

Installation Instructions

SHPE Series SaltDog® Electric Drive Poly Hopper Spreaders 0.4 thru 2.0 cubic yards

U.S. PATENT 9,562,333

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General Information

SPREADER MODEL SERIES	OVERALL LENGTH	OVERALL WIDTH	OVERALL HEIGHT	EMPTY WEIGHT	CAPACITY STUCK
SHPE0400	50"	51.2"	23"	375 lbs.	0.40 cu. yd.
SHPE0750	55.5"	48"	28"	205 lbs.	0.65 cu. yd.
SHPE1000	72"	48"	34"	343 lbs.	1.0 cu. yd.
SHPE1500	85"	48"	41"	524 lbs.	1.5 cu. yd.
SHPE2000	96"	48"	41.5"	560 lbs.	2.0 cu. yd.

Vehicle Requirements

SPREADER MODEL SERIES	TRUCK MINIMUM CAPACITY	ALTERNATOR MINIMUM AMPS
SHPE0400	Utility vehicle with 500 lb cap.	150 AMP
SHPE0750	1/2 ton pick-up or utility vehicle with 500 lb cap.	150 AMP
SHPE1000	1/2 or 3/4 ton pick-up truck	135 AMP
SHPE1500	3/4 or 1 ton pick-up truck above 8,500 lbs.	135 AMP
SHPE2000	3/4 or 1 ton pick-up truck above 8,500 lbs.	135 AMP

CAUTION

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

Materials Recommended to Spread

Average Material Weights

Materials to use	Weight (pounds per cubic yard)
Fine Salt-Dry	2,250
Coarse Salt-Dry	1,431
Sand/Salt up to 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.



SHPE SERIES SALTDogg 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.

Buyers Products Company warrants all parts of the product to be free from defects in material and workmanship for a period of two (2) years. 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 Buyers Products Company under this warranty is limited to repairing or replacing any part(s), which are returned, pre-paid, 30 days after such defect is discovered, and returned part(s) are found to be defective by Buyers Products Company.

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

Buyers Products Company 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.

—continued inside

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.

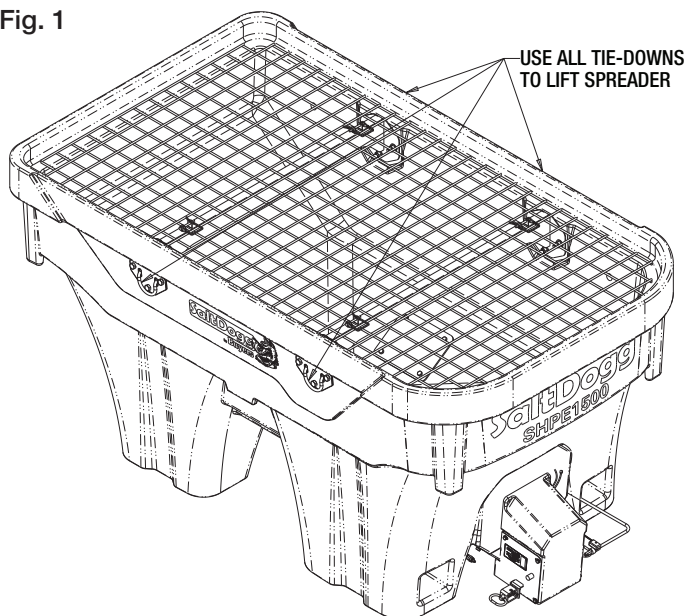
1. Read this entire Owners Manual before operating this spreader.
2. Read all safety decals on the spreader before operating.
3. Check to make sure all safety guards are securely mounted into place before operating this spreader.
4. Verify that all personnel are clear of the spreader spray area before 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:

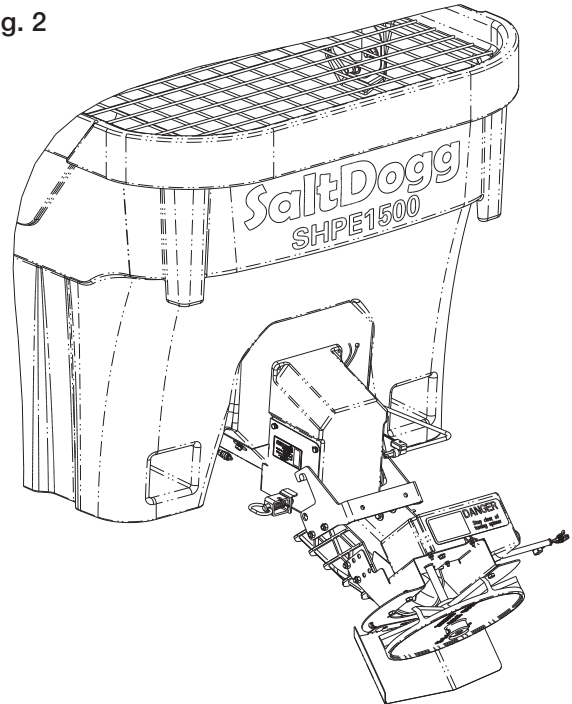
- A. Remove the tailgate from the vehicle.
- B. Check truck's bed for all kinds of sharp debris or foreign objects. They can cut and seriously damage poly hopper.
- C. Lift spreader using tie downs (fig. 1), or using fork lift.
- D. Lower spreader into the truck bed.
- E. Center the spreader from side to side on the vehicle.

Fig. 1



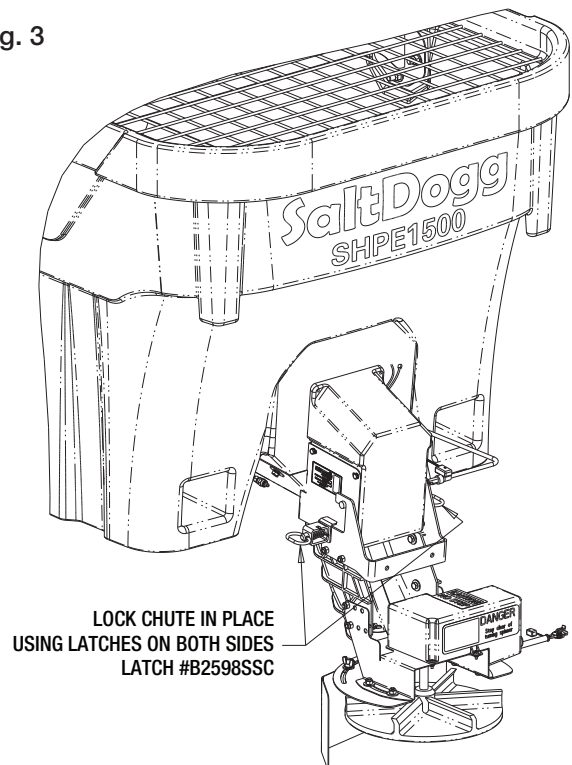
- F. Attach the Chute Assembly to the spreader. First, hook the Chute to the spreader by openings in the Chute's handle.

Fig. 2



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

Fig. 3



- G. Slide spreader towards front of the truck leaving adequate space between chute and truck (2-3 inches). Measure the distance from the front of the truck bed to front of the hopper's front legs. Fabricate spacer to fit between front of the spreader and front of the bed per Fig. 4 and Fig. 5

Fig. 4

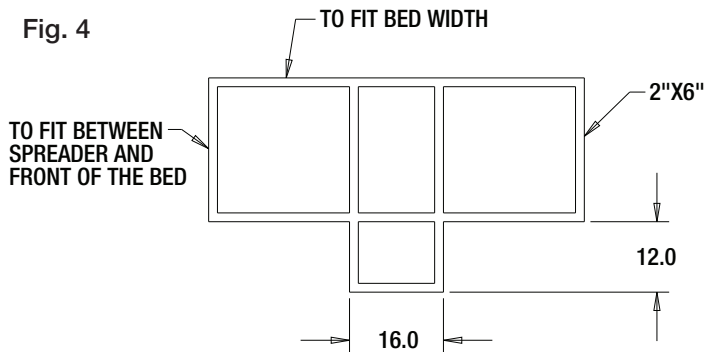
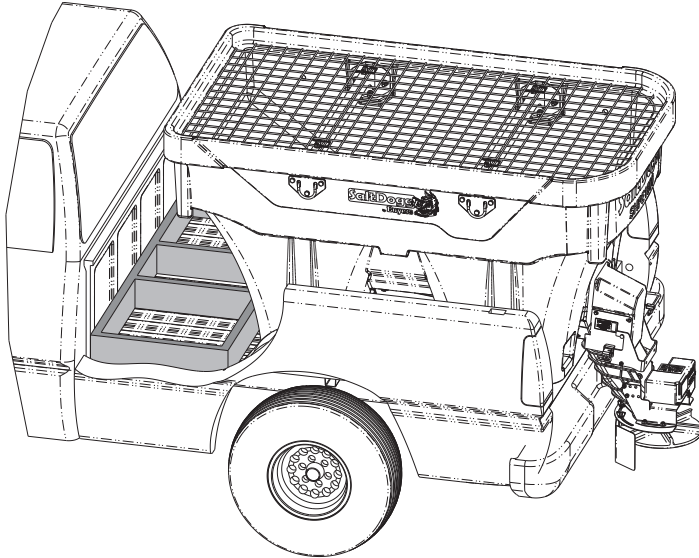
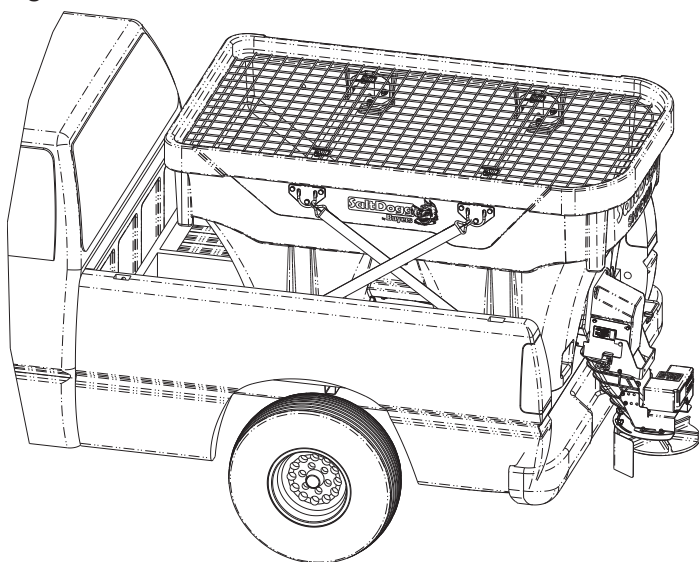


Fig. 5



H. Secure spreader using four ratchet straps as shown in Fig. 6. Tighten straps evenly to secure spreader in the middle of the truck box.

Fig. 6



Verify with the vehicle's manufacturer that the factory installed anchor points are designed for tie-down such load. Inspect straps and hardware after each time spreader is loaded. Tighten straps and hardware if necessary.

WARNING

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

2. Install Control Box & Vehicle Wiring Harness (Fig. 7).
NOTE: THIS IS A WIRE GROUND ELECTRICAL SYSTEM! NO CONNECTIONS TO TRUCK'S FRAME OR BODY ALLOWED! ALWAYS DISCONNECT BATTERY BEFORE ATTEMPTING TO INSTALL ELECTRICAL COMPONENTS ON YOUR VEHICLE.

WARNING

Use extreme caution when working around an operating vehicle engine.

To insure good performance of your spreader, check the condition of truck's electrical system. Using digital voltmeter, check alternator and battery voltage. The voltage reading should fall between 13.6 and 15.3 volts with engine running, head lights and heater fan turned on. If voltage reading falls out of this range, check and adjust your electric system.

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.

CAUTION

Do not mount controller in way of air bag deployment

B. Mount the Controller in a convenient location in the truck cab. Do not mount controller directly in front of the heat vents. Allow ample air space around controller. Protect controller from water, dirt and dust.

C. Apply dielectric grease or similar compound to connectors before assembly. Connect the round connector on the wire harness to the round connector on the controller.

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 the wire harness. Passing the power cable from inside of the cab to the battery is recommended to protect the large high amperage connector. Do not route the power cable close to exhaust system!

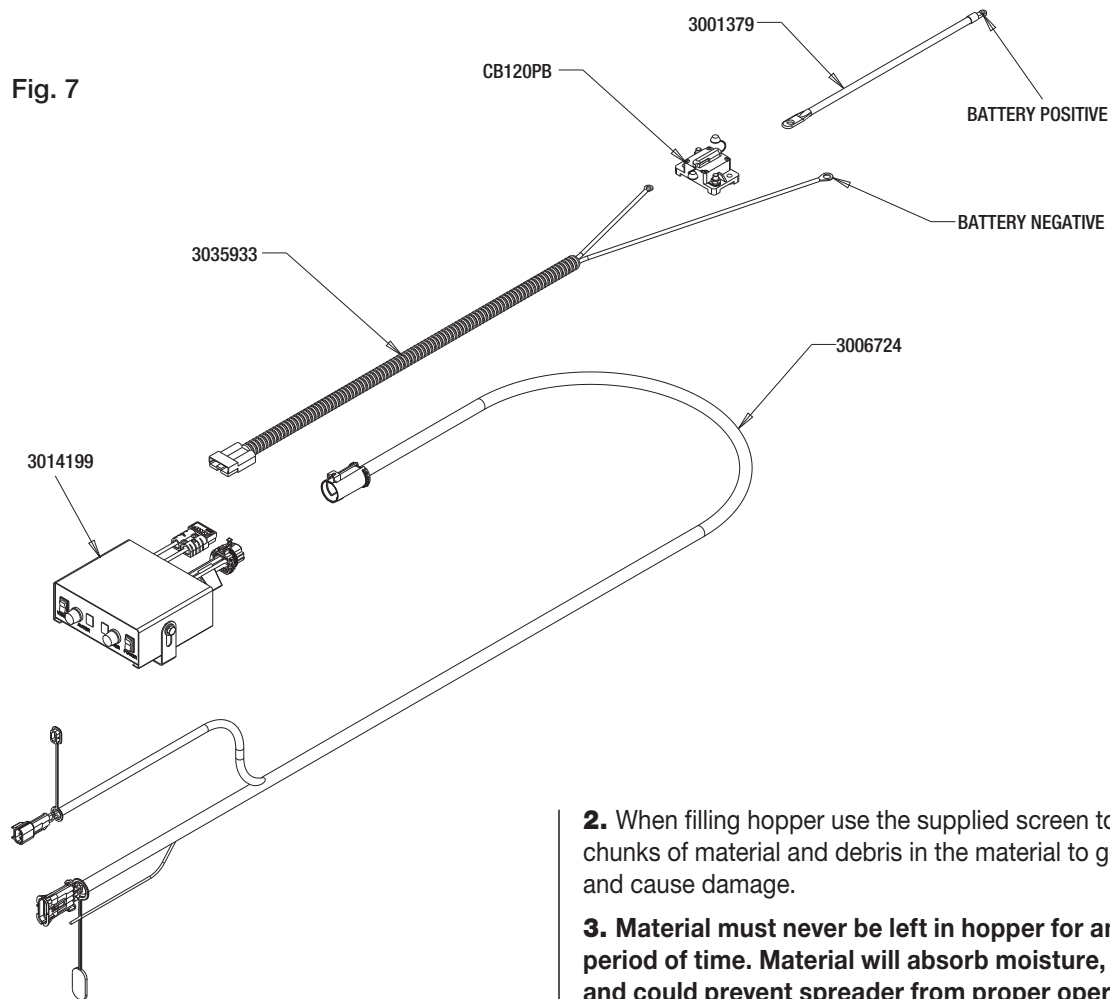
E. Connect power cable connector to controller.

F. Connect the power cable ring terminals to the truck battery (fig. 7).

ATTENTION

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

Fig. 7



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!

G. Attach utility light (optional) to spreader hopper in desired location. Connect as shown in Fig. 7. Use utility light kit part number 3018009.

H. LED spot light installation. Connect LED light's positive wire to harness brown wire. Verify with vehicle manufacturer if your truck is "frame ground" or "switched ground" i.e. frame is positive. In trucks with "frame ground" connect light's negative wire to truck frame. In trucks with "switched ground" find negative conductor (battery negative terminal) and connect light's negative wire to it.

I. See controller instructions for latest updates and error codes.

Spreader Operation

1. Different materials absorb moisture at different rates and some materials may not perform as desired. Substitution of an alternative material may be necessary for optimum performance.

2. When filling hopper use the supplied screen to prevent large chunks of material and debris in the material to get into hopper and cause damage.

3. Material must never be left in hopper for an extended period of time. Material will absorb moisture, bind, harden and could prevent spreader from proper operation or may damage the spreader. Empty and clean after each use.

4. The SHPE1500 spreader is equipped with a dual independent speed controller with warning indicators and a vibrator switch. To start the spreader, press the ON-OFF switch. Switch will illuminate. Rotate knobs to desired positions to activate Auger and Spinner. Press Pause button to stop Auger and Vibrator. To restart Auger and Vibrator press Pause button again. Auger will start with same speed.

5. To activate the vibrator press the vibrator switch ON. Vibrator switch will illuminate.

6. To stop the spreader, push ON-OFF switch to OFF position.

Controller Warnings

Check controller instruction sheet for latest controller updates and troubleshooting codes. Controller instruction sheet is inside controller shipping box.

IMPORTANT! INSTALLER, DO NOT DISCARD CONTROLLER INSTRUCTION SHEET. STAPLE SHEET TO SPREADER MANUAL AND GIVE TO END USER!

Note: To unclog auger manually, first remove the chute. Apply 1¼" open wrench on auger's nut. Turn auger counterclockwise several times.

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

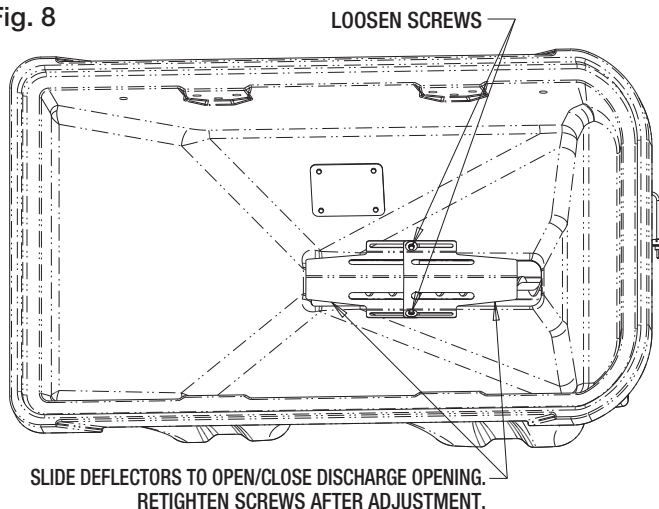
Material Flow Adjustments

Always use screen during spreader operation! 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.

The SHPE1500 has one discharge opening covered with two adjustable deflectors. To adjust the amount of material going through this opening loosen the two screws in Fig. 8 and slide the deflectors to increase or decrease opening exposure. It is recommended to expose more of rear (closer to truck's rear end) portion of discharge opening to increase flow without overloading auger gear motor.

IMPORTANT! - Always turn off power before making any spreader adjustments!

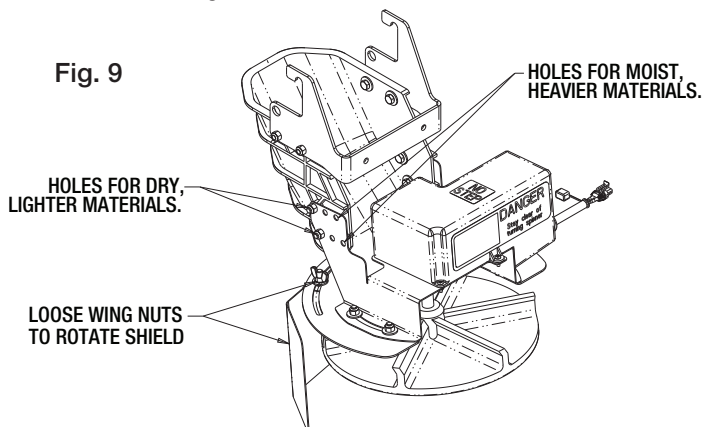
Fig. 8



Spread Pattern Adjustment.

Spread pattern can be adjusted by changing spinner disc speed on controller by turning Spinner knob to desired speed level from 1 (low) to 9 (high). Direction of material spread can also be adjusted by rotating shield on chute assembly. To rotate shield loosen 2 wing nuts, rotate shield in desired direction, and retighten wing nuts. See Fig. 9. Make sure that after adjustment, bracket stays inside shield groove located on top of shield. In addition, chute assembly can be adjusted to lighter (drier) and heavier (more moist) materials. Use different holes on bracket for lighter or heavier materials to have material drop on spinner disc center. See Fig. 9.

Fig. 9



Spreader Maintenance

1. Wash spreader after every use. Make sure no material is left under auger and/or inside trough.
2. Inspect and retighten fasteners after every 5-7 hours of operation.
3. Lubricate bearing every 7-10 hours of operation using general automotive grease.
4. Inspect terminals/connectors every time you disconnect spreader from wire harness. Apply thin layer of dielectric grease on terminals. If any tarnish/corrosion is found, clean terminals and apply dielectric grease.
5. Use dielectric grease on all electrical connectors before an electrical connection is made or after connector is disconnected.
6. Grease and spray auger bearing with lubricant after every 20 hours of use.
7. Empty the spreader of all ice control materials when not in use. Wash out the spreader to prevent material builds up.
8. It is recommended to cover spreader with the tarp during storage periods.

WARNING

Never remove spreader with material in hopper.

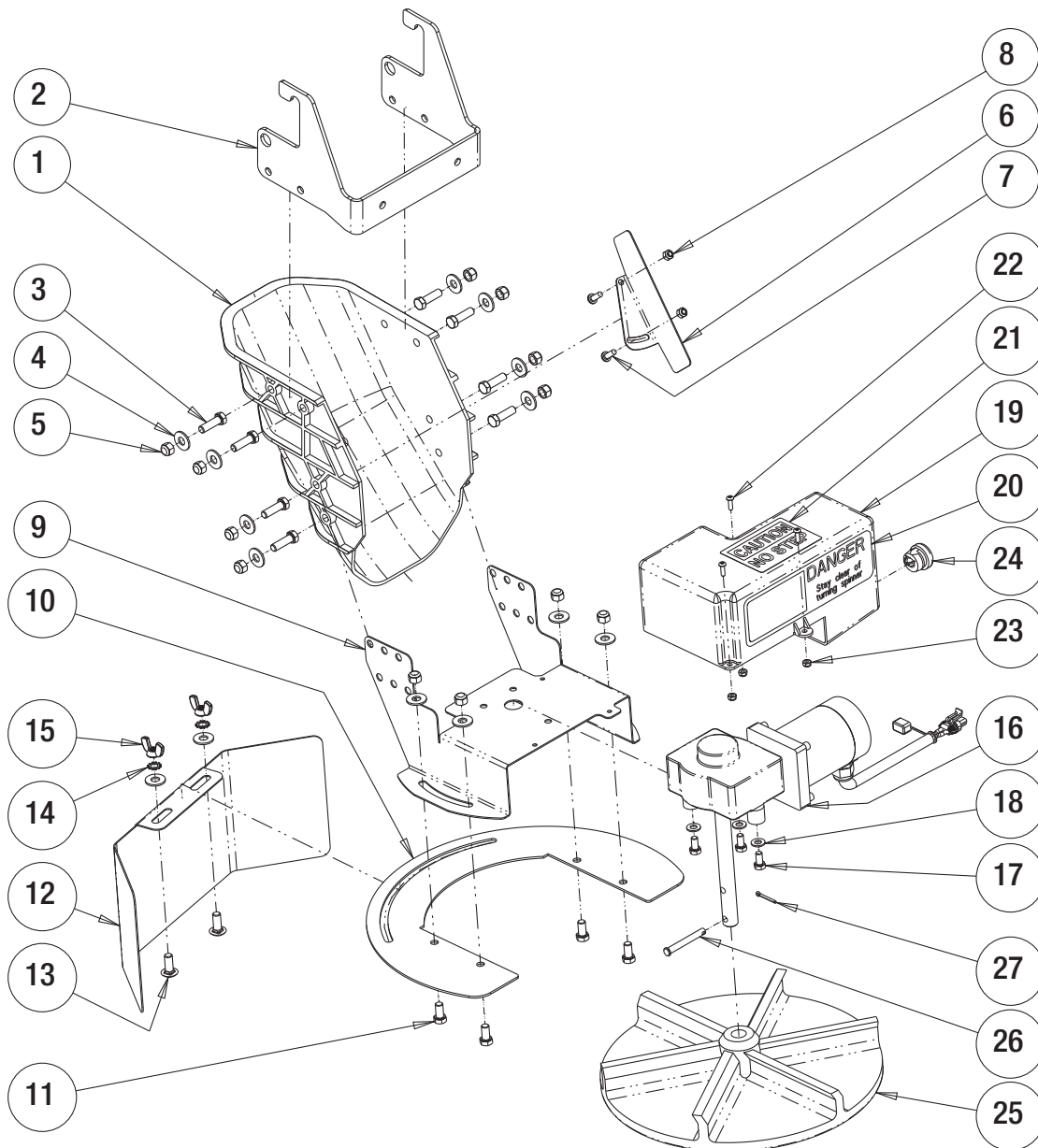
End of Season Maintenance

1. Wash spreader. Make sure no material or residue is left in and outside the hopper.
2. Lubricate bearing using general automotive grease.
3. Inspect wire harness, connectors for broken insulation, missing components. Replace if necessary.
4. Apply dielectric grease on all electrical connectors.
5. Store hopper indoors, in a dry, cool place.
6. Remove controller from truck. Store controller indoors, in a dry, cool place.
7. Inspect wire near connectors. Check for broken or missing insulation. Check for tarnished or corroded wires. Trim corroded wires and replace connectors if necessary.

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.

REPAIR PARTS - STANDARD CHUTE ASSEMBLY ALL SHPE SERIES

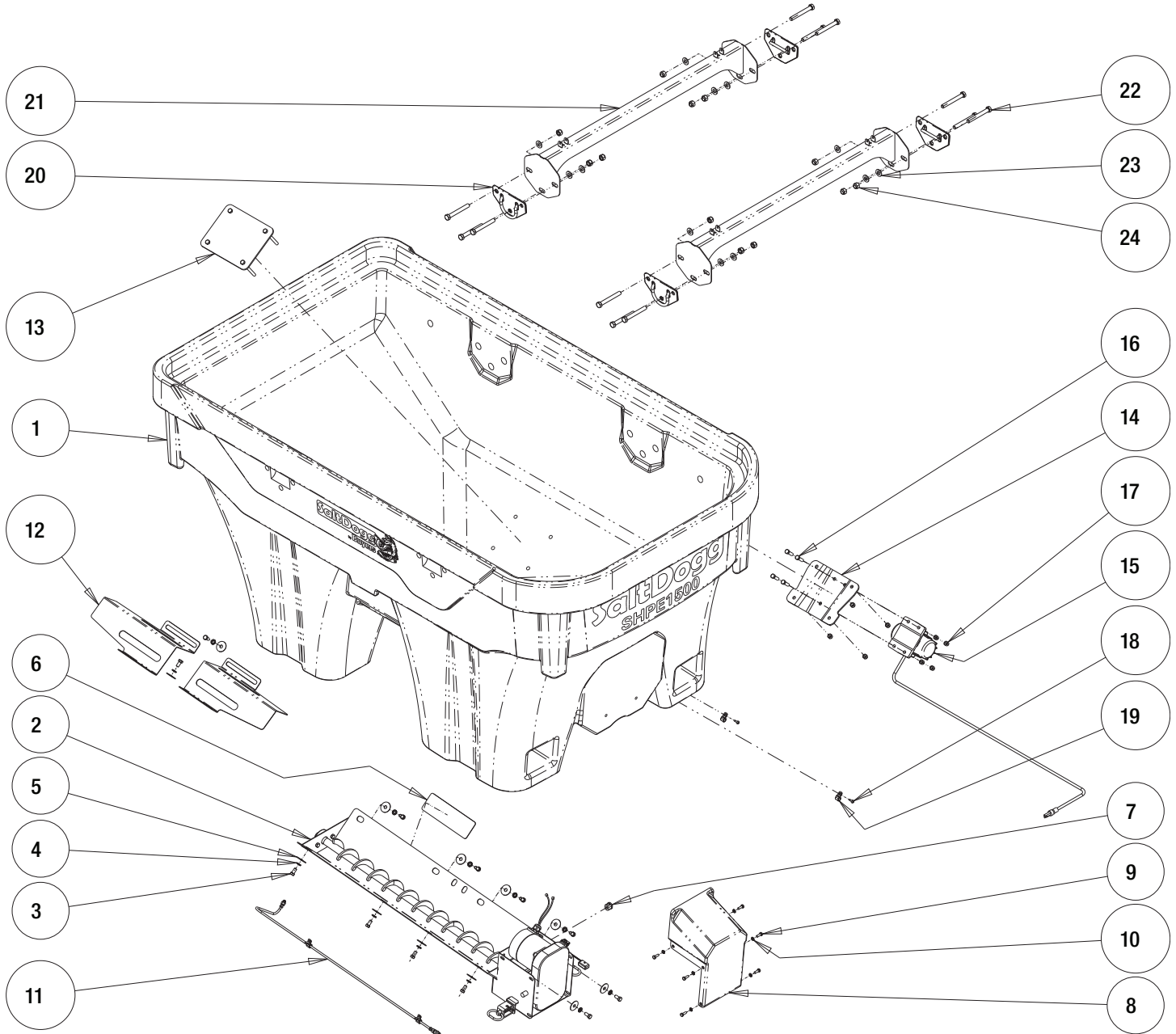


Bill of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	3025063	1	CHUTE POLY SHPE STD LENGTH
2	3027699	1	HANDLE, CHUTE
3	FCS038016125SS	8	SCREW, HHC 3/8in-16 X 1-1/4in SST
4	FWF038100007SS	14	WASHER, FLAT 3/8in USS SST
5	FNE038016044SS	12	NUT, NYLOCK 3/8in-16 X 7/16in SST
6	3039828	1	GUIDE, MATERIAL
7	3009646	2	SCREW, PAN 1/4in-20 X 3/4in SST
8	FNE025020031SS	2	NUT, NYLOCK 1/4in-20 SST
9	3025715	1	BRACKET, GEAR MOTOR / SHIELD
10	3033547	1	BRACKET, SHIELD
11	FCS038016075SS	2	SCREW, HHC 3/8in-16 X 3/4in SST
12	3017444	1	SHIELD, CHUTE
13	3014960	2	BOLT, CARRIAGE 3/8in-16 X 1 SST
14	3017356	2	WASHER, LOCK 3/8in SST

ITEM	PART NO.	QTY.	DESCRIPTION
15	3025064	2	NUT, WING 3/8in-16 SST
16	3027293	1	GEAR MOTOR 12 VDC SPINNER
17	FCS031018063SS	3	SCREW, HHC 5/16in-18 X 5/8in SST
18	FWF031075006SS	3	WASHER, FLAT 5/16in SST
19	3025067	1	ENCLOSURE, GEAR MOTOR
20	3007844	1	DECAL, DANGER STAY CLEAR
21	3002631	1	LABEL, "NO STEP"
22	3001537	3	SCREW, BHC 10-24 X 5/8in SST
23	FNE010024024SS	3	NUT, NYLOCK 10-24 SST
24	3025065	1	BUSHING, CABLE STRAIN RELIEF
25	3012393	1	SPINNER, 14in POLY CW
26	3007113	1	PIN, CLEVIS, 5/16in X 2-1/2in ZN
27	3014994	1	COTTER PIN, 1/8in X 1in SST

3049412 - SHPE1500 HOPPER

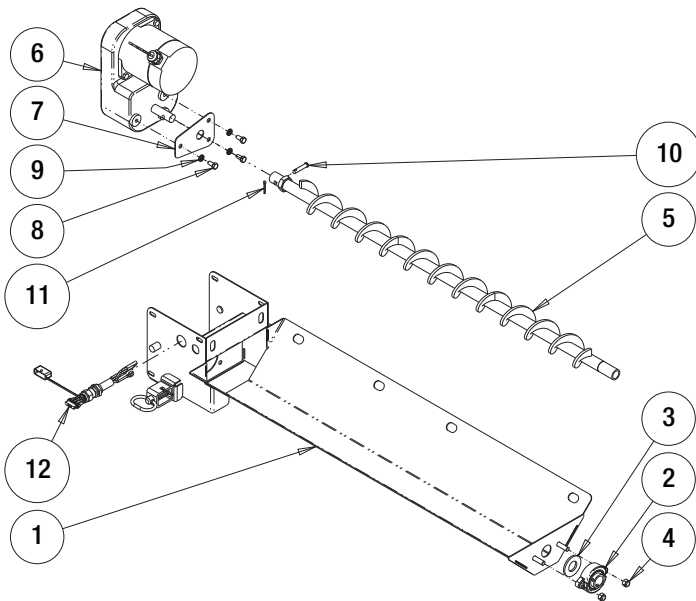


Bill of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	3049411	1	HOPPER POLY 1.5 CU YD
2	3024289	1	TROUGH ASSEMBLY, SHPE
3	FCS038016075SS	12	SCREW, HHC 3/8in-16 X 3/4in SST
4	FWL038069009SS	12	WASHER, SPLIT LOCK 3/8in SST
5	3007115	12	WASHER, FENDER 3/8in SST
6	9240132	1	DECAL, DANGER BEFORE SERVICE
7	3007821	1	BUSHING, STRAIN RELIEF
8	3007236	1	COVER, GEAR MOTOR
9	FCS025020075SS	6	SCREW, HHC 1/4in-20 X 3/4in SST
10	FWL025050006SS	6	WASHER, SPLIT LOCK 1/4in SST
11	3050476	1	REMOTE GREASE KIT, SHPE
12	3022977	2	DEFLECTOR

ITEM	PART NO.	QTY.	DESCRIPTION
13	3034598	1	PLATE WELDMENT, VIBRATOR
14	3039179	1	BRACKET, VIBRATOR
15	3007416	1	VIBRATOR 200 LBS 12 VDC
16	FCS038016125SS	4	SCREW, HHC 3/8in-16 X 1-1/4in SST
17	FNE038016044SS	8	NUT, NYLOCK 3/8in-16 X 7/16in SST
18	3007522	2	SCREW, HH SHEET MTL #12 X 1 SST
19	4375	2	CLAMP, HOSE 7/16in, 9/32in HOLE
20	3022220	4	TIE-DOWN WELDMENT
21	3050265	2	CROSS MEMBER WELDMENT
22	3020338	12	SCREW, HHC 1/2in-13 X 4in SST
23	3003873	12	WASHER, FLAT 1/2in SAE SST
24	FNE050013053SSC	12	NUT, NYLOCK 1/2in-13 SST CTD

Repair Parts-Trough Assembly



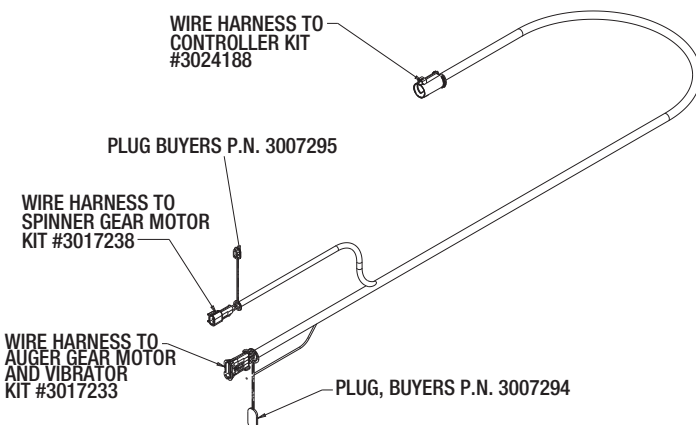
Bill of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	3024290	1	TROUGH WELDMENT, SHPE
2	3018919	1	BEARING, 2-HOLE FLANGED 1in SST
3	3007000	1	GASKET, FELT BEARING
4	FNE038016044SS	2	NUT, NYLOCK 3/8in-16 X 7/16in SST
5	3018007	1	AUGER, SHPE SST
6	3009995	1	GEAR MOTOR, AUGER SHPE
7	3007824	1	RETAINER, GEAR MOTOR
8	FCS031018063SS	3	SCREW, HHC 5/16in-18 X 5/8in SST
9	FWL031058008SS	3	WASHER, SPLIT LOCK 5/16in SST
10	FPY031000150	1	PIN, CLEVIS, 5/16in X 1-1/2in ZN
11	3014994	1	COTTER PIN, 1/8in X 1in SST
12	3006844	1	WIRE HARNESS

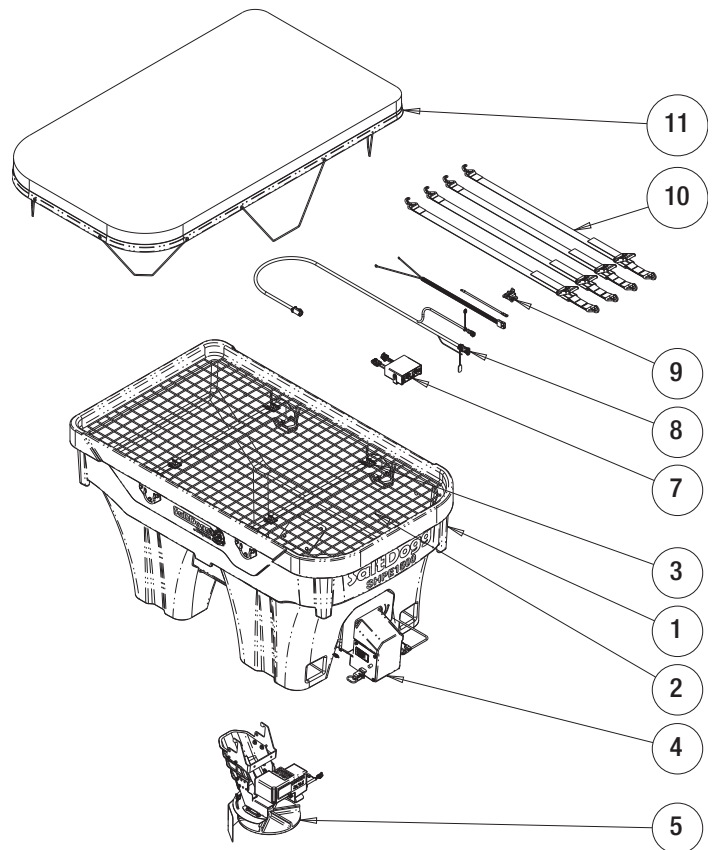
Service Parts and Accessories

PART NO.	DESCRIPTION
3012431	Replacement Motor for 3006833, 3027293
3021617	Replacement Coupler for 3006833, 3027293
3019085	Replacement Motor for 3009995

Wire Harness Repair Kits



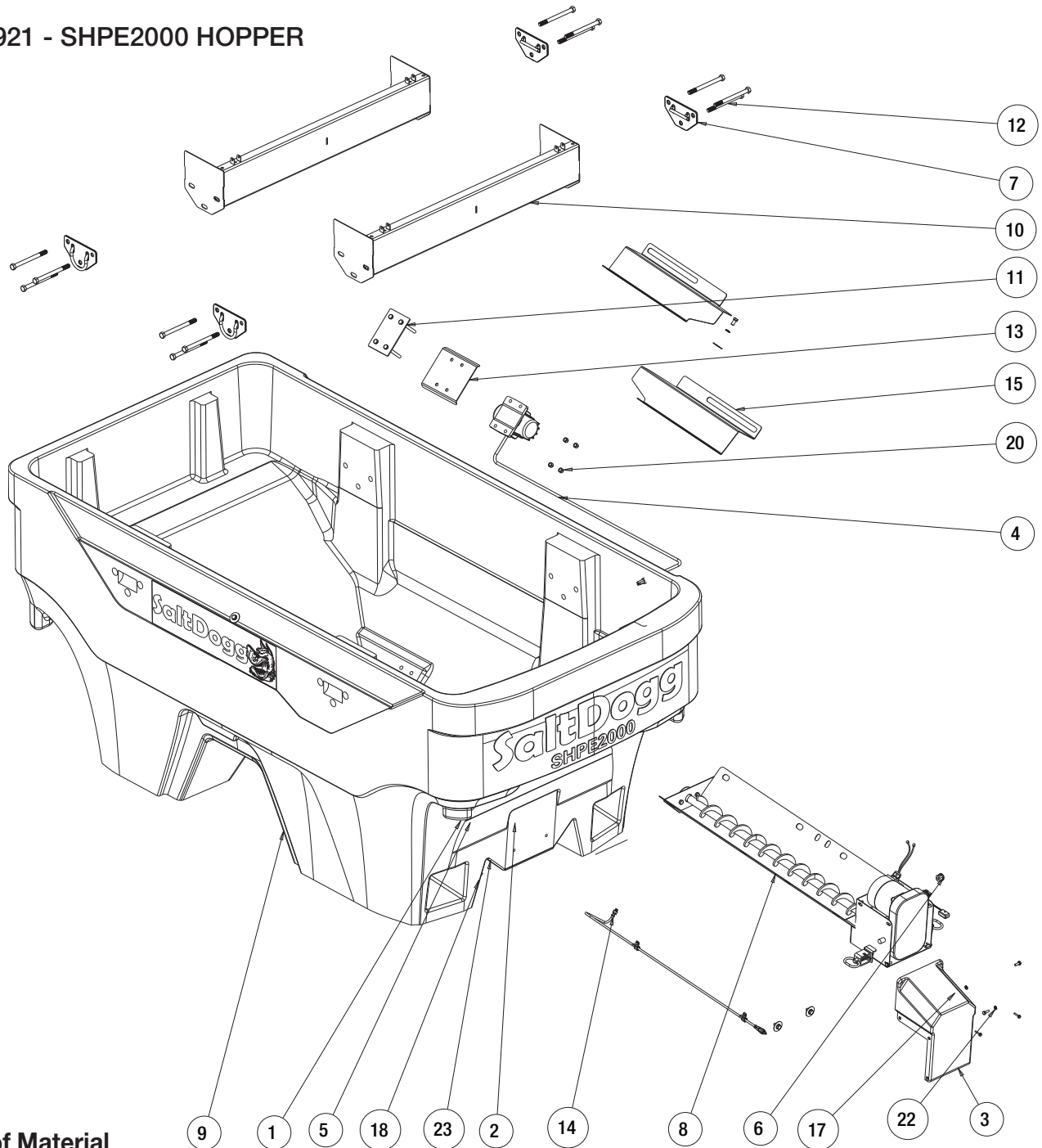
Repair Parts- SHPE1500 Spreader



Bill of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	3049412	1	HOPPER ASM 1.5 CU YD POLY
2	3041211	1	TOP SCREEN
3	66050	4	SNAPPER PIN, 1/4in X 2in ZN
4	3035854	1	LABEL, PATENT
5	3025070	1	CHUTE ASSEMBLY, STD LENGTH
7-11	3049872	1	HARDWARE KIT SHPE1500
7	3014199	1	CONTROLLER, SHPE SALTDogg
8	3006724	1	WIRE HARNESS, MAIN
9	3035936	1	POWER CABLE KIT
10	1496505	1	HOLD DOWN KIT, SPREADER (4 STRAPS)
11	3043774	1	TARP

3035921 - SHPE2000 HOPPER

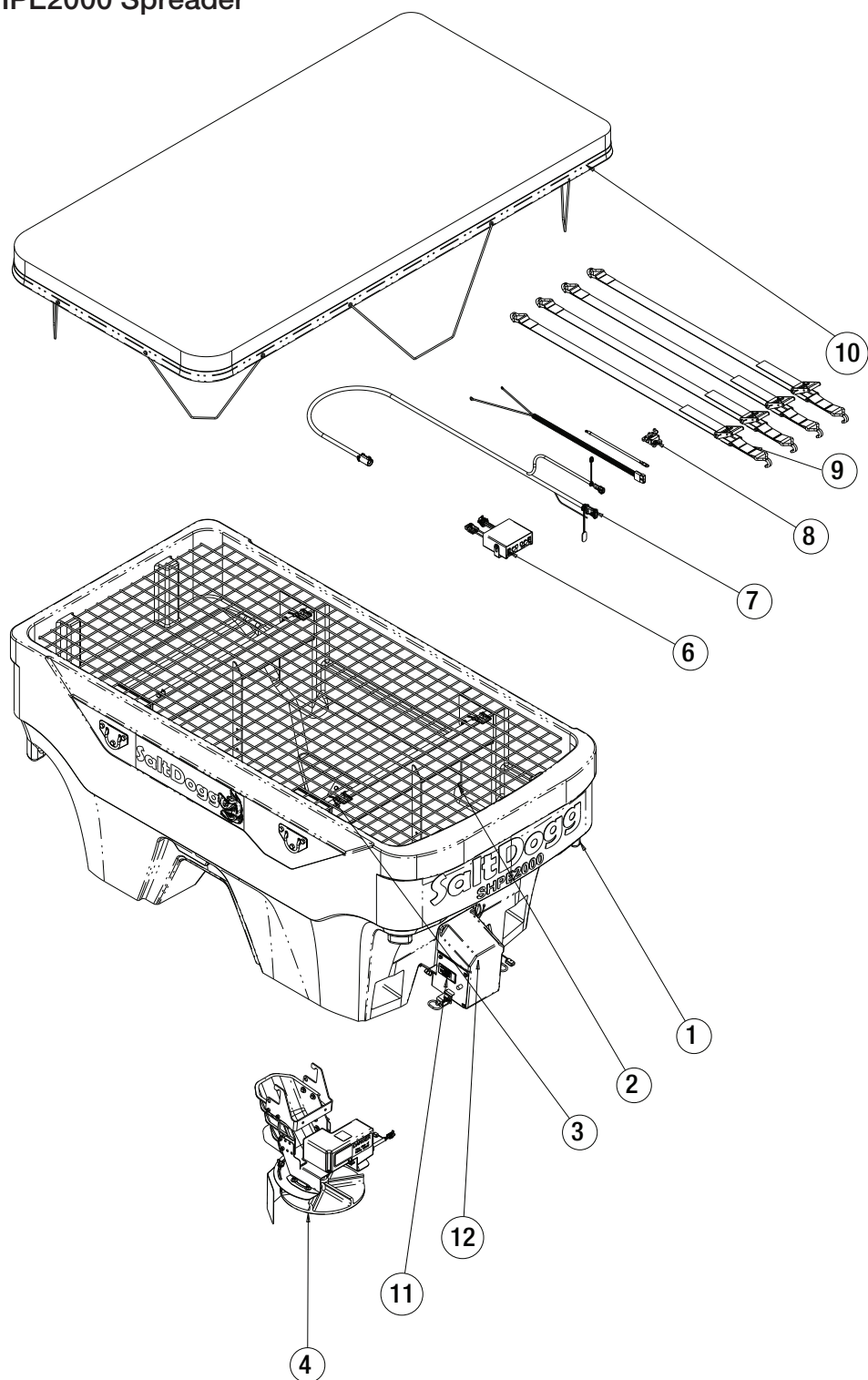


Bills of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	4375	2	CLAMP, HOSE .4375, 9/32 HOLE
2	3007115	12	WASHER, FLAT 3/8 X 1.5 X.048 SST
3	3007236	1	COVER GEARMOTOR
4	3007416	1	VIBRATOR 200 LBS 12 VDC
5	3007522	4	SCREW, SHEET MTL #12x1.0 HEX WASHER HD SST
6	3007821	1	STRAIN RELIEF BUSHING
7	3022220	4	TIE-DOWN WELDMENT
8	3024289	1	TROUGH ASSEMBLY, SHPE
9	3035920	1	HOPPER POLY 2 CU YD
10	3036561	2	CROSS MEMBER WELDMENT
11	3036572	1	MOUNT, VIBRATOR
12	3036809	12	SCREW HHC-1/2-13 X 6.0 ZINC

ITEM	PART NO.	QTY.	DESCRIPTION
13	3046694	1	PLATE, VIBRATOR
14	3050476	1	REMOTE GREASE KIT SHPE, NYLON TUBE
15	3050550	2	DEFLECTOR
16	9240132	1	DECAL #2, DANGER BEFORE SVCE
17	FCS025020075SS	6	SCREW, CAP 1/4-20 X 3/4 SST
18	FCS038016075SS	12	SCREW, HHC-3/8-16 X 3/4 SST
19	FNE050013053	12	NUT, NYLOCK, 1/2-13, GR A, ZN
20	FNE038016044SS	4	NUT, NYLOCK 3/8-16 X 7/16 SST
21	FWF050106010	12	WASHER, FLAT, 1/2 X 1.062 X .095, ZN
22	FWL025050006SS	6	WASHER, 1/4 IN. SPRING LOCK SST
23	FWL038069009SS	12	WASHER, LOCK RHS-3/8 SST

Repair Parts- SHPE2000 Spreader

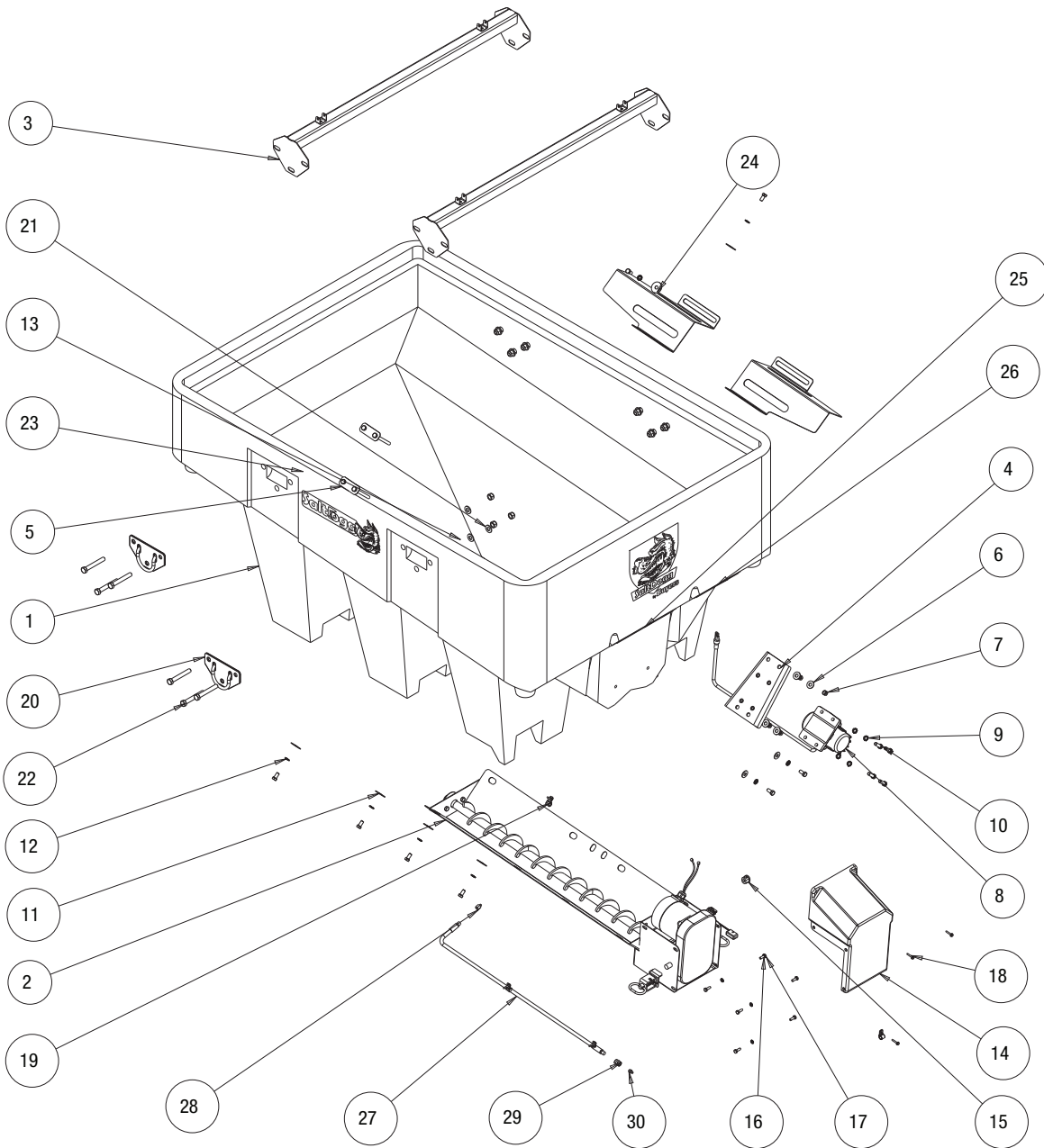


Bills of Material

ITEM	PART NO.	QTY.	DESCRIPTION
1	3035921	1	HOPPER ASM. 2 CU YD POLY
2	3034599	1	TOP SCREEN XD2000
3	66050	4	SNAPPER PIN, 1/4 X 2, YLW ZINC
4	3025070	1	CHUTE ASSEMBLY. STD LENGTH
5	3036574	1	HARDWARE KIT SHPE2000
6	3014199	1	CONTROLLER, SHPE, SALTDogg

ITEM	PART NO.	QTY.	DESCRIPTION
7	3006724	1	WIRE HARNESS, MAIN
8	3035936	1	KIT POWER CABLE REPLACES 3006842
9	1496505	1	HOLD DOWN KIT, SPREADER (4 STRAPS)
10	3035377	1	TARP
11	3022355	1	LABEL SERIAL NUMBER SHPE2000
12	3035854	1	LABEL PATENT

3022947 - SHPE1000 HOPPER

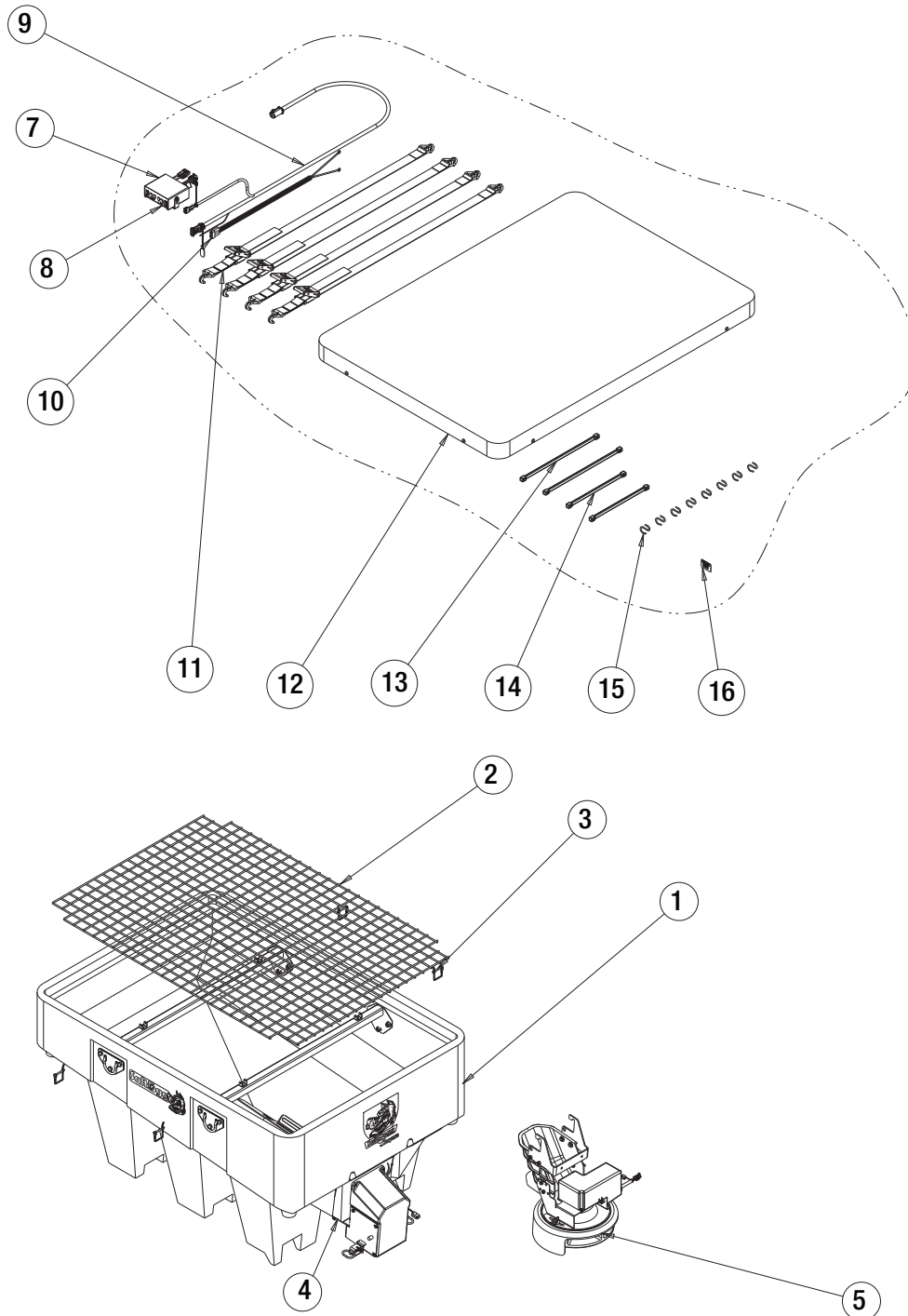


Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3022973	1	HOPPER POLY 1 CU YA
2	3024289	1	TROUGH ASSEMBLY, SHPE
3	3022230	2	CROSS MEMBER
4	3022976	1	BRACKET VIBRATOR, WELDMENT
5	3024288	2	RETAINER VIBRATOR
6	FWF038100007SS	6	WASHER, FLAT 3/8 USS SST
7	FNE038016044SS	4	NUT, NYLOCK 3/8-16 X 7/16 SST
8	3007416	1	VIBRATOR 200 LBS 12 VDC
9	3017356	4	WASHER, EXTERNAL TOOTH LOCK 3/8 SS
10	FCS038016125SS	4	SCREW, HHC-3/8-16 X 1.25 SST
11	3007115	10	WASHER, FLAT 3/8 X 1.5 X.048 SST
12	FWL038069009SS	12	WASHER, LOCK RHS-3/8 SST
13	FCS038016075SS	12	SCREW, HHC-3/8-16 X 3/4 SST
14	3007236	1	COVER GEARMOTOR
15	3007821	1	STRAIN RELIEF BUSHING
16	FWL025050006SS	6	WASHER, 1/4 IN. SPRING LOCK SST

ITEM	PART NO.	QTY.	DESCRIPTION
17	FCS025020075SS	6	SCREW, CAP 1/4-20 X 3/4 SST
18	3007522	6	SCREW, SHEET MTL #12x1.0 HEX WASHER HD SST
19	4375	4	CLAMP, HOSE .4375, 9/32 HOLE
20	3022220	4	TIE-DOWN WELDMENT
21	FWF050106010	12	WASHER, FLAT 1/2" SAE ZINC
22	3005140	12	SCREW, HH1/2-13 x 3.5, GR 5 ZN
23	FNE050013053	12	NUT, NYLOCK 1/2-13 ZINC
24	3022977	2	DEFLECTOR
25	9240132	1	DECAL #2, DANGER BEFORE SVCE
26	3012898	1	DECAL, CHECK STRAPS
27	3022955	1	HOSEGREASE, 1/8 NPT, 36 IN LONG
28	3020713	1	CONNECTOR, MALE, FEMALE
29	H3309X2	1	CONNECTOR, FEM NPT TO FEM NPT 1/8 X 1/8
30	800	1	GREASE FITTING, 1/4 STD

Repair Parts- SHPE1000 Spreader

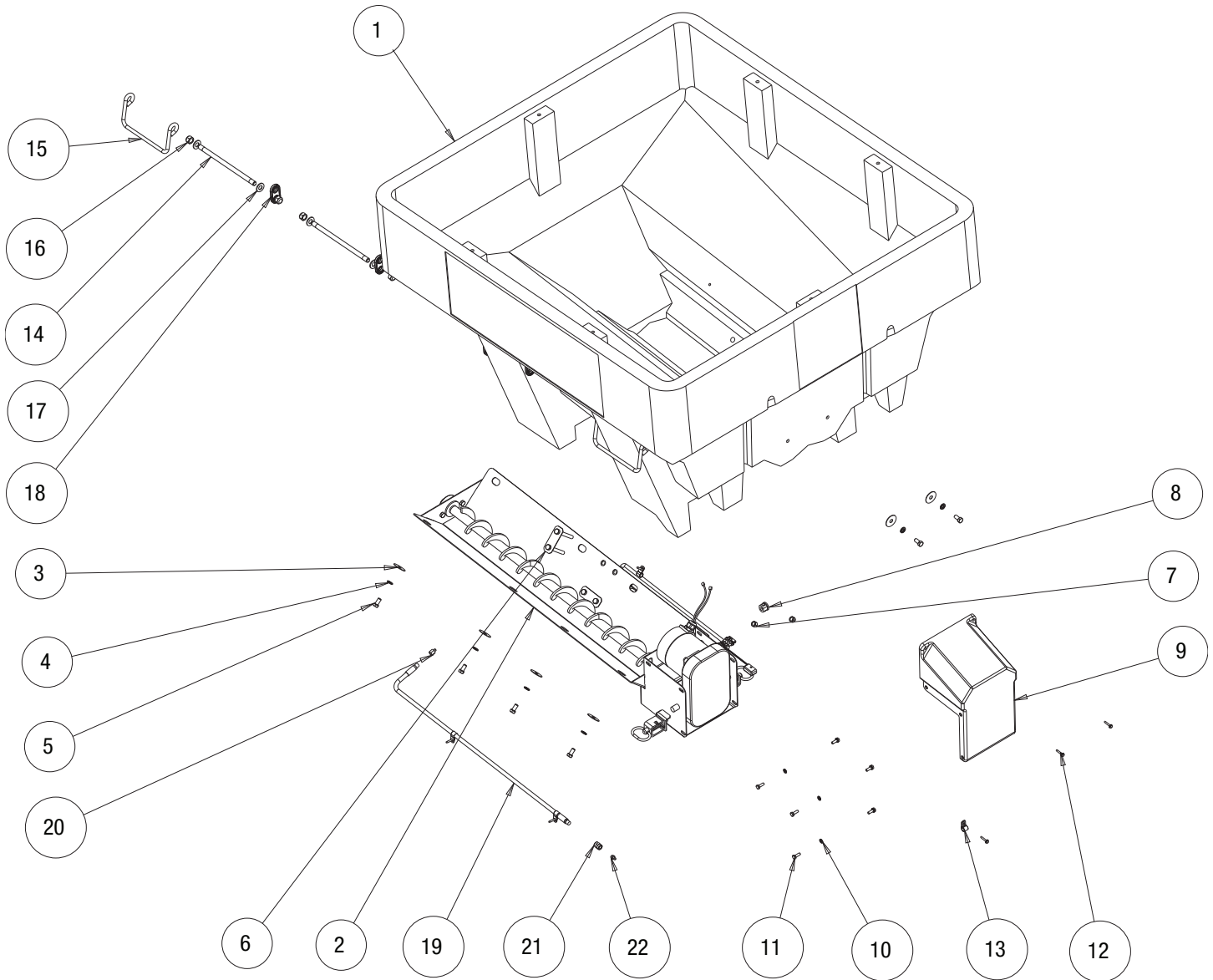


Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3022974	1	HOPPER ASS'Y 1 CU YA
2	3022978	1	SCREEN SHPE1000
3	66050	4	SNAPPER PIN, 1/4 X 2, YLW ZINC
4	3022980	1	LABEL SERIAL NUMBER SHPE1000
5	3025070	1	CUTE ASSEMBLY. STD LENGTH
7	3027463	1	HARDWARE KIT SHPE1000
8	3014199	1	CONTROLLER, SHPE, SALT DOGG
9	3006724	1	WIRE HARNESS, MAIN
10	3035933	1	POWER CABLE, CONTROL BOX

ITEM	PART NO.	QTY.	DESCRIPTION
11	1496505	1	HOLD DOWN KIT, SPREADER (4 STRAPS)
12	3022979	1	TARP SHPE1000
13	TS20	2	STRAP, RUBBER TARP 20" (27" MAX)
14	TS15	2	STRAP, RUBBER TARP 15" (22" MAX)
15	9225	8	S-HOOK, 2.5" ZN, TARP STRAP
	3001379	1	BATTERY CABLE
	CB120PB	1	CIRCUIT BREAKER

3011878 - SHPE0750 HOPPER

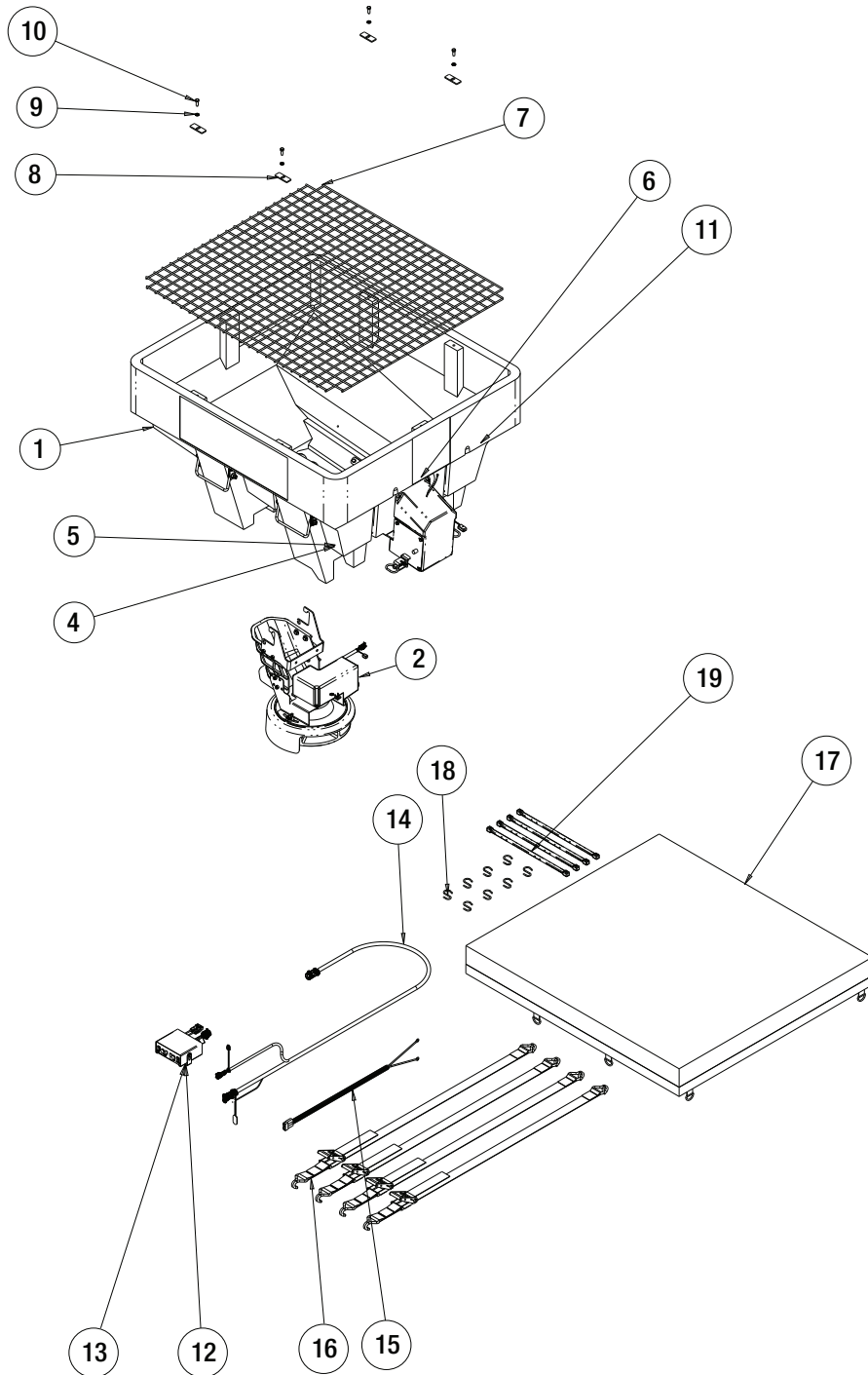


Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3011360	1	HOPPER POLY .6 CU YA
2	3011865	1	TROUGH ASSEMBLY, SHPE
3	3007115	10	WASHER, FLAT 3/8 X 1.5 X.048 SST
4	FWL038069009SS	10	WASHER, LOCK RHS-3/8 SST
5	FCS038016075SS	10	SCREW, HHC-3/8-16 X 3/4 SST
6	3007731	1	BRACKET VIBRATOR, LONG SST
7	FNE038016044SS	2	NUT, NYLOCK 3/8-16 X 7/16 SST
8	3007821	1	STRAIN RELIEF BUSHING
9	3007236	1	COVER GEARMOTOR
10	FWL025050006SS	6	WASHER, 1/4 IN. SPRING LOCK SST
11	FCS025020075SS	6	SCREW, CAP 1/4-20 X 3/4 SST
12	3007522	6	SCREW, SHEET MTL #12x1.0 HEX WASHER HD SST

ITEM	PART NO.	QTY.	DESCRIPTION
13	4375	4	CLAMP, HOSE .4375, 9/32 HOLE
14	3006974	4	STUD, 1/2-13x.75 BOTH ENDS, 9.75" LG, ZC
15	3006958	4	TIE DOWN
16	FNE050013053	8	NUT, NYLOCK 1/2-13 ZINC
17	FWF050106010	8	WASHER, FLAT 1/2" SAE ZINC
18	3009802	8	ANCHOR, TARP, POLY SHPE
19	3022955	1	HOSEGREASE, 1/8 NPT, 36 IN LONG
20	3020713	1	CONNECTOR, MALE, FEMALE
21	H3309X2	1	CONNECTOR, FEM NPT TO FEM NPT 1/8 X 1/8
22	800	1	GREASE FITTING, 1/4 STD

Repair Parts - SHPE0750 Spreader Assembly

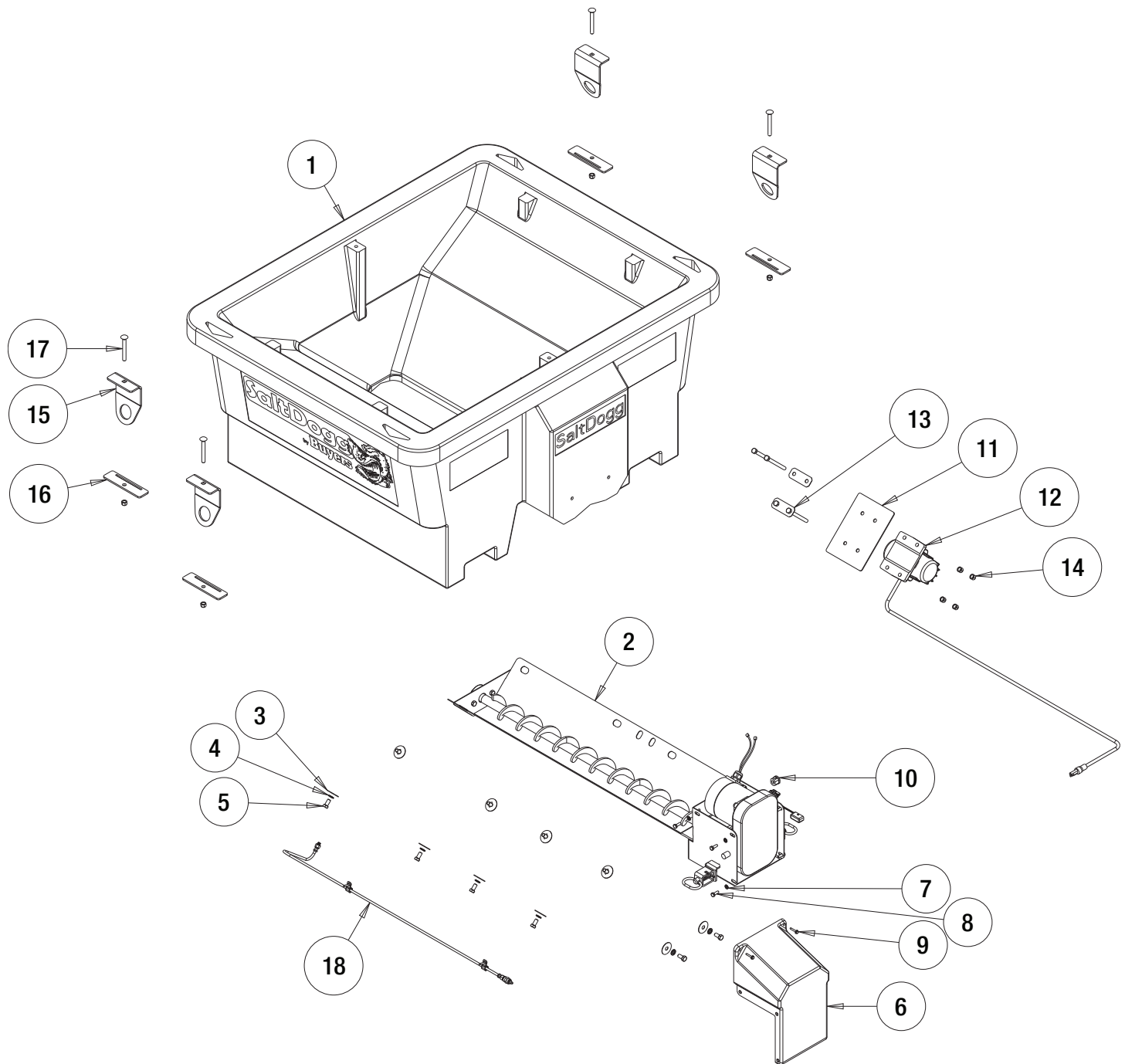


Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3011878	1	HOPPER ASSEMBLY, SHPE0750
2	3025070	1	CHUTE ASSEMBLY, STD LENGTH
4	3011382	1	PLATE, SERIAL NO. SHPE0750 SERIES
5	3007522	2	SCREW, SHEET MTL #12x1.0 HEX WASHER HD SST
6	9240132	1	DECAL #2, DANGER BEFORE SVCE
7	3011727	1	SCREEN, FLAT SHPE0750
8	3008787	4	RETAINER, SCREEN
9	FWL038069009SS	4	WASHER, LOCK RHS-3/8 SST
10	FCS038016100SS	4	SCREW, HHC 3/8-16 X 1 304 SST
11	3012898	1	DECAL, CHECK STRAPS

ITEM	PART NO.	QTY.	DESCRIPTION
12	3028178	1	HARDWARE KIT SHPE0750, SHPE0750X
13	3014199	1	CONTROLLER, SHPE, SALT DOGG
14	3006724	1	WIRE HARNESS, MAIN
15	3035933	1	POWER CABLE, CONTROL BOX
16	1496505	1	HOLD DOWN KIT, SPREADER (4 STRAPS)
17	3011370	1	TARP SHPE0750
18	9225	8	S-HOOK, 2.5" ZN, TARP STRAP
19	TS20	4	STRAP, RUBBER TARP 20" (27" MAX)
	3001379	1	BATTERY CABLE
	CB120PB	1	CIRCUIT BREAKER

3058275 - SHPE0400 HOPPER

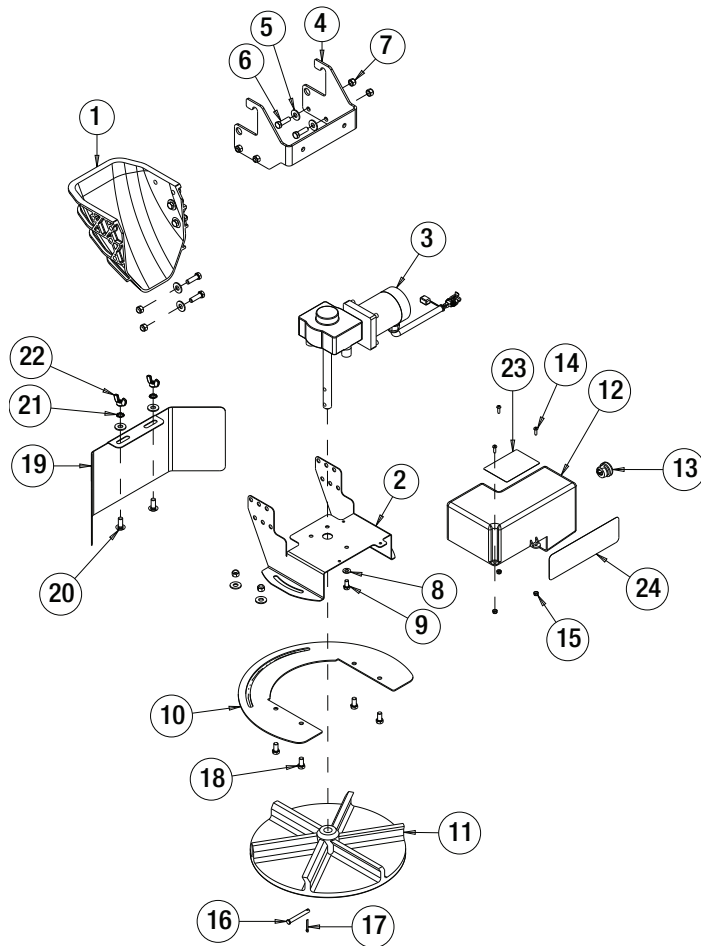


Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3058275	1	HOPPER POLY 06 CU YD
2	3024289	1	TROUGH ASSEMBLY, SHPE
3	3007115	10	WASHER, FLAT 3/8 X 1.5 X.048 SST
4	FWL038069009SS	10	WASHER, LOCK RHS-3/8 SST
5	FCS038016075SS	10	SCREW, HHC-3/8-16 X 3/4 SST
6	3007236	1	COVER GEARMOTOR
7	FWL025050006SS	6	WASHER, 1/4 IN. SPRING LOCK SST
8	FCS025020075SS	6	SCREW, CAP 1/4-20 X 3/4 SST
9	3007522	2	SCREW, SHEET MTL #12x1.0 HEX WASHER HD SST

ITEM	PART NO.	QTY.	DESCRIPTION
10	3007821	1	STRAIN RELIEF BUSHING
11	3016775	1	PLATE, VIBRATOR KIT SST
12	3007416	1	VIBRATOR 200 LBS 12 VDC
13	3024288	2	RETAINER VIBRATOR
14	FNE038016044SS	8	NUT, NYLOCK, 3/8-16, SST WAX
15	3027421	4	TIE DOWN
16	3027422	4	RETAINER, TIE-DOWN
17	3017028	4	BOLT, CRG, 3/8-16x3.25 SST
18	3050476	1	REMOTE GREASE KIT SHPE, NYLON TUBE

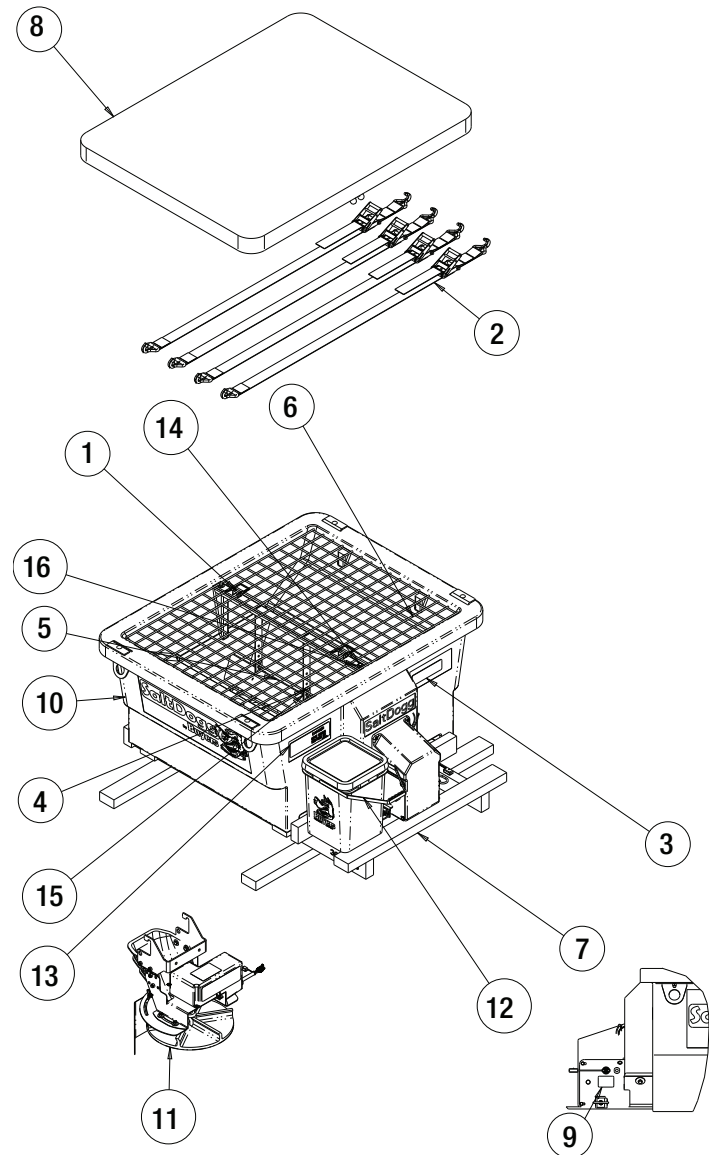
3058277 - SHPE0400 CHUTE



Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	3028475	1	CHUTE POLY
2	3025715	1	BRACKET, GEAR MOTOR/SHIELD
3	3027293	1	GEAR MOTOR FOR CHUTE 3025070
4	3030019	1	HANDLE, CHUTE
5	FWF038100007SS	14	WASHER, FLAT 3/8 USS SST
6	FCS038016125SS	8	SCREW, HHC-3/8-16 X 1.25 SST
7	FNE038016044SS	12	NUT, NYLOCK, 3/8-16, SST WAX
8	FWF031075006SS	3	WASHER, FLAT, 5/16 X .688 X .065, SST
9	FCS031018063SS	3	SCREW, HHC 5/16-18 X 5/8 SST
10	3033547	1	BRACKET, SHIELDS
11	3012393	1	SPINNER, 14" POLY CW
12	3025067	1	ENCLOSURE, GEAR MOTOR
13	3025065	1	BUSHING STRAIN RELIEF
14	3001537	3	SCREW, SOCBHCS #10 X 5/8 SST
15	FNE010024024SS	3	NUT, NYLOCK, #10-24, SST WAX
16	3007113	1	PIN, CLEVIS, 5/16 X 2-1/2, .141 HOLE ZN
17	FPC013000100	1	COTTER PIN, 1/8 X 1, ZINC
18	FCS038016075SS	4	SCREW, HHC-3/8-16 X 3/4 SST
19	3017444	1	SHIELD, CHUTE
20	3014960	2	BOLT, 3/8-16 X 1 CARRIAGE SHORT NECK SST
21	3017356	2	WASHER, EXTERNAL TOOTH LOCK 3/8 SS
22	3025064	2	NUT, 3/8-16 WING, SST
23	3002631	1	LABEL, "NO STEP"
24	3007844	1	DECAL, DANGER STAY CLEAR

Repair Parts - SHPE0400 Spreader Assembly



Bill of Materials

ITEM	PART NO.	QTY.	DESCRIPTION
1	66050	2	SNAPPER PIN, 1/4X2, YLW Z1NC
2	1496505	1	HOLD DOWN KIT, SPREADER (4 STRAPS)
3	3012898	1	DECAL, CHECK STRAPS
4	3027425	1	MOUNT, INVERTED VEE
5	3027428	1	INVERTED VEE, WELDMENT
6	3027429	1	SCREEN
7	3028473	1	PALLET SHIPPING SHPE0400
8	3028476	1	TARP, SHPE0400
9	3035854	1	LABEL PATENT
10	3058275	1	HOPPER ASSEMBLY SHPE0400
11	3058277	1	CHUTE ASSEMBLY, SHPE0400
12	3058278	1	HARDWARE BOX SHPE0400
13	9240132	1	DECAL #2, DANGER BEFORE SVCE
14	ECS038016075SS	6	SCREW, HHC-3/8-16 X 3/4 SST
15	ENE038016044SS	4	NUT, NYLOCK, 3/8-16, SST WAX
16	EWE038100007SS	2	WASHER, FLAT 3/8 USS SST