

SNO-WAY[®]

SNOW & ICE CONTROL EQUIPMENT

INSTALLATION & OWNERS MANUAL

**SNO-WAY[®] SPREADERS:
4 CUBIC FOOT
6 CUBIC FOOT
& 9 CUBIC FOOT**

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TABLE OF CONTENTS

	Page
INTRODUCTION	2
SAFETY	3
INSTALLATION	4
Install Spreader Control	4
Mounting Hitch Adapter	4
Mounting Spreader After Initial Installation	4
Removing Spreader From Vehicle.....	5
THEORY OF OPERATION.....	6
Hopper and Mounting System	6
Power Unit Operation	6
Drive System	6
Flow Gate Operation.....	6
Chunk Buster System	6
SPREADING OPERATION	7
Before You Use Spreader.....	7
Spreading Mediums.....	7
Operating Capacities	7
Before The Season Begins	8
Transporting Vehicle With Spreader Attached.....	8
Spreading Like A Pro.....	9
Adjusting Flow Gates - 4 Cu. Ft. Spreaders	10
Adjusting Flow Gates - 6 & 9 Cu. Ft. Spreaders.....	11
TROUBLESHOOTING	13
Troubleshooting Chart	14
MAINTENANCE	15
Polyethylene Hopper Care	15
Polyethylene Hopper Cleaning Instructions.....	15
Lubrication Requirements	15
Controller Service (On/Off or Variable).....	15
Motor Service	15
Drive Belt Adjustment - 4 Cu. Ft.	16
Drive Belt Adjustment - 6 & 9 Cu. Ft.	16
Metri-Pack™ Connector Removal	17
Metri Pack™ Connector Replacement	18
TORQUE SPECIFICATIONS.....	20
WIRING SCHEMATIC (On/Off Control).....	21
WIRING SCHEMATIC (Variable Control)	22
WIRING SCHEMATIC (ProControl II)	23

INTRODUCTION

This manual was written for the assembly, installation and maintenance of your new SNO-WAY® 6 CUBIC FOOT SPREADER or SNO-WAY® 9 CUBIC FOOT SPREADER. 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 below are the SAFETY ALERT messages and how they will appear in this manual.

	WARNING
FAILURE TO FOLLOW CAN RESULT IN INJURY OR DEATH.	

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

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

Record the Spreader Serial Number, Controller Serial Number and Spreader Model Number in the space provided below, as a handy record for quick reference. The Serial Number is located on the left frame gusset of

the hopper frame. This plate contains information that your Dealer needs; to answer questions, to order replacement parts, or to complete warranty work (if needed) for your unit.

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 97101927 & 97101915 for the 4, 6, or 9 Cu.Ft. Spreaders.

Factory contact information is available at www.snoway.com.

NAME PLATE DATA	
SPREADER MODEL NUMBER _____	
SPREADER SERIAL NUMBER _____ <small>(Located on Hopper Frame)</small>	
CONTROLLER SERIAL NUMBER _____ <small>(Located on Bottom of Controller)</small>	
MOTOR SERIAL NUMBER _____	(FILL IN)

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

ORIGINAL PURCHASER	
NAME _____	
ADDRESS _____	
CITY _____ STATE _____ ZIP _____	
PHONE (____) _____	(FILL IN)



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 exceed vehicle GVWR, GAWR or Vehicle Hitch Tongue Weight Rating.

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 serious injury or death.

NEVER allow hands, hair or clothing to get near any moving parts such as fan blades, belts and pulleys. Never wear neckties or loose clothing when working on the vehicle or Spreader.

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 serious 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 be aware of and avoid contact with hot surfaces such as engine, radiator, and hoses.

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 serious 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. It is strongly recommended to load the spreader at the job site and to dispense all of the materials at the job site. Transportation of a loaded spreader causes the material to become impacted and may cause spreader flow problems.

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 inspect the unit periodically for defects. Parts that are broken, missing or plainly worn must be replaced immediately. The unit, or any part of it should not be altered without prior written approval of the manufacturer.

ALWAYS shut off the vehicle engine, place the transmission in Park, turn the ignition switch to the "OFF" position and firmly apply the parking brake of the vehicle before attaching or detaching the spreader from the vehicle or when making adjustments to the spreader gates and/or deflectors.

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.

ALWAYS inspect bolts and pins whenever attaching or detaching the spreader, and before traveling. Worn or damaged components could result in the spreader dropping to the pavement while driving, causing an accident.

NEVER place fingers in mounting frame or mount lug holes to check alignment when attaching spreader. Sudden motion of the spreader frame could severely injure a finger.

NEVER use material in the spreader containing twigs, brush, plastics, cans or other trash. Foreign materials could plug drive and discharge and damage unit.

NEVER use wet materials in the spreader. This unit is not designed to handle wet materials. Use only dry free flowing materials.

NEVER leave materials in hopper for long periods of time. Remember salt is hygroscopic and will attract enough atmospheric moisture to cause it to "cake".

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.

NEVER smoke while working on the vehicle. Gasoline and battery acid vapors are extremely flammable and explosive.

NEVER free up a jam or unclog spreader while it is plugged in. Always turn off vehicle and unplug spreader when working on it.

NEVER remove a spreader full of material, or even partially filled with material, from the vehicle. Always empty spreader prior to removal from the vehicle.

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

INSTALLATION

Install Spreader Control

Open and follow the instructions included with the controller package.

Mounting Hitch Adapter

Initial Assembly and Installation of Hitch Adapter

The hitch adapter assembly consists of the hitch tube welded to a half-inch plate. The hitch adapter is bolted to the spreader frame.

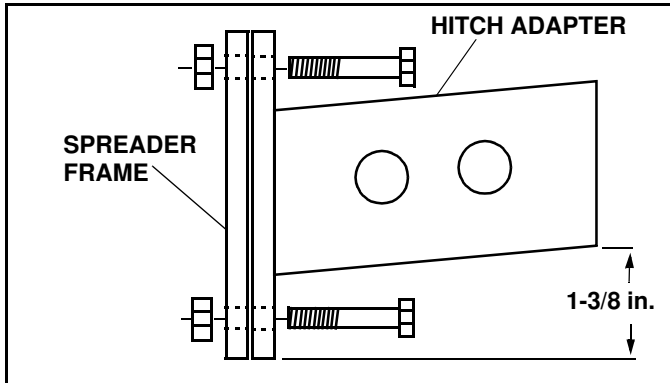


Figure 1-1

To mount the hitch adapter:


1. Locate so that the top and bottom of the adapter plate are flush with the spreader frame plate. The mounting holes should line up. If they do not, the hitch adapter is upside down. When the spreader is placed on a flat surface, the hitch tube should be approximately 1-3/8 inches from the surface, or appear to point up.

2. Insert the bolts through the adapter and into the spreader mounting plate. Install nuts and tighten to 90 lb-ft.


Mounting Spreader After Initial Installation

1. Position vehicle as close as possible to the spreader. Set parking brake and turn ignition switch off. Remove key from ignition.



2. Tilt the spreader/ hitch adapter upward and lift spreader to align the adapter with the hitch receiver on the vehicle. Slide the spreader forward until the hitch holes on the side of the hitch receiver and spreader hitch adapter line up.

 CAUTION	
	NEVER place fingers in mount holes to check alignment. Sudden motion of the frame could severely injure a finger.

3. Slide the bent arm pin through the hitch receiver and hitch adapter and secure it with a spring pin.

 WARNING	
	NEVER mount spreader into hitch without having a bent arm pin and spring pin to hold the spreader in place. FAILURE TO FOLLOW CAN RESULT IN INJURY OR DEATH.

4. Connect wire harness from motor to vehicle connector.

 CAUTION	
	Spreader hopper and frame weigh 95 lbs. (4 Cu. Ft.) 115 lbs. (6 Cu. Ft.) or 150 lbs (9 Cu. Ft.) EMPTY. Get help and use proper lifting procedures when installing or removing spreader.

Removing Spreader From Vehicle


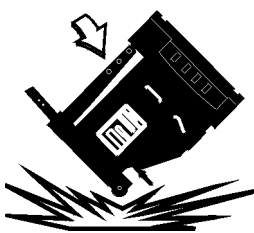
 WARNING	
 	<p>Empty spreader hopper before removing spreader from vehicle. A loaded spreader can be heavy and awkward to remove, with the potential for unpredictable consequences.</p> <p>FAILURE TO FOLLOW CAN RESULT IN INJURY OR DEATH.</p>

1. Drive vehicle to the desired storage area. It is recommended that the spreader be stored in a dry, protected area.

2. Turn vehicle ignition switch to OFF. Remove key. Set park brake.

IMPORTANT: Spreader should be thoroughly cleaned of all material residue, especially salt, before it is put into storage.

REMEMBER Calcium and Sodium Chloride materials are hygroscopic, attract moisture, and will form a solid block when exposed to atmospheric moisture. It is easier to unload unused material and clean out the hopper in a timely manner than chip out a 200 lb hardened salt block later!

 CAUTION	
	<p>Use care when placing hopper/frame assembly on floor. If unit is dropped, the frame can be bent which will cause spinner to jam and/or malfunction.</p> <p>4 Cu. Ft. Spreader Shown</p>

 CAUTION	
<p>Never use pliers or any other tool to separate the wiring harness connector halves.</p>	

3. Disconnect electrical connections. Cap vehicle end of connector.

4. Remove clevis pin and hitch pin from hitch receiver on vehicle.

5. Slide spreader from hitch receiver and carefully place on floor. (See Figure 1-2)

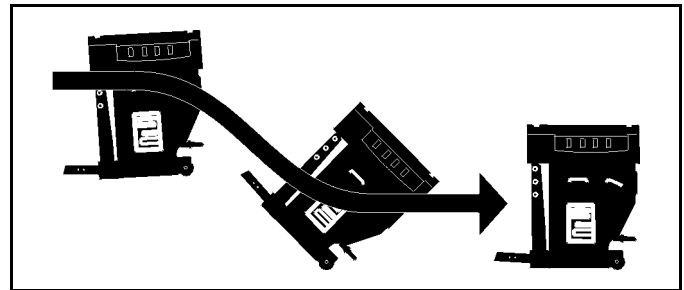


Figure 1-2

6. Tilt and roll spreader to storage location. (See Figure 1-3)

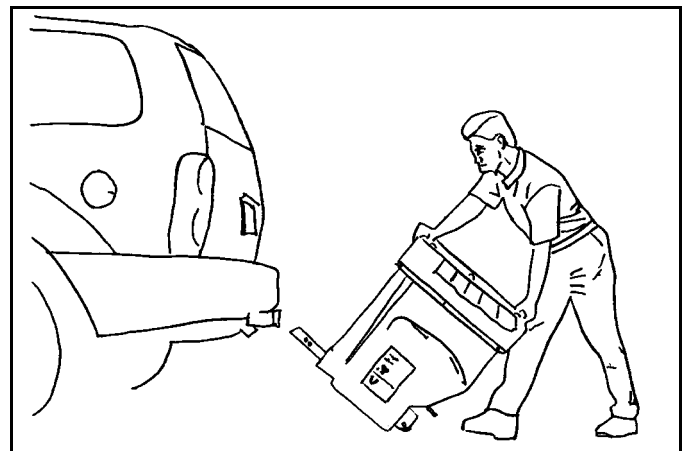


Figure 1-3

THEORY OF OPERATION

Hopper and Mounting System

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

The hopper is mounted in a tubular steel frame that is powder coated for corrosion resistance.

The frame is a hitch mount type where the spreader hitch tube is inserted into a standard receiver hitch.

Total gross weight of the 4, 6 or 9 Cubic Foot Spreader AND spreading medium should not exceed vehicle hitch tongue weight rating. Empty spreader weights are 95 lbs. (4 Cubic Foot), 115 lbs. (6 Cubic Foot) and 150 lbs. (9 Cubic Foot).

The benefit of the hitch mount spreader is that it can be taken off of the truck easily and stored. No additional brackets are required.

Power Unit Operation

The drive unit consists of a 12V DC motor, motor sheave, drive belt, adjustable belt tensioner, driven sheave, drive shaft, and shaft support bearings.

Control of the motor is accomplished by cab mounted controller.

Drive System

The belt driven spinner shaft runs at approximately 1/6 motor rpm. The spinner shaft is mounted on two bearings, one located under the top shield and the other located under the spinner assembly.

Both pattern and spread are affected by motor speed. The faster the motor turns, the more material will be discharged over a wider area.

Flow Gate Operation

The SNO-WAY® 4 CUBIC FOOT, 6 CUBIC FOOT and 9 CUBIC FOOT SPREADERS are equipped with variable flow gates and fixed deflectors to accurately and precisely dispense materials.

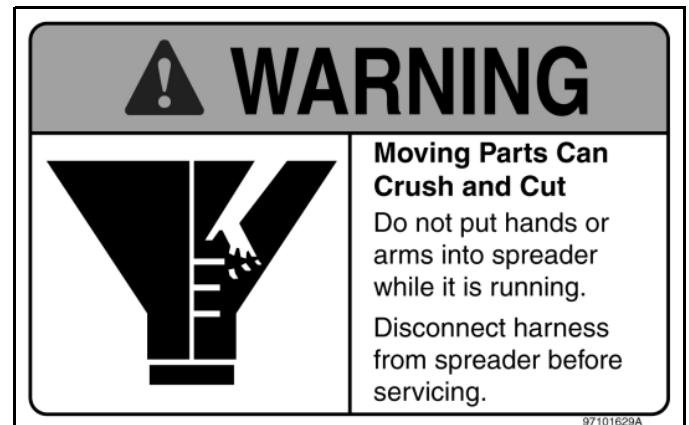
The flow gates control the volume of material being dispensed and the discharge pattern of the material.

The flow gates operate by moving the white handles and can adjust the spray pattern from full flow to variable partial flow directed toward either side, the center, or combinations in between. See "Adjusting Flow Gates - 4 Cu. Ft. Spreading Patterns" & See "Adjusting Flow Gates - 6 & 9 Cu. Ft. Spreaders With Dual Flow Gate Handles" for diagrams.

IMPORTANT: The flow gates can become impacted with material, especially if spreader is transported full. If the flow gates become impacted, gradually free the handles by "back and forth" motions until handles are free. Forcing the flow gate handles could damage the flow gates, requiring replacement.

Chunk Buster System

The SNO-WAY® 4 CUBIC FOOT, 6 CUBIC FOOT and 9 CUBIC FOOT SPREADERS are equipped with a Chunk Buster System that will break up chunks of material from approximately 1/2 to 1-1/2 inches in diameter.



SPREADING OPERATION

Before You Use Spreader

IMPORTANT: Inspection of spreader mechanical components and routine lubrication should be performed with empty hopper so that components are clearly visible and accessible.



CAUTION

Disconnect wire harness motor connector before lubricating drive components, checking belt tension or spinner freedom of rotation.

IMPORTANT: Lubricate spinner shaft bearings before each use of the spreader. Failure to grease these bearings will result in corrosion of the bearings and will cause the spreader to work inadequately.

1. Grease bearings on spinner shaft. See "Lubrication Requirements" on page 15.

IMPORTANT: Check belt tension before each use of the spreader. Operating unit with incorrect belt tension will cause the spreader to work inadequately.

2. Check belt tension. See "Drive Belt Adjustment - 4 Cu. Ft." on page 16 and See "Drive Belt Adjustment - 6 & 9 Cu. Ft." on page 16.

3. Check for freedom of spinner shaft rotation by grasping spinner and turning it by hand. If there is any resistance, check for obstructions and clear as necessary before proceeding. DO NOT attempt to force spinner to rotate, damage to spinner shaft hardware could result.

4. Load material in hopper. See "Spreading Mediums".

Spreading Mediums

Categories of Spreading Mediums

Spreading Mediums come in three different categories:

- **Free Flowing** - These materials generally have a granular size of 1/8 to 1/4 inch, and have no chunks when poured out.
- **Chunky Free Flowing** - These materials are the same granular size as free flowing, but have chunks or bridging that can range from 1/2 inch in diameter up to 6-12 inches in diameter. These chunks can easily escape visual detection when being poured out of a bag, and give the appearance of free flowing material.

- **Bridging / Non Flow** - These materials chunk up when poured, or stick together and combine into clumps of break resistant material. They may pour well down the side of the hopper, but when wedged together at the bottom of the hopper, materials will be compacted, clump together and resist breakup. Vibration by vibrators tends to compact the materials even more. A physical "breaker" is required to make this material move.

Usable Spreading Mediums

There are a number of spreading mediums that are usable with your SNO-WAY® 4 CUBIC FOOT, 6 CUBIC FOOT and 9 CUBIC FOOT SPREADERS.

Some examples are:

- **Free Flowing Salt, Course and Fine** - Free Flowing Salt typically comes out of a bag and is free of large chunks. Typically, the Chunk Buster in the SNO-WAY® 4, 6 and 9 CUBIC FOOT SPREADERS should take care of the smaller chunks (1/2 to 1-1/2 inches in diameter) and flow freely through the spreader.
- **Treated Salt, Course and Fine** - Treated Salt is usually more "sticky", and bridges easily. The SNO-WAY® 4, 6 and 9 CUBIC FOOT SPREADERS require a vibrator to be added for optimum flow with this material.
- **Calcium Chloride** - Calcium Chloride can become "sticky and chunky". The SNO-WAY® 4, 6 and 9 CUBIC FOOT SPREADERS require a vibrator to be added for optimum flow with this material.

NOTE: Due to the different rates at which materials absorb moisture, materials may have different performance characteristics when used in a spreader. The substitution of alternate materials may be necessary for maximized flow and spread patterns.

Operating Capacities

Hopper capacity is approximately 4 Cu. Ft., 6 Cu. Ft. or 9 Cu. Ft., depending on model.

NOTE: SNO-WAY® 4, 6 and 9 CUBIC FOOT SPREADERS are designed to handle free flowing materials.

IMPORTANT: Sand cannot be spread with SNO-WAY® 4 CUBIC FOOT, 6 CUBIC FOOT or 9 CUBIC FOOT SPREADERS.

Use the following table as a guide to calculate the weight of material placed in the spreader.

IMPORTANT: Material weights given are average weights for DRY materials. Depending on moisture content of material, weights will vary. NEVER load the vehicle this Spreader is installed on beyond the vehicle manufacturer's maximum Gross Vehicle Weight Rating.

Estimate - Number of Bags at 75 lbs/Cubic Foot		
Spreader	Using 40 lb Bags	Using 80 lb Bags
4 cu. ft.	7.5 Bags	3.5 Bags
6 cu. ft.	11.0 Bags	5.5 Bags
9 cu. ft.	16.5 Bags	8.5 Bags
Example: 7.5 Bags x 40 lbs = 300 lbs		


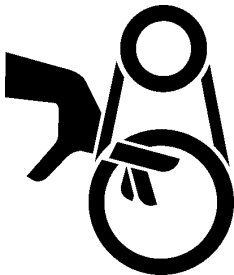
REMEMBER Calcium and Sodium Chloride (Salt) materials are hygroscopic (attract moisture) and will form a solid block when exposed to atmospheric moisture. It is easier to unload unused material and clean out the hopper in a timely manner than chip out a 200 lb hardened salt block later.

Before The Season Begins

1. Inspect the spreader, spreader frame and all attaching hardware for wear and corrosion. Replace worn or damaged parts and clean and repaint exposed metal parts with a high quality, corrosion resistant enamel.
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) and carefully inspect the adjacent area for damage or wear as well as carefully inspecting all adjacent fasteners for proper torque.



NOTE: All external fasteners which are 1/4"-20 stainless steel hex head capscrews are to be torqued to 20-25 lb-in. maximum, otherwise overtightening can occur.

3. Apply a small amount of light oil to the hitch pin.
4. Install auxiliary and flashing lights as required by local ordinances.
5. Remove the drive cover and inspect all drive components. Engage the spinner drive to verify that it is operating properly.

 CAUTION	
	Keep hands and clothing away from the drive belt and pulleys whenever the drive operation is being inspected and the drive cover is not installed.

Transporting Vehicle With Spreader Attached

1. Do not exceed 45 mph when driving with the empty spreader attached. Reduce speed when crossing railroad tracks or when road conditions deteriorate.
2. Do not transport with the spreader filled. The weight of a filled spreader will greatly increase braking distance and will dramatically impair vehicle handling. Also, transporting with the spreader filled with material will tend to pack the material and will cause problems when beginning to spread material.

 CAUTION	
	Heavily loaded spreader could cause vehicle handling to be impaired.

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

Spreading Like A Pro



WARNING

Wear your seat belt! Contact with a hidden obstruction can cause personal injury from bodily contact within the vehicle cab or whiplash from sudden stops.

FAILURE TO FOLLOW CAN RESULT IN INJURY OR DEATH.

1. Become familiar with the area to be treated and mark potential hazards before the snow falls. Many immovable objects cannot be seen when covered with snow. 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. 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.

Adjusting Flow Gates - 4 Cu. Ft. Spreading Patterns

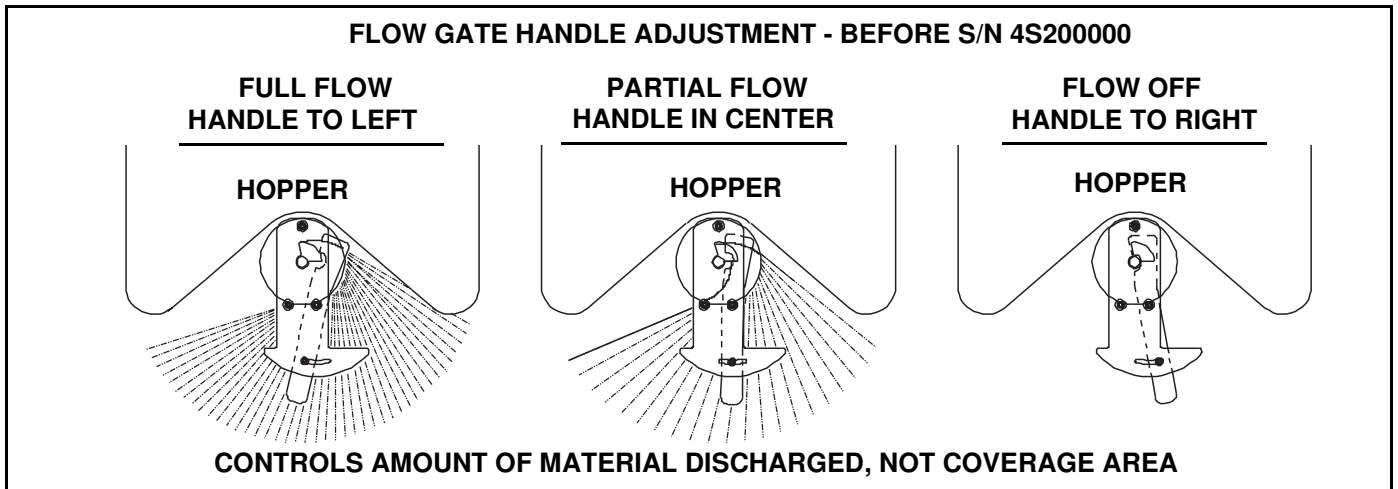


Figure 1-4

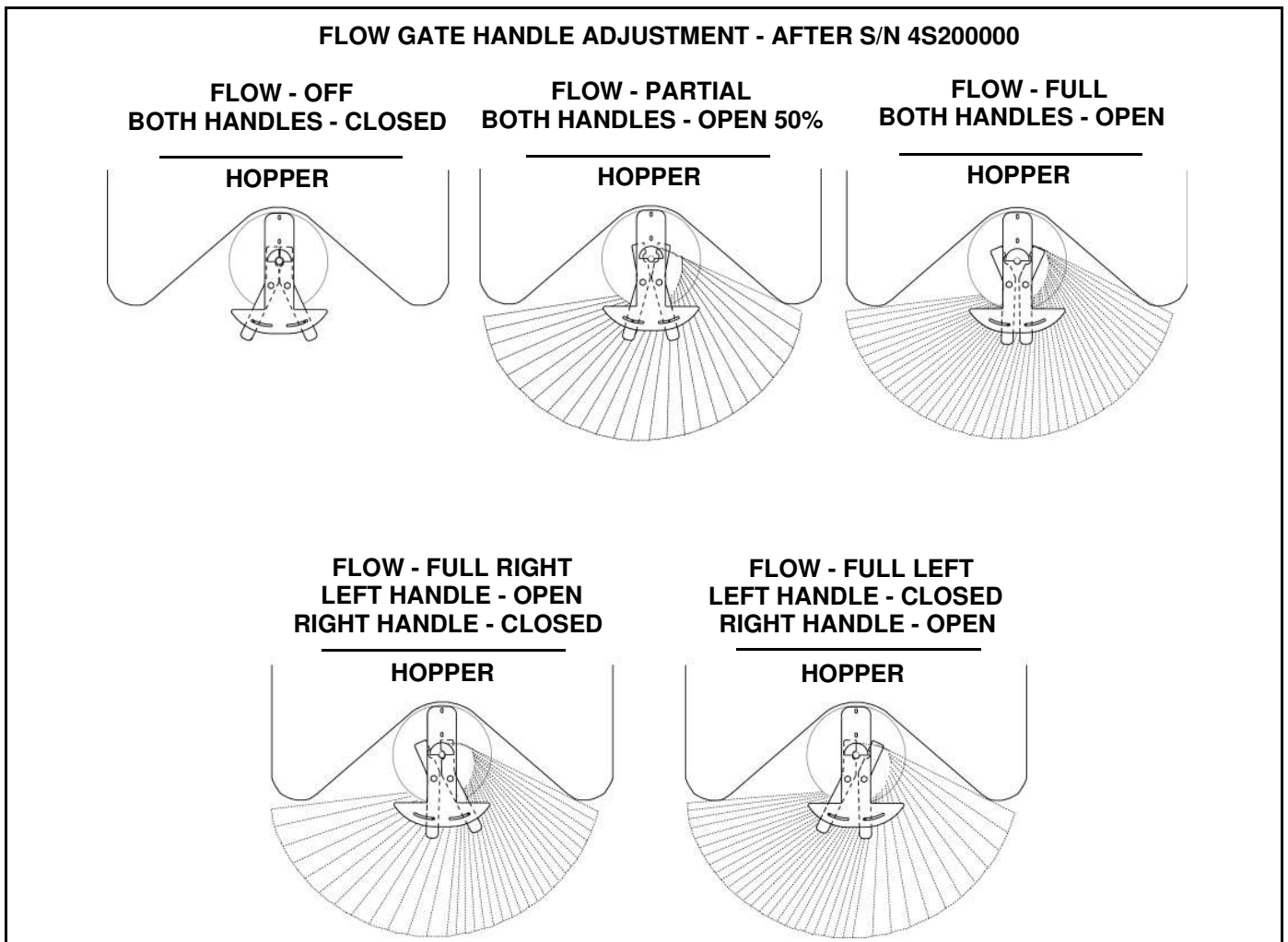


Figure 1-5

Adjusting the flow gate handle(s) allows the operator to modify the spreading pattern for best results and economy of spreading material. (See Figures 1-4 and 1-5).

The positions shown above are not fixed or "preset", and the handle(s) can be adjusted to other "custom" positions if desired.

Once a handle position is selected, a thumbscrew in the gate can be tightened to secure the position. Do not overtighten the screw.

Adjusting Flow Gates - 6 & 9 Cu. Ft. Spreaders With Dual Flow Gate Handles

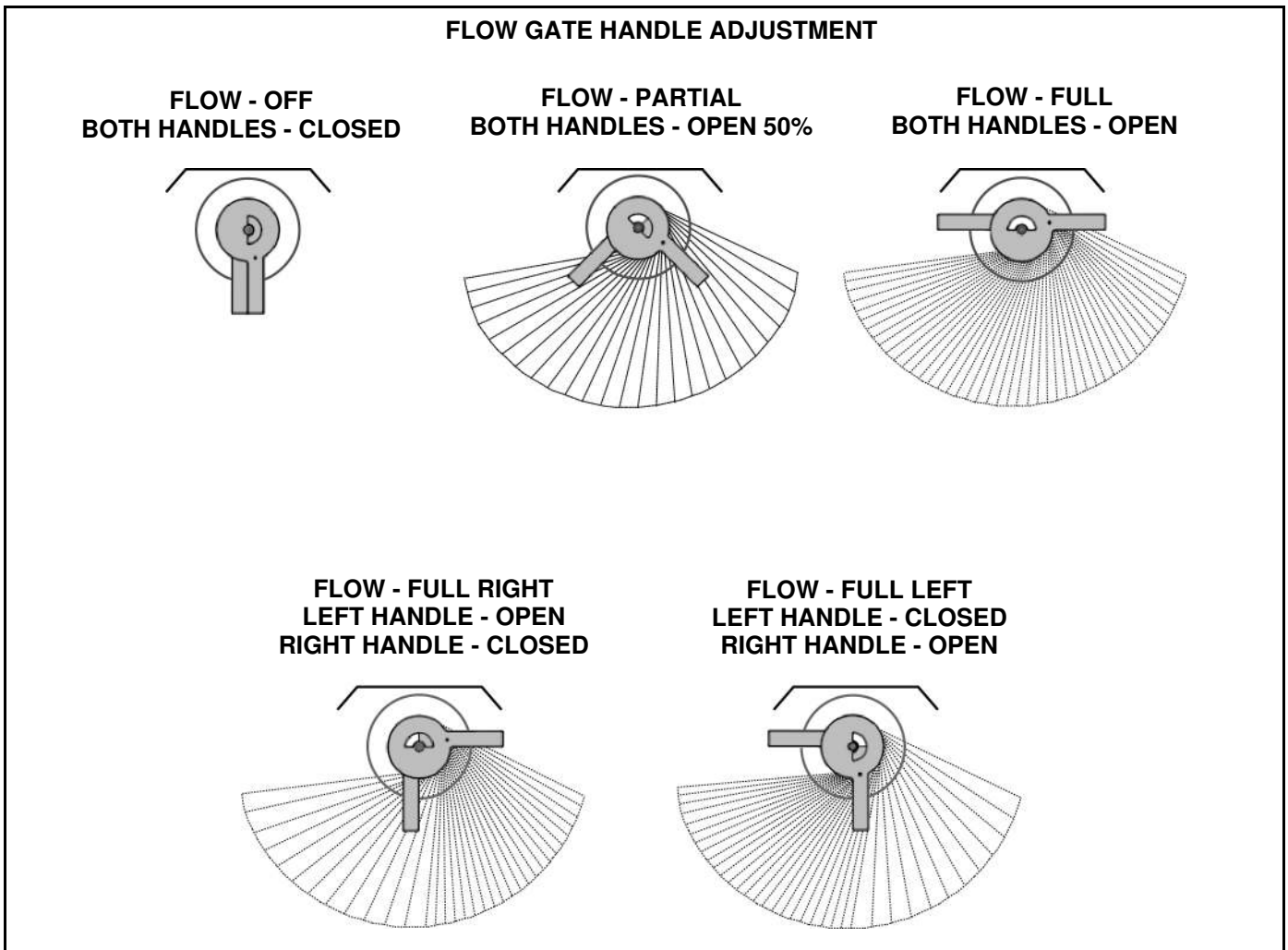


Figure 1-6

Adjusting the flow gate handles, as shown above, allows the operator to modify the spreading pattern for best results and economy of spreading material. (See Figures 1-6)

The positions shown above are not fixed or "preset", and the handles can be adjusted to other "custom" positions if desired.

Once a handle position is selected, a thumbscrew in the top gate can be tightened to secure the position. Do not overtighten the screw.

NOTES

TROUBLESHOOTING

Introduction

Whenever service is necessary, your local dealer knows your SNO-WAY® 4, 6 or 9 Cu. Ft. Spreader best and is interested in your complete satisfaction. Return your SNO-WAY® 4, 6 or 9 Cu. Ft. Spreader to your local dealer for maintenance service or any other assistance you may require. If you are unable to do so, this Trouble Shooting Guide should help you determine the problem. However, before attempting the servicing of your SNO-WAY® 4, 6 or 9 Cu. Ft. Spreader, you should possess good mechanical abilities and a total understanding of the mechanism.

PLEASE: Before calling parts and 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® 4, 6 or 9 CUBIC FOOT SPREADER was originally installed.
 - B. Spreader Model Number.
 - C. Spreader Serial Number.
 - D. Controller Serial Number.

This information should be recorded on page 2 of this Owners Manual.

Troubleshooting-Quick Reference General

1. Check to see that vehicle ignition switch is "ON" or in "ACC" position.
2. Check, and replace if necessary, accessory fuse in vehicle fuse panel.
3. Check all wiring to be sure that battery terminals are clean and connections to battery, circuit breaker, switches and all connections on spreader harness and motor are clean and tight.

TROUBLESHOOTING CHART

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Motor does not run.	Plugged drive unit.	Unplug.
	Blown fuse.	Replace fuse.
	Tripped circuit breaker.	Determine cause of electrical overload (such as plugged hopper) and remedy cause. WARNING: Circuit breaker is automatic reset. Turn off controller and vehicle ignition before searching for cause of motor stoppage to prevent motor from starting automatically.
	Loose electrical connections.	Check all connections.
	Motor seized.	Replace motor.
Material will not feed.	No material in hopper.	Fill hopper.
	Material in hopper too wet.	Replace with dry material.
	Material in hopper too coarse.	Replace material.
	Spinner not turning.	Check drive unit. Adjust belt tension. See "Drive Belt Adjustment - 4 Cu. Ft." and See "Drive Belt Adjustment - 6 & 9 Cu. Ft." Check for foreign objects in discharge chute.
Spinner does not turn but motor does turn.	Loose belt.	Adjust belt tension. See "Drive Belt Adjustment - 4 Cu. Ft." and See "Drive Belt Adjustment - 6 & 9 Cu. Ft.".
	Hopper plugged stopping spinner.	Replace material.
	Material in hopper too coarse stopping spinner.	Replace material.
Motor starts, but does not continue to run - Control switch does not light. (On-Off controller only.)	Inadequate ground or no ground from controller to vehicle.	<ol style="list-style-type: none"> 1. Make firm contact between ground wire end, grounding screw and metal ground surface in vehicle. 2. Clean and remove any corrosion from ground wire end, ground screw and ground contact surface. 3. Repair damaged or broken ground wire. 4. See dealer.
Motor spins CCW when viewed from above.	Positive and Negative leads are pinned in reverse direction.	<ol style="list-style-type: none"> 1. Disconnect wire harness at motor connector. 2. Switch wires in Packard connector. (See "Metri-Pack™ Connector Removal" on page 17.) 3. Reconnect wire harness at motor connector.

MAINTENANCE

Polyethylene Hopper Care

- NEVER beat on sides of Polyethylene hopper to remove materials, especially at subzero temperatures.
- DO NOT use abrasive or highly alkaline cleaners on Polyethylene hopper.
- NEVER scrape Polyethylene hopper with squeegees, razor blades or other sharp instruments.
- Never use Benzene, Gasoline, Acetone or Carbon Tetrachloride on Polyethylene hopper.
- DO NOT clean Polyethylene hopper in hot sun or at elevated temperatures.

Polyethylene Hopper Cleaning Instructions

Wash with a mild soap or detergent and lukewarm water using a clean cloth or soft sponge. Dry outside thoroughly with a chamois or moist cellulose sponge to prevent water spots.

Use of plasticizers such as Armor All® are acceptable to bring out the natural shine of the whole Spreader assembly.

Lubrication Requirements

It is recommended that the free movement of the spinner shaft be checked and top spinner shaft bearing be lubricated with a lithium base EP marine grade grease at the beginning of **every** operating period (See Figure 2-1).

NOTE: The motor is factory lubricated and sealed and does not require any lubrication.

At the end of the season, check the belt drive idler pulley. Clean the area thoroughly to remove any dirt. Coat all of the exposed surfaces of the bearing and inner bearing sleeve with a good quality grease to protect the bearing and sleeve from corrosion.

Bearings can become bound up with rust if not greased periodically. The spinner shaft should rotate easily. The grease should come out on the shaft. If it does not, and the bearing does not want to accept grease, the "zerk" fitting is bad and the bearing should be replaced.

NOTE: The lower spinner shaft plastic bearing also requires lubrication! Apply oil or a spray-on silicone lubricant before each season.

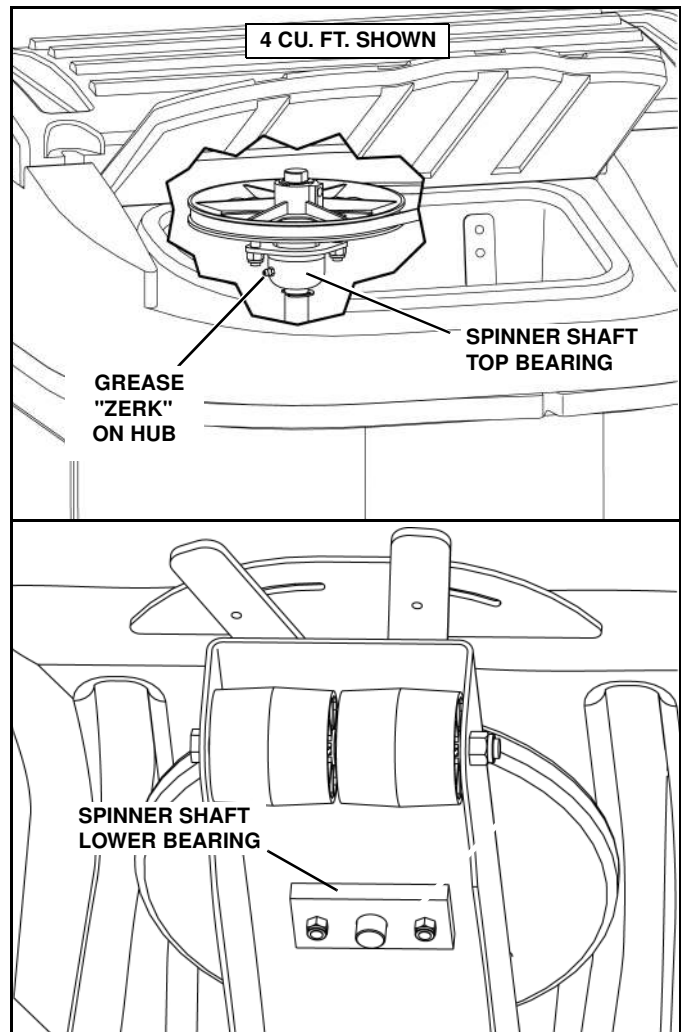


Figure 2-1

Controller Service (On/Off or Variable)

The Variable and On/Off controllers are electronic units that are not serviceable. If the unit does not work after performing tests in the Diagnostics Section, replace the controller.

Motor Service

There are no owner serviceable parts in the motor. The motor is sealed and should not be disassembled for any reason. A brush service kit is listed in the parts section, for installation only by an authorized Sno-Way dealer.

If motor does not work after performing tests in the Diagnostics Section, contact your Sno-Way dealer.

Drive Belt Adjustment - 4 Cu. Ft.

NOTE: Drive belt may be adjusted with the spreader either on or off of the vehicle.

1. Drive vehicle to the desired maintenance area. Set park brake. Turn off engine. Remove key.
2. Disconnect spreader harness from vehicle harness.
3. Remove center cover from hopper by undoing the six stainless steel cap screws that hold down the cover. (See Figure 2-2)

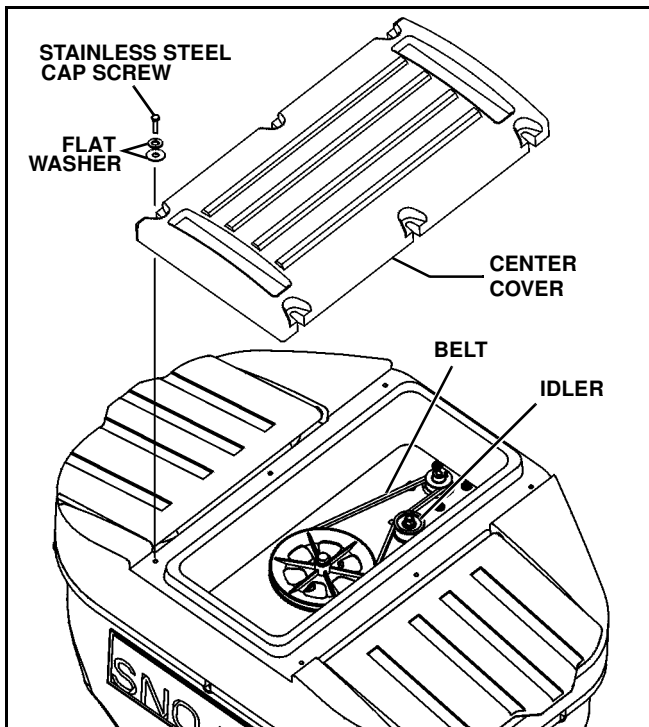


Figure 2-2

4. Loosen cap screw/nut retaining belt tensioner to crossbrace. (See Figure 2-3)

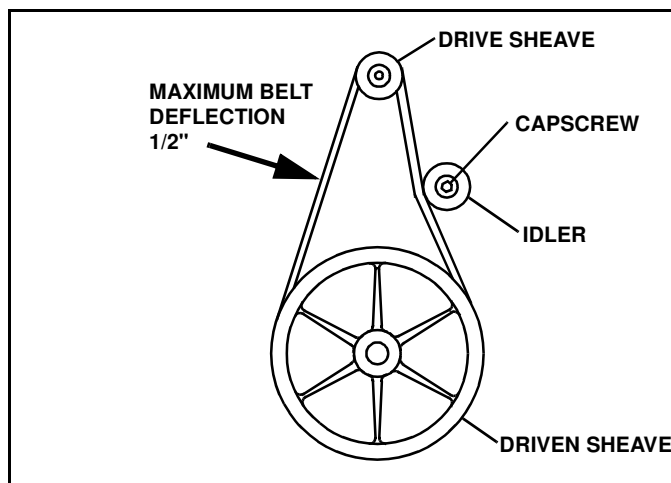


Figure 2-3

5. Adjust idler until belt opposite idler has 1/2 inch deflection. (See Figure 2-3)

6. Tighten cap screw/nut retaining belt tensioner to crossbrace to 23 lbs-ft.

7. Replace center cover and secure the six double-washed bolts.

8. Connect spreader harness to vehicle harness.

Drive Belt Adjustment - 6 & 9 Cu. Ft.

NOTE: Drive belt may be adjusted with the spreader either on or off of the vehicle.

1. Drive vehicle to the desired maintenance area. Set park brake. Turn off engine. Remove key.
2. Disconnect spreader harness from vehicle harness.
3. Remove cover from hopper by undoing the two rubber hold-downs.
4. Remove enough material from the hopper to expose the belt cover.

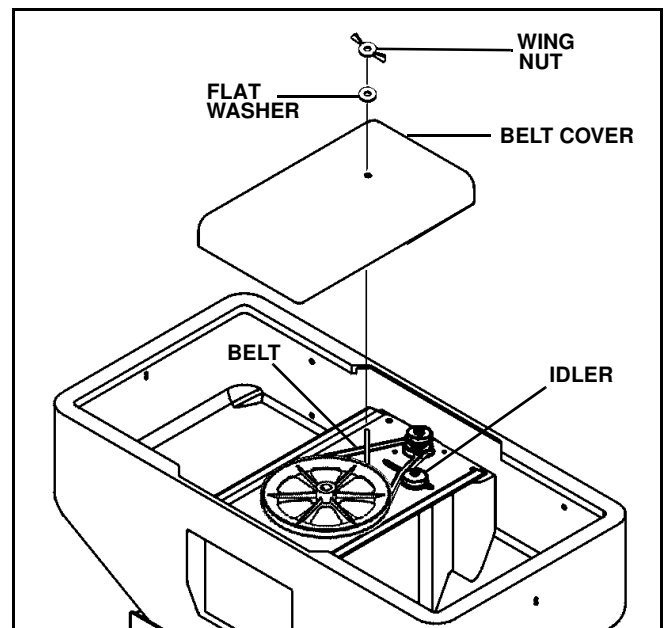


Figure 2-4

5. Loosen wing nut and washer securing belt cover to crossbrace. (See Figure 2-4)

6. Remove belt cover.

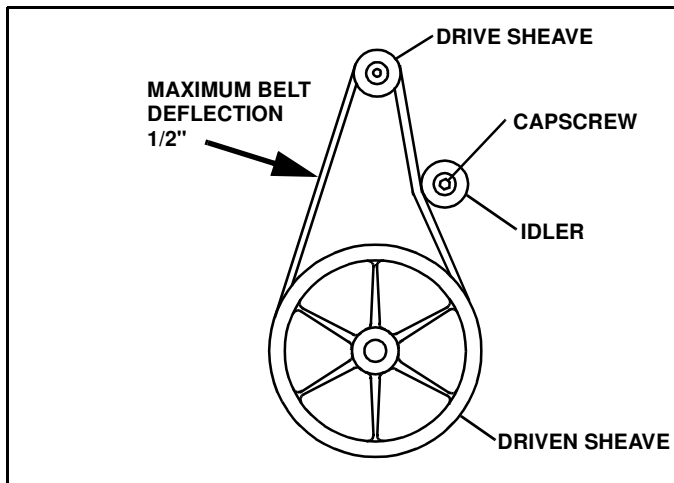


Figure 2-5

7. Loosen cap screw/nut retaining belt tensioner to crossbrace. (See Figure 2-5)
8. Adjust idler until belt opposite idler has 1/2 inch deflection. (See Figure 2-5)
9. Tighten cap screw/nut retaining belt tensioner to crossbrace to 23 lbs-ft.
10. Replace belt cover and secure wing nut and lock washer.
11. Replace hopper cover.
12. Connect spreader harness to vehicle harness.

Metri-Pack™ Connector Removal

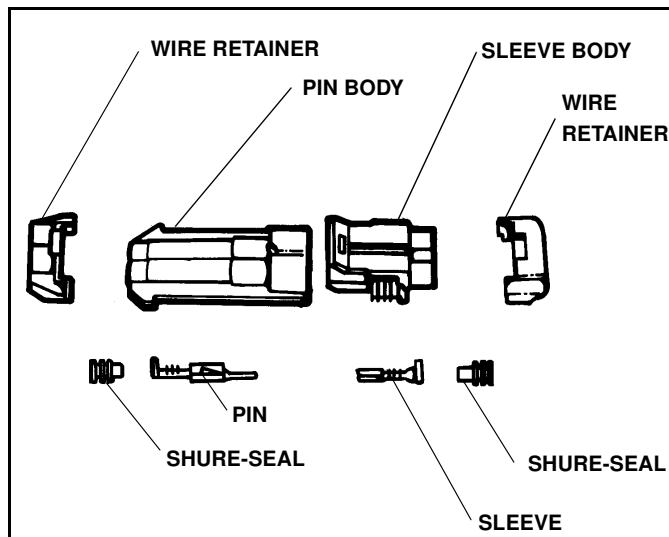


Figure 2-6

IMPORTANT: Identify wire number/color locations with connector terminal letters. (See Figure 2-6)

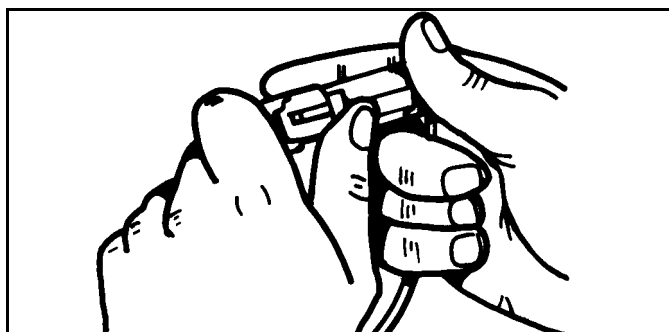


Figure 2-7

1. Open connector body. (See Figure 2-7)

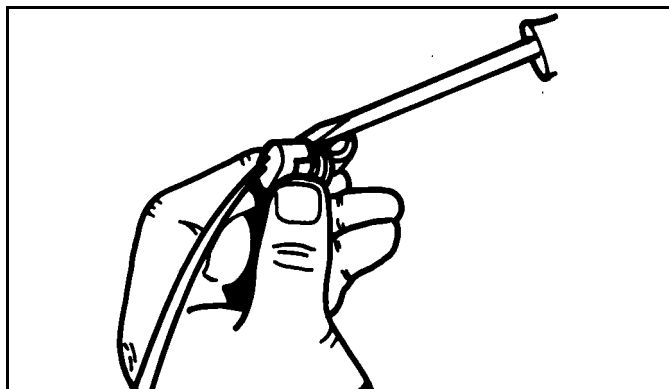


Figure 2-8

2. Remove retainer on wire end of connector with a screwdriver. (See Figure 2-8)

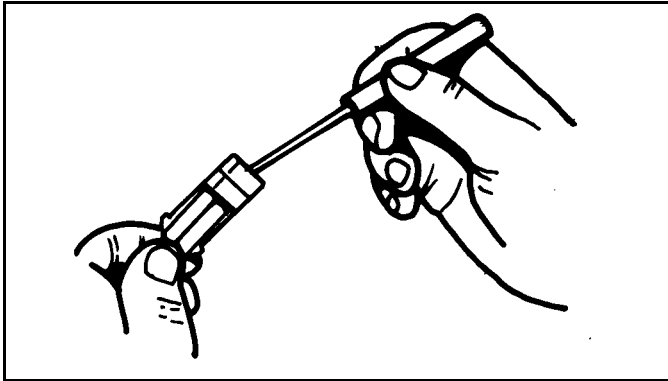


Figure 2-9

3. Use Terminal Removal Tool (#96102499) to remove contact from connector body. (See Figure 2-9)

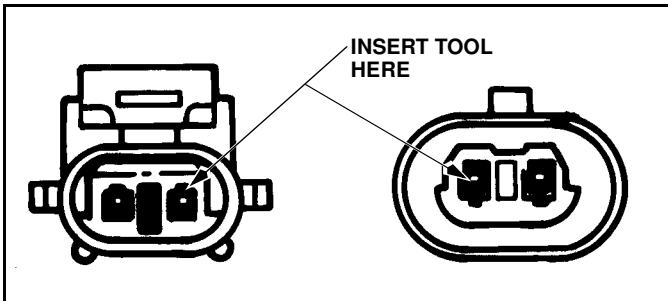


Figure 2-10

NOTE: To remove sleeve connector from sleeve body (short connector half) insert tool in slot between terminal contact and connector body. To remove pin connector from pin body (long connector half) insert tool in center of contact.

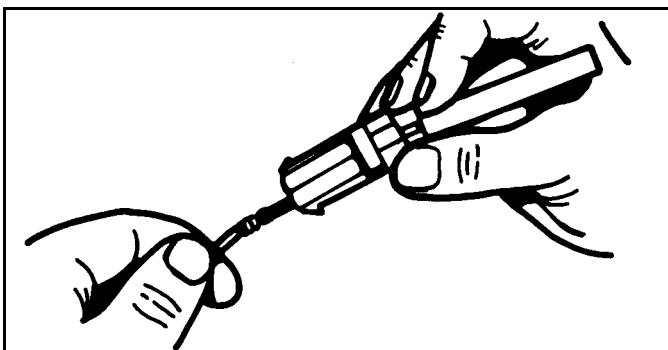


Figure 2-11

4. Hold the removal tool fully seated and pull wire from connector body.

Metri Pack™ Connector Replacement

1. Remove wire from connector body as described above.

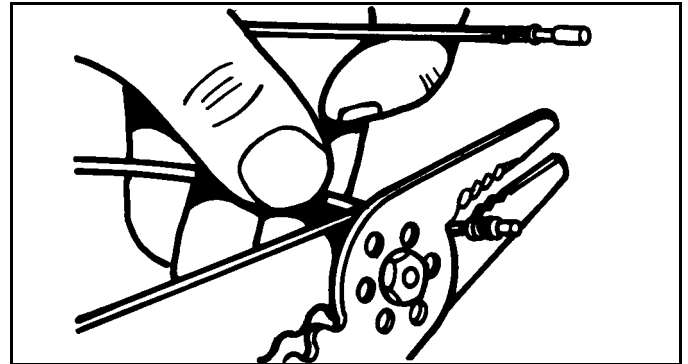


Figure 2-12

2. Use universal electrical pliers to remove wire as close as possible to old contact. (See Figure 2-12)

IMPORTANT: METRI PACK™ connectors are keyed A, B, C, etc. for proper contact mating. Be sure contacts and wire colors/numbers match and are in proper alignment.

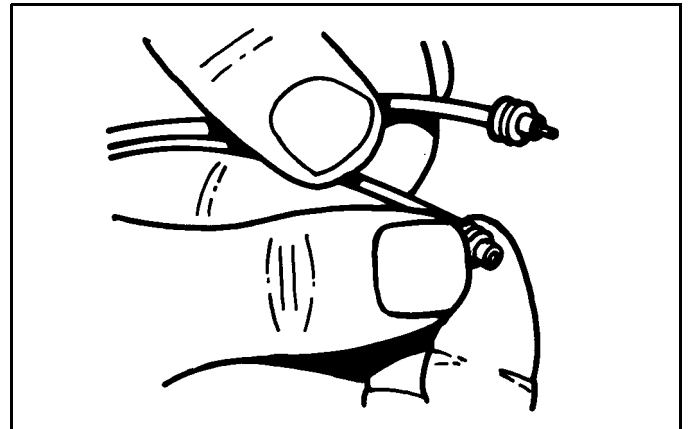


Figure 2-13

3. Install correct size cable seal on wire.

Cable seals are available for three sizes of wire:

- Large - 1.0 mm (16 gauge) wire
- Medium - 0.8 mm (18 gauge) wire
- Small - 0.5 mm (20 gauge) wire

4. Strip insulation from wire to expose 6mm (1/4 in) and align cable seal with edge of insulation.

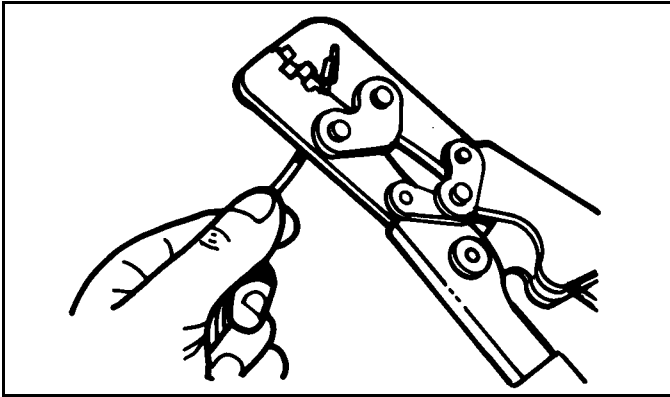


Figure 2-14

5. Place proper size contact on wire and use Crimper (#96102500) to crimp contact in place with a “W” type crimp.

6. Use Crimper to secure cable seal to contact.

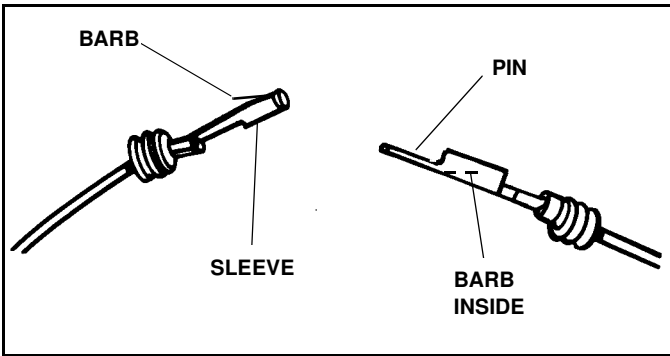


Figure 2-15

IMPORTANT: Proper barb location and orientation for installation of sleeve and pin is shown.

NOTE: Connector bodies are keyed for proper contact mating. be sure contacts are in proper alignment.

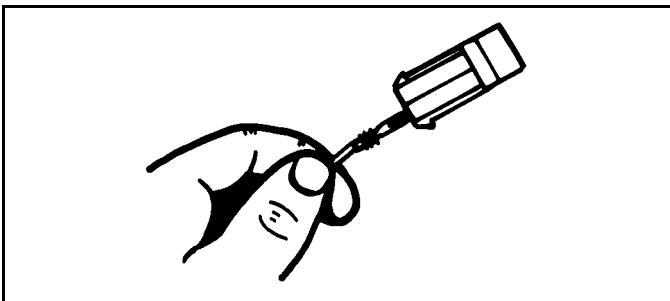


Figure 2-16

7. Push contact into new connector body until fully seated.

8. Pull on wire slightly to be certain terminal is locked in place.

9. Install wire retainer.

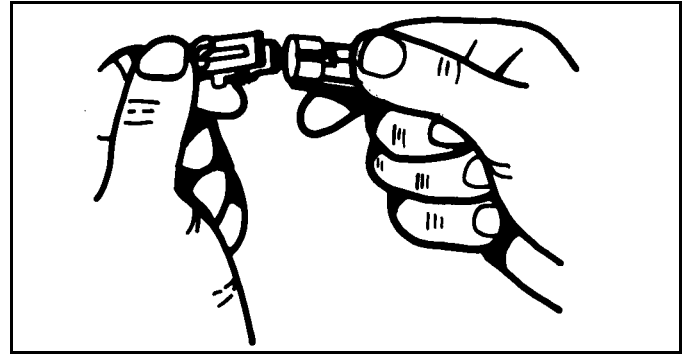


Figure 2-17

10. Transfer remaining wires to correct terminal in new connector.







11. Place retainer on wire end of connector and snap in place.

12. Close connector body.

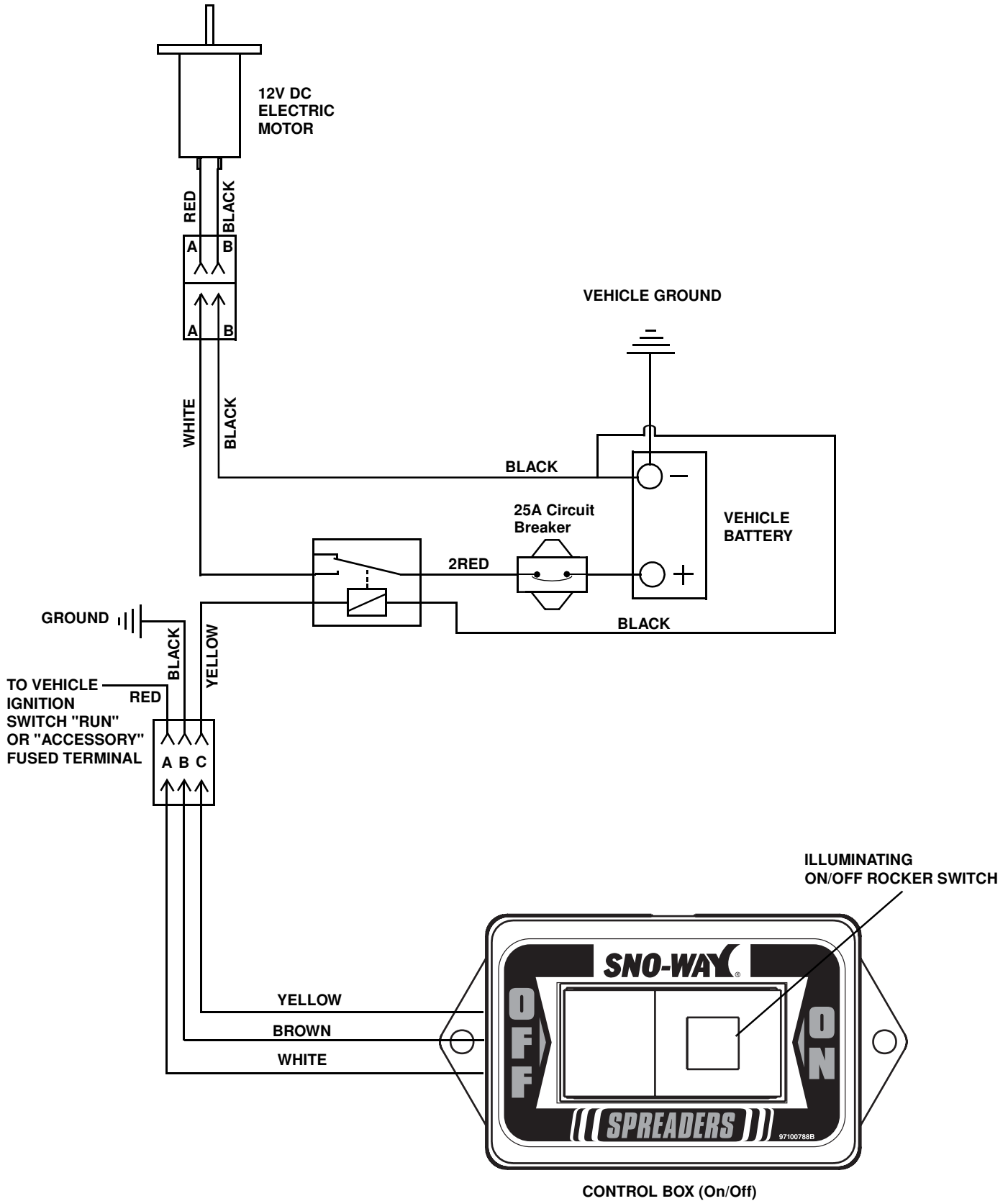
TORQUE SPECIFICATIONS

NOTE: Use these torque values when tightening Sno-Way hardware (excluding: Locknuts and Self-tapping, thread Forming and Sheet Metal Screws) unless specified otherwise.

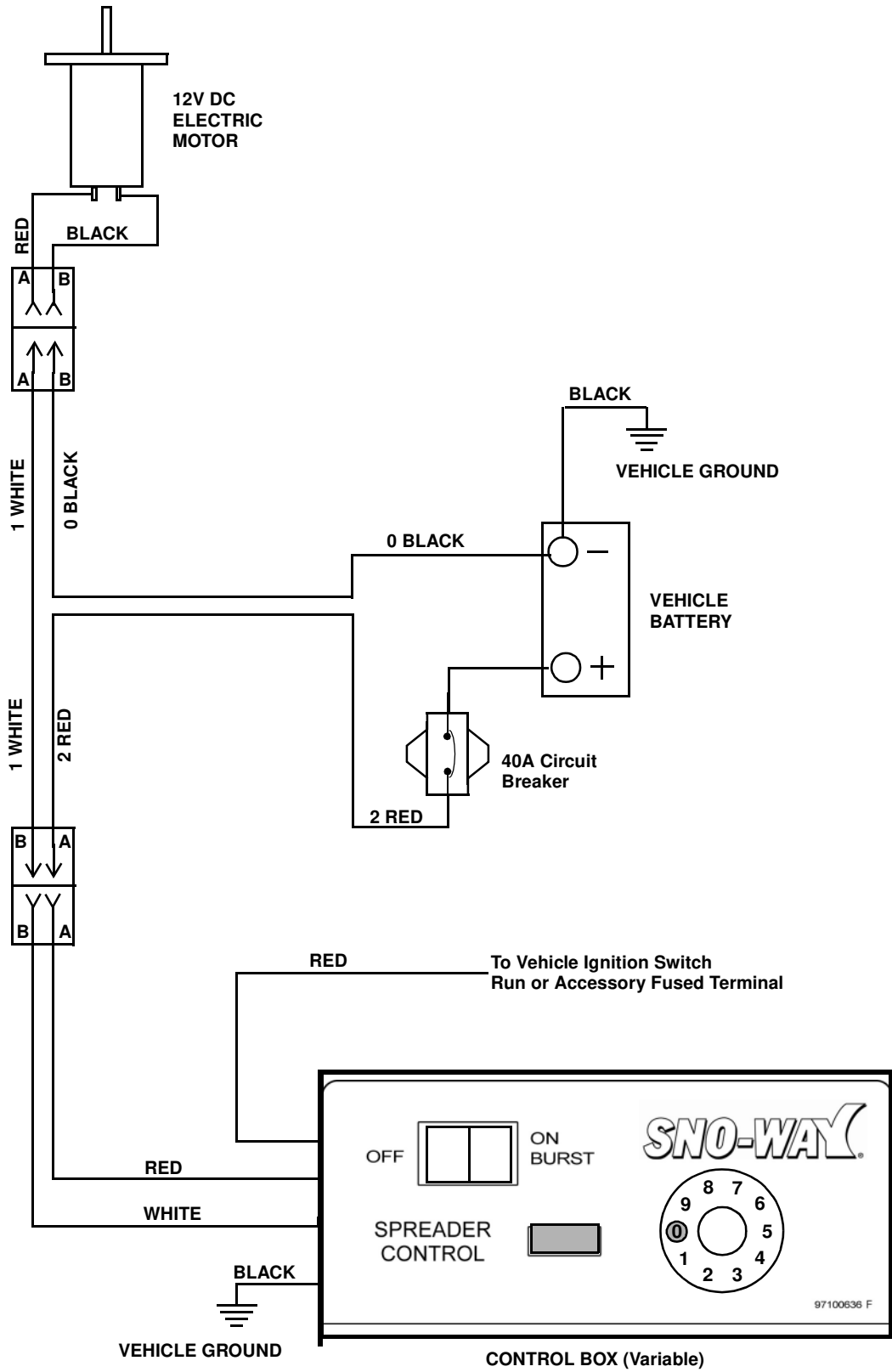
All torque values are in Lb-Ft except those marked with an * which are Lb-In
(For metric torque value Nm, multiply Lb-Ft value by 1.355 or Lb-In value by 0.113)

Unified National Thread	Grade 2 		Grade 5 		Grade 8 	
	Dry	Lubed	Dry	Lubed	Dry	Lubed
8-32	19*	14*	30*	22*	41*	31*
8-36	20*	15*	31*	23*	43*	32*
10-24	27*	21*	43*	32*	60*	45*
10-32	31*	23*	49*	36*	68*	51*
1/4-20	66*	50*	9	75*	12	9
1/4-28	76*	56*	10	86*	14	10
5/16-18	11	9	17	13	25	18
5/16-24	12		19	14		20
3/8-16	20	15	30	23	45	35
3/8-24	23	17	35	25	50	
7/16-14	32	24	50	35	70	55
7/16-20	36	27	55	40	80	60
1/2-13	50	35	75	55	110	80
1/2-20	55	40	90	65	120	90
9/16-12	70	55	110	80	150	110
9/16-18	80	60	120	90	170	130
5/8-11	100	75	150	110	220	170
5/8-18	110	85	180	130	240	180
3/4-10	175	130	260	200	380	280
3/4-16	200	150	300	220	420	320
7/8-9	170	125	430	320	600	460
7/8-14	180	140	470	360	660	500
1-8	250	190	640	480	900	680
1-14	270	210	710	530	1000	740
Metric Course Thread	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

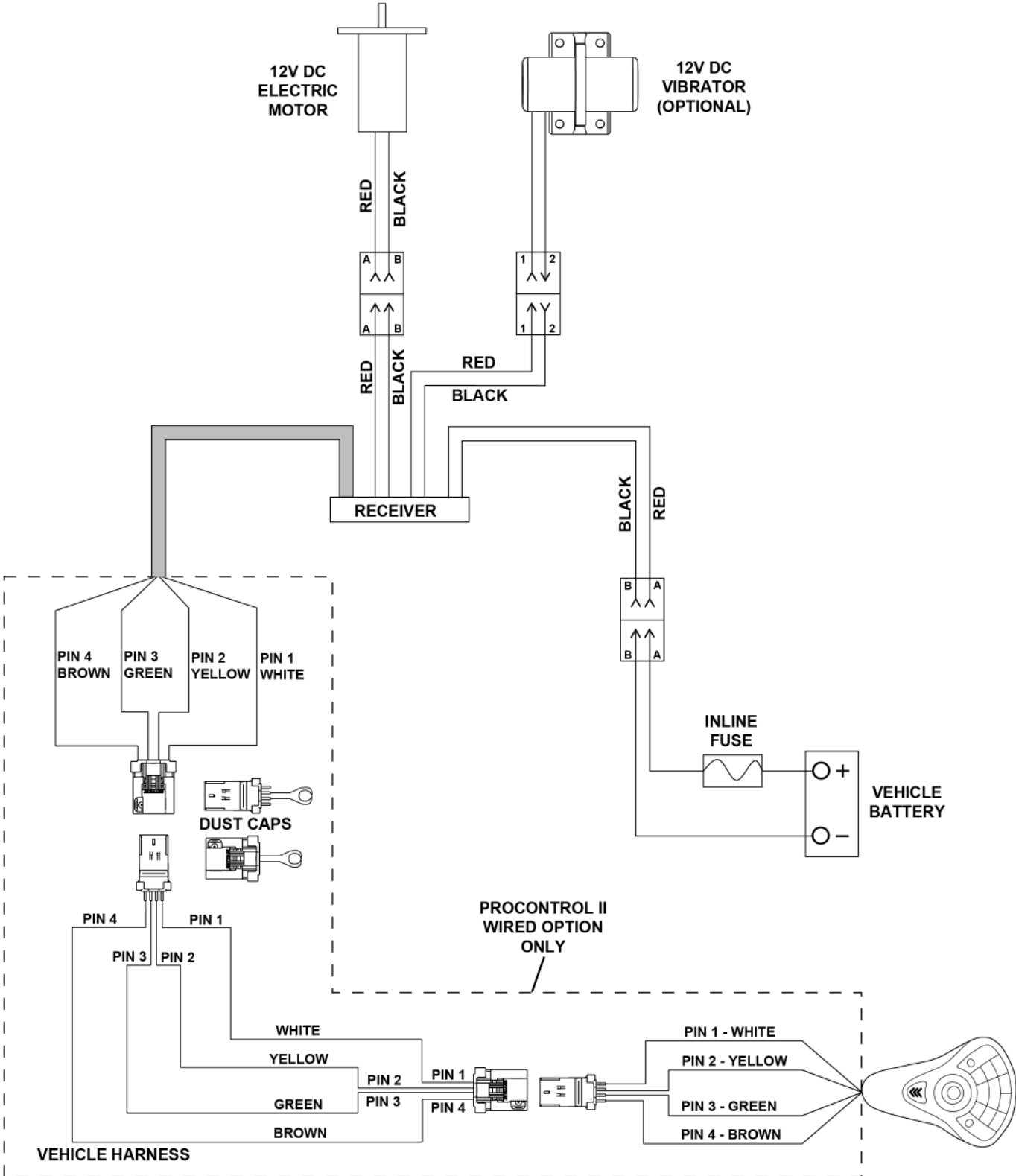
WIRING SCHEMATIC (On/Off Control)



WIRING SCHEMATIC (Variable Control)



WIRING SCHEMATIC (ProControl II)



NOTES

SNO-WAY® INTERNATIONAL, INC.

SNO-WAY®
SNOW & ICE CONTROL EQUIPMENT

Hartford, WI 53027 USA
Website: www.snoway.com
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DEALER PRE-DELIVERY CHECKLIST

The following inspections **MUST** be accomplished prior to delivering the SNO-WAY® 4, 6 or 9 CUBIC FOOT SPREADER to the customer. Place an X ☒ in the box after accomplishing each item on the checklist.

CHECK THAT

- Parts have not been damaged in shipment. Repair or replace items that are loose, dented or missing.
- All covers, guards and decals are in place and attached securely.
- Drive belt tension is properly adjusted.
- Flow gate can be adjusted to all positions.
- Hitch adapter is properly installed.
- Hitch pin is in place and retained.
- Controller and electrical wiring is properly installed.

Start the vehicle engine and place an X ☒ in the box after accomplishing each item.

CHECK THAT

- Unit does not start until **START** switch is depressed.
- Drive shaft and spinner rotate freely.
- Drive rotation is correct (clockwise from top of hopper).
- Speed can be adjusted through speed range with controller. (If variable speed controller or ProControl II is installed.)
- Burst sequence operates when **START** switch is depressed. (If variable speed controller or ProControl II is installed.)
- Listen for abnormal noises or vibrations; Repair or replace as necessary.
- Ignition switch safety shutoff functions correctly. (If on-off controller is used.)

DELIVERY CHECKLIST

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

- After giving the customer his operating manual, instruct him to read it **PRIOR** to operating the spreader. 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 spreader serial numbers, date of purchase, purchaser's name and address, and the dealers name, address and phone number in the space provided on page 1 of the owner's manual.
- Explain spreader connect and disconnect procedures.
- Demonstrate controller operation and burst function.
- Fill out Warranty Registration Card and mail COPY 1 to the factory to validate Warranty. NO Warranty claims can be honored if the Warranty Card is not on file at the factory.

SNO-WAY® INTERNATIONAL, INC.

SNO-WAY
SNOW & ICE CONTROL EQUIPMENT

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