

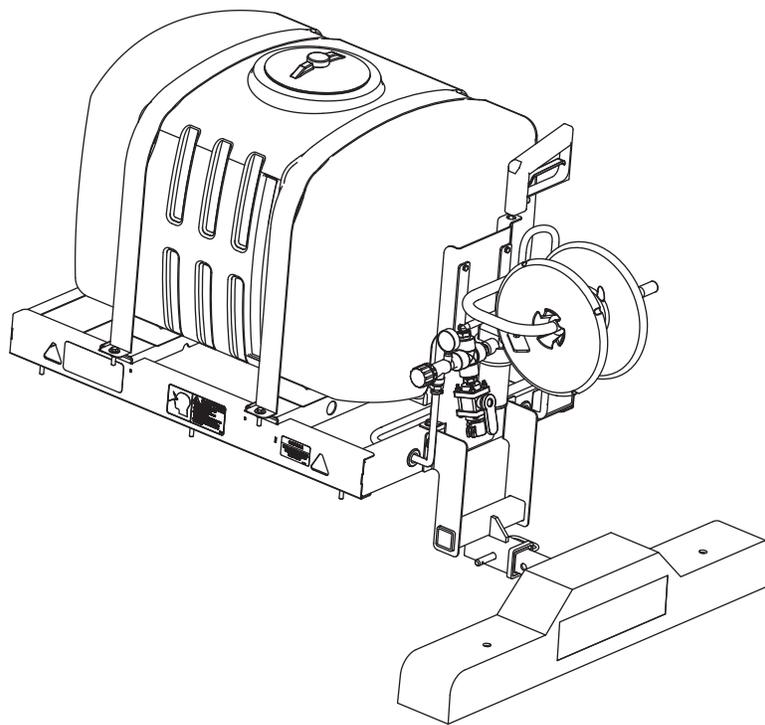


# Accuspray™ De-Icing System

## VSS-1000-1

### Owner's Manual and Installation Instructions

*Original Instructions*



**⚠ CAUTION**

**Read this document before operating  
or servicing the equipment.**

This manual and instructions are for Accuspray De-Icing Systems  
with serial numbers beginning with 181001 and higher.

**This document supersedes all editions with an earlier date.**



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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

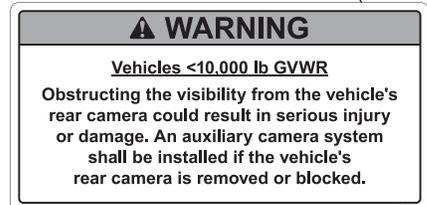
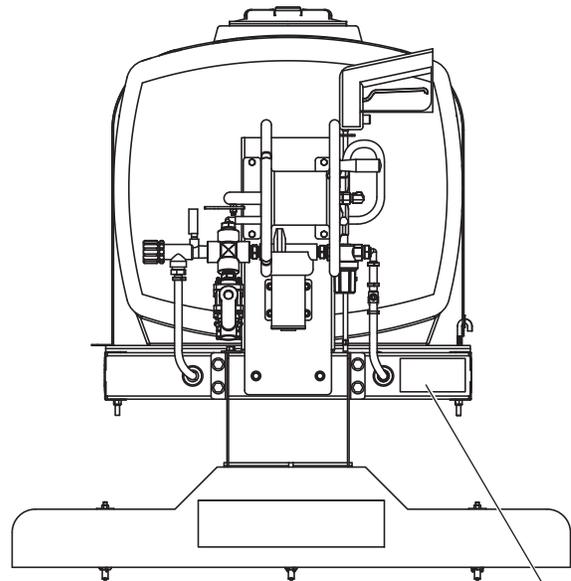
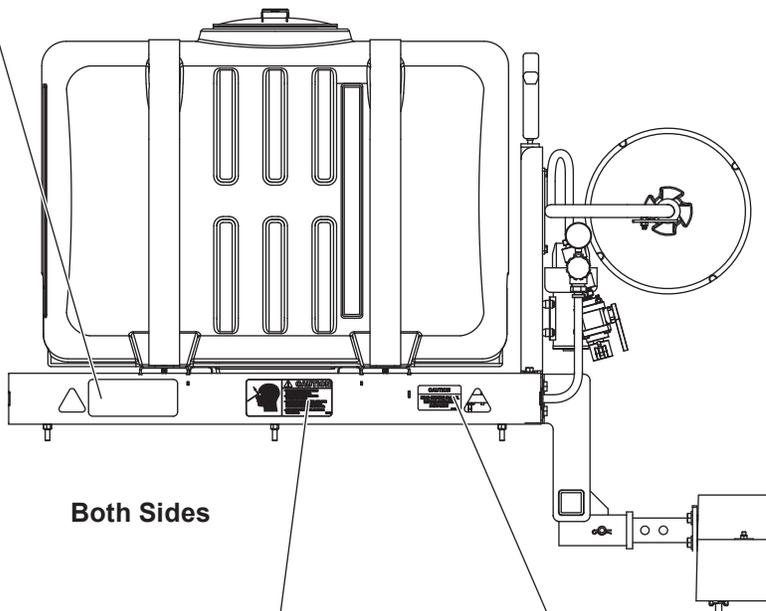
Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

**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

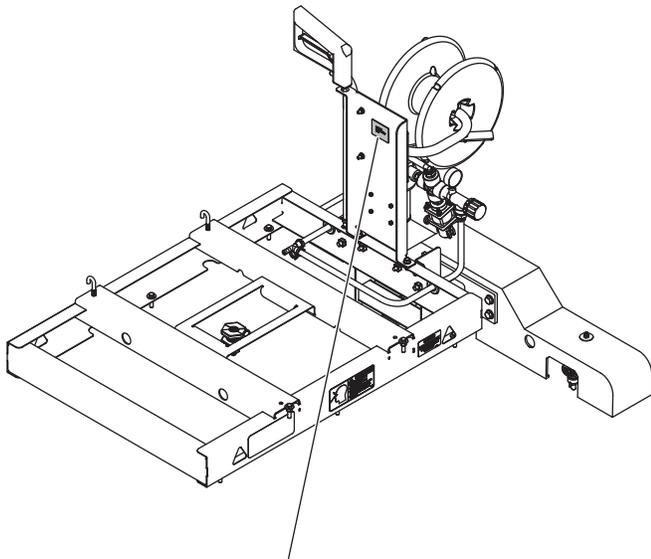
Become familiar with and inform users about the warning and caution labels on the machine.

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



# SAFETY

## SERIAL NUMBER LABEL



**SnowEx** TrynEx International  
 531 Ajax Drive  
 Madison Heights, MI 48071  
 www.snowexproducts.com

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX

**YYMMDDLXXXZZZZZ**



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

# SAFETY

## **⚠ 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).

## **⚠ 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.
- Never point spray wand at people or animals.

## 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.

<b>Recommended Fastener Torque Chart</b>					
<b>Inch Fasteners Grade 5 and Grade 8</b>					
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
<b>Metric Fasteners Class 8.8 and 10.9</b>					
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>Immediately follow First Aid instructions on chemical label. <ul style="list-style-type: none"> <li><u>General procedures include:</u></li> <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> </ul> </li> <li>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:</p> <p>If the victim has collapsed or is not breathing, <u>call 911</u>. Otherwise:</p> <ol style="list-style-type: none"> <li>If you are the victim, immediately seek assistance from nearby personnel, because you may become incapacitated.</li> <li>Immediately follow First Aid instructions on chemical label.</li> <li>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.</p> <p>General procedures include:</p> <ol style="list-style-type: none"> <li>Control the spill by stopping the source of the spill.</li> <li>Contain the spill so that it does not spread and get into water sources.</li> <li>Clean up the spill immediately.</li> <li>Seek additional advice from: <ul style="list-style-type: none"> <li>– <u>Chemical manufacturer</u>: See chemical label for contact information.</li> <li>– <u>State pesticide regulatory agency</u>: In the U.S., call the National Pesticide Information Center at 1-800-858-7378 for assistance in contacting your state's agency.</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.

## SPECIFICATIONS

Accuspray™ De-Icing System		
Tank Model	VSS-1000-1	
Capacity (gal)	100	
Tank and Pump Dimensions (in)	Length	37
	Width	30
	Height	50
Empty Unit Weight (lb)	192	
Full Unit Weight (lb)	1192	

## 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.**

# 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

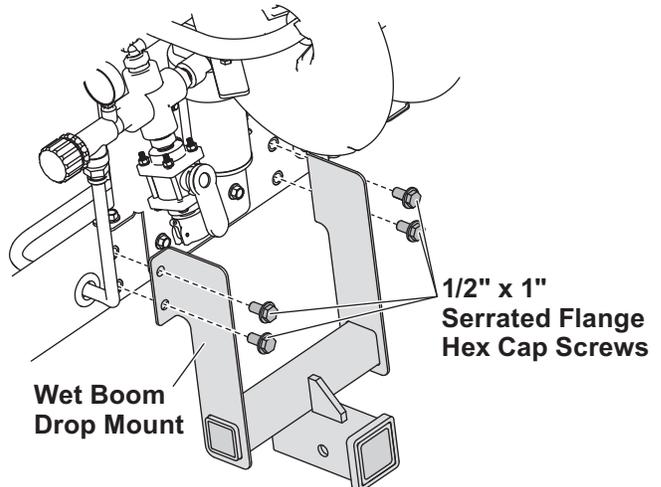
Always shut vehicle OFF before attempting to attach, detach, or service sprayer system.

### ⚠ WARNING

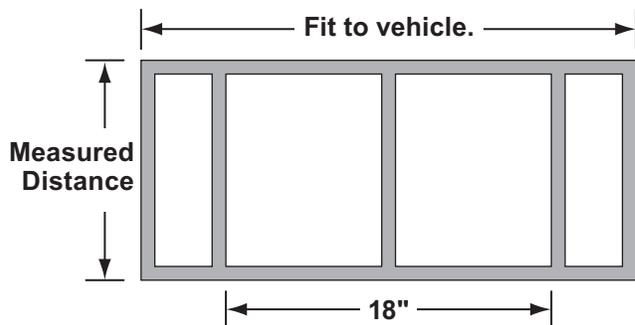
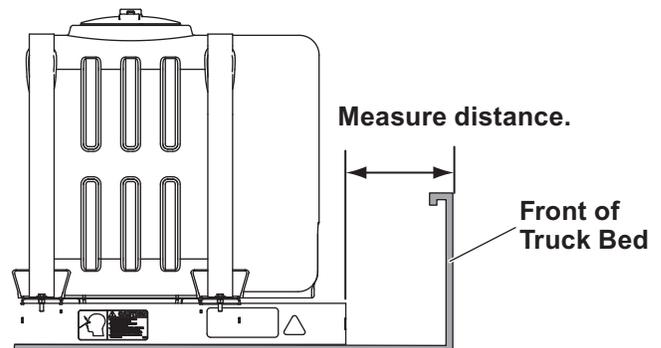
Never attempt to take a unit off a truck with liquid in it.

**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. Install the wet boom drop mount onto the rear of the frame with four supplied 1/2" x 1" serrated flange hex cap screws.

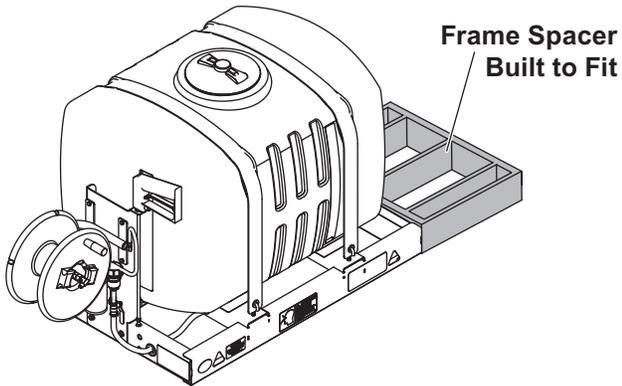


2. Lift main assembly using the four lift points and position onto vehicle. Center sprayer system left to right, then slide the unit forward until the boom mount just makes contact with the vehicle.
3. **Construct Sill Spacer:** Measure the distance from the front end of the sprayer frame to the front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

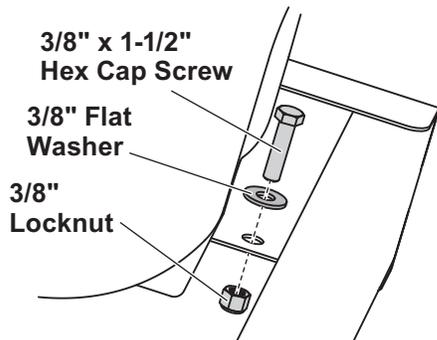


Teflon® is a registered trademark of E. I. du Pont de Nemours and Company.

# INSTALLATION INSTRUCTIONS

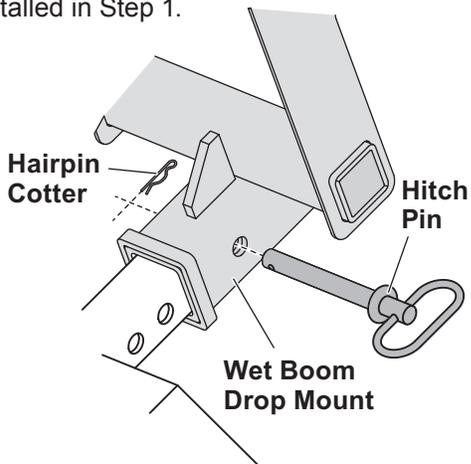


- Secure the unit in place with supplied 3/8" x 1-1/2" hex cap screws, 3/8" flat washers, and 3/8" locknuts. If the mounting holes are not directly over the truck box supports, the truck bed must be braced to the frame to prevent buckling or deforming the truck bed.

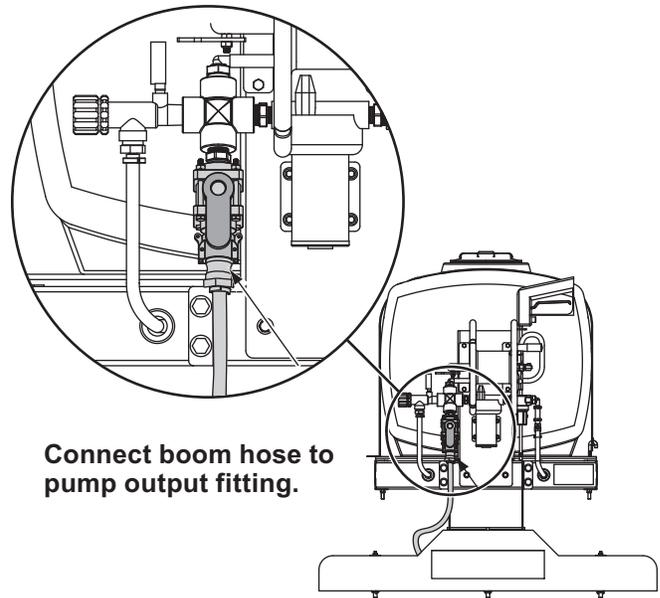
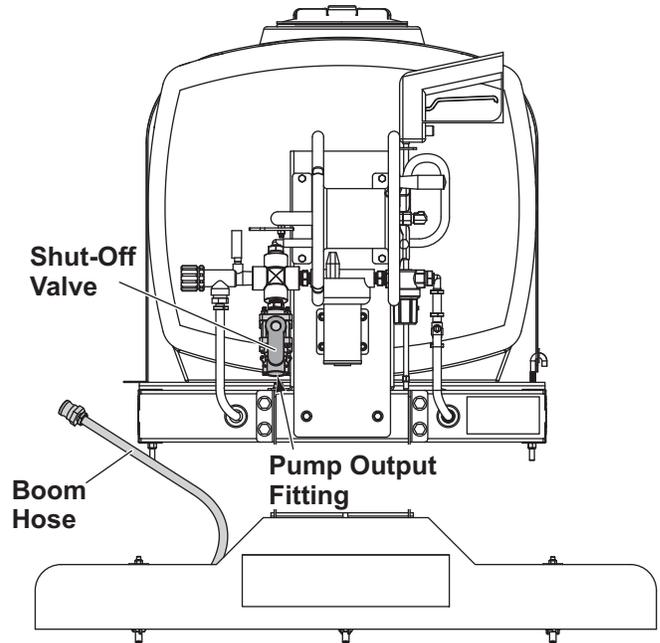


**NOTE:** Pay special attention when drilling or clamping dissimilar metals to aluminum bodies. Galvanic corrosion can occur if not handled properly. Contact vehicle manufacturer for recommended attachment practices.

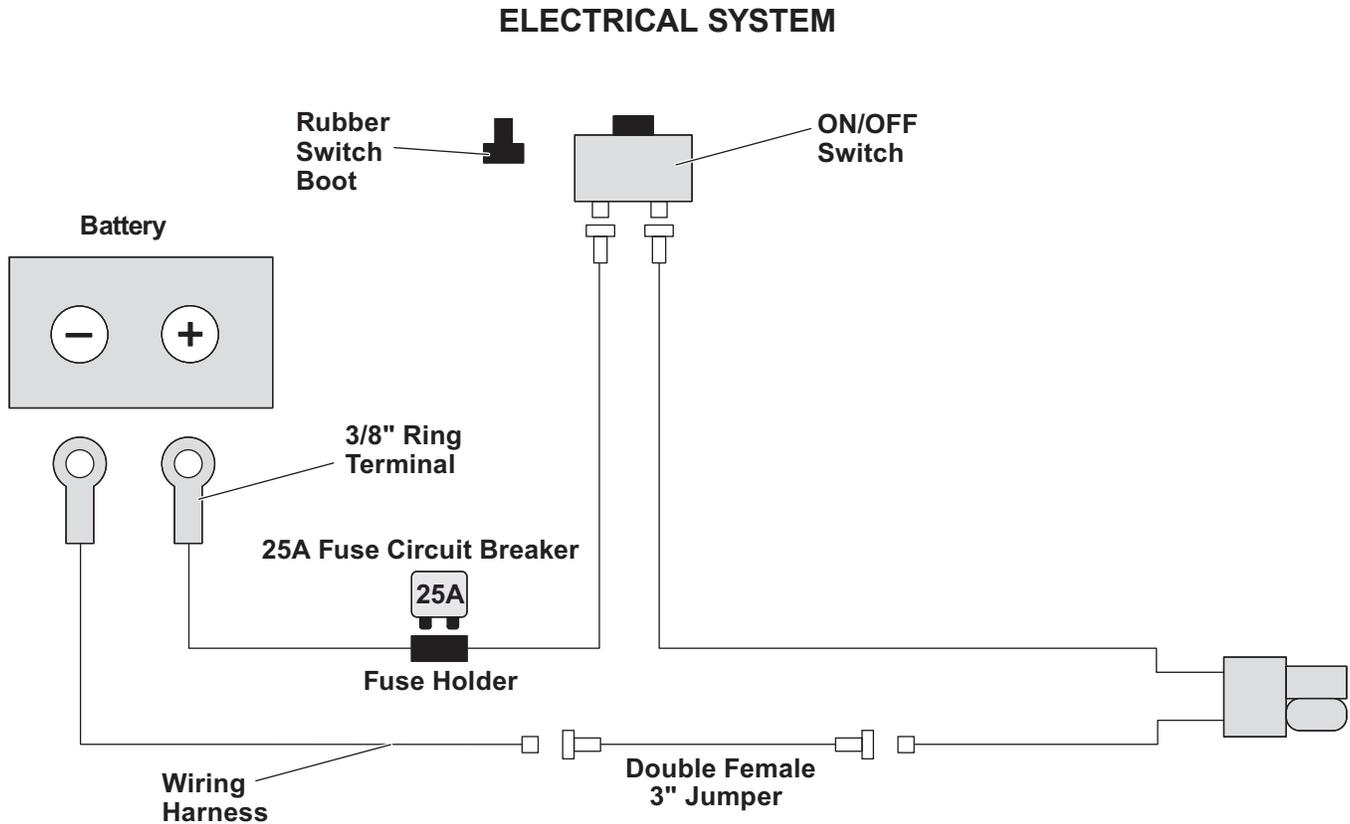
- Install the boom assembly with light duty receiver mount into wet boom drop mount that was installed in Step 1.



- Plug the boom hose into the pump output fitting located below the shut-off valve.



# ELECTRICAL SYSTEM – WIRING INSTRUCTIONS



## WIRING INSTRUCTIONS

1. Install switch at desired location.
2. Run spreader/vehicle harness from the rear of vehicle to switch area. Attach the female spade red wire to the switch. Leave the black wire for Step 5.
3. Route the power harness from the battery to the switch/control.
4. Attach the red lead to the POSITIVE (+) side of the battery and the black lead to the NEGATIVE (-) side of the battery.
5. Attach the female spade red wire on switch terminal. Using a 3" double female black wire jumper, attach the black wire from the power harness to the black wire of the vehicle harness.
6. Install rubber weatherproof boot on switch before finishing installation.
7. Insert dielectric grease on terminals of SAE plug at rear of vehicle.

# OPERATING INSTRUCTIONS

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## **⚠ WARNING**

Always make sure 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.

## **⚠ CAUTION**

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.
- Wear additional personal protective equipment if you will be spraying overhead. Wear chemical-resistant head and neck protection, full-face mask (or half-face mask with sealed goggles), and consider using a respirator.
- 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. Select the desired application method by turning the valve handle to the appropriate position:
  - OPEN for the spray boom
  - CLOSED for the spray wand
4. When ready to spray, turn the pump switch to the "ON" position.
5. If using the spray wand, point the wand in the desired direction and pull the trigger. Hold the trigger until spraying is concluded.
6. 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.
- Never point the spray wand at people or animals.
- Always hold the spray wand firmly when using it to spray at higher pressures in order to prevent wand from whipping. Keep good footing and balance at all times.
- 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 OFF vehicle 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 to drive the vehicle with the filled sprayer attached.
- Make sure 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. 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

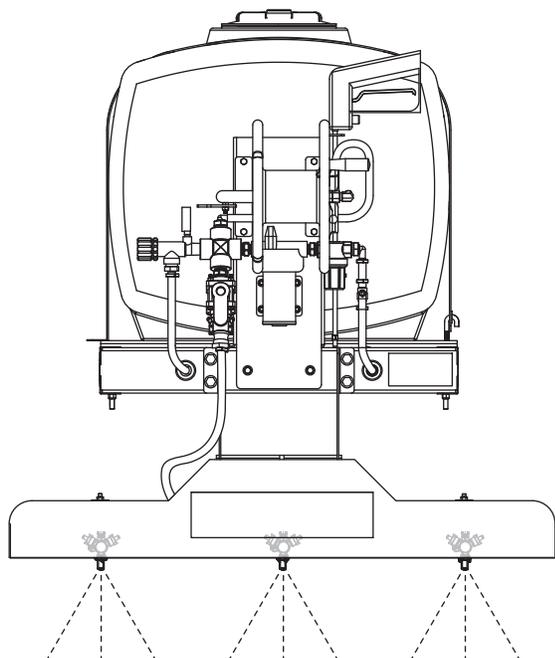
## SPRAY BOOM OPERATION

### ⚠ 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 Zone

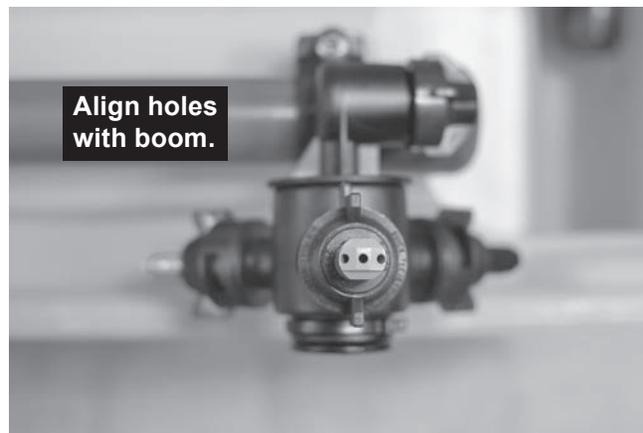
### Downward Spray Nozzle Selection

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

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

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

		<b>GALLONS PER ACRE / MILES PER HOUR (GPA / MPH)</b>										
<b>psi</b>	<b>GPM</b>	<b>5</b>	<b>5.5</b>	<b>6</b>	<b>6.5</b>	<b>7</b>	<b>7.5</b>	<b>8</b>	<b>8.5</b>	<b>9</b>	<b>9.5</b>	<b>10</b>
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.

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**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**

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## **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 ON pump 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 build-up 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.

**⚠ 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
<b>Pump doesn't run.</b>	Loose electrical connections.	Check all connections.
	Blown fuse.	Replace fuse.
	Pump seized.	Replace pump.
	Dead (or dying) battery.	Charge or replace battery.
<b>Control shut down.</b>	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.
<b>Liquid not spraying.</b>	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.

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