

Operator's Manual

KV552

V-Blade





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Orrville, OH 44667
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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: _____

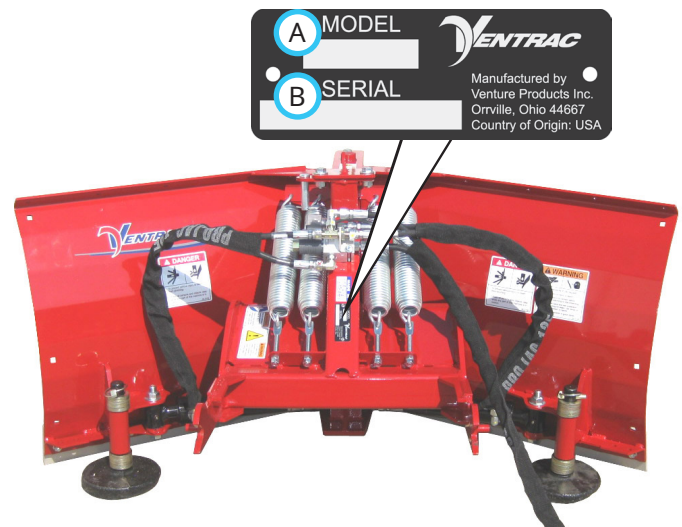
Dealer Address: _____

Dealer Phone Number: _____

Dealer Fax Number: _____

Model # (A): _____

Serial # (B): _____



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INTRODUCTION



Ventrac Products Inc. is pleased to provide you with your new Ventrac KV552 V-blade! We hope that Ventrac equipment will provide you with a ONE Tractor Solution.

Please visit our website, or contact your authorized Ventrac dealer for a complete list of items available for your new KV552 V-blade.

	Item Description	Part Number
Accessories	Snow Containment Belt Kit	70.8044
	6 inch Extension with 6 inch Top Flare Kit	70.8046
	6 inch Straight Edge Extension Kit	70.8047
	Polyurethane Cutting Edge Kit	70.8048

Product Description

The KV552 V-blade is designed for the sole purpose of snow removal and moving loose materials. The KV552 V-blade is an excellent tool for snow removal with all the capabilities of a conventional blade, plus the added versatility of sweeping both wings back for single pass clearing of sidewalks or sweeping both wings forward to clear large areas without the need for repeated cleanup passes.

Each blade wing can be angled forward or backward 30 degrees using the power unit's secondary SDLA lever. The angle of each wing is controlled independently with a 12 volt electro-hydraulic valve activated by a switch on the power unit. The power unit must be equipped with a 12 volt front plug kit*.

*Check with your Ventrac dealer or the Ventrac website to find the correct kit for your power unit.

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 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.
- 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.
- Always wear a seat belt if the machine has a roll cage/bar installed and in the upright position.

SAFETY



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



- 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.
- 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.
- If equipped with a high/low range feature, never shift between high and low range while on a slope. Always move the machine to level ground and engage the parking brake before shifting range.
- 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.

SAFETY



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



- 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.

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.
- If the power unit is equipped with a fold down roll bar, it must be locked in the upright position when operating on any slope.
- Use low range (if equipped) when operating on slopes greater than 15 degrees.
- Do not stop or start suddenly when operating on slopes.
- Never shift between high and low range while on a slope. Always move the power unit to level ground and engage the parking brake before shifting range or placing the power unit in neutral.
- 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.
- Pulling loads on hills decreases safety. It is the responsibility of the owner/operator to determine loads that can safely be controlled 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.
- Ensure a sufficient supply of fuel for continuous operation. A minimum of one-half tank of fuel is recommended.

SAFETY



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



Roadway Safety

- Operate with safety lights when operating on or near roadways.
- Obey all state and local laws concerning operation on 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.
- If there is any doubt of safety conditions, discontinue the machine operation until a time when the operation can be performed safely.
- When operating near or on roadways, have a Slow Moving Vehicle Emblem clearly displayed.

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.
- If equipped, 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.
- 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.

SAFETY



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



- 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.
- 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.

SAFETY



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



- 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



KV552 Safety Procedures



- Always block up the V-blade securely when adjusting the skid shoes.
- Operator's should be familiar with the area they are clearing and make preparations ahead of time. Place guide stakes appropriately and remove stones, markers, or other debris that may be hidden after a snow-fall. Curbs, offsets, steps, man hole covers, broken or raised pavement, etc. should be noted. Operators should map areas to be cleared before the winter season so they can review potential hazards prior to clearing snow in the area.
- If an area is to be cleared that is unfamiliar to the operator, travel slowly and use extreme caution. Inquire of anyone who might know of potential hazards.
- Never travel at speeds that would cause injury to the operator or damage to the machine if the machine were to be stopped suddenly by an unseen, immovable object.
- Always operate the blade with the safety trip mechanism in the unlocked position, unless digging in dirt at very low speeds.
- Ensure that there are no objects between the back of the blade wings and the power unit. When the wings are folded or swept back, objects may be crushed between blade wing and power unit.
- The operator should never proceed if visibility is poor. If the power unit is equipped with a cab, the windshield must be kept clean.
- Use caution when operating around objects that can obstruct your vision.
- The attachment hydraulic system may contain stored energy. Before performing maintenance or repairs on the hydraulic system, the attachment's auxiliary hydraulic hoses must be disconnected from the power unit. Lower the attachment to the ground, shut off the power unit's engine, move the secondary SDLA lever left and right to relieve auxiliary hydraulic pressure, and disconnect the auxiliary hydraulic quick couplers.

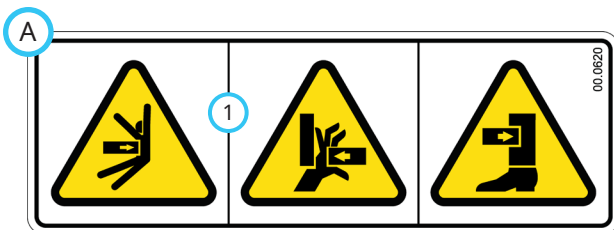
SAFETY

Safety Decals

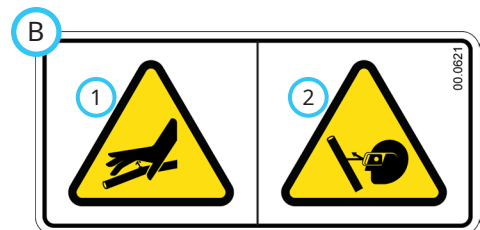
The following safety decals must be maintained on your attachment.

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. Pinching or crushing hazard.

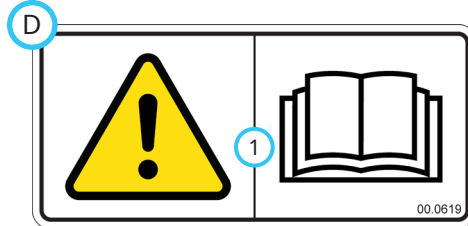


1. Keep your body and hands away from suspected hydraulic leaks.
2. Wear eye protection when inspecting the hydraulic system for leaks.

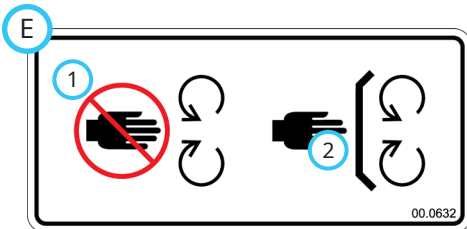
SAFETY



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



1. Read the operator's manual.



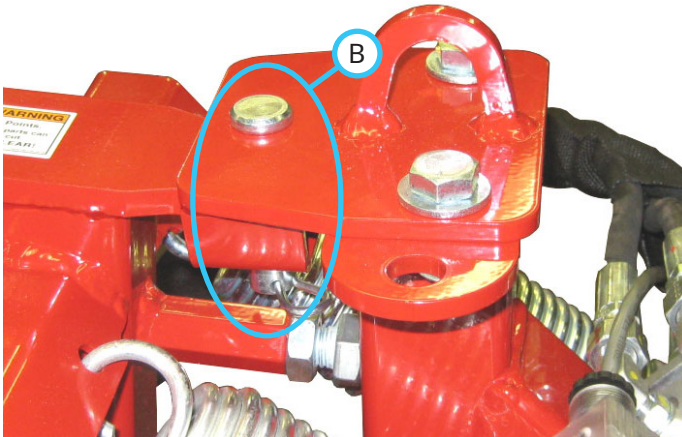
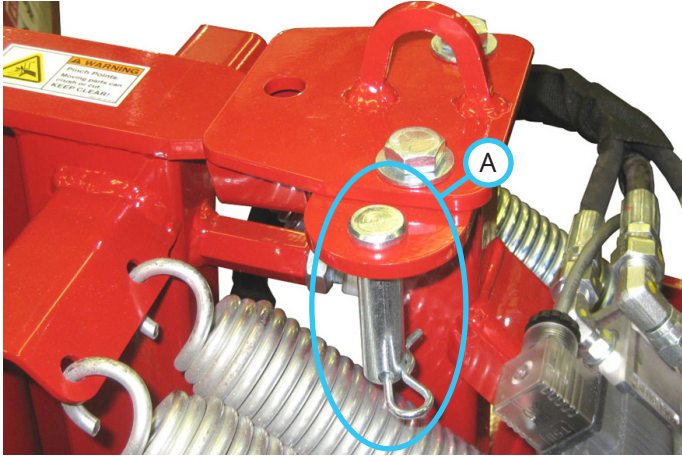
1. Stay away from moving parts.
2. Keep all guards and shields in place.

Decal	Description	Part Number	Quantity
A	Pinching or Crushing Hazard	00.0620	2
B	High Pressure Fluid Hazard	00.0621	1
C	Pinch Point Hazard	00.0364	1
D	Read Operator's Manual	00.0619	1
E	Moving Parts Hazard	00.0632	1

OPERATIONAL CONTROLS

Blade Trip Control

The blade trip control allows the blade to be locked to the frame with a pin or unlocked which allows the blade to trip when the blade hits an immovable object. The unlocked position (A) helps prevent sudden stops caused when contact is made with sidewalk joints, rocks, or other immovable objects. The unlocked position should always be used for snow removal.



For heavy dozing, the pin can be installed in the lockout hole (B) to lock the blade trip mechanism. This position should only be used for digging or scraping at very slow speeds.

CAUTION

The V-blade will not trip with the pin in the locked position. Power with 2 speed transaxles must be operated in low range. The machine must be operated at very slow speed to prevent personal injury or damage to the machine if an immovable object is struck.

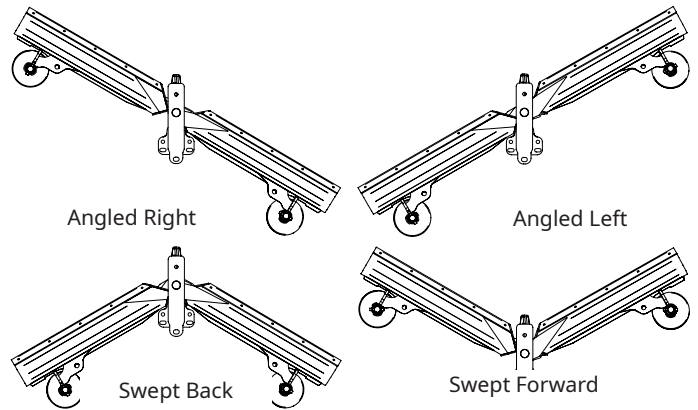
Blade Wing Angle Adjustment

The secondary SDLA lever* on the power unit controls the angle of the blade wings. The blade wings can be angled independently from 30° forward to 30° backwards. The blade can be angled right and left, swept back, and swept forward.

WARNING

Angling the blade wings to the swept back position creates a pinching or crushing hazard between the blade wing and the power unit.

Ensure the area is clear before angling the blade wing to the rear.



Angle the blade wings to the right or the left to push material to that side. Sweep the blade wings back to push material to both sides for single pass clearing of sidewalks or paths. Sweep both blade wings forward to clear areas without the need for repeated cleanup passes.

Blade Wing Selection

The 12 volt on/off switch* on the power unit is used to control the 12 volt solenoid valve. The valve controls the selection of the left and right blade wings.

*Refer to power unit operator's manual for operation of power unit controls.

GENERAL OPERATION

Daily Inspection

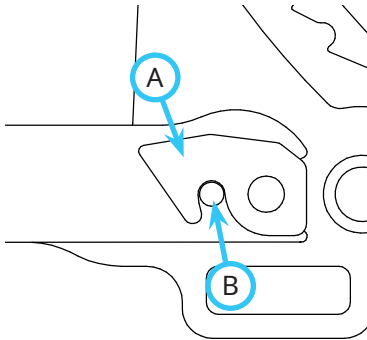
⚠ WARNING

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. Inspect the hydraulic hoses and the hydraulic fittings to ensure tight, leak free connections.
4. Inspect the cutting edges and skid shoes for wear and service as required.

Attaching

1. Drive the power unit slowly forward into the hitch arms of the attachment. Align the lift arms of the power unit with the attachment hitch arms by raising or lowering the front hitch and complete the engagement.
2. Once completely engaged, move the front hitch latch lever* to the locked position. The latch (A) must lock over the attachment's hitch arm pin (B).
3. Engage the parking brake* and shut off the engine.
4. Wipe the hose ends clean and connect to the power unit's hydraulic quick couplers. If equipped, connect the hoses and the quick couplers so the colored indicators are paired together (red to red, etc.).
5. Connect the electric plug to the power unit.



Detaching

1. Park the power unit on a level surface and engage the parking brake.*
2. Angle both blade wings to the swept back position and lower the attachment to the ground.
3. Shut off the power unit engine.
4. Disconnect the hydraulic quick couplers from the power unit and lay the hoses across the blade frame. Do not allow the hose ends to lay in dirt or snow.
5. Disconnect the electric plug from the power unit.
6. Disengage the front hitch locking lever.*
7. Restart the power unit and slowly back away from the attachment. A side to side movement of the steering wheel may aid in disengagement.

Operating Procedure

Before operation, perform the daily inspection and verify the skid shoes are set at the desired position.

If weight transfer is used, set the weight transfer so the blade will lower to the ground in the float position.

If power unit is equipped with a 2 speed transaxle, shift the power unit into low range.

Use the 12 volt switch on the power unit to select the desired blade wing and move the secondary SDLA lever to the left or right to angle the blade wing.

Move the machine into position and lower the V-blade to the ground.

If the skid shoes are used to determine the depth of the blade, place the power unit's primary SDLA lever in the float position by pushing it to the right until the detent engages. The lever will stay in this position until intentionally removed.

If you are digging or cleaning a hard surface, slight down pressure may be used.

⚠ CAUTION

Using down pressure on the V-blade may reduce the power unit's steering ability. Use only slight down pressure when necessary.

Push the power unit's primary SDLA lever to the right until there is slight down pressure on the blade and then release.

*Refer to power unit operator's manual for operation of power unit controls.

GENERAL OPERATION

Drive forward slowly while keeping a close watch for potential hazards.

⚠️ WARNING

Sudden deceleration caused by large amounts of material or hidden objects may cause injury to the operator and/or damage to the machine.
Do not push or ram materials at high speeds.

When using the V-blade to dig, take shallow cuts and drive slowly.

Back dragging may be used to spread loose material, resulting in a smooth finish. After spreading material over the working area, back the power unit over the area while dragging the blade to smooth and level the material.

Transport of the Attachment

Transport the attachment with the power unit front hitch and attachment fully raised to reduce wear of the equipment. Travel slowly when transporting over undulating and rough surfaces to maintain control of the power unit and to reduce the shock to the power unit and the attachment.

Resetting the Blade Safety Trip

⚠️ WARNING

When the V-blade safety trip is activated, the blade may suddenly return to the operating position causing personal injury from pinching.

When the V-blade safety trip is activated, do not leave the power unit seat or attempt to manually reset the blade.

If the V-blade safety trip is activated but does not reset itself, do not attempt to raise the V-blade. Slowly back away from the obstacle. The blade will return to the operating position when it is moved away from the obstacle on which it is caught.

Skid Shoe Adjustment

Skid shoes are provided to keep the cutting edge off the surface to be cleared, especially when clearing snow from gravel driveways or roadways.

The skid shoe height is determined by the placement of spacer washers between the skid shoe and the skid shoe mount. Extra spacer washers are stored on top of the skid shoe mount.

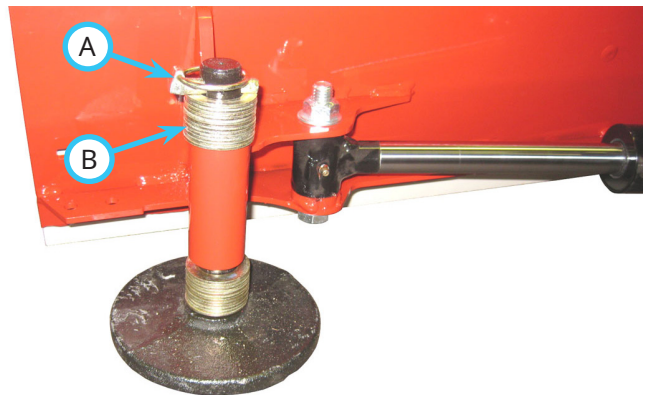
1. Determine the number of spacer washers that need to be moved to reach the desired skid shoe height.

⚠️ WARNING

Hydraulic drift or accidental release of hydraulic pressure could allow the V-blade to lower and trap a person or appendage.

When making adjustments with the V-blade in the raised position, support the V-blade securely with blocks or jack stands under the cutting edge.

2. Raise the V-blade to the highest position and adjust the blade wing angle until both wings are perpendicular to the power unit. Support the V-blade securely with blocks or jack stands.
3. Remove the lynch pin (A) and the spacer washers (B) from the top of the skid shoe mount.



4. Remove the skid shoe from the bottom of the skid shoe mount. Add or remove spacer washers to reach the desired skid shoe height and insert the skid shoe into the skid shoe mount. Place any extra spacer washers on top of the skid shoe mount and fasten the skid shoe in place with the lynch pin. Both the right and left skid shoes should be set at the same height.
5. Remove the blocks or jack stands and lower the V-blade to the ground.

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.

ATTENTION

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

Cleaning and General Maintenance

For best results and to maintain the finish of the V-blade, clean or wash the V-blade to remove dirt, gravel, and salt deposits. Remove any ice or snow accumulations from the blade and frame.

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.

Cutting Edge Reversal/Replacement

If the cutting edges wear down near the blade frame structure, remove the cutting edges and flip over so the unworn top edge is now on the bottom. Reinstall the cutting edges onto the V-blade. When both sides of the cutting edges have been worn down, the cutting edges will need to be replaced. Always reverse or replace both cutting edges at the same time.

NOTE: It is normal for the forward edge of the cutting edges to wear faster than the rest of the cutting edge if the V-blade is used extensively in the swept forward position or in the left and right angled positions. To help minimize this effect, make sure the blade is level from side to side and that the skid shoes are adjusted properly.

Skid Shoe Replacement

Skid shoes should be replaced when wear surface is less than 3 mm (1/8 inch) thick.

Levelling the Blade - Side to Side

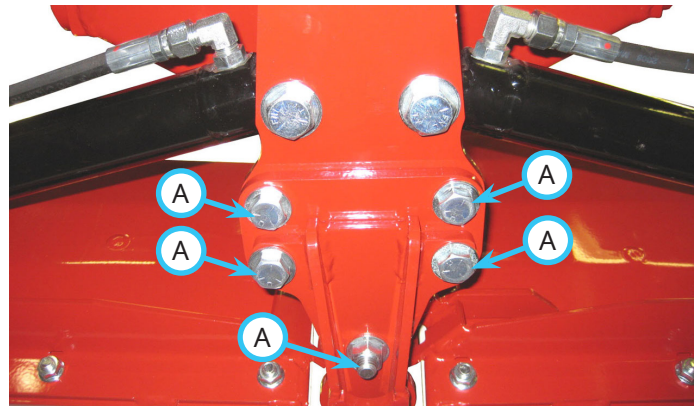
1. Make sure the power unit tires are inflated to the correct pressure.
2. With the V-blade attached to the power unit and the power unit parked on a level surface, adjust both wings until they are straight out perpendicular to the power unit.
3. Disengage the power unit's weight transfer system (if equipped).
4. Lower the V-blade to the ground and place the power unit's primary SDLA lever in the float position by pushing it to the right until the detent engages.
5. Check to see if the cutting edges are making even contact with the ground. If they are not making even contact, raise the blade all the way up and support securely with blocks or jack stands.

⚠ WARNING

Hydraulic drift or accidental release of hydraulic pressure could allow the V-blade to lower and trap a person or appendage.

When making adjustments with the V-blade in the raised position, support the V-blade securely with blocks or jack stands under the cutting edge.

6. Loosen the five 1/2 bolts (A) that fasten the center frame to the center hinge shaft and the center skid shoe.



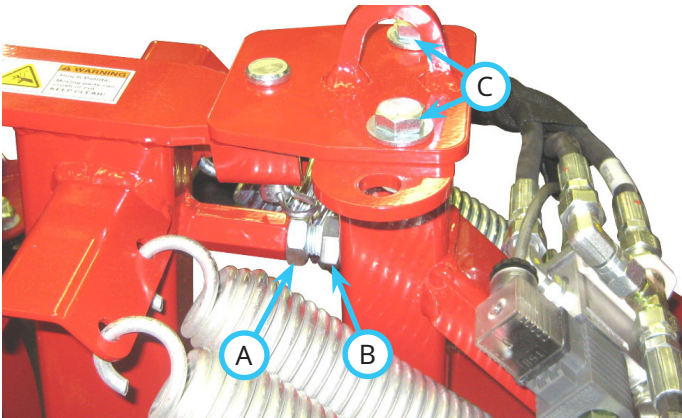
7. Sliding the center frame left or right in relationship to the center hinge shaft will raise or lower the outside corners of the blade wings. Moving the bottom to the right will raise the right side of the blade and lower the left side and moving it to the left will do the opposite. It may be helpful to use a jack or hoist to lift the appropriate side of the blade and then tighten the 1/2 inch bolts.

SERVICE

- Repeat steps 4 and 5. If blade is still not level, repeat steps 6 and 7.
- When the blade is level, tighten the five 1/2 inch bolts to 108 Nm (80 ft-lbs).

Levelling the Blade - Front to Rear

- Make sure the blade is level from side to side.
- With the V-blade attached to the power unit and the power unit parked on a level surface, adjust both wings back into the swept back position.
- Disengage the power unit's weight transfer system (if equipped).
- Lower the V-blade to the ground and place the power unit's primary SDLA lever in the float position by pushing it to the right until the detent engages.
- Check to see if the cutting edges are making even contact with the ground. If they are not making even contact, loosen the jam nut (A) on the adjusting bolt (B). NOTE: if the blade trip control pin is in the locked position as shown below, it must be removed prior to leveling the blade.



- Turn the adjusting bolt in to lower the outside corners of the blades and turn the adjusting bolt out to lower the front point of the blade.
- When the cutting edges are making even contact with the ground, tighten the jam nut to 136 Nm (100 ft-lbs).
- Loosen the two bolts (C) holding the lockout plate to the hitch frame and slide the plate in the mounting slots until the lockout hole is aligned with the hole in the hitch frame. Use the lockout pin to make sure the holes are aligned and the lockout pin can be installed.
- Tighten the two bolts to 108 Nm (80 ft-lbs).

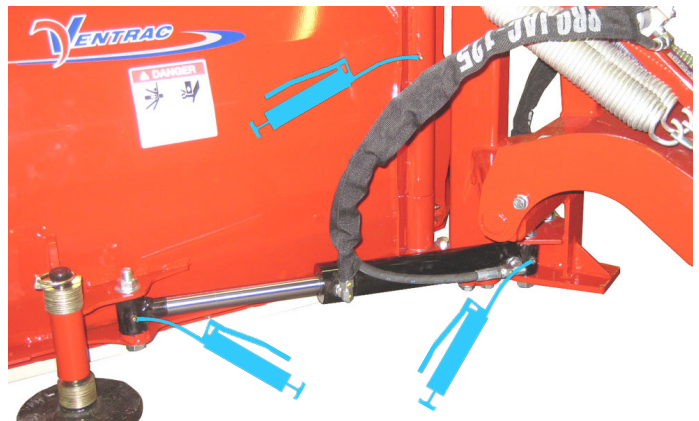
Lubrication Locations

Lubrication is required at the following locations using a lithium complex NLGI #2 grease.

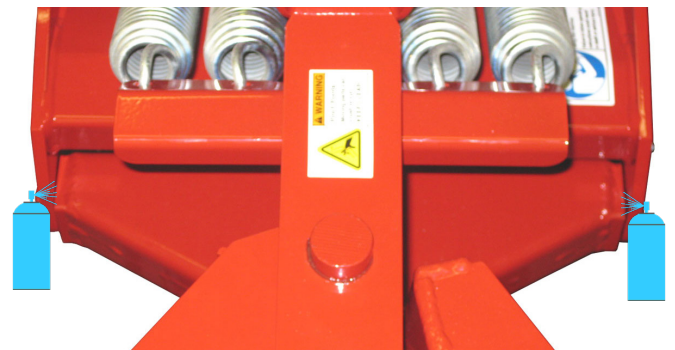
Wipe the grease fittings clean before applying grease to the grease fittings.

Refer to the maintenance schedule for service intervals and the amount of grease.

Grease the cylinder ends and the center hinge shaft.



Lubricate the trip/pivot shaft using a spray lubricant.



SERVICE

Storage

Preparing the Attachment for Storage

1. Clean the V-blade.
2. Inspect for loose or missing hardware, damaged components, or signs of wear. Repair or replace any damaged or worn components.
3. Inspect the cutting edges and skid shoes for wear and service as required.
4. Inspect the safety decals. Replace any decals that are faded, illegible, or missing.
5. Lubricate the V-blade as instructed in the Lubrication Locations section. Wipe off any excess grease.
6. Inspect the painted components for chips, scratches, or rust. Clean and touch up the surfaces as needed.
7. Adjust the blade wings to the swept back position before detaching for storage.

Removing the Attachment from Storage

1. Clean the attachment to remove any accumulated dust or debris.
2. Inspect the attachment as instructed in the Daily Inspection section of this manual.
3. Test the attachment 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																									
Cylinder Ends	4	^	**		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Center Hinge Shaft	3	^	**		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Trip/Pivot Shaft - Spray Lube	2	-	**		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Inspection																									
Inspect for Loose, Missing, or Worn Components				✓																					
Inspect the Cutting Edges, Skid Shoes, and Center Runner Skid Shoe				✓																					
Inspect the Hydraulic Hoses and Fittings				✓																					
Inspect the Safety Decals				✓																					
^Grease until fresh grease is visible.																									
**Operation in severe conditions may require more frequent service intervals.																									

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																									
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^Grease until fresh grease is visible.																									
**Operation in severe conditions may require more frequent service intervals.																									

SPECIFICATIONS

Dimensions

Overall Height	60.9 cm (24 inches)
Overall Length	91.5 cm (36 inches)
Overall Width	139.7 cm (55 inches)
Width with the Blade Wings Swept Forward	123.2 cm (48-1/2 inches)
Width with the Blade Wings Swept Back.	121.9 cm (48 inches)
Weight	122.5 kg (270 pounds)
Blade Wing Angle - Forward and Backward	30 degrees

Features

- Independent right and left blade movement is controlled by separate cylinders
- Electric solenoid to select the right or the left blade
- Adjustable skid shoes
- Spring controlled blade safety trip mechanism
- Blade safety trip lockout for pushing dirt
- Reversible and replaceable cutting edges

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

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WARRANTY



LIMITED WARRANTY - VENTRAC COMMERCIAL EQUIPMENT

Venture Products, Inc., (henceforth referred to as V.P.I.) warrants on the terms and conditions herein, that it will repair, replace, or adjust any part manufactured by Venture Products Inc., and found by Venture Products, Inc., to be defective in material and/or workmanship during the applicable warranty term.

All Ventrac commercial equipment purchased and registered on or after January 1, 2019 will carry a 2-year commercial warranty. The warranty period begins on the date of the original customer purchase:

Ventrac Commercial Equipment	Warranty Term
2100 SSV & Attachments	2-year
3000 Series Tractors & Attachments	2-year
4000 Series Tractors & Attachments	2-year

All Ventrac add-on kits and accessories such as: 3-point hitch, 12V front & rear power outlets, foot pedal, dual wheel kit, etc., will be covered under the above warranty periods provided they are installed by an Authorized Ventrac Dealer. This warranty may be transferred and will carry the remainder of the warranty starting from the original purchase/registration date with the dealership and/or V.P.I.

The engine warranty is covered by its respective engine manufacturer. Please refer to the engine manufacturer's warranty statement that is included in the owner's manual.

For warranty consideration on Ventrac commercial equipment, the equipment, including any defective part, must be returned to an Authorized Ventrac Dealer within the warranty period. The warranty shall extend to the cost to repair or replace (as determined by V.P.I.) the defective part. The expense of pickup and delivery of the equipment, the service call drive time or any transportation expense incurred for the warranty repair is the sole responsibility of the owner and is not covered under warranty by Ventrac and/or V.P.I. Ventrac and V.P.I.'s responsibility in respect to claims is limited to making the required repairs or replacements, and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Ventrac equipment. Proof of purchase may be required by the dealer to substantiate any warranty claim. Only warranty work performed and submitted by an Authorized Ventrac Dealer may be eligible for warranty credit.

This warranty extends only to Ventrac commercial equipment operated under normal conditions and properly serviced and maintained. The warranty expressly does NOT cover: (a) any defects, damage or deterioration due to normal use, wear and tear, or exposure; (b) normal maintenance services, such as cleaning, lubrication, oil change; (c) replacement of service items, such as oil, lubricants, spark plugs, belts, rubber hoses, bearings or other items subject to normal service replacement; (d) damage or defects arising out of, or relating to abuse, misuse, neglect, alteration, negligence or accident; (e) repair or replacement arising from operation of, or use of the equipment which is not in accordance with the operating instructions as specified in the operator's manual or other operational instructions provided by V.P.I.; (f) repair or replacement arising as a result of any operation from Ventrac equipment that has been altered or modified so as to, in the determination of V.P.I., adversely affect the operation, performance or durability of the equipment or that has altered, modified or affected the equipment so as to change the intended use of the product; (g) repair or replacement necessitated by the use of parts, accessories or supplies, including gasoline, oil or lubricants, incompatible with the equipment or other than as recommended in the operator's manual or other operational instructions provided by V.P.I.; (h) repairs or

WARRANTY



LIMITED WARRANTY - VENTRAC COMMERCIAL EQUIPMENT

replacements resulting from parts or accessories which have adversely affected the operation, performance or durability of the equipment; or (i) damage or defects due to or arising out of repair of the Ventrac equipment by a person or persons other than an authorized Ventrac service dealer or the installation of parts other than genuine Ventrac parts or Ventrac recommended parts.

The sole liability of V.P.I. with respect to this warranty shall be the repair and replacement as set forth herein. V.P.I. shall have no liability for any other cost, loss, or damage. In particular V.P.I shall have no liability or responsibility for: (i) expenses relating to gasoline, oil, or lubricants; (ii) loss, cost or expense relating to transportation or delivery of turf equipment from the location of the owner or the location where used by the owner to or from any Authorized Ventrac Dealer; (iii) travel time, overtime, after hours' time or other extraordinary repair charges or charge relating to repairs or replacements outside of normal business hours at the place of business of an Authorized Ventrac Dealer; (iv) rental of like or similar replacement equipment during the period of any warranty repair or replacement work; (v) any telephone or telegram charges; (vi) loss or damage to person or property other than that covered by the terms of this warranty; (vii) any claims for lost revenue, lost profit or additional cost or expense incurred as a result of a claim of breach of warranty; or (viii) attorney's fees.

The remedies of the buyer set forth herein are exclusive and are in lieu of all other remedies. The liability of V.P.I., whether in contract, tort, under any warranty, or otherwise, shall not extend beyond its obligation as set forth herein. V.P.I. shall not be liable for cost of removal or installation nor shall V.P.I. be responsible for any direct, indirect, special or consequential damages of any nature. In no event shall V.P.I. be liable for any sum in excess of the price received for the goods for which a liability is claimed.

There are no representations or warranties which have been authorized to the buyer of the Ventrac commercial equipment other than set forth in this warranty. Any and all statements or representations made by any seller of this equipment, including those set forth in any sales literature or made orally by any sales representative, are superseded by the terms of this warranty. Any affirmation of fact or promise made by V.P.I. or any of its representatives to the buyer which relates to the goods that are the subject to this warranty shall not be regarded as part of the basis of the bargain and shall not be deemed to create any express warranty that such goods shall conform to the affirmation or promise.

No employee, distributor, or representative is authorized to change the foregoing warranties in any way or grant any other warranty on behalf of V.P.I.

Some states do not allow limitations on how long an implied warranty lasts or allow the exclusion on limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This warranty applies to all Ventrac commercial equipment sold by Venture Products Inc.