



**A Division of Northern Star Industries, Inc.**  
 P.O. Box 787 Iron Mountain, MI 49801-0787  
 ISO 9001:2008 REGISTERED  
 bossplow.com

# TGS 300 TAILGATE SPREADER INSTALLATION & OWNER’S MANUAL

## TABLE OF CONTENTS

WARNINGS & CAUTIONS.....	2
INTRODUCTIONS .....	4
TAILGATE SPREADER ASSEMBLY DRAWING AND PARTS LIST .....	5
SLIDE-IN ATTACHMENT WIRING INSTALLATION PROCEDURE .....	7
SLIDE-IN ATTACHMENT INSTALLATION PROCEDURE.....	10
SLIDE-IN ATTACHMENT MOUNTING PROCEDURE.....	11
SLIDE-IN ATTACHMENT REMOVAL PROCEDURE.....	12
MATERIAL LOADING PROCEDURE .....	13
IN-CAB CONTROLLER INSTALLATION PROCEDURE.....	14
IN-CAB CONTROLLER OPERATION .....	15
MATERIAL SPREAD ADJUSTMENT .....	16
TROUBLESHOOTING GUIDE.....	18
RECOMMENDED BOLT TORQUE .....	19

BOSS Products / Northern Star Industries, Inc. reserves the right under its continuous product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used herein.

Patents Pending

## ***SPREAD AT THE SPEED OF THE STORM***

MSC11329

## **WARNING**

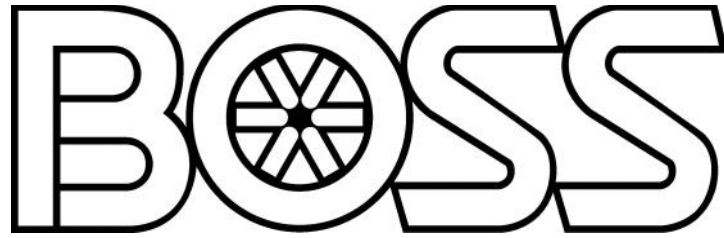
Serious injury or death can result if you do not follow these instructions and procedures which are outlined further within your owner's manual.

- Many newer trucks are equipped with air bags. DO NOT under any circumstances disable or remove or relocate any sensors or other components related to the operation of the air bags.
- Overloading could result in an accident or damage. Never exceed the vehicle's Gross Vehicle Weight Rating or the Front or Rear Gross Axle Weight Ratings.
- TGS 300 Spreaders with Slide-In Attachment MUST ONLY be used with a minimum Class II Receiver Hitch. DO NOT exceed the Vehicle Hitch Rating.
- This spreader is restricted to the use of Dry Bagged Free-Flowing Material only (NO SAND). Never run other materials through the spreader.
- Maximum weight of salt that can be loaded into the TGS 300 spreader is 200 pounds. Never exceed this weight.
- DO NOT attempt to mount or remove the spreader with material in it.
- Turn spreader off before filling, mounting, removing, servicing, or cleaning.
- DO NOT operate spreader within 25 feet of bystanders.
- DO NOT climb into or ride on spreader.
- Keep hands, feet, and clothing away from moving parts and mounting points.
- Spreader must be mounted to vehicle when loading material.
- The Slide-In Attachment must be fully engaged and pinned into the vehicle's 1-1/4" or 2" Receiver Hitch.

 **WARNING**

Serious injury or death can result if you do not follow these instructions and procedures which are outlined further within your owner's manual.

- Pull-Tight Straps must be installed and properly tightened with the Slide-In Attachment.
- Read owner's manual before operating or servicing spreader.
- DO NOT store material in hopper.



## **A REVOLUTION AGAINST SNOW**

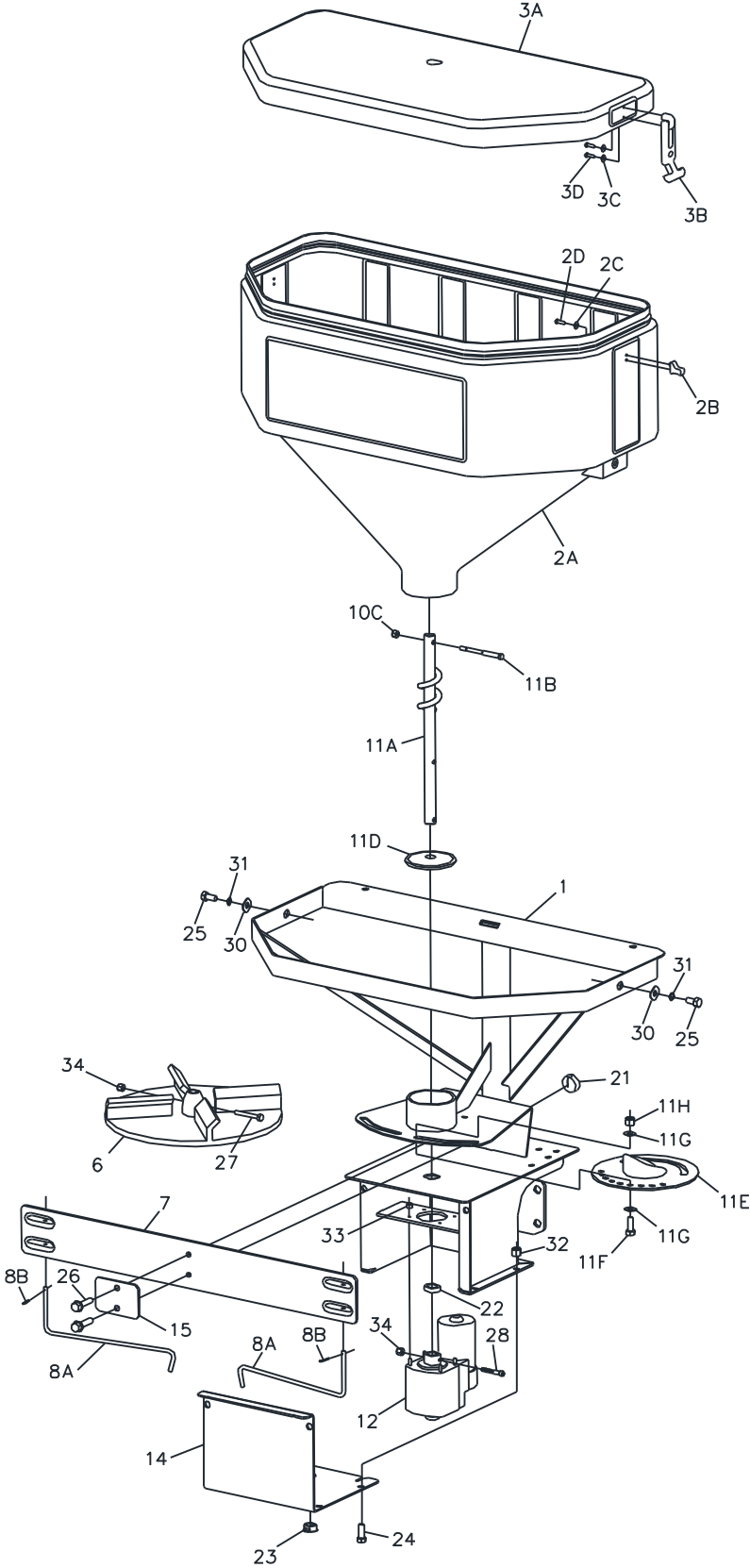
Congratulations on purchasing the finest tailgate spreader made! The BOSS sets the standard for quality, reliability, craftsmanship, and performance. Our products are designed, built, and proven in Michigan's rugged Upper Peninsula, where winter is a way of life. And we back it all up with exceptional customer service and satisfaction. We're not just setting the standard. We're leading the way.

The BOSS TAILGATE SPREADER has been carefully designed and built for years of carefree performance. With its simple attaching system, the BOSS Tailgate Spreader can be attached or removed in seconds.

To keep your BOSS TAILGATE SPREADER in top shape, take a few minutes to study this manual. It will show you how to use and service the BOSS Tailgate Spreader, familiarize you with all of its parts, and give you helpful tips on spreading salt.

If you have further questions or concerns please contact your local BOSS DEALER.

**Tailgate Spreader Assembly Drawing and Parts List**



**Figure 1: TGS 300 Exploded View (TGS11300)**

G10838

## Tailgate Spreader Assembly Drawing and Parts List

ITEM #	QTY.	PART #	DESCRIPTION
1	1	TGS11304	FRAME ASSEMBLY
2	1	TGS11314	HOPPER WITH HARDWARE
2A	1		HOPPER
2B	2		LOWER CATCH
2C	2		FLAT WASHER, #10 ST/ST 18-8
2D	2		SCREW 8-16 X 15.9 MM PHILLIPS HEAD, SELF-TAPPING
3	1	TGS11315	HOPPER COVER WITH HARDWARE
3A	1		HOPPER COVER
3B	2	TGS05833	UPPER LATCH
3C	4		FLAT WASHER, #10 ST/ST 18-8
3D	4		SCREW 8-16 X 15.9 MM PHILLIPS HEAD, SELF-TAPPING
6	1	MSC11336	SPINNER 12" URETHANE WITH CENTER CUTS
7	1	TGS05812	ADJUSTABLE DEFLECTOR
8	2	TGS05958	ADJUSTABLE DEFLECTOR KIT
8A	2		ADJUSTABLE DEFLECTOR BRACKET
8B	2		COTTER PIN, ST/ST 18-8
11	1	TGS11328	MATERIAL SAVER KIT WITH HARDWARE
11A	1	TGS11332	MATERIAL SAVER AUGER, ST/ST
11B	1		AGITATOR PIN, ZINC
11C	1		1/4"-20 NYLON LOCK NUT, ZINC
11D	1	MSC11327	MATERIAL SAVER BRUSH
11E	1	TGS11337	MATERIAL DROP GATE
11F	4	HDW05853	3/8"-16 X 1" HEX HEAD BOLT, ST/ST 18-8
11G	8	HDW05859	3/8" FLAT WASHER, ST/ST 18-8
11H	4	HDW05854	3/8"-16 NYLON LOCK NUT, ST/ST 18-8
12	1	TGS05898	SPINNER MOTOR
14	1	TGS05871	MOTOR BOX COVER
15	1	TGS10988	DEFLECTOR PLATE
21	1	TGS05765	SPLIT GROMMET
22	1	TGS05809	DOUBLE LIP SHAFT SEAL
23	1	TGS11316	VENTED PLUG
24	6	HDW05853	3/8"-16 X 1" HEX HEAD BOLT, ST/ST 18-8
25	2	HDW01743	3/8"-16 X 3/4" HEX HEAD BOLT, ZINC
26	2	HDW04861	3/8"-16 X 1-1/2" HEX HEAD BOLT, SELF-TAP, ZINC
27	1	HDW05857	1/4"-20 X 2" HEX HEAD BOLT, ST/ST 4-10
28	1	HDW10778	1/4"-20 X 1-1/2" SOCKET HEAD CAP SCREW, ST/ST 18-8
30	2	HDW01733	3/8" WASHER, ZINC
31	2	HDW01718	3/8" SPLIT LOCK WASHER, ZINC
32	6	HDW05854	3/8"-16 NYLON LOCK NUT, ST/ST 18-8
33	4	HDW05856	#10-32 NYLON LOCK NUT, ST/ST 18-8
34	2	HDW05851	1/4"-20 NYLON LOCK NUT, ST/ST 18-8

**Table 1:** TGS 300 Parts Numbers

## **Slide-In Attachment Wiring Installation Procedure**

 **WARNING**

Before starting any Electrical Wiring Procedure make sure that the engine is not running and that the engine has had sufficient time to cool down. Failure to do so may result in serious bodily injury or death.

 **WARNING**

Before starting any Electrical Wiring Procedure make sure to disconnect the battery. Failure to do so may result in serious bodily injury or death.

**Note:** This Wiring Installation Procedure is intended for use with the Slide-In Attachments (TGS11320) and (TGS11321) for the TGS 300 spreader.

1. Refer to Figure 2. Begin at the rear of the vehicle. Secure the Molded Connector #2 near the center of the rear bumper using Cable Ties (MSC04088).
2. Route the harness along the driver side frame rail and into the engine compartment. Keep harness away from hot or moving parts. Secure using Cable Ties (MSC04088).
3. Feed the 4-pin connector (Male Connector #1) through the firewall, into the cab, and to a location near where the control will be mounted.
4. Secure using Cable Ties (MSC04088).
5. Connect the ring connector on the BLACK WIRE to the NEGATIVE battery terminal.
6. Connect the ring connector on the RED WIRE to the POSITIVE battery terminal.
7. Wrap all excess wire and secure in the engine compartment.
8. Secure all wiring to the frame and inside of the cab using Cable Ties (MSC04088).

# Slide-In Attachment Wiring Installation Procedure

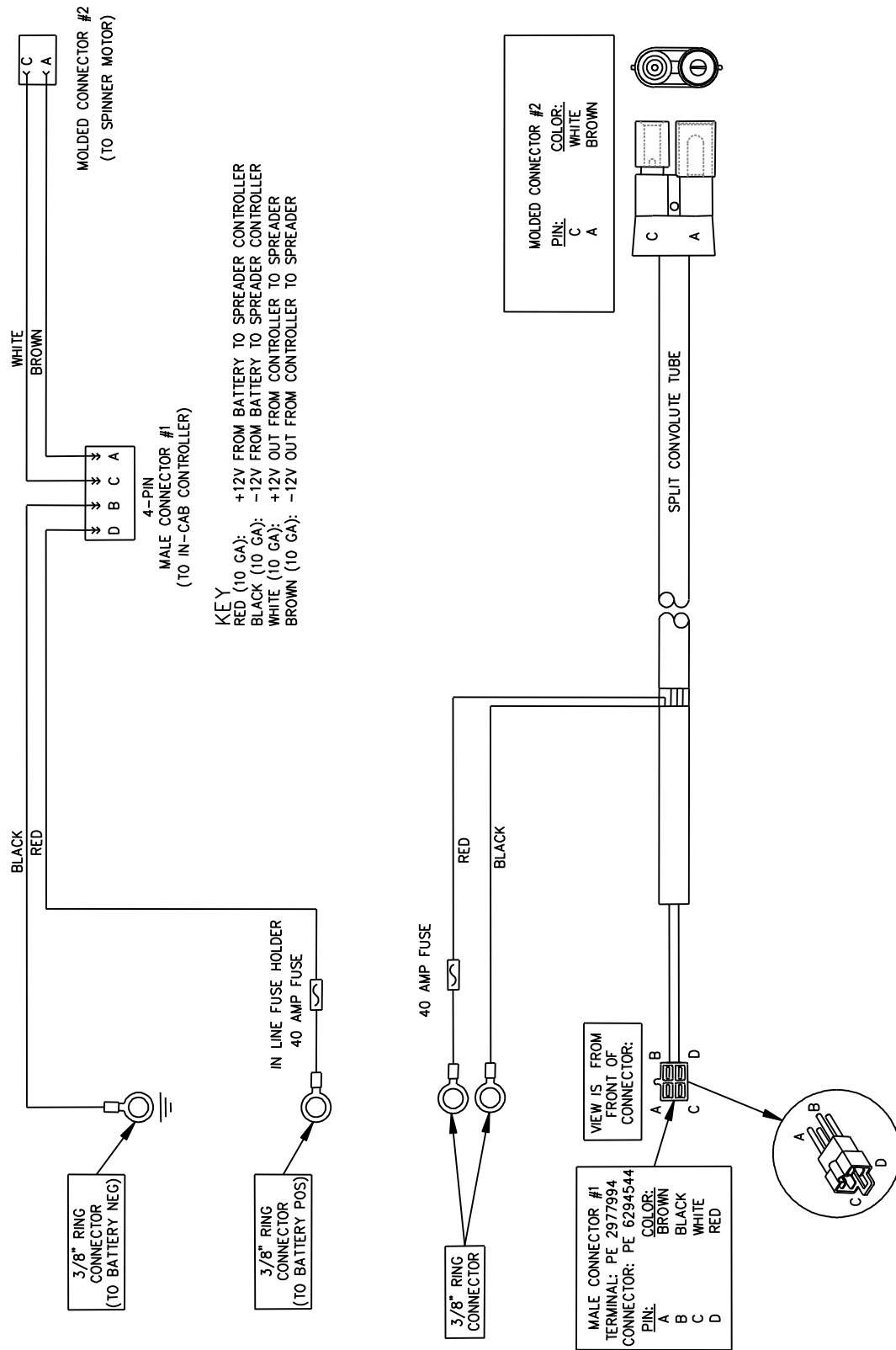


Figure 2: Vehicle Side Harness Diagram (TGS06085)

G10673



# Slide-In Attachment Wiring Installation Procedure

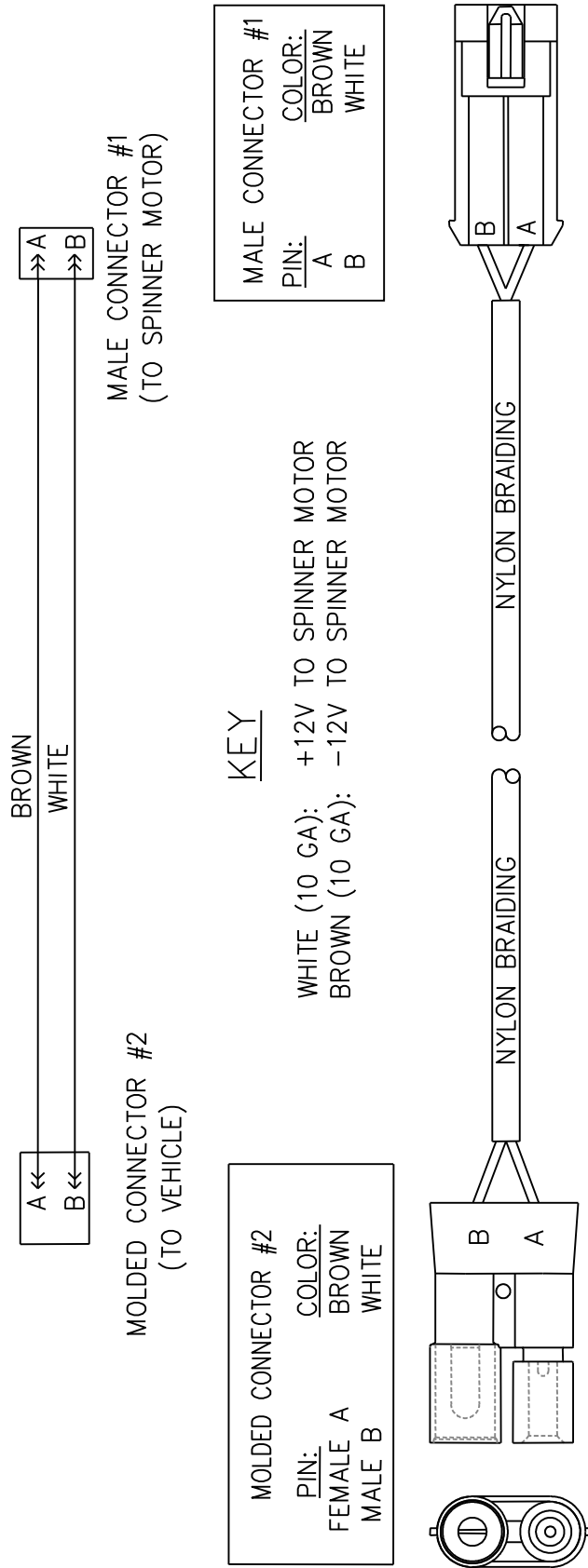


Figure 3: Spreader Side Harness Diagram (TGS06084)

G10674

## Slide-In Attachment Installation Procedure

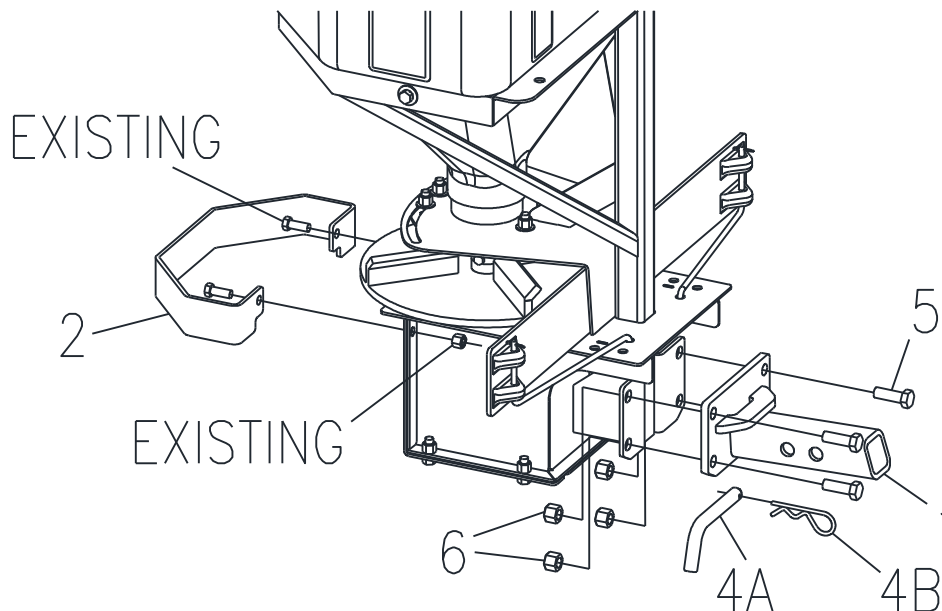
**Note:** This Installation Procedure covers the Slide-In Attachment Kits (TGS11320 is the 1-1/4" Hitch/Control Kit & TGS11321 2" Hitch/Control Kit) for the TGS 300 spreader.

1. Refer to Figure 4. Mount Slide-In Attachment (1) to Spreader using four 1/2"-13 X 1-1/2" Hex Head Bolts (5), four 1/2"-13 Nylon Lock Nuts (6), one Hitch Pin (4A), and one Hair Cotter Pin (4B).

2. Mount Spinner Protector (2) using existing 3/8"-16 X 1" Hex Head Bolts and 3/8"-16 Nylon Lock Nuts as shown in Figure 3

ITEM #	QTY.	PART #	DESCRIPTION
1	1		SLIDE-IN ATTACHMENT
		TGS11318	1-1/4" SLIDE-IN ATTACHMENT
		TGS10930	2" SLIDE-IN ATTACHMENT
2	1	TGS06254	SPINNER PROTECTOR
3	2	MSC11326	PULL-TIGHT STRAP
4	1		HITCH PIN KIT
		TGS06259	5/8" HITCH PIN W/ HAIR COTTER PIN
		MSC11331	1/2" HITCH PIN W/ HAIR COTTER PIN
4A	1		HITCH PIN
4B	1		HAIR COTTER PIN
5	4	HDW05853	1/2"-13 X 1" HEX HEAD BOLT, YELLOW ZINC
6	4	HDW05854	1/2"-13 NYLON LOCK NUT, YELLOW ZINC

**Table 2:** Slide-in Hitch Components and Parts Numbers



**Figure 4:** Slide-In Attachment Installation Procedure

G10834

## Slide-In Attachment Mounting Procedure

### **⚠ WARNING**

In order to prevent injury or damage to the product, the spreader must be completely empty when attaching or detaching it from the vehicle.

1. The In-Cab Controller must be turned OFF before proceeding. Back the truck into position.
2. Refer to Figure 5. Insert the spreader's Standard Hitch into the Receiver Hitch on the vehicle and line up the second hole.

**Note:** The 2" Slide-In Hitch must only go in a 2" Class II and Up Receiver Hitch, and the 1-1/4" Slide-In Hitch must only go in a Class II 1-1/4" Receiver Hitch.

### **"NOTICE"**

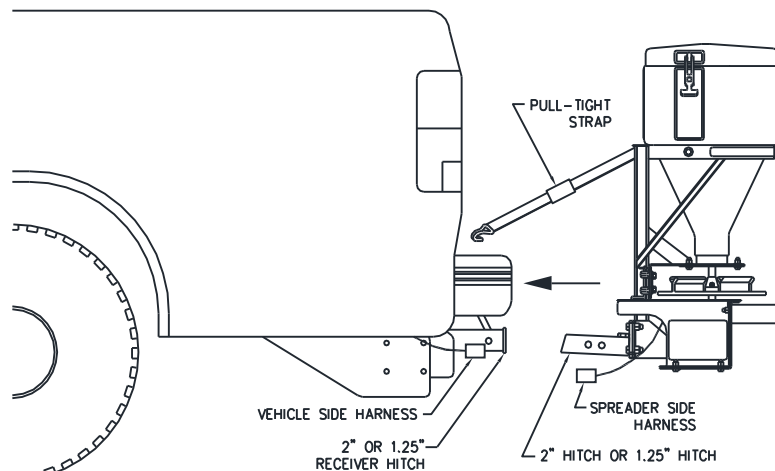
Always check clearance between vehicle bumper and spreader when attached. If spreader contacts bumper, use first attachment hole to move spreader away from vehicle.

3. Pin Spreader using provided Hitch Pin and Cotter Hairpin.

4. Attach Ratchet Strap (5) to outside of the upper hole of spreader frame using the "D" ring end of Ratchet Strap (5). Secure using one 1/2"-13 X 1-1/2" Hex Head Bolt (9), one 1/2"-13 Nylon Lock Nut (11), and one 1/2" Fender Washer (12). Repeat on opposite side of spreader.

**Note:** The previous two steps are only required for new installations. Stabilizer Arms and Ratchet Straps will remain bolted to the spreader.

5. Tighten both Driver Side and Passenger Side Stabilizer Arms by rotating pad until tight. Tighten the Jam Nut to secure.
6. Slide the hook end of Ratchet Strap (5) between the bumper and tailgate of the truck. Secure to a solid point on the truck frame rail (this may require drilling a hole for attachment on the truck frame). Repeat for second Ratchet Strap (5).
7. Plug Spreader Side Harness into Vehicle Side Harness.

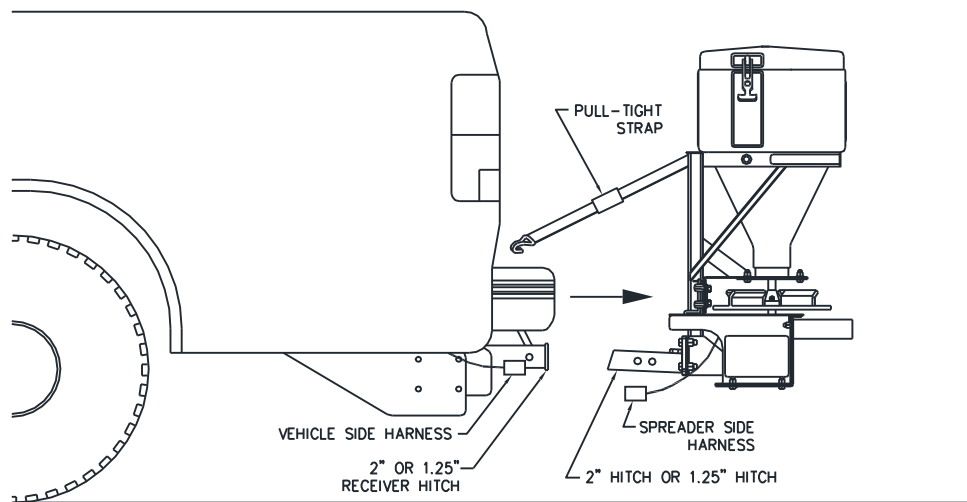


**Figure 5:** Slide-In Attachment Mounting Procedure

G10835

## **Slide-In Attachment Removal Procedure**

1. The In-Cab Controller must be turned OFF before proceeding. Back the truck into position.
2. Refer to Figure 6. Unplug Spreader Side Harness from Vehicle Side Harness and install both the vehicle and spreader side weather caps.
3. Loosen Ratchet Straps (5).
4. Loosen Stabilizer Arms (3) & (4).
5. Remove Cotter Hairpin and Hitch Pin from vehicle.
6. Slide spreader out of 2" Receiver Hitch.
7. Move spreader to storage area.



---

**Figure 6:** Slide-In Attachment Removal Procedure

G10836

## **Material Loading Procedure**

### **WARNING**

This spreader is restricted to the use of dry bagged salt only. Never run other materials through the spreader.

### **WARNING**

The spreader must be mounted to the vehicle before loading. Never attempt to mount a spreader with material in the hopper.

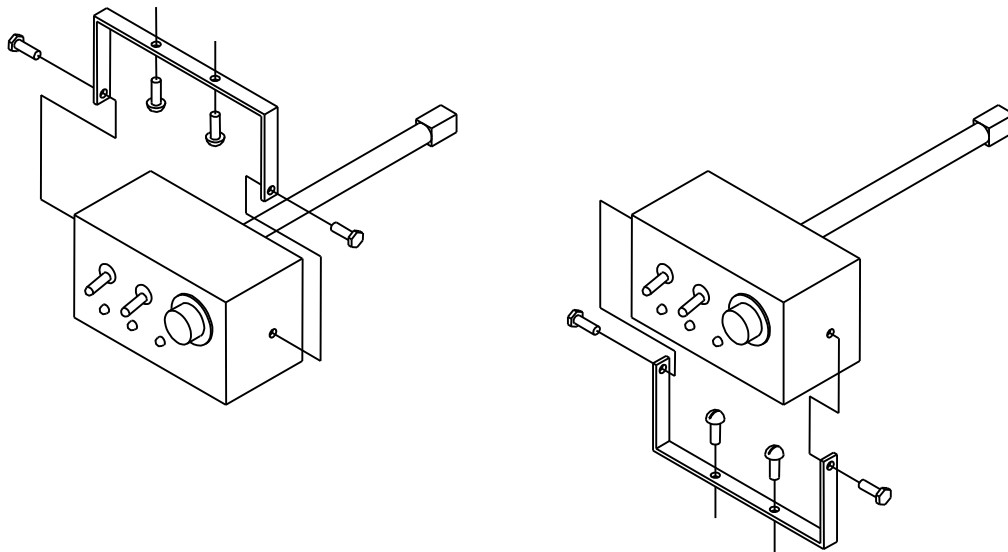
1. Flip the ON/OFF Switch up to the OFF position. The spreader must be mounted to the vehicle before loading. Never attempt to mount a spreader with material in the hopper.
2. Once the hopper is full, replace the cover on the hopper. Failure to replace the cover will allow material to blow out.

3. Be sure to empty ALL the material out of the hopper before removing the hopper from the vehicle.

**Note:** To empty the spreader you must either run the material out or shovel it out. If you decide to shovel out the left over material, be sure to unplug the spreader at the bumper. That will not allow an accidental startup of the spreader.

## **In-Cab Controller Installation Procedure**

1. Mount In-Cab Controller (TGS05811) to an easily accessible position in the cab. Begin by removing the pre-assembled bracket from the controller.
2. The controller can be mounted either above or below the mounting bracket, refer to Figure 7. Choose the best position that will not interfere with operation of the vehicle or visibility. **DO NOT** mount in a location that an occupant could contact during a crash.
3. Mount the bracket using two supplied Sheet Metal Screws (HDW05953).
4. Re-assemble the controller into the mounting bracket with the supplied hardware.



---

**Figure 7:** In-Cab Controller Installation Procedure

G10290

## **In-Cab Controller Operation**

**Functions (refer to Figure 8):**

**ON/OFF switch:** Turns the spinner motor on and off.

**BLAST button:** Sends full power to the spinner motor for as long as it is pressed.

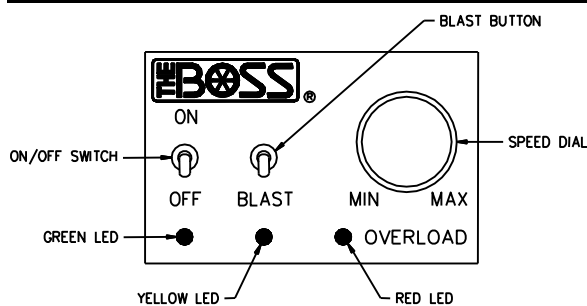
**Speed Dial:** Increases the spinner motor speed when turned clockwise and decreases the speed when turned counterclockwise.

**Indicator Lights (refer to Figure 8):**

**Green LED:** The controller is on and the spinner motor is turning.

**Yellow LED:** The “BLAST” button is being activated.

**Red LED:** The auger is clogged and the controller is being overloaded.



**Figure 8:** Control

G10294

**Starting and Stopping the Motor:**

### **⚠ WARNING**

Keep hands, feet, and clothing away from moving spinner, auger, and attachment points.

### **⚠ WARNING**

Bystanders to stay a minimum of 25 feet away from operating spreader.

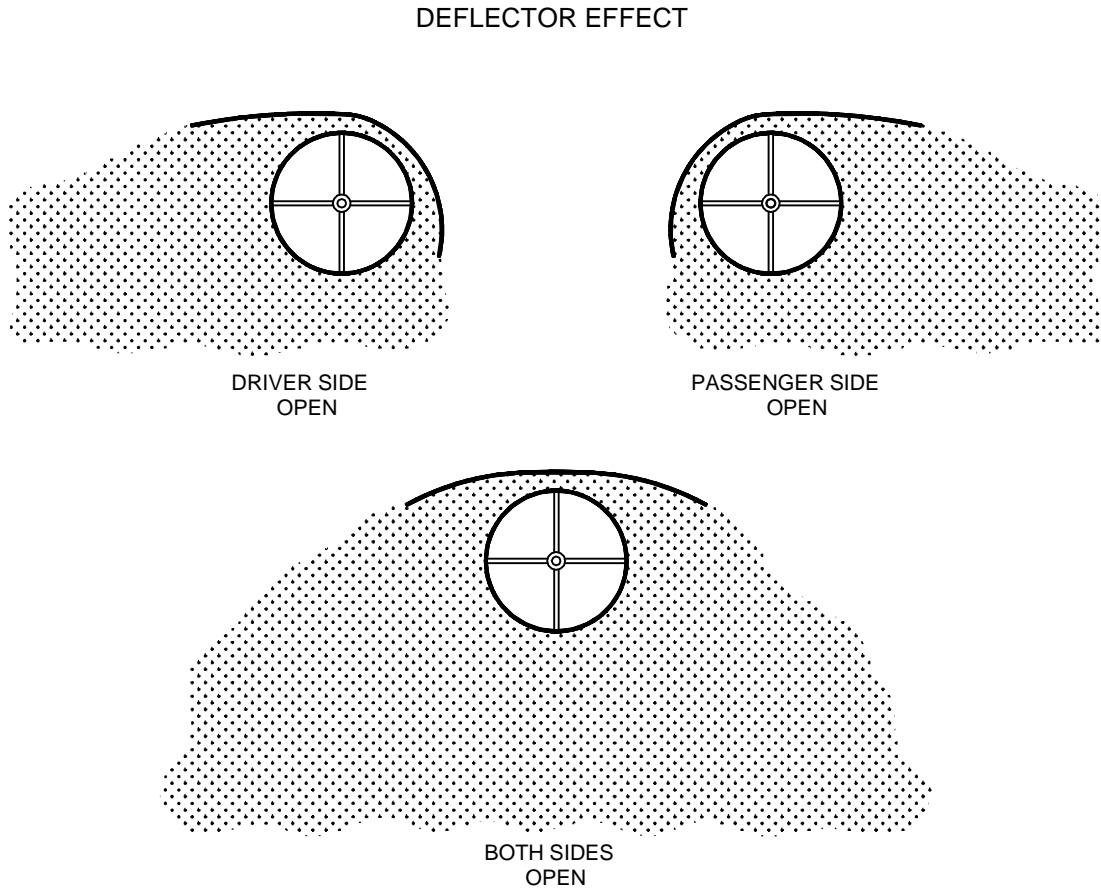
4. Flip the ON/OFF Switch up to the ON position.
5. Use the Speed Dial to adjust the speed of the spinner motor. This will dictate how quickly the material is pulled from the hopper and how far it is thrown.
6. Use the Blast Feature to momentarily increase the speed of the spinner motor. The motor will remain at full speed until the Blast button is released.
7. When finished using the spreader, always turn the controller ON/OFF Switch to the OFF position.

**Freeing a clog:**

1. When the Red LED comes on indicating that the controller is overloaded, the spinner motor is NOT turning. This is most likely due to a rock or other debris wedged in the auger.
2. You can use the Blast Feature to free a clog by repeatedly pressing the Blast button and quickly releasing it.

## Deflector Adjustment

The adjustable plastic deflector can be used to adjust the spread pattern as shown in Figure 9. The spinner motor speed will also have an effect on the spread pattern.



---

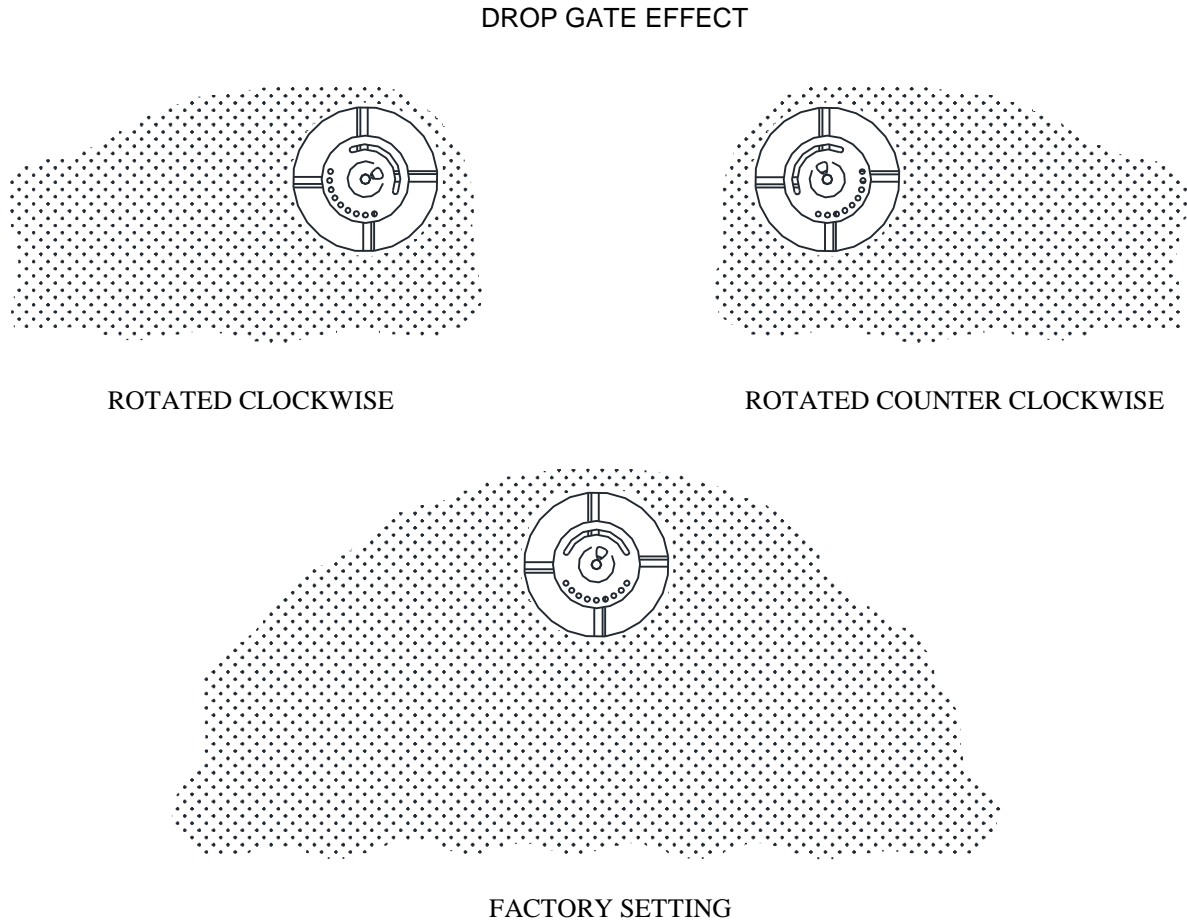
**Figure 9:** Deflector Adjustment

G10287



## Drop Gate Adjustment

The adjustable plastic drop gate can be used to adjust the spread pattern as shown in Figure 10. The spinner motor speed will also have an effect on the spread pattern.



---

**Figure 10:** Drop Gate Adjustment

G10837

**Glossary of Problems**

1. No power to controller (green LED not lit).
2. Spinner motor does not run, power to controller (green LED lit).
3. Red indicator light is lit on controller.
4. Spinner Motor runs but Spinner/Auger do not turn.

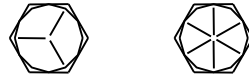
PROBLEM	DIAGNOSTIC CHECK	RESULT
1. No power to controller (green LED not lit).	Check battery connections for corrosion and function.	Clean battery connections.
	Check the 40 amp in-line fuse in the vehicle side harness.	Replace fuse.
	Check that controller is plugged into vehicle side harness.	Connect.
2. Spinner motor does not run, power to controller (green LED lit).	Check that spreader side and vehicle side harnesses are connected properly.	Connect.
	Check that controller is plugged into vehicle side harness.	Connect.
	Check that spinner motor is connected to spreader side harness inside the motor enclosure. The enclosure cover must be removed to check this.	Connect.
3. Red indicator is lit on controller.	Check for an obstruction inside the hopper.	Clear by using the Blast feature on the controller.
4. Spinner motor runs but spinner and auger do not turn.	The auger and spinner are mounted directly to the motor shaft. Check that the bolts connecting the auger and spinner to the motor shaft are not broken.	Replace.
	Check that the bolt connecting the motor shaft to the motor hub is not broken. The enclosure cover must be removed to check this.	Replace.

---

**Table 3:** Troubleshooting Guide

## Recommended Bolt Torque

---



DIAMETER / PITCH	GRADE 5	GRADE 8	GRADE 8.8	GRADE 10.9
1/4-20	6	9		
5/16-18	14	19		
3/8-16	23	33		
7/16-14	38	53		
1/2-13	56	80		
9/16-12	82	116		
5/8-11	113	159		
3/4-10	201	283		
M10 X 1.25			36	
M10 X 1.5				49
M12 X 1.75				71
M14 X 2.0				80

ALL TORQUE VALUES ARE IN FOOT-POUNDS (FT.-LB.)

---

**Table 4:** Recommended Bolt Torque

G10410

**NOTE:** The torque values listed above are based on dry, coated bolts, variables such as oil, or other lubrications may appreciably alter these values and must be taken into consideration.

**NOTE:** IT IS IMPORTANT THAT ALL FASTENERS BE PROPERLY TORQUED TO ASSURE A SAFE OPERATING TAILGATE SPREADER. RE-TIGHTEN ALL FASTENERS AFTER 2 HOURS OF SPREADING.