



OPERATOR'S MANUAL & PARTS DRAWINGS

TILLER MODEL KL480



Revised 04/11/14
09.10021 Rev. 02



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PO Box 148
Orrville Oh 44667
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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): _____

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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INTRODUCTION



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

Product Description

The KL480 tiller is designed for soil preparation for gardens or yards. Twenty-four sequentially spaced tines provide smooth and efficient tillage. Adjustable skid shoes allow the operator to control the tilling depth. Intermediate gear reduction provides quiet operation, while a #80 chain in a sealed lubrication final drive provides heavy-duty performance.

The tiller is equipped with a stand to allow the tiller to be stored in position for easy reattachment.

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, maintain, and service your machine. It is divided into sections for convenient reference of the appropriate section.

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. Understanding the operator's manual will help you, as well as others, avoid personal injury and/or damage to the equipment. Keep this manual with the machine at all times. The manual should remain with the machine even if it is sold. 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

Throughout this manual, you will encounter special messages and symbols that identify potential safety concerns to help you as well as others avoid personal injury or damage to the equipment.

SYMBOL DEFINITIONS



ATTENTION

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. Safety should always be the #1 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. 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 sitting on the power unit seat facing forward.

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.

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

Safety Decals

The following safety decals must be maintained on your KL480 tiller.

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.



SAFETY



Decal	Description	Part Number	Quantity
A	Danger, Shield Missing	00.0062	1
B	Warning, Moving Part Hazard	00.0101	1
C	Danger, Pinching Hazard	00.0102	1
D	Danger, Keep Hands & Feet Clear	00.0123	2
E	Warning, Read Owner's Manual	00.0217	1

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 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 controls.
- Know how to stop the power unit and all attachments quickly in the event of an emergency.



Personal Protective Equipment Requirements

It is the responsibility of the owner to be sure that the operators use the proper personal protective equipment while operating the machine. Required personal protective equipment includes, but is not limited to, the following list.



- Wear a certified ear protection device to prevent loss of hearing.
- Prevent eye injury by wearing safety glasses while operating the machine.
- Closed toe shoes must be worn at all times.
- Long pants must be worn at all times.
- When operating in dusty conditions, it is recommended that a dust mask be worn.

Operation Safety

- Inspect machine before operation. Repair or replace any damaged, worn, or missing parts. Be sure guards and shields are in proper working condition and are secured in place. Make all necessary adjustments before operating machine.
- Some pictures in this manual may show shields or covers opened or removed in order to clearly illustrate any 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 safety devices or operate with shields or covers removed.
- Before each use, verify that all controls function properly and inspect all safety devices. Do not operate if controls or safety devices are not in proper working condition.
- Check parking brake function before operating. Repair or adjust parking brake if necessary.
- Observe and follow all safety decals.
- All controls are to be operated from the operator's seat only.
- Always wear a seat belt if the machine has a roll cage/bar installed and in upright position.
- 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 attachment before operating. Stop 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 all necessary repairs before operating 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 all necessary repairs before operating machine again.

SAFETY



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



Operation Safety (continued)

- 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 machine unattended while it is running.
- Always park the machine on level ground.
- Always shut off engine when connecting attachment drive belt to the power unit.
- Never leave the operator's seat without lowering the attachment to the ground, setting 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 equipment unattended without lowering the attachment to the ground, setting 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. Material may ricochet back towards the operator.
- Use extra caution when approaching blind corners, shrubs, trees, or other objects that may obscure 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 engine at excessive speed 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, and excessive grease.

Preventing Accidents



- Clear working area of objects that might be hit or thrown from machine.
- Keep people and pets out of mowing 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 machine if you are not in good physical and mental health, if you will be distracted by personal devices, or are under the influence of any substance which might impair decision, dexterity, or judgment.
- Children are attracted to machine activity. Be aware of children and do not allow them in the working 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.



SAFETY

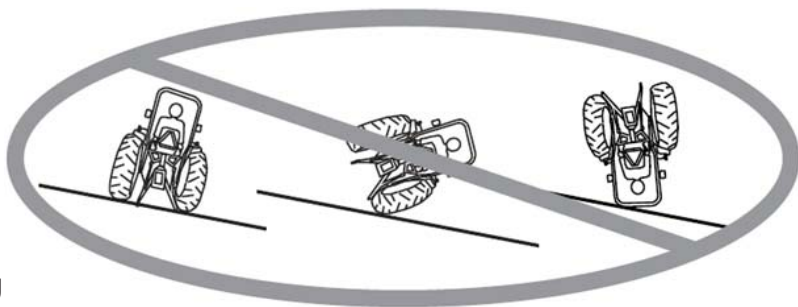


General Safety Procedures for Ventrac Power Units, Attachments, & Accessories



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 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 surface and loose ground will reduce the degree of safety. Do not drive where 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 machine with attachment lowered or close to the ground to improve stability.
- While operating on slopes, drive in an up and down direction when possible. If turning is necessary while driving across slopes, reduce speed and turn slowly in the downhill direction.
- Assure a sufficient supply of fuel for continuous operation. A minimum of one-half tank of fuel is recommended.



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 doubt of safety conditions, discontinue machine operation until a time when 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 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.
- Shut off fuel supply to power unit during transport on truck or trailer.
- If equipped, turn the battery disconnect switch to the Off position to shut off electrical power.

SAFETY



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



Maintenance

- 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.
- If any component requires replacement, use only original Ventrac replacement parts.
- Always disconnect the negative battery cable from the battery when working with electrical components.
- Keep all bolts, nuts, screws, and other fasteners properly tightened.
- Always lower the attachment to the ground, engage parking brake, shut off engine, and remove the ignition key. Make sure all moving parts have come to a complete stop before cleaning, inspection, 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 sitting in the operator's seat.
- Always use protective glasses when handling the battery.
- Check all 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 excessive 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.
- Do not change the engine governor settings or over-speed the engine. Operating engine at excessive speed 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 hands, feet, and clothing away from all power-driven parts.
- Dispose of all fluids in accordance with local laws.

Fuel Safety



- Do not refuel machine while smoking or at a location near flames or sparks.
- Always refuel the machine outdoors.
- Do not store machine or fuel container indoors where fumes or fuel can reach an open flame, spark, or pilot light.
- Only store fuel in an approved container. Keep out of reach of children.
- Never remove fuel cap or add fuel with the engine running. Allow engine to cool before refueling.
- Replace all fuel tank and container caps securely.
- Do not overfill fuel tank.
- 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 fuel vapors have dissipated.
- If the fuel tank must be drained, it should be drained outdoors into an approved container.
- Dispose of all fluids in accordance with local laws.
- Check all 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.

SAFETY



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

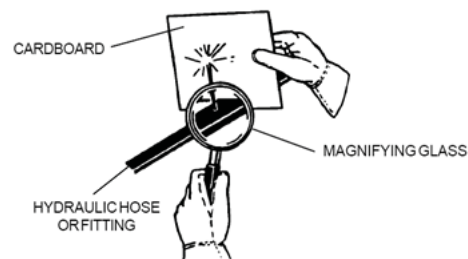


Hydraulic Safety

- Make sure all 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 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. If hydraulic fluid is injected into skin, seek immediate medical attention.



- Hydraulic system may contain stored energy. Before performing maintenance or repairs on the hydraulic system, remove attachments, engage parking brake, disengage weight transfer system (if equipped), shut off engine, and remove ignition key. To relieve pressure on the auxiliary hydraulic system, shut off the power unit engine and move the secondary S.D.L.A. lever left and right before disconnecting the auxiliary hydraulic quick couplers.
- Dispose of all fluids in accordance with local laws.

SAFETY



KL480 Tiller Safety Procedures



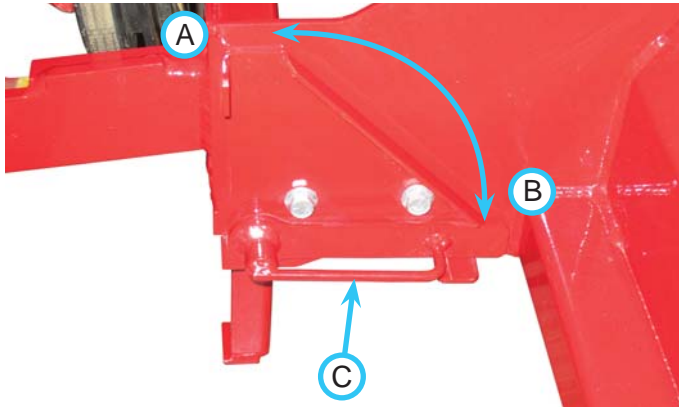
- Know where and how deep any gas, water, and electrical lines are buried. Avoid operating in questionable areas.
- Contact with rotating tines or other moving parts may cause personal injury. Keep hands and feet away.
- Prior to tilling, clear the work area of any rocks, branches, string, or other debris that may clog the tiller. If any debris becomes jammed in the tiller, engage the power unit's parking brake, shut off the engine, and remove the ignition key before attempting to remove debris.
- Tiller tines are sharp. Wear leather gloves when working with tiller tines.
- Shut off the PTO to stop the tiller tines whenever the tiller is lifted out of the ground.

OPERATIONAL CONTROLS

Jack Stand

The tiller is equipped with a jack stand to keep the hitch arms positioned for reattachment when the tiller is not in use.

Place the jack stand in the operating position (A) for tilling or transport.



Place the jack stand in the storage position (B) prior to detaching from the power unit.

The jack stand is spring loaded to keep it locked in the selected position. To change the jack stand position, pull out on the stand handle (C) and rotate to the desired position.

Depth Gauge

The tiller is equipped with adjustable depth gauge skid shoes to provide control of tilling depth.

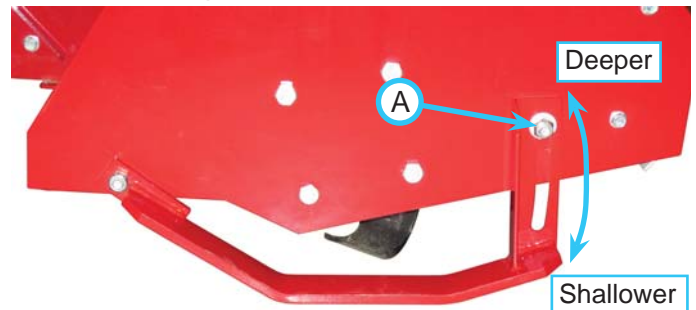
To adjust the tilling depth:

1. Park the power unit on a level surface and engage the parking brake.

WARNING

When making adjustments with the tiller in the raised position, the tiller must be supported with blocks or stands. Hydraulic drift or accidental release of hydraulic pressure could allow the tiller to lower and trap a person or appendage, if the tiller is not securely supported.

2. Raise the tiller and support securely with blocks or stands.
3. Shut off the power unit engine and remove the ignition key.
4. Loosen the skid shoe adjustment bolts (A) slightly, and move the front of the skid shoes up or down to the desired position.



5. Tighten the adjustment bolts to secure the skid shoes, making sure both skid shoes are set to the same position.

GENERAL OPERATION

Daily Inspection

WARNING

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

1. Park 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 tiller. Look for loose or missing hardware, damaged components, or signs of wear.
3. Inspect the drive belts and tiller tines. Belts should be in good condition. Replace worn belts and bent or damaged tiller tines.
4. Refer to the power unit operator's manual. Check the power unit's engine oil, hydraulic oil, cooling system, tire pressure, and fuel level. Add fluid or service as required.
5. Test the power unit's operator safety interlock system*.

Attaching

1. Drive the power unit slowly forward into the hitch arms of the tiller. Align the lift arms of the power unit with the tiller 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 the engine.
4. Place the attachment belt onto the PTO drive pulley on the power unit. Ensure the belt is properly seated in each pulley.
5. Engage the PTO belt tensioner.
6. Raise the tiller slightly rotate the jack stand up to the operating position.

Detaching

1. Park the power unit on a level surface and set the parking brake.*
2. Rotate the jack stand down to the storage position.
3. Lower the tiller to the ground.
4. Shut off power unit engine.
5. Disengage the PTO belt tensioner.
6. Remove the attachment belt from the PTO drive pulley of the power unit and hook onto the bolt provided for belt storage.
7. Disengage the front hitch locking lever*.
8. Restart the power unit and back slowly away from the tiller.

Operating Procedure

Before operation, perform daily inspection, shift the power unit into **low range**, and verify the tiller skid shoes are set for the desired depth.

Mark out the work area to be tilled. For best results, start tilling on the right side of the work area and work to the left.

The tiller is designed to be used with the power unit traveling in reverse. Drive the power unit into the work area and position the tiller at the edge of the area to be tilled. With the power unit's engine running between 2,000 and 2,500 RPM, engage the PTO switch. Adjust the throttle to the desired engine RPM. Slowly lower the tiller into the ground and begin to move the power unit in reverse. Continue lowering the tiller until the skid shoes contact the ground. 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.

Continue moving in reverse at an appropriate speed for the soil conditions. If the tiller belts begin to slip, reduce ground speed or raise the depth of the tiller. When near the desired end of the row, slowly begin lifting the tiller out of the ground while the power unit is still moving. This will minimize the ditch created at the end of the row.

Disengage the PTO, move the power unit to the left of the tilled row, and drive back to the starting point to begin the next pass.

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

GENERAL OPERATION

Clearing Debris From The Tiller

WARNING

Always engage the parking brake, shut off the power unit engine, remove the ignition key, and ensure all moving parts have come to a complete stop before attempting to clear a blockage.

If a rock or piece of debris becomes jammed in the tiller, it may cause belts to slip or the power unit engine to stall. If this occurs, shut off the PTO immediately.

WARNING

When clearing debris with the tiller in the raised position, the tiller must be supported with blocks or stands. Hydraulic drift or accidental release of hydraulic pressure could allow the tiller to lower and trap a person or appendage, if the tiller is not securely supported.

Lift the tiller out of the ground and support securely with blocks or stands. Engage the power unit's parking brake, shut off the power unit engine, and remove the ignition key before attempting to clean the tiller.

Use a rod or other tool to remove all debris from the tiller tines and housing before continuing operation.

Transport of Tiller

Transport the tiller with the power unit front hitch and tiller raised to reduce wear of the equipment. Travel slowly when transporting over undulating or rough surfaces to maintain control of the power unit and reduce the shock to the machine. Always disengage the PTO before transporting the tiller.

SERVICE

⚠ WARNING

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



Attention

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

Cleaning and General Maintenance

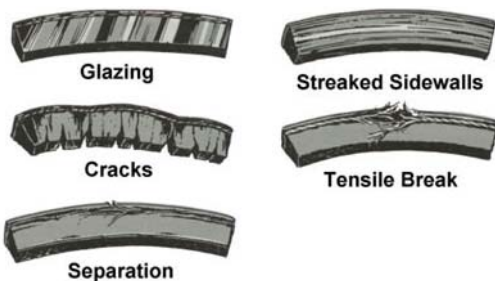
For best results, and to maintain the finish of the tiller, clean or wash the tiller to remove dirt and debris. Clear all debris and dirt from the rotor and tines after each use.

Belt Inspection

Inspecting the drive belts of the tiller can prevent sudden belt failure by finding problems before they cause a belt to break.

Typical wear on a drive belt may result in the conditions shown in the diagram. If any of these conditions

occur, the drive belt will require replacement.



Attachment Drive Belt Replacement

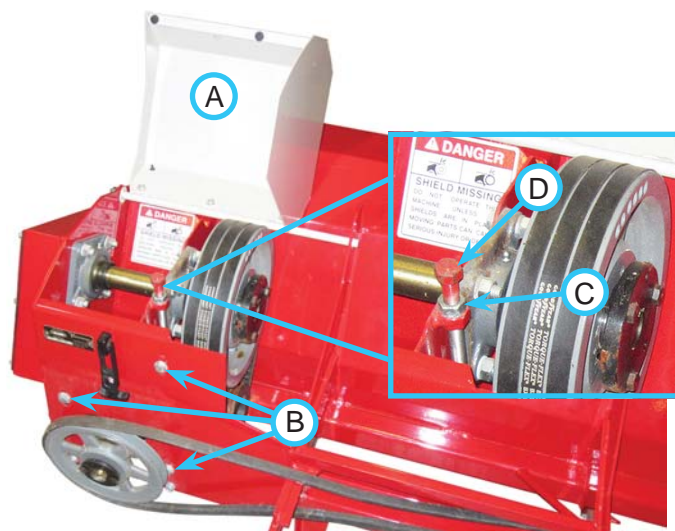
1. Remove the tiller from the power unit.
2. Remove the drive pulley shield (A) from the tiller.



3. Remove the old drive belt and install the new drive belt onto the drive pulley.
4. Reinstall the drive pulley shield.

Triple Drive Belt Replacement

1. Remove the tiller from the power unit.
2. Open the belt and gearbox cover (A).



3. Remove the drive pulley shield from the tiller.
4. Loosen the 3) gearbox plate bolts (B).
5. Loosen the locking nut (C) on the belt adjustment bolt (D) and loosen the adjustment bolt.
6. Remove the old drive belts and install the new drive belts onto the gearbox and drive shaft pulleys. Replace all 3) intermediate drive belts at the same time.
7. Tighten the belt tension adjustment bolt. Refer to triple belt tension adjustment below.
8. Tighten the 3) gearbox plate bolts. Torque to 31 ft-lbs (42 Nm).
9. Reinstall the drive pulley shield.
10. Close and fasten the belt and gearbox cover.

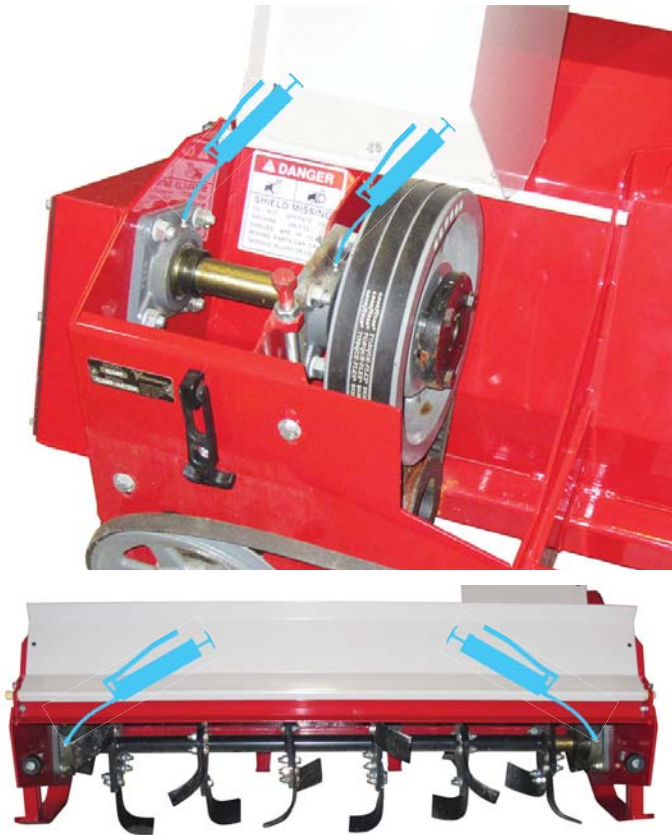
Triple Drive Belt Tension Adjustment

1. Remove the tiller from the power unit.
2. Open the belt and gearbox cover.
3. Remove the drive pulley shield from the tiller.
4. Loosen the 3) gearbox plate bolts.
5. Loosen the locking nut on the belt adjustment bolt and adjust the bolt until the belts are tight.
NOTE: if the belts are overtightened, the triple pulleys may become misaligned. If this occurs, reduce belt tension until the pulleys are aligned.
6. Tighten the locking nut on the belt adjustment bolt.
7. Tighten the 3) gearbox plate bolts. Torque to 31 ft-lbs (42 Nm).
8. Reinstall the drive pulley shield.
9. Close and fasten the belt and gearbox cover.

SERVICE

Lubrication Locations

Lubrication is required at the following locations. Refer to the maintenance schedule for service intervals and amount of grease.



Gearbox

The gearbox uses 80-90 weight gear oil. Gearbox oil should be maintained at approximately half full. Refer to maintenance schedule for service intervals.

Storage

Preparing the Tiller for Storage

1. Clean the tiller.
2. Inspect for loose or missing hardware, damaged components, or signs of wear.
3. Inspect safety decals. Replace any safety decals that are faded, illegible, or missing.
4. Inspect belts for signs of damage or wear and replace as required.
5. Service all lubrication points and inspect gearbox oil level.
6. Wipe off excess grease or oil.

Removing the Tiller from Storage

Inspect, clean, and prepare the tiller for use.

SERVICE

Maintenance Schedule

Maintenance Schedule		KL480 Tiller																								
		# of Locations	# of Pumps	Daily	At 25 Hours	At 50 Hours	At 75 Hours	At 100 Hours	At 125 Hours	At 150 Hours	At 175 Hours	At 200 Hours	At 225 Hours	At 250 Hours	At 275 Hours	At 300 Hours	At 325 Hours	At 350 Hours	At 375 Hours	At 400 Hours	At 425 Hours	At 450 Hours	At 475 Hours	At 500 Hours	Yearly	
Grease & Lubrication: See Lubrication Section																										
Drive Shaft Bearing	2	1		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Main Rotor Bearing	2	1		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Check Gearbox Oil Level							✓			✓				✓				✓					✓			
Change Gearbox Oil. Replace w/ 80-90 Synthetic gear oil					✓							✓												✓		
Inspection																										
Inspect for Loose, Missing, or Worn Components.			✓																							
Inspect Drive Belts			✓																							
Inspect Drive Chain							✓				✓				✓				✓					✓		
Inspect Tiller Tine Bolts. Torque to 55 ft-lbs (75 Nm)				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Inspect for Damaged Tiller Tines			✓																							
Inspect Safety Decals			✓																							

Maintenance Checklist

Maintenance Checklist		KL480 Tiller																							
		# of Locations	# of Pumps	At 25 Hours	At 50 Hours	At 75 Hours	At 100 Hours	At 125 Hours	At 150 Hours	At 175 Hours	At 200 Hours	At 225 Hours	At 250 Hours	At 275 Hours	At 300 Hours	At 325 Hours	At 350 Hours	At 375 Hours	At 400 Hours	At 425 Hours	At 450 Hours	At 475 Hours	At 500 Hours	Yearly	
Grease & Lubrication: See Lubrication Section																									
Drive Shaft Bearing	2	1																							
Fan Shaft Bearing	2	1																							
Check Gearbox Oil Level																									
Change Gearbox Oil. Replace w/ 80-90 Synthetic gear oil																									
Inspection																									
Inspect for Loose, Missing, or Worn Components.																									
Inspect Drive Belts																									
Inspect Drive Chain																									
Inspect Tiller Tine Bolts. Torque to 55 ft-lbs (75 Nm)																									
Inspect for Damaged Tiller Tines																									
Inspect Safety Decals																									

SPECIFICATIONS

Dimensions

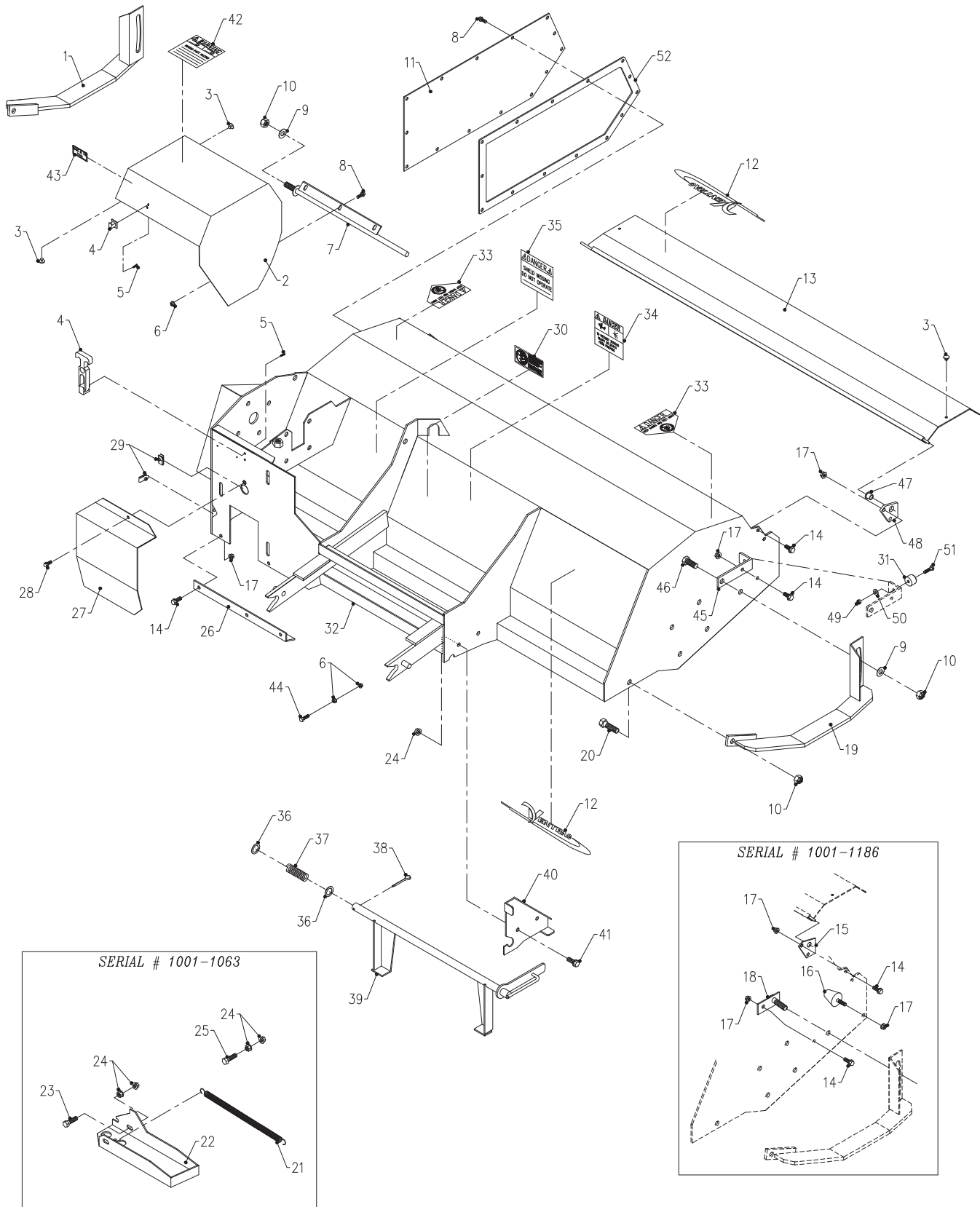
Overall Height	22 inches (56 cm)
Overall Length	41 inches (104 cm)
Overall Width	53 inches (135 cm)
Weight	356 pounds (162 kg)
Tilling Width	48 inches (122 cm)
Maximum Tilling Depth	6 inches (15.2 cm)

Features

- 24 high performance carbon tines
- Adjustable skid shoes
- Stand for holding tiller when not in use
- Leveler shield
- Intermediate gear reduction for quiet running
- Sealed lubrication final drive (#80 chain)

PARTS

ILLUSTRATED DRAWING Main Frame & Shields

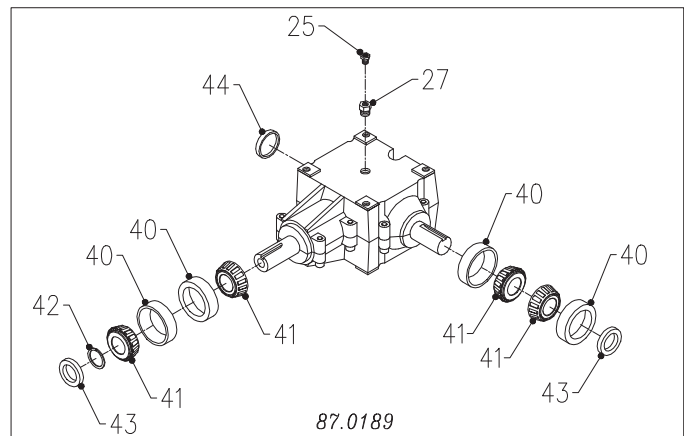


PARTS

Main Frame & Shields

REF.	PART NO.	DESCRIPTION	QTY.
1	62.0896	.SHOE, SKID LEFT KL480	1
2	60.0786	.COVER, BELTS & GEARBOX KL480	1
3	05.0062	.BUMPER, RUBBER SOLID STEM	6
4	47.0127	.LATCH, RUBBER DRAW T-HANDLE	1
5	99.K0072	.MACHINE SCREW, 10-24 X 1/2 ZP.	3
6	99.SF04	.NUT, SF 1/4-20 USS	5
7	42.0434	.SHAFT, PIVOT - COVER KL480	1
8	99.SF0404-1	.BOLT, SF 1/4-20 X 1/2 W/RUBBER	17
9	95.08	.WASHER, FLAT 1/2 SAE	3
10	99.A08	.LOCKNUT, STOVER 1/2-13 USS	5
11	60.0787	.COVER, CHAIN KL480	1
12	00.0189	.DECAL, VENTRAC ORBITAL	2
13	60.0785	.FLAP, DIRT KL480	1
14	99.SF0506	.BOLT, SF 5/16-18 USS X 3/4	9
15	64.0907	.BRACKET, DIRT FLAP MOUNT KL480 (SERIAL # 1001-1186)	4
16	05.0061	.BUMPER, RUBBER CONICAL (SERIAL # 1001-1186)	2
17	99.SF05	.NUT, SF 5/16-18 USS	11
18	64.0911	.BRACKET, SHOE ANCHOR KL480 (SERIAL # 1001-1186)	2
19	62.0895	.SHOE, SKID RIGHT KL480	1
20	90.0808	.BOLT, 1/2-13 USS X 1	2
21	41.0045	.SPRING, 3/4 X 12 EXT .092-WIRE (SERIAL # 1001-1063)	1
22	60.0789	.LEG, PARK KL480 (SERIAL # 1001-1063)	1
23	90.0612	.BOLT, 3/8-16 USS X 1 1/2	3
24	99.SF06	.NUT, SF 3/8-16 USS	8
25	90.0616	.BOLT, 3/8-16 USS X 2	1
26	64.0906	.STIFFENER, HOUSING KL480	1
27	60.0788	.COVER, BELT KL480	1
28	99.SF0405-1	.BOLT, SF 1/4-20 X 5/8 W/RUBBER	2
29	99.E0046	.NUT, "U" 1/4-20 EXTRUDED	2
30	00.0217	.DECAL, WARNING READ OWNERS MAN.	1
31	05.0095	.BUMPER, RUBBER CYLINDRICAL (SERIAL # 1187 -)	2
32	62.0893	.FRAME, MAIN KL480	1
33	00.0123	.DECAL, KEEP HAND AND FEET AWAY	2
34	00.0102	.DECAL, DANGER-PINCHING HAZARD	1
35	00.0062	.DECAL, DANGER SHIELD MISSING	1
36	95.12	.WASHER, FLAT 3/4 SAE	2
37	41.0073	.SPRING, COMP 13/16 ID X 2-1/2L (SERIAL # 1064 -)	1
38	02.CP0508	.COTTER PIN, 5/32 X 1	1
39	62.1003	.STAND, JACK KL480 (SERIAL # 1064 -)	1
40	60.0880	.PLATE, JACK STAND MOUNTIN (SERIAL # 1064 -)	1
41	99.SF0606	.BOLT, SF 3/8-16 USS X 3/4	2
42	00.0101	.DECAL, HAZARD-MOVING PART	1
43	00.0100	.DECAL, MADE IN USA	1
44	90.0414	.BOLT, 1/4-20 USS X 1 3/4	1
45	64.1372	.BRACKET, BUMPER (SERIAL # 1187 -)	2
46	90.0810	.BOLT, 1/2-13 USS X 1 1/4	2
47	85.B0027	.BUSHING, 1/2 ID X 5/8 OD X 5/8 (SERIAL # 1187 -)	2
48	64.1373	.MOUNT, DIRT FLAP (SERIAL # 1187 -)	2
49	99.A04	.LOCKNUT, STOVER 1/4-20 USS	2
50	95.04	.WASHER, FLAT 1/4 SAE	2
51	90.0408	.BOLT, 1/4-20 USS X 1	2
52	44.0268	.GASKET, OIL SEAL (SERIAL # 1234-)	1

Gearbox & Belt Drive



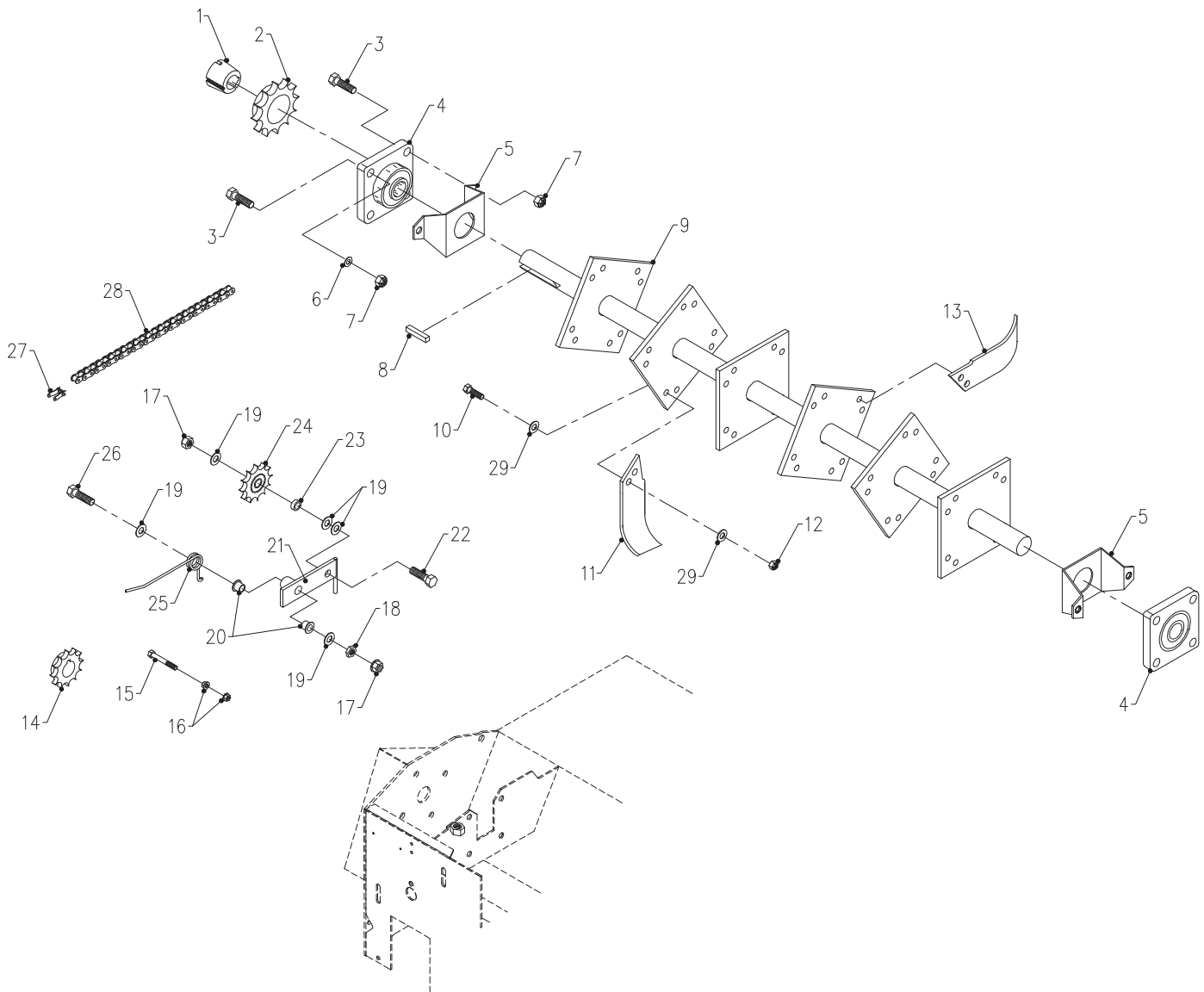
PARTS

Gearbox & Belt Drive

REF.	PART NO.	DESCRIPTION	QTY.
1	83.H800920	.SPROCKET,#80 9-T HRD 1-1/4 BOR	1
2	62.0894	.PLATE, GEARBOX MOUNT KL480	1
3	95.06	.WASHER, FLAT 3/8 SAE	3
4	90.0606	.BOLT, 3/8-16 USS X 3/4	3
5	99.SF06	.NUT, SF 3/8-16 USS	3
6	42.0433	.TIGHTNER, GEARBOX BELT KL480	1
7	85.K0410	.KEY, 1/4 X 1 1/4	4
8	92.08	.NUT, 1/2-13 USS	1
9	80.0311	.SHAFT, JACK KL480	1
10	90.0712	.BOLT, 7/16-14 USS X 1 1/2	8
11	95.07	.WASHER, FLAT 7/16 SAE	8
12	55.FB22020S	.BEARING, FLANGE 1-1/4S	2
13	96.07	.WASHER, LOCK 7/16	8
14	92.07	.NUT, 7/16-14 USS	8
15	83.3TB94	.PULLEY, 3-GROOVE X 9.4" DIA	1
16	83.Q120	.BUSHING, 1 1/4" Q1	1
17	81.BX035	.BELT, BX35	1
18	83.121016	.BUSHING, 1210 X 1" TAPERD LOCK	1
19	83.3TB36TB	.PULLEY, 3B 3.6" TB-BUSHING	1
20	81.B066	.BELT, B66	1
21	87.0189	.GEARBOX, 1" SHAFT 2:1 CW/CCW (SERIAL # 1001-1168)	1
21	87.0219	.GEARBOX, CW/CCW 1" SHAFT 2:1 (SERIAL # 1169-1228)	1
21	87.0189	.GEARBOX, 1" SHAFT 2:1 CW/CCW (SERIAL # 1229-)	1
22	83.H16S	.BUSHING, 1" SPLIT 1/4" KEY	1
23	83.BK80H	.PULLEY, 8" H-BUSH	1
24	99.SF0608	.BOLT, SF 3/8-16 USS X 1	4
25	29.0090	.PIPE, BREATHER PLUG 1/8	1
26	90.0406	.BOLT, 1/4-20 USS X 3/4	2
27	29.B0204G	.PIPE, BUSHING 1/8 X 1/4 GALV	1
40	55.0076	.BEARING, CUP 1.980	4
41	55.0075	.BEARING, CONE 1.000	4
42	04.0026	.RETAINING RING, EXT 1.000 SHFT	1
43	89.0075	.SEAL, OIL	2
44	89.0081	.SEAL, END CAP 1.50-25	1

PARTS

ILLUSTRATED DRAWING Rotor & Chain Drive



PARTS

Rotor & Chain Drive

REF.	PART NO.	DESCRIPTION	QTY.
1	83.161524	.BUSHING, 1615 X 1-1/2 TAPERLOC.	1
2	83.H80TB15	.SPROCKET, #80 15-T HRD	1
3	90.0812	.BOLT, 1/2-13 USS X 1 1/2	8
4	55.FB22024	.BEARING, FLANGE BLOCK 1 1/2	2
5	64.0908	.PROTECTOR, 1-1/2 BEARING KL	2
6	95.08	.WASHER, FLAT 1/2 SAE	4
7	99.A08	.LOCKNUT, STOVER 1/2-13 USS	8
8	85.K0610	.KEY, 3/8 X 1 1/4	1
9	80.0310	.SHAFT, MAIN ROTOR KL480	1
10	91.0712-8	.BOLT, 7/16-20 SAE X 1-1/2 GRD8	48
11	79.0049-L	.TINE, TILLER L.H.	12
12	99.A07NFN	.LOCKNUT, NYLON 7/16-20 SAE	48
13	79.0049-R	.TINE, TILLER R. H.	12
14	83.H800920	.SPROCKET, #80 9-T HRD 1-1/4 BOR	1
15	90.0514	.BOLT, 5/16-18 USS X 1 3/4	1
16	99.SF05	.NUT, SF 5/16-18 USS	2
17	99.SF08	.NUT, SF 1/2-13 USS	2
18	99.E0058	.NUT, JAM 1/2-13 USS	1
19	95.08	.WASHER, FLAT 1/2 SAE	5
20	85.B0027	.BUSHING, 1/2 ID X 5/8 OD X 5/8	2
21	40.0290	.IDLER ARM, CHAIN KL480	1
22	90.0814	.BOLT, 1/2-13 USS X 1 3/4	1
23	85.B0015	.BUSHING, 1/2 ID X 3/4 OD X 1/2	1
24	83.8011012	.SPROCKET, IDLER #80 11-T	1
25	41.0066	.SPRING, SINGLE TORSION LH	1
26	90.0824	.BOLT, 1/2-13 USS X 3	1
27	81.0059	.LINK, CONN #80	1
28	81.0138	.CHAIN, ROLLER #80 X 44" KL480	1
29	95.07	.WASHER, FLAT 7/16 SAE	96

WARRANTY



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 power units & attachments (excluding the HG100/HG150 generator) for **residential use only** is limited to **three (3) years** from original purchase date. Ventrac power units & 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 power units & 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 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

WARRANTY



LIMITED WARRANTY - VENTRAC TURF 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.