

# Installation Instructions

## SHPE3000 SaltDogg® Electric Drive Poly Hopper Spreader 3.0 cubic yards U.S. PATENT # 9,562,333

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### General Information

Overall Length: 123.7 inches  
 Overall Width: 49.6 inches  
 Overall Height: 52.7 inches  
 Empty Weight: 945 lbs  
 Capacity Struck: 3.0 cu. yd.

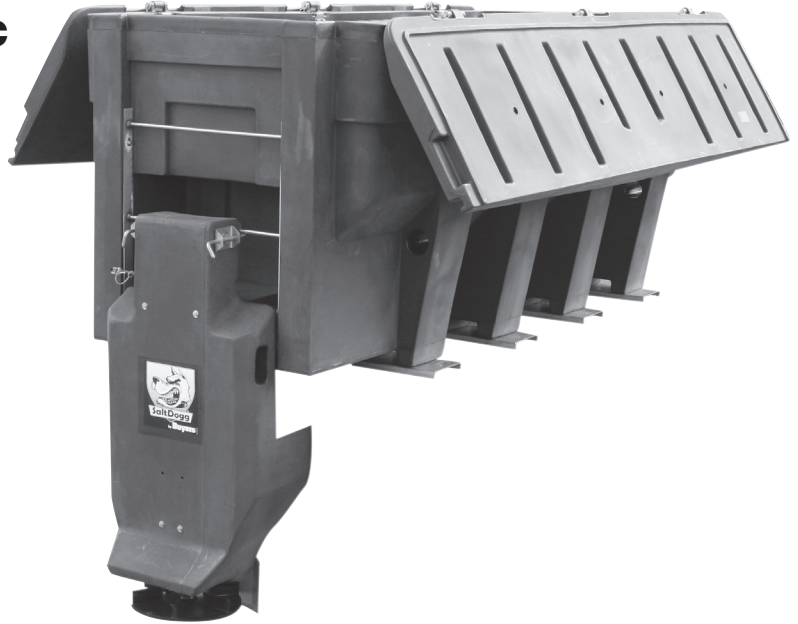
### Vehicle Requirements

Trucks with minimum GVWR 13,000 lbs.  
 150 AMP or higher alternator is recommended.

### 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 Coarse-Dry	2,565

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



### Safety Precautions

- 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.** Batteries normally produce explosive gases which can cause personal injury. Always disconnect the battery before removing or replacing electrical components.
- 11.** Do not leave unused material in hopper. Material can freeze or solidify, causing spreader to not work properly, and/or damage the unit. Empty and clean after each use.

#### CAUTION

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

#### WARNING

Improper installation and operation could cause personal injury, and/or property damage. 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.

#### CAUTION

It is recommended to install Backup Alarm on trucks to be up fitted with spreaders.

—continued inside

## Installation Instructions

### 1. Mounting the Spreader onto the Vehicle:

- A.** Remove the tailgate from the vehicle (if equipped) as well as any other object which will interfere with the spreader.
- B.** Check truck's bed for all kinds of sharp debris or foreign objects. They can cut and seriously damage poly hopper.
- C.** Remove chute, hardware box from inside spreader. If spreader has been used make sure there is no material left in the hopper.

**CAUTION**

Never lift spreader with material in the hopper.

- D.** Prepare 4 boards as shown in FIG.1. A board size is 2" x 6", 49" long minimum (cross boards from shipping pallet can be used). Boards can be as long as width of inside width of trucks body.

- E.** Next, set the spreader in the truck body. Use four tie-downs to lift the spreader (Fig.1). Rectangular openings on the bottom of support legs can also be used to lift spreader using fork lift.

- F.** Lower spreader onto 2" x 6" boards positioned in truck bed. Make sure that bolt heads in stainless steel cross members would go into boards openings. (Fig. 2)

Attach chute to the spreader. If necessary, slide spreader rearward to have at least 2" clearance between chute and rear most vertical obstruction. (Fig. 3)

- G.** Make sure the spreader is centered from side to side and rear legs rest fully on trucks body.

- H.** Using holes in cross members fasten spreader to the boards and vehicles body.

**WARNING!**

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

Fig. 1

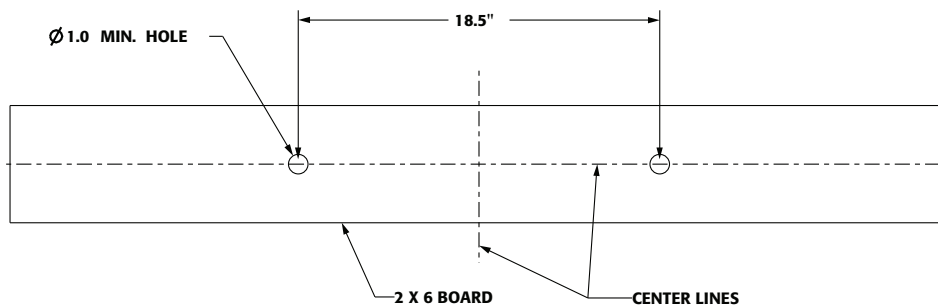


Fig. 2

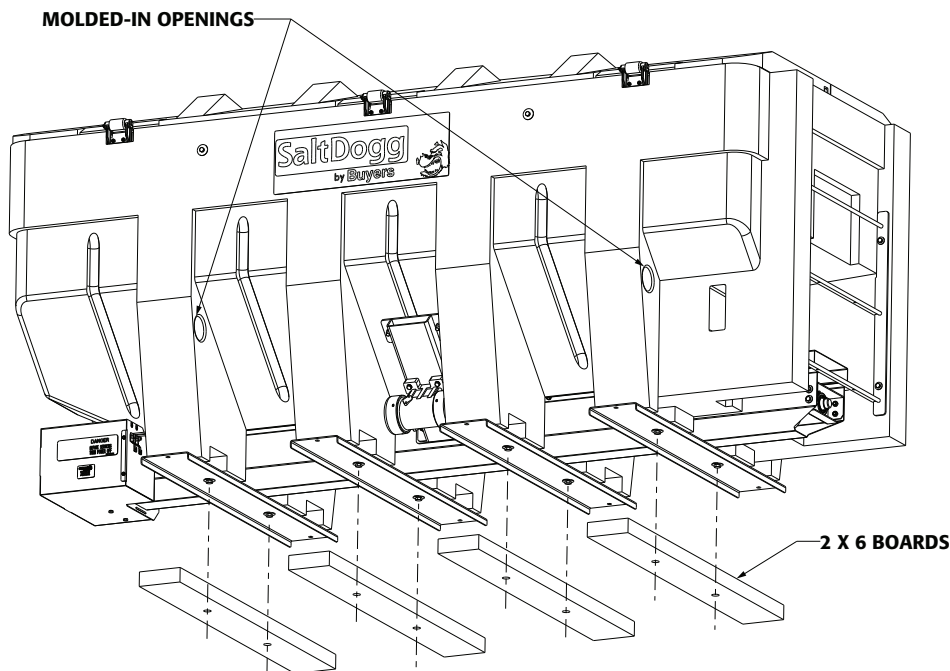
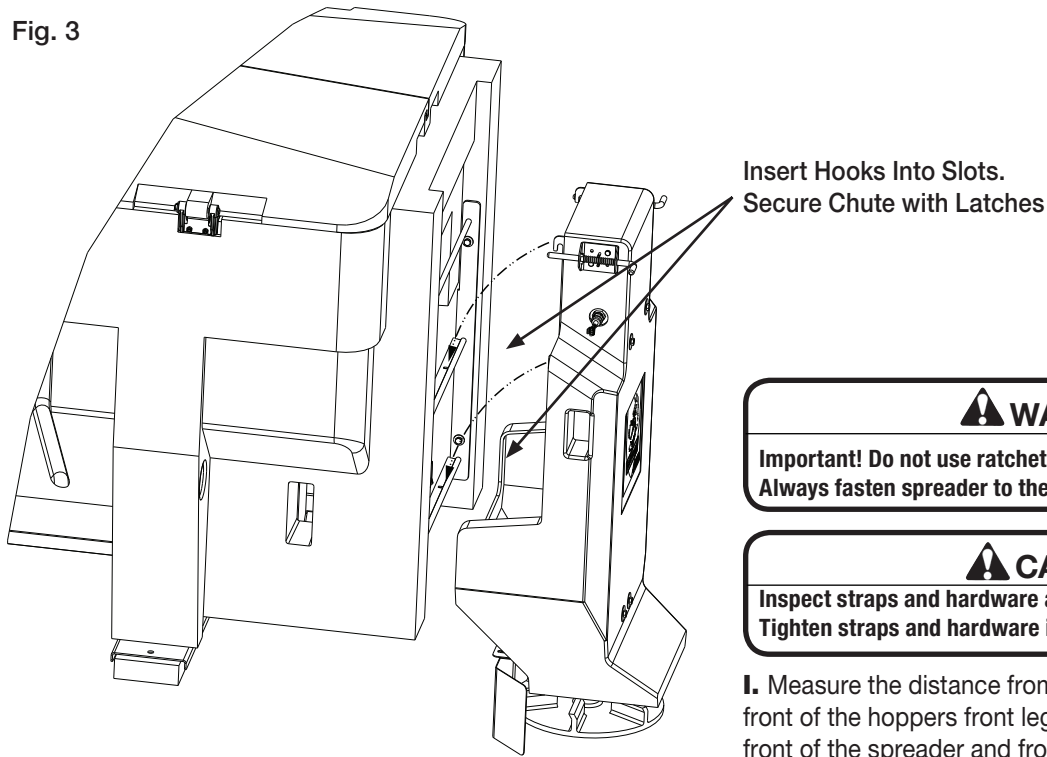


Fig. 3



**WARNING!**

Important! Do not use ratchet straps or tailgate latch exclusively!  
Always fasten spreader to the vehicle!

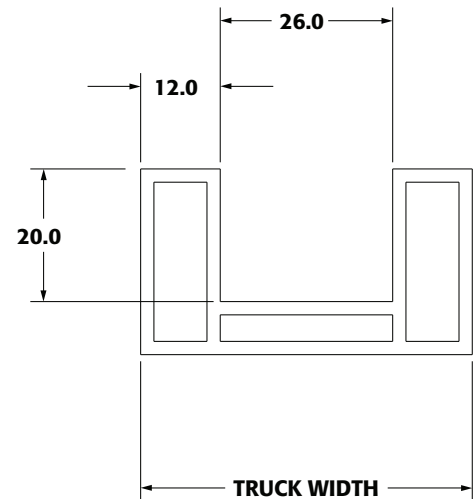
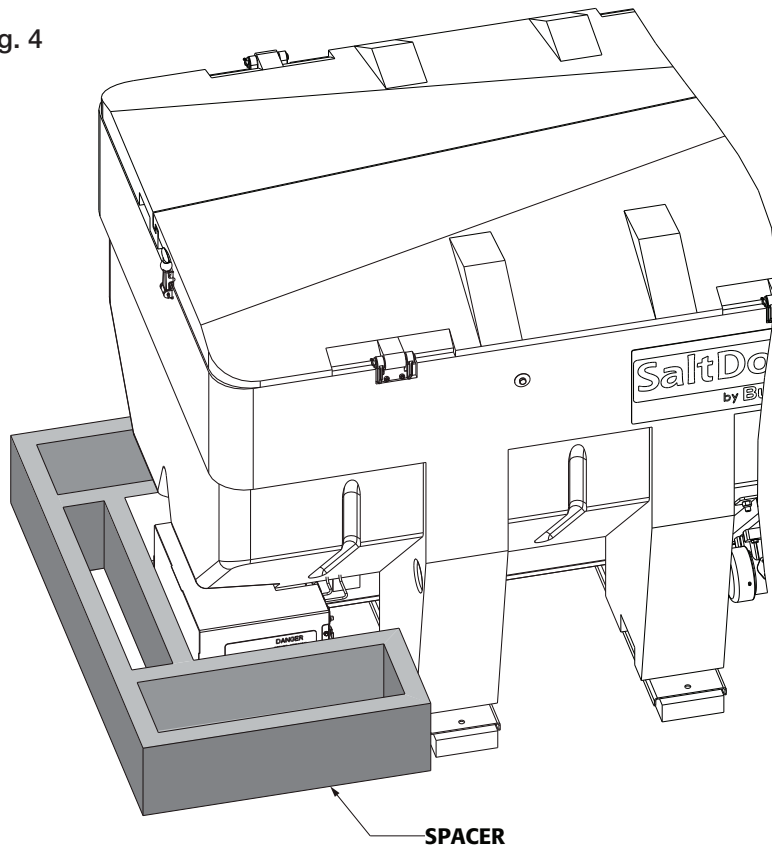
**CAUTION!**

Inspect straps and hardware after each time spreader is loaded.  
Tighten straps and hardware if necessary.

**I.** Measure the distance from the front of the truck bed to the front of the hoppers front legs. Fabricate spacer to fit between front of the spreader and front of the bed using 2 x 8 boards and install it between the spreader and truck bed front wall as shown in Fig. 4.

**J.** In addition, secure spreader using four ratchet straps. Attach straps to tie-downs. Tighten straps evenly.

Fig. 4



## 2. Control Box and Vehicle Wiring Harness Installation

**MAKE SURE YOU HAVE CONNECTED THE PROPER WIRE COLOR. THIS IS WIRE GROUND ELECTRICAL SYSTEM! NO CONNECTIONS TO TRUCK'S FRAME OR BODY ALLOWED!**

### **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 13.0 and 15.3 volts. If voltage reading falls out of this range, check and adjust your electric system.

**NOTE: Always disconnect battery before attempting to install electrical components on your vehicle.**

**A.** Mount the controller in a convenient location in the truck cab. It is recommended not to mount the controller directly in front of heat vents. Allow ample air space around controller.

### **CAUTION**

**Do not mount controller in the way of air bag deployment!**

**B.** Route both wire harnesses into truck cab through firewall (it maybe necessary to drill holes). Insulate hole to avoid water leaks.

**C.** Insure no wires are nicked or damaged during installation.

**D.** Connect the 4-pin connector on the wire harness to the control box 4-pin connector.

**E.** Connect the 2-pin connector on the power cable to the control box mating connector.

**F.** Connect wire harness single connectors to control box connectors.

**G.** Connect fuse connector to the fuse terminal or ignition switch (5 AMP max) if equipped.

**H.** Lay out a path for the power cable to the battery, use quick ties to secure power cable.

**DO NOT CONNECT TO BATTERY AT THIS TIME!**

**I.** Lay out path for wire harness to the rear of the vehicle. It is recommended to stay clear of the exhaust system. Excess heat can damage the wire harnesses. Use quick ties to secure harness to underbody.

**J.** Connect the wire harness to the motors and vibrator. Make sure wire colors on wire harness match colors on the motor.

Thoroughly clean battery terminals. Make sure battery terminals have no tarnish or corrosion. **DO NOT CONNECT WIRE HARNESS TO DAMAGED OR CORRODED TERMINALS! IT MAY RESULT IN OVERHEATING, LOST POWER AND POTENTIAL CONTROLLER DAMAGE!**

**K.** Connect the power cable directly to the battery.

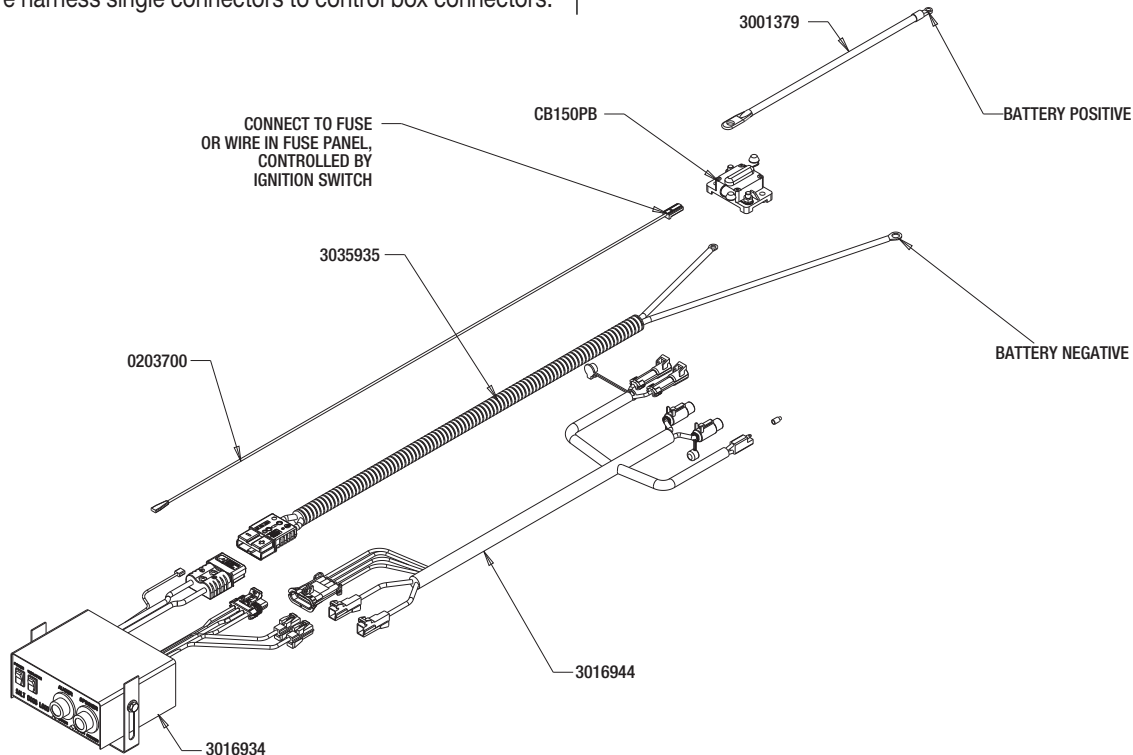
**L.** Insure all functions of the controller are working properly.

**M.** Observe auger moving in proper direction. If direction is wrong reverse wires between Motor and Wire Harness.

**N.** Optional spot light (5 AMP max) can be installed on spreader. Remove cap from single capped wire. Connect light to this wire and trucks frame.

### **IMPORTANT**

**Make sure all wires securely attached to vehicle or spreader. Use wire ties and/or wire clamps to attach wires. All excess wires must be rolled into bungles and attached to vehicle or spreader.**



### 3. Spreader operation.

**A.** SHPE3000 is equipped with a dual independent speed controller. To start spreader, press “POWER” switch. Switch will be illuminated. Auger and spinner will start rotating. Auger and spinner can be adjusted independently.

**B.** To activate vibrator press “VIBRATOR” switch, vibrator switch will illuminate.

**C.** To stop spreader press “ON-OFF” switch again.

**D.** SHPE3000 controller is equipped with electronic overload and current spikes protection. Controller is not serviceable. Controller has “Jam” light. If auger becomes jammed by chunk of material or foreign debris “Jam” light will be illuminated and controller will turn it self “OFF”. Controller can be restarted normally after jam removal.

Controller is equipped with internal vibrator circuit breaker. Vibrator circuit breaker will trip and vibrator switch light will turn “OFF” if vibrator becomes overloaded. To reset vibrator circuit breaker turn vibrator switch off for 30 sec then turn it on again. Vibrator can operate continuously for 30 min max with 15 min brakes to avoid overheating.

**Controller manufacturers constantly update and modify their product. Please check controller box for manuals and/or updates.**

**E.** Spreading pattern can be controlled by repositioning of spinner shield on the shield bracket. Loose two screws and slide shield into desired position, then tighten screws.

### Spreader Maintenance.

**A.** Use dielectric grease on all electrical connectors.

**B.** Grease bearings according to FIG.5.

**C.** Empty spreader of all ice control materials after each use.

**D.** Wash spreader after each use to prevent material build up in trough.

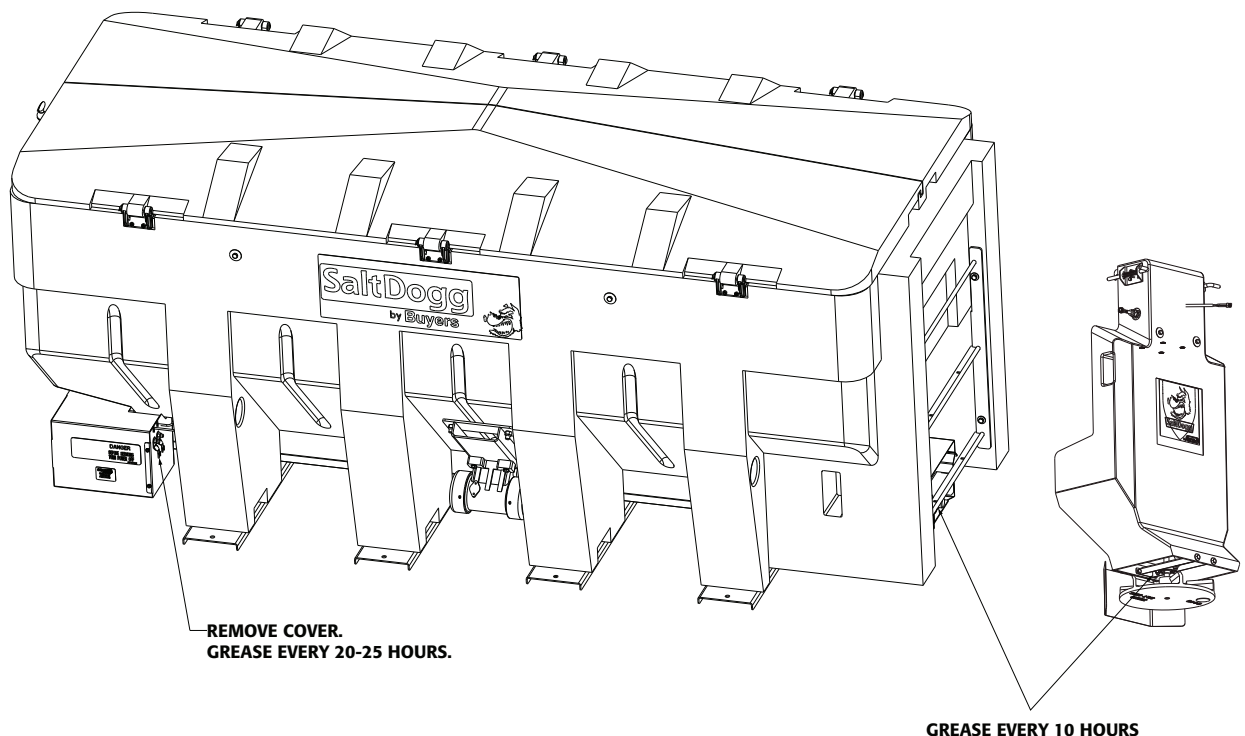
#### **WARNING**

Never attempt to lift spreader with material in hopper!

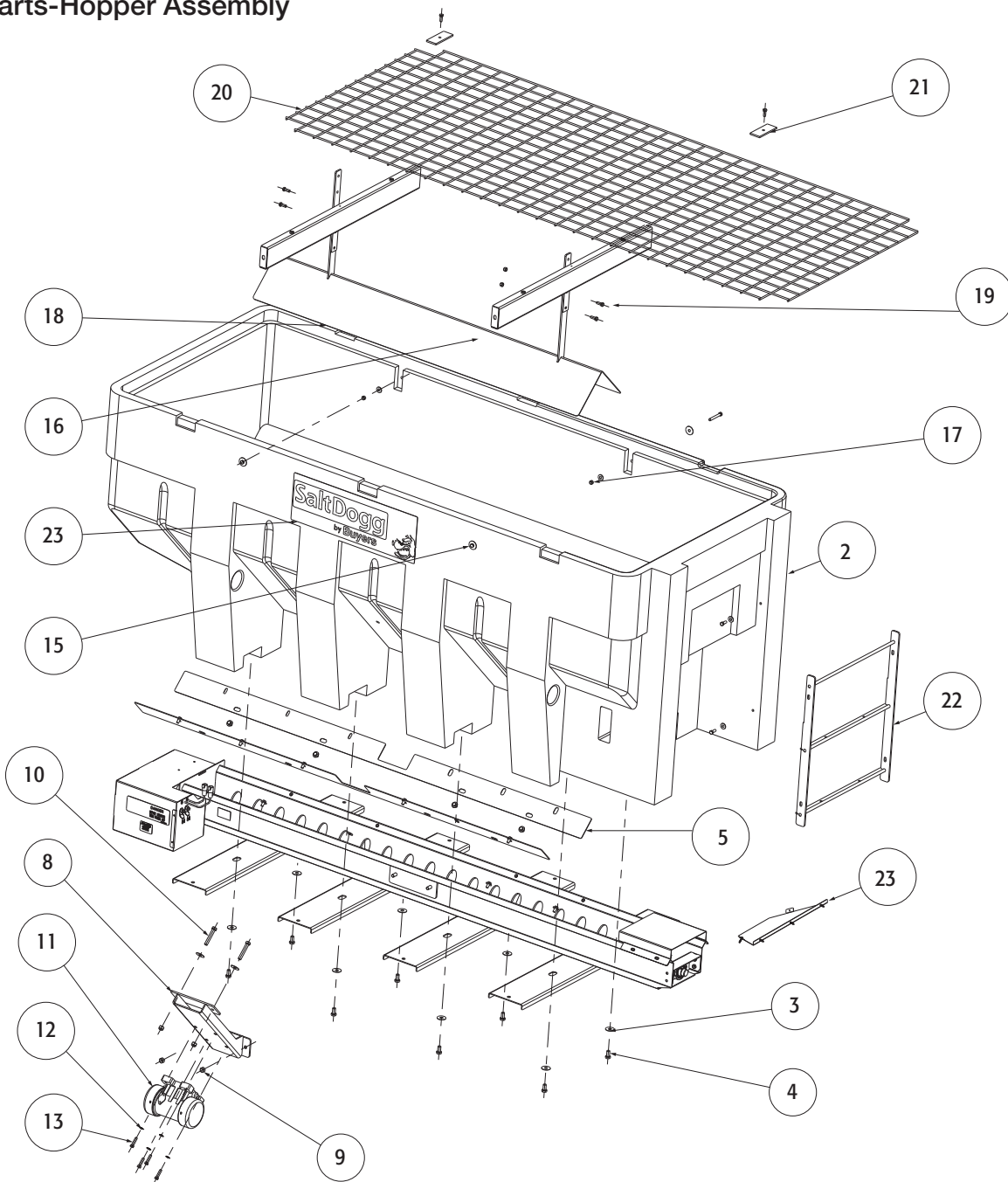
#### **WARNING**

Never leave material in hopper for extended period of time. Material can freeze, solidify and seriously damage the spreader.

Fig. 5



## Repair Parts-Hopper Assembly

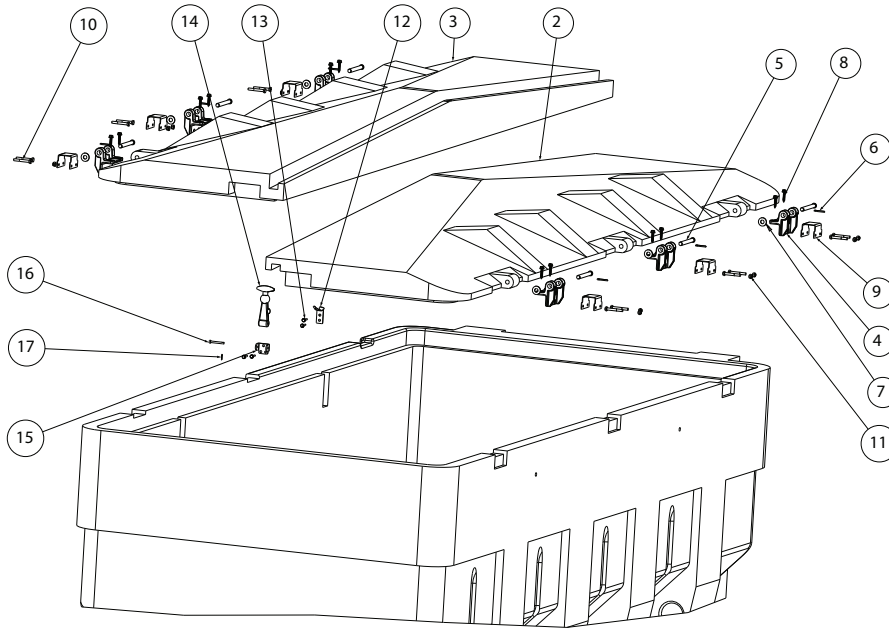


### Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
2	3015951	1	HOPPER POLY 3.0 CU YA
3	-	10	WASHER FLAT .5 ID 1.5 OD SST
4	-	8	SCREW, HHC-1/2-13 X 1 SST
5	3017371	2	SHIELD TROUGH, SHPE3000
6	-	28	WASHER, FLAT 3/8 USS SST
7	-	16	SCREW, HHC-3/8-16 X 3/4 SST
8	3016696	1	BRACKET, VIBRATOR WELDMENT
9	-	4	NUT, NYLOCK 1/2-13 ZINC
10	-	2	SCREW, HHC-1/2-13 X 3 SST
11	3012081	1	VIBRATOR 450 LBS, 12 VDC
12	-	4	WASHER, EXTERNAL TOOTH LOCK 3/8 SS

ITEM	PART NO.	QTY.	DESCRIPTION
13	-	4	SCREW, HX HD CAP 3/8-16 X 1-1/2 SST
14	3016701	2	BRACKET WELDMENT, INVERTED VEE
15	-	4	WASHER, FLAT 3/8 X 1.5 X.048 SST
16	-	4	CAP SCREW, HX HD-3/8-16X3 SST
17	-	8	NUT, NYLOCK 3/8-16 X 7/16 SST
18	3017393	1	INVERTED VEE, SHPE300
19	-	10	SCREW, HHC 3/8-16 X 1 304 SST
20	3015999	1	TOP SCREEN SHPE3000
21	3012795	2	RETAINER, SCREEN
22	3017439	1	CHUTE HANGER, WELDMENT
23	3025124	1	COVER DISCHARGE

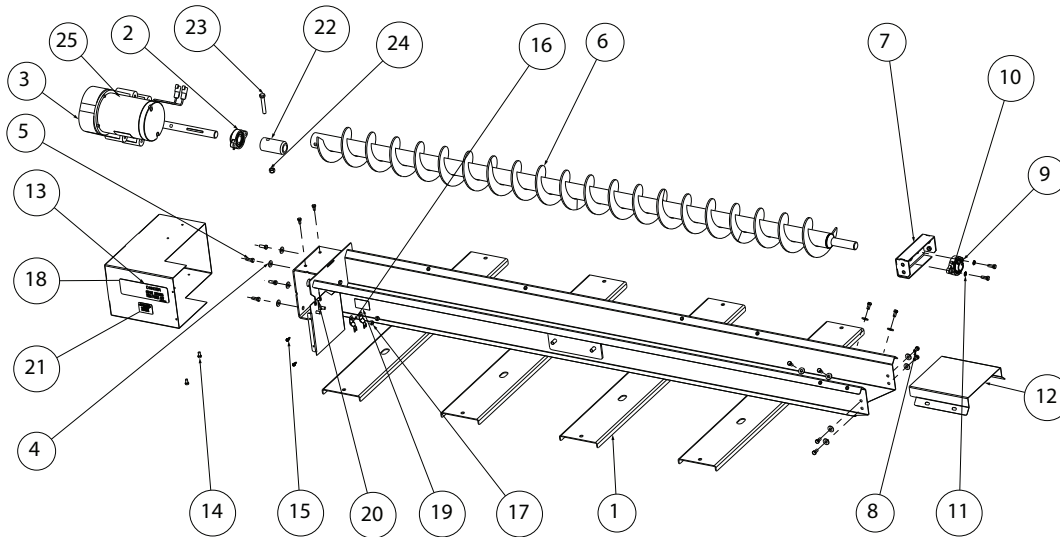
### Repair Parts-Doors Assembly



### Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3015951	1	HOPPER POLY 3.0 CU YA
2	3016023	1	LID, TOP LOCK
3	3015996	1	LID, LOWER LOCK
4	3016098	6	HINGE, LID
5	3017896	6	PIN,CLEVIS,7/16 X 4.00 SST
6	3035935	6	PIN,COTTER,1/8IN X 1IN SST
7	3018073	6	WASHER FLAT 7/16 SST
8	3015925	12	SCREW #14X1.25 SST
9	3017849	6	BRACE, HINGE
10	3017932	12	SCREW, CAP HEX HD 1/4-20X2.0 SST
11	-	12	NUT, NYLON INSERT 1/4-20 SST
12	3018079	1	CATCH, STAINLESS A-BRACKET
13	3007522	4	SCREW, SHEET MTL #12x1.0 HEX WASHER HD SS
14	3002398	1	STRAP, HOOD LATCH
15	3018078	1	BRACKET, STAINLESS PIVOT
16	3002390	1	PIN, CLEVIS 3/16" X 1-11/16" SST
17	3002392	1	PIN, COTTER 1/16" X 1/2" SST

### Repair Parts-Trough Assembly

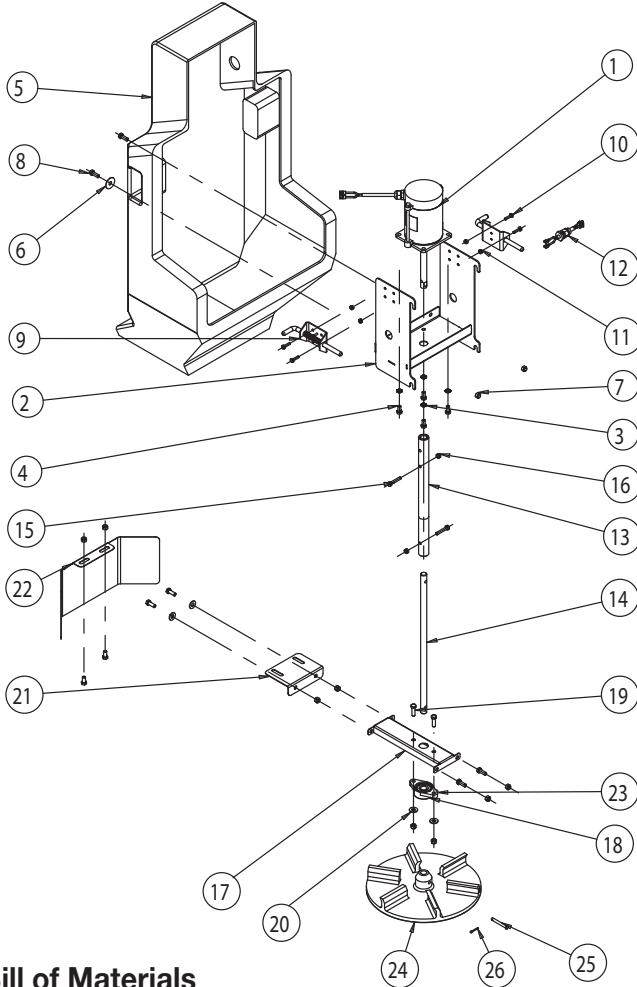


### Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3016165	1	TROUGH AUGER, WELDMENT
2	1410200	1	BEARING, FLANGED 1-1/8"
3	3013821	1	GEAR MOTOR CONVEYOR 12 VDC
4	-	12	WASHER, FLAT 3/8 USS SST
5	-	6	SCREW, HHC 3/8-16 X 1 304 SST
6	3017358	1	AUGER SHPE3000
7	3016192	1	BEARING BRACKET ASSEMBLY
8	-	8	SCREW, HHC-3/8-16 X 3/4 SST
9	9240086	1	BEARING, 1-1/4 FLANGE 2 HOLE
10	455	1	GREASE FITTING 1/4-28 TAPERED
11	3017356	2	WASHER, EXTERNAL TOOTH LOCK 3/8 SS
12	3017370	1	COVER, TROUGH SHPE3000
13	3017379	1	COVER GEAR MOTOR, WELDMENT

ITEM	PART NO.	QTY.	DESCRIPTION
14	-	4	SCREW, HHC 5/16-18 X 5/8 SST
15	3015873	2	SCREW #12-14x.74 SS SELF DRIL HEX WASHER HD
16	3017121	2	BRACKET, RECEPTACLE SZ8 DEUTSCH
17	-	2	NUT, NYLOCK 3/8-16 X 7/16 SST
18	9240132	1	DECAL #2, DANGER BEFORE SVCE
19	3017933	1	LABEL,SERIAL NUMBER, SHPE3000
20	3017982	2	WIRE BUSHING OPEN/CLOSED HEYCO 2867
21	3017979	1	LABEL: MULTIPLE PATENTS PENDING
22	3014858	1	SLEEVE, AUGER ADAPTER
23	3001250	1	SCREW, HHC-1/2-13 X 3 SST
24	-	1	NUT, NYLOCK 1/2-13 ZINC

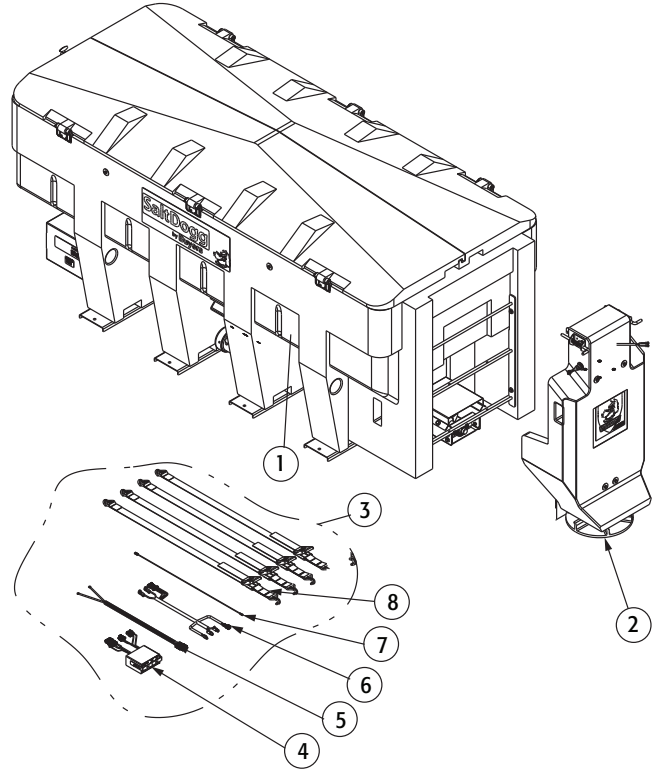
## Repair Parts- Chute



### Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3014078	1	MOTOR 12 VDC, .5 HP SPINNER
2	3017448	1	MOTOR FRAME, CHUTE
3	3017356	4	WASHER, EXTERNAL TOOTH LOCK 3/8 SS
4	FCS038016075SS	6	SCREW, HHC-3/8-16 X 3/4 SST
5	3015953	1	CHUTE, POLY ADJUSTABLE
6	3007115	2	WASHER, FLAT 3/8 X 1.5 X.048 SST
7	FNE038016044SS	10	NUT, NYLOCK 3/8-16 X 7/16 SST
8	FCS038016100SS	6	SCREW, HHC 3/8-16 X 1 304 SST
9	3009988	2	LATCH, SPRING
10	FCS025020100SS	4	SCREW, CAP HEX HD 1/4-20 X 1 SST
11	FNE025020031SS	4	NUT, NYLON INSERT 1/4-20 SST
12	3006753	1	WIRE HARNESS, CHUTE
13	3017974	1	COUPLER SHAFT ADJUSTABLE
14	3018106	1	SHAFT CHUTE ADJUSTABLE
15	FCS031018175SS	2	SCREW, HHC 5/16-18 X 1 3/4 SS
16	FNE031018034SS	2	NUT, NYLOCK 5/16-18 SS
17	3018286	1	BRACKET, SPINNER BEARING
18	2F12SCR	1	BEARING, 2-HOLE FLANGED .75 ID
19	FCS038016125SS	2	SCREW, HHC-3/8-16 X 1.25 SST
20	FWF038100007SS	4	WASHER, FLAT 3/8 USS SST
21	3017443	1	BRACKET, SHIELD CHUTE
22	3017444	1	SHIELD, CHUTE
23	455	1	GREASE FITTING 1/4-28 TAPERED
24	3012393	1	SPINNER, 14" POLY CW
25	3007113	1	PIN, CLEVIS, 5/16 X 2-1/2, .141 HOLE ZN
26	FPC013000100	1	COTTER PIN, 1/8 X 1, ZINC

## Repair Parts-Spreader Assembly



ITEM	PART NO.	QTY.	DESCRIPTION
1	3017357	1	HOPPER AUGER ASSEMBLY SHPE3000
2	3015954	1	CHUTE ASSEMBLY
3	3017939	1	HARDWARE KIT SHPE3000
4	3016934	1	CONTROLLER SPEED 12 VDC, 60 AMP
5	3035935	1	POWER CORD
6	3016944	1	WIRE HARNESS MAIN
7	0203700	1	WIRE ASSEMBLY, 36 LONG
8	1496505	1	HOLD DOWN KIT, SPREADER (4 STRAPS)
	3001379	1	BATTERY CABLE
	CB150PB	1	CIRCUIT BREAKER