



OWNER/OPERATOR'S MANUAL & PARTS LIST

TERRA RAKE

Model KR502 Serial # 1050-1127

Model KR702 Serial # 1050-1173



Revised 01/09/09
09.10023



Orrville, OH
www.ventrac.com

TO THE OWNER

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 picture below to find the location of the identification number. Record them in the spaces provided below.

Date of Purchase: Month _____ Day _____ Year _____

Dealer: _____

Dealer Address: _____

Dealer Phone Number: _____

Dealer FAX Number: _____

Model # (A): _____

Serial # (B): _____

Affix Part/Serial Number label here

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

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WARRANTY

INTRODUCTION

The Ventrac Terra Rake is designed to eliminate most of the manual labor that is required for landscapers in seed bed preparation. The terra rake works for the final stage of leveling, removal of small stones, and refinement of soil. It also works great for grading and leveling gravel driveways and parking lots.

The terra rake consists of multiple 5/16" x 1" tines to fine comb the surface. A single adjustment top link adjusts the tines to a depth of 3" or a height of 3".

The rake will angle up to 28 degrees right or left, controlled by a single hydraulic cylinder. Two front swivel wheels can be mounted at different positions to create a wide or narrow wheel track.

An additional feature is the ability to remount the hitch on the opposite side of the tine frame and use it on the rear of the Ventrac that is equipped with a three point hitch and a Ventrac 3N1 hitch.

Options for the terra rake include:

Easily attachable, 10" wing extensions (kit #70.8034) which will increase the overall operating width by 20".

A hydraulic height adjustment cylinder (kit #70.8035) which allows the operator to adjust the tine height on the go from the tractor seat. **NOTE:** the height adjustment cylinder cannot be used when the rake is set up for use on the rear of the tractor. To operate the height adjustment cylinder, the tractor must be equipped with the 12 volt front plug. (4100/4200 Kit #70.4034) (4000 Kit #4046) (3000 Kit #3006)

Ventrac KR502 Specifications

Overall Width	49 inches
Overall Width with Rake Extensions	69 inches
Overall Length	52 inches
Overall Height	29 inches
Weight	260 pounds
Angle, Right & Left	27 degrees

Venture Products, Inc. reserves the right to change these specifications without notice.

Ventrac KR702 Specifications

Overall Width	70 inches
Overall Width with Rake Extensions	90 inches
Overall Length	52 inches
Overall Height	29 inches
Weight	290 pounds
Angle, Right & Left	27 degrees

Venture Products, Inc. reserves the right to change these specifications without notice.

SAFETY



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

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.

SAFETY

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



A



B

Decal	Page & Location	Description	Part Number
A	E-1, #18 (2)	Danger - Pinching Hazard	00.0102
B	E-3, #24	Warning - Read Owner's Manual	00.0217

SAFETY



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, or medication that may impair judgment or cause drowsiness, or if you are not feeling well.

Operate all controls from the operator's 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 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.

Stop operation immediately at any sign of equipment failure and correct the problem before continuing to operate. An unusual noise can be a warning of equipment failure or a sign that maintenance is required.

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 tractor 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

WARNING

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

WARNING

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

CAUTION

The rake tines should comb not dig. Severe contact with the ground, debris, rocks, etc. can cause the rake tines to bend or break.

Bending a tine may cause it to break. Wear proper protection and position yourself safely when attempting to straighten a bent tine.

OPERATION

Attaching

1. Drive the tractor slowly forward into the hitch arms on the terra rake. Align the lift arms of the tractor with the terra rake hitch arms by raising or lowering the front hitch and complete the engagement.
2. Once completely engaged, close the front hitch locking lever.*
3. Engage the parking brake* and shut off engine.
4. Wipe the quick couplers clean, and connect to the tractor. If equipped, connect the hoses and quick couplers so the red indicators are paired together and the yellow indicators are paired together.
5. Connect the electric plug. (if equipped)
6. Engage the weight transfer system if desired.*

Detaching

1. Park the tractor on a level surface and set the parking brake.*
2. Lower the terra rake to the ground.
3. Shut off tractor engine.
4. Disconnect the hydraulic quick couplers from the tractor. Do not allow hoses and couplers to lay in the dirt and snow.
5. Disconnect the electric plug. (If equipped)
6. Disengage the hitch locking lever.*
7. Restart tractor and slowly back away from the terra rake.

* Refer to tractor manual for operation of controls.

Operating Tips:

The Ventrac Terra Rake is designed to operate with the tines pushing material. If you need to back up, the rake should be raised to the transport position.

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.

Angled positions cause the rake to windrow debris to the left or right. 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.

Depending on the work needing done, the front gauge wheels can be moved to the inner mount location for windrowing debris, or the outer mount location when moving debris with the rake in a straight position.

Avoid raking debris into inaccessible areas, especially corners

Several passes may be needed to get the desired results. Grass and debris lodged in the tines will reduce performance. Clean tines as needed.

MAINTENANCE

Grease the front wheel bearings every 20 hours.

Tire pressure should be maintained at 20 PSI.

Tines function best when they are aligned well with each other. Bent tines should be replaced or straightened. Some realignment can be done by hand. Over bending is required because the hardened tines will spring back.

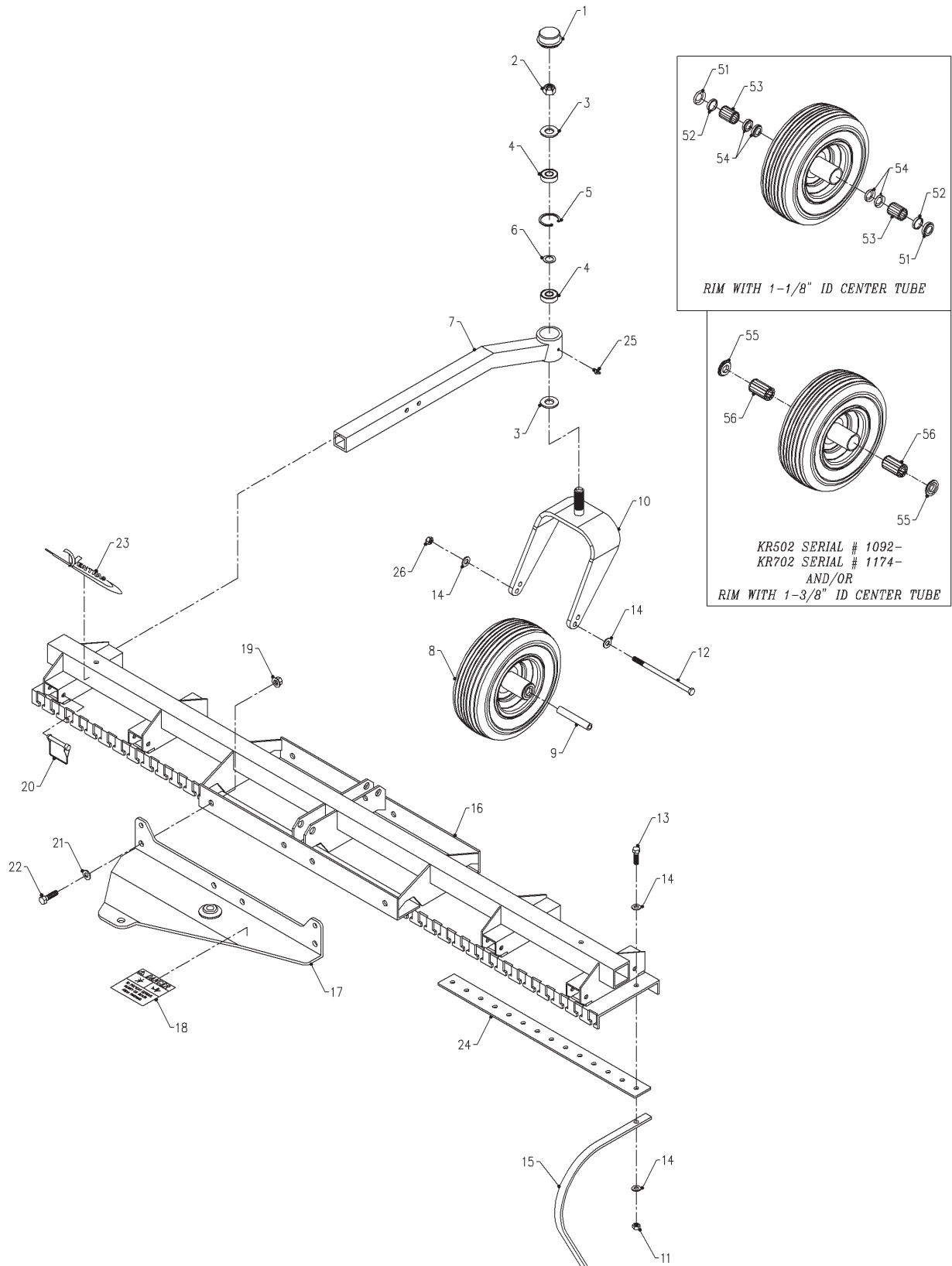
CAUTION

Bending a tine may cause it to break. Wear proper protection and position yourself safely when attempting to straighten a bent tine.

PARTS MANUAL

PARTS

ILLUSTRATED DRAWING MAIN FRAME & WHEELS



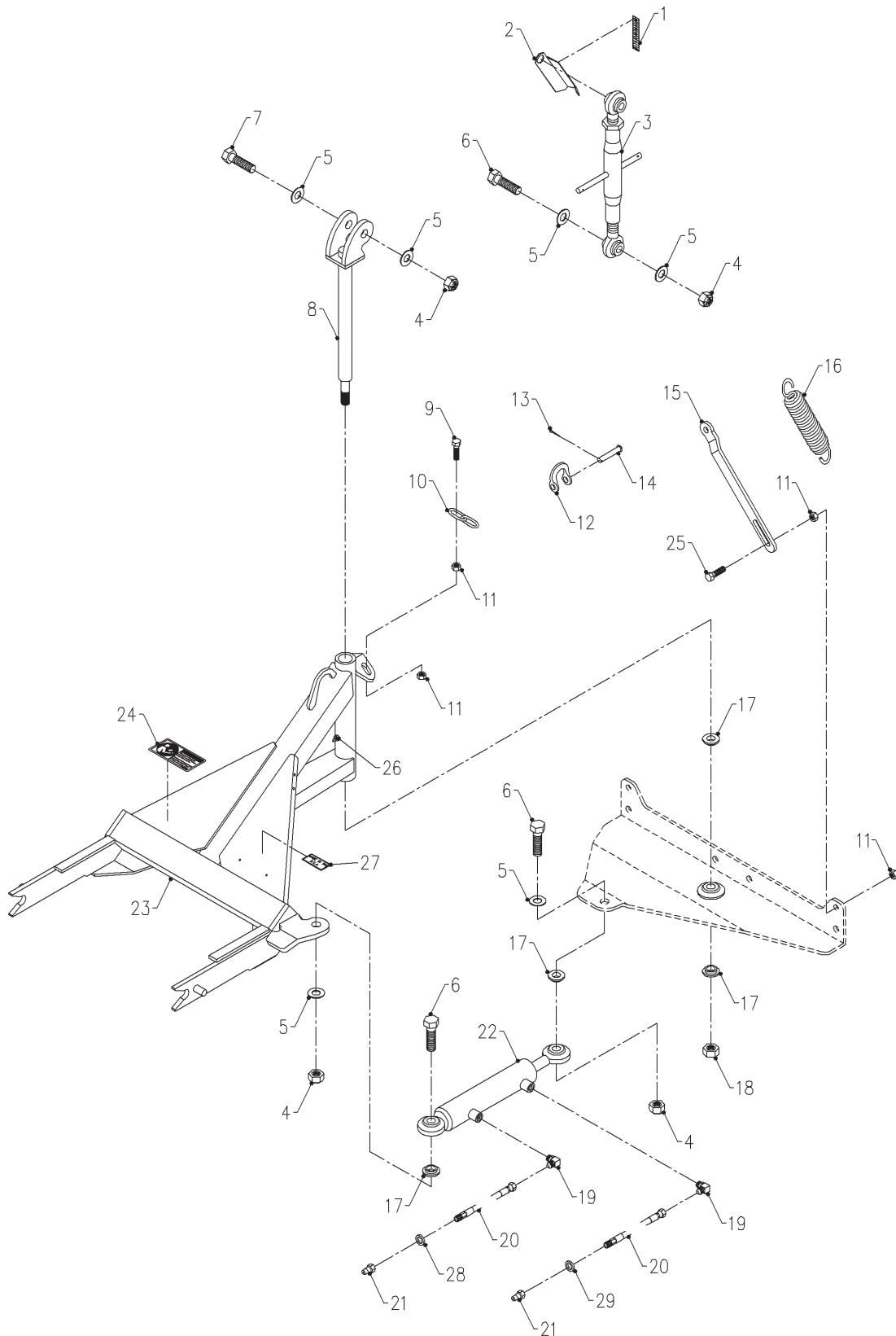
PARTS

ILLUSTRATED DRAWING MAIN FRAME & WHEELS

REF.	PART NO.	DESCRIPTION	QTY.
1	53.0080	DUST CAP, BEARING MOWER CASTER	2
2	99.A12NF	LOCKNUT, STOVER 3/4-16 SAE	2
3	99.B0057-2	WASHER, MACH3/4 X1-1/4 10GA ZP	4
4	55.0023	BEARING, BALL .75 ID X 1.78 OD	4
5	04.0013	SNAP RING, INT .062 X 1.75	2
6	99.B0052	SHIM, STEEL 3/4 X 1 X .062	2
7	62.1006	ARM, CARRIER KR702/502	2
8	53.0086	WHEEL, ASM 13 X 5 X 6 CASTER (KR502 Serial # 1001-1091)	2
8	53.0133	WHEEL, ASM 13 X 5 X 6 CASTER (KR502 Serial # 1092-)	2
8	53.0086	WHEEL, ASM 13 X 5 X 6 CASTER (KR702 Serial # 1001-1173)	2
8	53.0133	WHEEL, ASM 13 X 5 X 6 CASTER (KR702 Serial # 1174-)	2
9	50.0050	TUBE, AXLE/TIRE SWIVEL FORK VM	2
10	50.0183	YOKE, CASTER 13", HIGH/LOW	2
11	99.A06	LOCKNUT, STOVER 3/8-16 USS - KR502	28
11	99.A06	LOCKNUT, STOVER 3/8-16 USS - KR702	40
12	90.0660	BOLT, 3/8-16 USS X 7-1/2	2
13	90.0610	BOLT, 3/8-16 USS X 1 1/4 - KR502	28
13	90.0610	BOLT, 3/8-16 USS X 1 1/4 - KR702	40
14	95.06	WASHER, FLAT 3/8 SAE - KR502	56
14	95.06	WASHER, FLAT 3/8 SAE - KR702	84
15	79.0043	TINE, RAKE - KR502	28
15	79.0043	TINE, RAKE - KR702	40
16	62.1009	FRAME, TINE - KR502	1
16	62.1004	FRAME, TINE - KR702	1
17	64.1106	PLATE, ANCHOR HITCH FRAME	1
18	00.0102	DECAL, DANGER-PINCHING HAZARD	2
19	99.SF08	NUT, SF 1/2-13 USS	4
20	03.0003	PIN, SAFETY SNAP 3/8 X 2 1/2	2
21	95.08	WASHER, FLAT 1/2 SAE	4
22	90.0810	BOLT, 1/2-13 USS X 1 1/4	4
23	00.0212	DECAL, VENTRAC ORBITAL	2
24	64.1197	SPACER, RAKE TINE 14 HOLES - KR502	2
24	64.1196	SPACER, RAKE TINE 20 HOLES - KR702	2
25	29.GF0001	GREASE FTG, 1/4 SAE ST	2
26	99.A06C	LOCKNUT, CENTER 3/8-16	2
51	47.0215	CAP, END REPLACEMENT	2
52	44.0201	SEAL, FELT REPLACEMENT	2
53	55.0053	BEARING, ROLLER REPLACEMENT	2
54	99.G0013	WASHER, ROLLER BEARING	4
55	55.0066	BEARING, RETAINER 3/4"	2
56	55.0065	BEARING, 3/4 ROLLER 2-1/4" LG	2

PARTS

ILLUSTRATED DRAWING HITCH FRAME, HEIGHT ADJUSTER, & HYDRAULICS



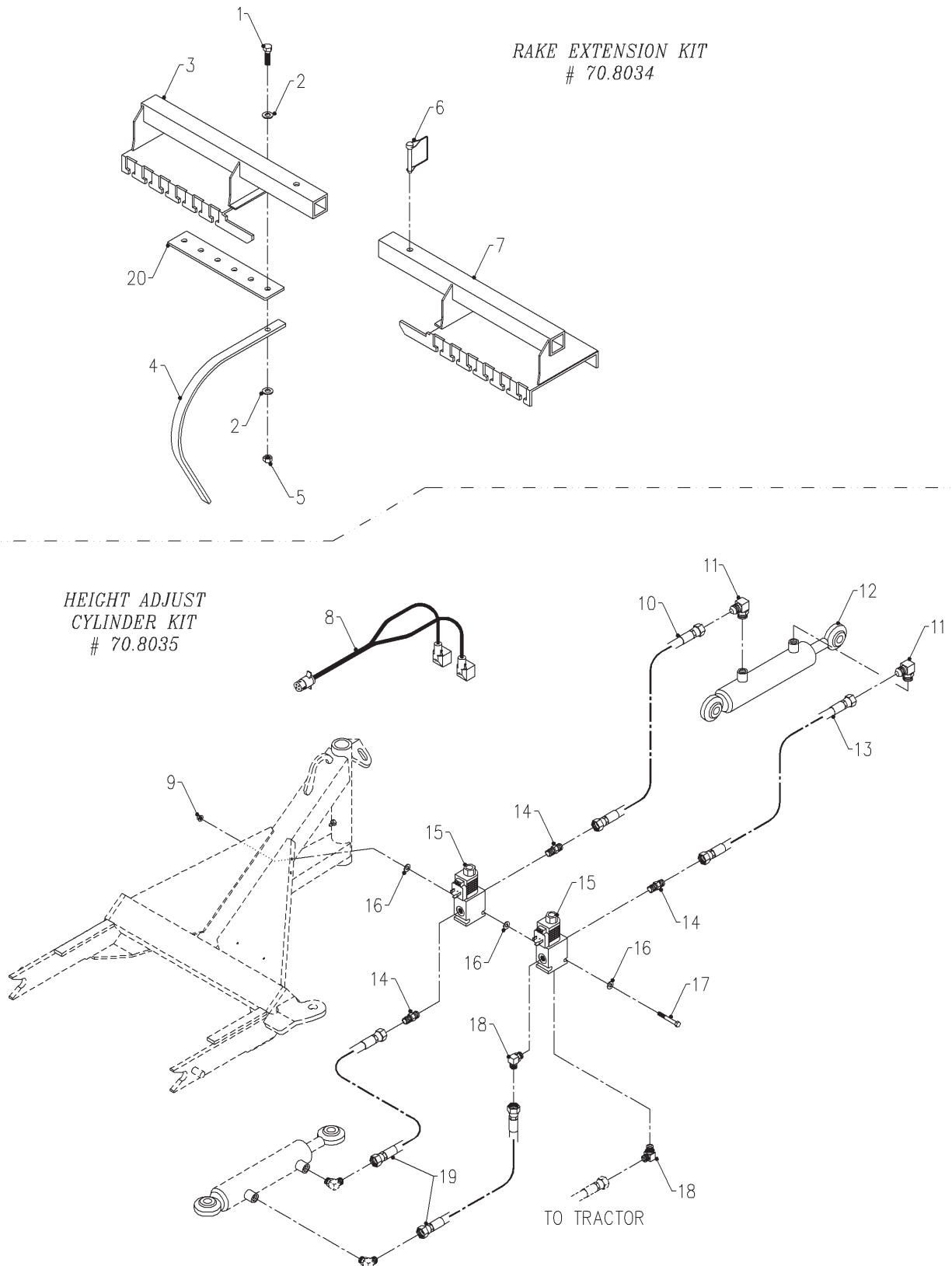
PARTS

ILLUSTRATED DRAWING HITCH FRAME, HEIGHT ADJUSTER, & HYDRAULICS

REF.	PART NO.	DESCRIPTION	QTY.
1	00.0211	DECAL, KR HEIGHT INDICATOR	1
2	64.1108	PLATE, GAUGE	1
3	47.0222	TOP LINK, CAT.#0, ADJUSTABLE.	1
4	99.A10	LOCKNUT, STOVER 5/8-11 USS	4
5	95.10	WASHER, FLAT 5/8 SAE	6
6	90.1020	BOLT, 5/8-11 USS X 2 1/2	3
7	90.1022	BOLT, 5/8-11 USS X 2 3/4	1
8	64.1107	PIN, PIVOT	1
9	90.0712	BOLT, 7/16-14 USS X 1 1/2	2
10	81.0148	CHAIN, 1/4 X 2 LINKS- "	2
11	92.07	NUT, 7/16-14 USS	8
12	43.CS06	CLEVIS, SHACKLE 3/8 W/ PIN	2
13	02.CP0306	COTTER PIN, 3/32 X 3/4	2
14	03.0714	CLEVIS PIN, 7/16 X 1-3/4 ZP	2
15	42.0466	LINK, SPRING	2
16	41.0075	SPRING, EXT 2" OD X 8-3/8" LG	2
17	64.1109	BUSHING, DANUSER BALL	4
18	93.10	NUT, 5/8-18 SAE.	1
19	25.6801-06-06	FITTING, 90 ME 3/8 X 3/8	2
20	20.0185	HOSE, ASM X 48" 1/4-1W #4	2
21	23.0104	COUPLER, HYD. QUICK MALE 1/4	2
22	23.0129	CYLINDER, 1-1/2" X 8" STEERING	1
23	62.1005	FRAME, HITCH KR702/502	1
24	00.0217	DECAL, WARNING READ OWNERS MAN	1
25	90.0710	BOLT, 7/16-14 USS X 1 1/4	2
26	29.GF0003	GREASE FTG, 1/4 SAE 45	1
27	00.0100	DECAL, MADE IN USA	1
28	05.0117	Washer, .544ID x .817 x.14 Yel	1
29	05.0116	Washer, .544ID x .817 x.14 Red	1

OPTIONAL PARTS

ILLUSTRATED DRAWING RAKE EXTENSIONS & HYDRAULIC HEIGHT ADJUST



OPTIONAL PARTS

ILLUSTRATED DRAWING RAKE EXTENSIONS & HYDRAULIC HEIGHT ADJUST

REF.	PART NO.	DESCRIPTION	QTY.
1	90.0610	BOLT, 3/8-16 USS X 1 1/4	12
2	95.06	WASHER, FLAT 3/8 SAE	24
3	62.1008	MOUNT, RAKE TINE EXTENSION LH	1
4	79.0043	TINE, RAKE	12
5	99.A06	LOCKNUT, STOVER 3/8-16 USS	12
6	03.0003	PIN, SAFETY SNAP 3/8 X 2 1/2	2
7	62.1007	MOUNT, RAKE TINE EXTENSION RH	1
8	34.1400-1007	WIRE, 14 GA 2 WIRE X 43" KR	1
9	99.SF04	NUT, SF 1/4-20 USS	2
10	20.0211	HOSE, ASM C 1/4 X 20"-2750	1
11	25.6801-06-06	FITTING, 90 ME 3/8 X 3/8	2
12	23.0130	CYLINDER, 1-1/2" X 5"	1
13	20.0143	HOSE, ASM X 27" 1/4-1W	1
14	25.6400-06-04	FITTING, M CONN 3/8 X 1/4	3
15	23.0136-1	VALVE, DIRECTIONAL CONTROL 12V	2
16	95.04	WASHER, FLAT 1/4 SAE	6
17	90.0426	BOLT, 1/4-20 USS X 3 1/4	2
18	25.6801-06-04	FITTING, 90 ME 3/8 X 1/4	3
19	20.0150	HOSE, ASM X 11-1/2" 1/4-1W	2
20	64.1198	SPACER, RAKE TINE 6 HOLES	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 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* 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.