

Operator's Manual

NA 132

Drop Spreader





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A downloadable parts manual is also available.

To the Owner Contact Information and Product Identification

If you need to contact an authorized Ventrac dealer for information on servicing your product, always provide the product model and serial numbers.

Please fill in the following information for future reference. See the picture(s) below to find the location of the identification numbers. Record them in the spaces provided.

Date of Purchase: _____

Dealer: _____

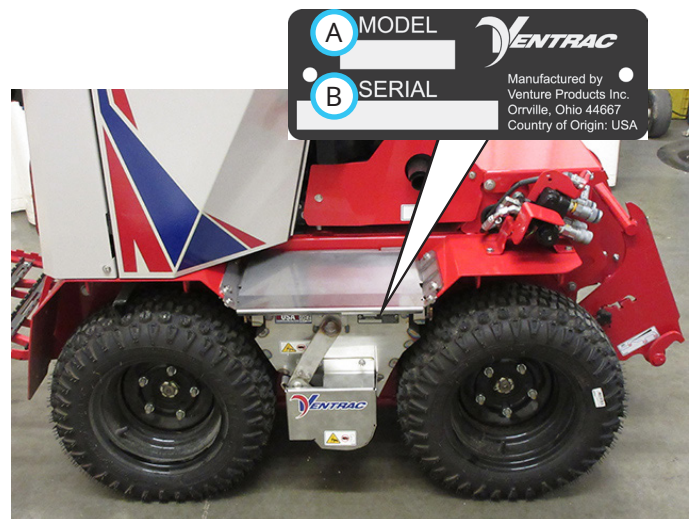
Dealer Address: _____

Dealer Phone Number: _____

Dealer Fax Number: _____

Model # (A): _____

Serial # (B): _____



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INTRODUCTION



Venture Products Inc. is pleased to provide you with your new Ventrac drop spreader! We hope that Ventrac equipment will provide you with a ONE Tractor Solution.

Product Description

The Ventrac NA132 drop spreader is designed to spread an array of deicing materials with precision flow control. With a narrow frame and a 73.7 cm (29 inch) drop pattern, the drop spreader is ideal for spreading material on sidewalks and other narrow walkways.

The drop spreader's unique compression roller system evenly distributes deicing materials. The variable speed motor allows for quick flow adjustments.

Stainless steel construction prevents premature failure due to rust and corrosion. An innovative agitation system prevents material bridging and eliminates the need for a traditional, noisy vibration motor

The material hopper slides out to one side, making it easy to add deicing materials.

Why Do I Need an Operator's Manual?

This manual has been created to help you gain the important knowledge of what is needed to safely operate and maintain your machine, and to avoid injury and product damage. It is divided into chapters for convenient reference of the appropriate information.

You must read and understand the operator's manual for each piece of Ventrac equipment you own. Reading the operator's manual will help you become familiar with each specific piece of equipment. If this manual becomes damaged or unreadable, it should be replaced immediately. Contact your local Ventrac dealer for a replacement.

When using a Ventrac attachment, be sure to read and follow the safety and operating instructions of both the power unit and the attachment being used to ensure the safest operation possible.

The information in this manual provides the operator with the safest procedures to operate the machine while getting the maximum use out of the unit. Failure to follow the safety precautions listed in this manual may result in personal injury and/or damage to the equipment.

INTRODUCTION

Using Your Manual

This manual identifies potential hazards and safety concerns to help you, as well as others, avoid personal injury and/or damage to the equipment.

Safety should always be the first priority when working on or operating equipment. Accidents are more likely to occur when proper operating procedures are not followed or inexperienced operators are involved.

SYMBOL DEFINITIONS



This symbol identifies potential health and safety hazards. It marks safety precautions. Your safety and the safety of others is involved.

There are three signal words that describe the level of safety concern: Danger, Warning, and Caution.

SIGNAL WORD DEFINITIONS

DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme cases.

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 and/or property damage. It may also be used to alert against unsafe practices.

This manual also uses two words to highlight information. **ATTENTION** calls attention to special mechanical information to prevent equipment damage and/or best practices for equipment service and care.

NOTE emphasizes general information that is worthy of special attention.

NOTE: Right-Hand and Left-Hand orientations may be referred to at different places throughout this manual. Right-Hand and Left-Hand is determined as if facing forward from the operator station.

Manual Glossary

- Power Unit** A Ventrac tractor or other Ventrac engine powered device that may be operated by itself or with an attachment or accessory.
- Attachment** A piece of Ventrac equipment that requires a Power Unit for operation.
- Accessory** A device that attaches to a Power Unit or Attachment to extend its capabilities.
- Machine** Describes any "Attachment" or "Accessory" that is used in conjunction with a power unit.

SAFETY



General Safety Procedures for Ventrac SSV Power Units, Attachments, & Accessories



Training Required

- The owner of this machine is solely responsible for properly training the operators.
- The owner/operator is solely responsible for the operation of this machine and for the prevention of accidents or injuries occurring to him/herself, other people, or property.
- Do not allow operation or service by children or untrained personnel. Local regulations may restrict the age of the operator.
- Before operating this machine, read the operator's manual and understand its contents.
- If the operator of the machine cannot understand this manual, then it is the responsibility of this machine's owner to fully explain the material within this manual to the operator.
- Learn and understand the use of all the controls.
- Know how to stop the power unit and the attachments quickly in the event of an emergency.

Requirements for Personal Protective Equipment (PPE)

- The owner is responsible for ensuring that all the operators use the proper PPE while operating the machine. Whenever you use the machine, use the following PPE:
- Certified eye protection and hearing protection.
- Closed toe, slip resistant footwear.
- Long pants or trousers.
- A dust mask for dusty conditions.
- Appropriate cold weather clothing.
- Additional PPE may be required. Refer to the product safety procedures for any additional requirements.

Operation Safety

- Secure long hair and loose clothing. Do not wear jewelry.
- Inspect the machine before operation. Repair or replace any damaged, worn, or missing parts. Be sure the guards and shields are in proper working condition and are secured in place. Make any necessary adjustments before operating the machine.
- Some pictures in this manual may show shields or covers opened or removed in order to clearly illustrate the instructions. Under no circumstance should the machine be operated without these devices in place.
- Alterations or modifications to this machine can reduce safety and could cause damage to the machine. Do not alter the safety devices or operate with the shields or covers removed.
- Before each use, verify that all the controls function properly and inspect all the safety devices. Do not operate if the controls or safety devices are not in proper working condition.
- Check the parking brake function before operating. Repair or adjust the parking brake if necessary.
- Observe and follow all of the safety decals.
- All the controls are to be operated from the operator's station only.
- Ensure the attachment or accessory is locked or fastened securely to the power unit before operating.
- Ensure that all bystanders are clear of the power unit and the attachment before operating. Stop the machine if someone enters your work area.

SAFETY



General Safety Procedures for Ventrac Power Units, Attachments, & Accessories



- Always be alert to what is happening around you, but do not lose focus on the task you are performing. Always look in the direction the machine is moving.
- Look behind and down before backing up to be sure of a clear path.
- If you hit an object, stop and inspect the machine. Make any necessary repairs before operating the machine again.
- Stop operation immediately at any sign of equipment failure. An unusual noise can be a warning of equipment failure or a sign that maintenance is required. Make any necessary repairs before operating the machine again.
- Do not leave the machine unattended while it is running.
- Always park the machine on level ground.
- Always shut off the engine when connecting the attachment drive belt to the power unit.
- Never leave the operator's station without lowering the attachment to the ground, engaging the parking brake, shutting off the engine, and removing the ignition key. Make sure all moving parts have come to a complete stop before dismounting.
- Never leave the machine unattended without lowering the attachment to the ground, engaging the parking brake, shutting off the engine, and removing the ignition key.
- Only operate in well-lit conditions.
- Do not operate when there is a risk of lightning.
- Never direct the discharge of any attachment in the direction of people, buildings, animals, vehicles, or other objects of value.
- Never discharge material against a wall or obstruction. The material may ricochet back toward the operator.
- Use extra caution when approaching blind corners, shrubs, trees, or other objects that may obscure your vision.
- Do not run the engine in a building without adequate ventilation.
- Do not touch the engine or the muffler while the engine is running or immediately after stopping the engine. These areas may be hot enough to cause a burn.
- Do not change the engine governor settings or over-speed the engine. Operating the engine at excessive speeds may increase the hazard of personal injury.
- To reduce the hazard of fire, keep the battery compartment, engine, and muffler areas free of grass, leaves, excessive grease, and other flammable materials.
- Clear the working area of objects that might be hit or thrown from the machine.
- Keep people and pets out of the working area.
- Know the work area well before operation. Do not operate where traction or stability is questionable.
- Reduce speed when you are operating over rough ground.
- Equipment can cause serious injury and/or death when improperly used. Before operating, know and understand the operation and safety of the power unit and the attachment being used.
- Do not operate the machine if you are not in good physical and mental health, if you will be distracted by personal devices, or if you are under the influence of any substance which might impair your decisions, dexterity, or judgment.
- Children are attracted to machine activity. Be aware of children and do not allow them in the work area. Turn off the machine if a child enters the work area.

SAFETY



General Safety Procedures for Ventrac Power Units, Attachments, & Accessories



- Power units, attachments, and accessories are not designed or intended for travel on public roadways. Never operate or travel on public roads or highways.
- Operate with safety lights when operating near roadways.
- Slow down and be careful of traffic when operating near or crossing roadways. Stop before crossing roads or sidewalks. Use care when approaching areas or objects that may obscure vision.

Keep Riders Off

- Only allow the operator on the power unit. Keep riders off.
- Never allow riders on any attachment or accessory.

Operating On Slopes

- Slopes can cause loss-of-control and tip-over accidents, which can result in severe injury or death. Be familiar with the emergency parking brake, along with the power unit controls and their functions.
- Do not operate on slopes greater than 10 degrees.
- Do not stop or start suddenly when operating on slopes.
- Variables such as wet surfaces and loose ground will reduce the degree of safety. Do not drive where the machine could lose traction or tip over.
- Keep alert for hidden hazards in the terrain.
- Stay away from drop-offs, ditches, and embankments.
- Sharp turns should be avoided when operating on slopes.
- Transport the machine with the attachment lowered or close to the ground to improve stability.
- While operating on slopes, drive in an up and down direction whenever possible. If turning is necessary while driving across slopes, reduce your speed and turn slowly in the downhill direction.

Truck Or Trailer Transport

- Use care when loading or unloading the machine into a truck or trailer.
- Use full width ramps for loading the machine into a truck or trailer.
- The parking brake is not sufficient to lock the machine during transport. Always secure the power unit and/or attachment to the transporting vehicle securely using straps, chains, cables, or ropes. Both the front and rear straps should be directed down and outward from the machine.
- Shut off the fuel supply to the power unit during transport on a truck or trailer.
- Turn the battery disconnect switch to the Off position to shut off electrical power.

Maintenance

- Keep the safety decals legible. Remove all grease, dirt, and debris from the safety decals and instructional labels.
- If any decals are faded, illegible, or missing, contact your dealer promptly for replacements.
- When new components are installed, be sure that the current safety decals are affixed to the replacement components.
- If any component requires replacement, use only original Ventrac replacement parts.
- Always turn the battery disconnect to the Off position or disconnect the battery before performing any repairs. Disconnect the negative terminal first and the positive terminal last. Reconnect the positive terminal first and the negative terminal last.

SAFETY



General Safety Procedures for Ventrac Power Units, Attachments, & Accessories



- Keep all bolts, nuts, screws, and other fasteners properly tightened.
- Always lower the attachment to the ground, engage the parking brake, shut off the engine, and remove the ignition key. Make sure all moving parts have come to a complete stop before cleaning, inspecting, adjusting, or repairing.
- If the power unit, attachment, or accessory requires repairs or adjustments not instructed in the operator's manual, the power unit, attachment, or accessory must be taken to an authorized Ventrac dealer for service.
- Never perform maintenance on the power unit and/or attachment if someone is in the operator's station.
- Always use protective glasses when handling the battery.
- Check the fuel lines for tightness and wear on a regular basis. Tighten or repair them as needed.
- To reduce the hazard of fire, keep the battery compartment, engine, and muffler areas free of grass, leaves, and excess grease.
- Do not touch the engine, the muffler, or other exhaust components while the engine is running or immediately after stopping the engine. These areas may be hot enough to cause a burn.
- Allow the engine to cool before storing and do not store near an open flame.
- Do not change the engine governor settings or over-speed the engine. Operating engine at excessive speeds may increase the hazard of personal injury.
- Springs may contain stored energy. Use caution when disengaging or removing springs and/or spring loaded components.
- An obstruction or blockage in a drive system or moving/rotating parts may cause a buildup of stored energy. When the obstruction or blockage is removed, the drive system or moving/rotating parts may move suddenly. Do not attempt to remove an obstruction or blockage with your hands. Keep your hands, feet, and clothing away from all power-driven parts.

Fuel Safety

- To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.
- Do not refuel the machine while smoking or at a location near flames or sparks.
- Always refuel the machine outdoors.
- Do not store the machine or fuel container indoors where the fumes or fuel can reach an open flame, spark, or pilot light.
- Only store fuel in an approved container. Keep out of the reach of children.
- Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place the containers on the ground away from your vehicle before filling.
- Remove the machine from the truck or trailer and refuel it on the ground. If this is not possible, refuel the machine using a portable container, rather than from a fuel dispenser nozzle.
- Never remove the fuel cap or add fuel with the engine running. Allow the engine to cool before refueling.
- Never remove the fuel cap while on a slope. Only remove the fuel cap when parked on a level surface.
- Replace the fuel tank cap and the container cap securely.
- Do not overfill the fuel tank. Only fill to the bottom of the fuel neck, do not fill the fuel neck full. Overfilling of the fuel tank could result in engine flooding, fuel leakage from the tank, and/or damage to the emissions control system.

SAFETY



General Safety Procedures for Ventrac Power Units, Attachments, & Accessories



- If fuel is spilled, do not attempt to start the engine. Move the power unit away from the fuel spill and avoid creating any source of ignition until the fuel vapors have dissipated.
- If the fuel tank must be drained, it should be drained outdoors into an approved container.
- Check the fuel lines for tightness and wear on a regular basis. Tighten or repair them as needed.
- The fuel system is equipped with a shut-off valve. Shut off the fuel when transporting the machine to and from the job, when parking the machine indoors, or when servicing the fuel system.

Hydraulic Safety

- Make sure the hydraulic connections are tight and all hydraulic hoses and tubes are in good condition. Repair any leaks and replace any damaged or deteriorated hoses or tubes before starting the machine.
- Hydraulic leaks can occur under high pressure. Hydraulic leaks require special care and attention.
- Use a piece of cardboard and a magnifying glass to locate suspected hydraulic leaks.
- Keep your body and hands away from pinhole leaks or nozzles that eject high pressure hydraulic fluid. Hydraulic fluid escaping under high pressure can penetrate the skin causing serious injury, leading to severe complications and/or secondary infections if left untreated. If hydraulic fluid is injected into the skin, seek immediate medical attention no matter how minor the injury appears.
- The hydraulic system may contain stored energy. Before performing maintenance or repairs on the hydraulic system, remove any attachments, engage the parking brake, disengage the weight transfer system (if equipped), shut off the engine, and remove the ignition key. To relieve pressure on the auxiliary hydraulic system, shut off the power unit engine and move the hydraulic control lever left and right before disconnecting the auxiliary hydraulic quick couplers.

SAFETY



NA132 Safety Procedures



- Do not operate the spreader in temperatures below -29° C (-20° F) or above 10° C (50° F).
- Never attempt to remove the spreader from the power unit while there is material in the hopper.
- Before attempting to clear an obstruction or empty the hopper by hand, unplug the spreader motor from the power supply to prevent accidental startup.
- Always make sure personnel are clear of areas of danger when using equipment.
- Never use with foreign debris in the spreader. The spreader is designed only for use with deicing materials.
- Before working with the spreader, secure all loose fitting clothing and unrestrained hair.
- Always wear safety glasses with side shields when servicing the spreader.
- Do not splice any other device into the wire harness.
- The drop spreader is not designed for use with aftermarket vibrators/agitation systems.

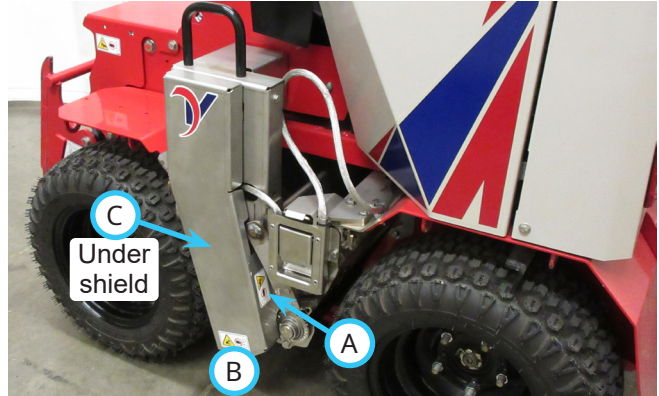
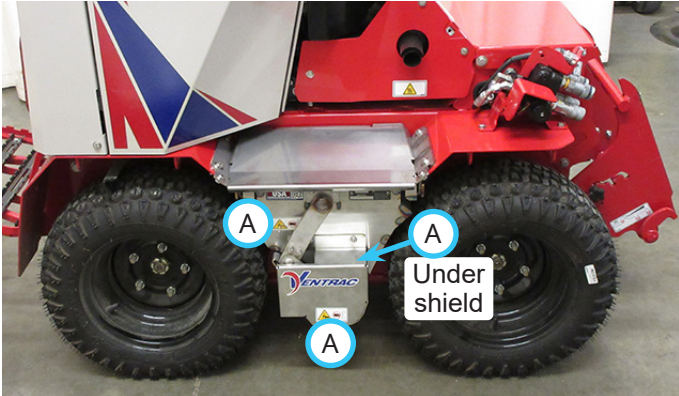
SAFETY

Safety Decals

The following safety decals must be maintained on your attachment.

Keep all safety decals legible. Remove all grease, dirt, and debris from safety decals and instructional labels. If any decals are faded, illegible, or missing, contact your dealer promptly for replacements.

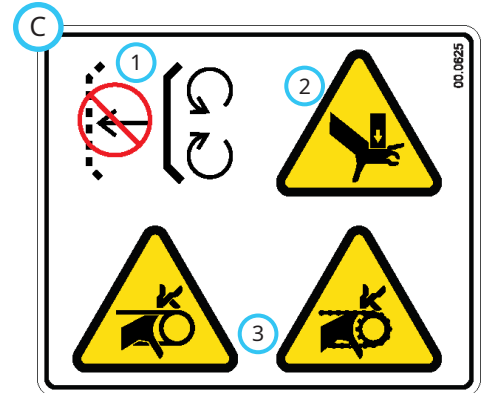
When new components are installed, be sure that current safety decals are affixed to the replacement components.



1. Caution - pinch point. Stay away from moving parts.



1. Finger or hand entanglement hazard.
2. Stay away from moving parts.



1. Shield missing - do not operate.
2. Pinching or crushing hazard.
3. Finger or hand entanglement.

Decal	Description	Part Number	Quantity
A	Warning, Pinch Point	00.0364	4
B	Finger/Hand Entanglement	00.0631	1
C	Shield Missing	00.0625	1

SETUP

Setup Instructions for the Power Unit and Drop Spreader

Installation Time (estimated)

1.5 hours

⚠ WARNING

Engage the parking brake, shut off the power unit engine, and remove the ignition key prior to setup of the power unit and drop spreader.

Always disconnect the negative battery cable from the battery when working with electrical components. Always work in a manner that does not put safety at risk!

⚠ WARNING

Eye protection must be worn during installation. Hearing protection must be worn when using air or power tools.

ATTENTION

To prevent thread galling, hand tools and a thread lubricant are recommended when tightening stainless steel fasteners. Do not use air or electric power tools as this increases the risk of thread galling.

Unless specified otherwise, use the bolt torque specifications listed below for all fasteners used during the setup and installation of the drop spreader.

Bolt Torque Specifications (Lubricated)

Bolt Size	Torque (English)	Torque (Metric)
1/4-20	67 in-lbs	8 Nm
5/16-18	117 in-lbs	13 Nm

1. Park the power unit on a level surface.
2. Engage the parking brake, shut off the engine, and remove the ignition key.
3. Press the button on the battery disconnect switch.

⚠ WARNING

Contact with hot engine components can cause severe burns.

Allow the engine and muffler to cool completely before proceeding with setup.

4. Allow the engine and muffler to cool completely.
5. Remove the center fender platforms (A) from both the left and right sides of the power unit.



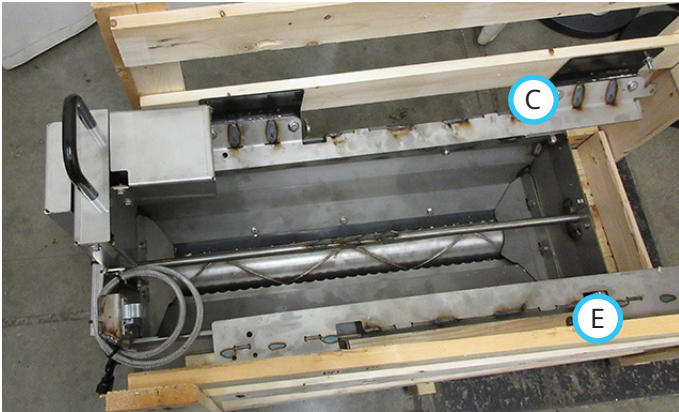
6. Remove the frame side covers (B) from both the left and right sides of the power unit.



7. Remove the box of parts and hardware from the crate.
8. Remove the end of the crate at the motor mount end of the drop spreader.
9. Clip the zip tie securing the drop spreader to the crate.
10. Use a helper to slide the drop spreader out of the roller rails.

SETUP

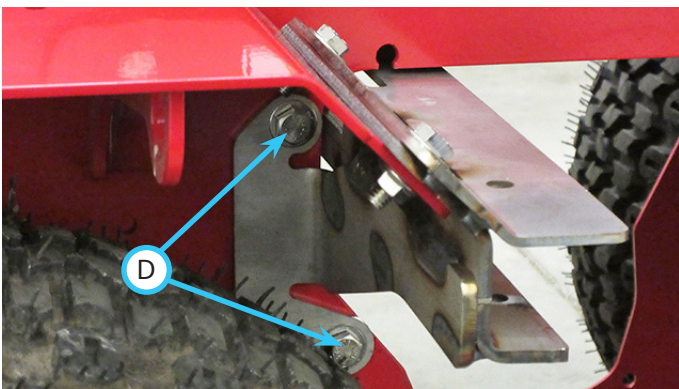
11. Remove the front roller rail (C) from the crate and install onto the front fenders of the power unit with the side flanges on the outsides of the main frame. NOTE: the front roller rail has wider side flanges than the rear roller rail.



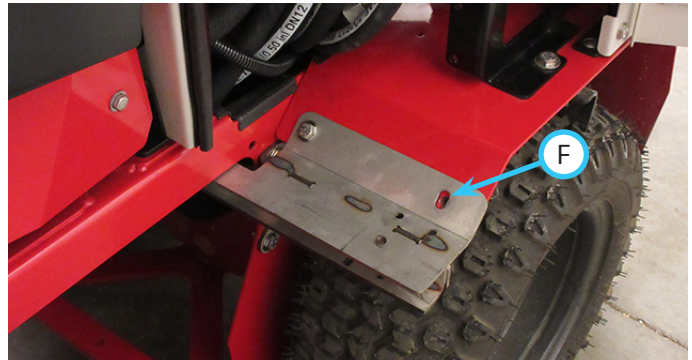
12. Secure the roller rail to the front fenders using the hardware from the crate. Do not tighten the hardware.



13. Install two 5/16 x 3/4 inch bolts (D) and washers through both the left and right side flanges and secure with flange nuts.



14. Torque the bolts that secure the roller rail to the fenders. Torque the bolts that secure the side flanges to the main frame.
15. Remove the rear roller rail (E) from the crate and install on the rear fenders of the power unit with the side flanges on the outsides of the main frame. Secure the roller rail to the fenders using the hardware from the crate, except for the outer bolt location (F) on the left side of the roller frame. Do not tighten the hardware.

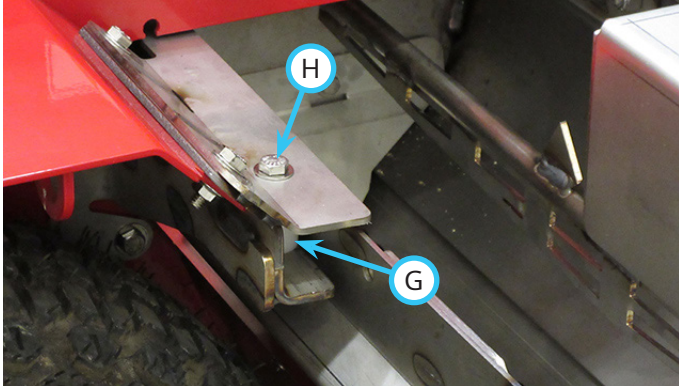


16. Install two 5/16 x 3/4 inch bolts and washers through both the left and right side flanges and secure with flange nuts.
17. Torque the bolts that secure the roller rail to the fenders. Torque the bolts that secure the side flanges to the main frame.
18. Use a helper to slide the drop spreader into the roller rails.



SETUP

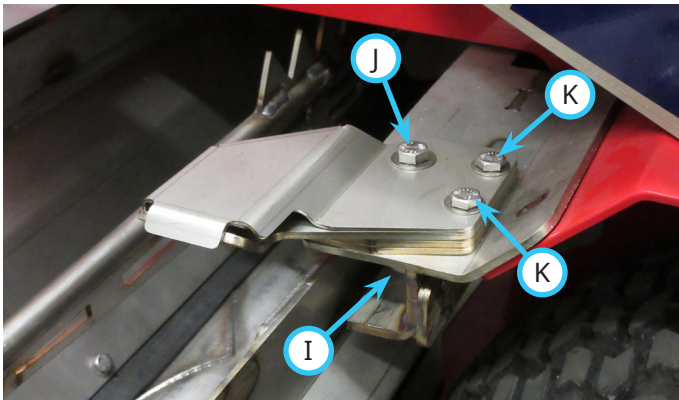
19. Insert a plastic bushing (G) into the channel in the front roller rail and align it with the hole in the rail. Insert a 5/16 x 2-1/4 inch bolt (H) and washer down through the top flange, the bushing, and the bottom flange. Secure with a 5/16 inch nylon lock nut and torque the bushing bolt.



22. Install the right hopper cover (L) over the right end of the hopper. Slide the tab of the cover under the power unit frame and fasten the cover to the tabs on the front and rear roller rails using two 1/4 x 3/4 inch bolts, washers, and flange nuts.

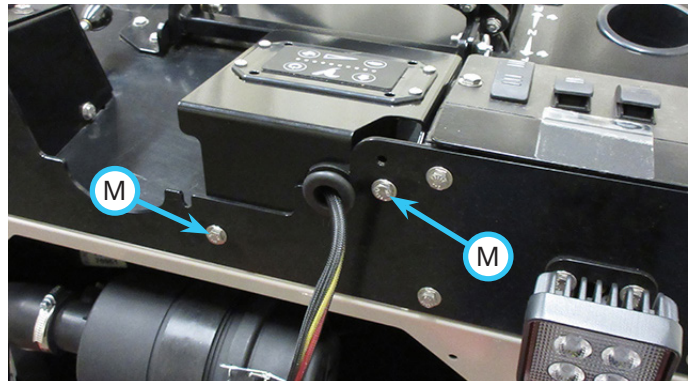


20. Insert a plastic bushing into the channel (I) in the rear roller rail and align it with the hole in the rail. Place the two spacer plates, the latch plate, and the latch cover onto the rear roller rail. Insert a 5/16 x 2-3/4 inch bolt (J) down through the latch cover, the latch plate, the spacers, the top flange, the bushing, and the bottom flange. Secure loosely with a 5/16 inch nylon lock nut. Insert two 1/4 x 1 inch bolts (K) with washers down through the latch cover, the latch plate, the spacers, and the rear roller rail and secure loosely with flange nuts.



21. Slide the spreader hopper fully into the roller rails, making sure the latch engages the latch plate. Adjust the latch plate to align with the hopper latch and tighten the mounting bolts. Check to make sure the hopper latch engages and disengages properly, then torque the 1/4 inch bolts and the 5/16 inch bolt.

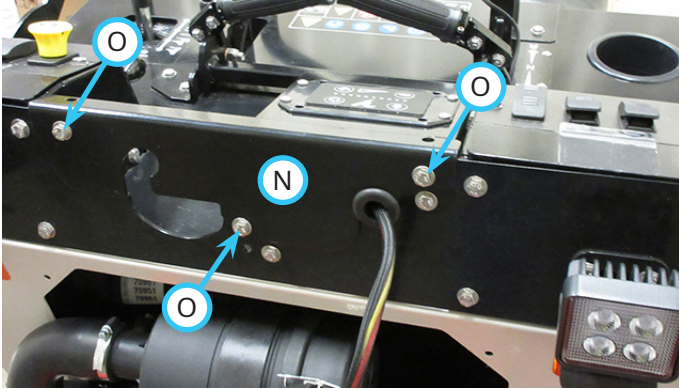
23. Install the controller and bracket onto the dash plate using two 1/4 x 3/4 inch bolts (M), washers, and flange nuts. Insert the grommet on the power cord into the notch in the dash plate.



NOTE: if the power unit will be equipped with a brine system, refer to the brine system setup instructions and install the brine valve assembly onto the dash plate before proceeding with this installation.

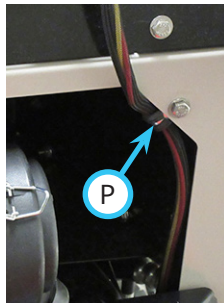
SETUP

24. Install the front cover (N) onto the dash plate, making sure the grommet is seated in the notches of both the dash plate and the front cover. Fasten the front cover using three 1/4 x 3/4 inch bolts (O), washers, and flange nuts.



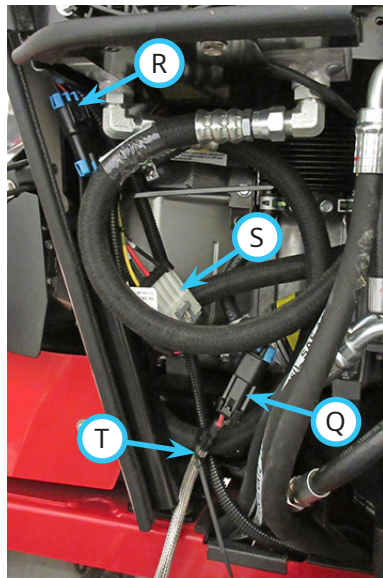
25. Route the controller power cord down past the engine and into the left tower frame.

26. Place a 1/2 inch cushioned clamp (P) over the power cord and secure the clamp to the front cover using a 1/4 x 3/4 inch bolt, washer, and flange nut.



27. Plug the 2 position male connector (Q) on the motor power cord into the female connector on the spreader wire harness.

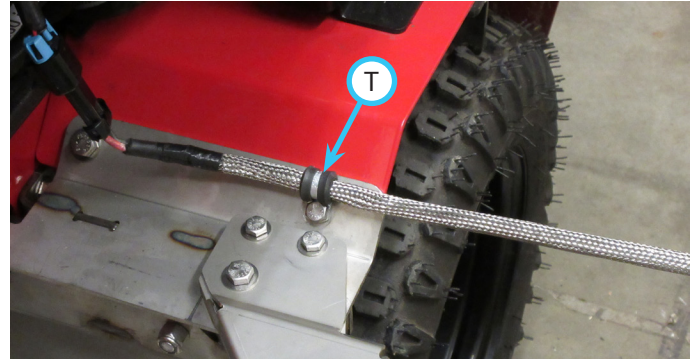
28. Locate the 2 position female connector (R) with a red wire (labelled A-121) and a black wire (A-112) in the left upper frame area of the power unit and connect to the male connector on the spreader wire harness.



29. Connect the power cord from the controller to the 5 position connector (S) on the spreader wire harness.

30. Lift up on the hopper latch and pull the spreader hopper out until it contacts the stops.

31. Place the 3/8 inch cushioned clamp (T) over the motor power cord and secure to the rear roller frame and the rear fender using a 1/4 x 3/4 inch bolt and flange nut.



32. Use plastic zip ties to fasten the spreader wire harness and the controller power cord away from the engine. There is a hole in the frame post that the wire bundle can be secured to with a zip tie.

33. Install the 10 amp fuse into the fuse panel. Refer to the label on the inside of the right door to determine the correct fuse position.

34. Reset the battery disconnect switch.

Installation is complete.

OPERATIONAL CONTROLS

Motor Controller

The motor controller turns the spreader motor on and off and adjusts the motor speed.



- 1. Power Button
- 2. Slow Speed Button
- 3. Fast Speed Button
- 4. Speed Burst Button
- 5. Motor Speed Indicator Lights

Power Button

The power button (1) turns on the controller and the motor. Pressing the power button once will turn on the controller and the indicator lights will blink to show the motor speed setting and to indicate the motor is not running. Pressing the power button a second time will turn on the spreader motor and the indicator lights will change to display the motor speed setting in solid lights.

When the motor is running, pressing the power button once will shut off the spreader motor without turning off the controller. Pressing the power button again will restart the spreader motor.

Press and hold the power button to shut off the controller.

Slow Speed Button

The slow speed button (2) decreases the motor speed by one setting each time the button is pushed.

Fast Speed Button

The fast speed button (3) increases the motor speed by one setting each time the button is pushed.

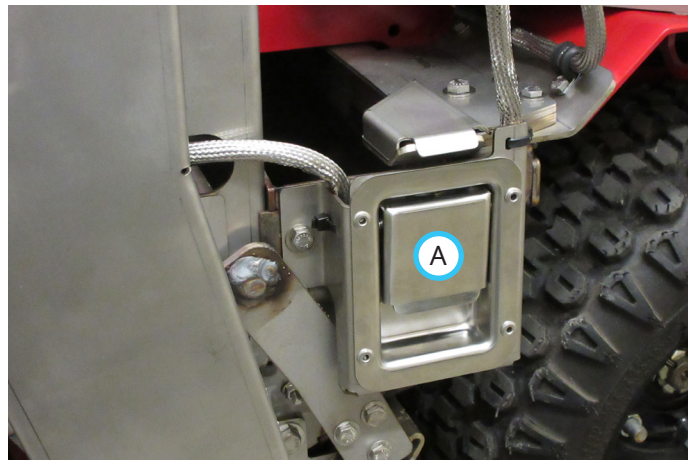
Speed Burst Button

The speed burst button (4) activates the maximum speed for as long as the button is pushed. When the speed burst button is released, the controller will return to the previously selected speed setting.

Motor Speed Indicator Lights

The motor speed indicator lights display the selected motor speed when the controller is turned on. When the motor is running, the speed setting will be displayed with solid lights. When the motor is not running, the speed setting will be displayed with blinking lights.

Hopper Latch



The hopper latch secures the hopper in the power unit during operation. Lift up on the latch handle (A) to disengage the latch so you can slide the hopper out of the power unit when filling the hopper with material. When sliding the hopper back into the power unit, check to make sure the latch is engaged before returning to operation.

GENERAL OPERATION

Daily Inspection

WARNING

Always engage the parking brake, shut off the power unit engine, remove the ignition key, and ensure that all moving parts have come to a complete stop before inspecting the components, or attempting any repair or adjustment.

1. Park the machine on a level surface, with the engine shut off and all fluids cold.
2. Perform a visual inspection of both the power unit and the attachment. Look for loose or missing hardware, damaged components, or signs of wear.
3. Check to ensure that nothing is jammed in the hopper and no foreign materials are present.

Spreader Loading

WARNING

Always turn off the spreader controller before filling the hopper with material.

ATTENTION

Do not overload the spreader or power unit. Use the chart below to calculate the weight of the materials. The weights of the materials listed are an average for dry materials.

Material	Weight per Cubic Foot
Rock Salt	75-85 pounds (34-38.5 kg)
Sand/Salt Mix	95-120 pounds (43-54.5 kg)
Maximum Spreader Capacity	
Volume	Weight
1.3 ft ³ (.037 m ³)	100 pounds (45.5 kg)

1. Park the power unit on a level surface and turn off the spreader controller.
2. Engage the parking brake, shut off the engine, and remove the ignition key.
3. Lift up on the hopper latch and pull the spreader hopper out until it contacts the stops.
4. Pour or shovel the proper amount of ice melt material into the spreader hopper.
5. Push the spreader hopper back into the power unit until the latch engages to lock the spreader hopper in place.

Spreader Operation

Before operation, perform the daily inspection.

Move the machine into position. Press the power button to turn on the spreader controller. Adjust the speed to the desired position and press the power button to start the spreader motor. Drive forward following the sidewalk or other treatment area. When the end of the treatment area is reached, stop the machine and press the power button on the controller to stop the spreader motor.

The spreader motor speed can be adjusted at any time by pressing the slow speed or fast speed buttons. The speed of the power unit, the type of material being used, the moisture content of the material, and the desired application rate will determine the necessary motor speed.

ATTENTION

Never leave materials in the hopper for long periods of time, as ice melt products are hygroscopic and will attract atmospheric moisture and harden.

When spreading is complete, empty spreader hopper to prevent the ice melt material from hardening or forming clumps inside the hopper.

GENERAL OPERATION

Application Rates

Use of excessive amounts of ice melt products increases the cost of treatment and could harm vegetation due to run off of the materials. For these reasons, it is best to use the minimum amount of material necessary to achieve the desired results.

Rate Chart pounds/minute (kg/minute)		
Material	Minimum Rate	Maximum Rate
Rock Salt (Bagged)	1.7 pounds/minute (0.7 kg/minute)	29 pounds/minute (13.2 kg/minute)

Rate Calculation

A = pounds per minute

S = speed (mph)

R = pounds per 1,000 square feet

The formula to calculate pounds per 1,000 square feet from measured pounds per minute is:

$$R = 4.55 \times \frac{A}{S}$$

The formula to calculate pounds per minute from desired pounds per 1,000 square feet is:

$$A = \frac{R \times S}{4.55}$$

SERVICE

⚠ WARNING

Always engage the parking brake, shut off the power unit engine, remove the ignition key, and ensure that all moving parts have come to a complete stop before inspecting the components, or attempting any repair or adjustment.

Before working on the spreader for any reason, turn off the spreader controller and unplug the spreader motor from the power supply.

When servicing is necessary, perform it in a protected area. Do not use power tools in rain or snow because of the danger of electrical shock or injury. Perform service in a well lighted area and keep the service area clean to help prevent accidents.

ATTENTION

The controller is an electronic unit and is not serviceable. Any attempt to service the controller will void the warranty.

If any component requires replacement, use only original Ventrac replacement parts.

To prevent thread galling, hand tools and a thread lubricant are recommended when tightening stainless steel fasteners. Do not use air or electric power tools as this increases the risk of thread galling.

Cleaning and General Maintenance

The spreader is constructed of stainless steel panels, along with the majority of the components and hardware, to prevent corrosion from salt. Dirt and salt deposits can affect the performance of the spreader. For best results and performance, remove any ice or snow accumulations from the spreader and clean or wash the spreader to prevent accumulations of dirt, sand, and salt.

ATTENTION

To maintain the finish of the power unit and attachment, thoroughly wash the equipment after each use to remove any corrosive agents (e.g., salt). Failure to clean the equipment may result in corrosion of (including but not limited to) steel, aluminum, and electrical components. Equipment that will experience repeated exposure to corrosive agents should be pretreated with a corrosion preventative.

Drive Chain Lubrication

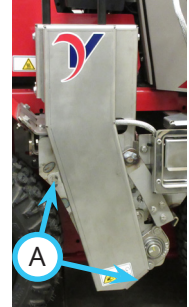
Apply chain oil to the drive chain and wipe up all drips and spills. Refer to the maintenance schedule for service intervals.

Hopper Latch Lubrication

Lubricate the hopper latch and the latch handle with a corrosion inhibiting spray lubricant.

Chain Cover Removal

1. Remove the two bolts (A) from the chain cover.
2. Lift up on the chain cover until the tabs clear the frame material.
3. Slide the tabs out of the slots in the frame to remove from the spreader.



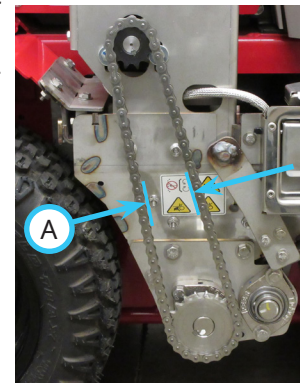
Chain Cover Installation

1. Insert the tabs on the chain cover into the slots in the frame and push the chain cover down into place.
2. Fasten with the two bolts, washers, and flange nuts. Torque to 8 Nm (67 in-lbs).

Chain Tension Inspection

1. Turn on the spreader motor and allow to run for 10 - 20 seconds.
2. Turn off the spreader motor and unplug the spreader from the power supply.
3. Remove the chain cover from the spreader.
4. Apply pressure to the inner strand of chain, halfway between the motor sprocket and the rotor sprocket. Proper chain deflection should be 6 - 12 mm (1/4 - 1/2 inch).

NOTE: measure the distance (A) between the two chain strands with and without pressure applied to determine the amount of chain deflection.

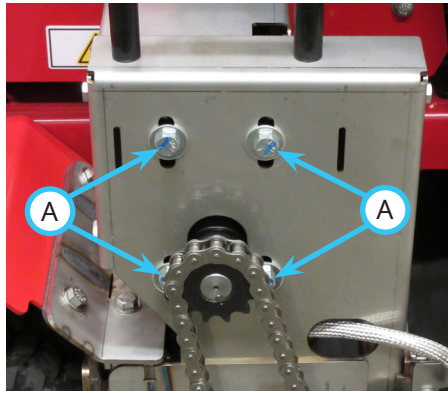


5. If the chain tension needs adjusted, proceed to the following section of chain tension adjustment. If the chain tension is correct, reinstall the chain cover and reconnect the spreader to the power supply.

SERVICE

Chain Tension Adjustment

1. Loosen the four motor mount bolts (A) and slide the motor up or down in the slots to increase or decrease the chain tension.
2. Tighten the motor mount bolts to secure the motor in position.
3. Reconnect the spreader to the spreader supply and run the spreader for 20 - 30 seconds.
4. Unplug the spreader from the power supply and recheck the chain tension.
5. When the chain tension is correct, reinstall the chain cover and reconnect the spreader to the power supply.



Motor Controller Troubleshooting

The motor controller is equipped with limit functions to prevent damage to the motor. If a limit function is activated, the controller will turn off power to the motor and will display the error by flashing the LED lights on the controller.

- 2 LEDs flashing = over current.
- 3 LEDs flashing = short circuit.
- 5 LEDs flashing = under voltage.
- 6 LEDs flashing = over voltage.
- 7 LEDs flashing = over temperature.
- 8 LEDs flashing = too many high current surges in 12 seconds.
- 9 LEDs flashing = two high current surges too close together.

Storage

Preparing the Attachment for Storage

1. Clean and wash the spreader and power unit.
2. Allow the spreader to dry, then apply a rust preventative coating to the drive chain sprockets.
3. Inspect for loose or missing hardware, damaged components, or signs of wear. Repair or replace any damaged or worn components.
4. Inspect the safety decals. Replace any decals that are faded, illegible, or missing.
5. Apply chain oil to the drive chain and wipe up any drips or spills.
6. Inspect the painted components for chips, scratches, or rust. Clean and touch up the surfaces as needed.

Removing the Attachment from Storage

1. Clean the spreader to remove any accumulated dust or debris.
2. If the spreader was removed from the power unit for storage, reinstall the spreader following the instructions in the setup instructions in this manual.
3. Inspect the spreader as instructed in the Daily Inspection section of this manual.
4. Test the spreader to ensure that all the components are working properly.

SERVICE

Maintenance Schedule

	# of locations	# of pumps	As Needed	Daily	At 50 hours	At 100 hours	At 150 hours	At 200 hours	At 250 hours	At 300 hours	At 350 hours	At 400 hours	At 450 hours	At 500 hours	At 550 hours	At 600 hours	At 650 hours	At 700 hours	At 750 hours	At 800 hours	At 850 hours	At 900 hours	At 950 hours	At 1,000 hours	Yearly
Grease and Lubrication: See Lubrication Section																									
Oil the Drive Chain					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lubricate the Hopper Latch					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Inspection																									
Inspect for Loose, Missing, or Worn Components				✓																					
Inspect the Safety Decals				✓																					
Inspect the Drive Chain Tension					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Maintenance Checklist

	# of locations	# of pumps	As Needed	Daily	At 50 hours	At 100 hours	At 150 hours	At 200 hours	At 250 hours	At 300 hours	At 350 hours	At 400 hours	At 450 hours	At 500 hours	At 550 hours	At 600 hours	At 650 hours	At 700 hours	At 750 hours	At 800 hours	At 850 hours	At 900 hours	At 950 hours	At 1,000 hours	Yearly
Grease and Lubrication: See Lubrication Section																									
Oil the Drive Chain																									
Lubricate the Hopper Latch																									
Inspection																									
Inspect for Loose, Missing, or Worn Components																									
Inspect the Safety Decals																									
Inspect the Drive Chain Tension																									

SPECIFICATIONS

Dimensions

Overall Height	61 cm (24 inches)
Overall Length	43.2 cm (17 inches)
Overall Width	89 cm (35 inches)
Weight	56.7 kg (125 pounds)
Drop Width	73.7 cm (29 inches)
Material Capacity (Volume)	0.037 m ³ (1.3 ft ³)
Material Capacity (Weight)	45.4 kg (100 pounds)

Technical Information

System

Voltage	12 volt DC
Amperage	up to 10 amps
Temperature Range	-29° to 10° C (-20° to 50° F)

Motor

Type	Permanent Magnet
Lubrication	Sealed with Lifetime Grease

Features

- Stainless steel construction
- Slide out spreader hopper
- Precision drop rate control for increased salt savings and consistent drop patterns
- Compression roller system
- Easy flow adjustments
- Low maintenance design
- 12 volt electric drive/transmission
- The ability to spread coarse materials such as bulk salt and sand/salt mixtures, as well as free flowing materials such as pelletized material and calcium flakes.

Visit ventrac.com/manuals
for the latest version of this operator's manual.
A downloadable parts manual is also available.

