

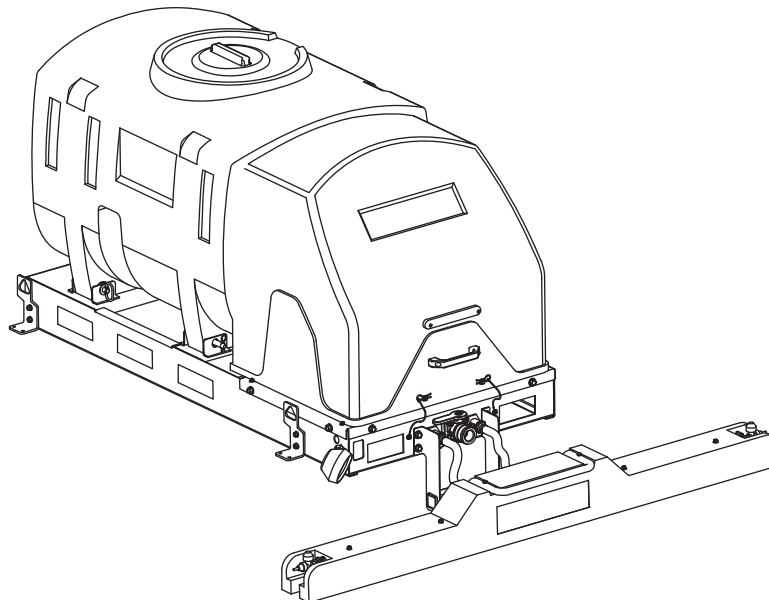


# Accuspray™ De-Icing Systems

## VSS-2000 and VSS-3000

Owner's Manual and Installation Instructions

*Original Instructions*



**⚠ CAUTION**

Read this document before operating  
or servicing the equipment.

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## PREFACE

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This manual has been prepared to acquaint you with the safety information, operation, and maintenance of your new machine. Improper installation and operation could cause personal injury and/or equipment and property damage. Read and understand the Owner's Manual before installing, operating, or making adjustments. Keep this manual accessible.

When service is necessary, call SnowEx® Technical Service at 1-800-SALTERS (725-8377).

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**NOTE: This unit is designed to be used with salt brine; the use of additives may impact performance.**

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**NOTE: Do not modify or alter the machine. Altering the unit in any way will void the warranty.**

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The Accuspray™ De-Icing System is designed to apply brine to pre-treat, anti-ice, and post-treat parking lots and roadways. Each unit consists of a holding tank, pumping system and control, and a spray boom.

### WARRANTY REGISTRATION

Warranty registration is available online at [www.snowexproducts.com](http://www.snowexproducts.com). Under "Support" click "Warranty Registration" and submit the form online.

### OWNER'S INFORMATION

Owner's Name: \_\_\_\_\_

Date Purchased: \_\_\_\_\_

Outlet Name: \_\_\_\_\_ Phone: \_\_\_\_\_

Outlet Address: \_\_\_\_\_

Vehicle Model: \_\_\_\_\_ Year: \_\_\_\_\_

Equipment Model: \_\_\_\_\_ Serial #: \_\_\_\_\_

Length: \_\_\_\_\_ Weight: \_\_\_\_\_ lb/kg: \_\_\_\_\_

# SAFETY

## SAFETY DEFINITIONS

### **⚠ WARNING**

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious personal injury.

### **⚠ CAUTION**

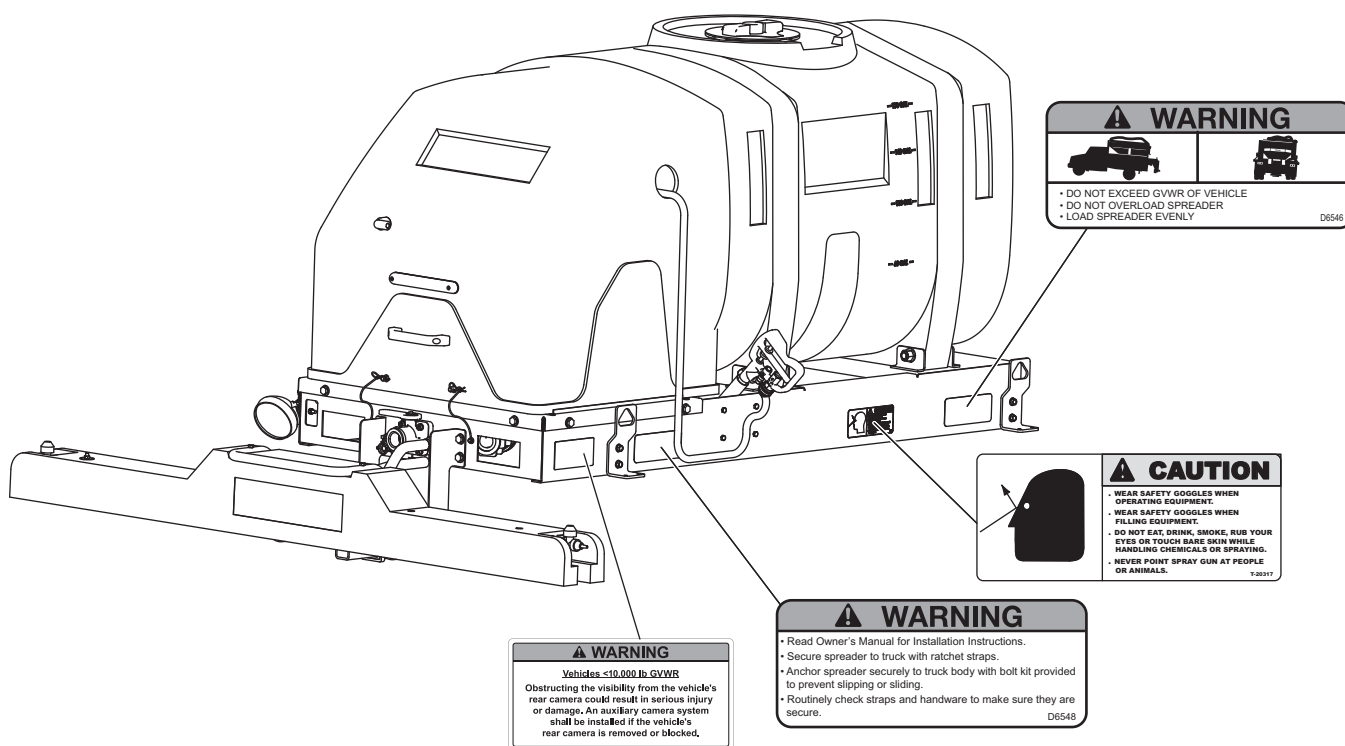
Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

**NOTE:** Indicates a situation or action that can lead to damage to your sprayer and vehicle or other property. Other useful information can also be described.

## WARNING/CAUTION LABELS

Become familiar with and inform users about the warning and caution labels on the machine.

If labels are missing or cannot be read, call 1-800-SALTERS (725-8377).



# SAFETY

## SERIAL NUMBER LABEL



Code	Definition
YY	2-Digit Year
MM	2-Digit Month
DD	2-Digit Day
LL	2-Digit Location Code
XXXX	4-Digit Sequential Number
ZZZZZ	Model #

## SAFETY PRECAUTIONS

Improper installation and operation could cause personal injury and/or equipment and property damage. Read and understand labels and the Owner's Manual before installing, operating, or making adjustments.

### ⚠ WARNING

- Before working with the equipment, secure all loose-fitting clothing and unrestrained hair.
- Before operating the sprayer system, verify that all safety guards are in place.
- Always shut vehicle OFF before attempting to attach, detach, or service sprayer system.
- Never attempt to take a unit off a truck with liquid in it.
- Do not climb into or ride on the machine.

### ⚠ WARNING



Overloading could result in an accident or damage. Do not exceed GVWR or GAWR ratings as found on the driver-side vehicle door cornerpost. See Loading section to determine maximum volumes of spraying material.

### ⚠ WARNING

Securely bolt and strap unit into place on the vehicle bed. Unit must be strapped down and bolted into position before operating or transporting.

### ⚠ WARNING

Vehicle handling and characteristics will change with the unit installed. Avoid any sudden steering maneuvers, starts, or stops that could create sloshing and instability.

### ⚠ WARNING

Always make sure that personnel are clear of areas of danger when using equipment. Maintain 60' distance from all bystanders when operating the sprayer system.

### ⚠ WARNING

Do not install the control for this product in the deployment path of an air bag. Refer to vehicle manufacturer's manual for air bag deployment area(s).

## SAFETY

### **⚠ WARNING**

Inspect the unit periodically for defects. Parts that are broken, missing, or worn out must be replaced immediately. Do not alter any part of the unit without prior written permission from the manufacturer.

### **⚠ WARNING**

Vehicles <10,000 lb GVWR: Obstructing the visibility from the vehicle's rear camera could result in serious injury or damage. An auxiliary camera system shall be installed if the vehicle's rear camera is removed or blocked.

### **⚠ CAUTION**

Brine is typically a clear to cloudy white liquid with no odor. It may be irritating to the eyes, skin, and respiratory system. For more safety information on brine and other de-icing materials, refer to the manufacturer's Safety Data Sheet (SDS).

### **⚠ CAUTION**

During the sprayer system installation we recommend the addition of an OSHA compliant Backup Alarm. This alarm is required for OSHA governed employers.

### **⚠ CAUTION**

- Do not operate a sprayer system in need of maintenance.
- Before operating the sprayer system, reassemble any parts or hardware removed for cleaning or adjusting.
- Before operating the sprayer system, remove materials such as cleaning rags, brushes, and hand tools from the unit.
- Before operating the sprayer system, read the engine owner's manual, if so equipped.
- While operating the unit, use auxiliary warning lights, except when prohibited by law.
- Tighten all fasteners according to the Torque Chart. Refer to the Torque Chart for the recommended torque values.

### **⚠ CAUTION**

Disconnect electric and/or hydraulic power and tag out, if required, before servicing or performing maintenance.

### **⚠ CAUTION**

Do not leave material in the unit for long periods of time.

## PERSONAL SAFETY

- Remove ignition key and put the vehicle in PARK or in gear to prevent others from starting the vehicle during installation or service.
- Wear only snug-fitting clothing while working on your vehicle or sprayer system.
- Do not wear jewelry or a necktie, and secure long hair.
- Wear safety goggles to protect your eyes from brine, battery acid, gasoline, dirt, and dust.
- Do not eat, drink, smoke, rub your eyes, or touch bare skin while spraying.
- Avoid touching hot surfaces such as the engine, radiator, hoses, and exhaust pipes.
- Always have a fire extinguisher rated BC handy, for flammable liquids and electrical fires.

## FIRE AND EXPLOSION

### **⚠ WARNING**

Gasoline is highly flammable and gasoline vapor is explosive. Never smoke while working on vehicle. Keep all open flames away from gasoline tank and lines. Wipe up any spilled gasoline immediately.

Be careful when using gasoline. Do not use gasoline to clean parts. Store only in approved containers away from sources of heat or flame.

## CELL PHONES

A driver's first responsibility is the safe operation of the vehicle. The most important thing you can do to prevent a crash is to avoid distractions and pay attention to the road. Wait until it is safe to operate Mobile Communication Equipment such as cell phones, text messaging devices, pagers, or two-way radios.

# SAFETY

## VENTILATION

### ⚠ WARNING

Vehicle exhaust contains lethal fumes. Breathing these fumes, even in low concentrations, can cause death. Never operate a vehicle in an enclosed area without venting exhaust to the outside.

## BATTERY SAFETY

### ⚠ CAUTION

Batteries normally produce explosive gases which can cause personal injury. Therefore, do not allow flames, sparks, or lit tobacco to come near the battery. When charging or working near a battery, always cover your face and protect your eyes, and also provide ventilation.

- Batteries contain sulfuric acid, which burns skin, eyes, and clothing.
- Disconnect the battery before removing or replacing any electrical components.





## TORQUE CHART

### ⚠ CAUTION





Read instructions before assembling. Fasteners should be finger tight until instructed to tighten according to the Torque Chart. Use standard methods and practices when installing equipment, including proper personal protective safety equipment.

### Recommended Fastener Torque Chart

#### Inch Fasteners Grade 5 and Grade 8

Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Grade 5	 Grade 8		 Grade 5	 Grade 8
1/4-20	8.4	11.9	9/16-12	109	154
1/4-28	9.7	13.7	9/16-18	121	171
5/16-18	17.4	24.6	5/8-11	150	212
5/16-24	19.2	27.3	5/8-18	170	240
3/8-16	30.8	43.6	3/4-10	269	376
3/8-24	35.0	49.4	3/4-16	297	420
7/16-14	49.4	69.8	7/8-9	429	606
7/16-20	55.2	77.9	7/8-14	474	669
1/2-13	75.3	106.4	1-8	644	909
1/2-20	85.0	120.0	1-12	704	995

#### Metric Fasteners Class 8.8 and 10.9

Size	Torque (ft-lb)		Size	Torque (ft-lb)	
	 Class 8.8	 Class 10.9		 Class 8.8	 Class 10.9
M6 x 1.00	7.7	11.1	M20 x 2.50	325	450
M8 x 1.25	19.5	26.9	M22 x 2.50	428	613
M10 x 1.50	38.5	53.3	M24 x 3.00	562	778
M12 x 1.75	67	93	M27 x 3.00	796	1139
M14 x 2.00	107	148	M30 x 3.50	1117	1545
M16 x 2.00	167	231	M33 x 3.50	1468	2101
M18 x 2.50	222	318	M36 x 4.00	1952	2701

These torque values apply to fasteners except those noted in the instructions.



## SAFETY

### WARNING

Overloading could result in an accident or damage. Do not exceed GVWR or GAWR as found on the driver-side cornerpost of vehicle.

### WARNING

Never operate equipment when under the influence of alcohol, drugs, or medication that might alter your judgment and/or reaction time.

### WARNING

Never exceed 45 mph (72 km/h) when loaded sprayer system is attached to vehicle. Braking distances may be increased and handling characteristics may be impaired at speeds above 45 mph (72 km/h).

### WARNING

Always shut vehicle OFF before attempting to attach, detach, or service sprayer system.

## CHEMICAL SAFETY

Immediate response is necessary in the event of sprayer leaks, bodily chemical contact, poisoning, or spills. See instructions below:

<b>Sprayer Leak</b>	If the sprayer develops a leak, immediately stop spraying. Turn OFF power to the sprayer and follow directions below, as applicable.
<b>Bodily Chemical Contact</b>	<p>Personal contamination can occur when chemicals splash, spill, or spray directly onto a person.</p> <ol style="list-style-type: none"><li>1. Immediately follow First Aid instructions on chemical label. <u>General procedures include:</u><ol style="list-style-type: none"><li>1a. Eyes – immediately flush with water.</li><li>1b. Skin – wash all contaminated skin surfaces with soap and water.</li><li>1c. Clothing – remove contaminated clothing. Dispose of heavily contaminated clothing per chemical label instructions.</li></ol></li><li>2. Seek medical advice if instructed on the label or if the victim experiences symptoms of harmful effects. Bring the chemical label for reference.</li></ol>
<b>Poisoning by Ingestion or Inhalation</b>	<p>In case of poisoning from ingestion or inhalation: If the victim has collapsed or is not breathing, <b>call 911</b>. Otherwise:</p> <ol style="list-style-type: none"><li>1. If you are the victim, immediately seek assistance from nearby personnel because you may become incapacitated.</li><li>2. Immediately follow First Aid instructions on chemical label.</li><li>3. Call a poison control center for further advice. In the U.S., call 1-800-222-1222. Have the chemical label available for reference.</li></ol>
<b>Chemical Spills</b>	<p>Chemical spills must quickly be contained and properly cleaned up. Refer to the chemical label for any specific clean-up instructions. General procedures include:</p> <ol style="list-style-type: none"><li>1. Control the spill by stopping the source of the spill.</li><li>2. Contain the spill so that it does not spread and get into water sources.</li><li>3. Clean up the spill immediately.</li><li>4. Seek additional advice from:<ul style="list-style-type: none"><li>– <u>Chemical manufacturer</u>: See chemical label for contact information.</li></ul></li></ol>

## LOADING

This Owner's Manual covers vehicles that have been recommended for carrying the sprayer system. Please see your local dealer for proper vehicle applications.

### CERTIFICATION

#### WARNING

New untitled vehicle installation of a sprayer system requires National Highway Traffic Safety Administration altered vehicle certification labeling. Installer to verify that full sprayer does not exceed GVWR or GAWR rating label and complies with FMVSS.

#### WARNING

Overloading could result in an accident or damage. Do not exceed GVWR or GAWR as found on the driver-side cornerpost of vehicle.



#### CAUTION

Read and adhere to manufacturer's ice-control material package labeling, including Safety Data Sheet requirements.

### FIRST TIME FILLING

#### WARNING

**Always shut vehicle OFF before attempting to attach, detach, or service sprayer system.**

1. Install the sprayer and any optional equipment. See the Installation Instructions section of this manual for details.
2. Install or attach any other equipment that will be on the vehicle while the sprayer will be in use (step bumper, trailer hitch, snowplows, etc.) and fill gas tanks.
3. Obtain the Gross Vehicle Weight Rating (GVWR), Front Gross Axle Weight Rating (FGAWR), and Rear Gross Axle Weight Rating (RGAWR) from the certification label typically located inside the driver-side door.
4. With the occupants in the truck for normal sprayer operation, weigh the vehicle to obtain gross vehicle weight (GVW).
5. Subtract the GVW from the GVWR to determine the available material payload. For reference, brine weighs approximately 10 lb/gal.

**NOTE: Full Unit Weight is dependent upon the material used in the tank. The user is responsible for ensuring that the GVWR is not exceeded.**

### SPECIFICATIONS

Accuspray™ De-Icing System			
Tank Model		VSS-2000	VSS-3000
Capacity (gal)		200	300
Tank and Pump Dimensions (in)	Length	88	94
	Floor Width	36	39
	Height	64	68
Overall Width w/Boom		82	82
Empty Unit Weight (lb)		450	520
Full Unit Weight (lb)		2450	3520

# INSTALLATION INSTRUCTIONS

## ASSEMBLY / INSTALLATION

During assembly, check and test completed assembly as directed in this manual. Serious injury could result from chemical leaks if sprayer is improperly assembled.

**IMPORTANT: DO NOT** modify sprayer design.

### ⚠ WARNING



Overloading could result in an accident or damage. Do not exceed GVWR or GAWR ratings as found on the driver-side vehicle door cornerpost. See Specifications section to determine maximum volumes of spraying material.

### ⚠ WARNING

New untitled vehicle installation of a sprayer system requires National Highway Traffic Safety Administration altered vehicle certification labeling. Installer to verify that full sprayer does not exceed GVWR or GAWR rating label and complies with FMVSS.

### ⚠ WARNING

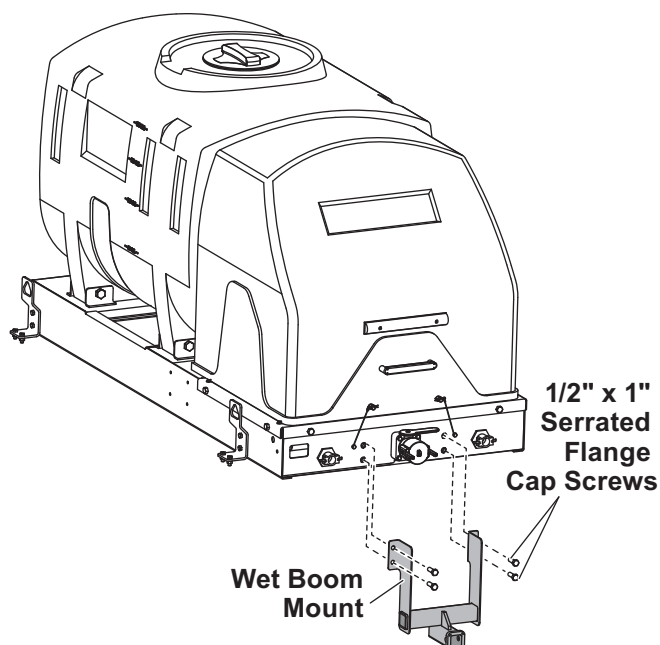
Always shut vehicle OFF before attempting to attach, detach, or service sprayer system.

### ⚠ WARNING

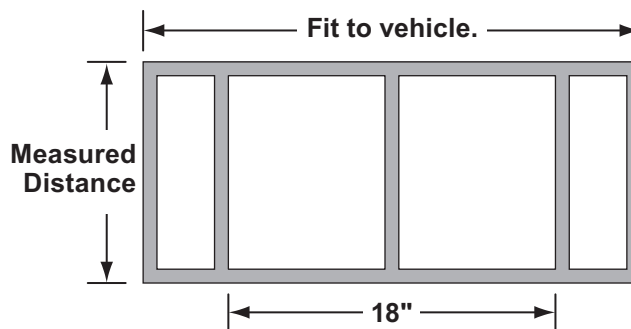
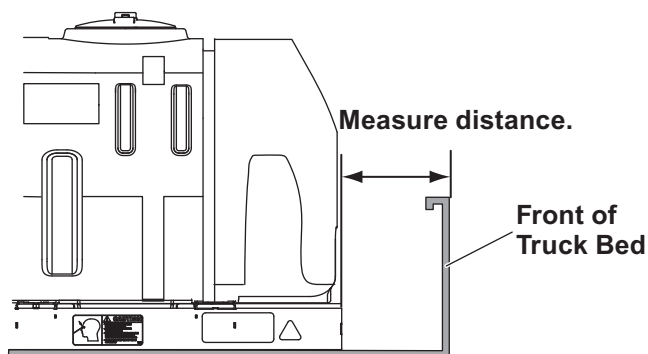
Never attempt to take a unit off a truck with liquid in it.

**NOTE:** To prevent leaks, use a thread-sealing compound on all threaded connections. Do not use Teflon® tape, as fragments will clog the spray nozzles. Clamped connections may require periodic retightening.

1. Secure the wet boom mount assembly onto the rear of the frame with the supplied hardware.

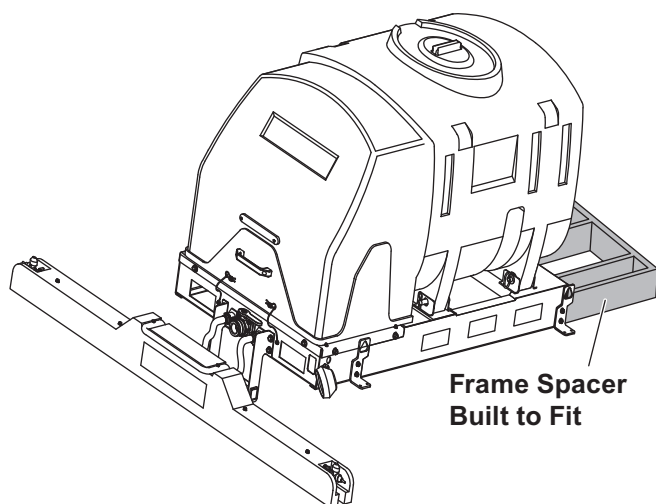


2. Lift the main assembly using the four corner lift point brackets, and position onto the vehicle. Center the sprayer system left to right, and then slide the unit forward until the boom mount just makes contact with the vehicle.
3. **Construct Sill Spacer:** Measure the distance from the front end of the sprayer frame to the front of the vehicle bed and construct a spacer from 2" x 8" lumber to fit that area. **Failure to install this spacer could result in damage to the sprayer.**

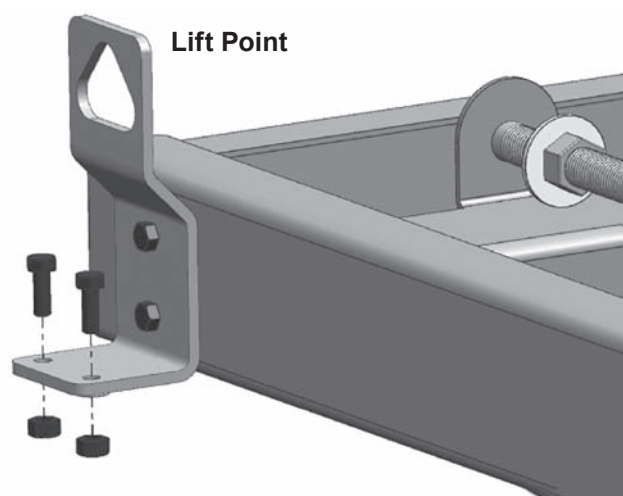


Teflon® is a registered trademark of E. I. du Pont de Nemours and Company.

# INSTALLATION INSTRUCTIONS

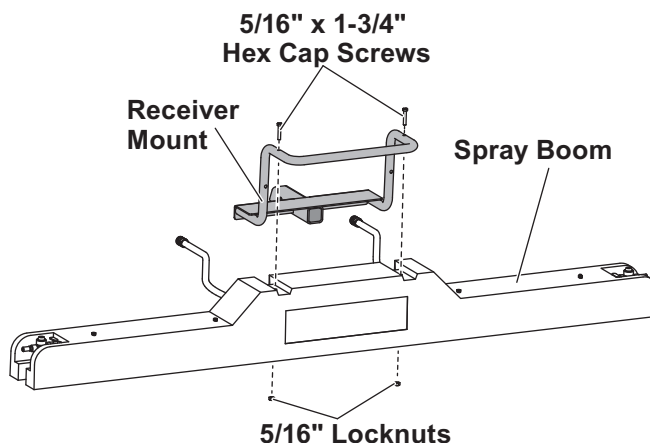


4. Secure the sprayer into place with supplied hardware. **If the mounting holes are not directly over the truck box supports, the truck bed must be braced to the frame to prevent buckling or deforming the truck bed.**

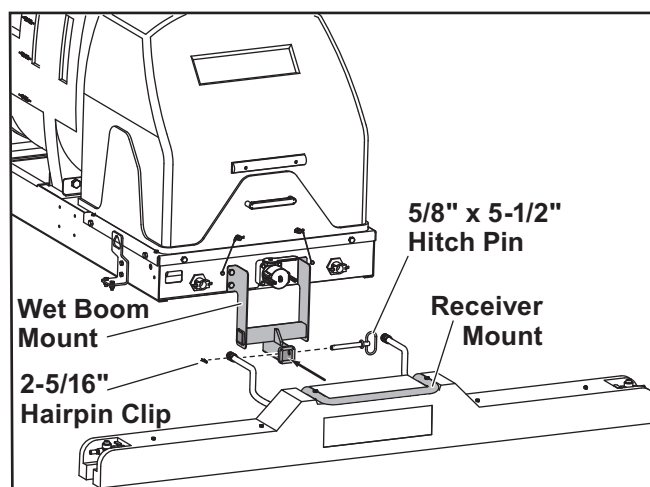


**NOTE:** Pay special attention when drilling or clamping dissimilar metals to aluminum bodies. Galvanic corrosion can occur if not handled properly. Contact vehicle manufacturer for recommended attachment practices.

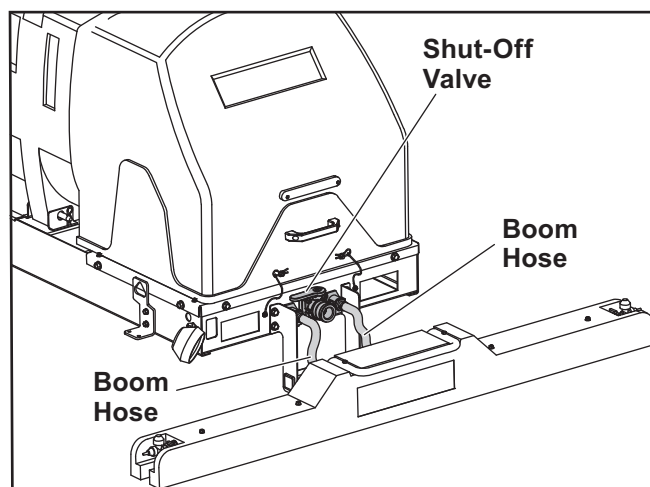
5. Install the boom onto the 2" receiver mount with the supplied hardware.



6. Install the spray boom assembly with receiver mount into the wet boom mount installed in Step 1.

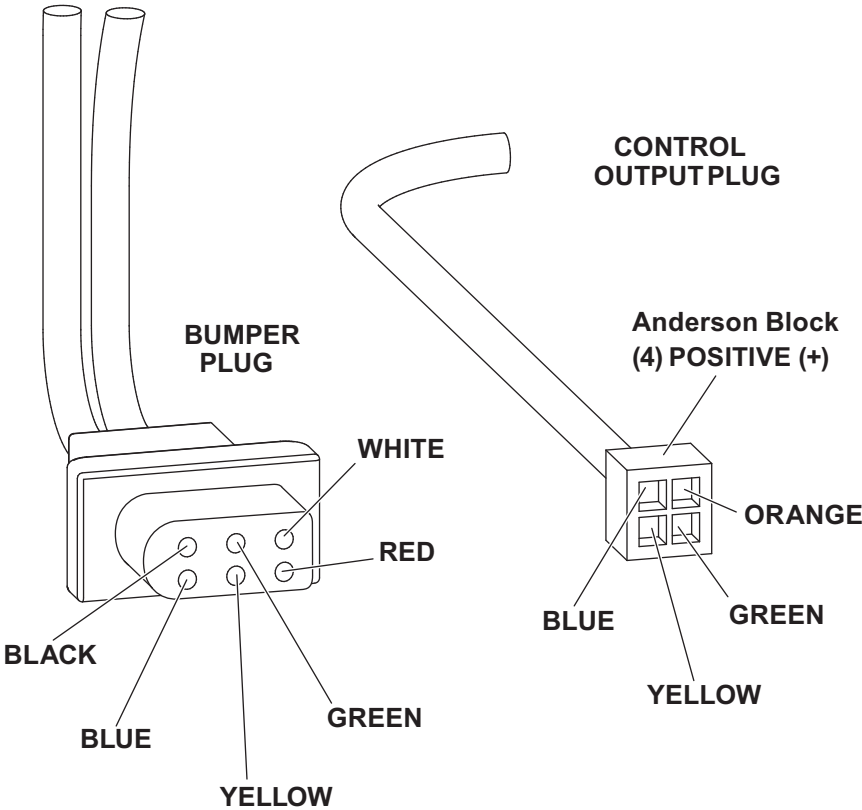


7. Plug the boom hoses into the pump output fittings located below the shut-off valve.

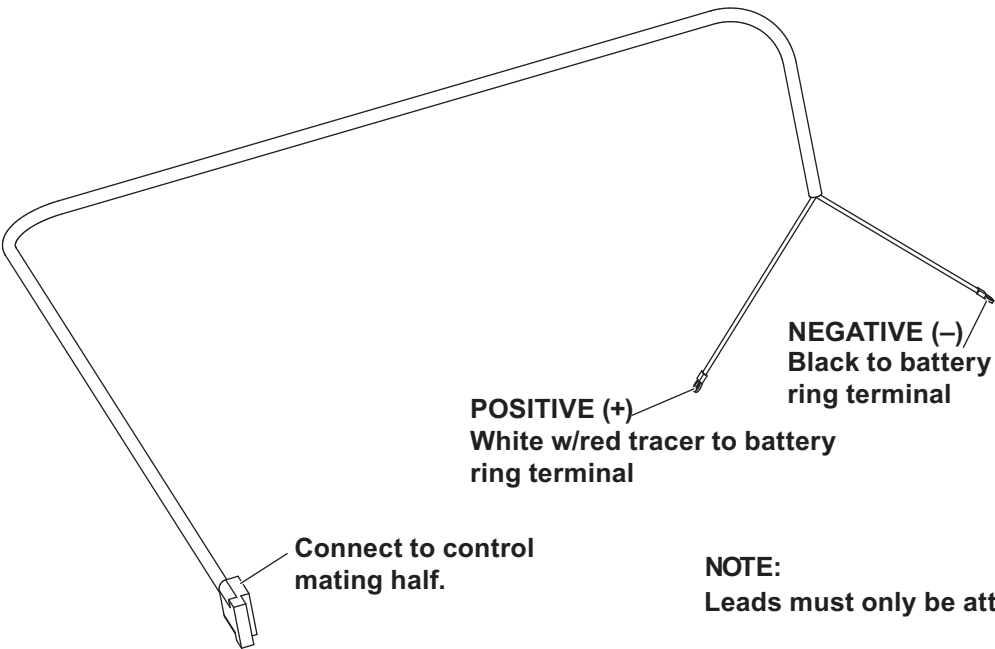


# ELECTRICAL SYSTEM – HARNESSES

## Vehicle Harness



## Control Power Harness

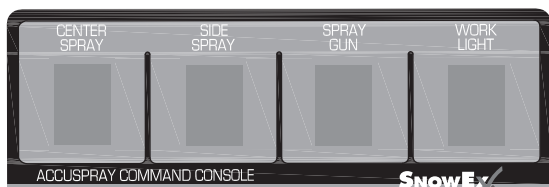


**NOTE:**  
Leads must only be attached to battery.

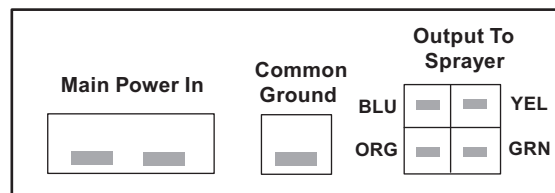
# ELECTRICAL SYSTEM – WIRING INSTRUCTIONS

## ELECTRICAL SYSTEM

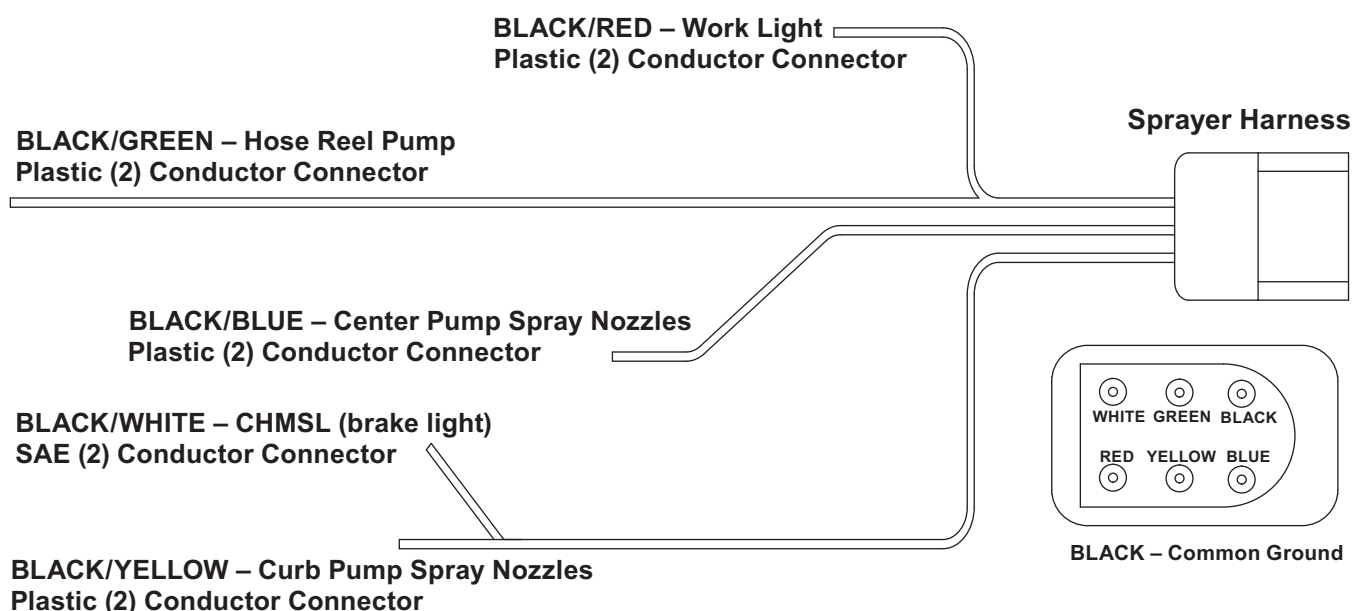
### Control



D5216 Spray Control Front



Rear View of Spray Control  
NOTE: Colors are for harness ends.



## WIRING INSTRUCTIONS

1. Attach vehicle harness rubber plug end to rear of vehicle using supplied hardware.
2. Route harness along vehicle frame and away from any heat sources. Tie-wrap harness to vehicle frame as you go along. Route conductor block and common ground through vehicle bulkhead using service accesses. If you need to drill a hole, make sure to inspect the area inside and out before doing so, to avoid any damage to wires or other vehicle components.
3. Route control power cable through vehicle bulkhead to the battery. Connect terminal ends to battery and tie-wrap harness along the way back to the vehicle bulkhead.
4. Select a suitable mounting spot for the sprayer control and install it with supplied hardware. Once the control is mounted, install the harness connectors into the back of the control. Leave some slack in the harness so that the connectors are not under any strain. Tie-wrap all harnesses to proper points. Take up any extra harness length and coil it up inside the engine compartment.

**IMPORTANT: Do not modify harness length or connectors.**

Connect sprayer harness to the bumper plug, then test each function on the control by switching each function ON and OFF to verify proper installation.

## OPERATING INSTRUCTIONS

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### WARNING

Always make sure that personnel are clear of areas of danger when using equipment. Maintain 60' distance from all bystanders when operating the sprayer system.

### WARNING

Vehicle handling and characteristics will change with the unit installed. Avoid any sudden steering maneuvers, starts, or stops that could create sloshing and instability.

### WARNING

Before operating the sprayer, verify that all safety guards are in place.

### WARNING

Unit must be strapped down and locked into position before operating or transporting.

### WARNING

Never operate equipment when under the influence of alcohol, drugs, or medication that might alter your judgment and/or reaction time.

### CAUTION

Starting the motor with no antifreeze will damage the seal in the pump. Check antifreeze levels before starting.

## DURING OPERATION

- Read and follow each chemical label's instructions and warnings.
- Avoid inhaling, ingesting, or coming into contact with any chemicals.
- Know applicable licensing and regulatory requirements for the chemical(s) you plan to use.
- Know emergency procedures before handling chemicals. Carefully review the Chemical Safety section. Also see First Aid instructions on the chemical label.
- Wear protective clothing, eye protection, and chemical-resistant gloves when filling, using, and cleaning the sprayer. Wear additional protective gear, such as a face mask or apron, as recommended on the chemical label.
- Exercise extra caution around children and pets. Keep sprayer and spray materials away from them at all times.
- Do not mix or pour chemicals in an enclosed, unventilated area.
- Do not use flammable or corrosive chemicals in the sprayer.
- Flush the sprayer before switching chemicals in order to prevent dangerous chemical interactions.
- Do not allow anyone younger than 16 years of age to operate sprayer.

# OPERATING INSTRUCTIONS

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## BEFORE SPRAYING

- Inspect and prepare sprayer before each use as directed in this manual.
- Do not start sprayer until ready to spray in order to avoid unintentional spray release.
- Do not spray when wind speed exceeds 4 mph in order to minimize spray drift.

## ADDING BRINE/LIQUID

Fill the tank to the desired level by filling through the tank lid. Use the markings on the tank for volume reference. During operation, if liquid is not coming out of the tank, check the Maintenance and Troubleshooting sections of this manual.

## SPRAYER OPERATION

1. Be sure that the pump switch is in the "OFF" position.
2. Fill the sprayer with liquid through the port on the top of the tank.
3. When ready to spray, turn the pump switch to the "ON" position.
4. When done spraying, be sure to turn the pump switch to the "OFF" position.

## DURING SPRAYING

- Do not eat, drink, smoke, rub your eyes, or touch your bare skin while handling chemicals and/or spraying.
- Do not spray near open flames or sources of heat.
- Exercise extra caution when spraying near areas accessible to children and/or pets.
- Clean up spills immediately per instructions on the chemical label.
- Turn vehicle OFF and set brake or block wheels, turn sprayer OFF, and relieve system pressure before leaving sprayer unattended.
- See Troubleshooting section of this manual before attempting any repairs. Wear personal protective equipment and follow safety instructions.



# OPERATING INSTRUCTIONS

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## AFTER SPRAYING

- Clean sprayer immediately after use according to the directions provided in this manual.
- Decontaminate yourself after you are done spraying and have cleaned the sprayer. Wash all exposed areas of the body with soap and water, and remove and launder clothing.
- Dispose of or store remaining chemicals in secure storage with correctly marked container.

## TRANSPORTING SAFETY

- Read safety instructions in your vehicle manual with regard to carrying heavy cargo loads.
- Do not ride on or transport cargo on the sprayer.
- Do not allow drivers younger than 16 years of age to drive the vehicle with the filled sprayer attached.
- Make sure that the sprayer is securely attached to vehicle.
- Exercise caution in vehicle handling when driving with filled sprayer to avoid loss of control or rollover.
- Keep speed to a minimum so that you can maintain control of the vehicle. Reduce speed prior to making turns.
- Allow for more distance to stop.
- Avoid any sudden steering maneuvers, starts, or stops that could create instability from liquid sloshing in the sprayer.
- Slow down and exercise extra caution on sloped or uneven terrain. Pick the most level route possible across fields—drive up and down slopes when necessary, rather than across. Use a vehicle equipped with a roll-over protection system if you will be working on non-level terrain.
- Be aware that visibility may be reduced when making turns or backing up.

# OPERATING INSTRUCTIONS

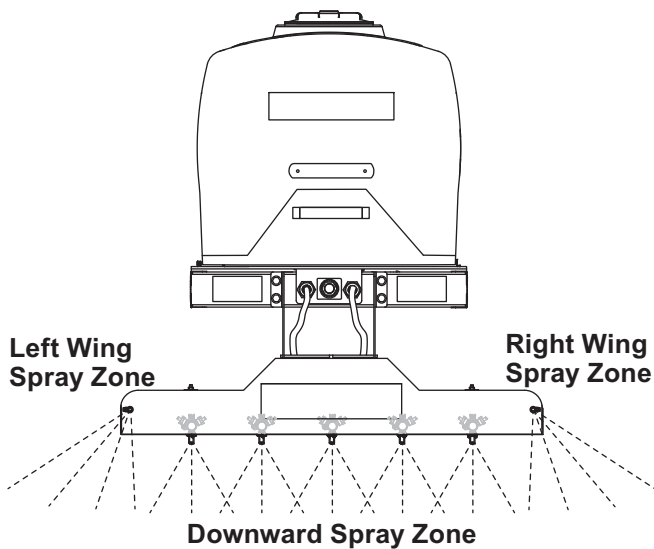
## SPRAY BOOM OPERATION

### ⚠ WARNING

**DO NOT USE** any products containing petroleum or petroleum by-products of any kind. These destroy seals and will void warranty.

### ⚠ CAUTION

Viscous or tacky substances or those containing solid particles are not recommended as these will clog pumps and nozzles.



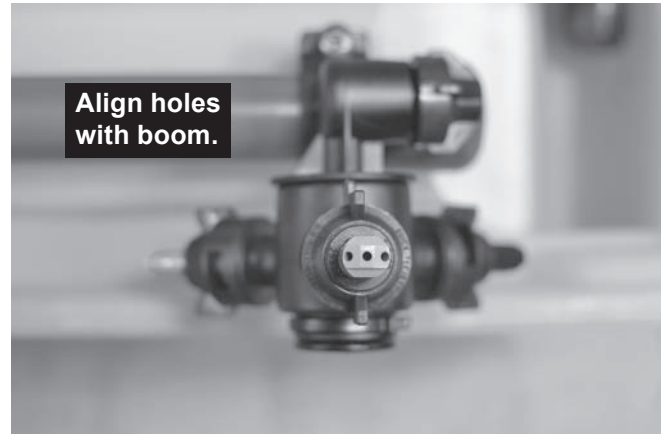
### Downward Spray Nozzle Selection

Select the nozzles to use by referring to the application rates charts. Rotate the selection wheels so that the desired nozzle faces downward.



## Nozzle Alignment

For consistent brine application, make sure that the holes in the nozzles are aligned with the boom.



## APPLICATION RATES

Application rates are to be selected and adjusted by the user according to ground conditions and temperatures. Initial market research suggests an application rate of approximately 30 gallons/acre for use in de-icing and anti-icing. Application rates in the charts below are based on manufacturer's numbers. If your flow is uncharacteristically slow, see the Troubleshooting and Maintenance sections.

### Nozzle Selection

Suggested Operating Range 30–40 psi

Boom Nozzle†	Width (ft)	gal/min @30psi‡	Total gal/min†	gal/min @40psi‡	Total gal/min†
Brown (std)	8	0.38	3.0	0.42	3.4
Gray (acc)	8	0.45	3.6	0.50	4.0
White (std)	8	0.61	4.9	0.67	5.4
Lt Blue (acc)	8	0.76	6.1	0.84	6.7
Lt Green (std)	8	1.04	8.3	1.26	10.1
Black (acc)	8	1.47	11.8	1.68	13.4

† Application calculations assume boom set @ 18" from ground

‡ Application calculations adjusted with a factor of specific gravity for brine solution of 1.189

## OPERATING AND CALIBRATION DATA

### DE-ICE/ANTI-ICE ROTARY NOZZLE FLOW RATE CHART

De-ice/anti-ice rotary nozzle flow rates at variable speeds and pressure settings:

		GALLONS PER ACRE / MILES PER HOUR (GPA / MPH)										
psi	GPM	5	5.5	6	6.5	7	7.5	8	8.5	9	9.5	10
20	0.71	52.71	47.9	43.93	40.55	37.66	35.15	32.95	31.01	29.29	27.75	26.35
30	0.87	64.5	58.7	53.83	49.69	46.14	43.07	40.37	38	35.88	34	32.3
40	1.00	74.25	67.5	61.88	57.11	53.04	49.5	46.04	43.68	41.25	39.08	37.13
50	1.12	82.1	75.5	69.3	63.97	59.4	55.44	51.98	48.92	46.2	43.77	41.58

#### Gallons per Minute Formula:

$$\frac{\text{GPA} \times \text{MPH} \times \text{W (per nozzle)}}{5,940}$$

#### Gallons per Minute Formula:

$$\frac{\text{GAL}/1000 \text{ ft}^2 \times \text{MPH} \times \text{W (per nozzle)}}{136}$$

#### Gallons per Acre Formula:

$$\frac{5,940 \times \text{GPM (per nozzle)}}{\text{MPH} \times \text{W}}$$

#### Gallons per 1000 ft<sup>2</sup>:

$$\frac{136 \times \text{GPM (per nozzle)}}{\text{MPH} \times \text{W}}$$

GPM = gallons per minute

GPA = gallons per acre

GAL/1000 ft<sup>2</sup> = gallons per 1000 square feet

W = width (nozzle spacing)

# MAINTENANCE

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## **⚠ WARNING**

**Inspect the unit periodically for defects. Parts that are broken, missing, or worn out must be replaced immediately. Do not alter any part of the unit without prior written permission from the manufacturer.**

## **⚠ WARNING**

**Always shut vehicle OFF before attempting to attach, detach, or service sprayer system.**

## **⚠ WARNING**

**Do not operate a machine in need of maintenance.**

**NOTE: To prevent leaks, use a thread-sealing compound on all threaded connections. Do not use Teflon® tape, as fragments will clog the spray nozzles. Clamped connections may require periodic retightening**

## **CLEAN OUT**

1. Disconnect nozzle assemblies at rear of vehicle at quick-disconnect point.
2. Make yourself a hose with matching male quick-disconnect to hook up at quick-disconnect point.
3. Install hose at quick-disconnect point and put the other end in the storage tank.
4. Turn pump ON and run it until the tank is empty.
5. Add water and RV antifreeze; mix into tank.
6. Reinstall quick-disconnect from nozzle assemblies.
7. Run pump until clear liquid is running out of each nozzle.

## **PERIODIC MAINTENANCE**

- When servicing, you may need to close the shut-off valve and/or the return valve, to prevent stored brine from exiting the holding tank.
- Wash unit after each use to prevent material buildup and corrosion.
- Use dielectric grease on all electrical connections to prevent corrosion each time power or signal plugs are disconnected.
- Paint or oil all bare metal surfaces as needed.
- Inspect unit for defects: broken, worn, or bent parts, and similar.
- Inspect all tubing, hoses, and harnesses for cracks and leaks.
- Clean the brine filter as needed. Close the shut-off valve and access the filter by unscrewing the top cap, then unscrewing the filter cover.
- Retighten bolts, screws, and other connections after first use and as needed.

## **END OF SEASON AND STORAGE**

- Before long periods of storage, flush out the tank, pumping system, and boom to remove salt build-up and prevent corrosion.
- Do not leave unused material in the unit for a prolonged period of time.

## **NOZZLE MAINTENANCE**

Remove nozzles by pushing in and rotating the nozzle cap counterclockwise and clean as necessary.

When reassembling nozzles, make sure that the nozzle holes are in line with the boom. Failure to align the nozzle holes will result in inconsistent brine application.

## TROUBLESHOOTING

### WARNING

Always shut vehicle OFF before attempting to attach, detach, or service sprayer system.

### WARNING

Do not operate a machine in need of maintenance.

### WARNING

Read all warning instructions and safety messages before servicing the sprayer system.

### WARNING

Always wear safety glasses with side shields when servicing sprayer system. Failure to do this could result in serious injury to the eyes.

**NOTE:** To prevent leaks, use a thread-sealing compound on all threaded connections. Do not use Teflon® tape, as fragments will clog the spray nozzles. Clamped connections may require periodic retightening.

Whenever service is necessary, your local SnowEx® dealer knows your de-icing system best. Take your Accuspray™ De-Icing System to your local dealer for any maintenance or service needs on your unit. If this is not possible, the Troubleshooting Guide below may assist you in identifying the problem.

### Preliminary Checks:

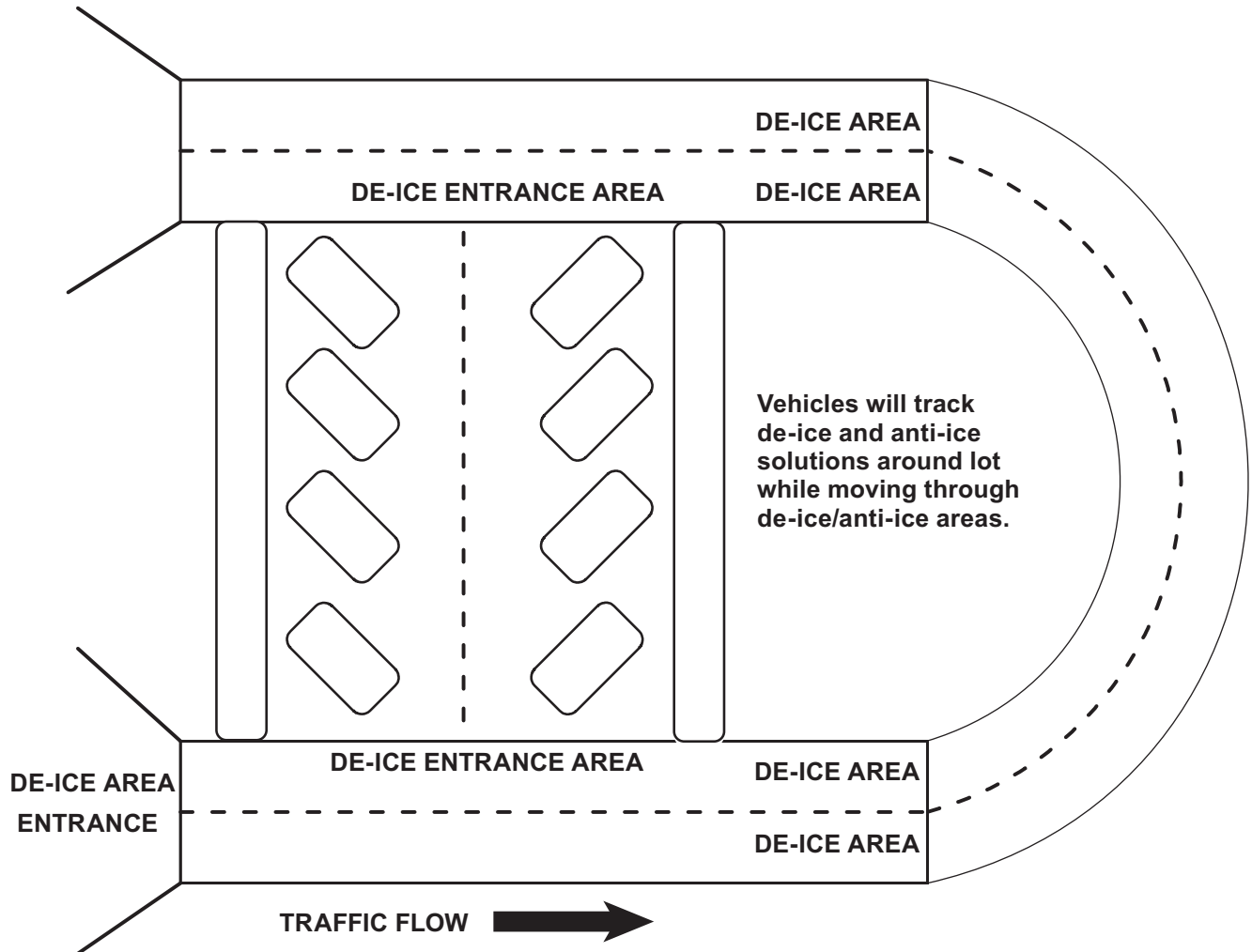
- Make sure that all electrical connections are tight and clean.
- Make sure that nothing is obstructing the nozzles.

Problem	Possible Cause	Suggested Solution
Pump doesn't run.	Loose electrical connections.	Check all connections.
	Blown fuse.	Replace fuse.
	Pump seized.	Replace pump.
	Dead (or dying) battery.	Charge or replace battery.
Control shut down.	Poor electrical connections.	Clean or replace connectors. Use dielectric grease.
	Electrical short.	Check electrical connections. Check for bare wires.
	Dead (or dying) battery.	Charge or replace battery.
	Control failure.	Replace control.
Liquid not spraying.	Empty tank.	Fill tank.
	Full strainer.	Clean or replace element.
	Pump not running.	Refer to Problem 1 ("Pump doesn't run").
	Dead (or dying) battery.	Charge or replace battery.
	Obstructed nozzle.	Remove and clean.



## DE-ICING EXAMPLES

### Strip Mall Lot





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