



OWNER/OPERATOR'S MANUAL & PARTS LIST

TERRA RAKE

MODEL KR700





Orrville, OH
www.ventrac.com

TO THE OWNER

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

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

Please fill in the following information for future reference:

Date of Purchase: Month _____ Day _____ Year _____

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.

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WARRANTY

INTRODUCTION

Product Description

The VENTRAC KR700 Terra Rake is designed to assist landscapers in seed bed preparations. The terra rake works best for the final stage of leveling, removal of small stones and refinement of soil.

The mid-frame lever adjusts the rake tine depth into the soil. Counter clockwise rotation lowers the rake tines. Operator must determine the optimum setting. Setting may vary from tractor to tractor due to hitch height variables.

The rake tines should comb not dig. The tines should engage the ground enough to cause them to have some stretch and spring back movement. Severe contact with the ground, debris, rocks, etc. can cause rake tines to bend.

Angled positions cause the rake to “windrow” debris to the right or left. The greater the angle, the quicker the debris moves to the side. The greater angle also tends to move more soil into the “windrow” as well.

The two swivel wheel arms have three adjustment positions to create more or less space between the tines and the tires. There is also a right and left position option for the swivel arms. Additional bracket sleeves can be purchased to make this a quick change.

Proper use of this attractive, low profile terra rake can save many hours of manual labor and produce an attractive seed bed.

Ventrac KR700 Specifications

Overall width	70 inches
Length	40 inches
Height	12 inches
Weight	270 pounds

SAFETY

Decals

The following decals must be maintained on your Ventrac terra rake. If any decals are faded or missing, contact the factory promptly for replacements.



A



B



C

Decal	Page & Location	Description	Part Number
A	D-3, #18 (2)	Danger-Pinching Hazard	00.0102
B	D-1, #32	Hazard-High Pressure Fluid	00.0103
C		Ventrac Serial No. Plate	N/A

SAFETY

Safety

-  Please read and understand this manual before operating the terra rake.
-  Always use proper safety precautions. Observe all safety decals.
-  Before adjusting, cleaning, lubricating, or servicing the terra rake, engage the tractor brake and stop the engine.
-  Be sure the attachment is locked securely to tractor before operating. Hitch lever should be lodged in the “lock” position.
-  Be sure bystanders are clear of the tractor and rake before operating.
-  Never allow anyone to ride on the rake or tractor during operation.
-  Always look in the direction of travel.
-  **Always operate the rake in the FLOAT position.**
-  Do not let a child or untrained person operate the tractor/terra rake.
-  Be cautious around trees, shrubs, banks or objects that may block the operator's vision or jeopardize safety.
-  Do not operate tractor if you are under the influence of alcohol or drugs or not feeling well.
-  Use common sense!



This symbol identifies potential health and safety hazards. It marks safety precautions!!

OPERATION

OPERATING INSTRUCTIONS

Attaching:

The rake in its parked position from last usage will have its hitch arms extended for re-engagement. **Note:** Rake hitch arms may be raised or lowered by the adjustment lever.



1. Drive the tractor slowly forward to align the hitch lift arms with the mating arms on the rake. Align hitch and complete the engagement.

2. Once completely engaged, close the front hitch latch.

3. Clean and connect hydraulic quick couplers.

a. Push the sleeve back on each coupler on the tractor and insert the male attachment coupler. Release the sleeve.

b. If coupler will not completely engage, check the couplers for dirt and tap the end of the male coupler on a clean hard surface to relieve internal pressure.

c. **Note:** If the hydraulic angle seems to work backwards, reverse the quick couplers.

Never allow anyone to ride on the rake or tractor during operation.

Detaching:

1. Park the tractor on a level surface and set the parking brake.

2. Lower the rake to the ground (floor) plus a little extra lowering of the hitch to relieve the “up” pressure if the traction assist springs are engaged.

3. Stop the engine.

4. Disconnect the quick couplers. Do NOT lay the hoses on the ground or floor. Position and suspend them on/in the rake frame.

5. Open the hitch latch.

6. Detach.

OPERATION

Operating Techniques and Tips:

Test the rake for the desired tine engagement. Adjust accordingly.

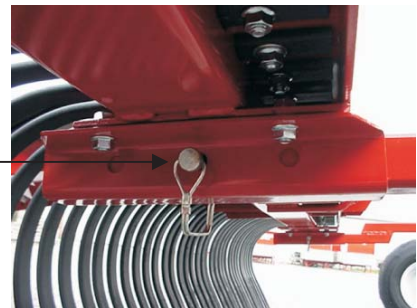
Note: The two hitch adjustment links have a second mounting hole to accommodate hitch height variables. (See D-1, Ref. 9)



Avoid raking debris into inaccessible areas, especially corners. Rake is not designed to operate in reverse. Lift rake into transport position to back up. Several passes may be necessary to get the desired results. Grass and debris lodged in the tines will reduce performance. Clean as necessary.

Front gauge wheel assembly has 3 adjustment positions. The greatest distance provides the most space for debris to be pushed ahead of the tines.

Adjustment pin



Note: An additional mounting pad for the gauge wheel assembly is provided to move the wheel assemblies right or left 8-3/4". An additional set of brackets (part # 60.0774) may be purchased to make this option a quick change.

Tines function best when they are aligned well with each other. Bent tines should be replaced (**See D-3, Ref. 17**) or straightened. Some realignment can be done by hand. Over bending is required because the hardened tines will spring back. **CAUTION:** Bending a tine may cause it to break. Wear proper protection and position yourself safely when attempting to correct a bent tine.

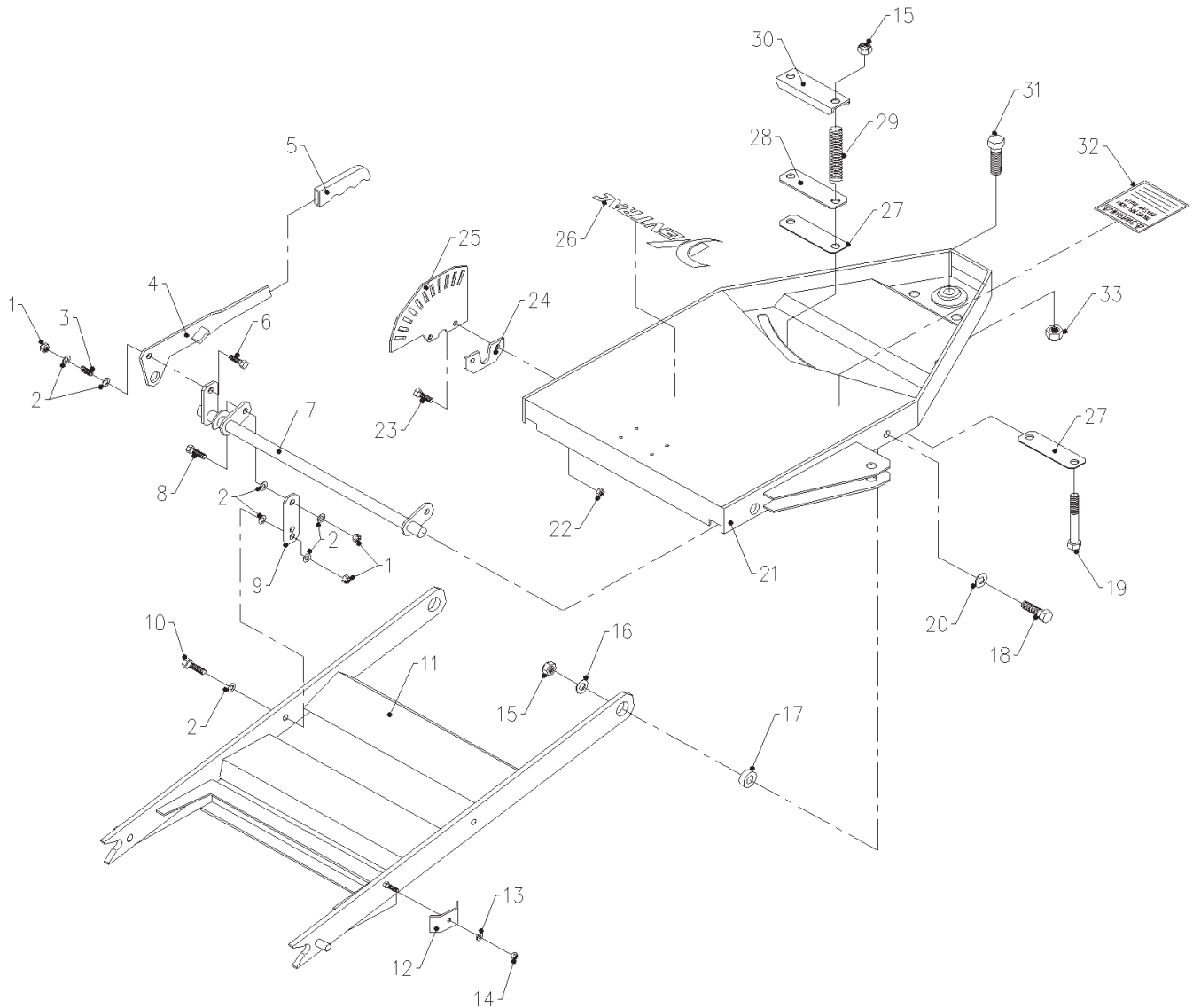
Grease the front wheel bearings every 20 hours.

Storing — The VENTRAC KR700 Terra Rake may be stored vertically on the front swivel tires. Secure the attachment to prevent accidental movement.

PARTS MANUAL

PARTS

ILLUSTRATED DRAWING SUB-FRAME & HITCH



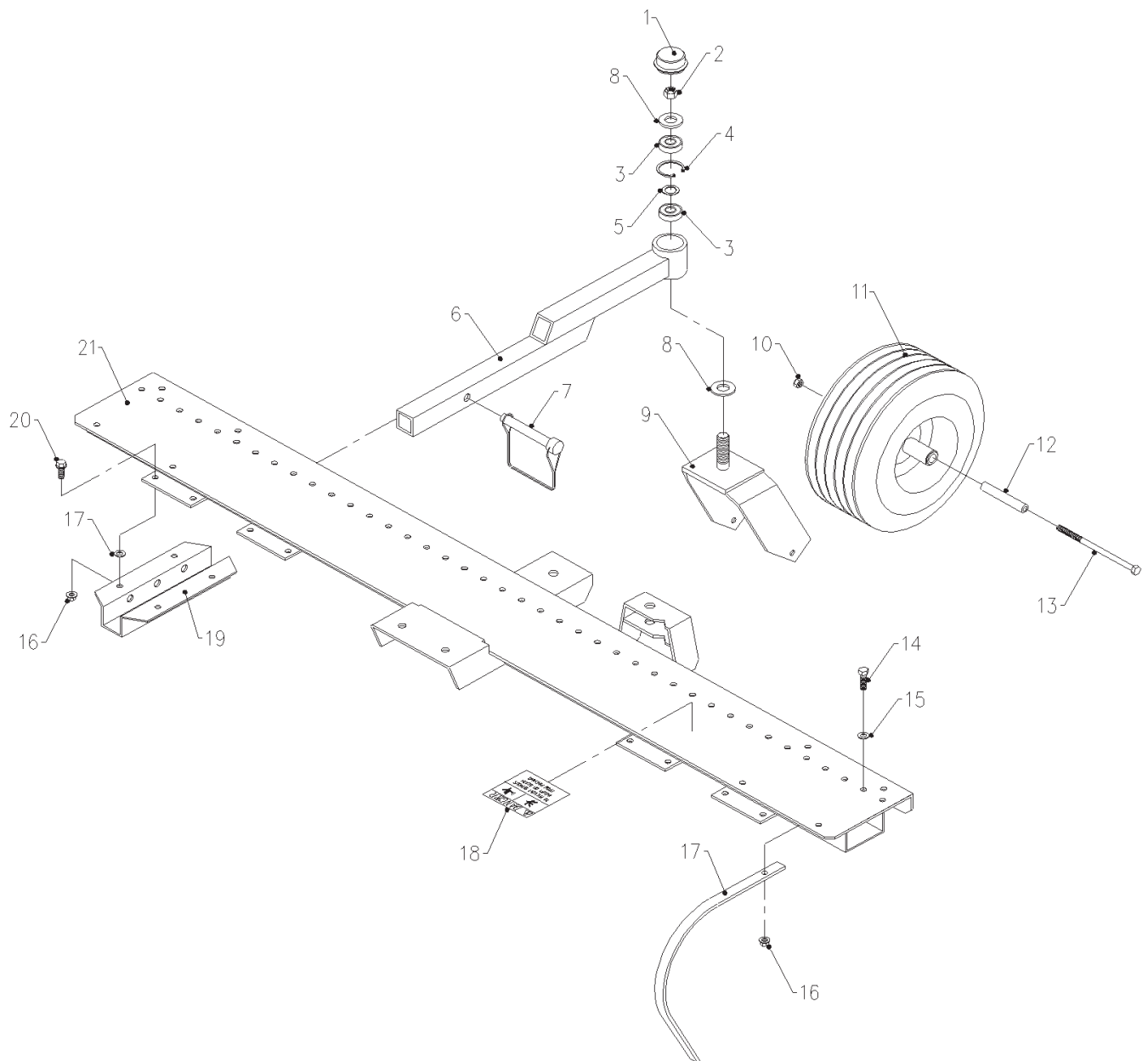
PARTS

SUB-FRAME & HITCH

REF.	PART NO.	DESCRIPTION	QTY.
1	99.A06	3/8-16 Locknut	5
2	95.06	3/8 SAE Washer	12
3	41.0039.	9/16 OD x 5/8 Compression Spring	1
4	40.0285.	Height Adjustment Handle	1
5	47.0086.	Handle Grip	1
6	90.0612.	3/8-16 x 1-1/2 Bolt	1
7	42.0428.	Height Adjustment Crossbar	1
8	90.0608.	3/8-16 x 1 Bolt	2
9	42.0429.	Height Adjustment Connector Link	2
10	90.0610.	3/8-16 x 1-1/4 Bolt	2
11	62.0878.	Hitch Frame	1
12	64.0673.	Hose Clamp	1
13	95.04	1/4 SAE Washer	1
14	99.A04	1/4-20 Locknut	1
15	99.A08	1/2-13 Locknut	4
16	94.08	1/2 USS Washer	2
17	85.SC08	1/2" Set Collar	2
18	90.0812.	1/2-13 x 1-1/2 Bolt	2
19	90.0832.	1/2-13 x 4 Bolt	2
20	95.08	1/2 SAE Washer	2
21	62.0876.	Sub-frame	1
22	99.A05	5/16-18 Locknut	2
23	90.0508.	5/16-18 x 1 Bolt	2
24	64.0885.	Crossbar Retainer Bracket.	1
25	64.0796.	Height Adjustment Plate	1
26	00.0189.	Ventrac Decal	1
27	44.0183.	Plastic Pivot Slide	2
28	64.0884.	Pivot Slide Bracket.	1
29	41.0062.	1-1/8 OD x 2-7/8 Spring	2
30	64.0886.	Spring Bracket	1
31	90.1016.	5/8-11 x 2 Bolt	1
32	00.0103.	Hazard - High Pressure Fluid Decal	1
33	99.A08	5/8-11 Locknut	1

PARTS

ILLUSTRATED DRAWING CROSS FRAME & WHEEL ASSEMBLY



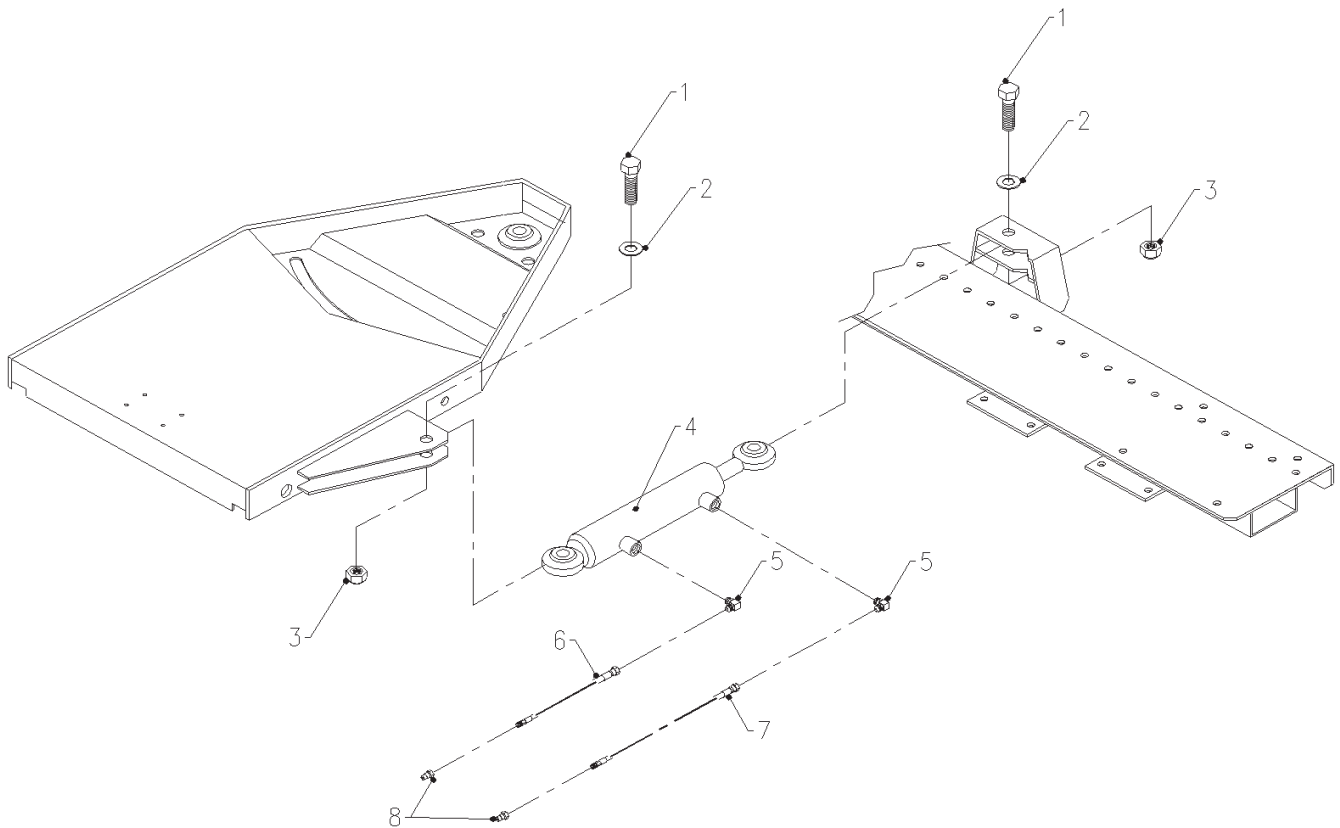
PARTS

CROSS FRAME & WHEEL ASSEMBLY

REF.	PART NO.	DESCRIPTION	QTY.
1	53.0080.	Dust Cap.	2
2	99.A12NF	3/4-16 Locknut.	2
3	55.0023.	.75 x 1.78 Ball Bearing.	4
4	04.0013.	.068 x 1.75 Internal Snap Ring.	2
5	99.B0052.	16 GA. X 3/4 x 1 Shim	2
6	62.0879.	Carrier Arm	2
7	03.0003.	Safety Snap Pin	2
8	95.12	3/4 SAE Washer	4
9	50.0049.	Caster Spindle	2
10	99.A06	3/8-16 Locknut.	2
11	53.0086.	Caster Wheel Assembly	2
12	50.0050.	Axle Tube	2
13	90.0656.	3/8-16 x 7 Bolt	2
14	90.0608.	3/8-16 x 1 Bolt.	40
15	95.06	3/8 SAE Washer	48
16	99.SF06	3/8-16 Flange Nut.	48
17	79.0043.	Spring Tine	40
18	00.0102.	Danger - Pinching Hazard Decal.	2
19	60.0774.	Carrier Arm Bracket	2
20	90.0606.	3/8-16 x 3/4 Bolt	8
21	62.0877.	Cross Frame.	1

PARTS

ILLUSTRATED DRAWING HYDRAULIC PARTS



PARTS

HYDRAULIC PARTS

REF.	PART NO.	DESCRIPTION	QTY.
1	90.1018.	5/8-11 x 2-1/4 Bolt	2
2	95.10	5/8 SAE Washer	2
3	99.A10	5/8-11 Locknut	2
4	23.0108.	Hydraulic Cylinder (used through AA-1036)	1
4	23.0129.	Hydraulic Cylinder (begin using at AA-1037)	1
5	25.6801-06-06	Hyd. Fitting, 90 deg. - 3/8 x 3/8	2
6	20.0140.	Hyd. Hose - 1/4 x 53.	1
7	20.0167.	Hyd. Hose - 1/4 x 60	1
8	23.0104.	Male Quick Coupler	2



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 2004, *Ventrac* warranty on Tractors & Attachments 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* HG150 generator is limited to **One (1) year** 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. *V.P.I.* does not handle warranty adjustments on engines. Engine warranties should be referred to the nearest authorized service outlet of the engine manufacturer.

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 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* turf equipment sold in the United States and Canada.

Ventrac Engine & Component Warranties

VENDOR	VENTRAC PRODUCT	VENDOR WARRANTY	WARRANTY PROCEDURE
Kawasaki (Engines)	3000 Series 4200, 4100 Series	Two (2) years	Claim processed by a Kawasaki authorized servicing dealer to Kawasaki
Vanguard (Engines)	4200, 4100 Series	Two (2) years 3 rd year on major parts only (See engine owner's manual)	Claim processed by a Vanguard authorized servicing dealer to local distributor
Peerless Gear & Machine Division of Tecumseh (Transaxles)	4200, 4100 Series	Two (2) years for consumer application One (1) year for commercial application	Claim processed by an authorized Tecumseh servicing dealer to Tecumseh
Sauer-Danfoss (Hydraulic pumps & motors)	4200, 4100 Series	Three (3) years for consumer *3 rd year prorated Two (2) year for commercial *2 nd year prorated	Venture Products processes warranty claim
Sauer-Danfoss (Steering & Control Valves)	3000 Series 4200, 4100 Series	Three (3) years for consumer *3 rd year prorated Two (2) year for commercial *2 nd year prorated	Venture Products processes warranty claim
Hydro-Gear (Transaxles)	3000 Series	Two (2) years for consumer application One (1) year for commercial application	Venture Products processes warranty claim
Titan Tire	3000 Series 4200, 4100 Series	Three (3) years; prorated after first year for original owner only	Claims processed by Titan Tire authorized dealer
Carlisle Tire	4200, 4100 Series	Two (2) years for original owner	Claim processed by Carlisle Tire authorized dealer

*3rd year prorated for consumer application – 50% of parts & labor

*2nd year prorated for commercial application – 50% of parts & labor

Contacts for locating local authorized dealer for the following:

Briggs & Stratton Corp.
PO Box 702
Milwaukee, WI 53201
800-444-7774

Kawasaki Motors Corp.
Grand Rapids, MI 49512
(800) 433-5640

Tecumseh/Peerless Products Corp
Engine and Gear Service Division
Grafton, WI 53024
800-558-5402

Carlisle Tire Corp.
23 Windham Boulevard
Aiken, SC 29805
800-260-7959 Warranty

Titan Tire Corp
2345 E. Market St.
Des Moines, IA 50317
800-872-2327 Warranty