

SNO-WAY®

SNOW & ICE CONTROL EQUIPMENT

INSTALLATION & OWNER'S MANUAL

SWS 30

FOR SPREADERS WITH SERIAL NUMBERS AFTER:
5PDE100500, 6PDE100500, 8PDE100500, 50RVB100000,
75RVB100000, 150RVB100000, 200RVB100000, 250RVB100000

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INTRODUCTION

This manual was written for the assembly, installation and maintenance of your new Sno-Way SWS 30. Most importantly, this manual provides an operating plan for safe use. Refer to the Table of Contents for an outline of this manual.

Please keep this manual with your machine at all times as reference material and so it can be passed on to the next owner if the machine is sold.


We require that you read and understand the contents of this manual COMPLETELY, especially the chapter on SAFETY, before attempting any procedure contained in this manual.



The Society of Automotive Engineers has adopted this SAFETY ALERT SYMBOL to pinpoint characteristics that, if NOT carefully followed, can create a safety hazard. When you see this symbol in this manual or on the machine itself, BE ALERT!, your personal safety and the safety of others, is involved.

• Defined in the next column, are the SAFETY ALERT messages and how they will appear in this manual.

| | |
|---|----------------|
|  | WARNING |
| FAILURE TO FOLLOW CAN RESULT IN DEATH OR INJURY. | |

| | |
|--|----------------|
|  | CAUTION |
| Information, that if not carefully followed, can cause injury or damage to equipment! | |

NOTE: Additional information concerning the equipment or the procedure that may or may not be contained elsewhere in this manual.

BE AWARE! It is illegal to remove, deface or otherwise alter the safety decals mounted on this equipment.

Record the Unit Serial Number in the space provided below as a handy record for quick reference. This plate contains information that your Dealer needs to answer questions or to order replacement parts, if needed, for your unit.

| | |
|----------------------------|-----------|
| NAME PLATE DATA | |
| SWS 30 SERIAL NUMBER _____ | (FILL IN) |

| | |
|----------------------------------|--|
| DEALER | |
| NAME _____ | |
| ADDRESS _____ | |
| CITY _____ STATE _____ ZIP _____ | |
| PHONE (____) - _____ | |
| (FILL IN) | |

| | |
|----------------------------------|--|
| ORIGINAL PURCHASER | |
| NAME _____ | |
| ADDRESS _____ | |
| CITY _____ STATE _____ ZIP _____ | |
| PHONE (____) - _____ | |
| DATE OF PURCHASE _____ | |
| (FILL IN) | |

We reserve the right to make changes or improve the design or construction of any part(s) without incurring the obligation to install such parts or make any changes on any unit previously delivered.

Graphics and illustrations may be used which may show equipment and/or options not included in every installation without incurring the obligation to install such parts or make changes on units previously delivered.

Sno-Way Service Parts Manuals are available on-line or at your authorized Sno-Way dealer. Request part number 97102001 & 97101915 for the SWS 30. Factory contact information is available at www.snoway.com.

SAFETY

BEFORE ATTEMPTING ANY PROCEDURE IN THIS BOOK, READ AND UNDERSTAND ALL THE SAFETY INFORMATION CONTAINED IN THIS SECTION. IN ADDITION, ENSURE ALL INDIVIDUALS WORKING WITH YOU ARE ALSO FAMILIAR WITH THESE SAFETY PRECAUTIONS.

For your safety Warning and Information Decals have been placed on this product to remind the operator to take safety precautions. It is important that these decals are in place and are legible before operation begins. New decals can be obtained from Sno-Way or your local dealer.

REMEMBER The careful operator is the best operator. Most accidents are caused by human error. Certain precautions must be observed to prevent the possibility of injury to operator or bystanders and/or damage to equipment.

NEVER operate spreader when under the influence of alcohol, drugs or other medications that could hamper your judgement and reactions. An accident may result in serious injury or death to other persons or yourself.

ALWAYS operate vehicle in a well-ventilated area. The carbon monoxide in exhaust gas is highly toxic and can cause injury or death.

NEVER wear wrist watches, rings or other jewelry when working on the vehicle or individual equipment. These things can catch on moving parts or cause an electrical short circuit that could result in personal injury.

ALWAYS wear safety goggles when working on the vehicle to protect your eyes from battery acid, gasoline, and dust or dirt from flying off of moving engine parts.

ALWAYS wear safety glasses with side shields when striking metal against metal! In addition, it is recommended that a softer (non-chipable) metal material be used to cushion the blow. Failure to heed could result in injury to the eye(s) or other parts of the body.

NEVER allow children or unauthorized person to operate this spreader.

NEVER exceed 45 m.p.h. when loaded spreader is attached to vehicle. Braking distances may be increased and handling characteristics may be impaired at speeds above 45 m.p.h.

ALWAYS lock the vehicle when unattended to prevent unauthorized operation.

ALWAYS check the job site for terrain hazards, obstructions and people.

ALWAYS check surrounding area for hazardous obstacles before operating this unit.

ALWAYS make sure personnel are clear of area being spread. Material is discharged from spreader at a high rate of speed and could injure bystanders.

NEVER work on the vehicle without having a fully serviced fire extinguisher available. A 5 lb or larger CO² or dry chemical unit specified for gasoline, chemical or electrical fires, is recommended.

ALWAYS shut off the vehicle, unplug spreader, place the vehicle transmission in "Park", turn the vehicle and spreader ignition switches to "OFF" position and firmly apply the parking brake of the vehicle before servicing or making any adjustments to the unit.

ALWAYS wait for all movement to stop before servicing or adjusting the Salt Wetting System.

NEVER climb on or allow others to climb on the spreader.

ALWAYS reassemble any parts or hardware removed for cleaning or adjusting before operating the spreader.

ALWAYS remove any tools and other materials from the spreader before operating the spreader

ALWAYS use auxiliary warning lights, except when prohibited by law, when operating the spreader.

NEVER allow hands, hair or clothing to get near any moving part of the spreader. Never wear neckties or loose clothing when working on the spreader or the vehicle.

ALWAYS be aware of and avoid contact with hot surfaces such as engine and exhaust.

ALWAYS inspect the unit periodically for defects. Parts that are broken, missing or plainly worn must be replaced immediately. Never operate the unit when in need of maintenance.

REMEMBER it is the owner's responsibility for communicating information on the safe use and proper maintenance of this machine.

INSTALLATION INSTRUCTIONS

Mounting Tank

1. Open the bag marked "Tank Mounting Kit" and locate the following parts. (See Figure 1-1)

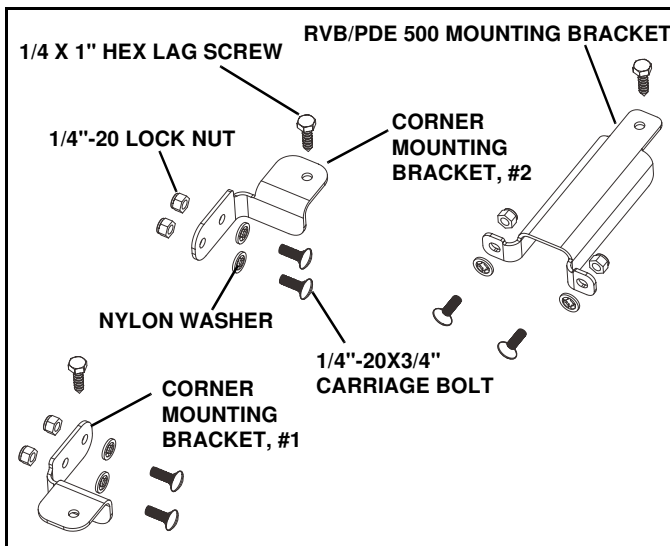


Figure 1-1

Description

- | Description | Quantity |
|-------------------------------------|----------|
| • Corner Mounting Bracket, #1 | 2 |
| • Corner Mounting Bracket, #2 | 2 |
| • RVB500 / PDE500, Mounting Bracket | 2 |
| • Self-Retaining Nylon Washer | 8 |
| • 1/4"-20 x 3/4" Carriage Bolt | 8 |
| • 1/4"-20 Lock Nut | 8 |
| • 1/4"x 1" Hex Lag Screw | 4 |

2. Tip the tank on its front so the bottom is facing you. (See Figure 1-2)

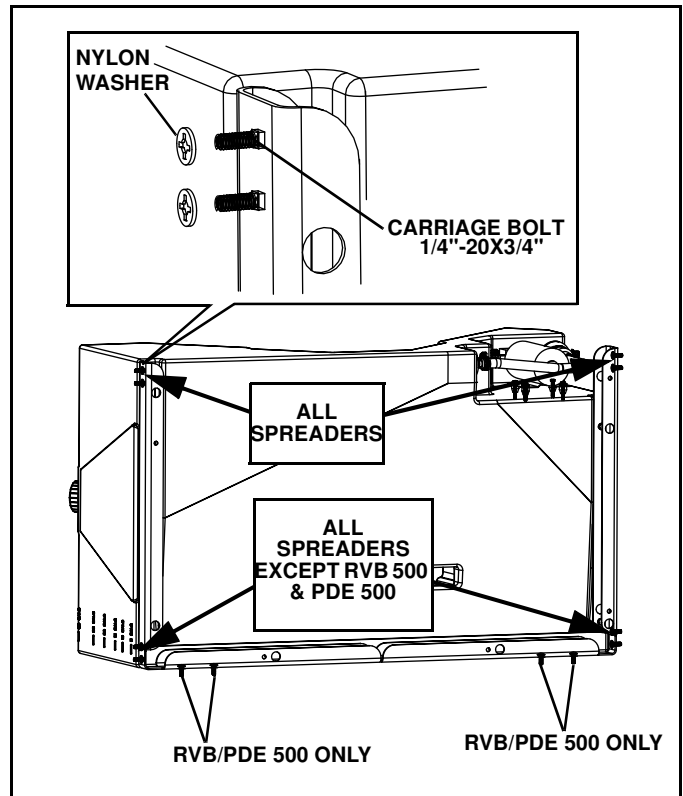


Figure 1-2

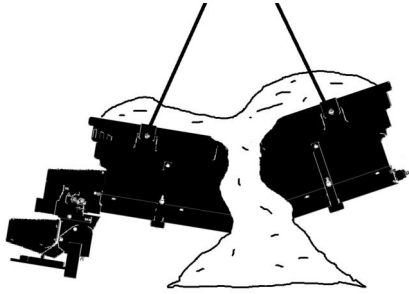
3. Insert the 1/4"-20 x 3/4" carriage bolts through the mount holes for your spreader. Slide the self-retaining nylon washers all the way over the threaded end of the carriage bolts. (See Figure 1-2)

4. Set the tank back down into its upright position.

5. Disconnect all harnesses from the spreader, dismount the chute, and detach the spreader from the truck.



WARNING



Before lifting, check that the hopper is empty of material. The lifting device must be capable of supporting the spreader's weight. See your spreader Owner's Manual for spreader weights.

FAILURE TO HEED CAN RESULT IN INJURY OR DEATH.

6. Attach two lift straps through the top grate to the front and rear spreader cross supports.

IMPORTANT: DO NOT attach the lift straps directly to the top grate. Pass the lift straps through the grate and attach them directly to the front and rear cross support. (See Figure 1-3)

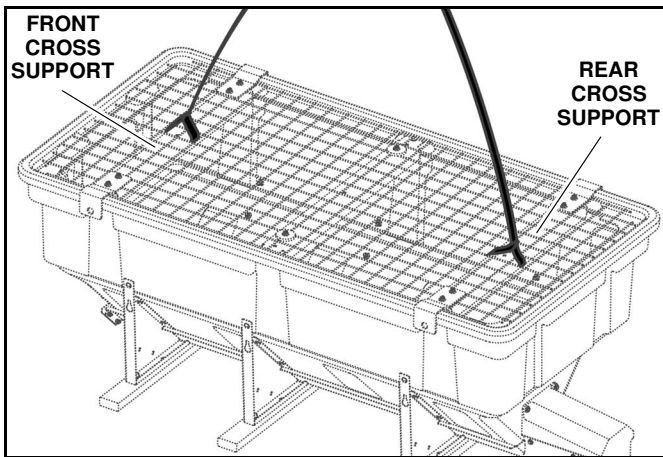


Figure 1-3

7. Attach the free ends of the lift straps to a suitable lifting device and lift the spreader slowly. Maintain the spreader horizontal position as it is lifted.

NOTE: If equipping a 30 Gallon Auxiliary Tank on a RVB 1500, 2000, or 2500, it is best to install at the same time as steps 8-13.

8. Lift the spreader out from the truck and carefully lower the spreader on top of the SWS.

9. Once set down to the ground, the Salt Wetting System should be free to slide around. Make sure the system is not pinned down by the spreader or have any wires pinched between the tank and the spreader frame.

10. Place the mounting brackets over the carriage bolts and tighten with the lock nuts.

11. Position the tank so it is centered under the spreader.

12. Screw the hex lag screws into the wooden runners of the spreader. (See Figure 1-4)



Figure 1-4

13. The unit is now ready to be lifted and mounted back onto the truck.

Installing Tank Hose

1. Open the bag marked "Tank Hose Install Kit" and locate the following parts. (See Figure 1-5)

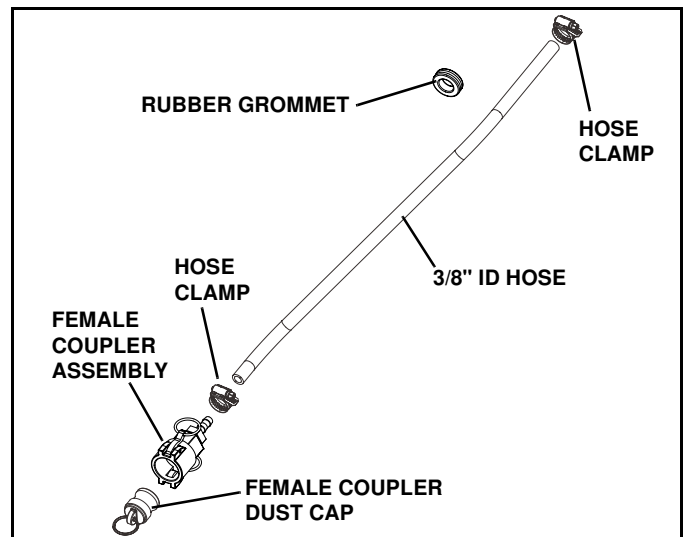


Figure 1-5

| Description | Quantity |
|---------------------------|----------|
| • Rubber Grommet | 1 |
| • 3/8" ID Hose | 1 |
| • Female Coupler Assembly | 1 |
| • Hose Clamp | 2 |
| • Female Coupler Dust Cap | 1 |

2. Check the rear passenger support leg of the spreader, in front of the SWS pump, for a 1-1/16" hole. If the hole already exists, skip to the next step. If the hole is not there, it will need to be drilled. Use the measurements from See Figure 1-6 to locate the hole. Center punch, drill a 1/4" pilot hole, then work up to 1-1/16" diameter.

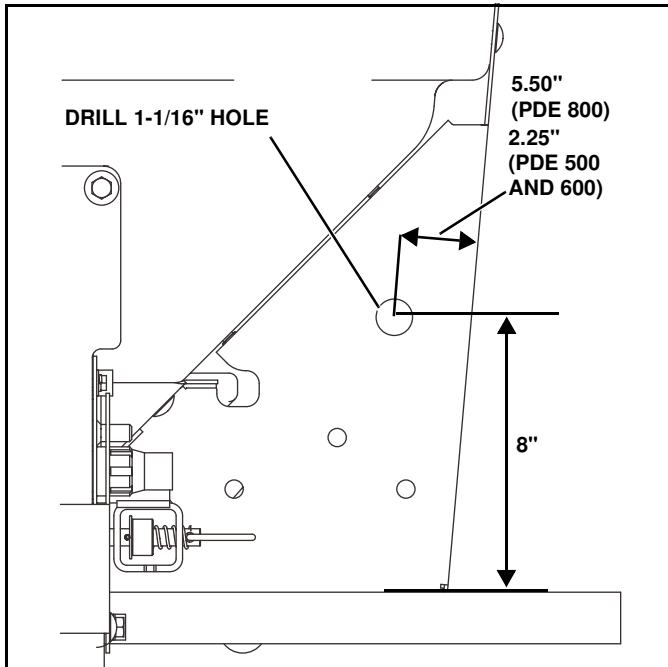


Figure 1-6

3. Place the rubber grommet into the 1-1/16" hole.

4. If installing on a RVB 750 or PDE 600 spreader, skip this step. If installing on any other spreaders, excess hose length will need to be cut off from the 3/8" ID hose and discarded. Cut off 2" for RVB 1500, RVB 2000, RVB 2500, and PDE 800 spreaders. Cut off 8" for RVB 500 and PDE 500 spreaders.

5. Dismount the output elbow fitting from the SWS pump by pushing up on the sliding lock, then pull straight out from the pump. (See Figure 1-7)

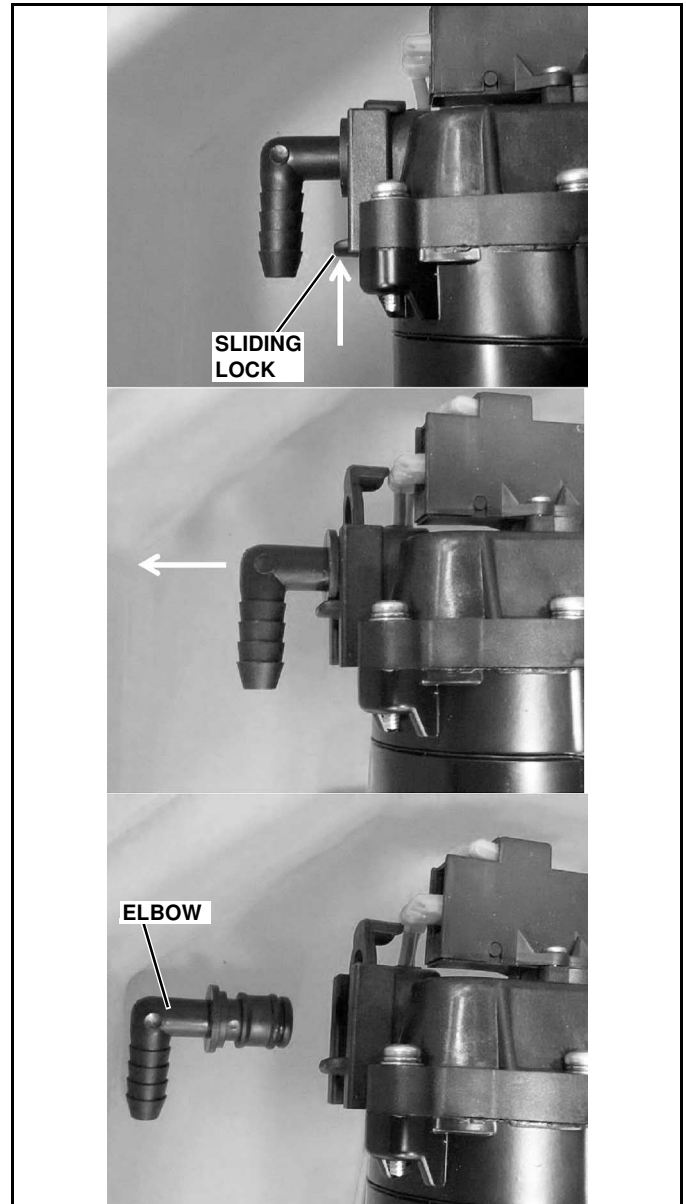


Figure 1-7

6. Push the 3/8" ID hose onto the barb end of the pump fitting and secure with a hose clamp.

7. Run the open end of the hose through the rubber grommet in the spreader leg, from the tank side. Mount the pump fitting back on and slide the lock back down. (See Figure 1-8)

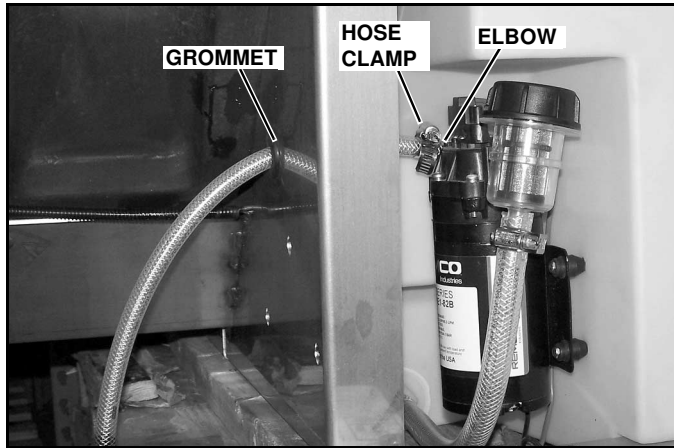


Figure 1-8

8. Push the barb end of the Female Coupler Assembly onto the open end of the hose and fasten with a hose clamp. (See Figure 1-9)

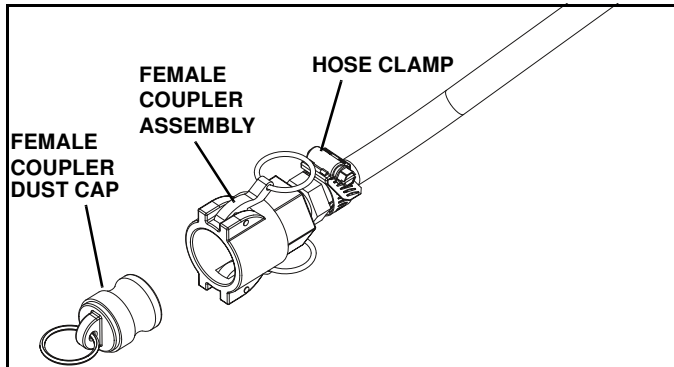


Figure 1-9

9. Insert the female coupler dust cap into the female coupler assembly, and pull the cams back to lock into place. Remove and store for later use when hooking up the chute.

Installing Chute Hose

1. Open the bag marked "Chute Hose Install Kit" and locate the following parts. (See Figure 1-10)

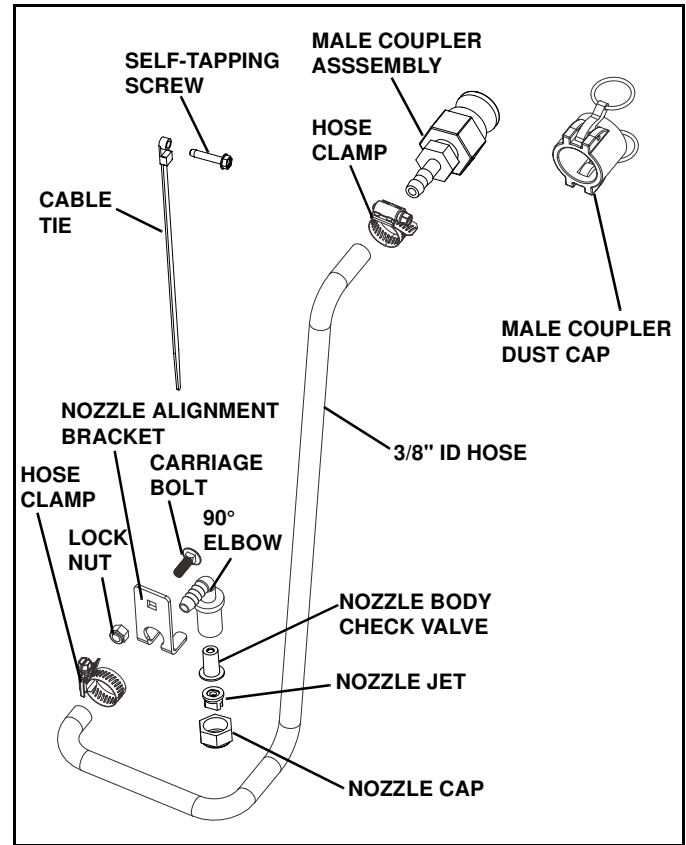


Figure 1-10

| Description | Quantity |
|----------------------------------|----------|
| • 3/8" ID Hose | 1 |
| • Male Coupler Assembly | 1 |
| • Hose Clamp | 2 |
| • Male Coupler Dust Cap | 1 |
| • 90° Nozzle Body Elbow | 1 |
| • Nozzle Body Check Valve | 1 |
| • Nozzle Jet | 1 |
| • Nozzle Cap | 1 |
| • 8" Mountable Cable Tie | 1 |
| • #10-16 x 1" Self-Tapping Screw | 1 |
| • Nozzle Alignment Bracket | 1 |
| • 1/4"-20 x 3/4" Carriage Bolt | 1 |
| • 1/4"-20 Lock Nut | 1 |

2. Remove the motor cover from the chute.

3. From the corner where the power harness runs, draw a horizontal line 2-3/4" down. (See Figure 1-11)

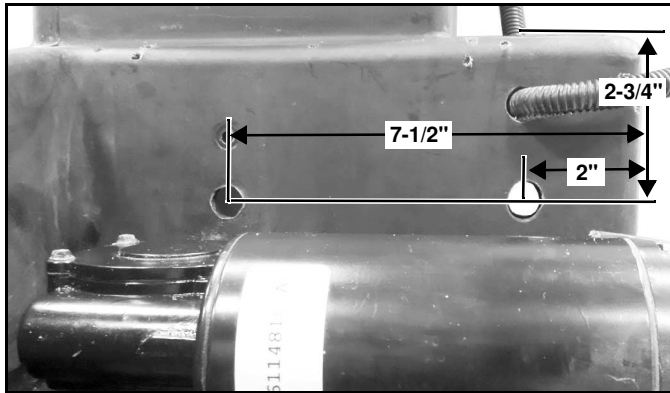


Figure 1-11

4. On that horizontal line, make a mark 2" and 7-1/2" in from the side.

5. Drill a 9/16" hole in both spots; but in the one marked at 2", drill through both walls.

6. Use the nozzle alignment bracket as a template. Align the bracket over the hole, and use the square hole directly above to mark and drill a 1/4" hole.

7. Position the nozzle alignment bracket inside the chute and line up the holes. Insert the carriage bolt through the bracket and 1/4" drilled hole. Loosely fasten with the 1/4" lock nut.

8. Assemble the nozzle body check valve into the 90° nozzle body elbow. (See Figure 1-12)

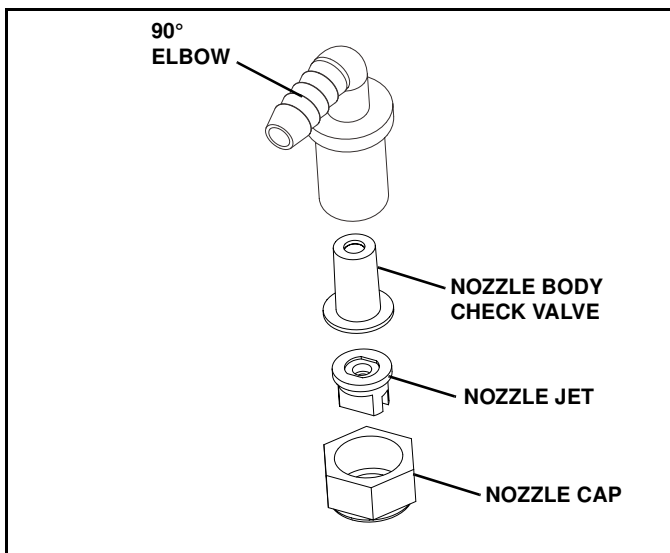


Figure 1-12

9. Place the nozzle jet into the nozzle cap.

10. Secure the nozzle jet and nozzle cap onto the 90° nozzle body elbow.

11. Rotate the nozzle jet so it is perpendicular to the hose barb of the nozzle body. (See Figure 1-13)

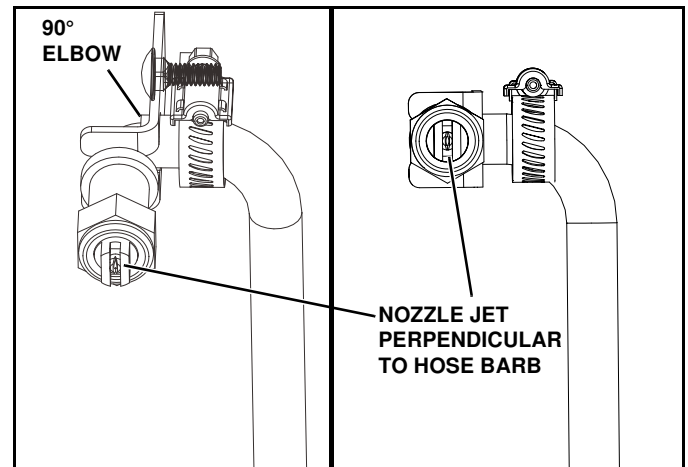


Figure 1-13

12. Skip this step if installing on a long chute. If installing on a short chute, cut and discard 12".

13. Push the assembled nozzle body onto one of the open ends of the chute hose.

14. Insert the opposite end of the hose into the chute, through the nozzle alignment bracket and the drilled hole behind it. Push the nozzle body tight up against the nozzle alignment bracket so the barb end of the nozzle body that has the hose on it sticks through the drilled hole. (See Figure 1-14)

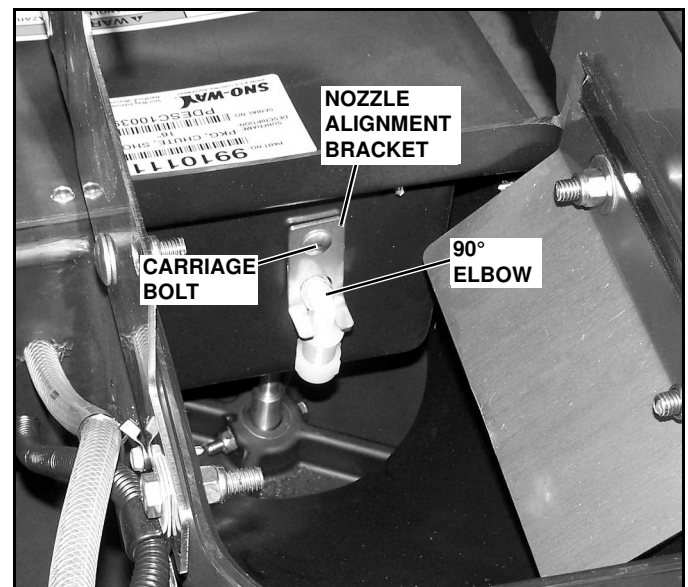


Figure 1-14

15. Slide a hose clamp over the hose. Then, secure onto the hose and nozzle body.

16. Tighten the 1/4"-20 x 3/4" carriage bolt and 1/4"-20 lock nut.

17. Slide the rest of the hose through the remaining drilled holes. Be sure not to pinch or kink the hose. (See Figure 1-15)

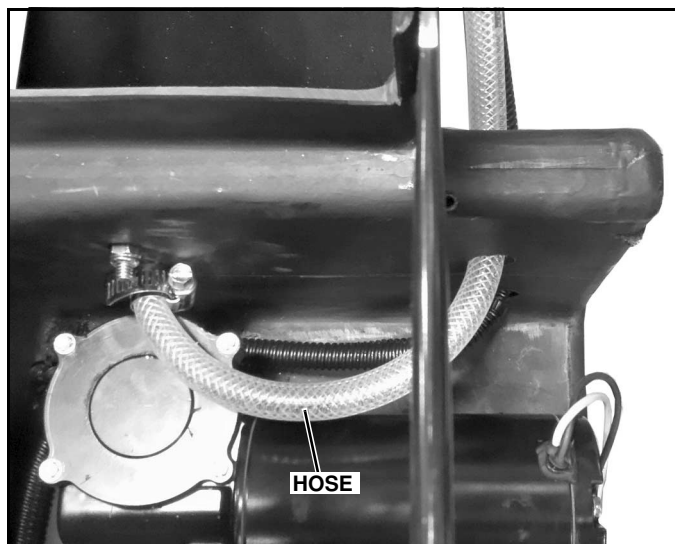


Figure 1-15

18. Fasten the 8" mountable cable tie to the top of the chute with the #10-16 x 1" self-tapping screw. (See Figure 1-16)

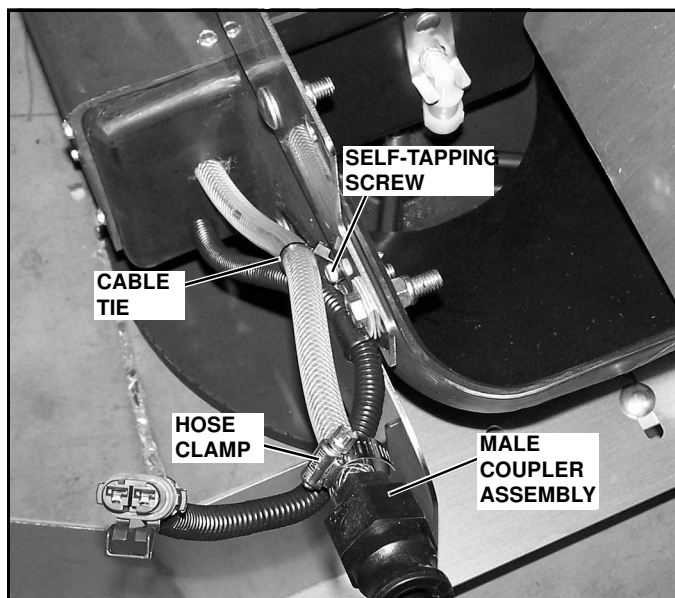


Figure 1-16

19. Slide on a hose clamp. Insert the male coupler assembly into the open end of hose, then secure with the hose clamp. (See Figure 1-16)

20. Fasten the hose to the top of the chute with the mounted cable tie.

21. Assemble the motor cover back onto the chute.

22. Fasten the dust cap onto the male coupler and pull the cams back to lock into place. Remove and store for later use when hooking up the chute.

Attach Chute Hose to Salt Wetting System Tank Hose

1. Mount and secure the chute to the spreader.
2. Remove the dust caps from the hoses.
3. Just as the dust caps were attached, attach the hose from the chute to the hose from the tank.

Salt Wetting System Control and Wiring Installation

Follow the instructions supplied with the controller package.

THEORY OF OPERATION

Tank and Mounting System

The tank is manufactured out of a corrosion resistant polyethylene polymer, with lower temperature and UV stabilizers to provide a long, service free life.

The tank is mounted to a stainless steel frame, and then attached to the spreader. This gives the ability to remove the Salt Wetting System at the same time as the spreader.

NOTE: Do NOT lift the spreader and Salt Wetting System at the same time, with liquid still in the tank. The added weight can damage the spreader or mounting brackets. Follow the "Clean-Out Instructions" under the "Maintenance" section.

Pump Operation

The drive unit consists of a 12V DC motor and pump combination with quick attach connections.

Control of the pump is accomplished by cab mounted controller. Depending on the controller you have, the system will pump out 1 gallon of solution per minute or may pump less depending on the speed of the auger.

Spray Tip

The Nozzle Jet (Spray Tip) is made of a corrosion resistant polymer and provides an even flat pattern of solution to the material being sent down the chute, just before it contacts the spinner.

WETTING OPERATION

Operating Capacities

The Salt Wetting System alone weighs 55 lbs. The tank capacity is approximately 30 gallons. On average, water weighs 8.33 lbs / gallon. Some sodium chloride (Salt) solutions can weigh 9 lbs / gallon. When determining the gross weight of the Salt Wetting System, multiply the weight per gallon of the solution being used by the number of gallons being put into the tank. Then, add the empty weight of the Salt Wetting System.

For Example:

- **9 lbs / gallon x 30 gallons = 270 lbs Gross weight of solution**
- **270 lbs + 55 lbs = 325 lbs Gross weight of filled system**
- **Keep in mind to also include the weight of your 30 gallon auxiliary tank (40 lbs) and solution too. 270 lbs + 55 lbs + 270 lbs + 40 lbs = 635 lbs Gross weight of both filled systems.**

IMPORTANT: Material weights given are average weights. Depending saturation level and density of materials, weights will vary. **NEVER** load the vehicle this Salt Wetting System is installed on beyond the vehicle manufacturer's maximum Gross Vehicle Weight Rating.

WARNING



Check the vehicle's load rating certification sticker for the maximum vehicle capacity, and DO NOT overload beyond the vehicle GVWR or GAWR. Overloading could result in an accident, or damage to the vehicle.

FAILURE TO HEED CAN RESULT IN INJURY OR DEATH.

Filling the Tank

The tank provides a cap to fill with on either side. (See Figure 1-17) The fill necks are located differently on each side, so the straps holding down the spreader will not interfere with filling the tank. No matter which side of the tank is being used to fill from, the opposite side cap must be dismounted. The caps have a very small breather hole to allow in air when the unit is used. When the tank is filling, not enough air can pass through to exit. If the cap is not removed, one side of the tank will fill faster than the other. If equipped with a 30 gallon auxiliary tank, the caps will have to come off of that as well. Each tank will have to be filled separately because the tank will fill faster than it can equalize between the shared supply line.

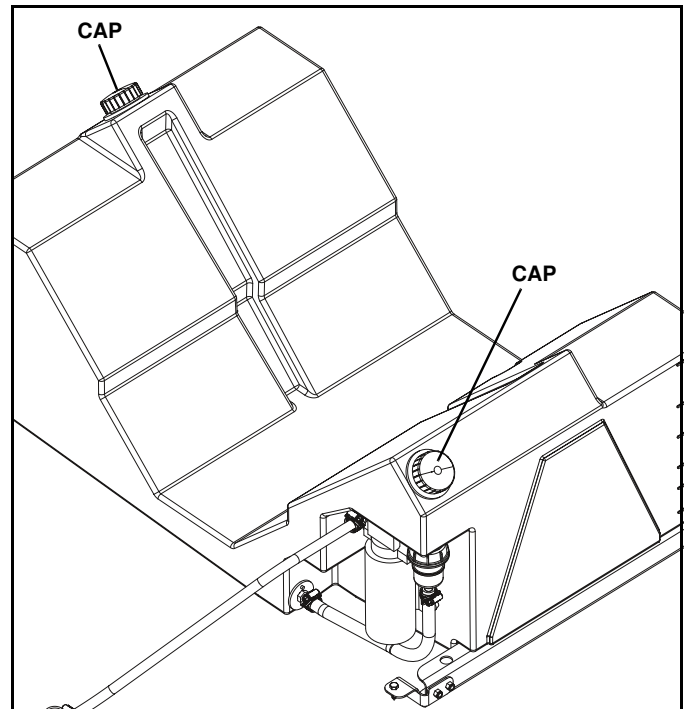


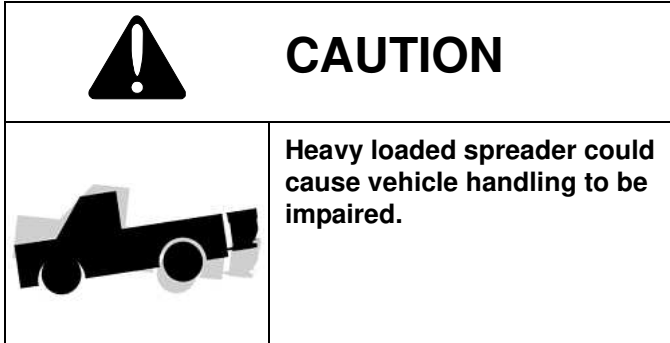
Figure 1-17

Before the Season Begins

1. Inspect the tank frame, all attaching hardware and hoses for wear. Replace worn or damaged parts.
2. Inspect all fasteners to insure that they are properly tightened. If any fasteners are loose, re-tighten to the proper torque (refer to the Torque Specification Chart in this manual).

Transporting Vehicle With Salt Wetting System Attached

1. Do not exceed 45 mph when driving with the SWS attached. Reduce speed when crossing railroad tracks or when road conditions deteriorate.
2. The weight of a filled SWS will greatly increase braking distance and will dramatically impair vehicle handling.



3. Inspect spreader and SWS attaching hardware for wear or damage before transporting and beginning spreading operations.

Wetting Like A Pro

1. Become familiar with the area to be treated and mark potential hazards before the snow falls. Developing a plan early can save valuable time and equipment damage.
2. Spread with the storm. The "Pros" are out early. Allowing ice to accumulate to unmanageable levels can cause difficult removal problems and can be costly in terms of "wear and tear" on equipment.
3. Choose wisely when to spread with the liquid solution applied. Sodium chloride requires a source of moisture to break down and generate heat. So, in storms with relatively higher humidity and temperatures near melting, the applied liquid will have little effect on the salt. The dry sodium chloride will have enough moisture from the pavement to begin the melting process.
4. During storms of low humidity and low temperatures, dry sodium chloride will have a difficult time finding available moisture. This will slow the melting process. Applying a sodium chloride solution to dry sodium chloride, as it exits the chute, will give the dry sodium chloride exactly what it needs to speed up the melting process.
5. Storms or areas where the salt can easily be blown away are good conditions for the Salt Wetting System to be used. The wetted material contacting the ice on the ground will stick and not bounce or blow away as dry materials would. This will reduce the volume of salt needed to melt the ice because additional salt will not be needed to make up for what would have bounced or blown away.
6. Research municipal ordinances for restrictions on the allowable materials used for ice control and removal. Many municipalities limit amounts of salt that can be used.

TROUBLESHOOTING

Introduction

Whenever service is necessary, your local dealer knows your SNO-WAY® SWS 30 best and is interested in your complete satisfaction. Return your SNO-WAY® SWS 30 to your local dealer for maintenance service or any other assistance you may require. If you are unable to do so, this troubleshooting guide should help you determine the problem. However, before attempting the servicing of your SNO-WAY® SWS 30, you should possess good mechanical abilities and a total understanding of the mechanism.

PLEASE: Before calling for parts or service personnel, be certain that:

1. You have read this guide carefully and are certain that all of the suggestions pertaining to your problem have been attempted.
2. You should have the following information available:
 - A. Date SNO-WAY® SWS 30 was originally installed.
 - B. Model Number.
 - C. Serial Number.
 - D. Controller Serial Number (If equipped). This information should be recorded on page 2 of this Owner's Manual.

| TROUBLESHOOTING GUIDE | | |
|---------------------------------------|---|---|
| PROBLEM | PROBABLE CAUSE | CORRECTIVE ACTION |
| Pump will not run | Fuse blown (On/Off Control Only) | Check the in-line fuse at the battery. Check over all electrical wiring to determine why the fuse blew and replace fuse. |
| | Pump motor seized | Replace pump. |
| | Pump pressure switch has reached limit | Check for clogged or pinched hose. Remove clog or pinch in hose. |
| Hose Connections Leaking | Loose hose clamp | Tighten hose clamp. |
| | Hole in hose | Replace hose. |
| | Thread on fitting is not sealed | Tighten fitting. If that does not correct it, thread sealer may need to be applied to the threads of the fitting. Remove the fitting, apply thread sealer, and tighten. |
| | Cam and groove connectors not closed properly | Close both sides of the cam and groove connector. |
| Tank is only filling up on one side | Cap on the opposite side is still on | Temporarily unmount cap. |
| Spreading material is not getting wet | Clogged jet nozzle | Rinse or softly brush away build up on jet nozzle. |
| | Jet nozzle rotated wrong | Loosen nozzle cap, rotate until parallel to back of truck, tighten cap. |

MAINTENANCE







Polyethylene Tank Care

- **DO NOT** use abrasive or highly alkaline cleaners on the polyethylene tank.
- Never use benzene, gasoline, acetone or carbon tetrachloride on the polyethylene tank.
- Use of plasticizers such as Armor All® are acceptable.

Clean-Out Instructions

1. Disconnect the cam and groove connection between the chute and tank.
2. Make a hose with a matching cam and groove connector.
3. Run the open end of hose to a storage tank.
4. Run the pump until the tank is as empty as possible.
5. Rinse the tank and hose lines. Add RV antifreeze mix and water into the tank.
6. Re-connect the tank hose to the chute.
7. Run the pump until the tank is empty.

TORQUE SPECIFICATIONS

| | | | |
|------------------------------------|--|---|---|
| SAE Grade and Head Markings | 1 or 2 No Marks  | 5 5.1 5.2  | 8 8.2  |
| SAE Grade and Nut Markings | 2 No Marks  | 5  | 8  |

| | Grade 1 | | Grade 2 | | Grade 5, 5.1 or 5.2 | | Grade 8 or 8.2 | |
|-----------------------------------|-------------------------|------------------|-------------------------|------------------|-------------------------|------------------|-------------------------|------------------|
| | Lubricated ^a | Dry ^b | Lubricated ^a | Dry ^b | Lubricated ^a | Dry ^b | Lubricated ^a | Dry ^b |
| SIZE | lb-ft | lb-ft | lb-ft | lb-ft | lb-ft | lb-ft | lb-ft | lb-ft |
| 8-32 | | | 14* | 19* | 22* | 30* | 31* | 42* |
| 10-24 | | | 21* | 27* | 32* | 43* | 45* | 60* |
| 1/4 | 2.8 | 3.5 | 4.5 | 5.5 | 7 | 9 | 10 | 12.5 |
| 5/16 | 5.5 | 7 | 9 | 11 | 15 | 18 | 21 | 26 |
| 3/8 | 10 | 13 | 16 | 20 | 26 | 33 | 36 | 46 |
| 7/16 | 16 | 20 | 26 | 32 | 41 | 52 | 58 | 75 |
| 1/2 | 25 | 31 | 39 | 50 | 63 | 80 | 90 | 115 |
| 9/16 | 36 | 45 | 56 | 70 | 90 | 115 | 130 | 160 |
| 5/8 | 50 | 62 | 78 | 100 | 125 | 160 | 160 | 225 |
| 3/4 | 87 | 110 | 140 | 175 | 225 | 280 | 310 | 400 |
| 7/8 | 140 | 175 | 140 | 175 | 360 | 450 | 500 | 650 |
| 1 | 210 | 270 | 210 | 270 | 540 | 675 | 750 | 975 |
| METRIC COARSE THREAD Grade 8.8 | | | Grade 8.8 | | Grade 10.9 | | Grade 12.9 | |
| | | | Dry | Lubed | Dry | Lubed | Dry | Lubed |
| M6-1 | | | 8 | 6 | 11 | 8 | 13.5 | 10 |
| M8-1.25 | | | 19 | 14 | 27 | 20 | 32.5 | 24 |
| M10-1.5 | | | 37.5 | 28 | 53 | 39 | 64 | 47 |
| M12-1.75 | | | 65 | 48 | 91.5 | 67.5 | 111.5 | 82 |
| M14-2 | | | 103.5 | 76.5 | 145.5 | 108 | 176.5 | 131 |
| M16-2 | | | 158.5 | 117.5 | 223.5 | 165.5 | 271 | 200 |

DO NOT use these values if a different torque value or tightening procedure is given for a specific application.

Fasteners should be replaced with the same or higher grade. If higher grade fasteners are used, these should only be tightened to the strength of the original.

^a "Lubricated" means coated with a lubricant such as engine oil, or fasteners with phosphate and oil coatings.

^b "Dry" means plain or zinc plated without any lubrication

* Values with asterisk are in lb-in.

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DELIVERY CHECKLIST

The following checklist is to be accomplished with the customer present, Place an X in the box after accomplishing each item on the checklist.

- After giving the Customer his Owner's Manual, instruct him to read it **PRIOR** to operating the Snow Plow. If he has any questions or does not understand part(s) of the Manual, ask him to contact the Dealer for answers or explanations **BEFORE** operating the unit.
- Record the Serial Number, Date of Purchase, Purchaser's Name and Address, and the Dealers Name, Address and Phone Number in the space provided on Page 2 of the Owner's Manual.
- Explain mounting and removal procedures.
- Demonstrate controller operation.

SNO-WAY® INTERNATIONAL, INC.

SNO-WAY
SNOW & ICE CONTROL EQUIPMENT

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