



Orrville, OH www.ventrac.com

TO THE OWNER

Congratulations on the purchase of a new VENTRAC **KX520 Snow Thrower!** The purpose of this manual is to assist you in its safe and effective operation and maintenance.

With proper usage and care, the **Snow Thrower** will provide many years of service. Please read and understand this manual entirely before using the **Snow Thrower**. Keep this manual on file for future reference.

Always give Model and Serial # when ordering service parts.

Please fill in the following information for future reference:

Date of Purchase: Month	Day	Year	
Model Number:			
Serial Number:			
Dealer:			
Dealer Address:			
Dealer Phone Number:			
Dealer FAX Number:			

Venture Products Inc. reserves the right to make changes in design or specifications without incurring obligation to make like changes on previously manufactured products.

TABLE OF CONTENTS

INTRODUCTION	SECTION A
Description & Specifications	A-1
SAFETY	SECTION B
Safety Symbols Safety Symbols Decals Safety Procedures General Safety Procedures Safety Operation & Techniques	B-2 B-3
SETUP & OPERATION	SECTION C
Setup	C-3 C-3
MAINTENANCE/ADJUSTMENTS	SECTION D
Bearing LubricationGearbox LubricationBelt ReplacementGearboxChute AdjustmentGearbox	D-1 D-1

PARTS & ILLUSTRATED DRAWINGS

SECTION E

Main Frame & Auger Drive	& 2
Main Drive & Fan Drive	& 4
Chute & Hydraulics	& 6
Shields, Decals, & Cutting Edge	& 8

OPTIONAL PARTS & ILLUSTRATED DRAWINGS SECTION F

WARRANTY

iii

Product Description KX520 Snow Thrower

The Ventrac Model KX520 Snow Thrower is a powerful, high capacity, two-stage snow thrower. It combines an aggressive sixteen inch auger with a heavy duty, high speed fan to make a powerful and efficient snow removing attachment for the Ventrac 4000 series tractors.

The KX520 Snow Thrower features:

- a hydraulic motor that rotates the chute 220 degrees.
- a reversible, hardened cutting edge.
- a shock absorbing belt drive to protect the gearbox.
- quick attach mounting to the tractor.
- adjustable skid shoes.
- optional 12 volt actuator to control the chute deflector angle.

Ventrac KX520 Specifications

Overall Height
Overall Length
Overall Width
Weight
Auger Opening Width
Auger Diameter
Fan Diameter



ATTENTION:

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

SIGNAL WORD DEFINITIONS

A 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.

AWARNING

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

A 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.

SAFETY

The following decals must be maintained on your Ventrac Attachment. If any decals are faded or missing, contact your dealer promptly for replacements.



Decal	Page & Location	Description	Part Number
A	E-7, #5	Danger - Shield Missing	00.0062
В	E-7, #18	Moving Part Hazard	00.0101
С	E-7, #17	Thrown Object Hazard	00.0122
D	E-5, #34 (2)	Keep Hands and Feet Away	00.0123
E	E-7, #22	Serial Number Plate	N/A
F	E-7, #23 (2)	Danger Auger Hazard	00.0208



General Safety Procedures for Ventrac Tractors, Attachments, & Accessories



Read and understand the operator's manual before operating this equipment.

Observe and follow all safety decals.

DO NOT let children or any untrained person operate the tractor or attachment. Make sure that all operators of this equipment are thoroughly trained in using it safely.

Never allow additional riders on the tractor or attachments.

DO NOT operate tractor or attachments if you are under the influence of alcohol, drugs, medication that may impair judgment or cause drowsiness, or if you are not feeling well.

Operate all controls from the operators seat only.

Before operating equipment, make sure all shields are in place and fastened.

Ensure the attachment or accessory is locked or fastened securely to the tractor (power unit) before operating. See tractor manual for locking procedure.

Ensure that all bystanders are clear of the tractor and attachment before operating. Be especially careful and observant if other people are present. Never assume that bystanders will remain where you last saw them.

Always look in the direction the tractor is moving.

Never direct the discharge of any attachment in the direction of people, animals, buildings, vehicles, or objects of value.

Immediately stop at any sign of equipment failure and correct the problem before continuing to operate. An unusual noise can be a warning of equipment failure.

Before adjusting, cleaning, lubricating, or changing parts on the tractor or attachment, engage the parking brake, lower the attachment to the ground, stop the engine, and remove the ignition key.

To prevent the risk of uncontrolled equipment movement on tractors equipped with 2 speed axles, always shift the transaxle range with the power unit stationary on level ground and with the parking brake engaged.

If equipment is to be left unattended, engage the parking brake, lower the attachment to the ground, stop the engine, and remove the ignition key.

SAFETY

KX520 Safety Procedures

A WARNING

Before making any repairs or adjustments, lower attachment to the ground, set parking brake, shut the engine off, and remove the key.

AWARNING

Read and understand the operator's manual before operating this equipment.

The design and power used to move snow must be effective to break up snow and to throw it for relocation. This could make the snow thrower a lethal "weapon" when misused. Operators should be extremely careful never to direct the snow thrower or its discharge chute toward people or anything of value. Even snow discharged from the machine can be solid enough to cause serious injury. Frozen snow, ice, gravel, and other objects can be thrown at deadly speeds.

Operators should know the area being cleared and make preparations ahead of time. Place guide stakes appropriately, remove stones or markers of any kind that may be covered after a snowfall. Curbs, offsets, steps, manholes, broken pavement, etc. should be noted. Operators are encouraged to map the area(s) to be cleared before the winter season to remind the operator of potential hazards. 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.

The operator should never proceed if visibility is poor. If the tractor is equipped with a cab, the windshield must be kept clean. Wait for blinding snowstorms and squalls to subside, and discharge snow with the wind direction as much as possible. Discharging snow against the wind reduces the throwing distance and generally reduces visibility by creating a snowstorm effect.

Use extra care when you come to shrubs, trees, or other objects that may block your vision.

Shut off the PTO when you are not throwing snow.

Always stop the snow thrower and engage the parking brake before dismounting to change the angle of the end deflector. Never attempt to clean out the snow thrower, or adjust, repair, or maintain any part with the tractor running.

Always choose caution and safety over speed. Snow removal can be very important, even urgent, but one careless move can be far more serious.

When blowing snow, NEVER direct the chute at buildings or people. Debris can be thrown out causing damage or injury.

SETUP

<u>Step 1</u>

Bolt the chute support post to the Snow thrower using four $5/16 \times \frac{3}{4}$ bolts (See page E-5 of the parts manual for parts drawing) Route hoses thru the round hole on the right side of the snow thrower frame, Fig. 1



Figure 1

Figure 2

<u>Step 2</u>

Move the chute into place setting the base of the chute over the fan throat, while at the same time guiding the $\frac{1}{2}$ " bolt thru the hole of the chute support post and secure with a $\frac{1}{2}$ " flange nut, Fig. 2 & 3 NOTE: The chute extension must rotate freely after nut is tightened down.



Figure 3

Figure 4

<u>Step 3</u>

Loosen the bolts of the hydraulic motor mount plate (Fig. 4) and install the chain. Ensure that the connecting link comes up from the bottom with the cotter pins on top, fig. 5. Tighten the chain by sliding the motor away from the chute. The chain should have approximately $\frac{1}{4}$ " side movement. Re-tighten bolts. Install the cover over the hydraulic motor and secure with four (4) $\frac{1}{4}$ " bolts, Fig. 6.



Figure 5

Figure 6

The vertical cutting edges are designed to cut through deep snow. Depending on which way the cutting edges are installed, the cutting width can be changed from 52" - 54" wide. When the 3" side of the cutting edge is bolted to the Snow Thrower, it is a 52" cut. If the 4-3/4 side of the cutting edge is bolted to the Snow Thrower, it is a 54" cut.

NOTE:

The Figure on page E-7 in the parts manual, shows the cutting edges installed for a 52" cut. To install for a 54" cut, rotate each cutting edge 180°, do not exchange the right and left sides with each other. The left vertical cutting edge is the one that is bent to the greatest degree.

Operating Instructions

Attaching:

- 1. Drive the tractor forward slowly into the hitch arms of the snow thrower. Align the hitch arms with the snow thrower arms by raising or lowering the front hitch and complete the engagement.
- 2. Once completely engaged, close the front hitch latch.*
- 3. Shut off the tractor engine and engage the parking brake.
- 4. Place attachment belt over the outside groove of the PTO drive pulley on the tractor. Ensure the belt is properly seated in each pulley.
- 5. Engage the PTO spring tension lever.*
- 6. Wipe hose ends clean, and connect to the tractor's hydraulic quick couplers.
- 7. Connect the electric plug. (if equipped)
- 8. Engage the weight transfer system.*

Detaching:

- 1. Park the tractor on a level surface and set the parking brake.
- 2. Lower the snow thrower to the ground.
- 3. Shut off tractor engine.
- 4. Disconnect the hydraulic quick couplers. Do not allow the hoses and couplers to lay in the dirt and snow.
- 5. Disconnect the electric plug. (if equipped)
- 6. Disengage the PTO spring tension lever.*
- 7. Remove the attachment belt from the PTO drive pulley on the tractor.
- 8. Disengage the hitch latch.*
- 9. Restart the tractor and slowly back away from the snow thrower.

*Refer to tractor manual for operation of controls.

Operating Tips:

Shift the tractor transaxle to low range when operating the snow thrower.

CAUTION: Always shift transaxle range with the tractor parked on **LEVEL** ground. Never shift on a slope since all hydraulic braking capacity will be lost during the shifting process.

The tractor should be running at approximately 2000-2500 RPM before engaging the PTO.

Snow hides many obstacles. Always be prepared for the unexpected, like sudden stops or engaging a hidden object into the thrower.

Always direct the discharge chute toward open areas. Whenever possible, throw snow with the wind direction and not against it.

Maintenance

Grease the auger, jack-shaft, & blower shaft bearings every 25 hours. Do not over grease. Usually one or two pumps is sufficient. Additional lubrication may be required in extremely harsh or dirty conditions.

Check the gearbox every 100 hours or seasonally. If necessary, add 80-90 weight gear oil. Gearbox should be approximately half full.

Belt Replacement	Vent	ure Part#
PTO belt from the 4000 series tractor to the snow thrower	B50	81.B050
Auger drive belt (2)	B50	81.B050
Gearbox drive belt	B35	81.B035
Fan drive belt	B55	81.B055

Fan Drive Belt Replacement:

- 1. Release the belt tension springs for the gearbox drive and the fan drive belts.
- 2. Remove the four bolts (Figure 1) from the bracket which holds the rear blower shaft bearing.
- 3. Rotate the bracket as shown. (Figure 2)
- 4. Remove the gearbox drive belt. Remove old fan drive belt and install a new one. Reinstall the gearbox drive belt.
- 5. Rotate the bracket back into place and install the four bolts.
- 6. Reapply the belt tension springs for the gearbox drive and the fan drive belts.



Figure 1

Figure 2

Gearbox Drive Belt & Auger Drive Belt Replacement:

- 1. Release the belt tension spring and remove the old belt(s).
- 2. Install the new belt(s) and apply tension spring.

Adjustments

Spring Tension Adjustment:

The spring tension is adjustable for all the belts. This is to allow some belt slippage to protect the gearbox and drive components in the event an immovable object stops the auger or fan. At the factory, the spring is installed with a limited amount of tension. If required, the spring tension can be increased.

Chute Adjustment:

The discharge deflector can be hand adjusted to several different settings. Release the chute adjustment link by pulling to the side and move the deflector to the desired angle. Re-engage the link. With an optional electric actuator installed, the discharge deflector can be adjusted with a switch on the dash of the tractor.

Skid Shoe Adjustment:

Skid shoes are provided to keep the cutting edge off the surface to be cleaned, especially when clearing snow on gravel drives and roadways. To adjust the skid shoes, park the tractor and snow thrower on a level surface. Raise the thrower and set blocks of the desired height under the cutting edge. (Figure 3) Lower the snow thrower until it is resting on the blocks. Loosen the skid shoe mounting bolts and slide the skid shoes until they touch the ground. Re-tighten the mounting bolts. The skid shoes should always be adjusted to the same height.



Figure 3

ILLUSTRATED DRAWING MAIN FRAME & AUGER DRIVE



MAIN FRAME & AUGER DRIVE

REF.	PART NO.	DESCRIPTION	QTY.
2 3 4 5		3/8-16 x 1-1/2 BoltRubber Paddle ClampRubber Paddle3/8-16 Nylon Lock Nut	4 2 2 4
8 9 10 11	99.SF08	1-7/16 Flange Block Bearing	2 9 8 1
14 15 16 17	81.B050 </td <td>Single Torsion Spring</td> <td> 2 1 1 2</td>	Single Torsion Spring	2 1 1 2
20 21 22 23	99.SF06	5" Flat Idler Pulley	. 12 1 1 3
26 27 28 29	62.0989	1/4 NPT Breather Plug	1 2 1 1
32 33 34 35	83.BK80H	1/4-20 x 3/4 Bolt	1 1 2 4
38	60.0873	5/16-18 x 3/4 Flange Bolt	1



MAIN DRIVE & FAN DRIVE

REF.	PART NO.	DESCRIPTION	QTY.
2 3 4 5	90.0610	1-7/16 Q1 Bushing . . . Fan 1/4-20 Flange Nut 1/2-13 Flange Nut 	2 1 8 8
8 9 10 11		1/2 ID x 5/8 OD Bushing	4 1 2 5
14 15 16 17	99.SF05	3/8 SAE Flat Washer	4 4 2 1
20 21 22 23	99.SF0508	1/4 x 1 Key	2 1 1 4
27 28 29	40.0313	Fan Drive Idler Arm.	1 1 4
32 33 34 35	64.1085	3/8-16 Flange Nut	1 6 2 1
38 39 40	64.1099	3/8 x 1-1/4 KeyBearing Reinforcement PlateFan Spacer Bushing14 ga. x 1-1/2" Machine Washer10 ga. x 1-1/2" Machine Washer	2 1 quired

ILLUSTRATED DRAWING CHUTE & HYDRAULICS



CHUTE & HYDRAULICS

REF.	PART NO.	DESCRIPTION	QTY.
2 3 4 5	62.0992. . . 90.0506. . . 95.05. . . 05.0055. . . 99.A05 . . 62.0991. . .	5/16-18 x 3/4 Bolt	. 17 . 17 8 8
8 9 10 11	99.SF05	Chute Control Link	2 1 2 1
14 15 16 17	62.0990	1/2-13 x 2 Bolt	1 1 1 4
20 21 22 23	83.H409	3/16 x 5/8 Key	1 3 1 1
26 27 28 29	99.SF08	Hydraulic Motor. Hydraulic Motor. Hydraulic Male Quick Coupler Hydraulic Male Quick Coupler 1/4 NPT .025 Orifice Fitting. Hydraulic Hose Assembly - 1/4 x 78	1 2 1 2
32 33 34 35 36	81.0056-1	Hose Clamp	1 1 2 1 1





SHIELDS, DECALS, & CUTTING EDGE

REF.	PART NO.	DESCRIPTION	QTY.
2 3 4 5	97.0608	3/8-16 x 1 Carriage BoltCutting Edge3/8-16 Flange NutDecal. VentracDecal, Danger - Shield MissingAuger Drive Belt Cover	1 . 18 1 1
8 9 10 11	90.0406	1/4-20 x 3/4 Bolt 1/4 SAE Flat Washer Decal, Made in USA 1/4-20 Flange Nut 1/4-20 U-Nut Gearbox Drive Shield	8 1 5 4
14 15 16 17	95.06	3/8-16 x 3/4 Bolt	2 1 1 1
20 21 22 23	60.0871	Main Drive Cover	4 2 1 2
26 27 28 29	60.0879	Right Vertical Cutting Edge5/16-18 Flange NutLeft Vertical Cutting Edge3/8-16 x 1 Flange BoltAuger Housing Side Wearedge5/16-18 x 3/4 Bolt	. 12 1 4 2
		5/16 SAE Flat Washer	

ILLUSTRATED DRAWING 12 VOLT ACTUATOR DEFLECTOR CONTROL



12 VOLT ACTUATOR DEFLECTOR CONTROL

REF.	PART NO.	DESCRIPTION	QTY.
2 3 4	02.CP0306	Wire Clamp	2 2 1



LIMITED WARRANTY – VENTRAC TURF EQUIPMENT

Venture Products, Inc. (shall be 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.

Effective September 1st 2005, *Ventrac* warranty on Tractors & Attachments (excluding the HG100/HG150 generator) for **Residential use only** is limited to **Three (3) years** from original purchase date. Ventrac Tractors & Attachments used **Commercially or for any income producing purpose** is limited to **Two (2) years** from original purchase date. *Ventrac* ET200 turbine blower (turbine only) is limited to **Two (2) years** from original purchase date. *Ventrac* HG100/HG150 generator is limited to **One (1) year** from original purchase date. *Ventrac* HG100/HG150 generator is limited to **180 days** from original purchase date. *Ventrac* Tractors & Attachments used for **Rental** is limited to **180 days** from original purchase date. (**NOTE:** All accessories such as: 3-point hitch, foot pedal, dual wheel kit, etc. will be covered under the above warranty periods as they would apply 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*. In the event that product/s originally registered as (3) **year Residential use** are to be transferred to a commercial user the warranty would change to the remainder of (2) **year Commercial use** starting from the Original Purchase/Registration date with the dealership and/or *V.P.I*.

If this warranty covers a consumer product as defined by the Magnusson-Moss warranty act, no warranties, express or implied, (including, but not limited to, the warranty of merchantability or fitness for a particular purpose) shall extend beyond the applicable time period stated in bold face type above.

If this warranty covers a product used commercially or for any income producing purpose, the foregoing warranties are in lieu of all other warranties and no representations, guarantees or warranties, express or implied, (including, but not limited to, a warranty of merchantability or fitness for a particular purpose), are made by *V.P.I.* in connection with the manufacture or sale of its products.

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.

The Ventrac turf equipment, including any defective parts, 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 equipment, service call drive time or any transportation expense incurred for warranty repair is the sole responsibility of the owner and is not covered under warranty by Ventrac and/or V.P.I. 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* turf 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 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



LIMITED WARRANTY – VENTRAC TURF EQUIPMENT

operation of, or use of the turf equipment which is not in accordance with 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 turf 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 turf 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 turf equipment or other than as recommended in the operator's manual or other operational instructions provided by *V.P.I.*; (h) repairs or replacements resulting from parts or accessories which have adversely affected the operation, performance or durability of the turf equipment; or (i) damage or defects due to or arising out of repair of *Ventrac* turf equipment by 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 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, lubricants; (ii) loss, cost or expense relating to transportation or delivery of turf equipment from the location of owner or location where used by 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 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 liability is claimed.

There are no representations or warranties which have been authorized to the buyer of the turf 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 superceded 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 turf equipment sold in the United States and Canada.