

A Division of Northern Star Industries, Inc.  
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www.bosspow.com

# SMARTHITCH 1100

## TAILGATE SPREADER

### INSTALLATION & OWNER'S MANUAL

#### TABLE OF CONTENTS

|  |        |
|--|--------|
| WARNINGS & CAUTIONS.....                               | 2      |
| INTRODUCTIONS .....                                    | 3      |
| VEHICLE SIDE HARNESS INSTALLATION PROCEDURE .....      | 4-5    |
| VEHICLE SIDE HARNESS DIAGRAM .....                     | 6      |
| SPREADER SIDE HARNESS & SWITCH WIRING .....            | 7      |
| IN-CAB CONTROLLER INSTALLATION PROCEDURE.....          | 8      |
| ATTACHING THE SPREADER .....                           | 9-11   |
| DETACHING THE SPREADER .....                           | 11, 14 |
| TAILGATE SPREADER ASSEMBLY DRAWING AND PARTS LIST..... | 12-13  |
| LOADING MATERIAL .....                                 | 15     |
| IN-CAB CONTROLLER OPERATION .....                      | 16-17  |
| DEFLECTOR ADJUSTMENT .....                             | 17     |
| TROUBLESHOOTING GUIDE.....                             | 18-19  |
| RECOMMENDED HITCH MOUNTING HEIGHT.....                 | 20     |
| RECOMMENDED ASSEMBLY TORQUE .....                      | 20     |
| WARRANTY .....   | 21-22  |

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

***DRIVEN TO BE THE BEST***

TGS05866-3

## **WARNING**

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.

## **WARNING**

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.

## **WARNING**

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

## **WARNING**

Maximum weight of salt material that can be loaded into the spreader is 800 pounds. Never exceed this weight.

## **WARNING**

Turn spreader off before filling, attaching, detaching, servicing, or cleaning.

## **WARNING**

Do not operate spreader within 25 feet of bystanders.

## **WARNING**

Do not climb into or ride on spreader.

## **WARNING**

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

## **WARNING**

Spreader must be attached to vehicle when loading salt material.

## **WARNING**

Both Upper Pins and both Lower Pins on the spreader must fully engage the Receiver Hook on the hitch.

## **CAUTION**

Read owner's manual before operating or servicing spreader.

## **CAUTION**

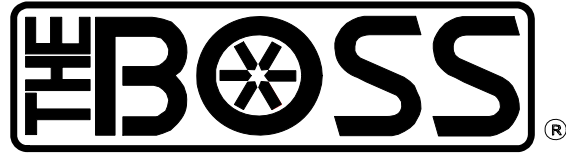
Store loaded spreader in a dry place.

## **CAUTION**

DO NOT store material in hopper longer than 1 week.

## **CAUTION**

Be sure both upper pins and both lower pins are greased and free from debris prior to attaching spreader.



## **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 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, familiarize you with all of its parts, and give you helpful tips on spreading salt.

If you have further questions, your local BOSS DEALER is the person to talk to. They know your spreader well and want your complete satisfaction.

## ***Installation Procedure***

Your BOSS Tailgate Spreader is pre-assembled. The only installation required prior to use is the Control Kit (TGS05880) which is included with your BOSS Tailgate Spreader. You will also need to install a Universal Hitch Kit (TGS05900) which is sold separately.

### **Vehicle Side Wiring Harness Installation Procedure**

#### **WARNING**

Before starting any electrical wiring procedure, make sure that the engine is not running and has had sufficient time to cool down. Failure to do so may result in serious injury or death.

#### **WARNING**

Before starting any electrical wiring procedure, make sure to disconnect the battery. Failure to do so may result in serious injury or death.

- 1) Refer to Figure 2. Begin at the rear of the vehicle. Secure the 4-pin, sealed connector (Female Connector #2) near the center of the rear bumper using Zip 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 Zip Ties (MSC04088)
- 3) Feed the 4-pin connector (Male Connector #1) through the firewall and into the cab.
- 4) Connect the ring connector on the BLACK WIRE to the NEGATIVE battery terminal.
- 5) Connect the ring connector on the ORANGE WIRE to the POSITIVE battery terminal.
- 6) Connect the fuse tap connector on the RED/BLACK WIRE to a keyed 12V+ ignition source.
- 7) Attach the relay securely inside of the engine compartment using one Sheet Metal Screw (HDW01766). The relay must be positioned upright as shown in Figure 1.

## Installation Procedure

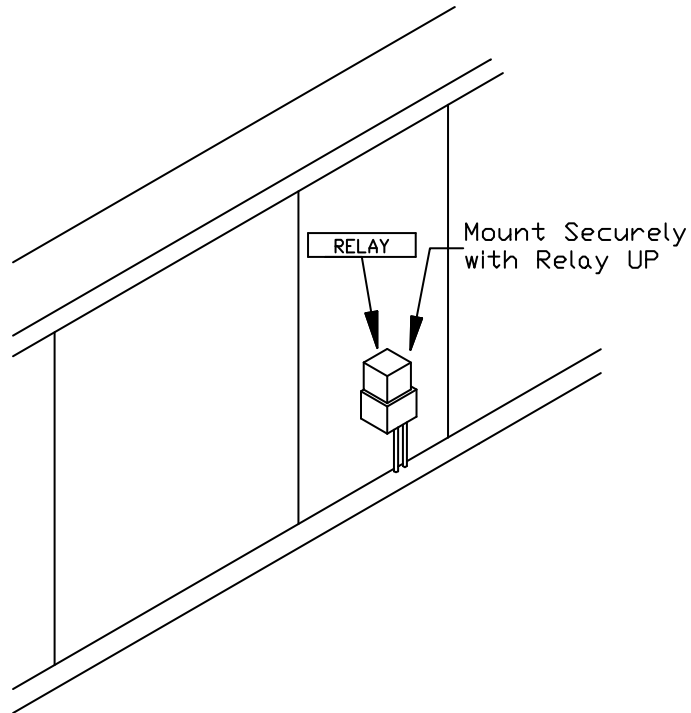


Figure 1.

G10288

- 8) Wrap all excess wire and secure in the engine compartment.
- 9) Secure all wiring to the frame and inside of the cab using 15 Zip Ties (MSC04088).

# Installation Procedure

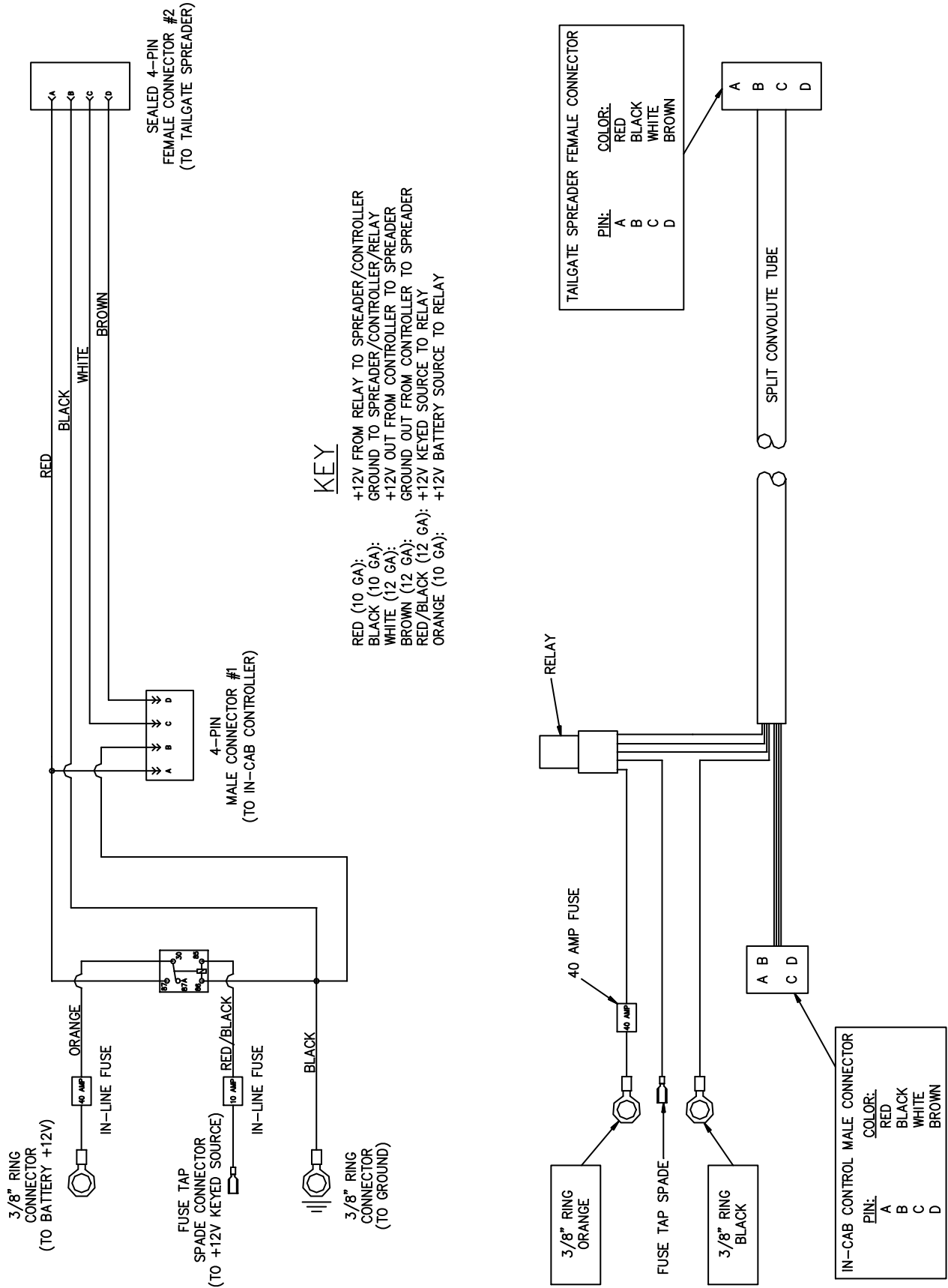


Figure 2. Vehicle Side Harness Diagram (TGS05810)

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# Installation Procedure

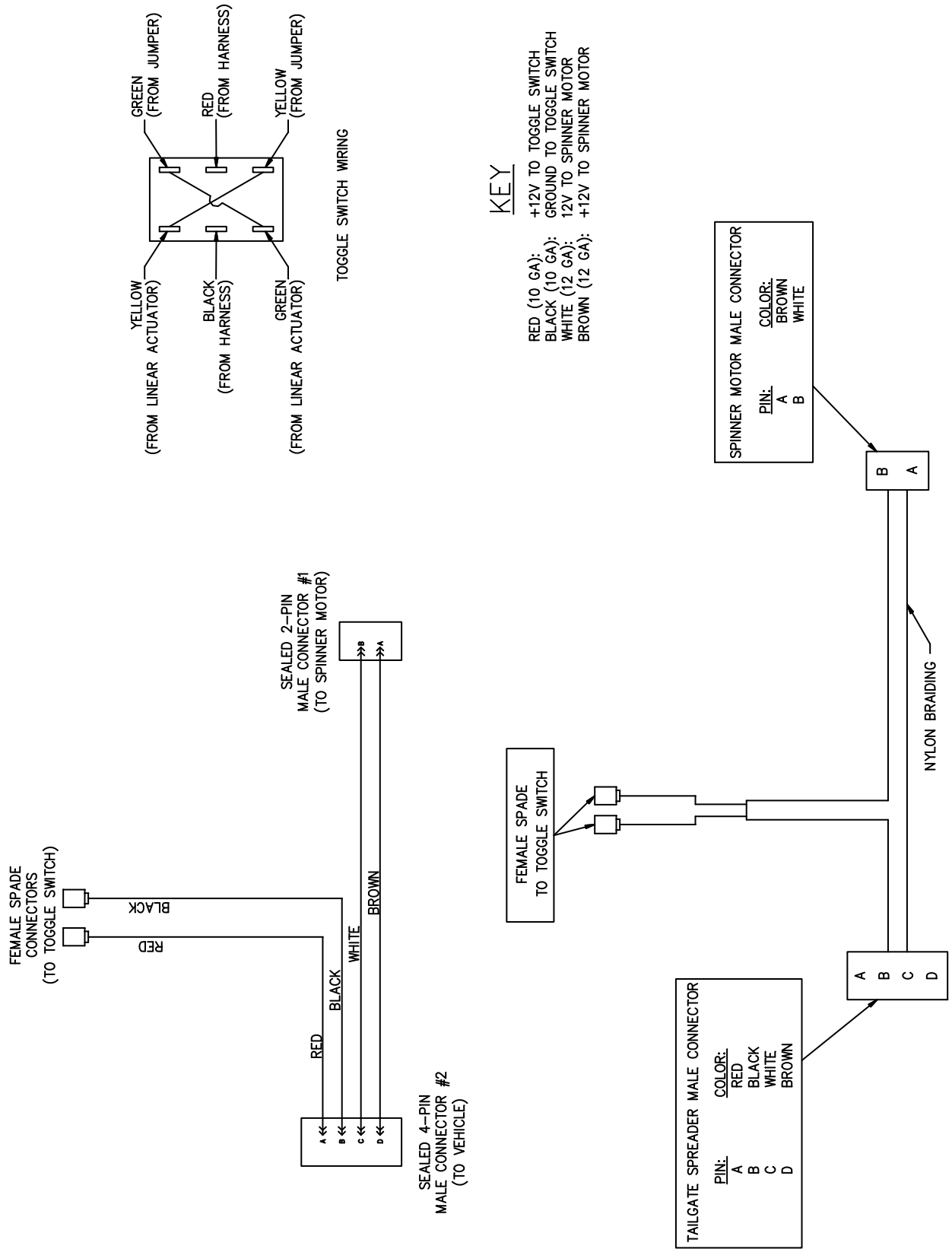


Figure 3. Spreader Side Harness (TGS05832) & Switch Wiring

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# Installation Procedure

## 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 4. 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.

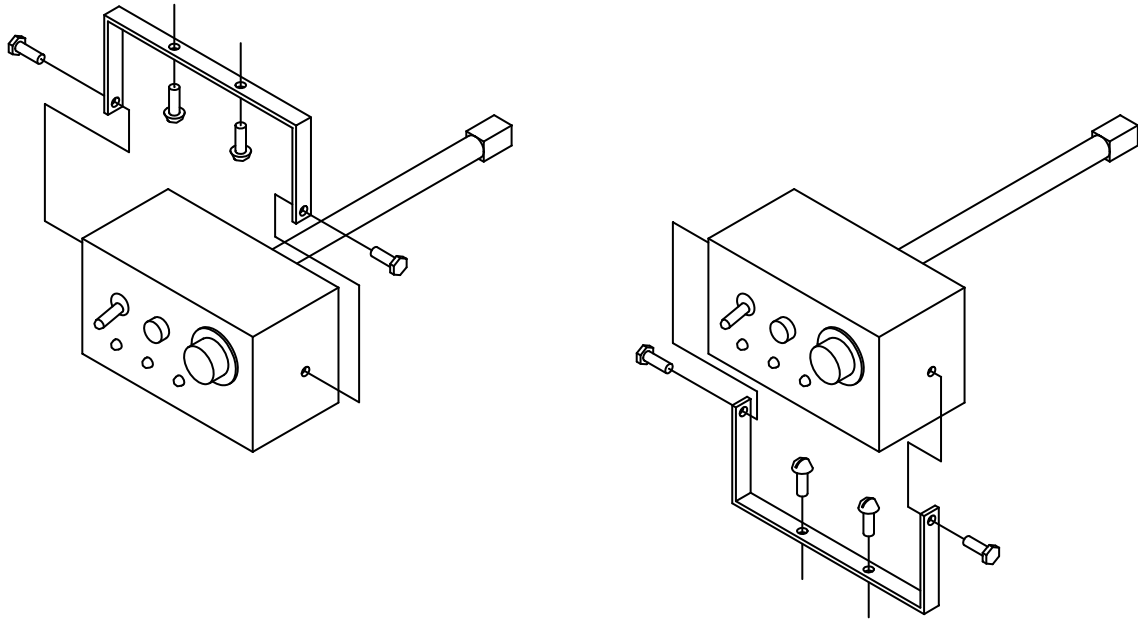


Figure 4.

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# Spreader Operation

## Attaching Procedure

- 1) The spreader should be in the lowest position before beginning. The In-Cab Controller must be turned OFF before proceeding. Back the truck into position and plug the spreader harness into the vehicle side harness. Leave the truck key in the "ON" position. Pull the spring pin outward and lock in the OUT position in the keeper slot. See Figure 5.

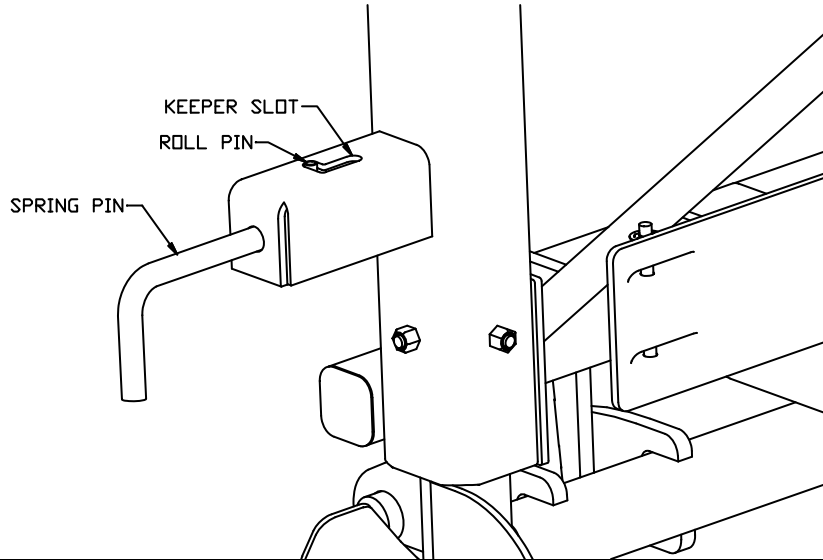


Figure 5.

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- 2) Raise the spreader by pushing UP on the toggle switch. Raise the spreader so that the upper pin is higher than the upper tooth on the receiver hook. Refer to Figure 6.

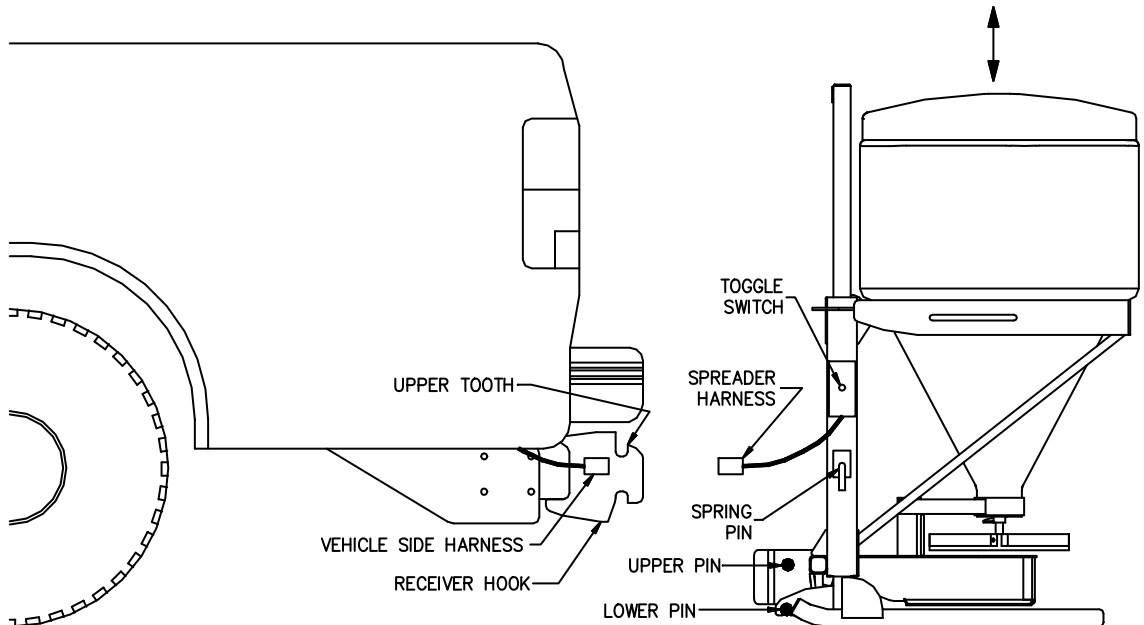


Figure 6.

G10291

## Spreader Operation

- 3) Position the spreader in line with the receiver hook as shown in Figure 7. This can be done by either backing the truck up or moving the spreader by grabbing the handles on the sides.

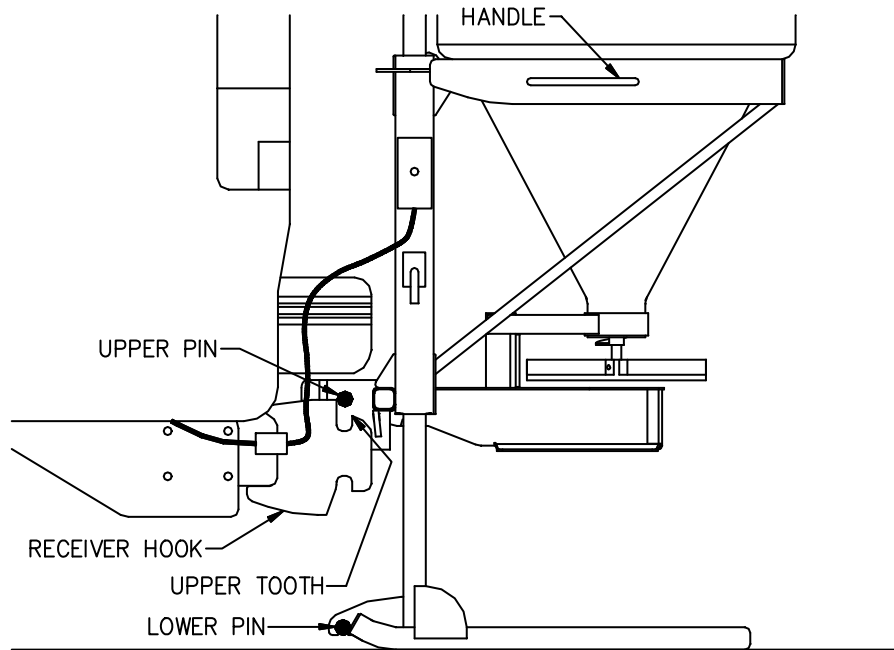


Figure 7.

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### **CAUTION**

Be sure both upper pins and both lower pins are greased and free from debris prior to attaching spreader.

- 4) Turn the Spring Pin clockwise to unlock. See Figure 8.
- 5) Push the toggle switch DOWN so that the spreader lowers into the receiver hook. Be sure that the upper pin engages both receiver hooks. The leg assembly will now begin to rise from the ground. Hold the toggle switch down until both lower pins fully engage both receiver hooks.

### **WARNING**

Both Upper Pins and both Lower Pins on the spreader must fully engage the Receiver Hook on the hitch.

- 6) Once the spreader reaches its final position, be sure the Spring Pin is fully engaged. See Figure 8.

### **WARNING**

Spring Pin must be fully engaged. Failure to do so may result in personal injury and property damage.

## Spreader Operation

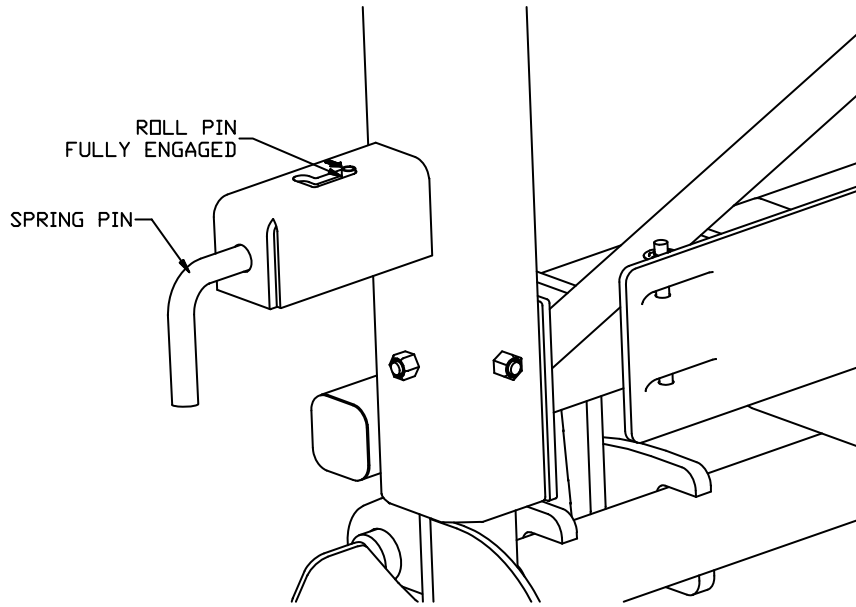


Figure 8.

G10323

### Detaching Procedure

- 1) The In-Cab Controller must be turned OFF before proceeding. Back the truck into position and leave the truck key in the "ON" position. Pull the spring pin outward and lock in the OUT position as shown in Figure 5.
- 2) Lower the Leg Assembly by pushing UP on the toggle switch. Hold the toggle switch UP until the upper pin clears the upper tooth on the receiver hook. Refer to Figure 7.

### **WARNING**

Keep hands, feet, and clothing away from moving lift mechanism, and attachment points.

- 3) Position the spreader in so that it is free from the receiver hook as shown in Figure 9. This can be done by either pulling the truck ahead or moving the spreader by grabbing the handles on the sides.

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***(poster page)***

## Spreader Operation

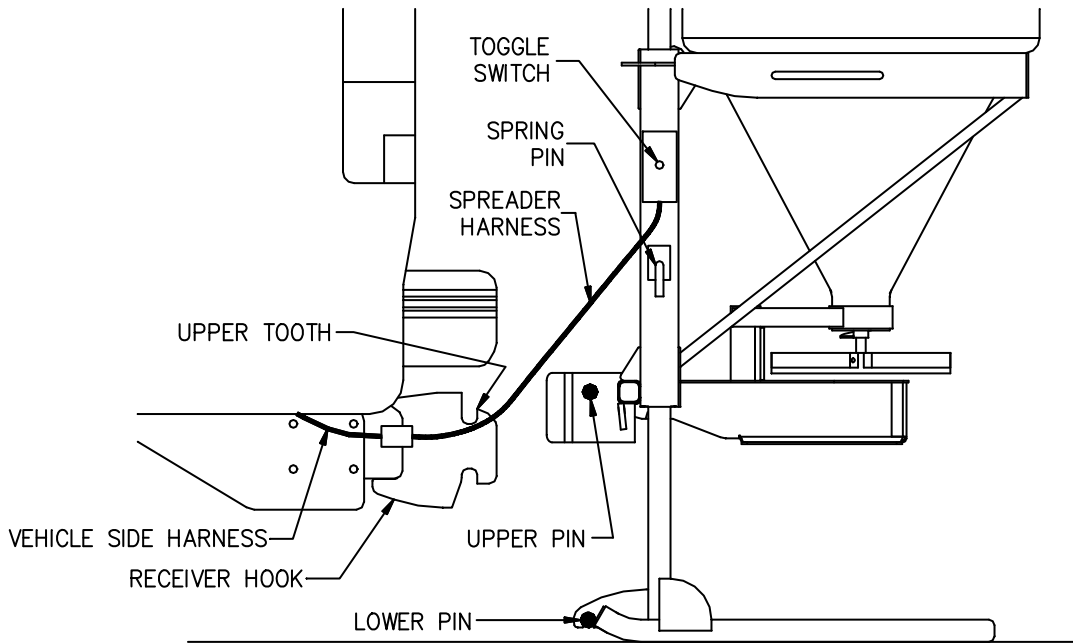


Figure 9.

G10293

- 4) The spreader must be stored in the lowest position. Lower the spreader to the ground by pushing DOWN on the toggle switch. Refer to Figure 6.

### **WARNING**

Spreader must be stored in the lowest position.

- 5) Unplug the vehicle side harness from the spreader harness and install the vehicle side weather cap. Turn the truck key to the "OFF" position or drive away.

# ***Spreader Operation***

## **Loading Material**

- 1) The spreader must be attached to the vehicle for loading. Follow the instructions “Attaching Procedure” on pages 9 & 10.

### **WARNING**

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

- 2) The approximate weight of the spreader is 250 pounds. The weight of the material in the hopper must never exceed 800 pounds.

### **WARNING**

Maximum weight capacity of spreader plus salt material is 1050 pounds. Never exceed this weight.

- 3) Avoid large chunks of material. They can clog the auger during operation.

## **In-Cab Controller Operation**

### **Functions (refer to Figure 10):**

*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 10):**

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

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

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

## Spreader Operation

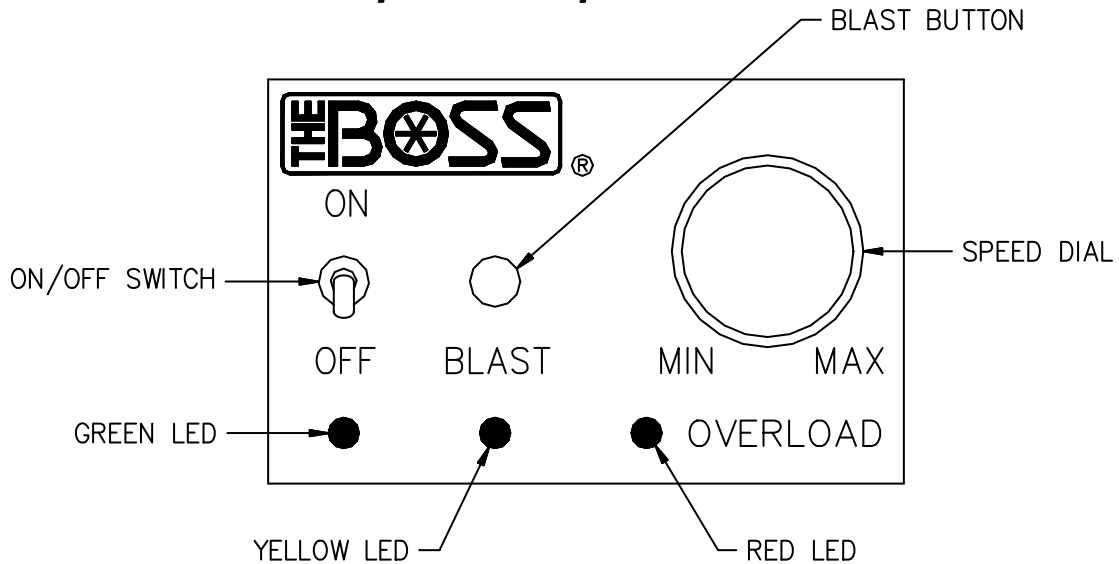


Figure 10.

G10294

### Starting and Stopping the Motor:

#### **WARNING**

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

#### **WARNING**

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

- 1) The truck's ignition key must be in the "ON" position.
- 2) Flip the ON/OFF Switch up to the ON position.
- 3) 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.
- 4) 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.
- 5) 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.



# Spreader Operation

## Deflector Adjustment

The adjustable plastic deflector can be used to adjust the spread pattern as shown in Figure 11. The spinner motor speed will also have an effect on the spread pattern.

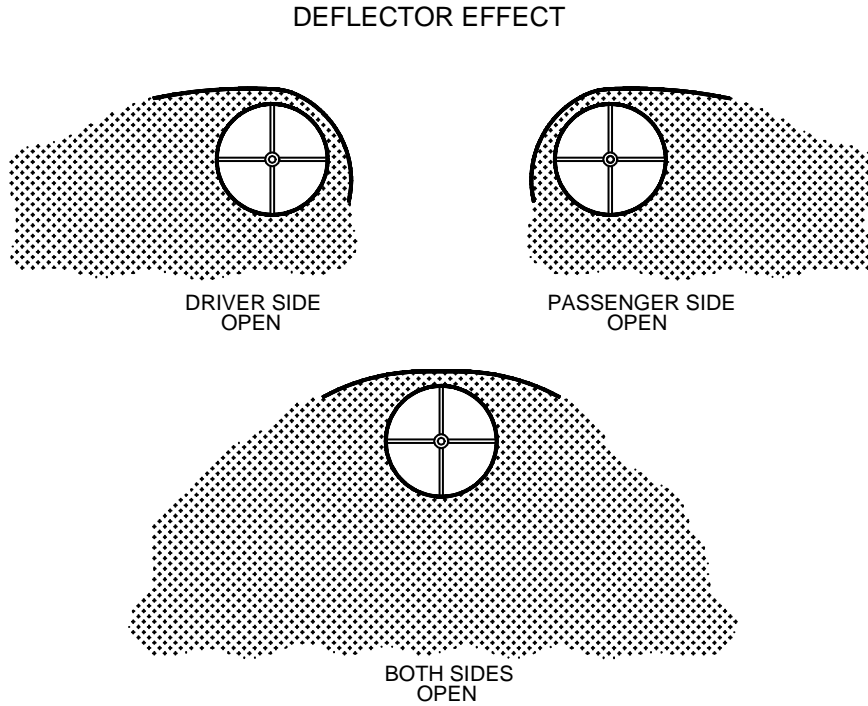


Figure 11.

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# **Troubleshooting Guide**

## **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.
5. Toggle Switch does not activate lift mechanism.
6. Cannot attach spreader.
7. Cannot detach spreader.

| PROBLEM   | DIAGNOSTIC CHECK  | RESULT  |
|---|---|---|
| 1. No power to controller (green LED not lit).                      | Check that truck's ignition key is in the "ON" position.  | Turn key on.  |
|   | Check the 40 amp in-line fuse in the vehicle side harness.  | Replace fuse.                                       |
|   | Check relay for corrosion and function.   | Relay should click when energized.                  |
| 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 vehicle 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.  |
| 5. Toggle switch does not activate lift mechanism.                  | Check that spreader side and vehicle side harnesses are connected properly.   | Connect.  |
|   | Check that truck's ignition key is in the "ON" position.  | Turn key on.  |
|   | Check that the switch is correctly wired.   | Connect. Refer to Figure 3 in this manual.          |

## **Troubleshooting Guide**

| PROBLEM                    | DIAGNOSTIC CHECK  | RESULT   |
|----------------------------|---|--|
| 6. Cannot attach spreader. | Check that spreader is sitting on level ground or leaning slightly toward the truck.                          | If the spreader is leaning away from the truck, change the position of the spreader so that it is level or leaning slightly toward the truck.                            |
|                            | Check that the Hitch Beam is at the proper height.  | Refer to Figure 12 for proper mounting height. Changes to the loading of the vehicle (such as a snowplow on the front or a load in the bed) will have an affect on this. |
|                            | Check for obstructions in the receiver hook on the hitch beam or on the upper and lower pins of the spreader. | Clear obstructions.  |
|                            | Check that the clutch in the actuator is not ratcheting.  | If clutch is ratcheting, grease upper and lower pins on the spreader. This may also indicate that the spreader is overloaded, remove some material.                      |
| 7. Cannot detach spreader. | Check that the Hitch Beam is at the proper height.  | Refer to Figure 12 for proper mounting height. Changes to the loading of the vehicle (such as a snowplow on the front or a load in the bed) will have an effect on this. |

## RECOMMENDED HITCH MOUNTING HEIGHT

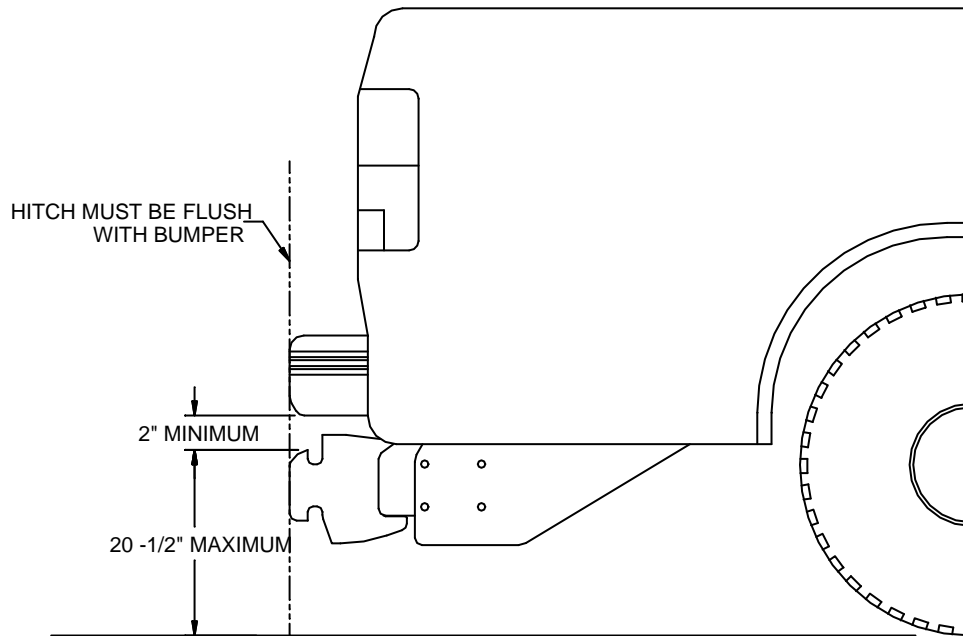


Figure 12.

G10282

## GUIDE TO RECOMMENDED ASSEMBLY TORQUE

All Torque Values Are In Foot-Pounds (Ft.-Lb.)

| DIA./PITCH | CLASS 10.9 | GRADE 5 | GRADE 8 |
|------------|------------|---------|---------|
| 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      |
| M12 X 1.75 | 86         |         |         |
| M14 X 2.00 |            | 80      | 112     |
| 9/16 - 12  |            | 82      | 116     |
| 5/8 - 11   |            | 113     | 159     |
| 3/4 - 10   |            | 201     | 283     |

\* 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.

Figure 13.

G10284

# **BOSS TAILGATE SPREADER COMMERCIAL WARRANTY**

**What this warranty covers:**

This warranty covers defects in material and workmanship except as set forth below.

**Who is covered:**

The original purchaser from an authorized dealer.

**For how long:**

**Parts:** Two years from the date of purchase.

**Labor:** Two years from the date of purchase.

**What BOSS PRODUCTS will do:**

BOSS PRODUCTS will, at its sole option, repair or replace defective parts at no charge.

**What you must do to for warranty service:**

To obtain warranty service, purchaser must return the defective tailgate spreader to any authorized BOSS PRODUCTS dealer (preferably the one from whom the tailgate spreader was purchased) within the warranty period. Purchaser must be able to verify the original purchase date. All transportation costs to and from the dealer will be the responsibility of the purchaser. To locate the authorized BOSS dealer nearest to you, call toll free: (800) 286-4155.

**What is not covered:**

This warranty does not cover:

1. Expendable parts such as pins, nuts, bolts, etc.
2. Tailgate spreaders or parts repaired or altered by anyone other than an authorized BOSS PRODUCTS dealer.
3. Tailgate spreaders or parts which have been subject to misuse, negligence, accident, improper installation, maintenance, care or storage.
4. Tailgate spreaders mounted on vehicles other than those recommended by BOSS PRODUCTS.
5. BOSS PRODUCTS does not assume liability for damage to your motor vehicle resulting from the attachment or use of a BOSS PRODUCTS tailgate spreader. Vehicle risk is the sole responsibility of the purchaser.

**Limits of BOSS Products Liability are:**

BOSS PRODUCT'S LIABILITY IS EXPRESSLY LIMITED TO REPAIR OR REPLACEMENT OF DEFECTIVE PARTS. BOSS PRODUCTS SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR CONTINGENT DAMAGES WHATSOEVER, EVEN IF DAMAGES ARE CAUSED BY THE NEGLIGENCE OR FAULT OF BOSS PRODUCTS.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

This warranty does not apply if you purchased your tailgate spreader for personal, family, or household use. In this case, refer to the BOSS Tailgate Spreader Limited Consumer Warranty.

BOSS PRODUCTS is a division of

Northern Star Industries, Inc.  
PO Box 788  
North U.S. Hwy 2  
Iron Mountain, MI 49801

(2005-2006)

# BOSS TAILGATE SPREADER LIMITED CONSUMER WARRANTY

## **What the warranty covers:**

BOSS PRODUCTS warrants to the original retail purchaser of a BOSS tailgate spreader who purchases it for personal, family or household use, that the tailgate spreader will be free from defects in material and workmanship except as set forth below.

## **Warranty period:**

**Parts:** Two years from the date of purchase.

**Labor:** Two years from the date of purchase.

## **What BOSS PRODUCTS will do:**

If, within the warranty period, the tailgate spreader is found to be defective, BOSS PRODUCTS will repair or replace, at its sole option, the defective parts at no charge to the original purchaser.

## **What you must do for warranty service:**

To obtain service under this warranty, purchaser must return the defective tailgate spreader to an authorized BOSS PRODUCTS dealer (preferably the one from whom the tailgate spreader was purchased). The purchaser must establish the warranty period by verifying the original purchased date. All transportation costs to and from the dealer will be the responsibility of the purchaser. To locate the authorized BOSS dealer nearest to you, call toll free: (800) 286-4155.

## **What is not covered:**

This limited warranty does not cover the following:

1. Expendable parts such as pins, nuts, bolts, etc.
2. Tailgate spreaders or parts repaired or altered by anyone other than an authorized BOSS PRODUCTS dealer.
3. Tailgate spreaders or parts which have been subject to misuse or service, negligence, accident, improper installation, maintenance, care or storage.
4. Tailgate spreaders mounted on vehicles other than those recommended by BOSS PRODUCTS.
5. BOSS PRODUCTS does not assume any liability for motor vehicle damage resulting from the attachment or use of a BOSS PRODUCTS tailgate spreader. Vehicle risk is the sole responsibility of the purchaser.

## **Warranty limitations:**

THIS WARRANTY IS OFFERED IN LIEU OF ANY OTHER EXPRESS WARRANTY.

THE DURATION OF ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS WARRANTY.

BOSS PRODUCTS LIABILITY IS EXPRESSLY LIMITED TO THE REPAIR OF THE TAILGATE SPREADER, INCLUDING LABOR AND REPLACEMENT OF DEFECTIVE PARTS. BOSS PRODUCTS SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL OR CONTINGENT DAMAGES WHATSOEVER, EVEN IF DAMAGES ARE CAUSED BY BOSS PRODUCTS NEGLIGENCE OR FAULT.

## **State laws:**

Some states do not allow exclusion of incidental or consequential damages or the limitations on how long an implied warranty lasts, so these limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have the other rights which vary from state to state.

This warranty does not apply if you purchased your tailgate spreader for other than personal, family, or household use. If so, refer to the BOSS Tailgate Spreader Commercial Warranty.

BOSS PRODUCTS is a division of

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