



**OWNER'S, INSTALLATION  
AND  
PARTS MANUAL**

**SKID STEER**  
**10 CUBIC FOOT HYDRAULIC SPREADER**

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# INTRODUCTION

This manual was written for the assembly, installation and maintenance of your new Sno-Way® Skid Steer Hydraulic 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 in the next column, are the SAFETY ALERT messages and how they will appear in this manual.

	<b>WARNING</b>
FAILURE TO FOLLOW CAN RESULT IN INJURY OR DEATH	

	<b>CAUTION</b>
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 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 vertical tube 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.

<b>NAME PLATE DATA</b>	
SPREADER MODEL NUMBER _____	
SPREADER SERIAL NUMBER _____ <small>(Located on Hopper Frame)</small>	
FLOW CONTROL SERIAL NUMBER _____	
MOTOR SERIAL NUMBER _____	(FILL IN)

<b>DEALER</b>	
NAME _____	
ADDRESS _____	
CITY _____ STATE _____ ZIP _____	
PHONE ( )- _____	(FILL IN)

<b>ORIGINAL PURCHASER</b>	
NAME _____	
ADDRESS _____	
CITY _____ STATE _____ ZIP _____	
PHONE ( )- _____	(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.



## 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 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.

**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 CO<sup>2</sup> 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.

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

# THEORY OF OPERATION

## Hopper and Mounting System

The hopper is manufactured out of a corrosion resistant, polyethylene polymer with low 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 also provides mounting points for attachment to the mounting frame mounted to the vehicle.

The subframe consists of a unique quick attach/detach system that allows the hopper/frame to be quickly mounted or removed from the vehicle by simply removing two pins.

## Power Unit Operation

The drive unit consists of a hydraulic motor, motor sheave, drive belt, adjustable belt tensioner, driven sheave, auger shaft, and shaft support bearings.

Control of the motor is accomplished by spreader mounted variable speed controller.

The unit is activated by the operator turning on the auxiliary hydraulics. The unit will then operate at the pre-selected speed until the unit is shut off by the operator turning off the auxiliary hydraulics.

The belt driven auger shaft runs at approximately 1/6 motor rpm. The auger shaft is mounted on two bearings, one located under the top shield and the other located under the spinner assembly. The auger shaft also incorporates a chain "lump breaker" to ease material flow in the hopper.

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

## Gates and Deflector Operation

The Skid Steer Hydraulic Spreader is equipped with both "gates" and "deflectors" to accurately and precisely dispense materials.

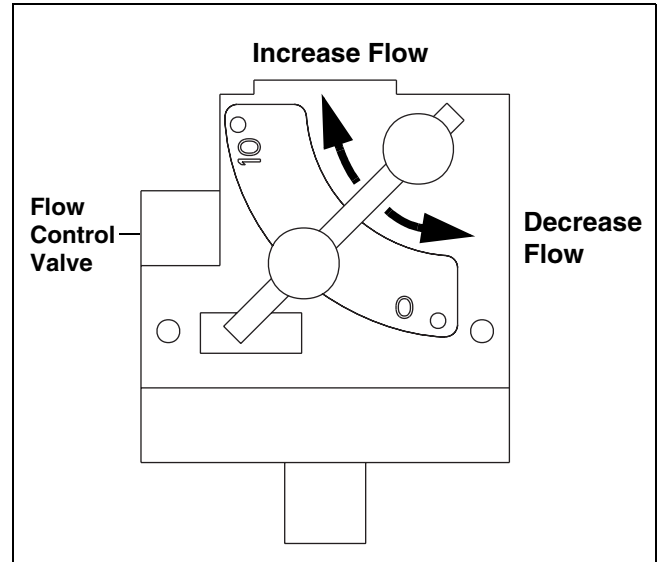
The gates control the volume of material being dispensed and to a lesser extent the discharge pattern of the material. If the left gate is fully closed and the right gate is opened more material will be discharge to the **left** side of the pattern. Conversely If the right gate is fully closed and the left gate is opened more material will be discharge to the **right** side of the pattern

The deflectors control the pattern of the material being dispensed. The wider the deflectors are set the wider the pattern will be. If the right deflector is set parallel with the vehicle and the left deflector is set wide open all the material being discharged will go to the **left** of center.

Conversely if the left deflector is set parallel with the vehicle and the right deflector is set wide open all the material being discharged will go to the **right** of center.

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

## Adjustable Speed Operation



Speed of the spinner is controlled by the operator by adjusting the control unit clockwise, increased flow, or counter-clockwise, decreased flow.

# SPREADING OPERATION

## 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. 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® 10 CUBIC FOOT SPREADER.

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® 10 CUBIC FOOT SPREADER 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. Utilizing the loader arms to shake the Spreader moderately may loosen clumped material and allow flow to resume. Persistent blockage will require physical breakup before resuming operation.
- **Calcium Chloride** - Calcium Chloride can become "sticky and chunky". Utilizing the loader arms to shake the Spreader moderately may loosen clumped material and allow flow to resume. Persistent blockage will require physical breakup before resuming operation.

*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 10.25 cu. Ft. 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.**

Material	Weight (lbs. Per Cu. Ft.)
Rock Salt Coarse	35
Rock Salt Fine	45
Coarse Sand	95

Example: Fine Rock Salt @ 45 lbs/ft<sup>3</sup> x 10ft<sup>3</sup> = 450lbs

**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 800 lb hardened salt block later.**

## Before The Season Begins

1. Inspect vehicle safety equipment for proper operation; brakes, headlights, windshield wipers, flashers, etc.
2. 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.
3. 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.
4. Apply a small amount of light oil to the hitch pins.
5. Install auxiliary and flashing lights as required by local ordinances.
6. Remove the drive cover and inspect all drive components. Engage the spinner drive to insure proper operation of the spinner drive.



## 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.

## Spreading Like A Pro

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.

## Mounting Spreader To Universal Mount

1. Drive up to the spreader and tilt the universal mount slightly forward

2. Hook the top of the universal mount under the lip on the adapter plate on the spreader.

3. Position the spreader so that it rests flush against the universal mount and lock the spreader in place.

4. Connect the hydraulic hoses with the "In" or "Power" circuit leading to the top of the controller.

## Removing Spreader From Universal Mount

1. Remove all material from the spreader.
2. Move the spreader to a firm, flat surface.
3. Gently lower the spreader to the ground.
4. Disconnect the hydraulic hoses from the vehicle.

5. Unlock the universal mount from the spreader and slowly back vehicle away from the spreader, while tilting the universal mount slightly forward.

## Checking Spinner Rotation



## WARNING

Never check spinner rotation by looking at spinner. Material residue on spinner will cause severe injury to eyes of bystanders upon discharge.

**FAILURE TO FOLLOW CAN RESULT IN INJURY OR DEATH.**

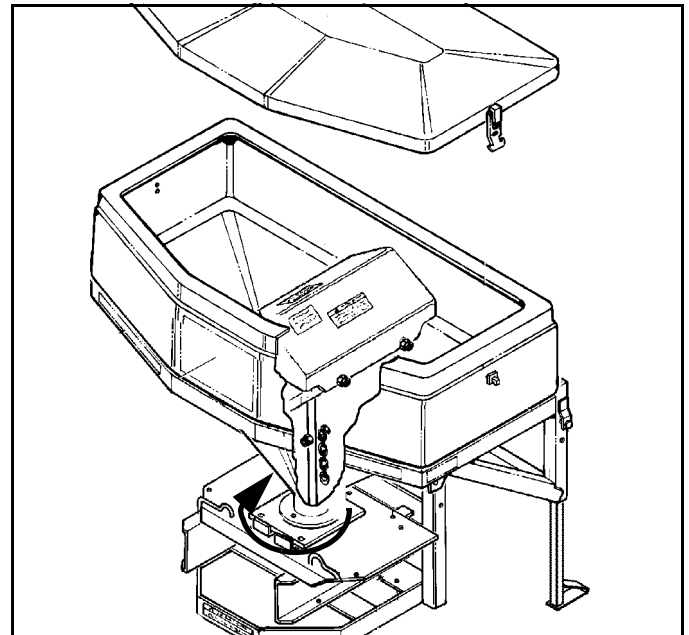


Figure 1-1

1. Remove cover.

2. Engage auxiliary hydraulics to start spreader and check auger for proper rotation. Shaft should rotate clockwise when viewed from top (See Figure 1-1).

3. If shaft rotates counterclockwise:

- Reverse hose connections to auxiliary hydraulics.
- Recheck rotation of shaft.

## Before You Use Spreader



### CAUTION

Disconnect auxiliary hydraulics before lubricating drive components or checking belt tension or spinner freedom of rotation.

**IMPORTANT:** Lubricate spindle shaft bearings before each use of the spreader. Failure to do so will result in corrosion of the bearings and cause the spreader to work inadequately.

1. Grease bearings on spinner shaft. See "Lubrication Requirements" on page 10.

**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" on page 10.

3. Check for free turning of spinner shaft by grasping spinner and turning it by hand.

4. Load material in hopper. See "Operating Capacities" on page 5.

## Removing Spreader From Vehicle

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.

3. Remove all material from hopper.

4. Disconnect auxiliary hydraulics.

5. Remove lynch pin and hitch pin from universal mount.



### CAUTION

Spreader hopper and frame weigh 168 lbs. **EMPTY.** Get help and use proper lifting procedures when installing or removing spreader.

6. Lift hopper with hopper frame from vehicle frame and carefully place on floor.

*NOTE: If using skid steer, tractor, etc., lower arms and back away.*

## Gate and Deflector Adjustment

The amount of material dispensed is dependent on four factors:

- Spinner Speed
- Gate Position
- Deflector Position
- Vehicle Speed

Any variation in one or more of the above will result in varied pattern spread, pattern width and the amount of material discharged from the spreader..

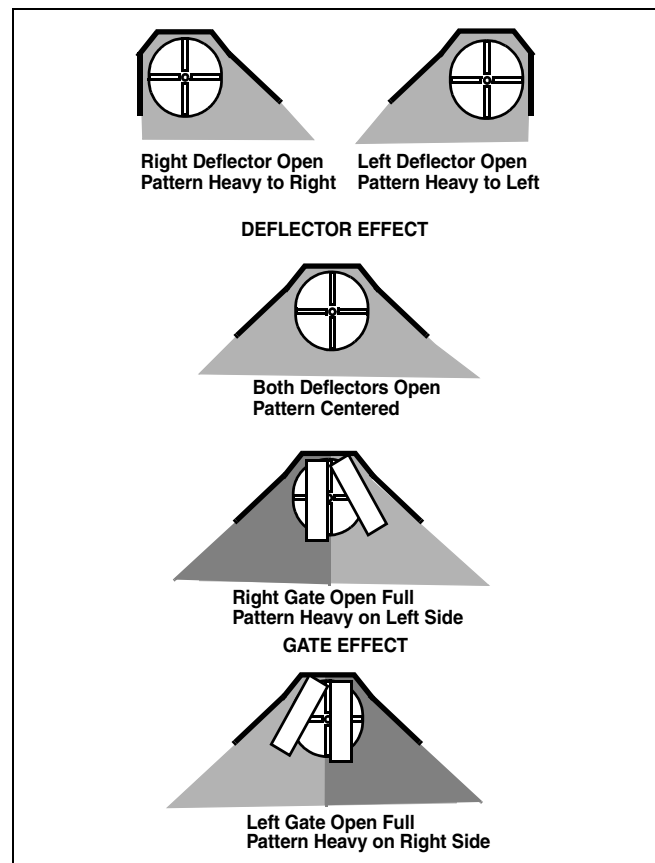


### WARNING

Ensure engine is OFF, ignition key removed and parking brake is set BEFORE making any adjustments to the deflectors or gates. Vehicle movement, equipment failure or inadvertent operation of the control switches during adjustments could result in serious injury.

**FAILURE TO FOLLOW CAN RESULT IN INJURY OR DEATH.**

The following charts will serve as a general guide and starting point but experience is the best guide for determining the best combinations of settings for your application





# SPREADER INSTALLATION

## Assembly of Flow Control Package to Spreader

1. Fasten the flow controller and mounting plate to the spreader frame support angle behind the hydraulic motor with the two 5/16" x 1" hex head bolts and lock nuts loosely assembled on the mounting plate.
2. If mounting holes are not provided in the spreader frame support angle, position the controller mounting plate with the lower edge flush with the lower edge of the support angle and plate approximately centered behind the hydraulic motor. Using the plate as a template, mark and then drill two .344 (11/32") diameter holes in the spreader support angle for mounting the controller plate.
3. Install the flow controller and mounting plate with the two 5/16" x 1" hex head bolts and lock nuts previously removed from the plate.



### CAUTION

**Do Not use Teflon® tape or pipe compound on hydraulic fittings. These can dislodge and jam valves in the hydraulic system.**

4. Assemble the hydraulic hose on the 90° elbow fitting on the right side of the controller to the hydraulic motor port on the left side of the motor. Assemble the hydraulic hose on the tee fitting to the check valve which extends below the right hydraulic motor port.
5. Assemble two 1/2" diameter hydraulic hoses with #10 (7/8"-14) SAE37° (JIC) female fittings (obtained locally) to the 90° elbow fitting (on top of the controller), and the tee fitting.

**IMPORTANT: Hydraulic hoses for this application must be SAE100R2 hoses or equivalent.**

6. Install hose fittings as needed on the two 1/2" diameter hoses to allow connection to the vehicle.

*NOTE: It may be advisable to mount the spreader to the vehicle before obtaining the hoses, in order to better determine the hose routing and required hose lengths.*

## Assembly of Spreader to Universal Mount Frame

1. Place the spreader upright on a firm, flat surface with the lower frame resting on the ground.
2. Remove the lynch pin (98009169) and hitch pin (96102052) from each side of the spreader frame.
3. Lift the universal mount frame up to the spreader frame and slide the open end slots on each side of the universal mount frame into the fixed pins on each side of the spreader frame.
4. Align the holes below the open end slots on the universal mount frame with the holes beneath the fixed pins on the spreader frame and insert a hitch pin on each side. Retain each hitch pin with a lynch pin.

## Initial Mounting of Spreader to Vehicle

1. Drive the vehicle up to the spreader and tilt the vehicle universal mount attaching plate slightly forward.
2. Hook the top of the universal mount attaching plate under the top lip on the spreader mounting plate.
3. Position the spreader so that the spreader mounting plate is flush against the universal mount attaching plate and lock the spreader in place.
4. Attach the large hydraulic hoses on the spreader controller to the vehicle auxiliary hydraulic ports.

**IMPORTANT: The hydraulic hose leading to the top of the controller must be the "IN" or "POWER" circuit of the vehicle auxiliary hydraulics.**

5. After attaching the hydraulic hoses, inspect the routing of the hoses to insure that the hoses will not be pinched or otherwise damaged during operation. Tie the hoses in position as necessary to insure proper hose positioning.

# TROUBLESHOOTING GUIDE

## Introduction

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

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 Skid Steer Hydraulic Spreader was originally installed.
- B. Spreader Model Number.
- C. Spreader Serial Number.

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

 <span style="font-size: 24pt; font-weight: bold; margin-left: 10px;">CAUTION</span>
<p><b>First read all warning instruction, the safety messages, and directions before attempting any adjustments or repairs to your unit!</b></p>

PLEASE: Before calling parts and service personnel be certain that:

## Troubleshooting-Quick Reference General

1. Unit will not operate unless auxiliary hydraulic circuit is on.

2. Check to see that the hydraulic auxiliary circuit is on.

3. Check all hoses for leaks. Check to ensure that quick disconnect couplings are tight and sealed.

## TROUBLESHOOTING

PROBLEM	PROBABLE CAUSE	CORRECTIVE ACTION
<b>Motor does not run</b>	Plugged drive unit.	Unplug.
	Motor seized	Replace Motor
<b>Motor runs backwards (makes loud noise)</b>	Hydraulic connections incorrect	Verify correct installation. See "Checking Spinner Rotation" on page 6
<b>Material will not feed</b>	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" on page 10  Check for foreign objects in discharge chute.
<b>Spinner does not turn but motor does turn</b>	Loose belt	Adjust belt tension. See "Drive Belt Adjustment" on page 10
	Hopper plugged stopping Spinner	Replace material
	Material in Hopper too coarse stopping spinner	Replace material

# 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.

## Stainless Steel Cleaning Instructions

Wash with soap or detergent and lukewarm water. To scrub off any surface rust, use a nylon or brass bristle brush. **Do not** use steel wool; Steel wool will leave a steel residue which will result in surface rust.

## Lubrication Requirements

It is recommended that the two bearings supporting the auger shaft be lubricated with a Lithium Base EP Marine Grade grease at the beginning of **every** operating period.

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

At the end of the season, remove the belt drive idler pulley, clean it thoroughly to remove any dirt and salt, and 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.

## Flow Control Maintenance

The hydraulic flow control should be cleaned thoroughly and painted after the end of every season. Check actuator control spool valve for smooth rotational movement. Oil the spool valve externally to keep the o-rings moistened with oil, and keep corrosion from stiffening the movement of the spool valve. If corrosion sets in, the spool valve will

not rotate easily. If the unit is malfunctioning, the internal components may seize up. Repair parts and service are available through you Sno-Way dealer.



## CAUTION

**DO NOT attempt to perform any service on the Controller. Any attempt to service the controller will void the factory warranty.**

## Motor Service

There are no owner serviceable parts in the motor. Motor is sealed and should not be disassembled for any reason. If motor does not work, contact your dealer.



## CAUTION

**DO NOT attempt to disassemble the motor. This is a sealed unit and there are no owner serviceable parts in the motor. Disassembly of motor will break seals and cause motor to fail prematurely.**

## Drive Belt Adjustment

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

1. Drive vehicle to the desired maintenance area. Set park brake. Turn off engine. Remove key.

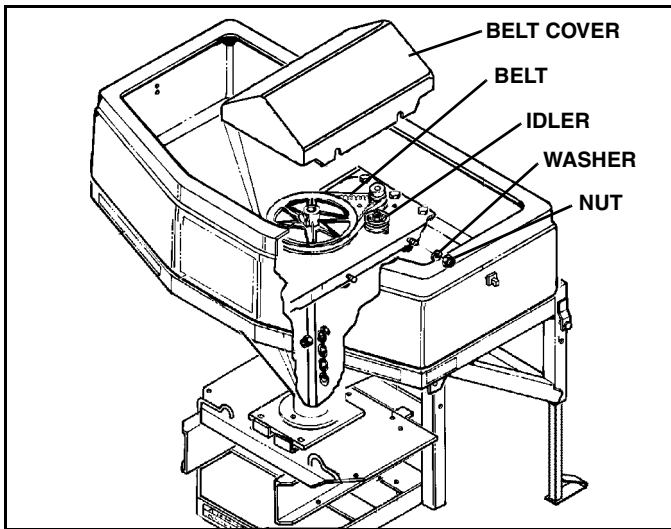


## WARNING

**Ensure engine is OFF and parking brake is set before working on the spreader. Vehicle movement, equipment failure or inadvertent operation of the control switches during service could result in serious injury.**

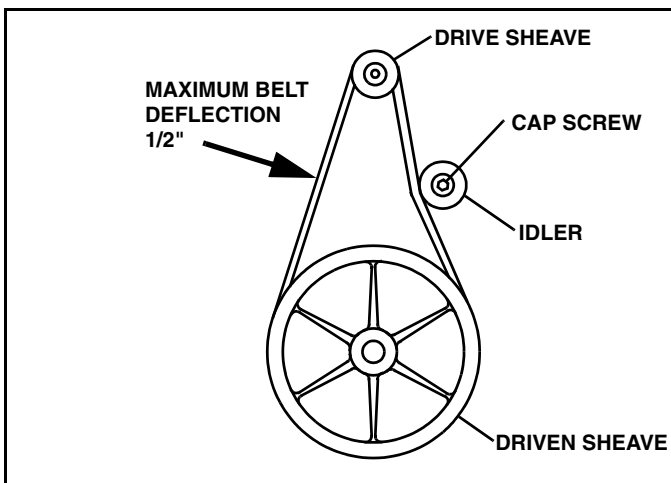
**FAILURE TO FOLLOW CAN RESULT IN INJURY OR DEATH.**

2. Remove cover from hopper by undoing the two rubber hold-downs.
3. Remove enough material from the hopper to expose the Belt Cover bolts.



**Figure 2-1**

4. Loosen four (4) Nylock Nuts and four (4) plain washers securing Belt Cover to crossbrace. (See Figure 2-1)
5. Remove Belt Cover.









**Figure 2-2**

6. Loosen cap screw/nut retaining belt tensioner to crossbrace. (See Figure 2-2)
7. Adjust Idler until belt opposite idler has 1/2 inch deflection. (See Figure 2-2)
8. Tighten cap screw/nut retaining belt tensioner to crossbrace to 23 lbs-ft.
9. Replace Belt Cover and secure with four (4) Nylock nuts and plain washers. Tighten to 10 lbs-ft.
10. Replace Hopper Cover.

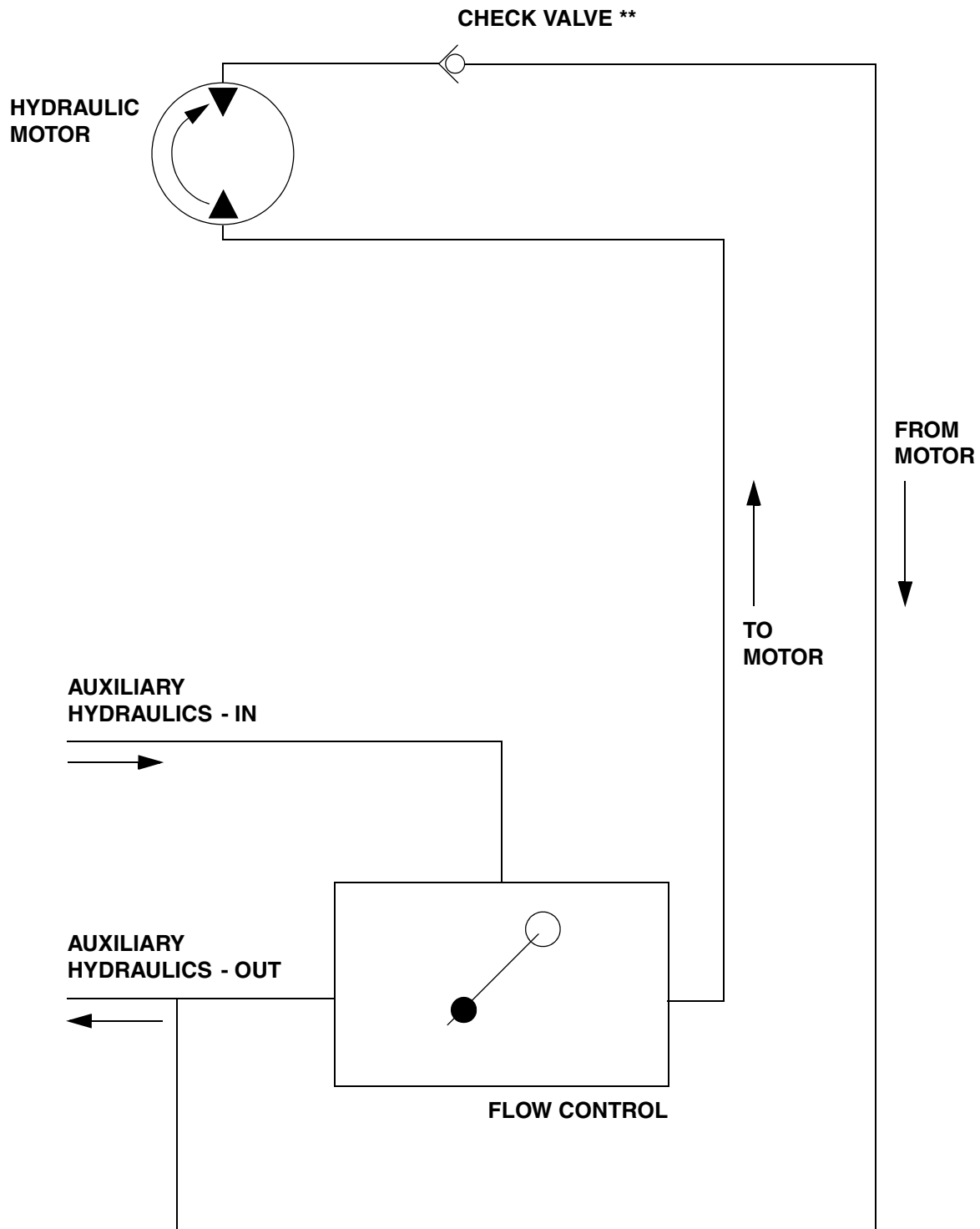
# TORQUE SPECIFICATIONS

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

# HYDRAULIC SCHEMATIC



**\*\* Check valve is to protect Flow Control from being damaged by reverse flow, and also to keep the motor from reversing.**

# PARTS LIST INTRODUCTION

Our dealership network stands by to provide you with any assistance you may require, including genuine Sno-Way service parts. All parts should be obtained from or ordered through your dealer. Give complete information about the part as well as the Model Number and Serial Number of your machine.

Record the Serial Number in the space provided in your Owner's Manual for quick reference. The Serial Number for the unit is on a plate located on the left vertical support tube of the Hopper Frame.

"Right" and "Left" are determined from a position sitting on the Operators Seat of the vehicle.

We reserve the right to make changes or improvements in the design or construction of any part without incurring the obligation to install such changes in any unit previously delivered.

## USING THIS PARTS LIST

Below is parts listing with four columns. The first column is the "ITEM", the second is the "PART NUMBER", The third is the "DESCRIPTION" and the fourth is the "QUANTITY".

The **"ITEM"** is the number used in the corresponding illustration.

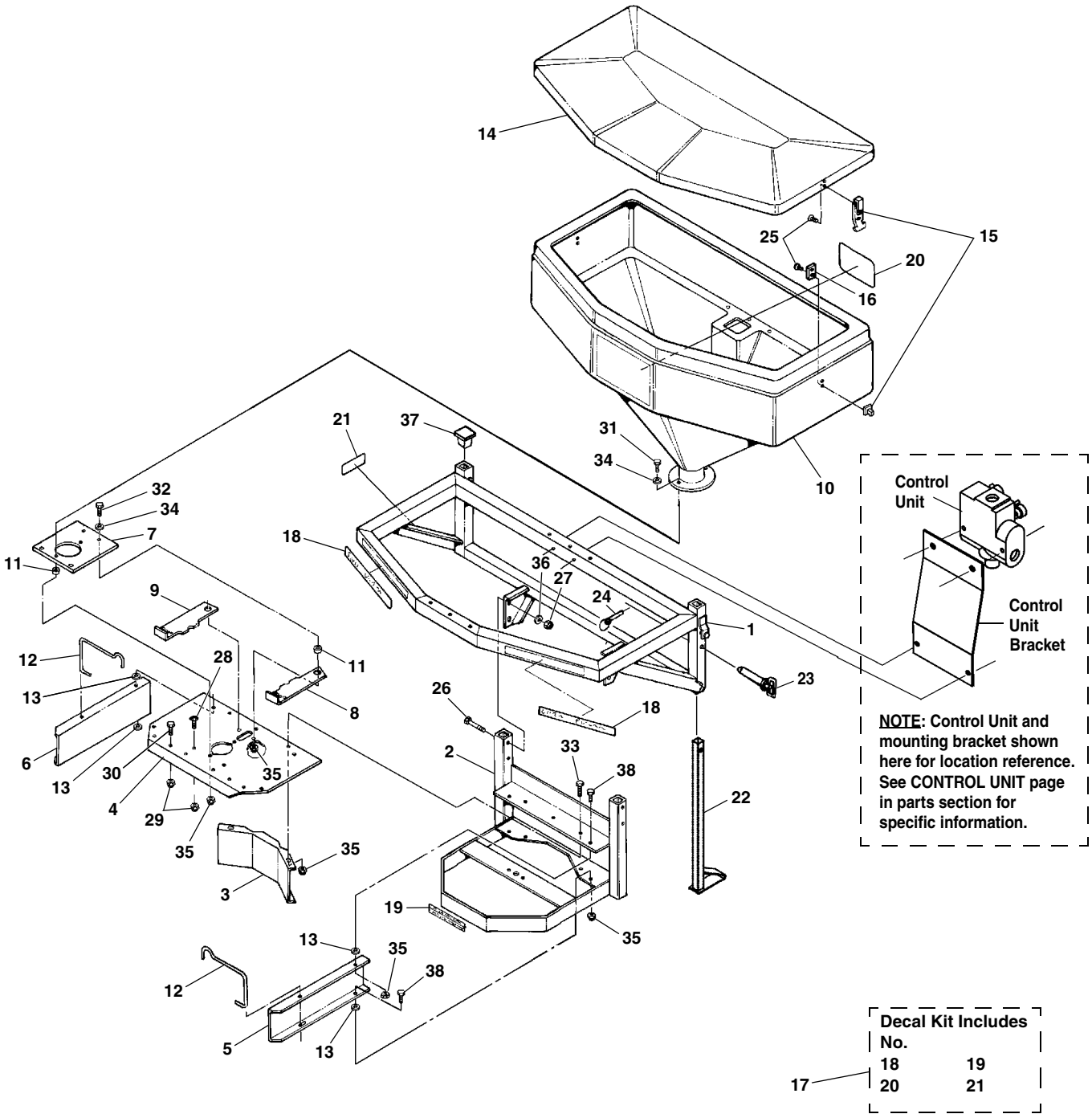
The **"PART NO."** Is the number used to order replacement parts. If a number does not appear in the column the part is only available by ordering the complete assembly.

The **"DESCRIPTION"** is the name of the replacement part. At times the name may be indented, this means that the indented parts are part of the preceding assembly.

The **"QTY."** Is the quantity needed to service the assembly illustrated, not the complete product.

ITEM	PART NO.	DESCRIPTION	QTY.
1	96100083	O-ring	1
2	96001529	Elbow	3
3	98100036	Capscrew, Hex., 3/8"-16NC x 7/8"	9

# HOPPER FRAME

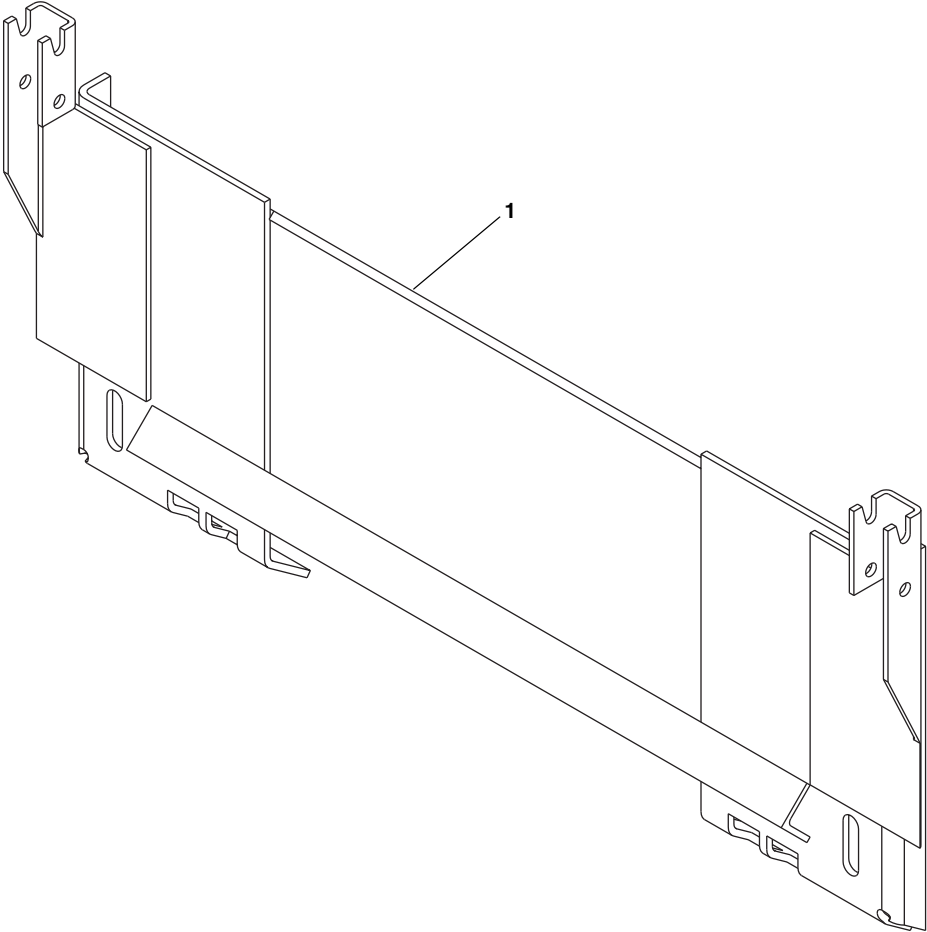




# HOPPER FRAME

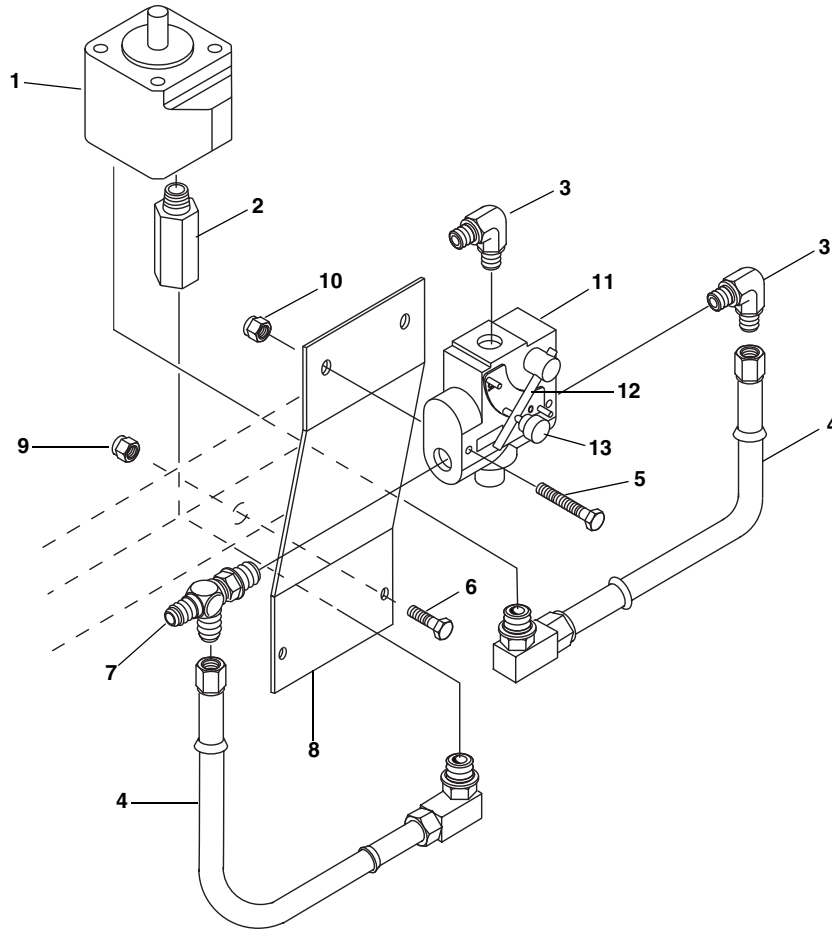
ITEM	PART NO.	DESCRIPTION	QTY.
1	96102072	Frame, Hopper Support . . . . .	1
2	96102077	Frame, Lower . . . . .	1
3	96101906	Deflector, Front . . . . .	1
4	96101901	Deflector, Upper . . . . .	1
5	96101908	Deflector, Side, RH . . . . .	1
6	96102454	Deflector, Side, LH . . . . .	1
7	96102143	Plate, Valve Mounting . . . . .	1
8	96102248	Plate, Valve, RH . . . . .	1
9	96101902	Plate, Valve, LH. . . . .	1
10	96101793	Hopper . . . . .	1
11	96101915	Spacer. . . . .	4
12	96101905	Rod, Adjustment . . . . .	2
13	98009232	Washer, Nylon. . . . .	4
14	96102245	Cover, Hopper. . . . .	1
15	96102275	Latch, Flexible. . . . .	2
16	96102276	Plate, Backing. . . . .	4
17	96102277	KIT, DECAL. . . . .	1
18		Decal, Sno-Way. . . . .	2
19		Decal, Warning . . . . .	1
20		Decal, Important . . . . .	1
21		Decal, Warning . . . . .	1
22	96106504	Foot, Spreader Support. . . . .	2
23	96102052	Pin, Hitch . . . . .	2
24	98009169	Pin, Lynch . . . . .	2
25	98100116	Screw, Pan Head, #10-24 x 3/4" SS . . . . .	6
26	98009134	Cap Screw, Hex Head, 3/8"-16 x 2-1/2" . . . . .	4
27	98009009	Nut, Nylock, 3/8"-16 . . . . .	4
28	98009212	Screw, Pan Head 1/4-20NC x 5/8" SS . . . . .	2
29	98100119	Nut, Nylock, 1/4"-20 SS . . . . .	4
30	98100130	Cap Screw, Hex Head, 1/4"-20 x 5/8" SS . . . . .	2
31	98100113	Cap Screw, Hex Head, 5/16"-18 x 1-1/2" SS . . . . .	2
32	98100111	Cap Screw, Hex Head, 5/16"-18 x 1-1/4" SS . . . . .	2
33	98100112	Cap Screw, Hex Head, 5/16"-18 x 3/4" SS . . . . .	5
34	98100123	Washer, Plain, 5/16" SS . . . . .	4
35	98100118	Nut, Nylock, 5/16"-18 SS . . . . .	13
36	98009032	Washer, Plain 3/8". . . . .	4
37	98100143	Plug, Plastic . . . . .	2
38	98100131	Cap Screw, Hex Head, 5/16"-18 NC x 1" SS . . . . .	4

# UNIVERSAL MOUNT FRAME



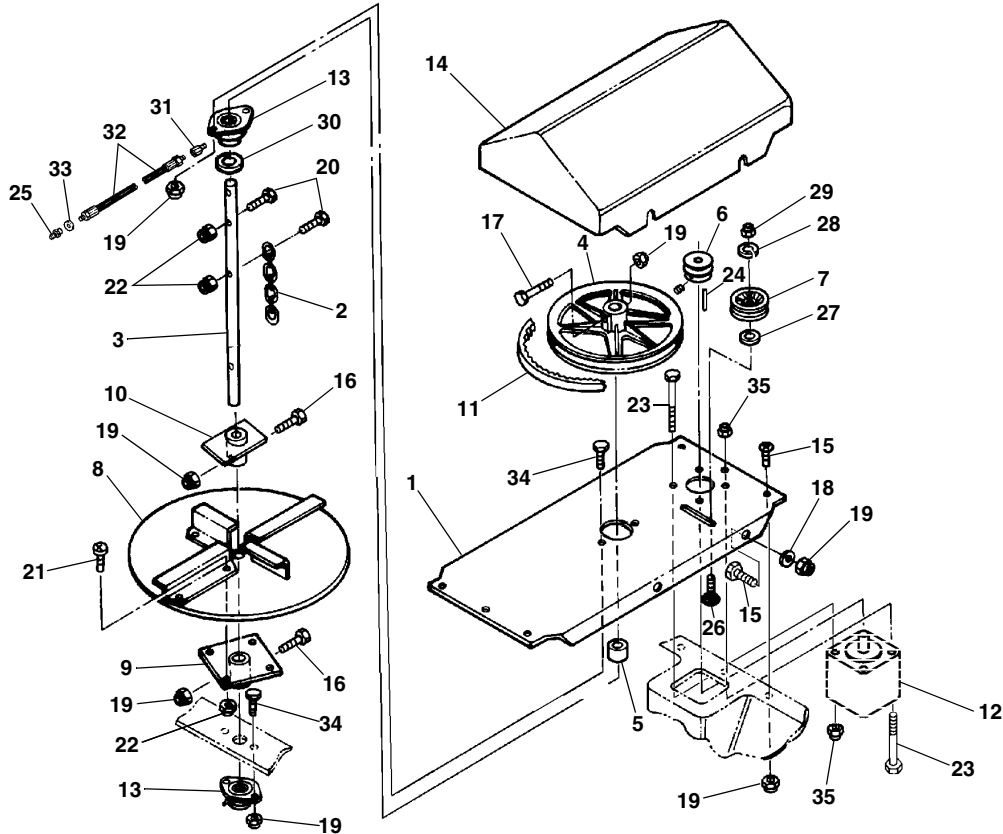
ITEM	PART NO.	DESCRIPTION	QTY.
1	96105573	Universal Mount .....	1

# CONTROL UNIT



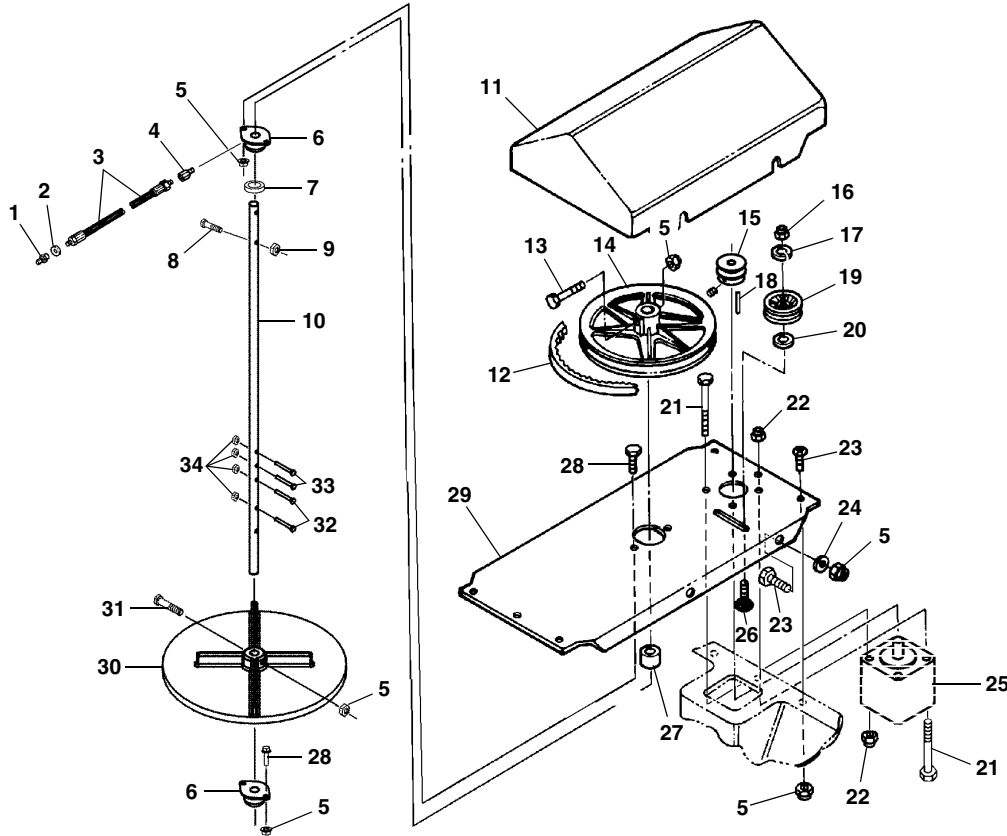
ITEM	PART NO.	DESCRIPTION	QTY.
1	96105472	Motor, Hydraulic . . . . .	1
2	96105465	Check Valve . . . . .	1
3	96105467	90 Degree Fitting . . . . .	2
4	96105471	Hose, Hydraulic Motor 14.5" . . . . .	2
5	98009067	Bolt, 1/4"-20 x 2.5" . . . . .	2
6	98009149	Bolt, 5/16"-18 x 1" . . . . .	2
7	96105463	Tee Fitting. . . . .	1
8	96105490	Bracket, Control . . . . .	1
9	98009150	Nut, 5/16"-18 Nylock . . . . .	2
10	98100255	Nut, 1/4"-20 Nylock . . . . .	2
11	96105462	Flow Control, Variable (includes items 12, 13) . . . . .	1
12	96106456	Shaft. . . . .	1
13	96106457	Knob. . . . .	1

# DRIVE (SN: 10HS100000 - 100099)



ITEM	PART NO.	DESCRIPTION	QTY.
1	96103958	Plate, Drive Mount . . . . .	1
2	96102317	Chain, Machine . . . . .	1
3	96102146	Shaft, Spinner Drive . . . . .	1
4	96102026	Sheave, 9"OD . . . . .	1
5	96102025	Spacer . . . . .	1
6	96105531	Sheave, 1-1/2"PD . . . . .	1
7	96102034	Pulley, Idler, 2" . . . . .	1
8	96102281	Spinner Assembly . . . . .	1
9	96102360	Hub, Spinner . . . . .	1
10	96101921	Agitator Assembly . . . . .	1
11	96102018	V-Belt, 36" OA Length . . . . .	1
12	96105472	Motor, Hydraulic . . . . .	1
13	96101831	Bearing, Flange Mount . . . . .	2
14	96102249	Cover, Drive . . . . .	1
15	98100111	Cap Screw, Hex Head, 5/16"-18NC x 1-1/4" SS . . . . .	10
16	98100115	Cap Screw, Hex Head, 5/16"-18 NC x 1-3/4" SS . . . . .	2
17	98100114	Cap Screw, Hex Head, 5/16"-18 NC x 2-1/4" SS . . . . .	1
18	98100123	Washer, Plain, 5/16" SS . . . . .	4
19	98100118	Nut, Nylock, 5/16"-18 NC SS . . . . .	17
20	98100127	Cap Screw, Hex Head, 1/4"-20 NC x 1-1/2" SS . . . . .	2
21	98100145	Cap Screw, Hex Head, 1/4"-20 NC x 3/4" SS . . . . .	4
22	98100119	Nut, Nylock, 1/4"-20 NC SS . . . . .	6
23	98100285	Bolt, 5/16"-18 x 3.5" . . . . .	4
24	98100286	Key, Woodruff #2 . . . . .	1
25	98100133	Fitting, Grease . . . . .	1
26	98100128	Bolt, Carriage, 3/8-16 NC x 2-1/4" SS . . . . .	1
27	98100124	Washer, Plain, 3/8" SS . . . . .	1
28	98100125	Washer, Lock, 3/8" SS . . . . .	1
29	98100120	Nut, Hex, 3/8"-16NC SS . . . . .	1
30	96102405	Washer, Special . . . . .	1
31	96102453	Adapter . . . . .	1
32	96102452	Hose, Lubrication . . . . .	1
33	98100134	Washer, Special . . . . .	1
34	98100131	Cap Screw, Hex Head, 5/16"-18 NC x 1" SS . . . . .	4
35	98009150	Nut, 5/16"-18 Nylock . . . . .	4

# DRIVE (SN: 10HS100100 - LATER)



ITEM	PART NO.	DESCRIPTION	QTY.
1	98100133	Fitting, Grease . . . . .	1
2	98100134	Washer, Special . . . . .	1
3	96102452	Hose, Lubrication . . . . .	1
4	96102453	Adapter . . . . .	1
5	98100118	Nut, Nylock, 5/16"-18 NC SS . . . . .	16
6	96101831	Bearing, Flange Mount . . . . .	2
7	96102405	Washer, Special . . . . .	1
8	98100127	Cap Screw, Hex Head, 1/4"-20 NC x 1-1/2" SS . . . . .	1
9	98100119	Nut, Nylock, 1/4"-20 NC SS . . . . .	1
10	96107417	Shaft, Spinner (Chunk Buster) . . . . .	1
11	96102249	Cover, Drive . . . . .	1
12	96102018	V-Belt, 36" OA Length . . . . .	1
13	98100114	Cap Screw, Hex Head, 5/16"-18 NC x 2-1/4" SS . . . . .	1
14	96102026	Sheave, 9" OD . . . . .	1
15	96105531	Sheave, 1-1/2" PD (includes set-screw) . . . . .	1
16	98100120	Nut, Hex, 3/8"-16NC SS . . . . .	1
17	98100125	Washer, Lock, 3/8" SS . . . . .	1
18	98100286	Key, Woodruff #2 . . . . .	1
19	96102034	Pulley, Idler, 2" . . . . .	1
20	98100124	Washer, Plain, 3/8" SS . . . . .	1
21	98100285	Bolt, 5/16"-18 x 3-1/2" . . . . .	4
22	98009150	Nut, 5/16"-18 Nylock . . . . .	4
23	98100111	Cap Screw, Hex Head, 5/16"-18 x 1-1/4" SS . . . . .	10
24	98100123	Washer, Plain, 5/16" SS . . . . .	4
25	96105472	Motor, Hydraulic . . . . .	1
26	98100128	Bolt, Carriage, 3/8-16 NC x 2-1/4" SS . . . . .	1
27	96102025	Spacer . . . . .	1
28	98100131	Cap Screw, Hex Head, 5/16"-18 NC x 1" SS . . . . .	4
29	96103958	Plate, Drive Mount . . . . .	1
30	96106135	Spinner, 16" Polyethylene . . . . .	1
31	98100281	Bolt, 5/16"-18 x 2-1/2" SS . . . . .	1
32	98100253	Bolt, 1/4"-20 x 1-1/4" . . . . .	2
33	98100299	Bolt, 1/4"-20 x 2" (Chunk Buster) . . . . .	2
34	98100255	Nut, 1/4"-20 Nylock . . . . .	4

# NUMERICAL INDEX

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96101901	16	4	96106456	18	12	98100145	19	21
96101902	16	9	96106457	18	13	98100253	20	32
96101905	16	12	96106504	16	22	98100255	18	10
96101906	16	3	96107417	20	10		20	34
96101908	16	5	98009009	16	27	98100281	20	31
96101915	16	11	98009032	16	36	98100285	19	23
96101921	19	10	98009067	18	5		20	21
96102018	19	11	98009134	16	26	98100286	19	24
	20	12	98009149	18	6		20	18
96102025	19	5	98009150	18	9	98100299	20	33
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96102026	19	4		20	22			
	20	14	98009169	16	24			
96102034	19	7	98009212	16	28			
	20	19	98009232	16	13			
96102052	16	23	98100111	16	32			
96102072	16	1		19	15			
96102077	16	2		20	23			
96102143	16	7	98100112	16	33			
96102146	19	3	98100113	16	31			
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96102249	19	14	98100115	19	16			
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96102453	19	31		20	24			
	20	4	98100124	19	27			
96102454	16	6		20	20			
96103958	19	1	98100125	19	28			
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96105462	18	11	98100127	19	20			
96105463	18	7		20	8			
96105465	18	2	98100128	19	26			
96105467	18	3		20	26			
96105471	18	4	98100130	16	30			
96105472	18	1	98100131	16	38			
	19	12		19	34			
96105472	20	25		20	28			
96105490	18	8	98100133	19	25			
96105531	19	6		20	1			

# **SNO-WAY® SKID STEER HYDRAULIC SPREADER**

## **LIMITED ONE-YEAR WARRANTY**

SNO-WAY® Warrants to the original retail purchaser for a period of one (1) year from the date of delivery from an authorized SNO-WAY® Dealer that your new SNO-WAY® Skid Steer Hydraulic Spreader is free from defects in materials and workmanship if properly set up and operated in accordance with the recommendations set forth in SNO-WAY'S® Set-up and Operator's Manuals. This warranty does not cover paint or normal wear items such as Bearings and Belts.

SNO-WAY® Skid Steer Hydraulic Spreader used by a dealer as a demonstrator shall be warranted only for the period of one (1) year from the date of delivery to said dealer and the first subsequent purchaser shall be entitled to the remaining warranty protection.

This warranty shall not apply to any item of equipment which has been repaired or altered outside the SNO-WAY® factory or authorized SNO-WAY® dealership or which has been subject to misuse, negligence or accident: nor shall it apply to equipment which has not been operated in accordance with SNO-WAY® printed instructions or has been operated beyond SNO-WAY'S® recommended Skid Steer Hydraulic Spreader operating parameters.

To validate this warranty, your dealer and you must complete the enclosed Warranty Registration Card at time of purchase of the Skid Steer Hydraulic Spreader and return the Factory copy to SNO-WAY® International, Inc. within ten (10) days following delivery of your new Skid Steer Hydraulic Spreader.

To obtain warranty service, promptly return your Skid Steer Hydraulic Spreader or any defective part at your expense to any authorized SNO-WAY® dealer during the warranty period. Replacement or repair of defective or inadequate parts shall be performed without charge for labor or materials by such dealer at his regular place of business during regular business hours after inspection and determination that the warranty applies.

### **EXCLUSIONS OF WARRANTY**

Except as otherwise expressly stated herein, SNO-WAY® makes no representation of warranty of any kind expressed or implied, including merchantability or fitness for particular purpose in respect to the equipment.

SNO-WAY® shall not be liable for incidental or consequential damages for any breach of warranty, including but not limited to loss of use, inconvenience, rental or replacement equipment, loss of profits or other commercial loss.

No agent, employee or representative of SNO-WAY® has any authority to bind SNO-WAY® to any affirmation, representation or warranty concerning its equipment except as specificity set forth herein.

Certain limitations expressed herein are excludable in accordance with provisions of local law. Such limitations shall be deemed struck if such local law is applicable. All other limitations and provisions shall continue to apply.

**SNO-WAY® INTERNATIONAL, INC.**







# DEALER PRE-DELIVERY CHECKLIST

The following inspections **MUST** be accomplished prior to delivering the Skid Steer Hydraulic 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.
- Side deflectors can be adjusted to all positions.
- Flow gates can be adjusted to all positions.
- All mounting hitch pins are in place with lynch pins installed.

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

## CHECK THAT

- Drive shaft and spinner rotate freely.
- Drive rotation is correct (clockwise from top of hopper).
- Speed can be adjusted through speed range with controller.
- Listen for abnormal noises or vibrations; Repair or replace as necessary.

# 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 2 of the owner's manual.
- Explain hopper connect and disconnect procedures.
- Explain universal mount frame connect and disconnect procedures.
- Explain proper hydraulic hose connection positions. (From vehicle auxiliary hydraulics to controller.)
- Demonstrate controller operation.
- 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.

97100792D

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SNO-WAY® INTERNATIONAL, INC.

**SNO-WAY**  
SNOW & ICE CONTROL EQUIPMENT

Hartford, WI 53027 USA  
Website: [www.snoway.com](http://www.snoway.com)  
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