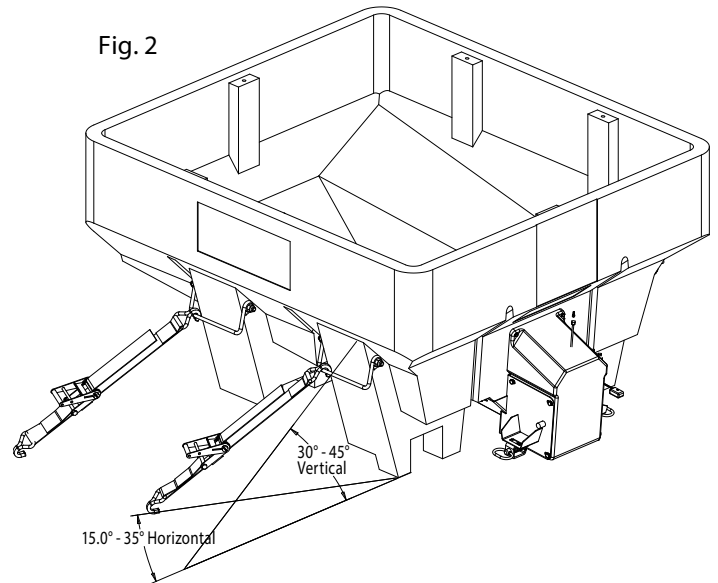
1. Mounting the Spreader onto the Vehicle

- A. Remove the tailgate from the vehicle.
- B. Check truck's bed for all kinds of sharp debris or foreign objects. They can cut and seriously damage poly hopper.
- C. Lift spreader using tie downs. See (Fig. 1)



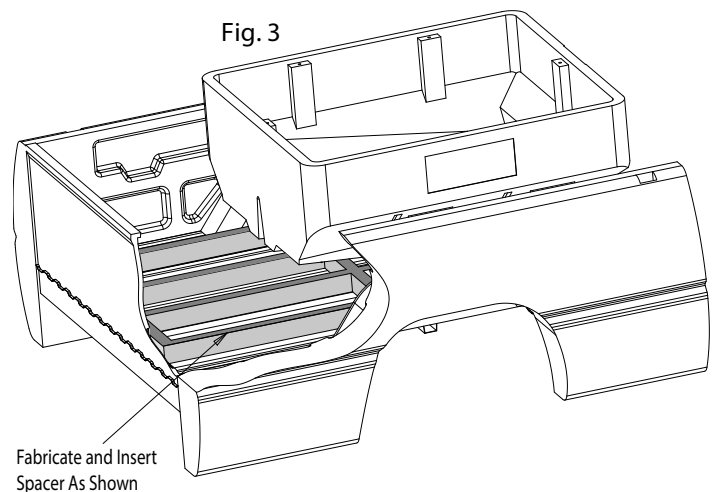
- D. Slide spreader forward in truck bed until steps on spreader's rear legs make contact with truck's bed.
- E. Center the spreader from side to side on the vehicle. Securely strap the spreader to the truck using four ratchet straps as shown. (Fig. 2) Front straps must be attached to anchor points located in front of the spreader to create longitudinal stability for the spreader. Rear straps must be tightened evenly to secure the spreader in the middle of the truck. Additional supports and restrictors can be used.

Fig. 2



- F. Alternative installation using bed spacer (recommended for trucks equipped with a snow plow). The picture below shows alternative way to install spreader in your vehicle (Fig.3). Spacer has to be fabricated and installed by installer. All previously noted installation requirements must be followed. If you do not wish to follow this procedure, refer to standard installation.

Fig. 3



Verify with the vehicle's manufacturer that the factory installed anchor points are designed for tie-down of such load. Periodically check that the spreader mounting hardware is securely tightened

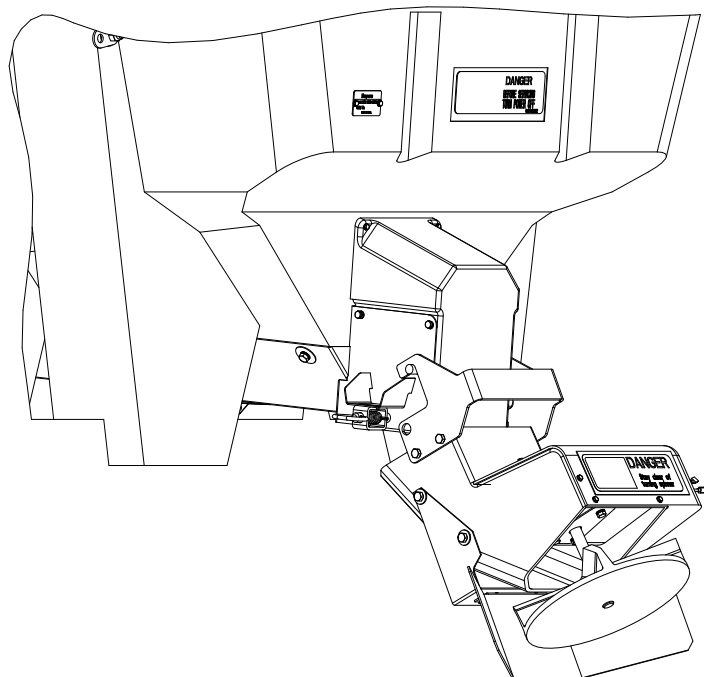
HTS500

2. Mounting the Spinner/Chute Assembly

A. Attach the Chute Assembly to the spreader.

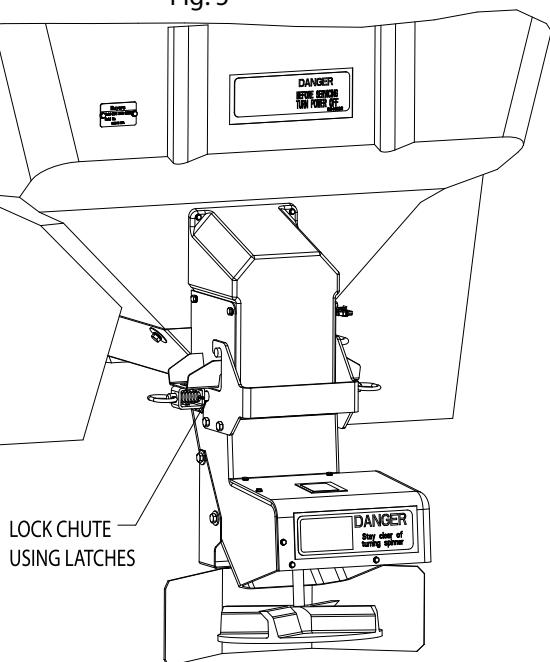
First, hook the Chute to the spreader by openings in the Chute's handle.

Fig. 4



B. Then rotate the Chute into operating position and lock using two spring latches.

Fig. 5



3. Control Box and Vehicle Wiring Harness Installation (see figure 6)

WARNING

Do not drill holes into fuel tanks, fuel lines, through electrical wiring, etc that may be damaged by drilling.

To insure good performance of your spreader, check the condition of truck's electrical system.

Using digital voltmeter, check alternator and battery voltage. With engine running and head lights and heater fan on good voltage reading should fall between 13.6 and 15.3 volts. If voltage reading falls out of this range, check and adjust your electric system.

WARNING

Use extreme caution when working around an operating vehicle engine.

A. Lay out a wiring path for the Vehicle Wiring Harness.

Connect the Wire Harness smaller terminal to the Chute's harness, large terminal to the Hopper's harness. Drill all necessary holes or use existing ones to pass the round connector into the trucks cab. Secure harness to truck's frame.

B. Mount the Controller in a convenient location in the truck cab. It is recommended not to mount Controller directly in front of the heat vents.

Protect controller from water, dirt and dust.

C. Apply dielectric grease or equal protective compound to connectors before assembly. Connect the Wire Harness round connector to the Controller round connector.

D. Lay out path for the Power Cable in the truck's engine compartment. Drill hole in the firewall or use an existing one to pass wire harness. It is recommended to pass the Power Cable from inside of the cab to the battery due to the large high amperage connector. Do not route close to exhaust system!

E. Connect Power Cable Connector to Controller.

F. Connect the Power Cable ring terminals to the truck's battery, white-positive, and black-negative.

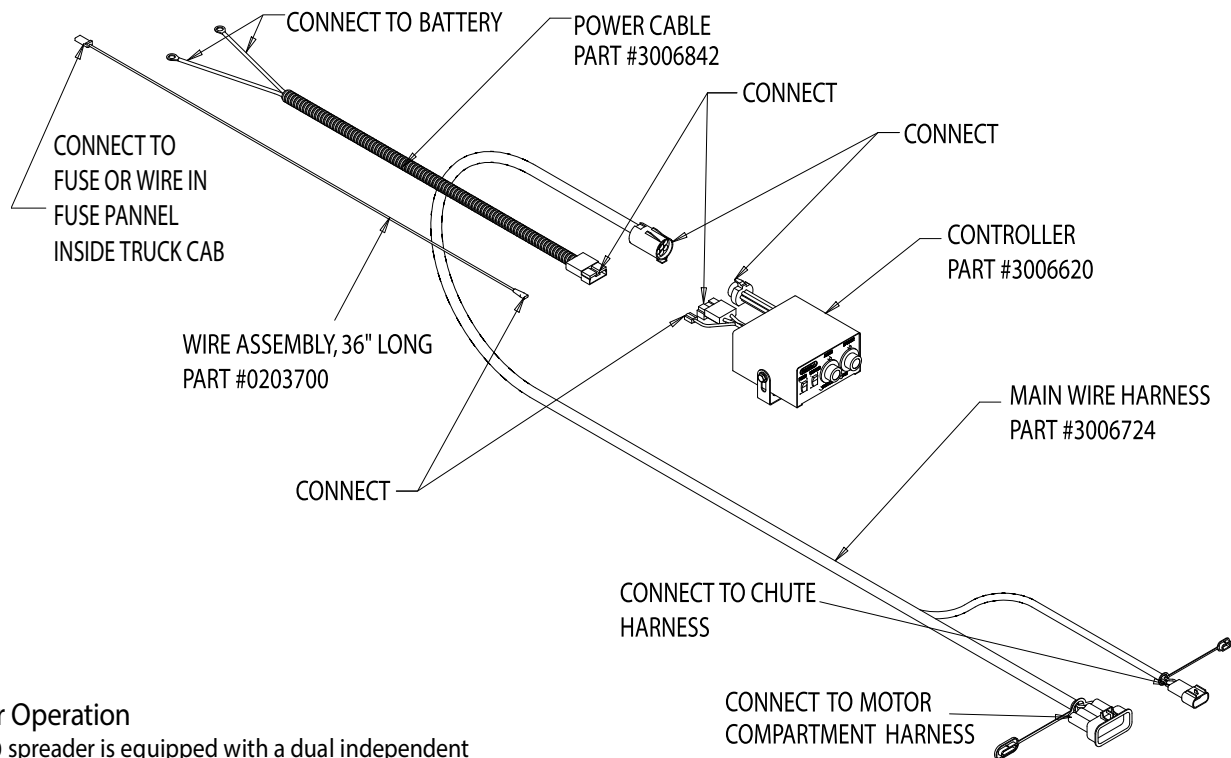
ATTENTION

Do not connect black (negative) wire to any part of vehicles frame. Connect this terminal to battery's negative terminal.

G. Make sure that the Controller is OFF. Connect blue wire's small female terminal to Controller's Ignition wire (single red wire). Connect the blue wire from the Controller to an accessory wire, terminal or fuse that is controlled by the vehicle's ignition switch. It can be found in fuse panel located inside truck's cab. It is recommended not to connect blue wire to high amperage fuse or terminal.

HTS500

Fig. 6



Spreader Operation

1. HTS500 spreader is equipped with a dual independent speed Controller with warning lights and a Vibrator switch. To start the spreader, press the ON-OFF switch. Switch will illuminate. The auger will accelerate to full speed for 2 sec., then slow down to dialed speed. The spinner will accelerate to full speed for 2 sec., then slow down to dialed speed.
 2. To activate the Vibrator press the Vibrator switch ON. Vibrator switch will illuminate.
 3. To stop the spreader, push ON-OFF switch to OFF position.
- Note: Always use screen during spreader operation!
Note: Various materials have different moisture absorption rate, some materials may not perform as desired. Therefore, the substitution of the alternate material may be necessary for optimum performance.

Warning Lights

Note: HTS500 Controller has two warning lights: "Overload" & "Jam". The "Overload" light will be illuminated when the auger is in "Unclogging" mode. In this mode auger will automatically reverse several times to free itself. If the auger will not be able to unclog itself, the "Jam" light will be illuminated & the Controller will shut-off.

Note: To unclog auger manually, first remove the chute. Apply 1 1/4" open wrench on auger's nut. Turn auger counter-clockwise several times.

Note: HTS500 controller has an internal circuit breaker in the vibrator circuit. The vibrator circuit breaker will trip and the light in the vibrator switch will go out in an overload situation. To reset the vibrator circuit breaker: Turn off the vibrator switch for 30 seconds. Turn the vibrator switch on to restart the vibrator.

Note: Do not run the vibrator longer than 30 minutes with 15 minutes between runs to avoid overheating.

Spreader Maintenance

WARNING! Always disconnect power when servicing spreader.

1. Use dielectric grease on all electrical connectors before an electrical connection is made or after connector is disconnected
2. Grease and spray with lubricant Auger bearing after every 20 hours of use.
3. Empty the spreader of all ice control materials when not in use. Wash out the spreader to prevent material builds up.
4. It is recommended to cover spreader with the tarp during storage periods. Tarp can be attached to anchors on both sides of tie downs.

Note: Vibrator is not serviceable. Controller is not serviceable.

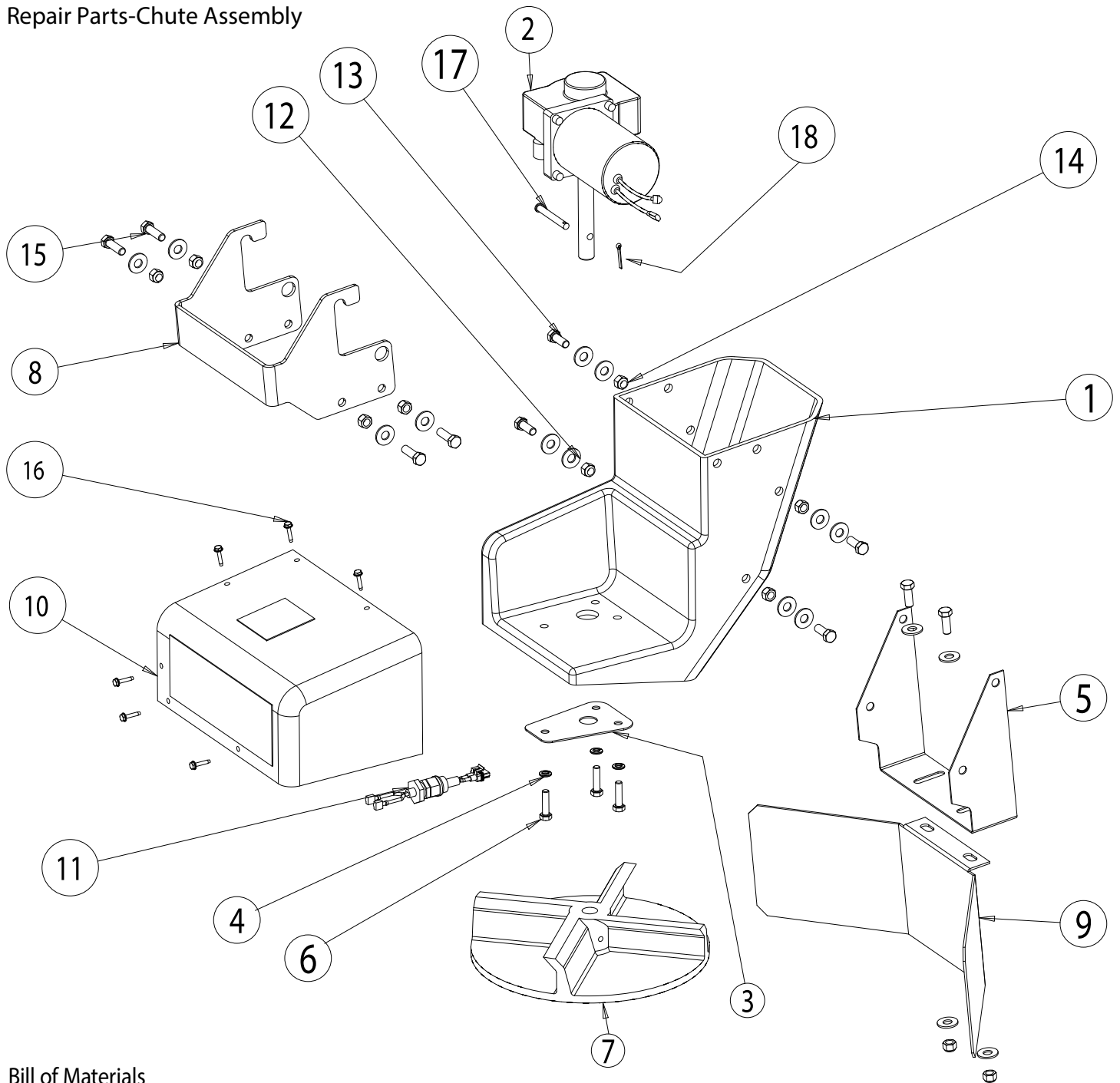
WARNING! Never attempt to remove spreader with material in hopper. Never leave material in the hopper for extended period of time. Material may freeze & seriously damage spreader!

Summer Storage

1. Apply dielectric grease or similar protective compound on all electrical connectors & protect them with caps before storage.
2. Disconnect and remove speed controller from vehicle and store it in dry and cool place. Protect controller from excessive heat and moisture.
3. Clean hopper and trough from all kinds of debris.
4. Remove, thoroughly lubricate and reinstall trough bearing.
5. Protect hopper from excessive temperatures during summer storage.

HTS500

Repair Parts-Chute Assembly



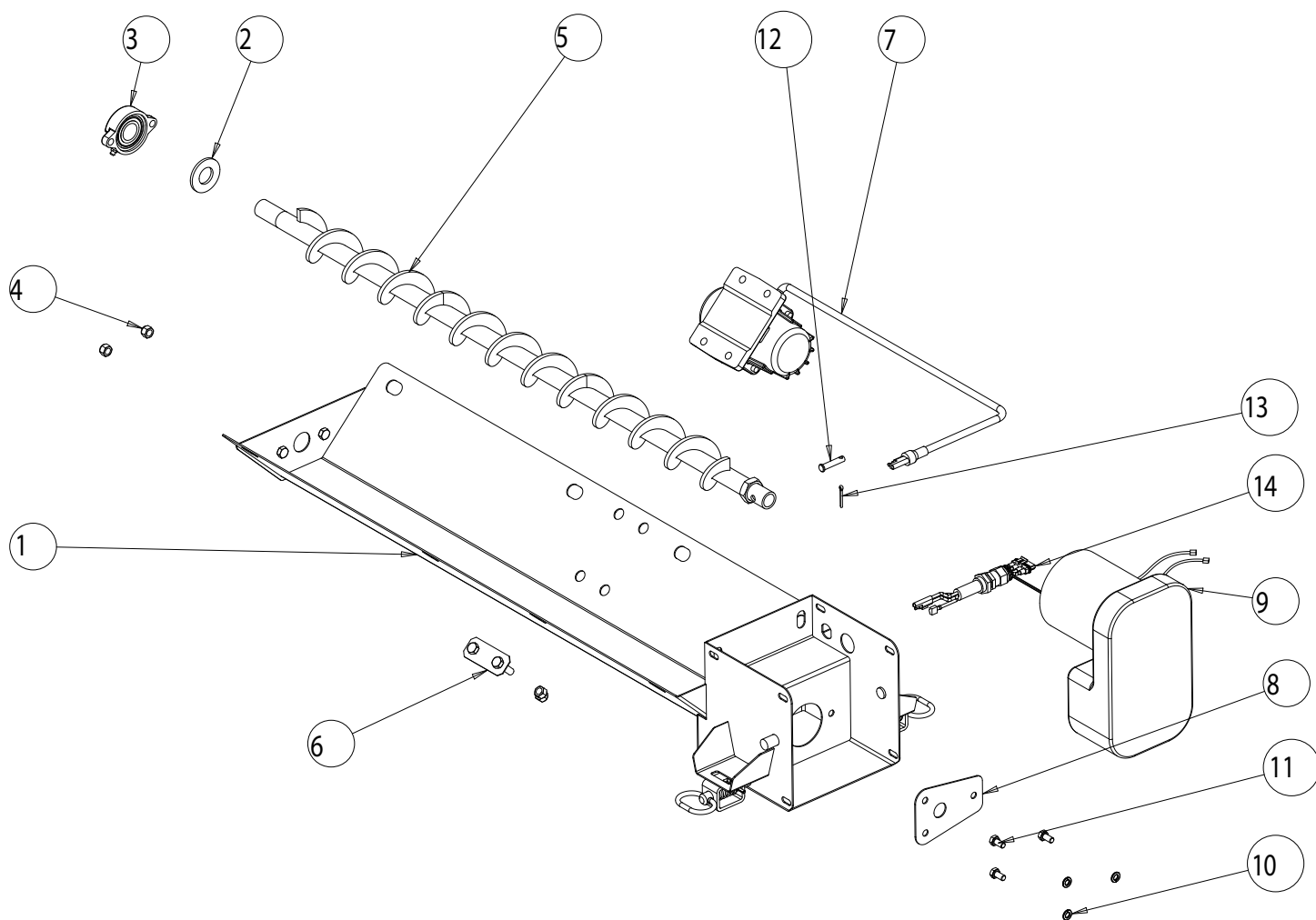
Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3007329	1	Chute Poly Std. Length
1	3007526	1	Chute Poly Ext. Length
2	3006833	1	Gear Motor 12 VDC Spinner
3	3007824	1	Retainer Gearmotor
4	—	3	Washer, 5/16 Lock SST
5	3007564	1	Bracket, Shield SST
6	—	3	Screw, Hex HD Cap 5/16 - 18 x 1-1/4 SST
7	3004611	1	Spinner, 11.5" Poly
8	3007299	1	Handle, Chute
9	3007004	1	Shield, Spinner
10	3007413	1	Cover, Gear Motor, Chute

ITEM	PART NO.	QTY.	DESCRIPTION
11	3006753	1	Wire Harness, Chute
12	—	16	Washer, Flat 3/8 USS SST
13	—	6	Screw, HHC 3/8 - 16 x 1 304 SST
14	—	10	Nut, Nylock 3/8 - 16 x 7/16 SST
15	—	4	Screw, HHC 3/8 - 16 x 1.25 SST
16	—	6	Screw, Sheet Mtl #12 x 3/4 Hex Washer HD SST
17	—	1	Pin, Clevis, 5/16 x 2-1/2, .141 Hole ZN
18	—	1	Cotter Pin, 1/8 x 1, Zinc
19	3002631	1	Label, "No Step"
20	3007844	1	Decal, "Danger, Stay Clear"

HTS500

Repair Parts-Trough Assembly



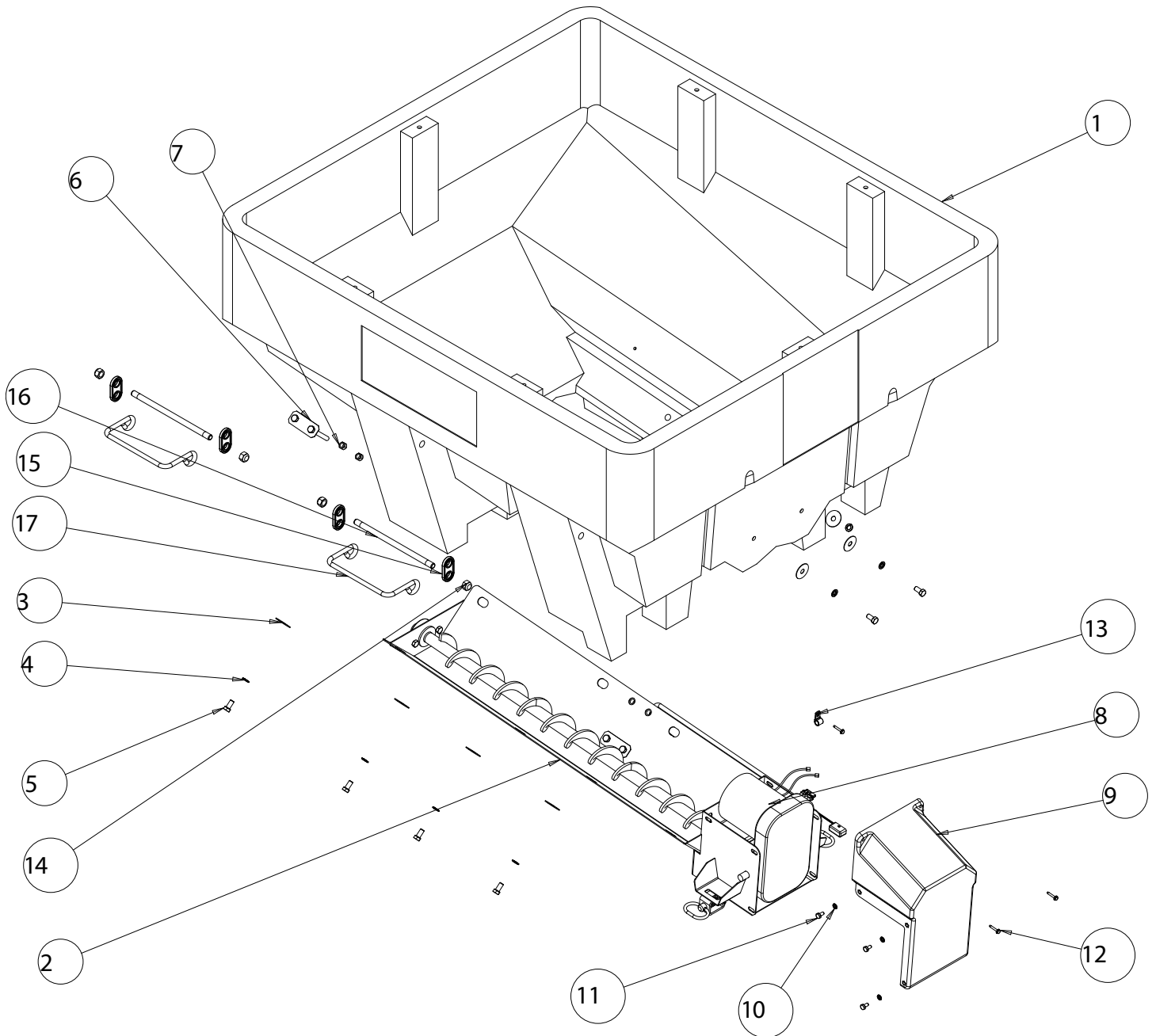
Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3007357	1	Trough Weldment, HTS500
2	3007000	1	Gasket, Felt Bearing
3	1411000	1	Bearing, 2-Hole Flanged 1"
4	—	4	Nut, Nylock 3/8-16 x 7/16 SST
5	3006831	1	Auger
6	3007730	1	Bracket, Vibrator Short
7	3007416	1	Vibrator 200lbs. 12 VDC

ITEM	PART NO.	QTY.	DESCRIPTION
8	3007824	1	Retainer Gear Motor, Chute
9	3009995	1	Gear Motor, Auger HTS500
10	—	3	Washer, 5/16-18 x 5/8 SST
11	—	3	Screw, HHC 5/16-18 x 5/8 SST
12	—	1	Pin, Clevis, 5/16 x 1 1/2, w/ 5/32 PH, ZN
13	—	1	Cotter Pin, 1/8 x 1, Zinc
14	3006844	1	Wire Harness

HTS500

Repair Parts-Hopper Assembly

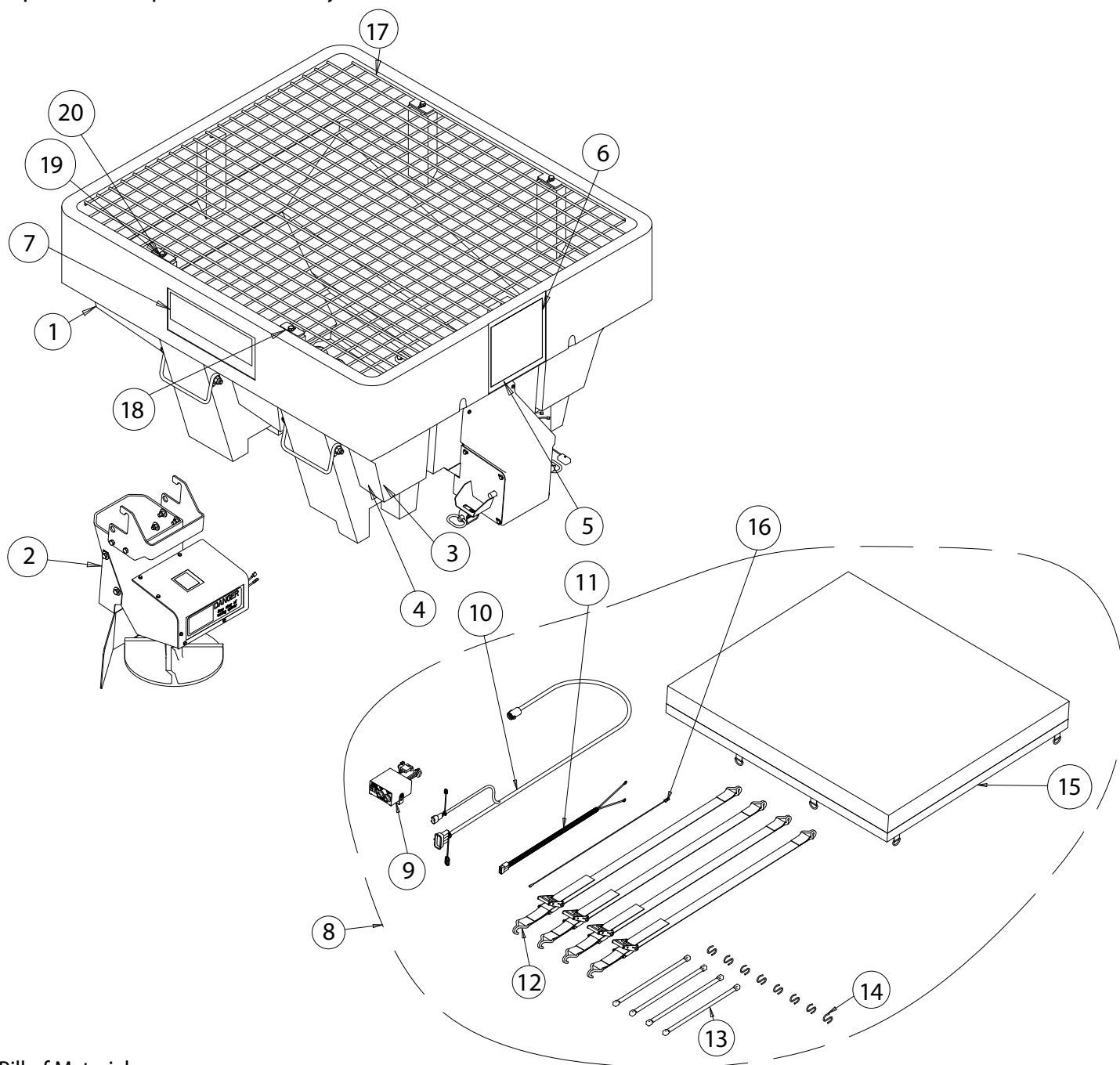


Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3011360	1	Hopper, Poly .6 cu. yds.
2	3011865	1	Trough Assembly, HTS500
3	—	10	Washer, Flat 3/8 x 1.5 x 0.48 SST
4	—	10	Washer, Lock RHS 3/8 SST
5	—	10	Screw, HHC 3/8-16 x 3/4 SST
6	3007731	1	Bracket Vibrator, Long SST
7	—	2	Nut, Nylock 3/8-16 x 7/16 SST
8	3007821	1	Strain Relief Bushing
9	3007236	1	Cover, Gear Motor

ITEM	PART NO.	QTY.	DESCRIPTION
10	—	6	Washer, 1/4" Spring Lock SST
11	—	6	Screw, Hex HD Cap 1/4-20.5 SST
12	—	4	Screw, Sheet MTL #12 x 1.0 Hex Washer HD SST
13	4375	2	Clamp, Hose .4375, 9/32 Hole
14	—	8	Nut, Nylock 1/2-13 Zinc
15	3009802	8	Anchor, Tarp, Poly SHPE
16	3006974	4	Stud, 1/2-13x.75 Both Ends, 9.75" LG, ZC
17	3006958	4	Tie Down

Repair Parts - Spreader Assembly



Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3011362	1	Hopper Assembly
2	3007412	1	Chute, Poly Standard, HTS500
2	3007527	1	Chute, Poly Extended, HTS500
3	3011382	1	Plate, Serial No. SHPE0750 Series
4	—	2	Screw, Sheet MTL #12 x 1.0 HEx Washer HD SST
5	9240132	1	Decal #2, Danger Before Service
6	3006839	1	Decal, HTS500 Rear
7	3006911	2	Decal, HTS500 Side
8	3011371	1	Accessories Box, HTS500
9	3006620	1	Controller, HTS500
10	3006724	1	Wire Harness, Main

ITEM	PART NO.	QTY.	DESCRIPTION
11	3006842	1	Power Cable, Control Box
12	1496505	1	Hold Down Kit, Spreader (4 Straps)
13	TS29	4	Strap, Rubber Tarp 9"
14	9225	8	S-Hook, 2.5" ZN, Tarp Strap
15	3011370	1	Tarp, HTS500
16	0203700	1	Wire Assembly, 36" Long
17	3011727	1	Screen, Flat HTS500
18	3008787	4	Retainer, Screen
19	—	4	Washer, Lock RHS-3/8 SST
20	—	4	Screw, HHC 3/8-16x1, 304 SST