



2010 The BOSS Way  
Iron Mountain, MI 49801  
United States

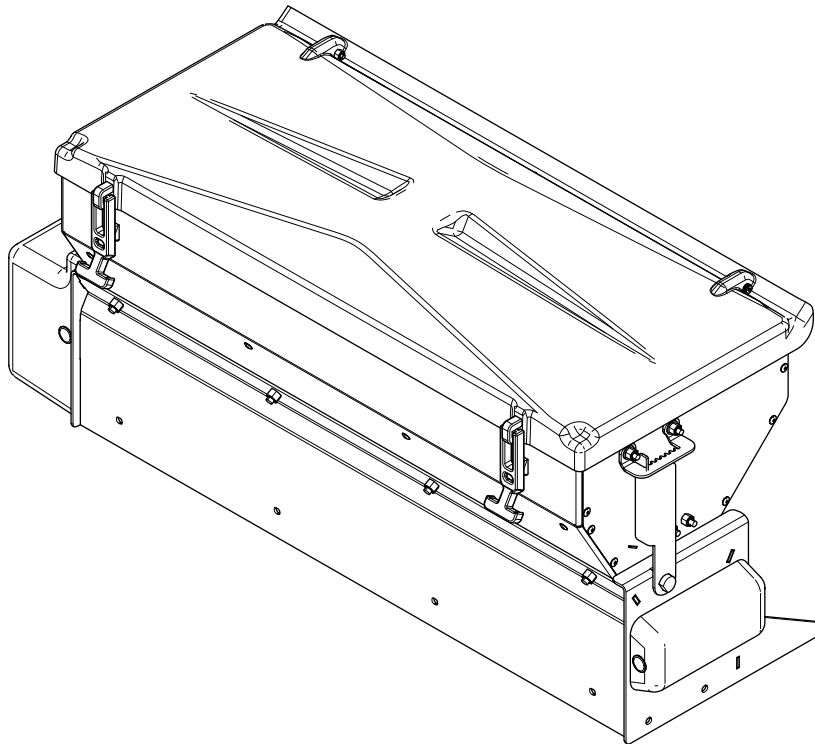
# Owner's Manual

## 1.5 CuFt Drop Spreader

Part No. DPS22750—Serial No. 409175000 and Up

Part No. MSC22875—Serial No. 400000000 and Up

Part No. MSC22875B—Serial No. 400000000 and Up



This product complies with all relevant European directives; for details, please see the separate product specific Declaration of Conformity (DOC) sheet.

BOSS Products limited consumer warranty and BOSS Products commercial warranty policies are located at [www.bossplov.com](http://www.bossplov.com).

Patent: [www.tcopats.com](http://www.tcopats.com).

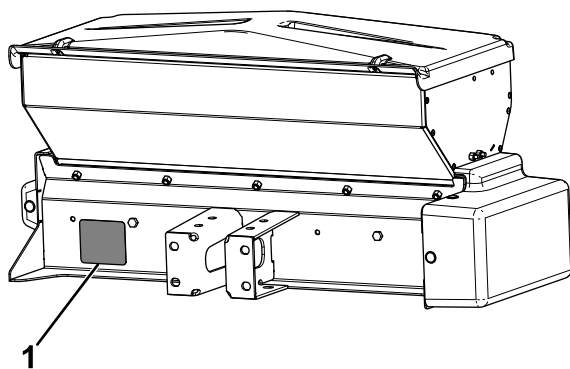
# Introduction

This spreader is designed to dispense ice-control solutions on residential or commercial properties. Using this product for purposes other than its intended use could prove dangerous to you and bystanders.

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage. You are responsible for operating the product properly and safely.

Visit [www.bossplov.com](http://www.bossplov.com) for product safety and operation training materials, accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine BOSS parts, or additional information, contact an Authorized BOSS Dealer or BOSS Technical Service (1-800-286-4155) and have the model and serial numbers of your product ready. **Figure 1** identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.



**Figure 1**

g293845

1. Serial number location

Model No. _____
Serial No. _____

This manual identifies potential hazards and has safety messages identified by the safety-alert symbol (**Figure 2**), which signals a hazard that may cause serious injury or death if you do not follow the recommended precautions.



**Figure 2**

g000502

1. Safety-alert symbol

This manual uses 2 words to highlight information.

**Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

# Contents

Safety .....	3
Preparation.....	3
Operation.....	3
Safety and Instructional Decals .....	4
Setup .....	5
Installing the Wire Harness .....	5
Installing the Attachment .....	6
Installing the Attachment .....	8
Installing the Slide-In Attachment.....	10
Mounting the Hitch Receiver .....	10
Mounting the Spreader .....	11
Installing the UTV Bedmount Attachment.....	11
Mounting the Spreader .....	11
Installing the Spreader Controller.....	12
Product Overview .....	14
Controls .....	14
Spreader Controller.....	15
Specifications .....	15
Operation .....	16
Mounting the Spreader .....	16
Removing the Spreader.....	16
Mounting the Spreader .....	16
Removing the Spreader.....	17
Loading the Spreader .....	17
Operating the Spreader .....	18
Freeing a Clog.....	18
Unloading the Spreader.....	18
Switching the Snowrator Controller Mode.....	18
Troubleshooting .....	19

# Safety

Improperly using and maintaining the equipment can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety-alert symbol **A**, which means: **Caution, Warning, or Danger**—personal safety instruction. Failure to comply with the instruction may result in personal injury or death.

## Preparation

- Ensure that only trained personnel install and perform maintenance on the equipment.
- Always wear appropriate personal protective equipment when loading, unloading, and servicing the spreader. Wear substantial, slip-resistant footwear, hand/skin protection, eye protection, and respiratory protection.
- The spreader can hold a maximum weight of 68 kg (150 lb) of material. Do not exceed this weight.

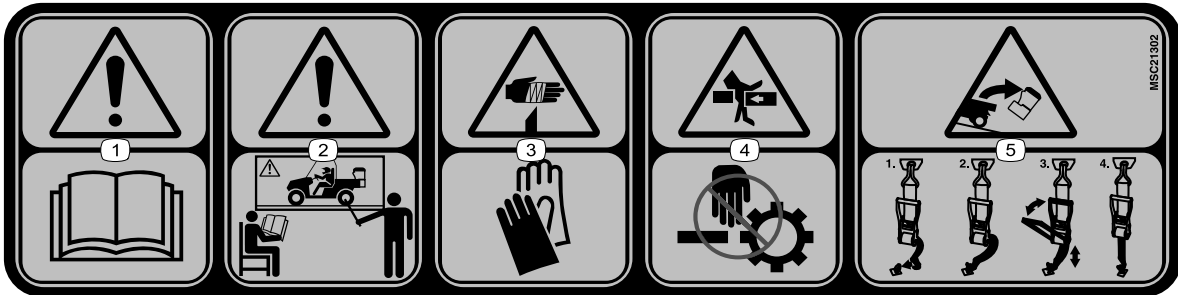
# Operation

- Read the *Owner's Manual* before operating or servicing the spreader.
- Do not operate the machine while ill, tired, or under the influence of alcohol or drugs.
- Always follow the vehicle manufacturer's recommendations for proper parking procedures.
- Always wear your seatbelt while operating a motor vehicle.
- Do not exceed 22.5 km/h (14 mph) while spreading.
- This spreader has an operating sound level below 70 dBA.
- Never put any part of your body between the spreader and the vehicle.
- Overloading the spreader could result in an accident or damage. Never exceed the gross-vehicle-weight rating (GVWR) or the front or rear gross-axle-weight ratings (FGAWR or RGAWR) for the vehicle.
- This spreader is restricted to the use of sand, salt, or a sand/salt mix only. Do not run other materials through the spreader.
- Do not attempt to mount or remove the spreader with material in it.
- Turn the spreader off before filling, mounting, removing, servicing, or cleaning it.
- Do not climb into or ride on the spreader.
- Keep your hands, feet, and clothing away from moving parts and mounting points.
- Mount the spreader to a vehicle before loading material.
- Install ratchet straps and keep them properly tightened with the UTV bedmount and slide-in mount attachments.
- When transporting the spreader, ensure that it is properly secured. Instructions are available at [www.bosspow.com](http://www.bosspow.com).
- Carefully read and follow the warning labels and safety data sheets (SDSs) for all materials used, and protect yourself according to the manufacturer's recommendations.
- Use a 1/2 ton minimum lifting device to move heavy spreader components.
- Do not store material in the hopper.

# Safety and Instructional Decals



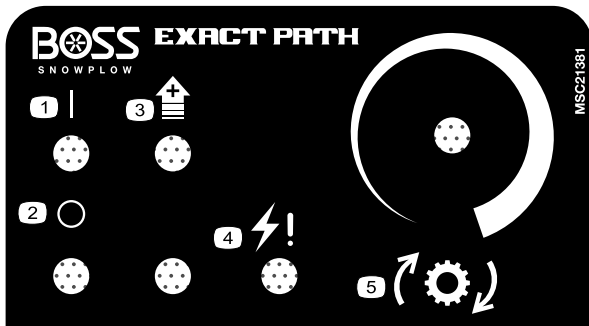
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



MSC21302

decalmsc21302

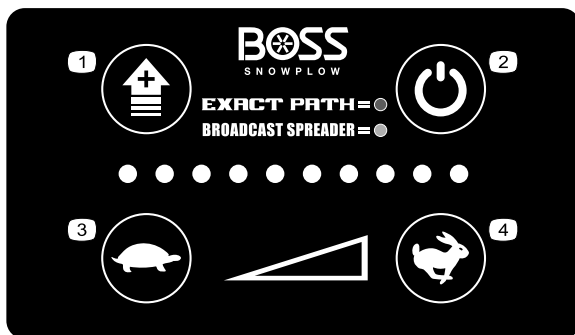
1. Warning—read the *Owner's Manual*.
2. Warning—do not operate this machine unless you are trained.
3. Cutting hazard of the hand—wear hand and skin protection.
4. Crushing hazard of the hand—stay away from moving parts.
5. Falling hazard—the ratchet straps must be secured at all times.



decalmsc21381

MSC21381

1. On
2. Off
3. Blast
4. Attention—overload
5. Speed setting



decalmsc22879

MSC22879

1. Blast
2. Power
3. Slow
4. Fast

# Setup

**Note:** An attachment kit is required to install this machine. Contact your Authorized Service Dealer for more information.

## Installing the Wire Harness

### For All Vehicles Except Snowrator® Machines

#### **⚠ DANGER**

Vehicle engines contain moving parts and can become extremely hot, capable of causing severe burns and serious bodily harm.

Shut off the engine and let it cool down before installing this kit.

#### **⚠ DANGER**

Vehicle batteries can cause dangerous electrical shocks that could lead to severe burns or death.

Disconnect your battery before installing this kit by removing the negative connector followed by the positive connector.

1. Secure the spreader connector on the vehicle wire harness (Figure 3) to the center of the rear vehicle bumper with a cable tie.
2. Route the wire harness toward the vehicle battery and secure it with cable ties.

**Note:** Keep the wire harness away from any hot or moving parts.

3. Insert the controller connector into the vehicle cab, and secure it with cable ties.

**Note:** Route the controller connector to the location that you want to install your controller.

4. Connect the black ring connector in the engine compartment to the negative (-) battery terminal (Figure 3).
5. Connect the red ring connector in the engine compartment to the positive (+) battery terminal (Figure 3).
6. Wrap the excess wire and secure it in the engine compartment with cable ties.

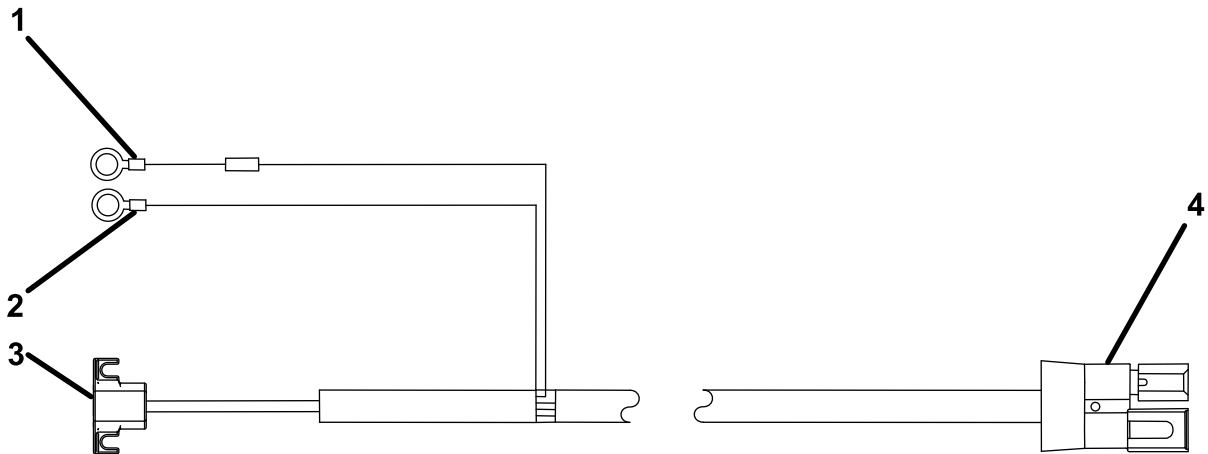


Figure 3

g260282

1. Red ring connector
2. Black ring connector
3. Controller connector
4. Spreader connector

# Installing the Attachment

## For the Snowrator

### Preparing the Machine

1. Remove and retain the fasteners securing the sides of the deck plate and the engine guard.

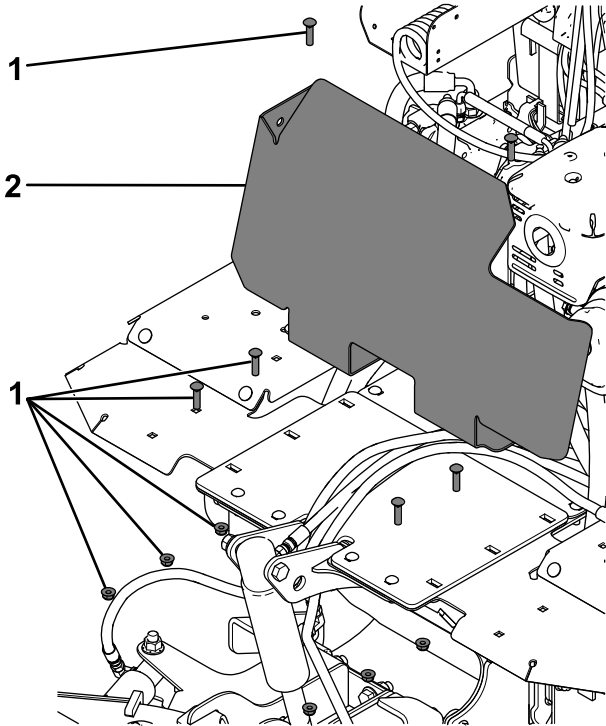


Figure 4

1. Fasteners
2. Engine guard

2. Remove the spreader bed shield.

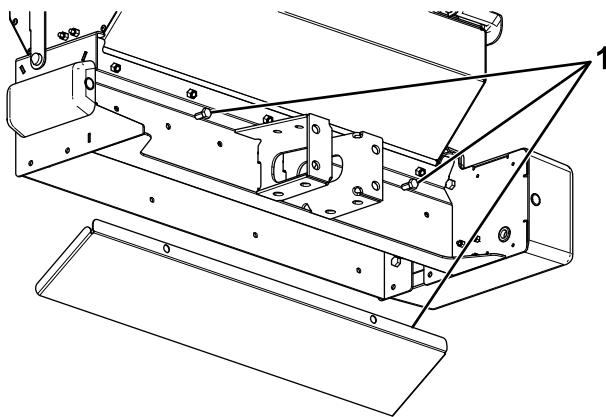


Figure 5

1. Remove

### Mounting the Spreader

1. Place the 4 bolts (1/2 inch) into the mounting bracket and loosely secure them with the bolt bracket, 1 bolt (3/8 inch), and 1 nut (3/8 inch).

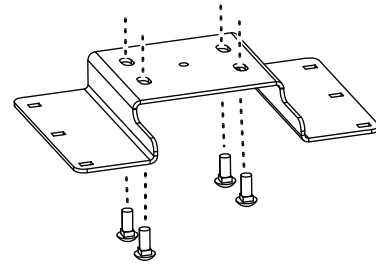


Figure 6

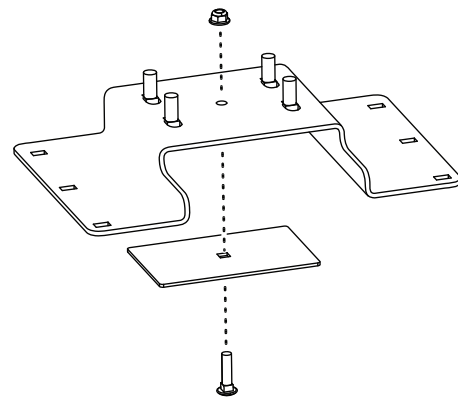


Figure 7

2. Secure the mounting bracket to the machine using the previously removed fasteners. Torque the existing bolts connecting the mounting bracket to the machine to 15 N·m (11 ft-lb).

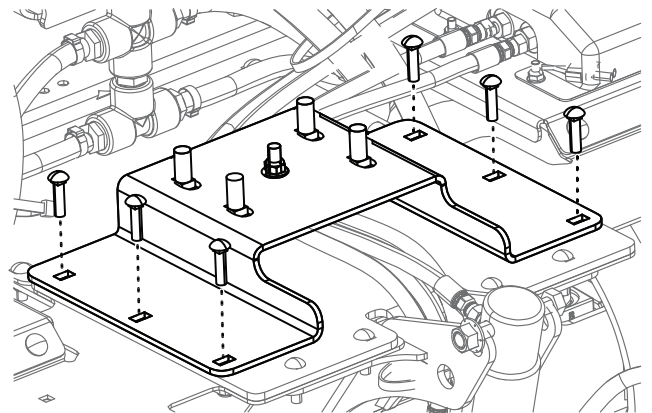
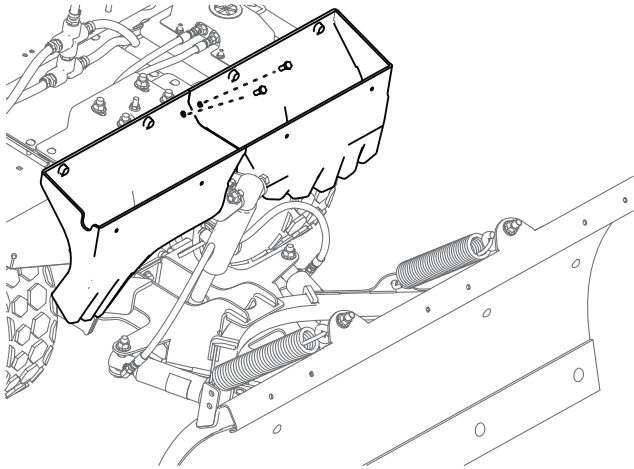


Figure 8

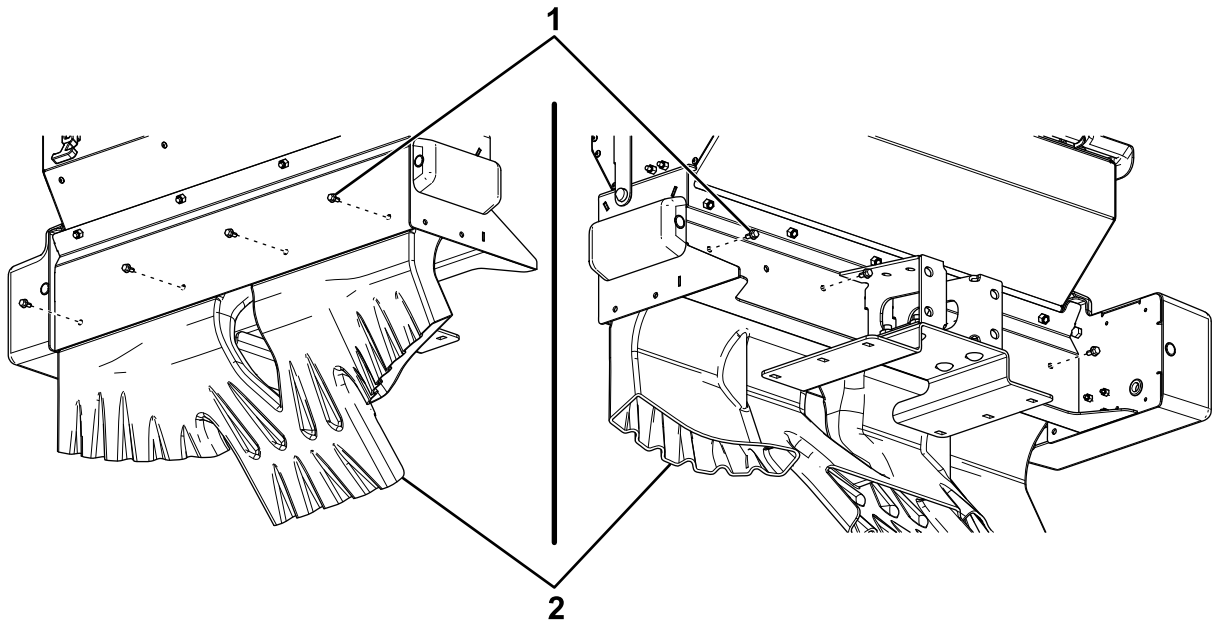
- Place the chute halves around the lift cylinder and connect the 2 halves using 2 bolts (5/16 inch), 1 plate, and 2 nuts (5/16 inch).



**Figure 9**

g349911

- Place the spreader onto the chute assembly and mounting bracket.
- Secure the material chute to the spreader using 8 bolts (1/4 inch).



**Figure 10**

g293824

- Bolt (1/4 inch)

- Material chute

- Secure the bracket to the drop spreader.

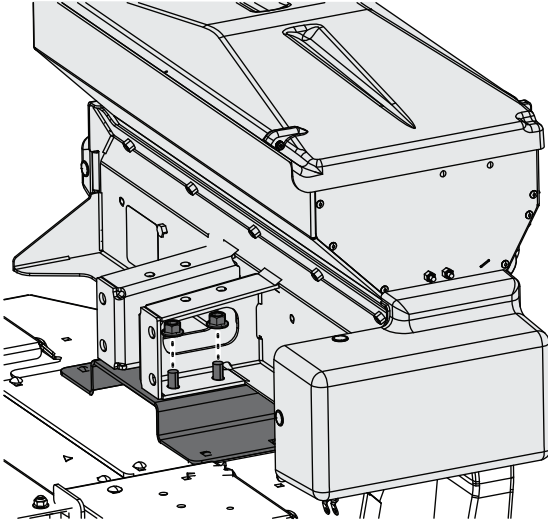


Figure 11

g349857

- Ensure that the spreader and material chute are not interfering with anything on the machine. Shift the spreader if necessary.
- Torque the 1/2-inch bolts connecting the spreader to the mounting bracket to 76 N·m (56 ft-lb).
- Run the plow through its full range of motion to ensure that the hoses do not interfere or get pinched.

## Installing the Attachment

### For the Snowrator MAG

#### Preparing the Machine

- Park the machine on a level surface.
- Lower the attachment.
- Move the motion-control levers to the NEUTRAL position.
- Engage the parking brake.
- Remove the key and wait for all moving parts to stop.
- Remove the front plastic cover (Figure 12).

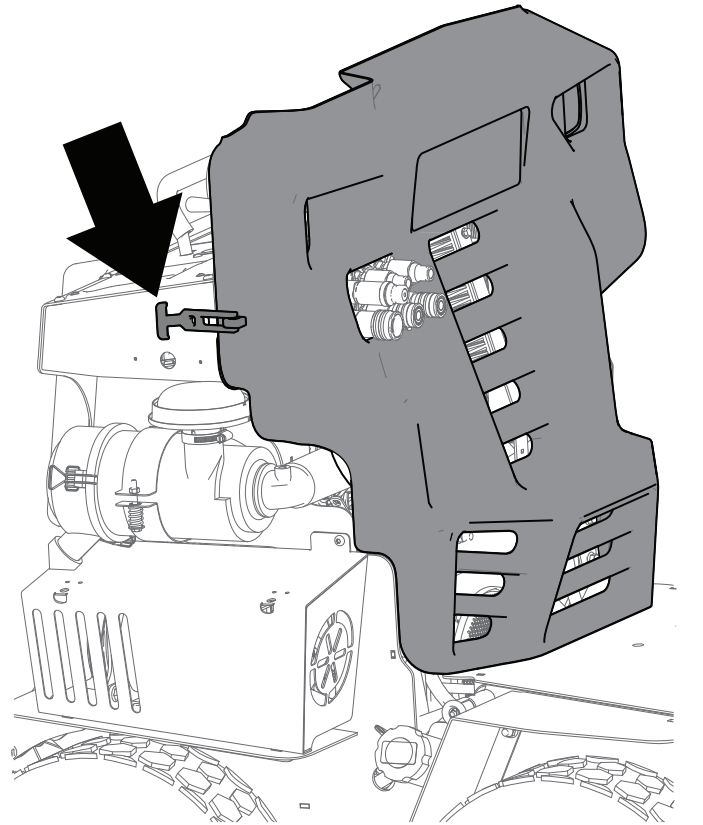


Figure 12

g381410



# Mounting the Spreader

## **⚠ DANGER**

The spreader is heavy and could cause serious injury or property damage if it falls off the vehicle.

- Ensure that your footing is stable, and avoid lifting the spreader on slippery or uneven surfaces.
  - Ensure that the ratchet straps are securely attached to the spreader at all times.
1. Release the quick pins to open the battery cover (Figure 13 and Figure 14).

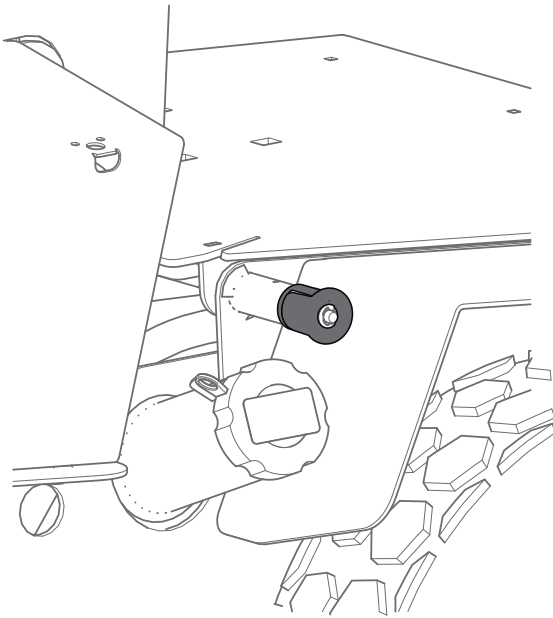


Figure 13

g386773

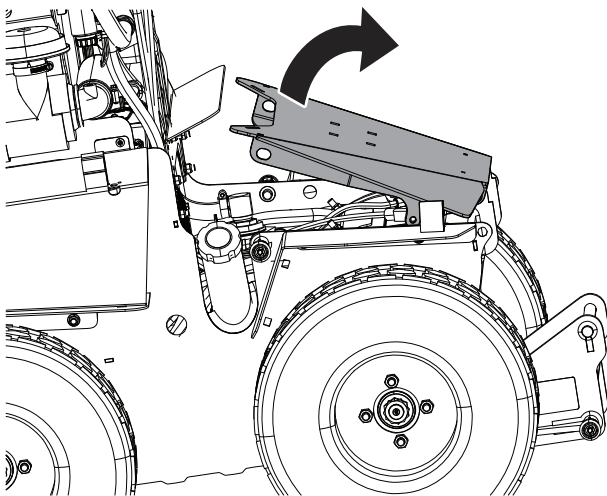


Figure 14

g381901

2. Lift the spreader and align it with the battery cover.
3. Install the spreader to the battery cover using 4 carriage bolts (1/2 x 1-1/4 inch) and 4 locknuts (1/2 inch) as shown in Figure 15.

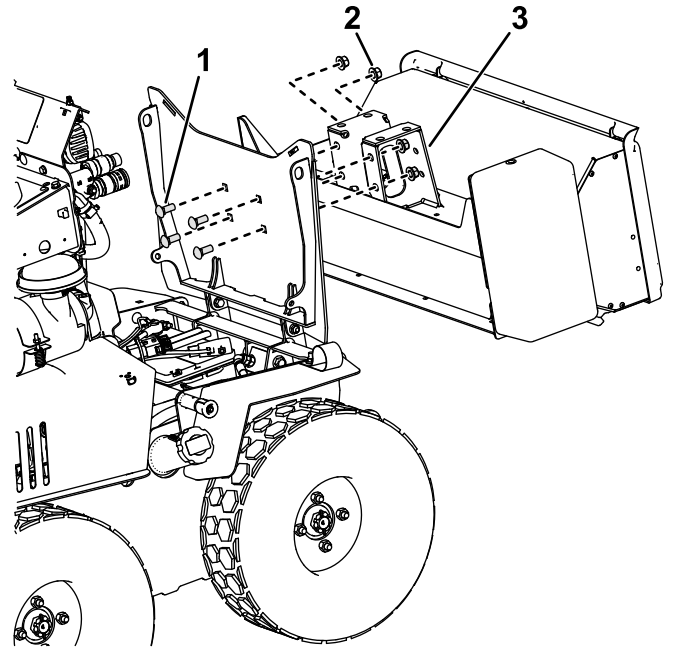


Figure 15

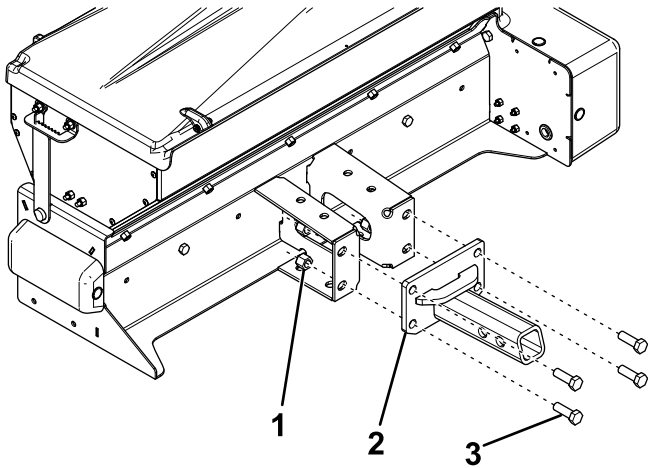
g441670

1. Locknut (1/2 inch)
2. Carriage bolt (1/2 x 1-1/4 inch)
3. Spreader mount

4. Close and secure the battery cover with the quick pins and install the plastic cover.

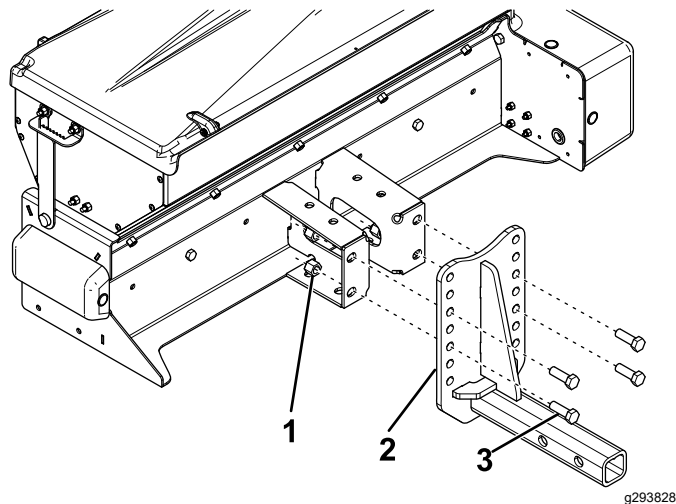
# Installing the Slide-In Attachment

1. Loosely attach the hitch to the spreader using 4 bolts (1/2 x 1-1/2 inch) and locknuts (Figure 16 and Figure 17).



**Figure 16**  
Fixed-height attachment

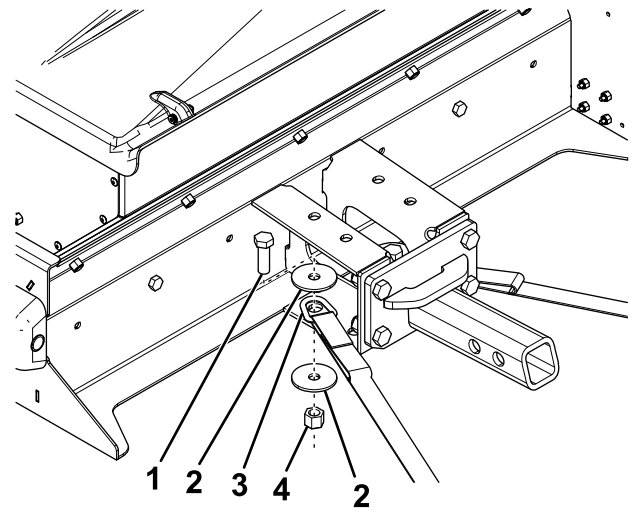
1. Locknut (1/2 inch)
2. Hitch
3. Bolt (1/2 x 1-1/2 inch)



**Figure 17**  
Adjustable-height attachment

1. Locknut (1/2 inch)
2. Hitch
3. Bolt (1/2 x 1-1/2 inch)

2. Torque the bolts to 76 N·m (56 ft-lb).
3. Attach the D-ring end of the ratchet straps to the spreader mounting bracket using 2 bolts (1/2 x 1-1/2 inch), 4 washers (1/2 inch), and 2 locknuts (1/2 inch) as shown in Figure 18.



**Figure 18**

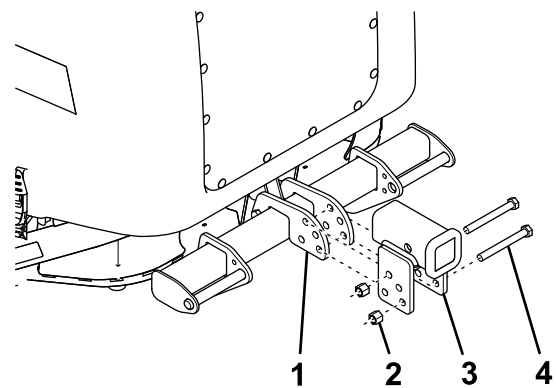
1. Bolt (1/2 x 1-1/2 inch)
2. Washer (1/2 inch)
3. Ratchet strap
4. Locknut (1/2 inch)

## Mounting the Hitch Receiver

### For the Toro Groundsmaster 360/7200/7210

The vehicle must be equipped with the Universal Hitch Kit to perform this installation.

1. Secure the hitch receiver to the rear of the vehicle using 2 bolts (1/2 x 4-1/2 inches) and locknuts.
2. Torque the bolts to 76 N·m (56 ft-lb).



**Figure 19**

1. Vehicle
2. Locknut (1/2 inch)
3. Hitch receiver
4. Bolt (1/2 x 4-1/2 inches)

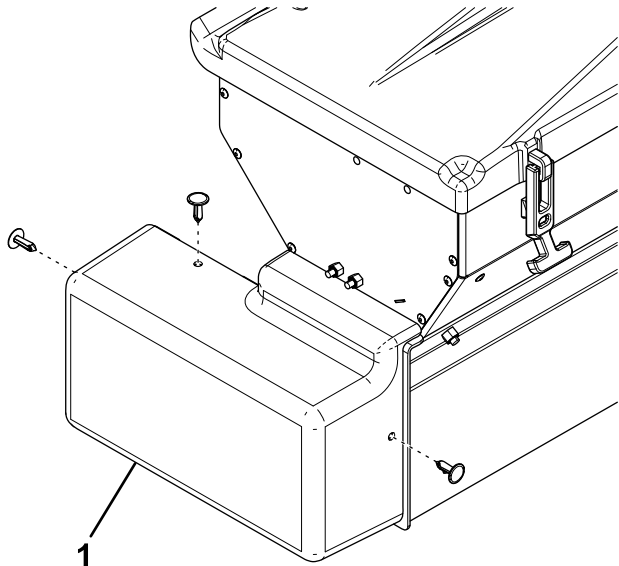
# Mounting the Spreader

## With the Slide-In Attachment

Refer to [Mounting the Spreader \(page 16\)](#).

## Installing the UTV Bedmount Attachment

1. Remove and retain the motor cover ([Figure 20](#)).

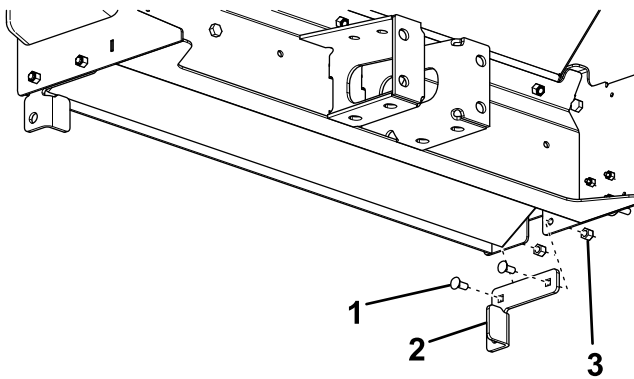


**Figure 20**

g293830

1. Motor cover

2. Secure the bed stops to each side of the spreader frame using 4 bolts (5/16 inch) and locknuts ([Figure 21](#)).



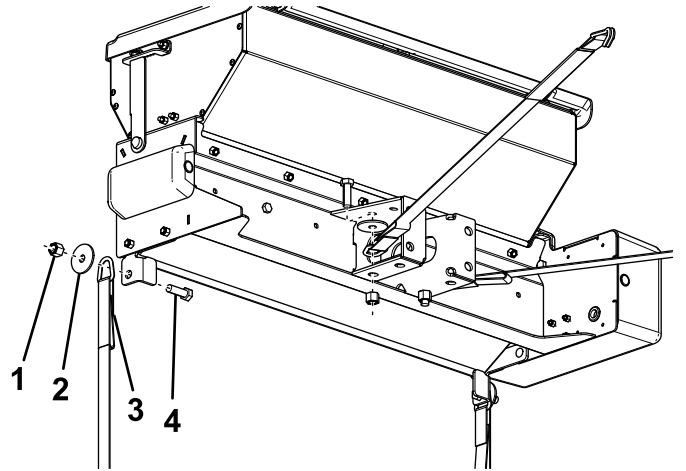
**Figure 21**

g293831

1. Bolt (5/16 inch)
2. Bed stop
3. Locknut (5/16 inch)

3. Torque the bolts to 15 N·m (11 ft·lb).
4. Install the previously removed motor cover.

5. Secure the ratchet straps to the spreader using 4 bolts (1/2 x 1-1/2 inch), washers (1/2 inch), and locknuts (1/2 inch) as shown in [Figure 22](#).



**Figure 22**

g293832

1. Locknut (1/2 inch)
2. Washer (1/2 inch)
3. Ratchet strap
4. Bolt (1/2 x 1-1/2 inch)

# Mounting the Spreader

## with the UTV Bedmount Attachment

Refer to [Mounting the Spreader \(page 16\)](#).

# Installing the Spreader Controller

## For the Snowrator

1. Remove the knockout panel on the control panel (Figure 23).

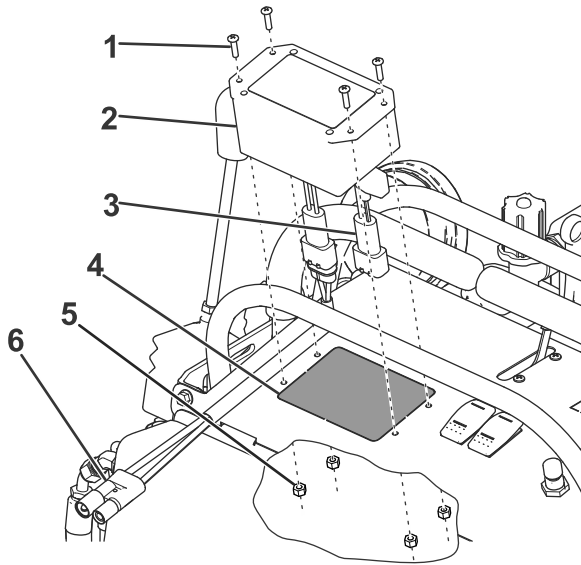


Figure 23

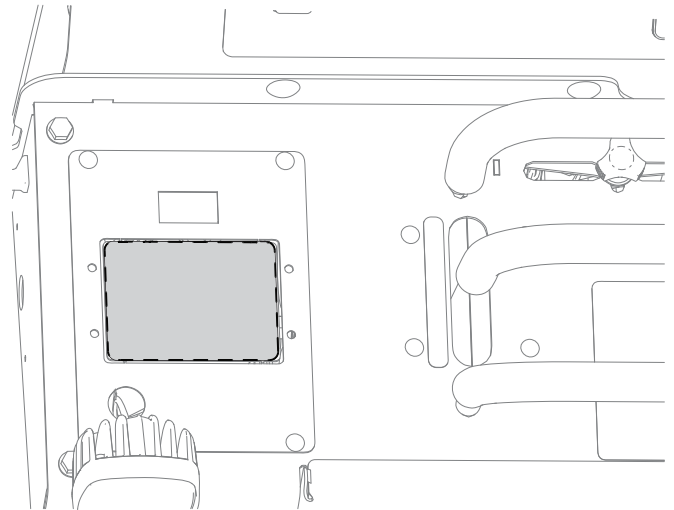
g298129

- |                               |                              |
|-------------------------------|------------------------------|
| 1. Bolt (#10)                 | 4. Knockout panel            |
| 2. Controller                 | 5. Nut (#10)                 |
| 3. Short controller connector | 6. Long controller connector |

2. Insert the controller into the opening and secure it with 4 bolts (#10) and nuts as shown in Figure 23.
3. Connect the spreader wire harness to the long controller connector.
4. Connect the short controller connector to the spinner connector on the machine wire harness.

## For the Snowrator MAG

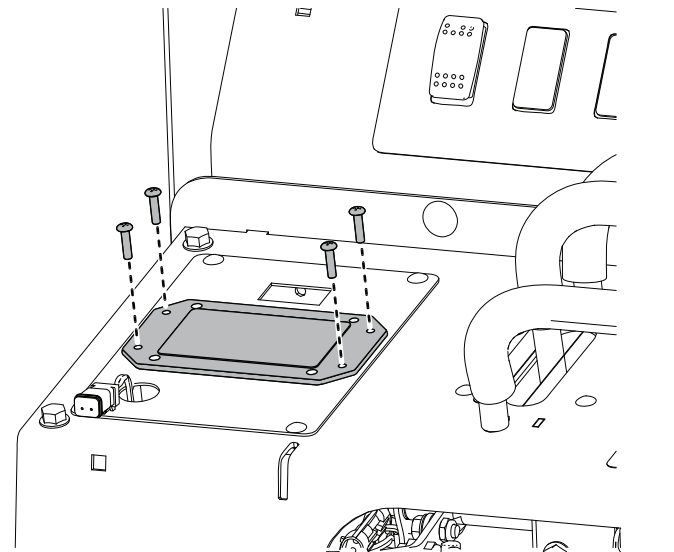
1. Remove the cushion from the machine.
2. Remove the knockout panel on the control panel.



g383797

Figure 24

3. Insert the controller into the opening and secure it with 4 bolts (#10) and nuts.



g383796

Figure 25

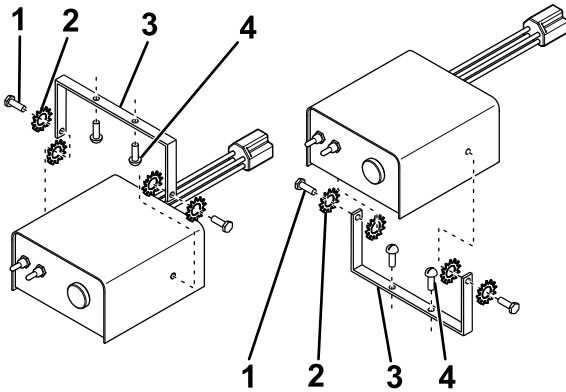
4. Connect the spreader wire harness to the long controller connector.
5. Connect the short controller connector to the spinner connector on the machine wire harness.

## For All Vehicles Except Snowrator Machines

Mount the controller in the cab where it does not interfere with vehicle operation or visibility.

**Important:** Do not mount the controller where vehicle occupants could contact it during a crash.

1. Attach the mounting bracket to the vehicle using 2 sheet-metal screws (Figure 26).



g260401

Figure 26

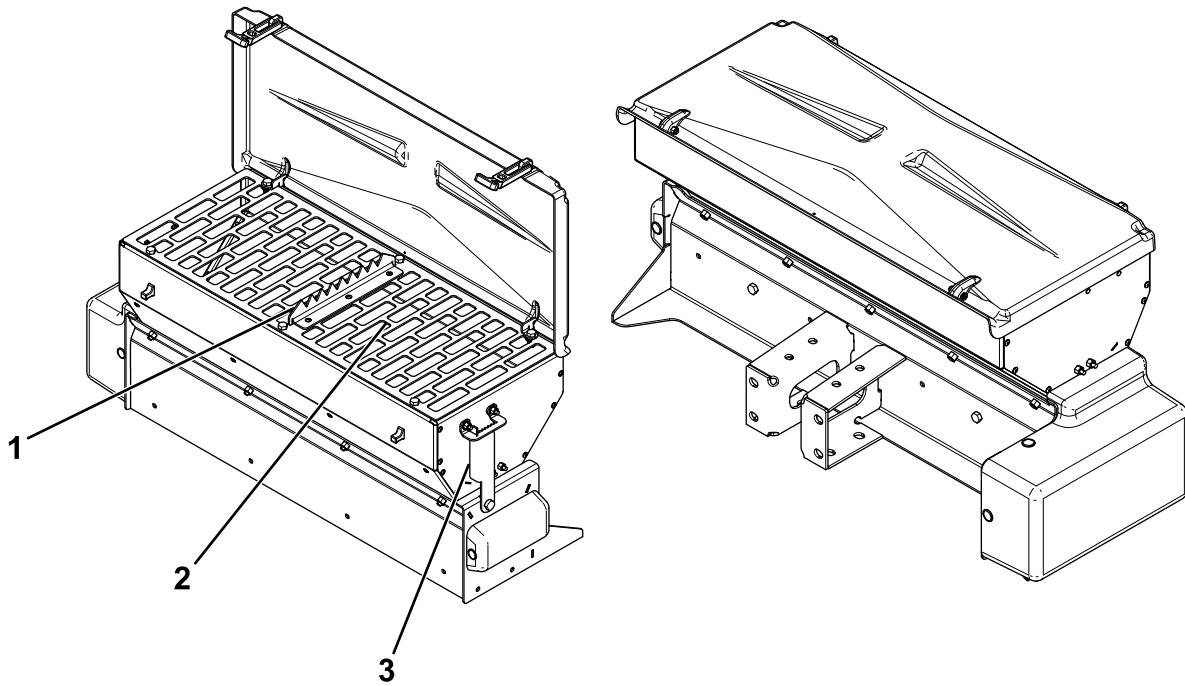
- |                    |                      |
|--------------------|----------------------|
| 1. Bolt (1/4 inch) | 3. Mounting bracket  |
| 2. Star washer     | 4. Sheet-metal screw |

- 
2. Attach the controller to the mounting bracket using 4 star washers and 2 bolts (1/4 inch) as shown in Figure 26.

**Note:** Position the controller screen so that it is clearly visible to the driver.

3. Connect the wire harness controller connector to the controller.

# Product Overview



**Figure 27**

g293834

1. Bag splitter
2. Lift points (grate)

3. Flow control lever

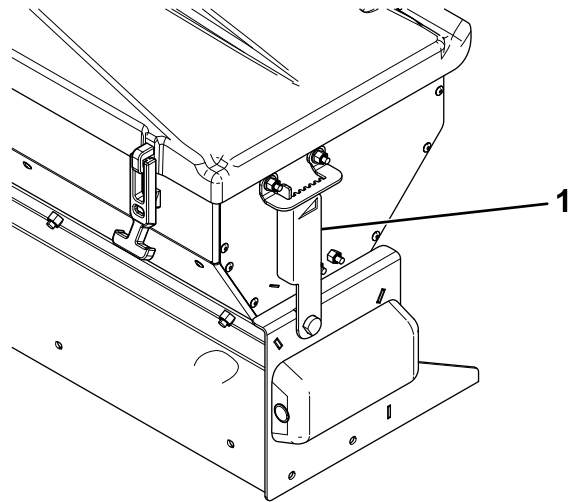
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## Controls

Become familiar with all the controls before you operate the spreader.

### Flow Control Lever

The flow control lever lets you adjust the flow of material from the hopper. Push it forward to increase the flow. Pull it backward to decrease the flow.



**Figure 28**

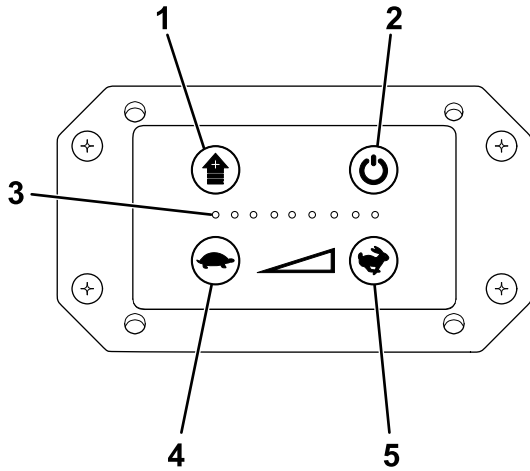
g293835

1. Flow control lever
-

# Spreader Controller

The spreader controller lets you operate your spreader and displays information about your machine.

## For the Snowrator



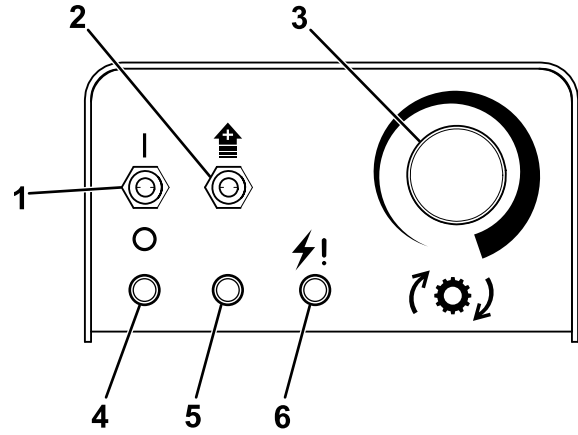
**Figure 29**

g293836

- 1. Blast button
- 2. Power button
- 3. Speed LED's
- 4. Slow button
- 5. Fast button

- Power button—turns the spreader controller and spinner motor on or off. Press once to turn the controller on. Press again to turn the spinner motor on or off. Hold the button to turn the controller off.
- Blast button—momentarily sends full power to the spinner motor as long as it is held up
- Fast button—increases the spinner motor speed
- Slow button—decreases the spinner motor speed
- Speed LED's—indicates the spinner motor speed and operating mode. The LED's will be red in Exact Path mode and green in Broadcast spreader mode.

## For All Vehicles Except Snowrator Machines



**Figure 30**

g260402

- 1. Power switch
- 2. Blast switch
- 3. Speed dial
- 4. Power LED
- 5. Blast LED
- 6. Jam LED

- Power switch—turns the spreader controller and spinner motor on or off
- Blast switch—momentarily sends full power to the spinner motor as long as it is held up
- Speed dial—increases the motor speed when turned clockwise, and decreases the motor speed when turned counterclockwise
- Power LED—when green, it indicates that the controller and spreader is on
- Blast LED—when yellow, indicates that the Blast function is in use
- Jam LED—when red, indicates that the spreader is jammed and the motor is overloaded

## Specifications

**Note:** Specifications and design are subject to change without notice.

Height	45 cm (17-3/4 inches)
Width	100 cm (39-1/2 inches)
Depth	39 cm (15-1/2 inches)
Weight (empty)	48.5 kg (107 lb)
Capacity	0.04 m <sup>3</sup> (1.5 ft <sup>3</sup> )

# Operation

**Note:** Determine the left and right sides of the machine from the normal operating position.

## **⚠ DANGER**

The spreader is heavy and could cause serious injury or property damage if it falls off the vehicle.

- Ensure that your footing is stable, and avoid lifting the spreader on slippery or uneven surfaces.
- Ensure that the ratchet straps are securely attached to the spreader at all times.

## Mounting the Spreader with the Slide-In Attachment

1. Slide the spreader hitch into the receiver hitch on the vehicle and line up the second hole on the spreader hitch with the hole in the hitch of your vehicle (Figure 31).

**Note:** If the spreader contacts the bumper or rear of your vehicle, slide the spreader out and align the first hole of the spreader hitch instead.

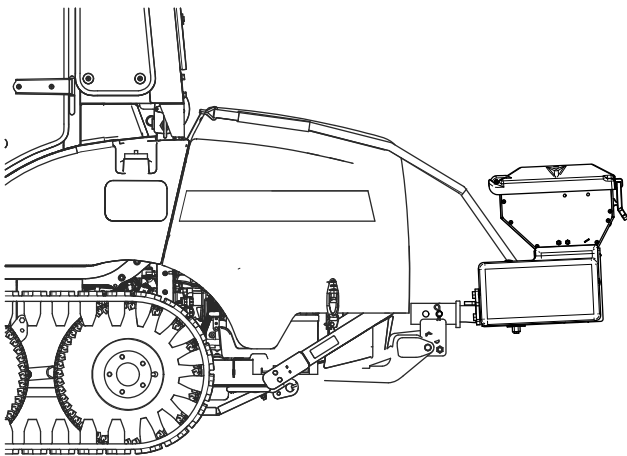


Figure 31

g293837

2. Secure the spreader hitch to the vehicle hitch using the clevis pin and cotter hairpin.
3. Attach the ends of the ratchet straps to a solid point on the vehicle frame.

**Note:** You may have to drill a hole in the vehicle frame to attach them.

4. Plug the spreader harness into the vehicle wire harness at the bumper.

## Removing the Spreader with the Slide-In Attachment

1. Ensure that the spreader controller is off.
2. Unplug the spreader harness from the vehicle wire harness at the bumper.
3. Disconnect the ratchet straps from the vehicle.
4. Remove the clevis pin and cotter hairpin securing the spreader hitch to the vehicle hitch.
5. Slide the spreader out of the receiver hitch of your vehicle.
6. Move the spreader to your storage area.

## Mounting the Spreader with the UTV Bedmount Attachment

1. If your UTV has a tailgate, remove it.
2. Slide the spreader onto the UTV bed until the bed stops contact the bed (Figure 32).

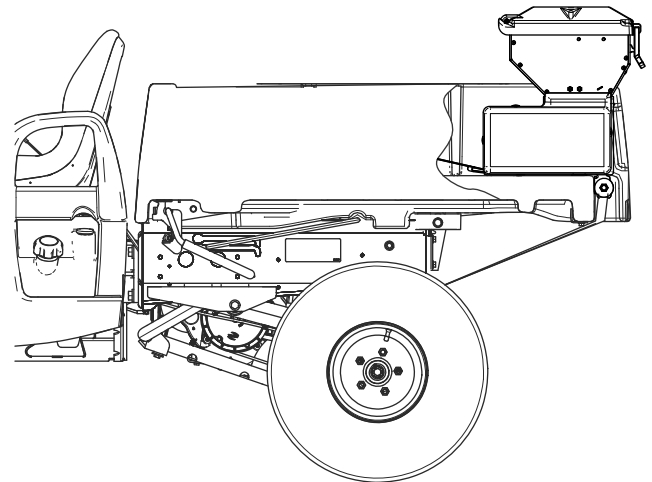


Figure 32

g293838

3. Attach the ends of the upper ratchet straps to a solid point toward the front of the UTV.
4. Slide the ends of the lower ratchet straps under the UTV and attach them to a solid point on the UTV frame rail or hitch.
5. Plug the spreader harness into the UTV wire harness at the bumper.



# Removing the Spreader

## with the UTV Bedmount Attachment

1. Ensure that the spreader controller is off.
2. Unplug the spreader harness from the UTV wire harness at the bumper.
3. Disconnect the ratchet straps from the UTV.
4. Slide the spreader off of the UTV bed.
5. Move the spreader to your storage area.

# Loading the Spreader

**Important:** Use only dry sand, salt, or a sand/salt mixture in the spreader. Other materials could damage the machine.

1. Ensure that the spreader is securely mounted to your vehicle and is not over slippery or uneven terrain.
2. Ensure that the flow control lever is pulled back into the CLOSED position.
3. Remove the hopper cover and ensure that the top screen is installed and closed.
4. Determine the amount of material that you can safely transport in your spreader; refer to [Specifications \(page 15\)](#).
5. Fill the hopper using the following methods:
  - If using bagged materials, place the bag on the top screen bag splitter and work it back and forth to split the bag. Continue to move and shake the bag until it is empty.  
**Note:** Have 2 people lift bags weighing more than 18 kg (40 lb).  
**Note:** Keep your hands and fingers clear of the bag splitter when loading materials.
  - If using dry bulk materials, load the materials into the hopper through the top screen to break up any large, impassable chunks that may clog the spreader.
6. Ensure that the material is evenly distributed inside the hopper and not heaped in the center.
7. Secure the previously removed hopper cover.

# Operating the Spreader

1. Move the flow control lever to the desired position; refer to the table below for recommendations based on your material type.
2. Start the vehicle.
3. Turn on the spreader.
4. Set your desired motor speed.

**Note:** The motor speed determines how quickly the material is spread.

5. Drive at a consistent speed as you spread material.
6. While spreading, you can press the Blast button to momentarily increase the speed of the motor.
7. Turn the spreader off when you are finished spreading.
8. Pull the flow control lever back into the CLOSED position.

		Flow Control Lever Position								
		1	2	3	4	5	6	7	8	
Material	Bag salt									Fine/Dry material
	Bulk salt									
	Salt/Sand mix					Vibrator recommended				
	Sand						Vibrator recommended			
	Empty/Unclog									Course/Wet material
		Low flow rate				High flow rate				

## Freeing a Clog

The red LED on the non-Snowrator spreader controller illuminates when debris gets wedged in the spreader and the controller is overloaded.

If the clog is not cleared automatically, disconnect the spreader wire harness and manually free the clog.

## Unloading the Spreader

1. Position the spreader in the area where you want to deposit the material.
2. Push the flow control lever forward until it is fully open.
3. Turn on the spreader controller and run the spreader until the hopper is empty.

## Switching the Snowrator Controller Mode

1. Make sure that the controller is powered off.
2. Press and hold the Power and Slow buttons at the same time.

The LED's will illuminate in the color of the current controller mode after 3 seconds.

3. Hold both buttons for 2 more seconds until the LED's change color.
4. Release the buttons to set the new controller mode.

The controller will power off, but it will start in the new mode when powered on again.

# Troubleshooting

Problem	Possible Cause	Corrective Action
The controller has no power.	<ol style="list-style-type: none"> <li>1. The spade connector is not connected to the battery.</li> <li>2. The the battery connections are corroded.</li> <li>3. The 40 A in-line fuse in the vehicle side harness is bad.</li> <li>4. The controller is not plugged into the wire harness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect the spade connector to the battery.</li> <li>2. Clean the connections.</li> <li>3. Replace the fuse.</li> <li>4. Plug in the controller.</li> </ol>
The spreader motor does not work or the Power LED on the non-Snowrator controller is not lit.	<ol style="list-style-type: none"> <li>1. The spreader and vehicle wire harnesses are not connected.</li> <li>2. The controller is not plugged into the wire harness.</li> <li>3. The drive motor is not connected to the spreader side harness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect the wire harnesses.</li> <li>2. Plug in the controller.</li> <li>3. Connect the wire harnesses.</li> </ol>
The Jam LED on the non-Snowrator controller is lit.	<ol style="list-style-type: none"> <li>1. The spreader is jammed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Refer to the Freeing a Clog section.</li> </ol>
The spreader motor works but the drum does not turn.	<ol style="list-style-type: none"> <li>1. The connection between the drum and the motor shaft is bad.</li> <li>2. The connection between the motor shaft and the motor hub is bad.</li> </ol>	<ol style="list-style-type: none"> <li>1. Contact your Authorized Service Dealer.</li> <li>2. Contact your Authorized Service Dealer.</li> </ol>
The drop pattern is uneven causing the spreader to empty unevenly.	<ol style="list-style-type: none"> <li>1. The gate baffle is worn.</li> <li>2. The gate bushings are worn.</li> <li>3. The flow control handle bolt is loose.</li> <li>4. Material is built up on the bed shield.</li> <li>5. Material is heaped in the spreader unevenly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the urethane gate baffle.</li> <li>2. Replace the gate bushings.</li> <li>3. Tighten the bolt.</li> <li>4. Clean the bed shield.</li> <li>5. Evenly distribute the material inside the spreader hopper.</li> </ol>
Material leaks out of the spreader even when the flow control lever is in the Closed position.	<ol style="list-style-type: none"> <li>1. The gate baffle is worn.</li> <li>2. The gate bushings are worn.</li> <li>3. The flow control handle bolt is loose.</li> <li>4. The gate baffle is misaligned.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace the urethane gate baffle.</li> <li>2. Replace the gate bushings.</li> <li>3. Tighten the bolt.</li> <li>4. Adjust the gate baffle so that it touches the drum when closed.</li> </ol>
Material is spreading slowly, intermittently, or not at all.	<ol style="list-style-type: none"> <li>1. There are rocks or debris clogging the drum.</li> <li>2. The material being spread is damp or powdery.</li> </ol>	<ol style="list-style-type: none"> <li>1. Open the gate baffle temporarily to allow them to pass.</li> <li>2. Open the flow control lever 1 step at a time until the material flows correctly.</li> </ol>
Material is spreading too fast.	<ol style="list-style-type: none"> <li>1. The flow control lever is open too much.</li> <li>2. The gate baffle is worn.</li> </ol>	<ol style="list-style-type: none"> <li>1. Move the flow control lever to the appropriate setting.</li> <li>2. Replace the urethane gate baffle.</li> </ol>
1 LED is flashing on the Snowrator controller.	<ol style="list-style-type: none"> <li>1. The material in the hopper is too coarse.</li> </ol>	<ol style="list-style-type: none"> <li>1. Open the feed gate wider.</li> </ol>
2 LED's are flashing on the Snowrator controller.	<ol style="list-style-type: none"> <li>1. Material is stuck in the gate.</li> </ol>	<ol style="list-style-type: none"> <li>1. Open the feed gate all the way.</li> </ol>
3 LED's are flashing on the Snowrator controller.	<ol style="list-style-type: none"> <li>1. There is a short in the wiring.</li> <li>2. The spreader is jammed.</li> </ol>	<ol style="list-style-type: none"> <li>1. Repair or replace the wire.</li> <li>2. Free the clog.</li> </ol>
4 LED's are flashing on the Snowrator controller.	<ol style="list-style-type: none"> <li>1. A connector is loose.</li> <li>2. There is a short in the wiring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Ensure all of the connectors are fully connected.</li> <li>2. Repair or replace the wire.</li> </ol>

Problem	Possible Cause	Corrective Action
5 LED's are flashing on the Snowrator controller.	1. The supply voltage is less than 10 V.	1. Slow down the spreader, increase the vehicle rpm, or replace the battery.
6 LED's are flashing on the Snowrator controller.	1. The supply voltage is greater than 15 V.	1. Repair the vehicle charging system.
7 LED's are flashing on the Snowrator controller.	1. The controller temperature is greater than 60° C (140° F).	1. Turn off the spreader and let it cool for 10 minutes.