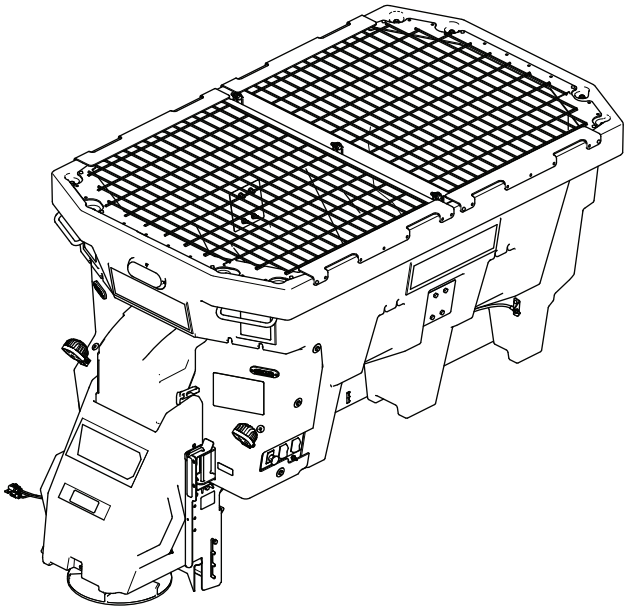
Form No. VBS26476 Rev C

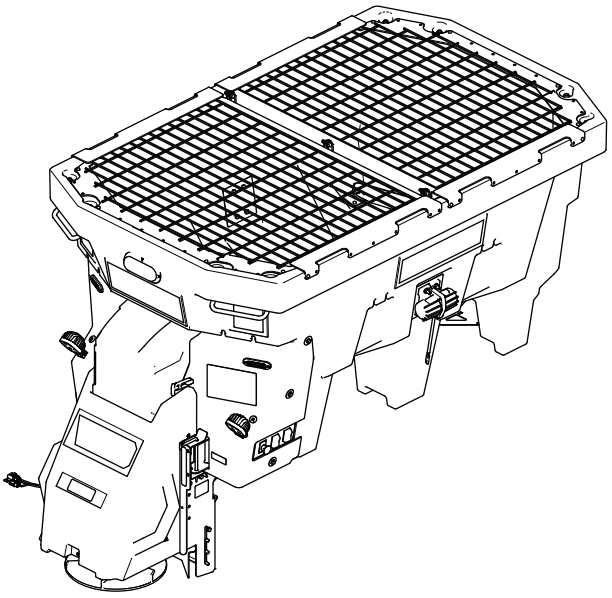
2010 The BOSS Way
Iron Mountain, MI 49801
United States

Owner's Manual

VBX+ 1.5, 2, or 3 Yard V-Box Spreader

Part No. VBS26150—Serial No. 400000000 and Up
Part No. VBS26160—Serial No. 400000000 and Up
Part No. VBS26200—Serial No. 400000000 and Up
Part No. VBS26210—Serial No. 400000000 and Up
Part No. VBS26300—Serial No. 400000000 and Up
Part No. VBS26310—Serial No. 400000000 and Up





Register at www.bossplow.com.
Original Instructions (EN)

VBS26476

BOSS Products limited consumer warranty and BOSS Products commercial warranty policies are located at www.bossplow.com.

See current patents at http://www.ttcopats.com/.

⚠ WARNING

CALIFORNIA
Proposition 65 Warning

Use of this product may cause exposure to chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

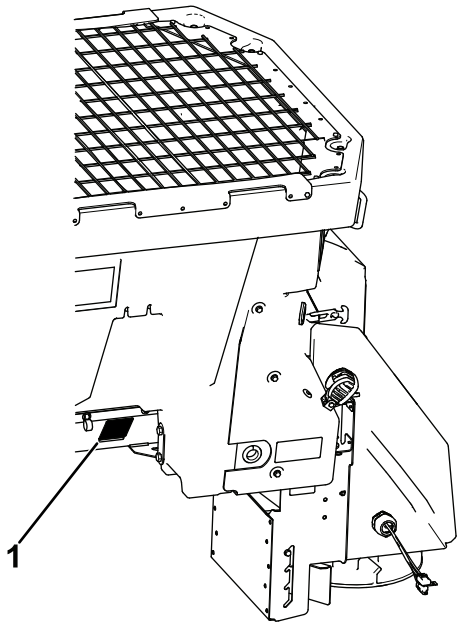
Introduction

This spreader is intended to be used by professional, hired operators. It is designed primarily 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.bossplow.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 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.



g491594

Figure 1

1. Serial number location

Model No. _____

Serial No. _____

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Iron Mountain, MI 49801

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Safety-Alert Symbol

The safety-alert symbol (Figure 2) shown in this manual and on the machine identifies important safety messages that you must follow to prevent accidents.



g000502

Figure 2
Safety-alert symbol

The safety-alert symbol appears above information that alerts you to unsafe actions or situations and is followed by the word **DANGER**, **WARNING**, or **CAUTION**.

DANGER indicates an imminently hazardous situation which, if not avoided, **will** result in death or serious injury.

WARNING indicates a potentially hazardous situation which, if not avoided, **could** result in death or serious injury.

CAUTION indicates a potentially hazardous situation which, if not avoided, **may** result in minor or moderate injury.

This manual uses two other words to highlight information. **Important** calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

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Safety

Preparation

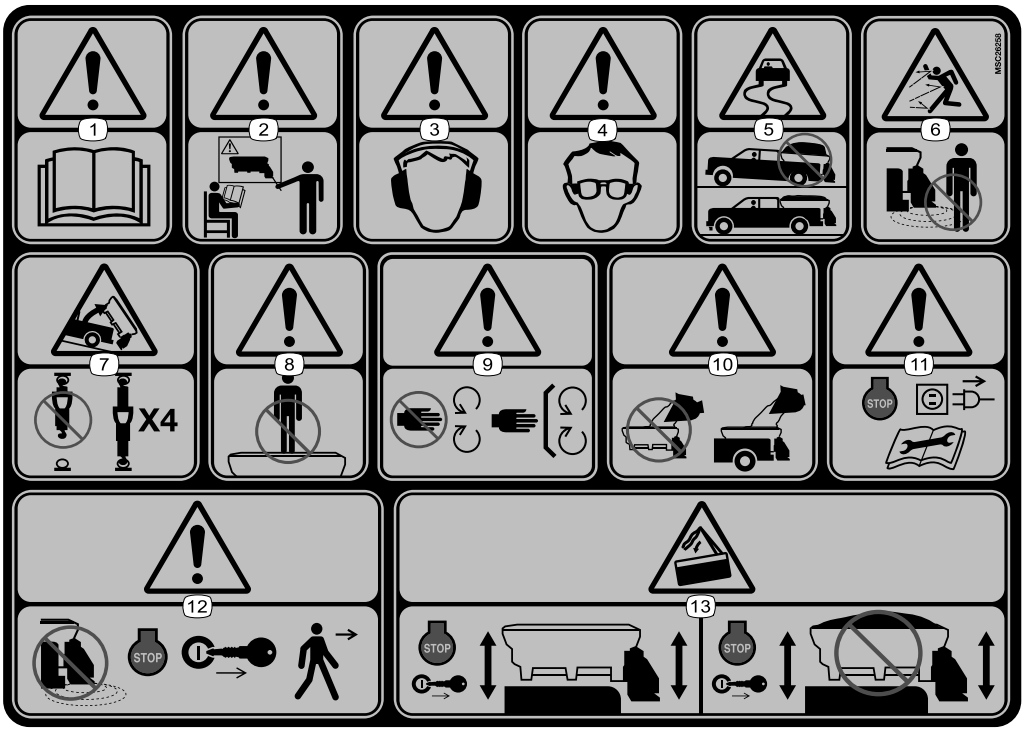
- Read the *Owner's Manual* before operating or servicing the spreader.
- Ensure that only trained personnel install and perform maintenance on the equipment.
- Use a 500 kg (1/2 ton) minimum lifting device to move heavy spreader components. Never put any part of your body under a suspended load.
- This spreader has an operating sound level below 70 dBA while inside the vehicle. Wear hearing protection while operating the spreader outside of the vehicle.
- Always wear appropriate personal protective equipment when loading, unloading, and servicing the spreader. Wear substantial, slip-resistant footwear, eye protection, and respiratory protection.
- Never disable, remove, or relocate any sensors or other components related to the operation of the air bags in your vehicle.

Operation

- Never put any part of your body between the spreader and the vehicle.
- When transporting the spreader, ensure that it is properly secured. Instructions are available at www.bossplow.com.
- Do not operate the machine while ill, tired, or under the influence of alcohol or drugs.
- For vehicle mounted spreaders, always follow the manufacturer's recommendations for proper parking procedures.
- Always wear your seatbelt while operating a motor vehicle.
- Do not exceed 72 km/h (45 mph) while transporting the spreader.
- 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 dry, free-flowing salt, sand, pea gravel, and sand/salt mix. Do not run other materials through the spreader.
- 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.
- Do not attempt to mount or remove the spreader with material in it.
- Turn the vehicle and spreader off before filling, mounting, removing, servicing, or cleaning it.
- Do not operate the spreader within 7.6 m (25 ft) of bystanders.
- 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 or approved tie-down devices and keep them properly tightened at all times.
- Do not store material in the hopper.
- Turn the vehicle and spreader off if it will be unattended.

Safety and Instructional Decals

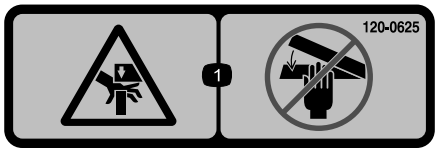
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



decalmsc26258

MSC26258

1. Warning—read the *Owner's Manual*.
2. Warning—all operators should be trained before operating the machine.
3. Warning—wear hearing protection.
4. Warning—wear eye protection.
5. Loss of control hazard—do not overfill the machine.
6. Thrown object hazard—keep bystanders away.
7. Loss of machine hazard—properly tie down the spreader at all 4 points.
8. Warning—do not stand or ride on the machine.
9. Warning—stay away from moving parts; keep all guards and shields in place.
10. Warning—the machine must be installed before filling.
11. Warning—shut off the vehicle and spreader, disconnect the power, and read the *Owner's Manual* before servicing the machine.
12. Warning—shut off the vehicle and spreader and remove the key before leaving the machine.
13. Tipping hazard—shut off the vehicle and spreader, remove the key, and empty the hopper before installing or removing the machine. Do not attempt to move a machine with a full hopper.



decal120-0625

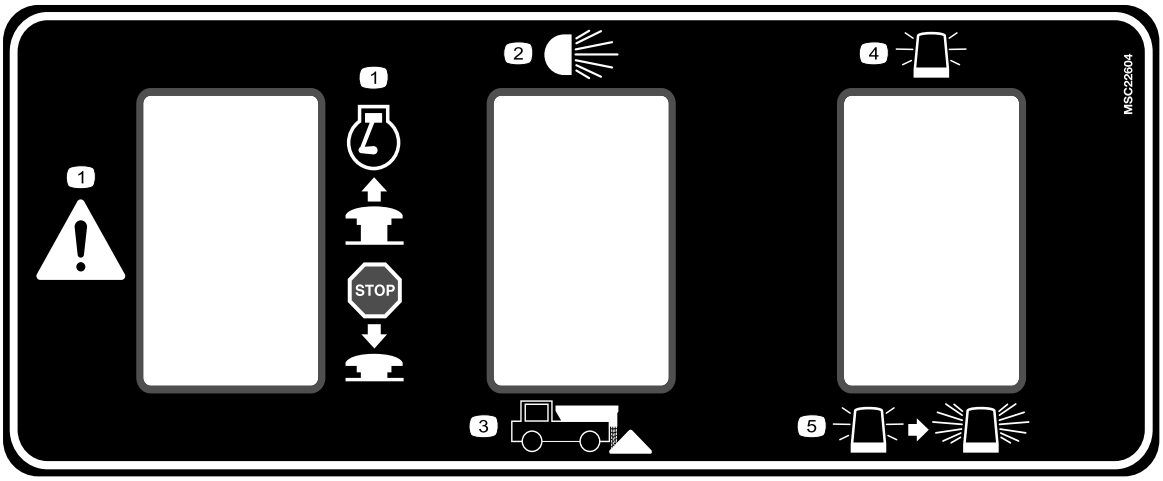
120-0625

1. Pinch point, hand—keep hands away.



decal133-8061

133-8061

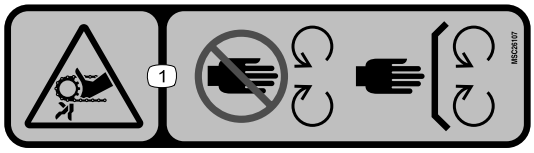


decalmsc22604

MSC22604

1. Emergency shut off—pull up to allow the machine to run; press down to shut off the machine.
2. Work lights—on/off
3. Press and hold to unload material.
4. Strobe lights—on/off
5. Press to change the strobe-light flashing pattern.

Pintle Models Only

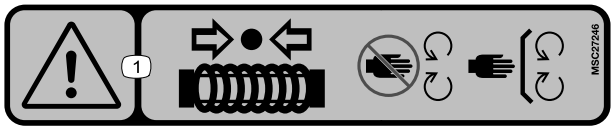


decalmsc26107

MSC26107

1. Finger/hand entanglement hazard, chain—stay away from moving parts; keep all guards and shields in place.

Pintle Models Only



decalmsc27246

MSC27246

1. Warning—keep clear of the compressed spring; stay away from moving parts; keep all guards and shields in place.

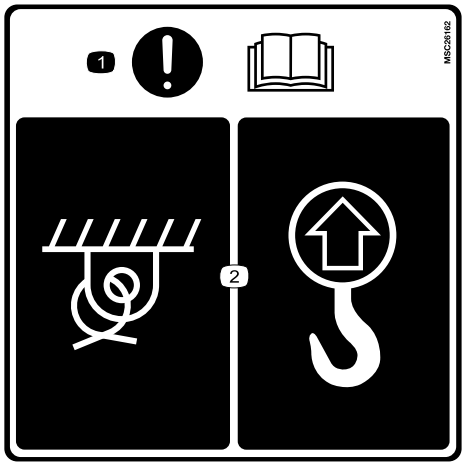
Auger Models Only



decalmsc26108

MSC26108

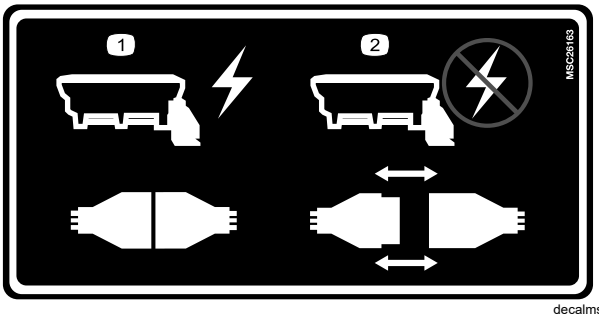
1. Entanglement hazard—stay away from moving parts; keep all guards and shields in place.



decalmsc26162

MSC26162

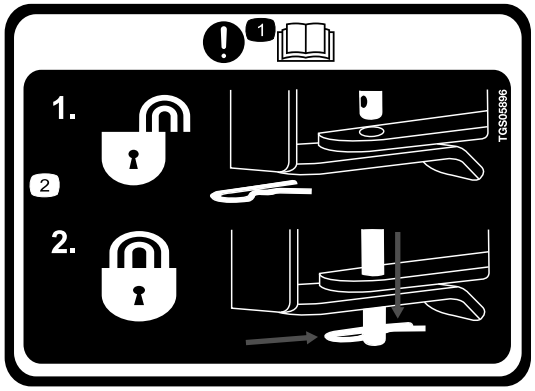
1. Attention—read the *Owner's Manual*.
2. Lift point and tie-down point



decalmsc26163

MSC26163

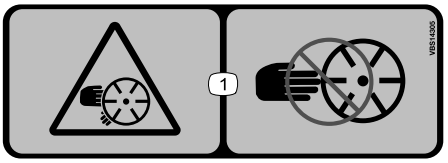
1. Install the plug to power the machine.
2. Remove the plug to disconnect the power from the machine.



decaltgs05896

TGS05896

1. Important—read the *Owner's Manual*.
2. The lock pin must be fully engaged before using the machine.



decalvbs14305

VBS14305

1. Cutting/dismemberment hazard; spinner—keep your fingers and hands clear of the spinner.

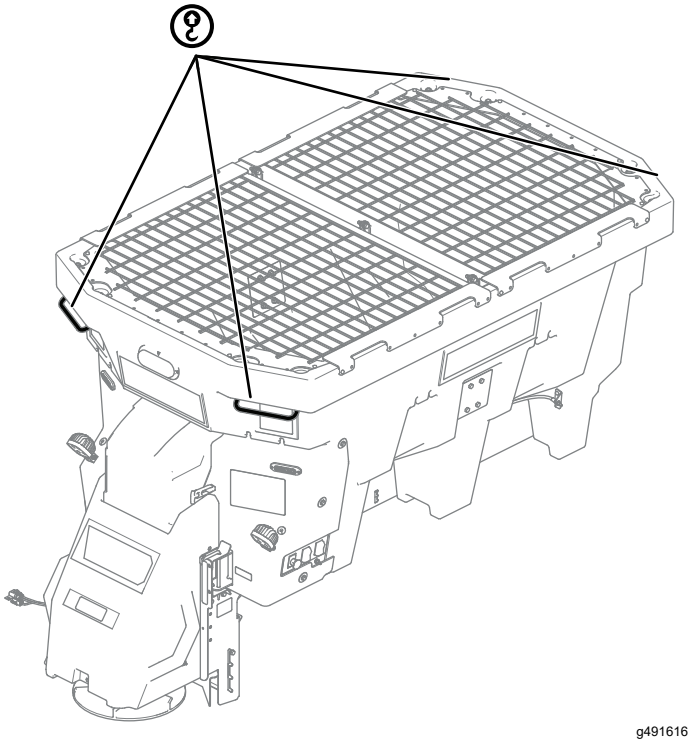
Setup

Mounting the Spreader

Each of the VBX+ models require a different minimum truck-bed length. Refer to the minimum truck-bed lengths below:

- **VBX+ 1.5 yd:** 1.68 m (66 inches) minimum truck-bed length
- **VBX+ 2 yd:** 2.0 m (78 inches) minimum truck-bed length
- **VBX+ 3 yd:** 2.3 m (90 inches) minimum truck-bed length

1. Remove the tailgate from the vehicle.
2. Using the lift points, lift the spreader onto the truck bed and set it on the centerline.

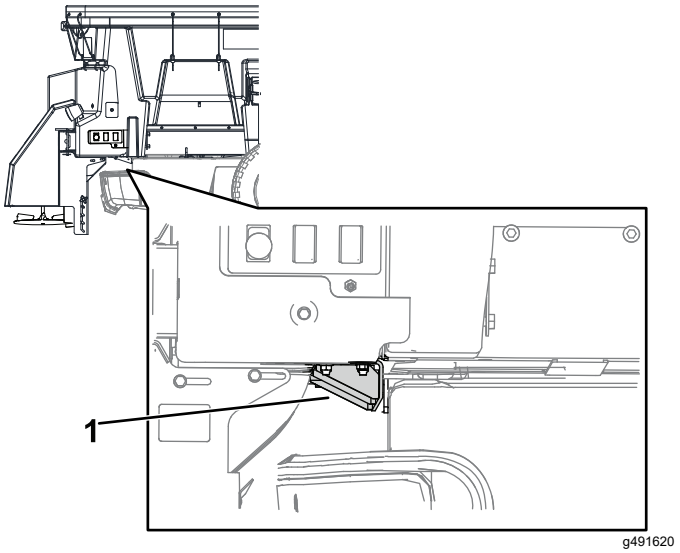


g491616

Figure 3

3. Slide the spreader toward the vehicle cab until the slide stop hits the truck bed.

   Note: If the spreader is flush with the truck box but the slide stop is not touching the rear of the truck bed, refer to Adjusting the Slide Stop (page 9).



g491620

Figure 4

1. Slide stop

4. Complete the steps below if necessary. These steps are optional.

⚠ WARNING

Using a drill without proper eye protection may allow debris to enter the eye, causing injury.

When drilling, always wear eye protection.

A. Drill 4 holes (7/16 inch) into the truck bed aligned with the slide stop holes.

B. Secure the slide stop to the vehicle using 4 bolts, 4 locknuts, and 16 flat washers (3/8 inch).

   Note: Slide stop fasteners are not included.

C. Torque the bolts to 28 N·m (19.7 ft-lb).

Adjusting the Slide Stop

Optional

You can adjust the slide stop of the spreader 15.2 cm (6 inches) so that the spreader does not extend past the truck box.

1. Remove and retain the 4 carriage bolts and 4 nuts securing the slide stop.

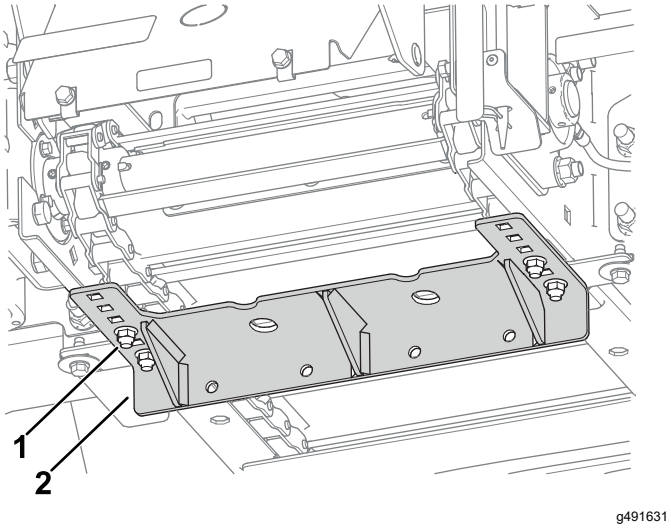


Figure 5

1. Slide-stop fasteners
2. Slide stop

2. Slide the spreader so that it does not extend past the truck box and contacts the vehicle cab.
3. Move the slide stop to the desired position and secure it with the previously removed fasteners
4. Torque the bolts to 28 N·m (19.7 ft-lb).

Installing the Tie-Down D-Rings

⚠ WARNING

Using a drill without proper eye protection may allow debris to enter the eye, causing injury.

When drilling, always wear eye protection.

1. Using a drill bit (7/16 inch), mark and drill the holes for the D-rings as shown in below.

   Note: Drill the holes through or near the frame crossmembers of the vehicle.

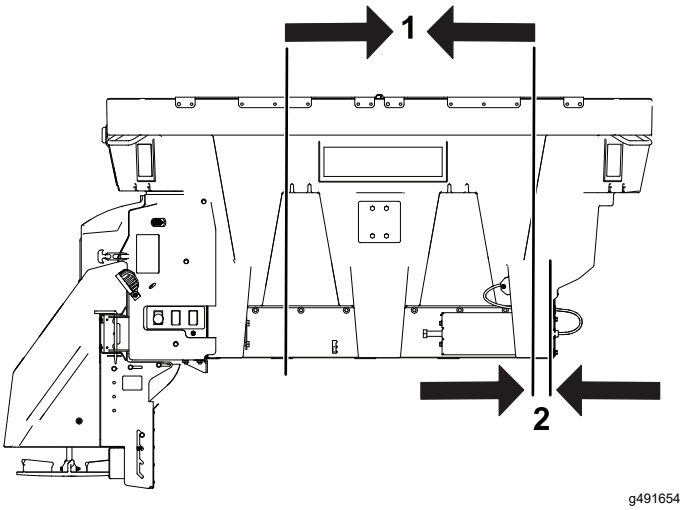


Figure 6

1. 83.8 cm (33 inches) for 1.5yd spreaders or 129.5 cm (51 inches) for 2yd and 3yd spreaders—D-ring center to the D-ring center
2. 3.8 cm (1-1/2 inches)—Back of the spreader leg to the D-ring center

2. Install the D-rings as shown below and torque the bolts to 28 N·m (19.7 ft-lb).

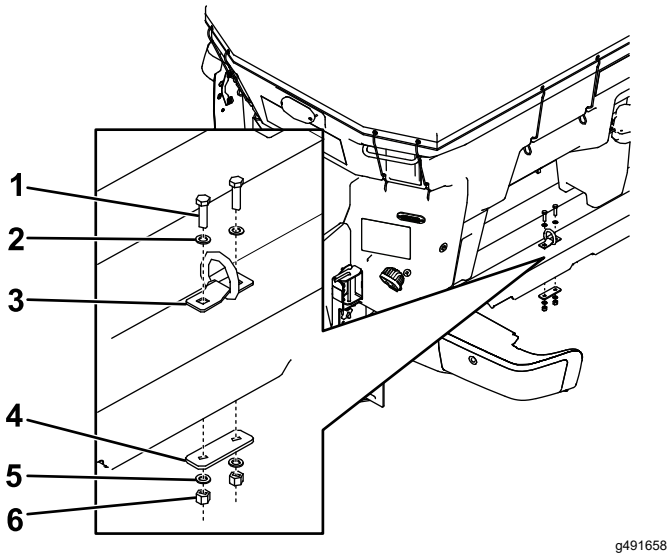


Figure 7

1. Bolt (1-1/2 inches)
2. Flat washer (3/8 inch)
3. D-ring
4. Bed-mount plate
5. Flat washer (3/8 inch)
6. Locknut

Building and Installing the Spacer

1. Measure the distance from the front of the truck box to the spreader legs.
2. Using 3.8 x 18.4 cm (1-1/2 x 7-1/4 inch) lumber, build the spacer as shown below.

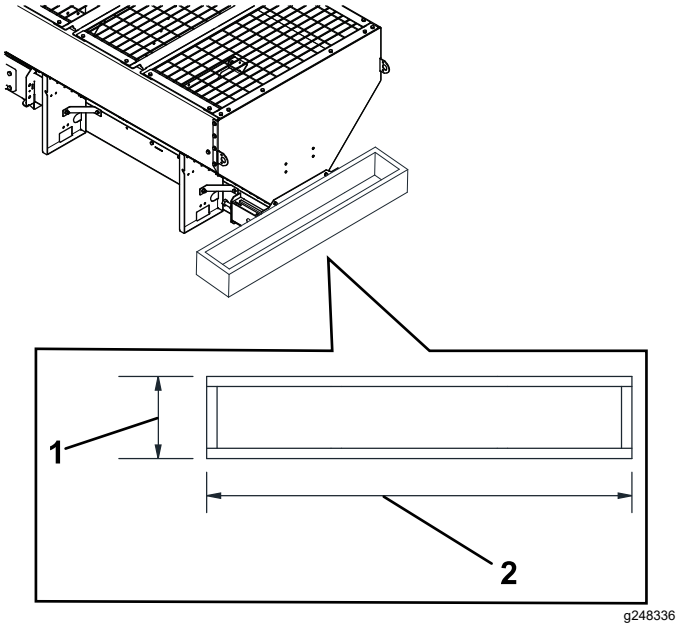


Figure 8

1. Distance between the spreader and the truck box
2. Width of the truck box

3. Insert the spacer between the spreader and the front of the truck box.

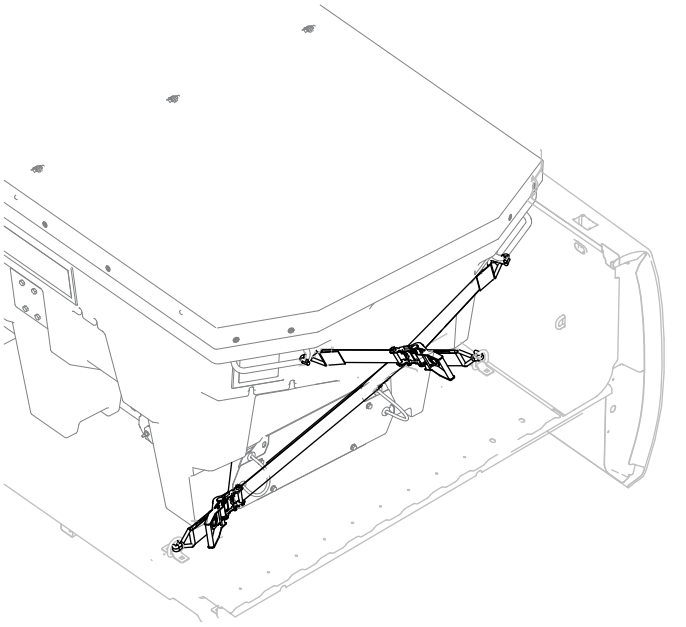
Securing the Spreader

⚠ DANGER

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

Ensure that the ratchet straps are securely attached to the spreader at all times.

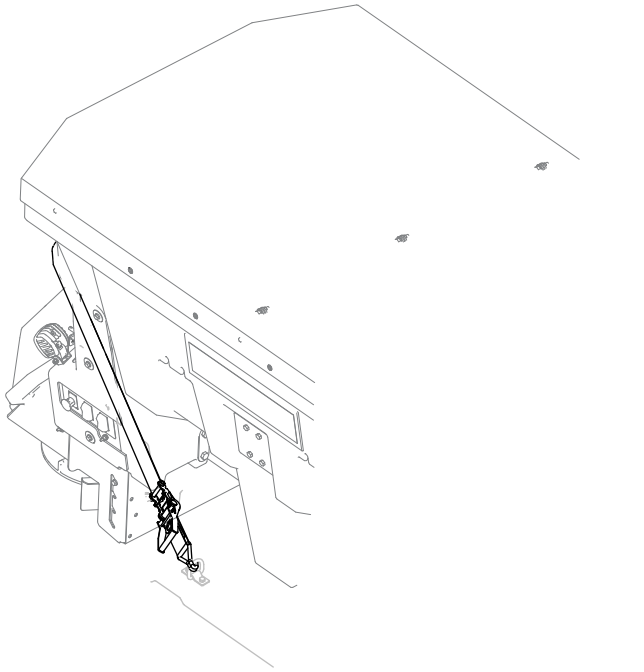
1. Connect the ratchet straps to the strap bars around the upper edge of the spreader.
2. On the back of the spreader, cross the straps and attach them to the D-rings on the opposite side.



g491681

Figure 9

3. Attach the straps on the front of the spreader to the D-rings nearest to them on the truck bed.



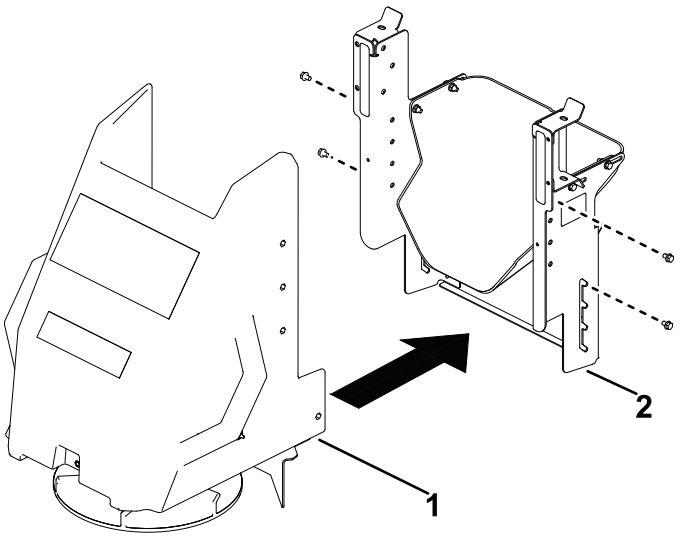
g491682

Figure 10

4. Tighten the straps evenly to secure the spreader.

Installing the Spinner Assembly

1. Attach the adjustment assembly to the spinner assembly using 4 bolts (5/16 inch) as shown below. Torque the bolts to 14.9 N·m (11 ft-lb).



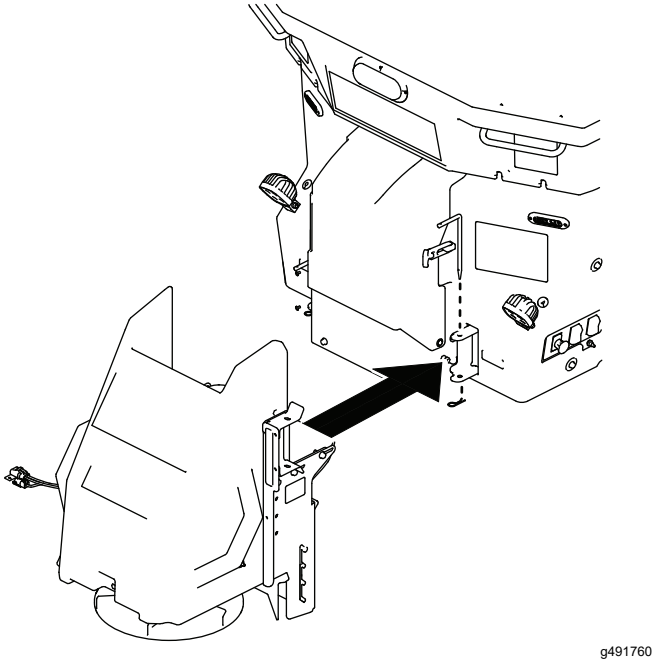
g491758

Figure 11

1. Spinner assembly
2. Adjustment assembly

2. Remove and retain the 2 latches and 2 cotter pins from the spinner assembly.
3. Attach the spinner assembly to the spreader and secure it with the previously removed latches and cotter pins.

   Important: **The spinner assembly is heavy and requires 2 people to lift.**



g491760

Figure 12

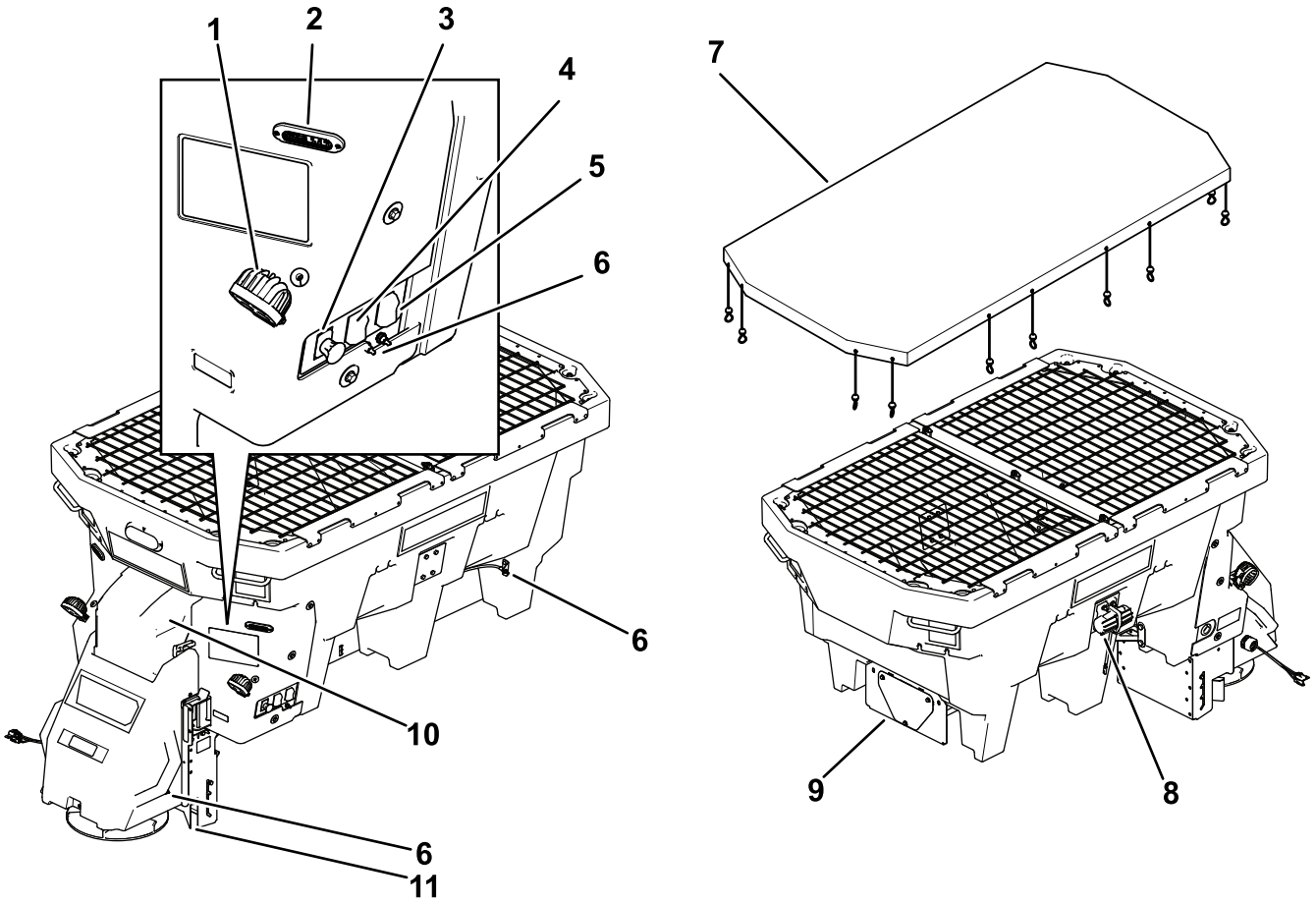
4. Connect the wire harness.

Checking the Installation

1. For pintle chain models, check the pintle chain conveyor tension; refer to Adjusting the Pintle-Chain Conveyor Tension (page 29).
2. Check that the unit type listed on the controller display matches your machine type; refer to the Main Screen (page 15) section.

   Note: If the unit type does not match your machine, contact your Authorized Service Dealer about adjusting the control module.

Product Overview



g460751

Figure 13

1. Work light
2. Strobe light
3. Emergency stop
4. Work-light/dump switch
5. Strobe-light switch
6. Grease zerk location
7. Hopper cover
8. 12 VDC vibrator (auger models only)
9. Back cover access hatch (auger model shown)
10. Front cover access hatch
11. Material deflector

Controls

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

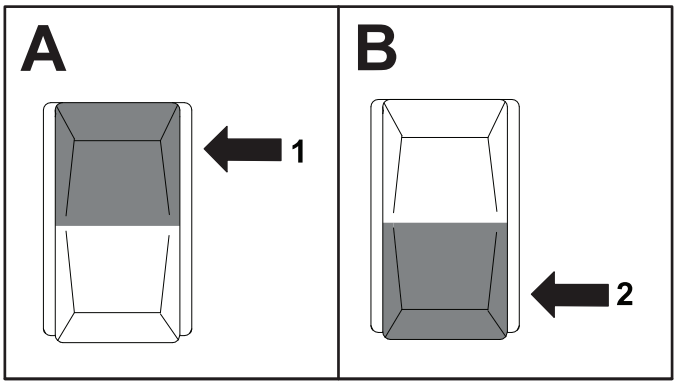
Work-Light and Dump Switch

⚠ CAUTION

When outside of the vehicle cab, this machine produces sound levels that can cause hearing loss through extended periods of exposure.

Wear hearing protection while operating the dump switch.

The work-light and dump functions are controlled by the same rocker switch. The top of the rocker switch controls the rear lights and the bottom of the rocker switch empties the spreading material from the spreader.



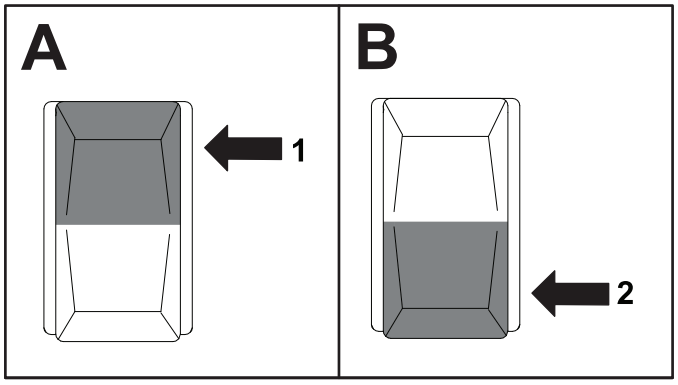
g491902

Figure 14

1. Work-light switch—Press to turn the work-lights ON.
2. Dump switch—Press and hold to empty the contents out of the spreader.

Strobe-Light Switch

The strobe-light switch activates the strobe lights.



g491902

Figure 15

1. Press to turn the strobe lights ON
2. Press to change the strobe light pattern, or press and hold for 2 to 3 seconds to reset the re-synchronize light pattern

Spreader Controller

The spreader controller shows information about your machine. Figure 16 and Figure 17 illustrate the main screen and settings screen of the controller. You can switch between the main screen and setting screen at any time by pressing the SETTINGS button.

Main Screen

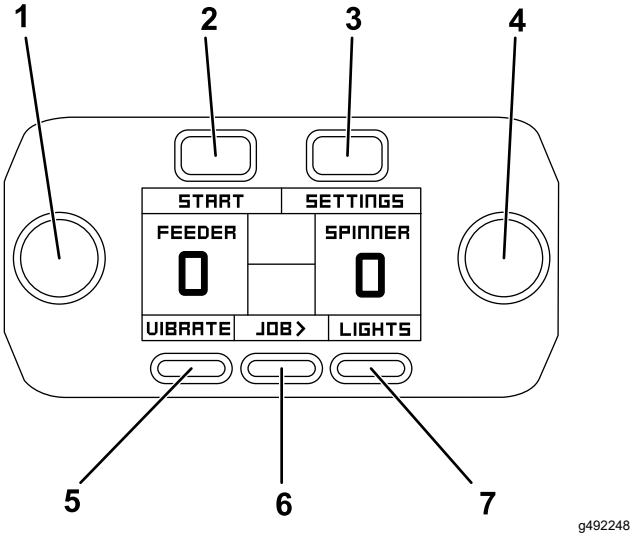


Figure 16

1. Feed speed dial
2. Start/Stop button
3. Settings button
4. Spinner speed dial
5. Vibrate button
6. Job button
7. Light button

- Feed speed dial: increases the feed motor speed when turned clockwise, and decreases the feed motor speed when turned counterclockwise. The feed speed determines how quickly material is pulled from the hopper.
- Feeder display: indicates the feed motor speed. This will display as auger or pintle depending on your model.
- Start/Stop button: turns the feeder, spinner, and vibrator (if active) motors on or off.
- Material and job display: indicates the active material calibration and job counter (Figure 21).
- Settings button: switches between the main screen and the settings screen.
- Spinner display: indicates the spinner motor speed.
- Spinner speed dial: increases the spinner motor speed when turned clockwise, and decreases the spinner motor speed when turned counterclockwise. The spinner speed determines how far the material is thrown.
- Light button: turns the work lights and strobe lights on or off. Pressing the button once will turn on work lights only, pressing a second time will turn on strobe lights only, pressing a third time will turn on the work lights and strobe lights, and pressing a fourth time will turn lights off.
- Blast button: momentarily sends full power to the feed and spinner motors for the duration of time the button is being held down. When the spreader is not running, this button functions as a JOB > button, which cycles through the active jobs. Once the spreader is running again, the text on the controller screen changes from JOB > to BLAST.
- Vibrate button: switches the vibrator on or off.

  Note: The vibrator only runs when the feeder motor is on.

Settings Screen

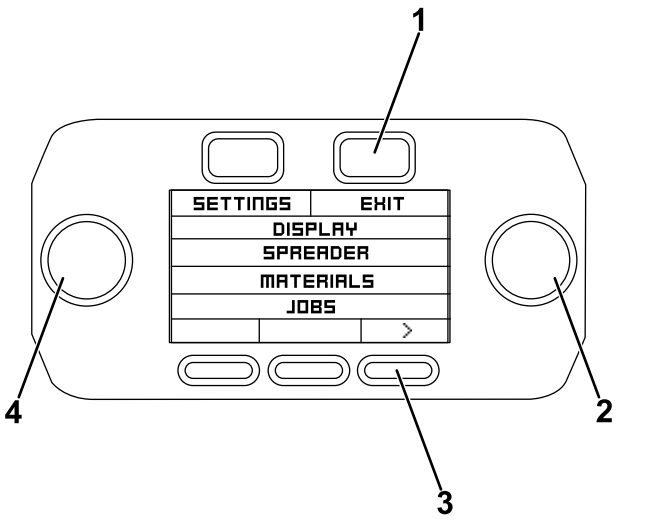


Figure 17

1. Exit button
2. Right knob
3. Enter/back button
4. Left knob

- Left knob: scrolls the highlighted row up (counterclockwise) and down (clockwise) on the screen.
- Right knob: scrolls through the options of the highlighted row (when shown).
- Enter button (>): enters the sub-menus.
- Back button (<): goes back to the previous page.
- Exit button: returns to the main screen.

Spreader Controller Icon Descriptions

	Stuck button
	Dump mode
	Low battery
	Motor cooling
	Lost communication

Settings Menus

Refer to the following tables for a description of the options available in the settings menu:

Main Settings Menu

Menu Item	Description
DISPLAY	The DISPLAY menu contains a list of settings related to the display.
SPREADER	The SPREADER menu contains a list of options related to the spreader.
MATERIALS	The MATERIALS menu shows the available materials for the spreader, lifetime counter values for the materials, and allows you to select different materials.
JOBS	The JOBS menu shows the available job counters for the spreader, counter values, and allows you to select a job or reset the counters to 0.
CALIBRATE	The CALIBRATE menu shows the available materials for the spreader, the active materials (this can only be activated in the MATERIALS menu), and the calibration adjustment factor for the materials. Refer to Calibrating the Spreader (page 25).
SPREADER LOG	The SPREADER LOG menu shows the history of the most recent fault and advisory codes with time stamps. For more information, refer to the spreader sub-menu or contact an Authorized Service Dealer.
PLOW	The PLOW menu contains a list of options related to the plow if a Cold Front Technology plow is installed.

Main Settings Menu (cont'd.)

PLOW LOG	The PLOW LOG menu shows the plows history of the most recent fault and advisory codes with a time stamp if a Cold Front Technology plow is installed. For more information, refer to the plow *Owner's Manual* or contact an Authorized Service Dealer.
ABOUT	The ABOUT menu contains generic information about the spreader such as firmware versions and the run-time counter.

Display Sub-Menu

Menu Item	Description
BRIGHTNESS	Adjusts the brightness of the display.
CONTRAST	Adjusts the contrast of pixels on the display.
INACTIVITY	Adjusts the length of inactive time before the display enters sleep mode. Sleep mode can be forced by pressing and holding the top left button for 3 seconds. Pressing the top left button will wake the display from sleep mode if the key is still on.
BEEPER	Turns on or off the notification beeper.

Spreader Sub-Menu

Menu Item	Description
SPREAD MODE	Changes the control method for the feeder and spinner motors. The different controls are as follows: • STANDARD: controls the feeder and spinner in a generic 0 through 10 speed. If feeder or spinner speed sensors are faulty, this mode can continue to operate without materials and job counters. • RATE: controls the feeder in kg/min (lb/min) and the spinner in meters (feet). • AUTO: controls the feeder in weight per unit area application rates, and the spinner in meters (feet). Auto Spread adjusts the feeder flow rate based on the vehicle speed to achieve the desired application rate and spread width. This setting requires the Cold Front Integration Kit to be installed on the machine.

UNITS	Changes the units that the feed rate and spread width are displayed in. This will also convert any material or job counters. For SPREAD MODE set to RATE, all metric settings will display feeder settings in kg/min and spinner settings in meters. All US settings will display feeder settings in lb/min and spinner settings in feet. For SPREAD MODE set to AUTO, the options are as follows: • US-1000 FT^2: the feeder setting is pounds per 1000 sq/ft and the spinner setting is in feet. • US-ACRE: the feeder setting is pounds per acre and the spinner setting is in feet. • US-MILE: the feeder setting is pounds per single lane mile and the spinner setting is in # of lanes. If this is set to 500 lb per lane mile and 2 lanes, the spreader will be dispensing 1000 lb per two lane mile. • METRIC-M^2: the feeder setting is in gram per square meter and spinner setting is in meters. • METRIC-KM: the feeder setting is in kg per lane kilometer and the spinner setting is in # of lanes. If it set to 200 kg per lane km and 2 lanes, the spreader will be dispensing 400 kg per 2 lane km. Pressing the > button on the bottom right, while on this screen, allows you to define the lane width for auto spread mode when the units are set to US-MILE or METRIC-KM. The range is 3 to 5 m (8 to 16 ft).

Spreader Sub-Menu (cont'd.)

VIB TYPE	Changes the control method of the vibrators. The vibration patters are as follows: • PULSE: the vibrators turn on and off in equal intervals according to the VIB time. • ALT PULSE: the vibrators turn on and off in alternating equal intervals VIB time (left on, both off, right on, both off, etc.). • STANDARD: the vibrators are always on.
STARTUP	Changes whether the feeder and spinner motors will blast on startup or soft start to their set-point.

Specifications

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

	VBX+ 1.5 yd	**VBX+ 2 yd**	**VBX+ 3 yd**
Length	2.4 m (94 inches)	2.9 m (115 inches)	3.1 m (123 inches)
Hopper height	97 cm (38 inches)	97 cm (38 inches)	124.5 cm (49 inches)
Hopper width	123 cm (48-1/4 inches)	123 cm (48-1/4 inches)	122 cm (48 inches)
Weight (empty)	290 kg (640 lb) with auger; 308 kg (680 lb) with pintle chain	313 kg (690 lb) with auger; 331 kg (730 lb) with pintle chain	367 kg (810 lb) with auger; 381 kg (840 lb) with pintle chain
Capacity	1.2 m^3 (1.5 yd^3)	1.5 m^3 (2 yd^3)	2.3 m^3 (3 yd^3)

Attachments/Accessories

A selection of BOSS approved attachments and accessories is available for use with the machine to enhance and expand its capabilities. Contact your Authorized Service Dealer or authorized BOSS distributor or go to www.bossplow.com for a list of all approved attachments and accessories.

To ensure optimum performance and continued safety certification of the machine, use only genuine BOSS replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous, and such use could void the product warranty.

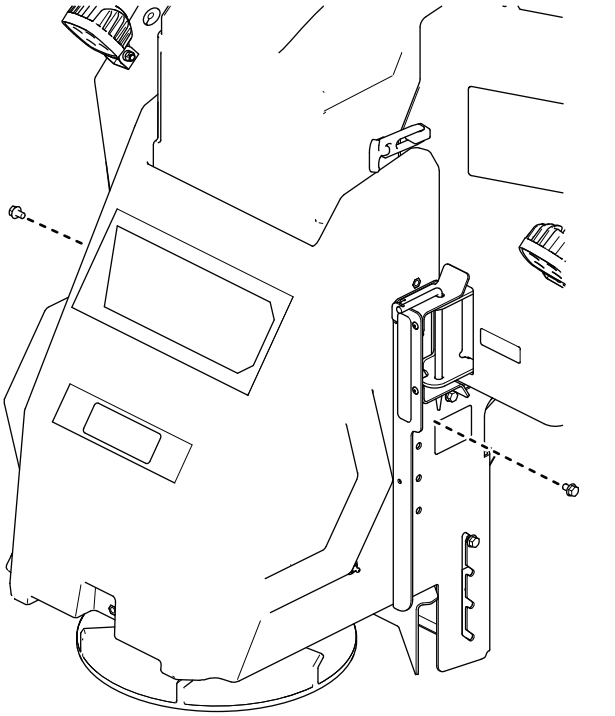
Operation

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

Adjusting the Height of the Spinner Assembly

You can adjust the spinner assembly height in 5 cm (2 inches) increments up to 15.2 cm (6 inches) to account for vehicles with higher beds. The bottom of the spinner assembly should be approximately 46 cm to 61 cm (18 to 24 inches) from the ground.

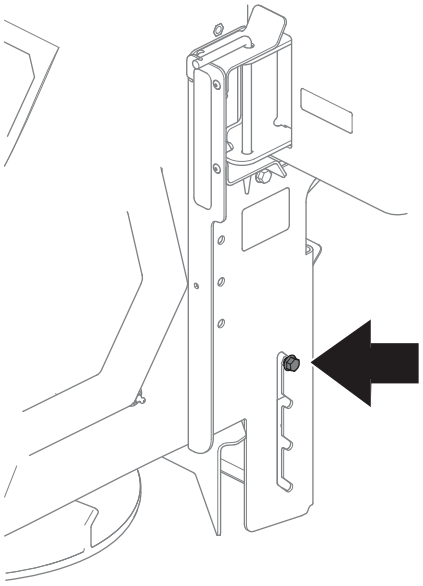
1. Remove the 2 upper bolts securing the spinner assembly to the adjustment assembly.



g491914

Figure 18

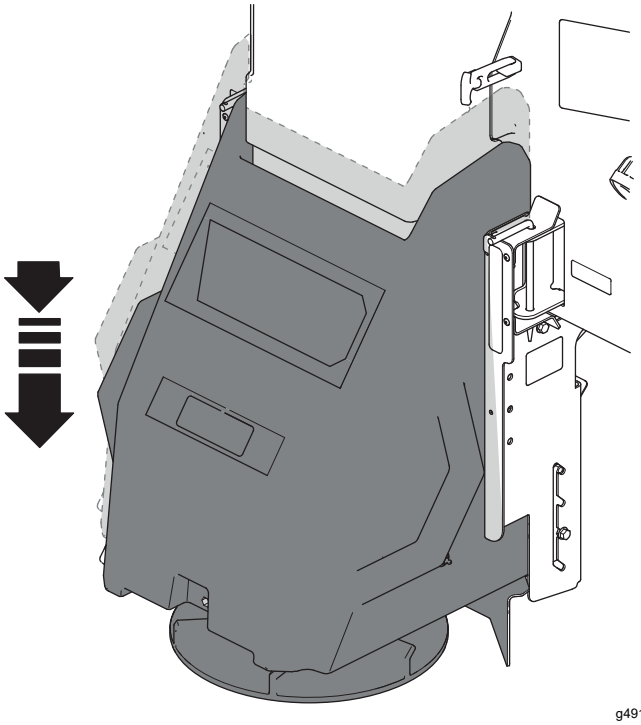
2. Hold the assembly and loosen the 2 lower bolts.



g491926

Figure 19

3. Slide the spinner assembly down to the desired height.



g491925

Figure 20

4. Insert the 2 upper bolts and tighten them.
5. Tighten the 2 lower bolts.

Loading the Spreader

Important: **Only use dry salt, sand, sand/salt, gravel, or cinder/salt mixes in the spreader. Other materials could cause damage to the machine.**

The density of materials that can be loaded into the spreader varies and therefore so will the amount of a given material that can be carried by the spreader before the maximum load rating is reached.

Important: **When filling the spreader, do not exceed the gross-vehicle-weight rating (GVWR) or gross-axle-weight rating (GAWR).**

1. Ensure that the spreader is securely mounted to the vehicle and the top screen is installed and closed.
2. Remove the tarp.
3. Determine the amount of material that you can safely transport using the GVWR/GAWR of the vehicle and the following table.

Material Type	Weight Range
Fine salt	1,121 to 1,281 kg/m³ (1,890 to 2,160 lb/yd³)
Coarse salt	721 to 961 kg/m³ (1,215 to 1,620 lb/yd³)
Coarse sand (dry)	1,442 to 1,762 kg/m³ (2,430 to 2,970 lb/yd³)
Coarse sand (wet)	1,762 to 2,082 kg/m³ (2,970 to 3,510 lb/yd³)
Cinders	641 kg/m³ (1,080 lb/yd³)
Pea gravel	1,424 to 1,543 kg/m³ (2,400 to 2,600 lb/yd³)

4. Fill the spreader evenly with the material, making sure not to fill past the top of the hopper.

   Important: **Overfilling the hopper could damage the spreader and the vehicle.**

Operating the Spreader

⚠ DANGER

Hands, feet, and clothing can get caught in the moving parts of the spreader and cause serious bodily injury and loss of limbs.

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

⚠ CAUTION

The spreader throws material at a high speed that could cause minor injuries to bystanders.

Bystanders should stay a minimum of 7.6 m (25 ft) away from operating spreaders.

Important: **Always check for bystanders before starting the spreader.**

1. Start the vehicle.

   Note: The controller display lights up when the vehicle starts, but then goes to sleep. Press the upper left button to activate the display.
2. On the controller, verify the correct material and job are selected.
   - Select the materials through the SETTINGS menu.
   - Select the job by cycling through the JOB > button, or through the SETTINGS menu.
3. Use the controller to set the desired feed speed and spinner speed.

   Note: You can adjust the feed and spinner speeds while the spreader is operating; refer to Spreader Sub-Menu (page 17) and Rate Control Reference Charts (page 23).
4. If you plan to use the vibrator during spreading, turn it on now.

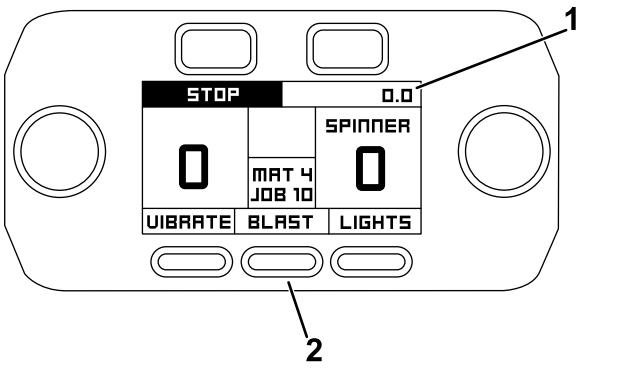
   Note: The vibrator does not start until you start the feed motor.

5. Press the START button to activate the spreader.

   Note: If the machine is operating in the auto spread mode, pressing the START button will activate the spreader but the spreader will only operate while the vehicle is moving.

   - While spreading, you can press the BLAST button to momentarily increase the speed of the feed and spinner motors.
   - While spreading in auto spread mode, if the settings and vehicle speed require a flowrate that is out of range of the spreader, you will see up or down arrows in the center of the screen. The up arrows indicates you need to increase the vehicle speed or settings because they are too slow. The down arrows indicates you need to decrease the vehicle speed or settings because they are too fast.
   - While spreading, the upper right corner displays a live counter for the amount of material dispensed at the active job. If no job is selected, the lifetime counter for the active material is shown on the display.

     Note: The full list of materials and job counters can been seen in their respective menus.



g495325

Figure 21

1. Job counter
2. Blast button

6. Press the STOP button when you are finished spreading to stop the spreader.

   Note: If the machine is operating in the auto spread mode, the spreader will stop spreading when the vehicle in not in motion.

7. Empty the leftover materials from the spreader; refer to Unloading the Spreader (page 26).

Rate Control Reference Charts

Pre-Calibrated Material Counter Charts

The spreader has 10 jobs that can be selected and reset through the menu. Each spreader has 4 pre-calibrated materials with counters that cannot be reset; refer to the model-specific tables below.

Auger Models Only:

Material Type	Maximum Flow Rate	Maximum Spread Width
SALT 1	70 kg/min (150 (lb/min)	12 m (40 ft)
SALT 2	80 kg/min (180 lb/min)	12 m (40 ft)
MATERIAL 3	70 kg/min (150 lb/min)	12 m (40 ft)
MATERIAL 4	80 kg/min (180 lb/min)	12 m (40 ft)

Below are descriptions of each material calibration:

- SALT 1: represents an average bulk salt material with some moisture content.
- SALT 2: represents a dry, free flowing salt material, which allows a higher flow rate than SALT or SALT 1.
- MATERIAL 3 AND 4 names are copies of the SALT materials.

Pintle Models Only:

Material Type	Maximum Flow Rate	Maximum Spread Width
SALT	110 kg/min (240 lb/min)	12 m (40 ft)
SAND	115 kg/min (250 lb/min)	7 m (22 ft)
GRAVEL	120 kg/min (260 lb/min)	13 m (44 ft)
MATERIAL 4	110 kg/min (240 lb/min)	12 m (40 ft)

Below are descriptions of each material calibration:

- SALT: represents an average bulk salt material with some moisture content.
- SAND: represents an average bulk traction sand material, which has higher flow rates and shorter spread widths compared to salt.
- GRAVEL: represents a pea gravel material, with stones (3/8 inch in size), which has a higher flow rate and farther spread widths compared to salt.
- MATERIAL 4 names are copies of the SALT materials.

Material Coverage Spreading Charts

Use these charts as an approximate guideline only. Other factors, such as weather conditions, spreader operation, and the condition of material affects spreader performance.

See the tables below for the material coverage at various speeds.

Speed: 5 km/h

		Spread Width				
		2 m	5 m	8 m	10 m	12 m
Flow Rate	20 kg/min	12 kg/100 m^2	4.8 kg/100 m^2	3.0 kg/100 m^2	2.4 kg/100 m^2	2.0 kg/100 m^2
	45 kg/min	27 kg/100 m^2	10.8 kg/100 m^2	6.8 kg/100 m^2	5.4 kg/100 m^2	4.5 kg/100 m^2
	70 kg/min	42 kg/100 m^2	16.8 kg/100 m^2	10.5 kg/100 m^2	8.4 kg/100 m^2	7 kg/100 m^2
	95 kg/min	57 kg/100 m^2	22.8 kg/100 m^2	14.3 kg/100 m^2	11.4 kg/100 m^2	9.5 kg/100 m^2
	120 kg/min	72 kg/100 m^2	28.8 kg/100 m^2	18 kg/100 m^2	14.4 kg/100 m^2	12 kg/100 m^2

Speed: 10 km/h

		Spread Width				
		2 m	5 m	8 m	10 m	12 m
Flow Rate	20 kg/min	6 kg/100 m^2	2.4 kg/100 m^2	1.5 kg/100 m^2	1.2 kg/100 m^2	1 kg/100 m^2
	45 kg/min	13.5 kg/100 m^2	5.4 kg/100 m^2	3.4 kg/100 m^2	2.7 kg/100 m^2	2.3 kg/100 m^2
	70 kg/min	21 kg/100 m^2	8.4 kg/100 m^2	5.3 kg/100 m^2	4.2 kg/100 m^2	3.5 kg/100 m^2
	95 kg/min	28.5 kg/100 m^2	11.4 kg/100 m^2	7.1 kg/100 m^2	5.7 kg/100 m^2	4.8 kg/100 m^2
	120 kg/min	36 kg/100 m^2	14.4 kg/100 m^2	9 kg/100 m^2	7.2 kg/100 m^2	6 kg/100 m^2

Speed: 20 km/h

		Spread Width				
		2 m	5 m	8 m	10 m	12 m
Flow Rate	20 kg/min	3 kg/100 m^2	1.2 kg/100 m^2	0.8 kg/100 m^2	0.6 kg/100 m^2	0.5 kg/100 m^2
	45 kg/min	6.8 kg/100 m^2	2.7 kg/100 m^2	1.7 kg/100 m^2	1.4 kg/100 m^2	1.1 kg/100 m^2
	70 kg/min	10.5 kg/100 m^2	4.2 kg/100 m^2	2.6 kg/100 m^2	2.1 kg/100 m^2	1.8 kg/100 m^2
	95 kg/min	14.3 kg/100 m^2	5.7 kg/100 m^2	3.6 kg/100 m^2	2.9 kg/100 m^2	2.4 kg/100 m^2
	120 kg/min	18 kg/100 m^2	7.2 kg/100 m^2	4.5 kg/100 m^2	3.6 kg/100 m^2	3 kg/100 m^2

Speed: 5 mph

		Spread Width				
		8 ft	16 ft	24 ft	32 ft	40 ft
Flow Rate	50 lb/min	14.2 lb/1,000 ft^2	7.1 lb/1,000 ft^2	4.7 lb/1,000 ft^2	3.6 lb/1,000 ft^2	2.8 lb/1,000 ft^2
	100 lb/min	28.4 lb/1,000 ft^2	14.2 lb/1,000 ft^2	9.5 lb/1,000 ft^2	7.1 lb/1,000 ft^2	5.7 lb/1,000 ft^2
	150 lb/min	42.6 lb/1,000 ft^2	21.3 lb/1,000 ft^2	14.2 lb/1,000 ft^2	10.7 lb/1,000 ft^2	8.5 lb/1,000 ft^2
	200 lb/min	56.8 lb/1,000 ft^2	28.4 lb/1,000 ft^2	18.9 lb/1,000 ft^2	14.2 lb/1,000 ft^2	11.4 lb/1,000 ft^2
	250 lb/min	71 lb/1,000 ft^2	35.5 lb/1,000 ft^2	23.7 lb/1,000 ft^2	17.8 lb/1,000 ft^2	14.2 lb/1,000 ft^2

Speed: 10 mph

		Spread Width				
		8 ft	16 ft	24 ft	32 ft	40 ft
Flow Rate	50 lb/min	7.1 lb/1,000 ft²	3.6 lb/1,000 ft²	2.4 lb/1,000 ft²	1.8 lb/1,000 ft²	1.4 lb/1,000 ft²
	100 lb/min	14.2 lb/1,000 ft²	7.1 lb/1,000 ft²	4.7 lb/1,000 ft²	3.6 lb/1,000 ft²	2.8 lb/1,000 ft²
	150 lb/min	21.3 lb/1,000 ft²	10.7 lb/1,000 ft²	7.1 lb/1,000 ft²	5.3 lb/1,000 ft²	4.3 lb/1,000 ft²
	200 lb/min	28.4 lb/1,000 ft²	14.2 lb/1,000 ft²	9.5 lb/1,000 ft²	7.1 lb/1,000 ft²	5.7 lb/1,000 ft²
	250 lb/min	35.5 lb/1,000 ft²	17.8 lb/1,000 ft²	11.8 lb/1,000 ft²	8.9 lb/1,000 ft²	7.1 lb/1,000 ft²

Speed: 15 mph

		Spread Width				
		8 ft	16 ft	24 ft	32 ft	40 ft
Flow Rate	50 lb/min	4.7 lb/1,000 ft²	2.4 lb/1,000 ft²	1.6 lb/1,000 ft²	1.2 lb/1,000 ft²	0.9 lb/1,000 ft²
	100 lb/min	9.5 lb/1,000 ft²	4.7 lb/1,000 ft²	3.2 lb/1,000 ft²	2.4 lb/1,000 ft²	1.9 lb/1,000 ft²
	150 lb/min	14.2 lb/1,000 ft²	7.1 lb/1,000 ft²	4.7 lb/1,000 ft²	3.6 lb/1,000 ft²	2.8 lb/1,000 ft²
	200 lb/min	18.9 lb/1,000 ft²	9.5 lb/1,000 ft²	6.3 lb/1,000 ft²	4.7 lb/1,000 ft²	3.8 lb/1,000 ft²
	250 lb/min	23.7 lb/1,000 ft²	11.8 lb/1,000 ft²	7.9 lb/1,000 ft²	5.9 lb/1,000 ft²	4.7 lb/1,000 ft²

Calibrating the Spreader

The spreader and material should be calibrated periodically for better accuracy with RATE CONTROL or AUTO SPREAD. Each material can have a separate calibration factor saved which controls the spreader differently.

1. Remove the spinner assembly; refer to Removing the Spinner Assembly (page 27).

   Important: **The spinner assembly is heavy and requires 2 people to lift.**

2. On the controller, select the material that most closely resembles the material that you will be spreading.
3. On the controller, select a job with 0 kg (0.0 lb) on the job counter, or reset the job counter.
4. Place a receptacle below the discharge area of the spreader.
5. Set the feeder flow rate to a mid-range value (45 kg/min or 100 lb/min) and turn the spreader on for a period of time (at least 30 seconds). The longer the spreader can run, the more accurate the calibration will be.

   Important: **Ensure bystanders are away from the spreader discharge area.**

   Note: Do not let spreader run long enough to overfill the receptacle or let the receptacle become too heavy to lift.

6. Weigh the receptacle on a scale.

   Note: Be sure to account for the weight of the receptacle while it is empty.

7. Compare the amount of material measured on your scale to the amount on the job counter.
8. On the controller, go to the calibration settings screen and adjust the value as follows:
   - For every 5% that the measured material is less than the job counter, increase the adjustment factor by 1.
   - For every 5% that the measured material is more than the job counter, decrease the adjustment factor by 1.
9. Complete this procedure again if you need to verify the calibration is accurate.

Freeing a Clog

⚠ WARNING

Moving parts on the spreader can entangle hands and cut or dismember fingers.

- **Disconnect the spreader wire harness before attempting to manually free a clog.**
- **If the top screen is opened, ensure that all bolts are secured after freeing the clog.**

The words JAM CLEARING will appear in either the feeder or spinner display when debris gets wedged in the auger or pintle chain, or the spinner disk.

1. Do not turn off the machine when a jam first occurs.

   Note: The spreader is designed to automatically free clogs.

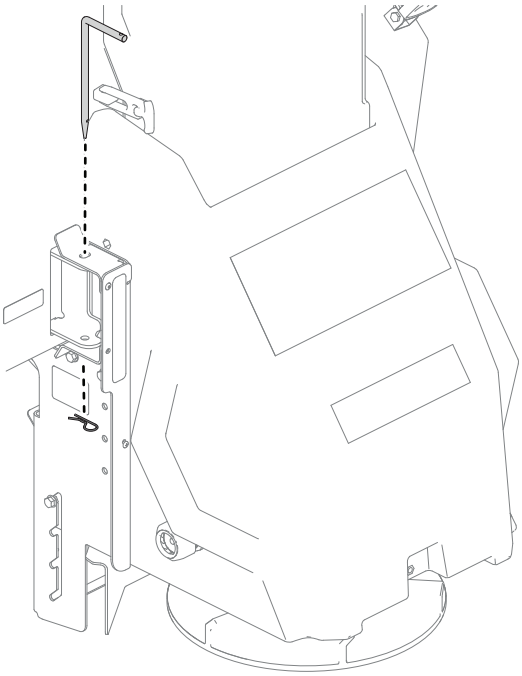
   The spreader display will show a notification when the jam first occurs. After a 5 second time-out or by pressing ACCEPT, the display will return to the main screen and show JAM CLEARING as long as the spreader is attempting to free itself.

2. If JAM STUCK appears in the feeder or spinner display, push the STOP button.
3. If the clog is not cleared automatically, disconnect the spreader wire harness and manually free the clog.

Unloading the Spreader

Important: **Do not leave material in the hopper as it could damage the machine.**

1. Position the spreader in the area where you want to deposit the material.
2. Unplug the spinner harness from the main wire harness.
3. Remove the left latch and cotter pin from the spinner assembly.

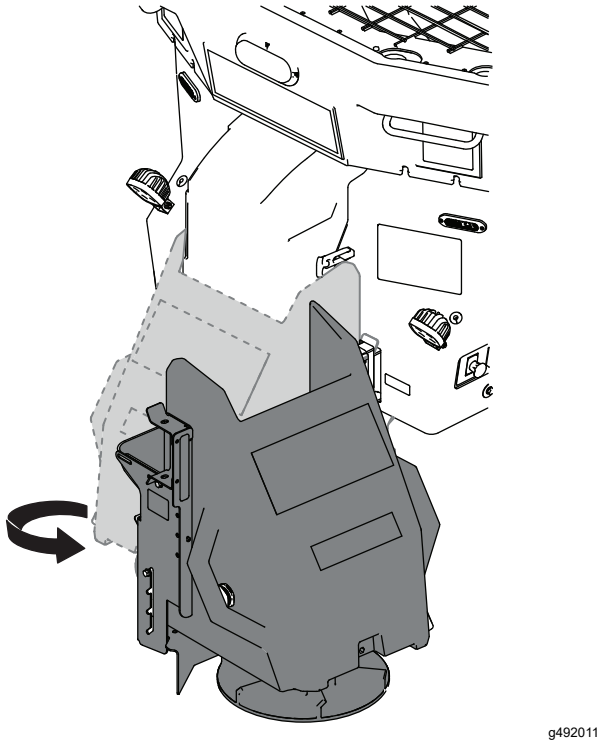


g492012

Figure 22

4. Swing the spinner assembly free from the hopper opening.

   Note: Do not move the vehicle when the spinner assembly is swung out.



g492011

Figure 23

⚠ CAUTION

The spreader throws material at a high speed that could cause minor injuries.

Stand to the side of the spreader when activating the dump switch.

5. Push and hold the dump switch to unload the hopper material.
6. Swing the spinner assembly back into place and secure it with the previously removed attachment pin and cotter pin.
7. Connect the spinner harness to the main wire harness.

Removing the Spinner Assembly

1. Position the spreader over a flat, dry surface.
2. Unplug the spinner harness from the main wire harness.

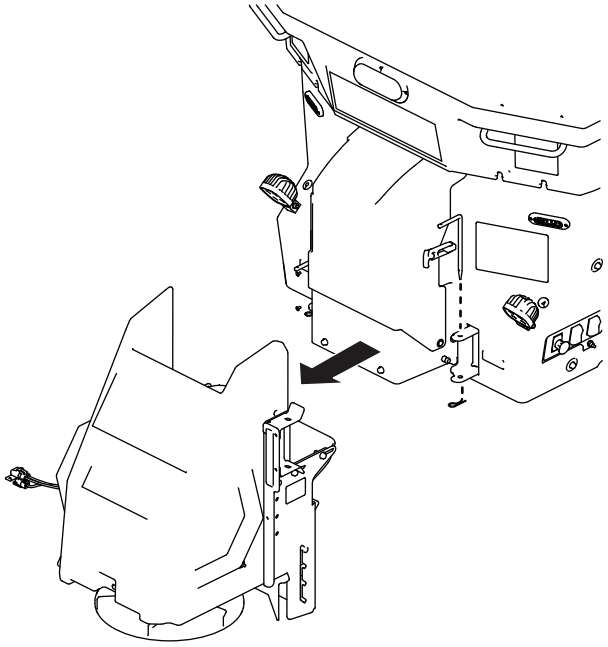
⚠ DANGER

The spinner assembly is heavy and could cause serious injury if dropped.

Ensure that your footing is stable, and avoid removing the spinner assembly near slippery or uneven surfaces.

3. Remove the 2 latch and 2 cotter pins securing the spinner assembly to the hopper and remove the spinner assembly.

Important: **The spinner assembly is heavy and requires 2 people to lift.**



g492013

Figure 24

4. Insert the attachment pins and cotter pins into the spinner assembly for storage.
5. Install weather caps on the spinner harness and spinner motor harness.

Operating Tips

- Know the area in which you are working; hidden obstructions such as curbs, sidewalks, and pipes can damage the spreader or vehicle.
- Do not let the ice build up; always start as soon as possible.
- Always wear your seatbelt when spreading.
- Always remember to spread at a safe speed.
- Never ride on or put body parts into the spreader while servicing or operating it.

Maintenance

⚠ WARNING

Failure to properly maintain the machine could result in premature failure of machine systems, causing possible harm to you or bystanders.

Keep the machine well maintained and in good working order as indicated in these instructions.

⚠ CAUTION

If you leave the key in the switch, someone could accidently start the engine and seriously injure you or other bystanders.

Remove the key from the switch before you perform any maintenance.

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

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
Before each use or daily	• Check the ratchet straps and tighten as necessary. • Check the pintle-chain conveyor tension. • Empty the cleanout tray (pintle-chain models only).
Every 20 hours	• Tighten the hardware.
Every 50 hours	• Grease the bearings. • Grease the pintle chain (pintle-chain models only).
Before storage	• Unload the spreader. • Clean and grease all of the bearings. • Clean and grease the pintle chain (pintle-chain models only).

Lubrication

Greasing the Machine

Every 50 hours—Grease the bearings.

Every 50 hours—Grease the pintle chain (pintle-chain models only).

Grease all of the bearings, and the pintle chain for pintle-chain models, with a general-purpose, lithium-based grease.

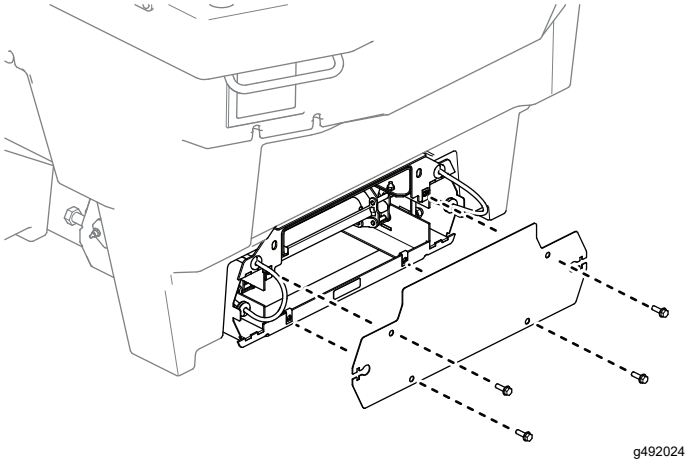
Miscellaneous Maintenance

Adjusting the Pintle-Chain Conveyor Tension

Pintle-Chain Models Only

Service Interval: Before each use or daily—Check the pintle-chain conveyor tension.

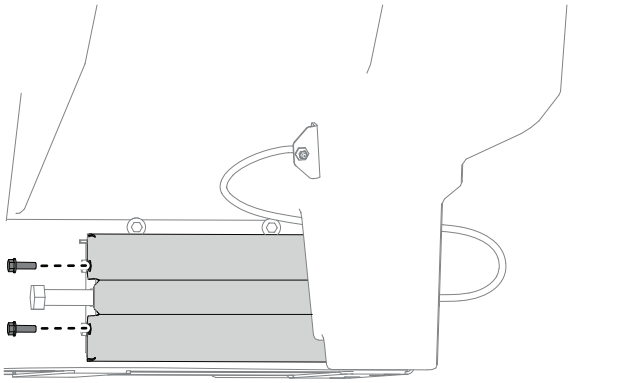
1. Disconnect the power/ground cable and main harness from the wire harness.
2. Remove the back cover as shown below.



g492024

Figure 25

3. On each side of the machine, remove the side cover by removing the 2 bolts.

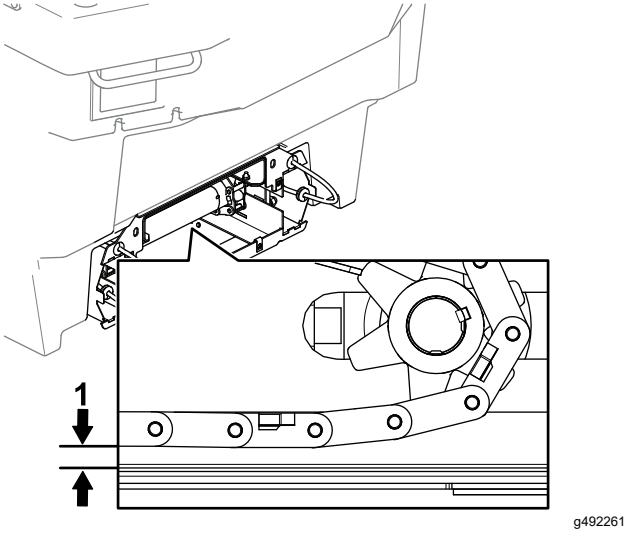


g492259

Figure 26

4. Check the gap between the pintle chain and the drivetrain frame.

   Note: The chain should hang 2.5 to 5 cm (1 to 2 inches) above the drivetrain frame.

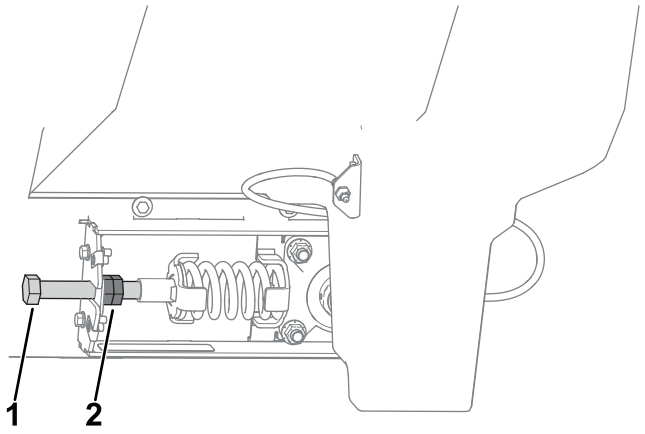


g492261

Figure 27

1. Gap between the pintle chain and the drivetrain frame

5. To adjust the tension, loosen the jam nuts on the sides of the spreader.



g492262

Figure 28

1. Take-up bolt
2. Jam nut

6. Place a wrench on the jam nut and turn the left take-up bolt clockwise 1 to 3 revolutions.
7. Place a wrench on the jam nut and turn the right take-up bolt clockwise 1 to 3 revolutions.
8. Check the chain tension, and repeat steps 6 and 7 until the desired tension is reached.

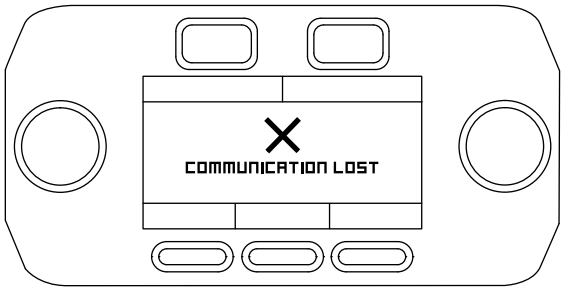
   Important: **Do not overtighten the pintle chain as it could lead to premature wear and spreader failure.**
9. Tighten the jam nuts.
10. Install the 2 side covers and back cover.
11. Connect the power/ground cable and main harness to the wire harness.

Controller Status and Error Indicators

The following icons and messages indicate that an error has occurred with your machine. Refer to Troubleshooting (page 34) for possible solutions.

Feeder and spinner errors only appear in 1 location or the other, not both.

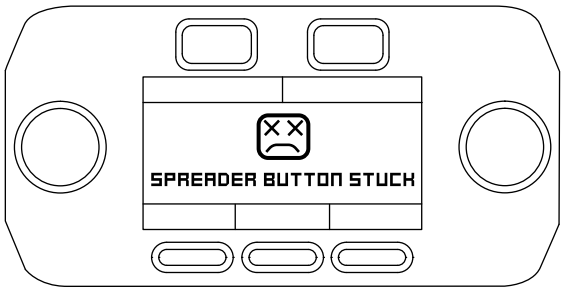
- X icon—indicates that the controller has no communication with the control module



g589945

Figure 29

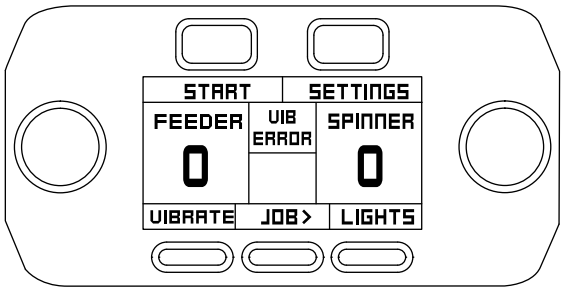
- Button Stuck icon—indicates that a button is pressed or stuck down when the controller is powered up



g589946

Figure 30

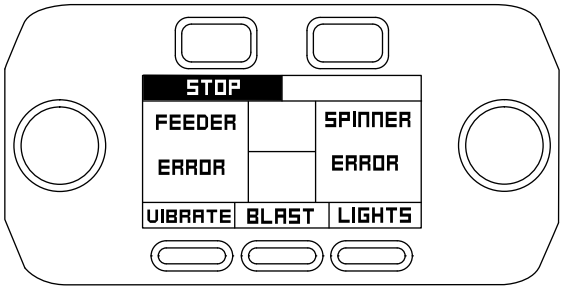
- Vib Error icon—indicates that the vibrator is disconnected or not running properly



g493238

Figure 31

- Feeder Error or Spinner Error icon—indicates that the feeder or spinner motor is disconnected or that there is a circuit issue

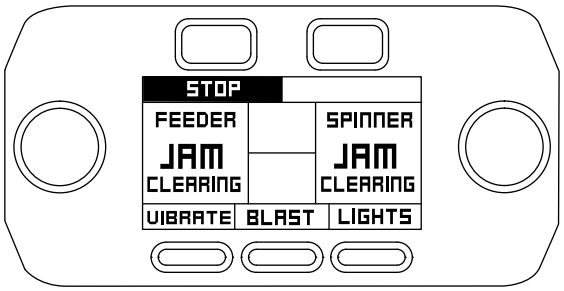


g493234

Figure 32

- Feeder Jam Clearing or Spinner Jam Clearing icon—indicates that the feeder or spinner has encountered an obstacle and is trying to free itself

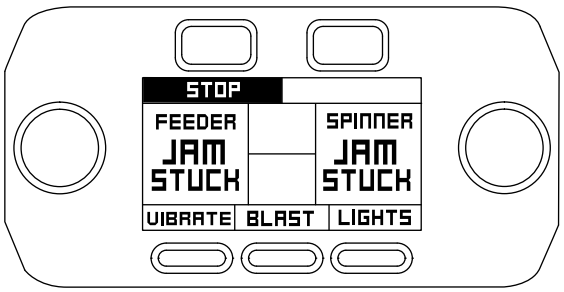
  Note: Do not shut down the system at this time.



g493235

Figure 33

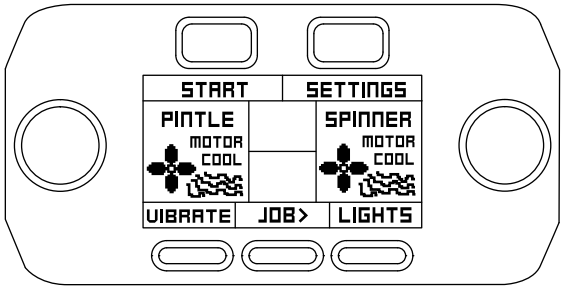
- Feeder Jam Stuck or Spinner Jam Stuck icon—indicates that the feeder or spinner could not free the jam



g493236

Figure 34

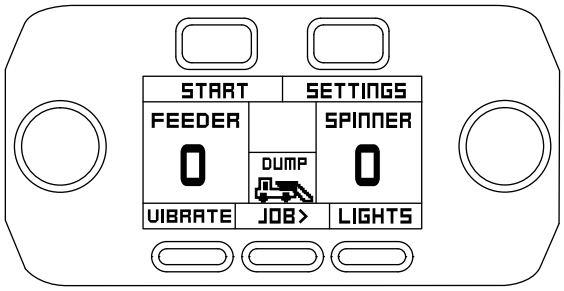
- Feeder Motor Cool or Spinner Motor Cool fan icon—indicates that the motor has shut down and is cooling



g493237

Figure 35

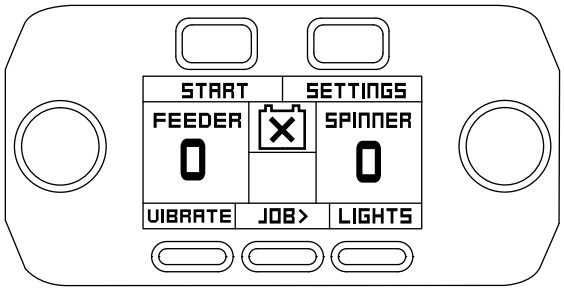
- Dump icon—indicates that the dump switch has been activated



g493239

Figure 36

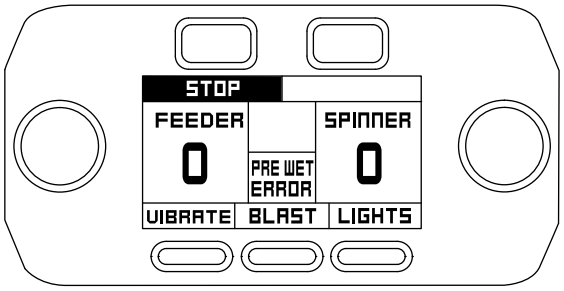
- Low Voltage icon—indicates that the vehicle is not supplying enough voltage to run the spreader continuously



g493231

Figure 37

- Pre-Wet Error—indicates that the pre-wet system is not functioning



g493232

Figure 38

Cleaning

Cleaning the Machine

Pintle-Chain Models Only

Service Interval: Before each use or daily

If equipped, empty the cleanout tray after every use.

Important: **Leaving any material in the spreader could damage the machine.**

1. Remove the spinner assembly; refer to Removing the Spinner Assembly (page 27).
2. Disconnect the power/control connector from the main wire harness.
3. Lift up on the cleanout tray handle to clear the mount holes and slide the tray out.

   Note: This step will require at least 2 people.

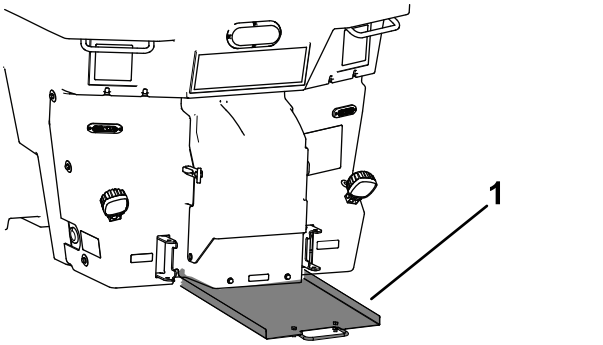


Figure 39

1. Cleanout tray

4. Remove any material from the tray.
5. Insert the tray into the spreader.

   Note: Ensure the handle locks into the mount holes.
6. Connect the power/control connector to the main wire harness.

Storage

1. Unload the spreader; refer to Unloading the Spreader (page 26).
2. Remove the spinner assembly; refer to Removing the Spinner Assembly (page 27).
3. Remove the spreader from the truck using the lift bars.

   Important: **Do not suspend the machine from the lift points for extended periods.**

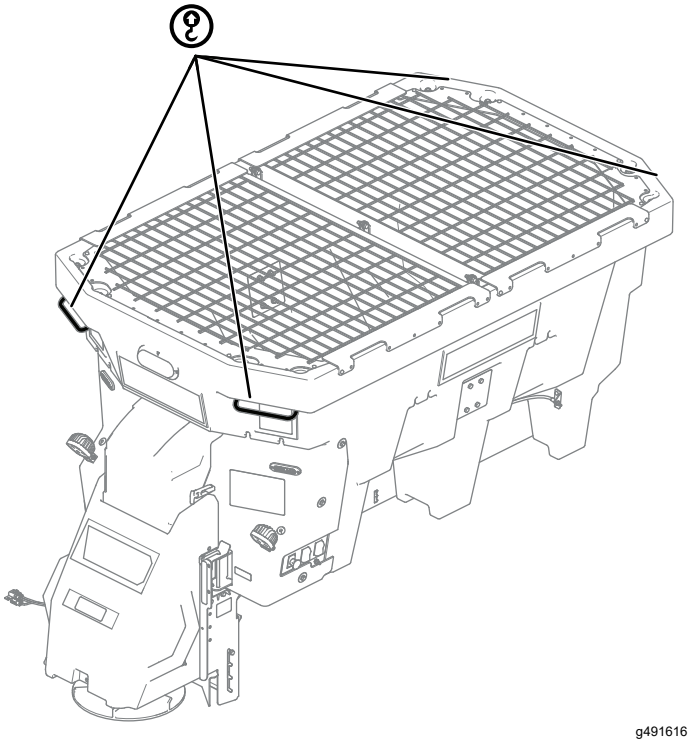


Figure 40

4. Wash and rinse the entire unit.
5. Clean and grease all of the bearings.
6. Clean and grease the pintle chain for pintle-chain models.
7. Clean all exposed connectors and apply dielectric grease to them.
8. Remove the controller from the truck and store it in a clean, dry place.
9. Store the machine on a flat surface.

Troubleshooting

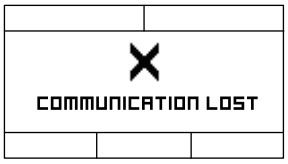
The feeder motor is running but the pintle chain is not moving.

Possible Cause	Corrective Action
1. The drive system is not connected to the gearbox.	1. Replace the coupling and/or the gearbox.
2. The key has fallen out of the coupling.	2. Replace the coupling and key.

The controller display has no power or is not turning on.

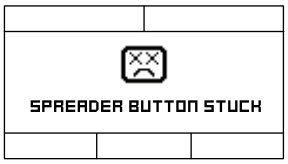
Possible Cause	Corrective Action
1. The controller is in Sleep mode.	1. Press the upper left button on the display to wake it up.
2. The vehicle key is in the OFF position.	2. Start the vehicle or move the key to the ACCESSORY position.
3. The fuse, battery, ground, or ignition switch connection is loose or corroded.	3. Tighten or clean the connection.
4. The in-line fuse is not functioning.	4. Replace the fuse.
5. The controller is not plugged into the vehicle harness.	5. Plug-in the controller.
6. The controller has a internal failure.	6. Replace the controller.

Communication Error (Fault B1F03)



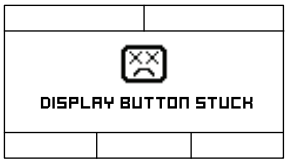
Possible Cause	Corrective Action
1. The power/ground cable is not connected to the battery.	1. Connect the power/ground cable to the battery.
2. The 150 A fuse is not functioning.	2. Replace the fuse.
3. The power/ground/control cable is not connected to the spreader.	3. Clean the power/ground/control connector pins at the bumper, check continuity on all of the wires, and connect to the spreader.
4. The power/ground cable is not connected to the module.	4. Connect the power/ground cable to the module.
5. The 4-pin controller connector or 35-pin header are not connected to the spreader.	5. Clean the connectors, check the continuity of the green, yellow, and black/red wires, and connect to the module.
6. The module is not functioning.	6. Replace the module.

Spreader Button Stuck Error (Fault B1F04)



Possible Cause	Corrective Action
1. The dump/work light switch is stuck or faulty.	1. Replace the dump/work light switch.
2. The strobe-light switch is stuck or faulty.	2. Replace the strobe-light switch.

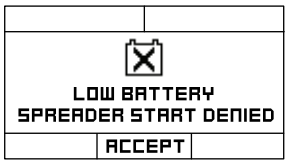
Display Button Stuck Error (Fault B1F05)

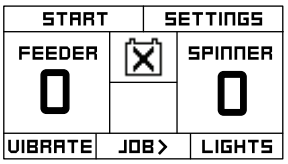


Possible Cause	Corrective Action
A button on the in-cab display controller is stuck or faulty.	Replace the controller.

Low Voltage Error (Fault B1F06)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.





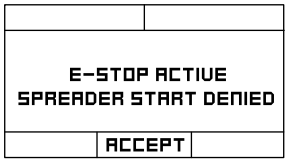
Possible Cause	Corrective Action
1. The battery is low.	1. Charge the battery.
2. The alternator is not functioning.	2. Replace the alternator.

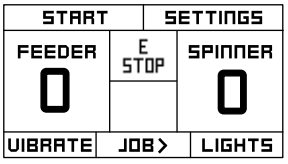
Dump Switch Active (Fault B1F07)

Possible Cause	Corrective Action
1. The dump switch is being pressed.	1. Stop pressing the dump switch.
2. The dump switch is faulty.	2. Remove and install a new dump switch; contact an Authorized Service Dealer.

Emergency Stop Active (Fault B1F08)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

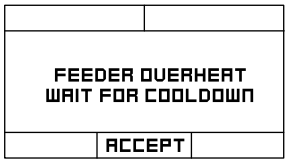


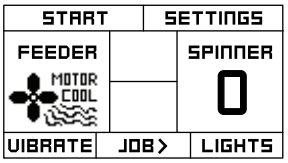


Possible Cause	Corrective Action
1. The emergency stop switch is being set to the STOP position.	1. Ensure bystanders and obstructions are clear. Set the emergency stop switch to the RUN position.
2. The emergency stop switch is disconnected.	2. Connect the emergency stop switch.
3. The emergency stop switch is faulty.	3. Replace the emergency stop switch.

Feeder Overheat Error (Fault B1F2A)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

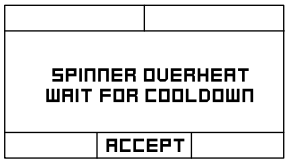


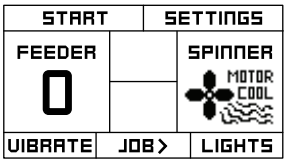


Possible Cause	Corrective Action
1. The circuit board on the module is overheating.	1. Allow the controller to cool off then try again.
2. The module is faulty.	2. Replace the module.

Spinner Overheat Error (Fault B1F3A)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

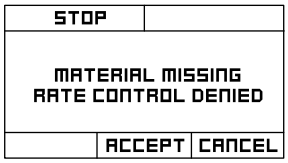


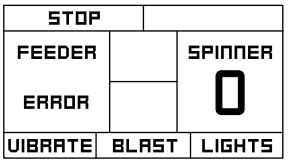


Possible Cause	Corrective Action
1. The circuit board on the module is overheating.	1. Allow the controller to cool off, then try again.
2. The module is faulty.	2. Replace the module.

Feeder Control Mode Error (Fault B1F20)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

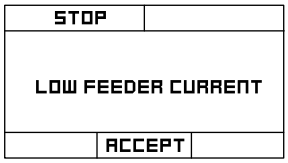


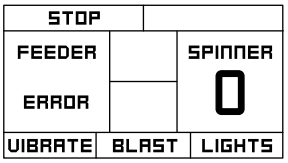


Possible Cause	Corrective Action
1. The module is not configured correctly.	1. Contact an Authorized Service Dealer.
2. The module is faulty.	2. Replace the module.

Feeder Low Current Error (Fault B1F21)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

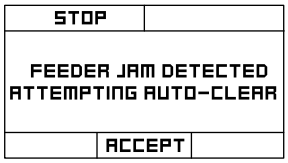


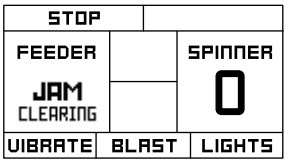


Possible Cause	Corrective Action
1. The feeder motor is not connected to the module.	1. Connect the feeder motor to the module.
2. The feeder motor has a failed internal connection.	2. Replace the feeder motor.
3. The module is faulty.	3. Replace the module.

Feeder High Current Error (Advise B1F22, B1F23, B1F24, and B1F25)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

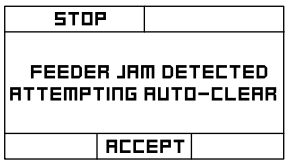


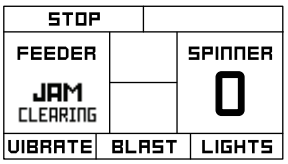


Possible Cause	Corrective Action
1. The module detected a high current on the feeder motor.	1. The controller is attempting to clear itself. Allow the spreader to keep running to self-clear.
2. The feeder drive system has excessive drag.	2. Disconnect the spreader and inspect the feeder drive system for interference. Check the gearbox oil level and viscosity. Contact an Authorized Service Dealer for replacement parts.

Feeder Jam Error (Advise B1F26)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

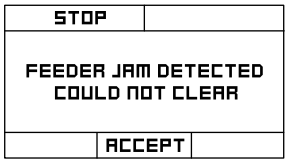


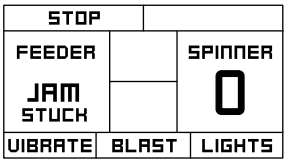


Possible Cause	Corrective Action
1. The module detected an obstacle that is preventing the feeder motor from turning.	1. The controller is attempting to clear itself. Allow the spreader to keep running to self-clear.
2. The feeder drive system has excessive drag.	2. Disconnect the spreader and inspect the feeder drive system for interference. Check the gearbox oil level and viscosity. Contact an Authorized Service Dealer for replacement parts.

Feeder Jam Stuck Error (Fault B1F27)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

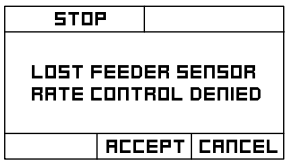


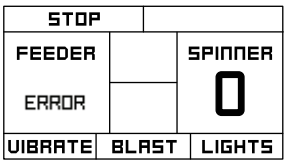


Possible Cause	Corrective Action
The pintle chain is jammed and cannot clear.	Disconnect the power to the spreader and free the jam manually.

Feeder Lost Sensor Error (Fault B1F28)

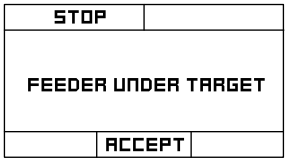
The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.





Possible Cause	Corrective Action
1. The 4-pin feeder motor sensor cable is disconnected.	Accepting the fault will change the spread mode to the OPEN control mode. The material and job counters are disabled in OPEN control mode. OPEN control mode is only active until key power cycle or the mode is manually changed. 1. Connect the 4-pin feeder motor sensor cable.
2. The 4-pin feeder motor sensor cable has a poor connection.	2. Clean the pins of the feeder motor sensor cable and then connect them.
3. The 4-pin feeder motor sensor cable is damaged.	3. Replace the feeder motor sensor cable. Contact an Authorized Service Dealer for replacement parts.

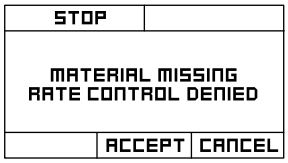
Feeder Under Target Error (Advise B1F29)

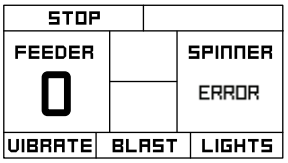


Possible Cause	Corrective Action
The module is not able to provide enough power to achieve the target flow rate.	The spreader will continue to run, but it is not achieving the target flow rate. It is recommended that you turn the feeder setting down. Calibrate the spreader flow rate. Retry the setting. If the advisory persists, contact your Authorized Service Dealer.

Spinner Control Mode Error (Fault B1F30)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

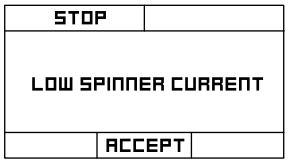


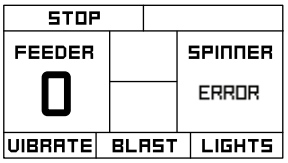


Possible Cause	Corrective Action
1. The module is not configured correctly.	1. Contact an Authorized Service Dealer.
2. The module is faulty.	2. Replace the module.

Spinner Low Current Error (Fault B1F31)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

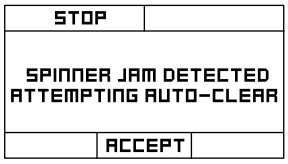


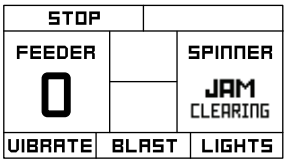


Possible Cause	Corrective Action
1. The spinner motor is not connected to the module.	1. Connect the spinner motor to the module.
2. The spinner motor is not connected to the wire harness.	2. Connect the spinner motor wire harness.
3. The spinner motor has a failed internal connection.	3. Replace the spinner motor.
4. The module is faulty.	4. Replace the module.

Spinner High Current Error (Advise B1F32, B1F33, B1F34, and B1F35)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

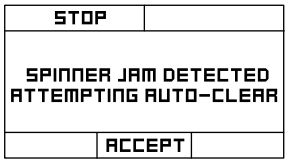


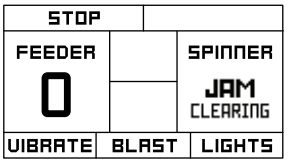


Possible Cause	Corrective Action
1. The module detected a high current on the spinner motor.	1. The controller is attempting to clear itself. Allow the spreader to keep running to self-clear.
2. The spinner disk has excessive drag.	2. Disconnect the spreader and inspect the spinner disk for interference. Contact an Authorized Service Dealer for replacement parts

Spinner Jam Error (Advise B1F36)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

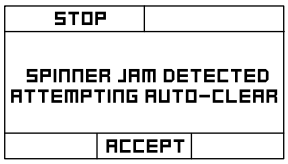


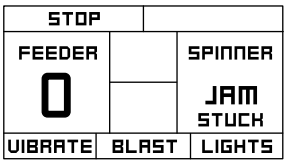


Possible Cause	Corrective Action
1. The module detected a obstacle that is preventing the spinner motor from turning.	1. The controller is attempting to clear itself. Allow the spreader to keep running to self-clear.
2. The spinner disk has excessive drag.	2. Disconnect the spreader and inspect the spinner disk for interference. Contact an Authorized Service Dealer for replacement parts.

Spinner Jam Stuck Error (Fault B1F37)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

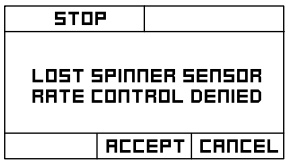


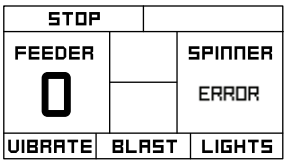


Possible Cause	Corrective Action
The spinner disk is jammed and cannot clear itself.	Disconnect the power to the spreader and free the jam manually.

Spinner Lost Sensor Error (Fault B1F38)

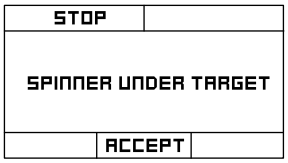
The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.





Possible Cause	Corrective Action
1. The 4-pin spinner motor sensor cable is disconnected.	Accepting the fault will change the spread mode to the OPEN control mode. The material and job counters are disabled in OPEN control mode. OPEN control mode is only active until the key power cycle or the spread mode is changed manually. 1. Connect the 4-pin spinner motor sensor cable.
2. The 4-pin spinner motor sensor cable has a poor connection.	2. Clean the pins of the spinner motor sensor cable and then connect them.
3. The 4-pin spinner motor sensor cable is damaged.	3. Replace the spinner motor sensor cable. Contact an Authorized Service Dealer for replacement parts.

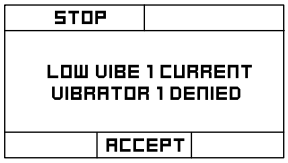
Spinner Under Target Error (Advise B1F39)

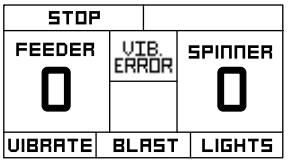


Possible Cause	Corrective Action
The module is not able to provide enough power to achieve the target spread rate.	The spreader will continue to run, but it is not achieving the target spread width. Turn the feeder setting and/or spinner setting down and retry. If the advisory persists, contact your Authorized Service Dealer.

Left Side Vibrator Low Current Error (Advise B1F70)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

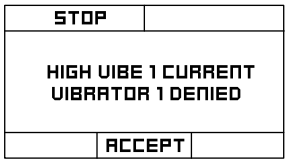


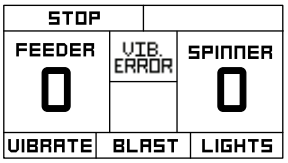


Possible Cause	Corrective Action
1. The circuit between the module and the left side vibrator is open.	1. Check for disconnected wires and connect them.
2. The vibrator has an internal failure.	2. Replace the vibrator.

Left Side Vibrator High Current Error (Advise B1F71 and B1F72)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

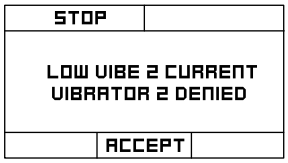


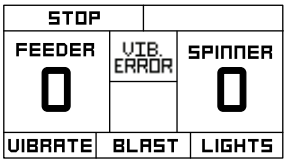


Possible Cause	Corrective Action
1. The mounting bolts for the left side vibrator are too tight or too loose.	1. Check the tightness of the vibrator mounting bolts.
2. There is a short in the wire harness.	2. Replace the vibrator wire harness.
3. The vibrator is not functioning.	3. Replace the vibrator.

Right Side Vibrator Low Current Error (Advise B1F73)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

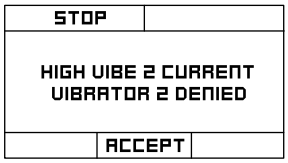


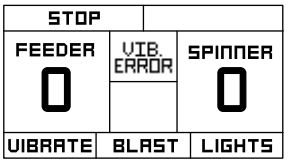


Possible Cause	Corrective Action
1. The circuit between the module and the right side vibrator is open.	1. Check for disconnected wires and connect them.
2. The vibrator has an internal failure.	2. Replace the vibrator.

Right Side Vibrator High Current Error (Advise B1F74 and B1F75)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

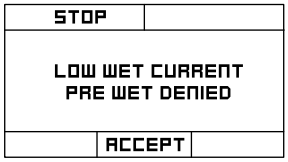


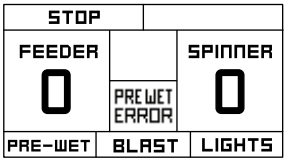


Possible Cause	Corrective Action
1. The mounting bolts for the right side vibrator are too tight or too loose.	1. Check the tightness of the vibrator mounting bolts.
2. There is a short in the wire harness.	2. Replace the vibrator wire harness.
3. The vibrator is not functioning.	3. Replace the vibrator.

Brine Pump Low Current Error (Advise B1F76)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.

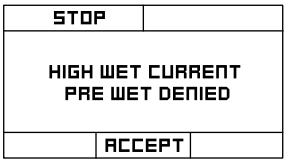


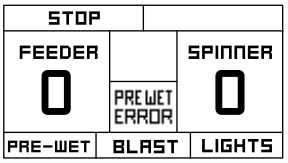


Possible Cause	Corrective Action
1. The circuit to the pump is open.	1. Check for disconnected wires and connect them.
2. The pump has an internal failure.	2. Replace the pump.

Brine Pump High Current Error (Advise B1F77 and B1F78)

The first screen below shows the initial error message that can be accepted, or it will time-out after 5 seconds. The second screen shows the error message on the main display screen.





Possible Cause	Corrective Action
1. The maximum current for the pump has been exceeded.	1. Replace the pump.
2. The pump motor wiring has shorted.	2. Check for shorts in the wires and replace the pump if necessary.
3. The pump is not functioning.	3. Replace the pump.

Invalid Speed Error (Fault B1F2B)

Possible Cause	Corrective Action
1. The Cold Front Integration Kit is not connected.	1. Accept the fault. The spread mode will change to the RATE spreader mode.
2. The status LED is off.	2. Verify the device is connected to the in-cab harness for keyed power and connected to the vehicle OBD (on-board diagnostics) port for battery power.
3. The status LED is amber.	3. The device is not programmed. Contact an Authorized Service Dealer.
4. The status LED is solid red.	4. The battery is charge is low. Charge the battery or replace the alternator as required.
5. The status LED is slow-blinking green.	5. There is no communication with the spreader controllers. Verify the spreader display and motor control module are connected and powered. Verify the device connection to the in-cab harness. If the issue persists, contact an Authorized Service Dealer.
6. The status LED is fast-blinking green.	6. There is no communication with the vehicle OBD port. Verify all OBD connections are secure. If the issue persists, contact an Authorized Service Dealer.

Over Speed Error (Fault B1F2C)

Possible Cause	Corrective Action
In Auto Spread Mode, the vehicle speed is too fast for the control to operate.	If speed is outside of the range of the spreader performance, reduce the vehicle speed or adjust the spreader settings. If vehicle speed is exceeding 72.4 kph (45 mph), reduce the speed of the vehicle.

California Proposition 65 Warning Information

What is this warning?

You may see a product for sale that has a warning label like the following:



WARNING: Cancer and Reproductive Harm—www.p65Warnings.ca.gov.

What is Prop 65?

Prop 65 applies to any company operating in California, selling products in California, or manufacturing products that may be sold in or brought into California. It mandates that the Governor of California maintain and publish a list of chemicals known to cause cancer, birth defects, and/or other reproductive harm. The list, which is updated annually, includes hundreds of chemicals found in many everyday items. The purpose of Prop 65 is to inform the public about exposure to these chemicals.

Prop 65 does not ban the sale of products containing these chemicals but instead requires warnings on any product, product packaging, or literature with the product. Moreover, a Prop 65 warning does not mean that a product is in violation of any product safety standards or requirements. In fact, the California government has clarified that a Prop 65 warning "is not the same as a regulatory decision that a product is 'safe' or 'unsafe.'" Many of these chemicals have been used in everyday products for years without documented harm. For more information, go to https://oag.ca.gov/prop65/faqs-view-all.

A Prop 65 warning means that a company has either (1) evaluated the exposure and has concluded that it exceeds the "no significant risk level"; or (2) has chosen to provide a warning based on its understanding about the presence of a listed chemical without attempting to evaluate the exposure.

Does this law apply everywhere?

Prop 65 warnings are required under California law only. These warnings are seen throughout California in a wide range of settings, including but not limited to restaurants, grocery stores, hotels, schools, and hospitals, and on a wide variety of products. Additionally, some online and mail order retailers provide Prop 65 warnings on their websites or in catalogs.

How do the California warnings compare to federal limits?

Prop 65 standards are often more stringent than federal and international standards. There are various substances that require a Prop 65 warning at levels that are far lower than federal action limits. For example, the Prop 65 standard for warnings for lead is 0.5 µg/day, which is well below the federal and international standards.

Why don't all similar products carry the warning?

- Products sold in California require Prop 65 labelling while similar products sold elsewhere do not.
- A company involved in a Prop 65 lawsuit reaching a settlement may be required to use Prop 65 warnings for its products, but other companies making similar products may have no such requirement.
- The enforcement of Prop 65 is inconsistent.
- Companies may elect not to provide warnings because they conclude that they are not required to do so under Prop 65; a lack of warnings for a product does not mean that the product is free of listed chemicals at similar levels.

Why does BOSS include this warning?

BOSS has chosen to provide consumers with as much information as possible so that they can make informed decisions about the products they buy and use. BOSS provides warnings in certain cases based on its knowledge of the presence of one or more listed chemicals without evaluating the level of exposure, as not all the listed chemicals provide exposure limit requirements. While the exposure from BOSS products may be negligible or well within the "no significant risk" range, out of an abundance of caution, BOSS has elected to provide the Prop 65 warnings. Moreover, if BOSS does not provide these warnings, it could be sued by the State of California or by private parties seeking to enforce Prop 65 and subject to substantial penalties.