

SNO-WAY®

SNOW & ICE CONTROL EQUIPMENT

TROUBLESHOOTING GUIDE

V-BOX & TAILGATE SPREADERS

ProControl II

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INTRODUCTION

This manual was written for troubleshooting a new Sno-Way® V-box or Tailgate Spreader. Refer to the Table of Contents for listings of units covered.

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.

Whenever service is necessary, your local dealer knows your spreader best and is interested in your complete satisfaction. Return your spreader 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 spreader, you should possess good mechanical abilities and a total understanding of the mechanism.

PLEASE: Before calling for parts and service, be certain that you have read this guide carefully and are certain that all of the suggestions pertaining to your problem have been attempted.

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.

Sno-Way Service Parts Manuals are available on-line or at your authorized Sno-Way dealer. Factory contact information is available at www.snoway.com.

Record the Spreader Model Number, Serial Number, Chute Number and Controller Serial Number in the space provided below. This is information that your Dealer needs to answer questions or to order replacement parts, if needed, for your unit.

NAME PLATE DATA	
SPREADER MODEL NUMBER	_____
SPREADER SERIAL NUMBER <small>(Located on Front Support Bracket - DS)</small>	_____
PDESC (SHORT CHUTE)	_____
PDEL (LONG CHUTE)	_____
CONTROLLER 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.

FIRST TIME OPERATION When running for the first time or after the unit has not been used for a long period of time, run and inspect the auger system without spinner and chute assembly attached.

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 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.

ALWAYS make sure that all safety guards are in place before operating the spreader.

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 spreader.

ALWAYS wait for all movement to stop before servicing or adjusting the spreader.

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.

TROUBLESHOOTING GUIDE

V-Box (PDE, Dual Electric, Single Electric, Gas) and Tailgate (4, 6 & 9 Cu. Ft.) Spreaders

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Motor will not run	Material in hopper jamming shaft/chunk busters.	Unplug power from spreader and free up the jam.
	Blown fuse.	Determine cause of electrical overload (such as jammed material in hopper) and free up Jam. Unplug power to spreader before trying to free up any jam to prevent motor from starting automatically.
	Tripped circuit breaker.	Determine cause of electrical overload (such as jammed material in hopper) and free up Jam. WARNING: Circuit breaker has automatic reset. Unplug power to spreader before trying to free up any jam to prevent motor from starting automatically.
	Loose electrical connections.	Check all connections repair as needed.
	Motor seized, brush failure	Replace motor brushes or replace electric motor.
Material will not feed	No material in hopper.	Fill hopper with recommended material.
	Material in hopper is too wet.	Remove wet material and replace with free flowing material.
	Material in hopper is too coarse.	Remove coarse material and replace with recommended free flowing material.
	Spinner is not turning.	Check drive unit. Adjust belt tension (Tailgate spreaders only).
Spinner does not turn but motor does turn	Loose belt (Tailgate spreaders only).	Adjust best tension.
	Hopper is jammed and has stopped the spinner.	Disconnect power to spreader and free up the jam.
	Bearings causing too much resistance.	Grease bearing or replace if necessary.
Motor starts, but does not continue to run - Control switch does not light (On-Off controller only)	Inadequate ground or loss of ground from the controller to the vehicle.	Clean and remove any corrosion from the wire end that may cause interference from the ground to the contact surface. Repair damaged or broken wire if necessary.

TROUBLESHOOTING GUIDE

PDE Spreader Error Codes					
PROBLEM	PROBABLE CAUSE			CORRECTIVE ACTION	
	ERROR INDICATOR LIGHT	FLASH NUMBER LIGHT	PROBLEM	RESOLUTION	TO CLEAR FLASH CODE
	OFF	OFF	No Problem or Errors	Normal state of controller	N/A
Control is giving an error code	ON	OFF	Motor Overload	An electrical overload has occurred in either the AUGER or SPINNER motor. The controller is attempting to eliminate the jam the appropriate motor and will turn off the ERROR LED if successful.	The code will clear itself if the jam is cleared, however, it will go to "5" flash if the unit could not release the jam.
	ON	1 Flash	Low Voltage Battery	The controller input voltage has been measured at less than 10 volts. Check the controller input connection and the vehicle battery voltage.	Check the main truck battery for proper voltage, or proper connections.
	ON	2 Flashes	Blown Fuse	One of the internal controller fuses has failed after power was applied. If the AUGER dial light is off, replace the AUGER fuse. If the SPINNER dial light is off, replace the SPINNER fuse. If, when the VIBRATOR switch is turned on, the VIBRATOR switch LED is off, replace the VIBRATOR fuse.	Replace blown fuse inside control; Check circuit for over load conditions.
	ON	3 Flashes	Disconnected Motor	Either the AUGER, SPINNER or VIBRATOR motor was disconnected from the controller when power was first applied. Check the cable harness or motors for disconnection.	Connect motor to harness; Apply Vibrator Light (when no vibrator light is available).
	ON	4 Flashes	Overloaded Spinner Motor	The SPINNER motor is continuously drawing greater than 30 Amps of current, and controller cannot free the jam using 50 Amps of current. Turn off the controller and physically check that the SPINNER motor is not jammed.	Clear Jam, "Hard Start" control.
	ON	5 Flashes	Overloaded Auger Motor	The AUGER motor is continuously drawing greater than 52 Amps of current, and controller cannot free the jam using the AUTO-REVERSE feature and 70 Amps of current. Turn off the controller and physically check that the AUGER motor is not jammed.	Clear Jam, "Hard Start" control.
	<i>(Continued)</i>				

TROUBLESHOOTING GUIDE

PDE Spreader Error Codes					
PROBLEM	PROBABLE CAUSE			CORRECTIVE ACTION	
	ERROR INDICATOR LIGHT	FLASH NUMBER LIGHT	PROBLEM	RESOLUTION	TO CLEAR FLASH CODE
Control is giving an error code <i>(Continued)</i>	ON	6 Flashes	External Short Circuit to Ground	After power was first applied to the controller, a short circuit to ground was detected in one of the 12VDC wires leaving the controller. The short is either in the AUGER WHITE 12VDC wire to ground or the GREEN SPINNER GREEN 12VDC wire to ground. Turn off the controller. Disconnect the controller from the motor cable harness then turn the controller on again. If the ERROR clears, the short is in the cable harness. If the ERROR does not clear, the controller is at fault and needs to be replaced.	Control will not operate until short has been located. Look for faulty wiring harness. Check wiring harnesses for fraying, especially in the firewall interface.
	ON	7 Flashes	Missing Battery Voltage	The controller input voltage on the RED 10 AWG wire has been measured at less than 5 volts after power was first applied to the controller. Check the controller input connection for low voltage or for a poor power connection. The controller does require a minimum of 8 VDC to operate.	Check wiring between the control and the ignition circuit. Make sure adequate connections are made. "Hard Start" control to clear code.

ProControl II		
Transmitter		
PROBLEM - Light Indication	PROBABLE CAUSE Description	CORRECTIVE ACTION Description
Back light ON	Transmitter is turned ON	Turn transmitter ON.
Back light flashing	Control error	Check wiring. Unplug and reconnect receiver. If still flashing, contact dealer as control may be faulty.
DP light flashes 4 times	Communication established with plow receiver	Control ready to operate.
DP light flashes alternately with back light 4 times	Communication lost with plow receiver	Control will try to re-establish communication.
Salt light and DP light flash together 4 times	Spreader jam	Turn control OFF and unplug control. Clear jam.
Salt light flashes 4 times	Communication established with salt spreader receiver	Control ready to operate.
Salt light flashes alternately with back light 4 times	Communication lost with spreader receiver	Control will try to re-establish communication.

Plow Receiver

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
Light Indication	Description	
RED flashing LED	Receiver has power and no communication with transmitter	Transmitter is turned OFF. Turn transmitter ON to operate plow.
GREEN flashing LED	Receiver has power and communication with transmitter	Control is ready to operate plow.
LED flashes Green 1 time and then flashes RED on power up	Receiver configured for Straight Plow	Light indication.
LED flashes Green 2 times and then flashes RED on power up	Receiver configured for Wing Plow	Light indication.
LED flashes Green 3 times and then flashes RED on power up	Receiver configured for V-Plow	Light indication.
Salt light and DP light flash together 4 times	Spreader jam	Turn control OFF and unplug control. Free up jam.
Salt light flashes 4 times	Communication established with salt spreader receiver	Control ready to operate.
Salt light flashes alternately with back light 4 times	Communication lost with salt spreader receiver	Control will try to re-establish communication.

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