Operator's Manual & Parts Drawings

Generator

Model HG150

by Venture Products Inc.

VENTRAC® MOUNT SYSTEM

Revised 02/26/13
09.10011

328 East Water St.
PO Box 148
Orrville Oh 44667
www.ventrac.com

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.

Generator Serial # (C): _____

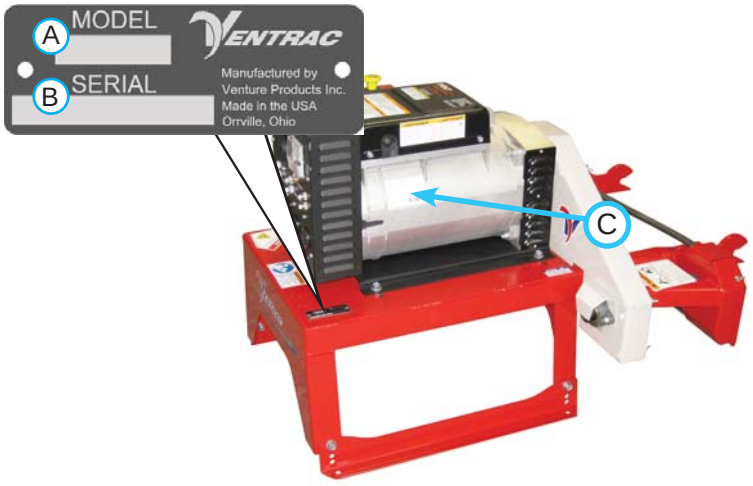


TABLE OF CONTENTS

TABLE OF CONTENTS

INTRODUCTION

Venture Products Inc. is pleased to provide you with your new Ventrac HG150 generator! We hope that Ventrac equipment will provide you with a ONE Tractor Solution.

Listed below are just some of the items that can provide you *versatility* as you use your HG150 generator. Please visit our web site, or contact your authorized Ventrac dealer for a complete list of items available for your new generator.

Product Description

The HG150 generator is designed to provide reliable, portable power where and when you need it. It provides 12,500 continuous watts (15,000 max. watts) of electrical power. Multiple receptacles in both 120 and 240 volts accommodate a wide variety of needs. The generator is equipped with circuit breakers to protect against overload.

The generator is equipped with a remote PTO switch that allows the PTO to be shut off at the generator. For remote switch operation on a 4100 or 4200, the power unit must be equipped with an electric PTO remote kit # 70.4078.

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.

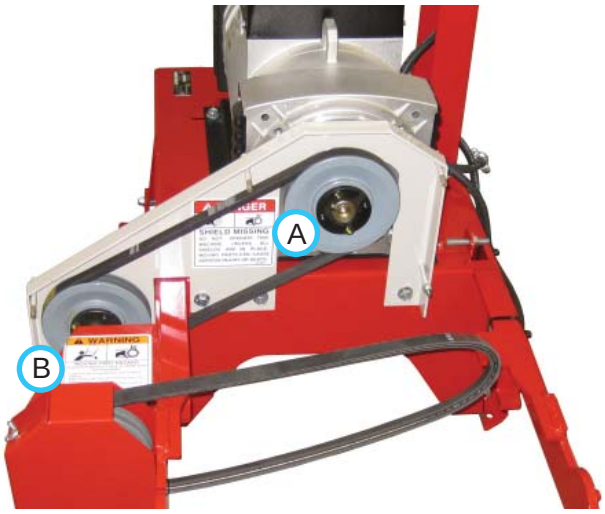
Machine Describes any “Attachment” or “Accessory” that is used in conjunction with a power unit.

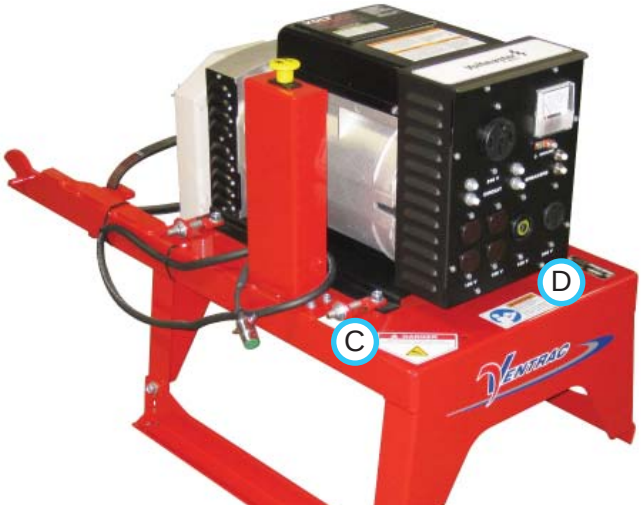
Safety Decals

The following safety decals must be maintained on your HG150 generator.

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.



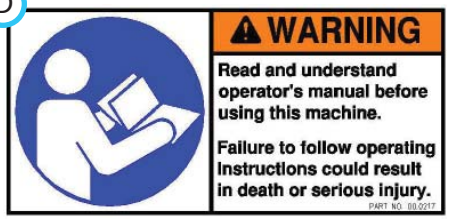


A

B

C

D



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

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.

Operating Safely

- 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.
- 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.
- 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.
- 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 place the selector lever in park before shifting range.

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

Operating Safely (continued)

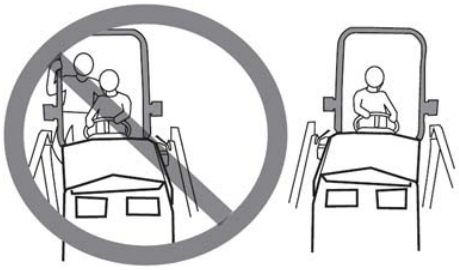
- Do not leave machine unattended while it is running.
- Always park the machine on level ground.
- Always shut off engine when connecting attachment drive belt to the power unit.
- Never leave the operator's seat without lowering the attachment to the ground, setting the parking brake, shutting off 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.
- 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.

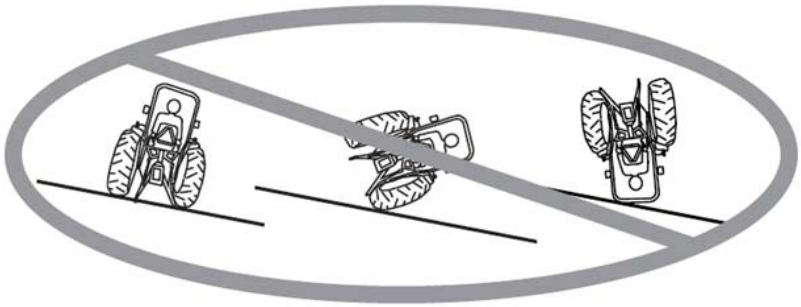
Keep Riders Off

- Only allow the operator on the power unit. Keep riders off.
- Never allow riders on any attachment or accessory.



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

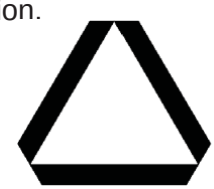
Operating On Slopes



- 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 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 place the selector lever in park before shifting range.
- 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.

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 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.
- Springs may contain stored energy. Use caution when disengaging or removing springs.
- 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

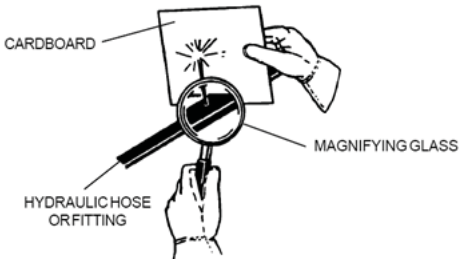
- Do not refuel machine while smoking or at a location near flames or sparks.
- Always refuel the machine outdoors.
- Do not store machine or fuel container indoors where fumes or fuel can reach an open flame, spark, or pilot light.
- Only store fuel in an approved container. Keep out of reach of children.
- Never remove gas 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.

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.

HG150 Safety Procedures

⚠ DANGER

The output power voltage of the generator can cause a fatal electric shock. This equipment must be operated by a responsible adult.

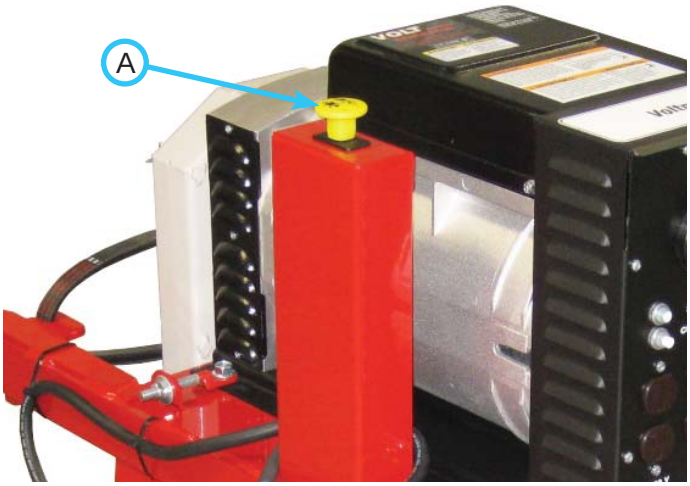
Guard against electric shock and avoid contact with live terminals or receptacles.

⚠ DANGER

If the generator output is connected to the dead home electric circuits and no means is provided to isolate the home electric circuits from the commercial power source, the generator output will back feed into the power lines and could cause severe injury or death to utility workers attempting line repairs.

- If utilizing existing home electric circuits in the event of a commercial power outage, provide a positive means of insuring that the commercial power and portable generator power ar never fed to the load at the same time. If normal power and generator power are not isolated and normal power is restored while the generator is still powering the home electric circuits, severe damage to the generator will occur and the possibility of a home electric fire and damage to the home electric wiring circuits exists. Consult a qualified licensed electrician or electrical contractor for a proper and approved connection. Any permanent wiring installations must comply with the National Electric Code (CSA in Canada) and all state and local codes.
- Always operate the power unit and generator in an open well ventilated area. Never operate the generator with a cover on the unit. The generator must operate in a free air environment in order to properly cool.
- Never connect the generator output to any live electric circuit.
- Do not allow anyone to operate the generator without proper instructions.
- The generator must be properly grounded according to the National Electric Code (CSA in Canada) and all state and local codes. The generator is internally grounded, but an external ground is required by the customer. External grounding terminals are provided.
- On construction sites, a customer supplied GFCI (ground fault circuit interrupter) should be utilized to protect the 120 volt AC receptacles.
- Use only 3 prong grounded receptacles and extensions cords.
- Do not operate the generator in rain or snow.
- The installation must comply with all national, state, provincial, and local electric codes. Do not connect the generator to a home or building except through an approved disconnect switch.
- Always disconnect all electric loads from the generator before starting or shutting off the generator. Voltage surges (high or low) at start up or shut down may damage equipment.
- Never leave the power unit and generator unattended. Stay in the general vicinity to observe electrical requirement and performance of the equipment.

Remote PTO Switch



The remote PTO switch (A) allows the power unit's PTO* to be shut off from the generator. The power unit must be equipped with an electric PTO remote (kit # 70.4078) in order for the generator's remote PTO switch to be used.

* Refer to power unit operator's manual for operation of power unit engine and PTO system.

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 generator. Look for loose or missing hardware, damaged components, or signs of wear.
3. Inspect the drive belts. Belts should be in good condition. Service as required.
4. Inspect safety decals. If any decals are faded, illegible, or missing, contact your dealer promptly for replacements.
5. 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.
6. Test the power unit's operator safety interlock system*.

Attaching

1. Drive the power unit slowly forward into the hitch arms of the generator. Align the lift arms of the power unit with the generator 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 tension spring.
6. Connect electric plug from remote PTO switch to the electric 5 pin socket on the power unit (if equipped).

Detaching

1. Park the power unit on a level surface and set the parking brake.*
2. Lower the generator to the ground.
3. Shut off power unit engine.
4. Disengage the PTO tension spring.
5. Remove the attachment belt from the PTO drive pulley of the power unit.
6. Disconnect the electric plug from the power unit electric socket (if equipped).
7. Open the front hitch locking lever.*
8. Restart power unit and back slowly away from the generator. A side to side movement of the steering wheel may aid disengagement.

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

Home Standby Usage

Generator and Commercial Power Isolation Methods

⚠ DANGER

If the generator output is connected to the dead home electric circuits and no means is provided to isolate the home electric circuits from the commercial power source, the generator output will back feed into the power lines and could cause severe injury or death to utility workers attempting line repairs.

⚠ WARNING

If normal power and generator power are not isolated and normal power is restored while the generator is still powering the home electric circuits, severe damage to the generator will occur and the possibility of a home electric fire and damage to the home electric wiring circuits exists.

If the generator will be connected to existing home electric circuits during a commercial power outage, a positive means of isolating the commercial and generator power must be provided. The usual means for isolation protection is to incorporate a suitably rated double throw, double pole manual transfer switch. Consult the National Electric Code (CSA in Canada), and all state, provincial, and local codes for laws and regulations governing generator connection and isolation methods for your area.

⚠ WARNING

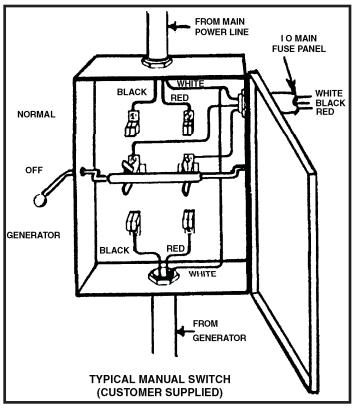
Installing and wiring a home standby generator system using existing home electric circuits is not a do-it-yourself project. Any home rewiring modification or the installation of a manual transfer switch, outdoor connection box, emergency circuit distribution box, etc., must be done by a qualified licensed electrician or electrical contractor.

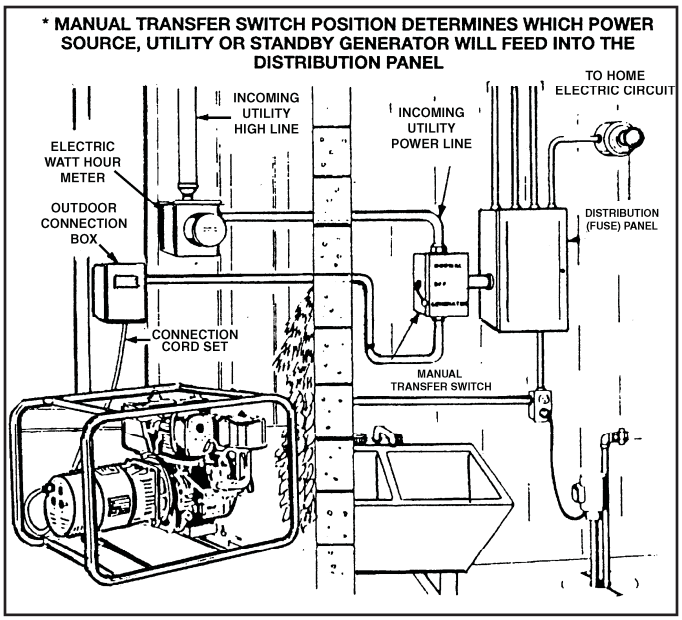
Any permanent wiring installations must comply with the National Electric Code (CSA in Canada), and all state, provincial, and local codes.

⚠ WARNING

All gasoline and diesel engines produce carbon monoxide which can kill. Do not operate the generator and power unit indoors or near open windows of a home or building.

A typical installation with an outdoor connection box, cord set, and manual transfer switch is shown in the illustration below.

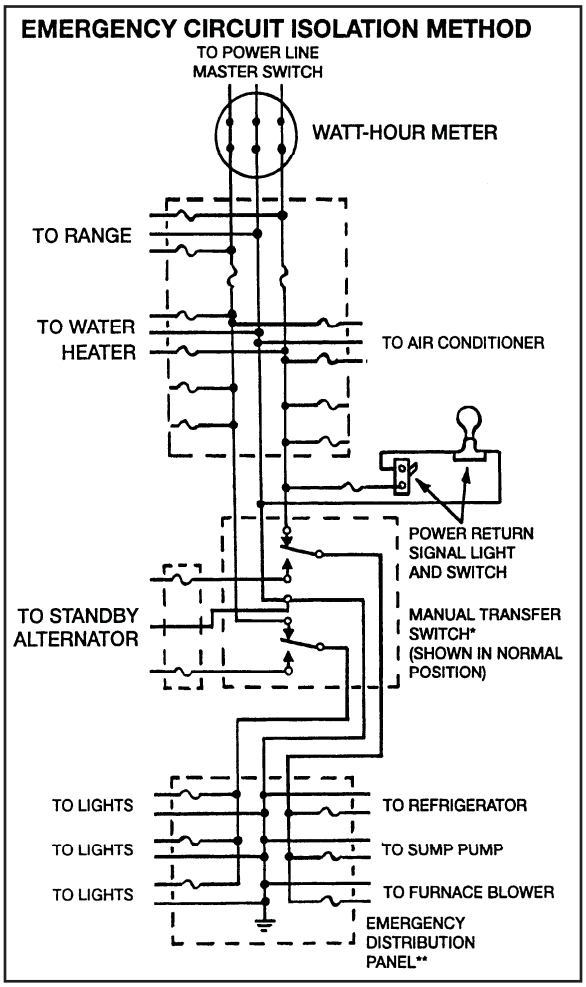




This generator does not have output capacity to power your entire home. Most home utility commercial electric service is in excess of 100 amperes at 240 volts, which exceeds the output of the generator. Because of this, only key items can be powered (up to the ampere rating of the generator) during a commercial power outage. There are two methods of installing a manual transfer switch, the emergency circuit isolation method and the total circuit isolation method.

Emergency Circuit Isolation Method

One method is to have the emergency circuits (important items to be powered during a power outage) grouped together and rewired into a separate emergency distribution box. The emergency circuit must not exceed the ampere rating of the generator. The manual transfer switch with an ampere rating equal to the ampere rating of the emergency circuit is installed between the main distribution panel and the emergency distribution panel. A cord set to connect to the generator is installed to the manual transfer switch. With this method it will be difficult to accidentally overload the generator.

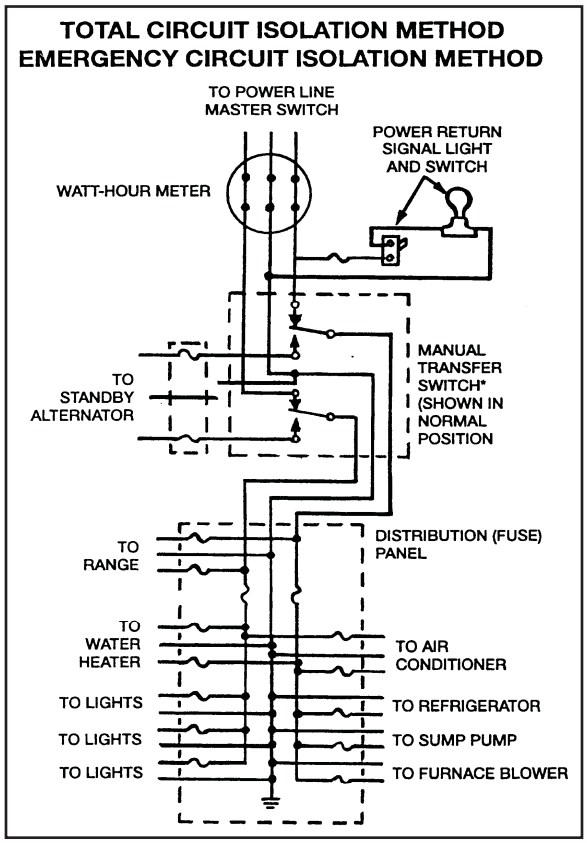


*Ampere rating must equal or exceed the ampere rating of the emergency distribution panel.

**Ampere rating must not exceed the ampere rating of the generator. Only these items will be powered by the generator. If the electrician sizes the load properly, the generator can't be overloaded. All wiring must conform to National Electric Code and all state, provincial, and local codes. Consult a qualified licensed electrician or electrical contractor. The illustration assumes 120/240 volt single phase service is being supplied by the utility company.

Total Circuit Isolation Method

If the emergency circuits are not or can not be rewired together in a separate distribution box, you will have to select the circuits and appliances to be powered by the generator. Caution must then be used to prevent the overload of the generator. The manual transfer switch with an ampere rating equal to the ampere rating of the normal incoming utility service is installed on the incoming power line prior to the main distribution panel. A cord set to connect to the generator is installed to the manual transfer switch.



*Ampere rating must equal or exceed the ampere rating of the incoming utility service.

With this system, caution must be used to prevent overload of the generator during commercial power outage. All load items in the distribution panel must be turned off. Only certain items can be turned back on during generator operation. These items should be specified by your electrician so as not to overload the generator. All wiring must conform to National Electric Code and all state, provincial, and local codes. Consult a qualified licensed electrician or electrical contractor. The illustration assumes 120/240 volt single phase service is being supplied by the utility company.

Operating Procedure

Perform the daily inspection and disengage the power unit's weight transfer, if equipped.

Park the power unit and generator on a flat surface and set the power unit's parking brake.

Pull up on the generator's remote PTO switch to activate. With the power unit engine running between 2,000 and 2,500 RPM, engage the power unit's PTO switch. Adjust the throttle until the engine is running between 3,000 and 3,200 RPM and check the generator's voltmeter gauge. In order to get the proper voltage output the voltmeter gauge should read between 240-250 volts on the gauge with no load on the generator. The gauge should be checked periodically to make sure the generator is operating in the correct range. Under load the voltage may drop. If the voltage gauge reads low, increase the power unit's engine speed. If the gauge reads high, decrease the power unit's engine speed. Even though the voltmeter gauge reads 240-250 volts, the correct voltage is directed to each receptacle.

During generator use, the generator's remote PTO switch can be pushed down to disengage the power unit's PTO and shut off the generator. To restart the generator, pull up on the remote switch to activate, and then turn the power unit's PTO switch off and then on again.

Portable Generator Use

With the generator operating in the proper voltage range, plug equipment into the receptacles on the generator. If you are running extension cords between the generator and the equipment, use the extension cord chart to determine the minimum gauge (AWG) necessary to safely operate your equipment.
NOTE: when adding electrical load to the generator, always start with higher amperage draw items first. Electric motors require 3 to 4 times rated amperage and wattage to start. Refer to load charts for approximate guidelines.

When shutting down, unplug your equipment from the generator receptacles before disengaging the power unit's PTO to shut off the generator.

Home Standby Use

Turn off the lights and appliances that were on before the commercial power outage to prevent overloading the generator due to immediate demand for a large amount of power. If you are using the emergency circuit isolation method and your emergency circuit load has been properly sized for your generator, this step can be skipped, as the power is distributed only to a select number of items.

With the generator operating in the proper voltage

GENERAL OPERATION

With the generator operating in the proper voltage range, connect the cord set from the manual transfer switch to the 240 volt receptacle on the generator. Move the manual transfer switch to the generator position. If you are connected through an emergency distribution panel, the emergency circuits will now be powered by the generator. If you are connected using the total circuit isolation method, select emergency items can now be turned back on to be powered by the generator. Be sure these items do not overload the generator. NOTE: when adding AC loads to the generator, always start with big loads first. Electric motors require 3 to 4 times rated amperage and wattage to start. Refer to load charts for approximate guidelines.

When commercial power is restored, move the manual transfer switch to the normal position. The home electric circuits will now be powered by the commercial power source.

Unplug the cord set from the generator receptacle and disengage the power unit's PTO to shut off the generator.

Extension Cord Chart

Continuous Load (use either amps or watts below)			Minimum Gauge (AWG)		
Amps	Watts				
	@120 volts	@240 volts	0-50 feet	50-100 feet	100-150 feet
2	240	480	22	20	18
3	360	720	22	18	16
4	480	960	20	16	16
5	600	1,200	18	16	14
6	720	1,440	18	16	14
8	960	1,920	16	14	12
10	1,200	2,400	16	12	12
12	1,440	2,880	16	12	10
14	1,680	3,660	14	12	10
16	1,920	3,840	14	10	10
18	2,160	4,320	14	10	8
20	2,400	4,800	12	10	8
22	2,640	5,280	12	10	8
25	3,000	6,000	12	10	6
30	3,600	7,200	10	8	6
35	4,200	8,400	10	8	4
40	4,800	9,600	8	6	2
50	6,000	12,000	6	4	2
60	7,200	14,400	4	2	-

Electric Motor Chart

Horse-power	Running Watts	Starting Watts			
		Universal Motor (sm. appliance)	Induction Motor	Capacitor Motor	Split Phase Motor
1/6	275	400	600	850	1,200
1/4	400	500	850	1,050	1,700
1/3	450	600	950	1,350	1,950
1/2	600	750	1,300	1,800	2,600
3/4	850	1,000	1,900	2,600	-
1	1,000	1,250	2,300	3,000	-
1-1/2	1,600	1,750	3,200	4,200	-
2	2,000	2,350	3,900	5,100	-
3	3,000	-	5,200	6,800	-
5	4,800	-	7,500	9,800	-

Approximate Power Requirements

Equipment & Appliances	Wattage Requirements	
	Starting/Surge	Running
Air Conditioner - Central Air 24,000 btu	6,235	3,750
Air Conditioner - Window 8,000 btu	1,600	800
Battery Charger, 10 Amps	-	200
Blender	600	300
Blow Dryer	-	900 - 1,500
Ceiling Fan	75	10-50
Clock	-	3
Clock Radio	-	50
Clothes Dryer, Electric	6,750	5,400
Clothes Dryer, Gas Heated	1,200	400
Coffee Maker	-	1,200
Compressor (see motor chart) - 3/4 HP	1,900	850
Compressor - 1 HP	2,500	1,100
Compressor - 2 HP	3,600	1,800
Compressor - 3 HP	4,800	2,400
Computer, Laptop	-	50
Computer, Desktop	-	150
Computer, Printer	-	100
Cordless Phone	-	3
Dishwasher	2,500	1,500
Drill - 1/4"	400	300
Drill - 3/8"	650	475
Drill - 1/2"	900	750
Drill - 1"	1,250	1,000
Dvd Player	-	35
Electric Blanket	-	400
Fan, 16"	250	85
Floodlight	-	1,000
Freezer	1,500	500
Furnace Fan, 1/3 HP	1,800	600
Furnace Fan, 1/2 HP	2,300	875
Garage Door Opener	1,100	550
Garbage Disposal	1,200	450
Game System (Xbox, Playstation)	-	175
Grain Cleaner, 1/4 HP	1,000	650
Grain Elevator, 3/4 HP	3,000	1,400
Grinders (by motor size - refer to motor chart)	-	-
Heater, Engine Block	-	150 - 1,000
Heater, Portable Electric	-	400 - 1,500
Heater, Portable Liquid Fuel - 50,000 btu	675	225
Heater, Portable Liquid Fuel - 100,000 btu	1,260	420

Equipment & Appliances	Wattage Requirements	
	Starting/Surge	Running
Heater, Portable Liquid Fuel - 150,000 btu	1,875	625
Heater, Stock Tank	-	100
Heat Pump	12,000	4,700
Hedge Trimmer	900	450
Impact Wrench - 1/2”	750	600
Impact Wrench - 3/4”	900	750
Impact Wrench - 1”	1,400	1,200
Iron	-	1,000
Microwave Oven	1,200 - 3,000	600 - 1,500
Milk Cooler	1,800	1,100
Mixer, 3-1/2 cubic feet	2,300	1,000
Motors (see motor chart)	-	-
Mower	3,000	1,500
Oven	-	3,410
Oven, Stove Top Burner (per burner)	-	1,500
Oven, Toaster	-	1,200
Refrigerator/Freezer	1,500 - 2,400	500 - 800
Sander, Belt	2,600	1,200
Sander, Disc	2,600	1,200
Sander, Orbital	2,600	1,200
Satellite Dish	-	30 - 100
Saw, Band	2,400	1,100
Saw, Chain	3,400	1,200
Saw, 6” Circular	2,200	950
Saw, 7-1/4” Circular	2,600	1,200
Saw, 8-1/2” Circular	3,000	1,500
Saw, 10” Circular	3,900	2,000
Saw, Cutoff	3,500	2,500
Saw. Jig	400	300
Saw, 10” Table	6,000	2,000
Soldering Iron	-	150
Stereo	-	50 -200
Sump Pump, 1/3 HP	2,400	800
Sump Pump, 1/2 HP	3,000	1,000
Television, 46” Flat Screen LCD	-	180
Television/ Monitor, 19” Color	-	160
Television, 26” Color	-	300
Vacuum Cleaner, Upright	750	600
Vacuum Cleaner, Hand	200	100
VCR	-	40
Washing Machine	2,300	1,150
Water Heater, 40 Gallon	-	3,800
Water Heater, 50 Gallon	-	5,000
Weed Eater	750	500
Well Pump, Submersible - 3,000 gph	1,750	500
Well Pump, Submersible - 5,000 gph	2,500	650
Well Pump, Submersible - 10,000 gph	3,750	1,000
Well Pump, Submersible - 15,000 gph	5,000	1,500
Well Pump, Non-submersible - 3,000 gph	2,250	600
Well Pump, Non-submersible - 5,000 gph	2,850	750
Well Pump, Non-submersible - 10,000 gph	4,100	1,100
Well Pump, Non-submersible - 15,000 gph	5,250	1,600

These figures are an approximate representation only. The actual power consumption of your equipment and appliances may vary substantially from these figures. Older appliances will probably consume more power and newer, energy efficient appliances may consume less power. For accurate measurements for your appliances, check the power tags on your appliances or measure the amperage draw.

Transport of Generator

Make sure all cords are unplugged from the generator and disengage the power unit’s PTO before transporting generator. Raise the power unit front hitch and the generator fully raised. Travel slowly when transporting over undulating or rough surfaces to maintain control over the power unit and to reduce the shock to the machine.

Resetting Circuit Breakers

If a circuit breaker trips, remove the load from that circuit and allow the circuit breaker to cool. Push in on the circuit breaker to reset. Reduce the load that is connected to this circuit to prevent the circuit breaker from tripping again.

⚠ 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.

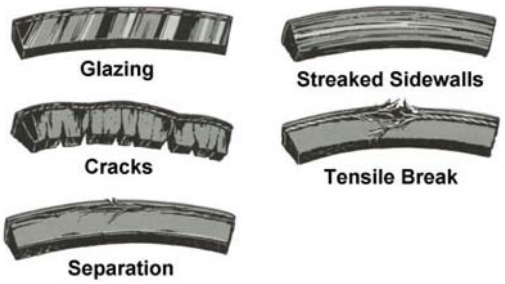
Cleaning and General Maintenance

For best results, and to maintain the finish of the generator, clean the generator after each use. Use compressed air to blow any dust or debris off the generator and wipe clean with a damp, soft cloth. Do NOT power wash the generator.

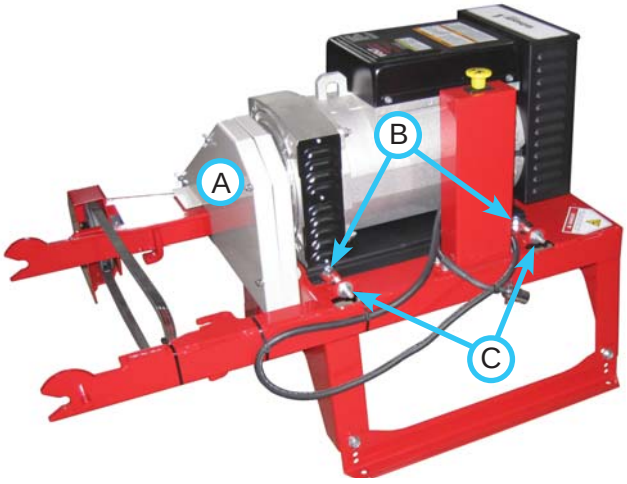
Belt Inspection

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

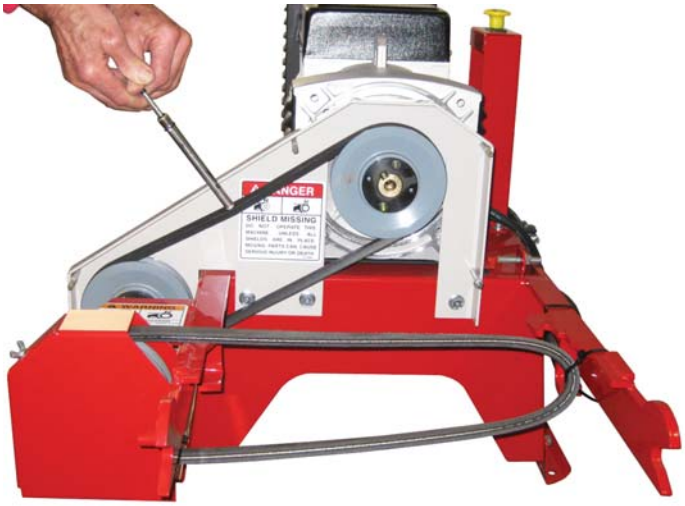
Typical wear on a drive belt may result in the conditions shown in the diagram. If any of these conditions occur, the drive belt will require replacement.



Generator Drive Belt Tension Adjustment



1. If the generator drive belt requires tension adjustment, detach the generator from the power unit.
2. Remove the belt drive shield (A).
3. Loosen the 4) bolts (B) that fasten the generator to the main frame.
4. Check the belt tension by measuring the pounds of force required to deflect the belt 7/32” (5.5 mm). A new belt should require 6.7 - 9 pounds of force and a used belt should require 4.5 - 6.7 pounds of force to create the proper deflection.



5. If the belt tension does not fall in this range, adjust the belt tension by tightening the nuts on the generator belt adjusters (C) to apply more belt tension or loosening the nuts on the generator belt adjusters to lessen the belt tension.
6. Tighten the 4) bolts that fasten the generator to the main frame. Torque to 31 ft-lbs (42 Nm).
7. Replace the belt drive shield.

Attachment Drive Belt Replacement

1. Detach the generator from the power unit.
2. Remove the drive pulley shield.
3. Remove the old drive belt.
4. Install the new drive belt over pulley and hook in the notch on the right hitch arm.
5. Replace the drive pulley shield.

Generator Drive Belt Replacement

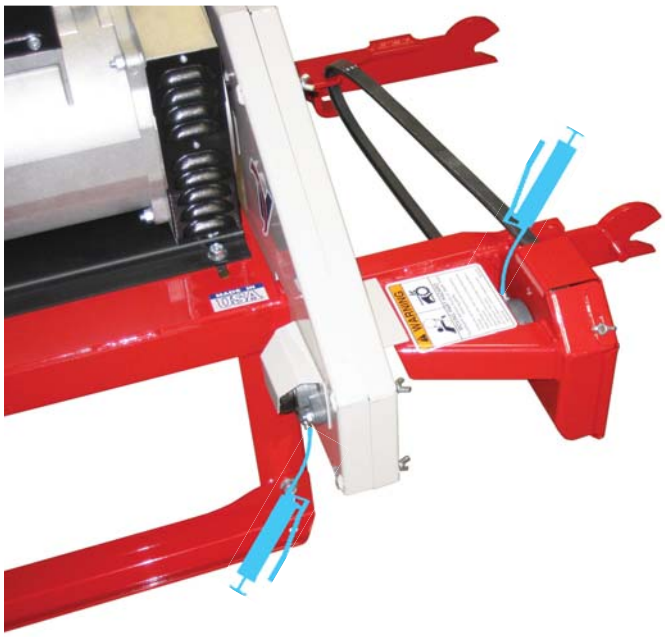
1. Detach the generator from the power unit.
2. Remove the belt drive shield.
3. Loosen the 4) bolts that fasten the generator to the main frame.
4. Loosen the 2) nuts on the generator belt adjusters and slide the generator toward the drive pulley side of the frame.
5. Remove the old drive belt.
6. Install the new drive belt over the right hitch arm and onto the pulleys. Slide the generator away

from the drive pulley side of the frame.

7. Tighten the nuts on the generator belt adjusters until the belt is properly tensioned. Refer to belt tension adjustment section.
8. Tighten the 4) bolts that fasten the generator to the main frame. Torque to 31 ft-lbs (42 Nm).
9. Replace the belt drive shield.

Lubrication Locations

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



Storage

Preparing the Generator for Storage

1. Clean the generator and frame.
2. Inspect for loose or missing hardware, damaged components, or signs of wear.
3. Inspect drive belts and replace, if necessary.
4. Store in a clean dry location.

Removing the Generator from Storage

Inspect, clean, and prepare the generator for use.

Maintenance Schedule

HG150

Maintenance Schedule	# of Locations	# of Pumps	AS NEEDED	Daily	At 25 Hours	At 50 Hours	At 100 Hours	At 150 Hours	At 200 Hours	At 250 Hours	At 300 Hours	At 350 Hours	At 400 Hours	At 450 Hours	At 500 Hours	At 550 Hours	At 600 Hours	At 650 Hours	At 700 Hours	At 750 Hours	At 800 Hours	At 850 Hours	At 900 Hours	At 950 Hours	At 1000 Hours	Yearly
Grease & Lubrication: See Lubrication Section																										
Drive Shaft Bearing	2	1				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Inspection																										
Inspect for Loose, Missing, or Worn Components.				✓																						
Inspect Belts for Wear				✓																						
Check Generator Drive Belt Tension					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Inspect Safety Decals				✓																						

** Operation in severe conditions may require more frequent service intervals.

Maintenance Checklist

HG150

Maintenance Checklist	# of Locations	# of Pumps	AS NEEDED	Daily	At 25 Hours	At 50 Hours	At 100 Hours	At 150 Hours	At 200 Hours	At 250 Hours	At 300 Hours	At 350 Hours	At 400 Hours	At 450 Hours	At 500 Hours	At 550 Hours	At 600 Hours	At 650 Hours	At 700 Hours	At 750 Hours	At 800 Hours	At 850 Hours	At 900 Hours	At 950 Hours	At 1000 Hours	Yearly
Grease & Lubrication: See Lubrication Section																										
Drive Shaft Bearing	2	1																								
Inspection																										
Inspect for Loose, Missing, or Worn Components.																										
Inspect for Bent Rake Tines																										
Check Tire Pressure																										
Inspect Safety Decals																										

** Operation in severe conditions may require more frequent service intervals.

SPECIFICATIONS

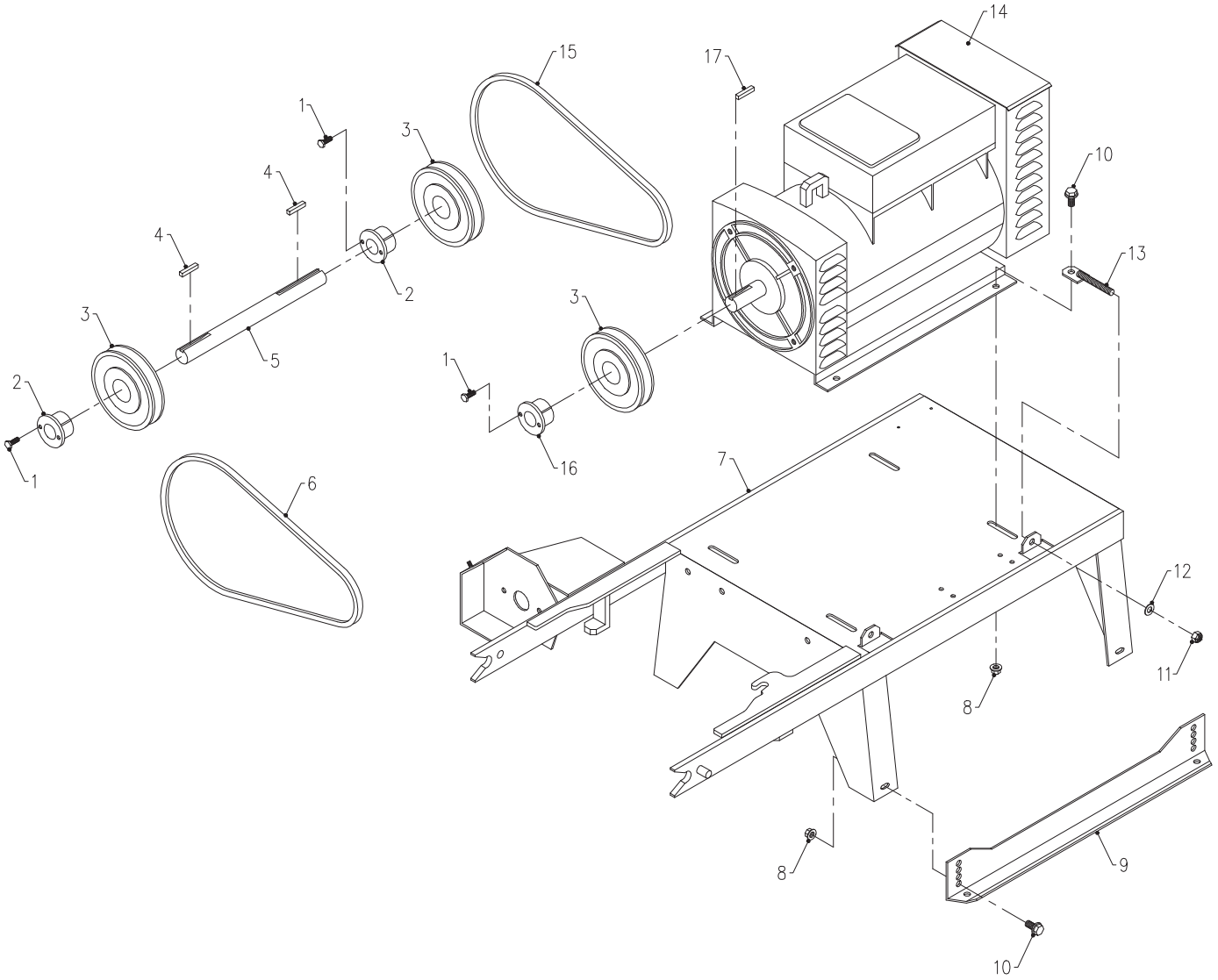
Dimensions

Overall Height	24 inches (61 cm)
Overall Length	38 inches (96.5 cm)
Overall Width	26-1/2 inches (67 cm)
Weight	217 pounds (98.5 kg)
Watts - Continuous	12,500
Watts - Maximum	15,000
Voltage	120/240
Amperage - Continuous	104/52
Amperage - Maximum	125/62.5
Hertz	60
Phase	Single
Receptacles	4) 120V, 20A (5-20R)
	1) 120V, 30A Twist Lock (L5-30R)
	1) 240V, 30A Twist Lock (L14-30R)
	1) 240V, 50A Range Receptacle (650-R)

Features

AC voltage gauge
High surge capacity
A totally brushless design
All copper windings
Revolving field construction
Convenient electric receptacles
Thermal circuit breakers standard
Sealed ball bearings

ILLUSTRATED DRAWING
Main Frame, Drive, & Generator



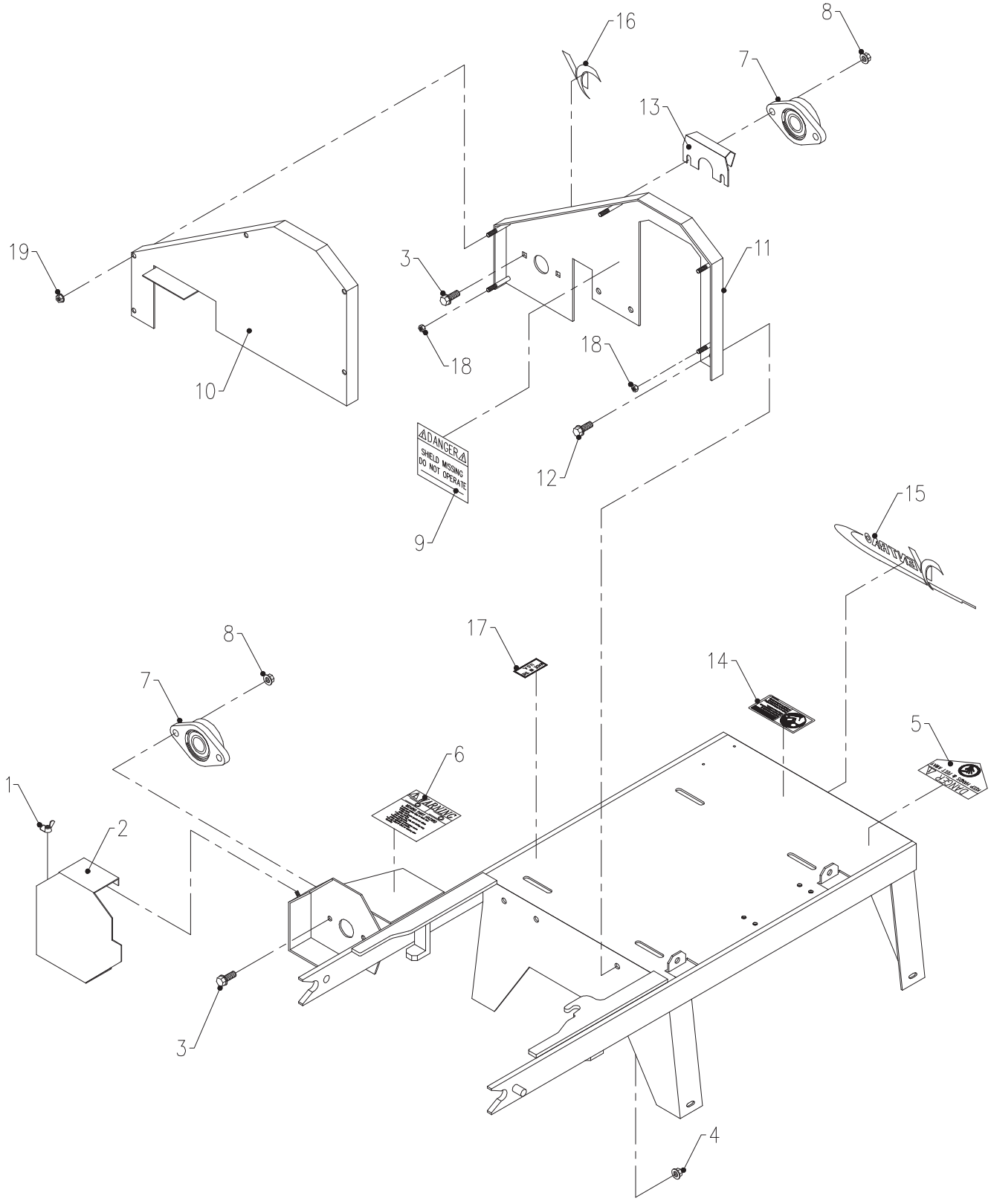
Use only original Ventrac replacement parts.

PARTS

Main Frame, Drive, & Generator

REF.	PART NO.	DESCRIPTION	QTY.
1	90.0406	BOLT, 1/4-20 USS X 3/4	6
2	83.H16S-2	BUSHING, 1" SPLIT 3/16&1/4 KEY	2
3	83.BK55H	PULLEY, 5.5" H-BUSHING	3
4	85.K0410	KEY, 1/4 X 1 1/4	2
5	80.0295	SHAFT, TGP 1 X 11-7/8L KEYED	1
6	81.B045	BELT, B45	1
7	62.0795	FRAME, MAIN	1
8	99.SF06	NUT, SRF 3/8-16 USS	8
9	64.0747	FRAME, STAND	2
10	99.SF0606	BOLT, SRF 3/8-16 USS X 3/4	8
11	99.A06	LOCKNUT, STOVER 3/8-16 USS	2
12	94.06	WASHER, FLAT 3/8 USS	2
13	42.0407	ADJUSTER, GENERATOR BELT	2
14	37.0053	GENERATOR, "VOLTMASTER" AR120	1
15	81.B040	BELT, B40	1
16	83.H28M	BUSHING, 28 MM H-BUSH	1
17	85.K0512	KEY, 5/16 X 1 1/2	1

ILLUSTRATED DRAWING
Bearings, Shields, & Decals



Use only original Ventrac replacement parts.

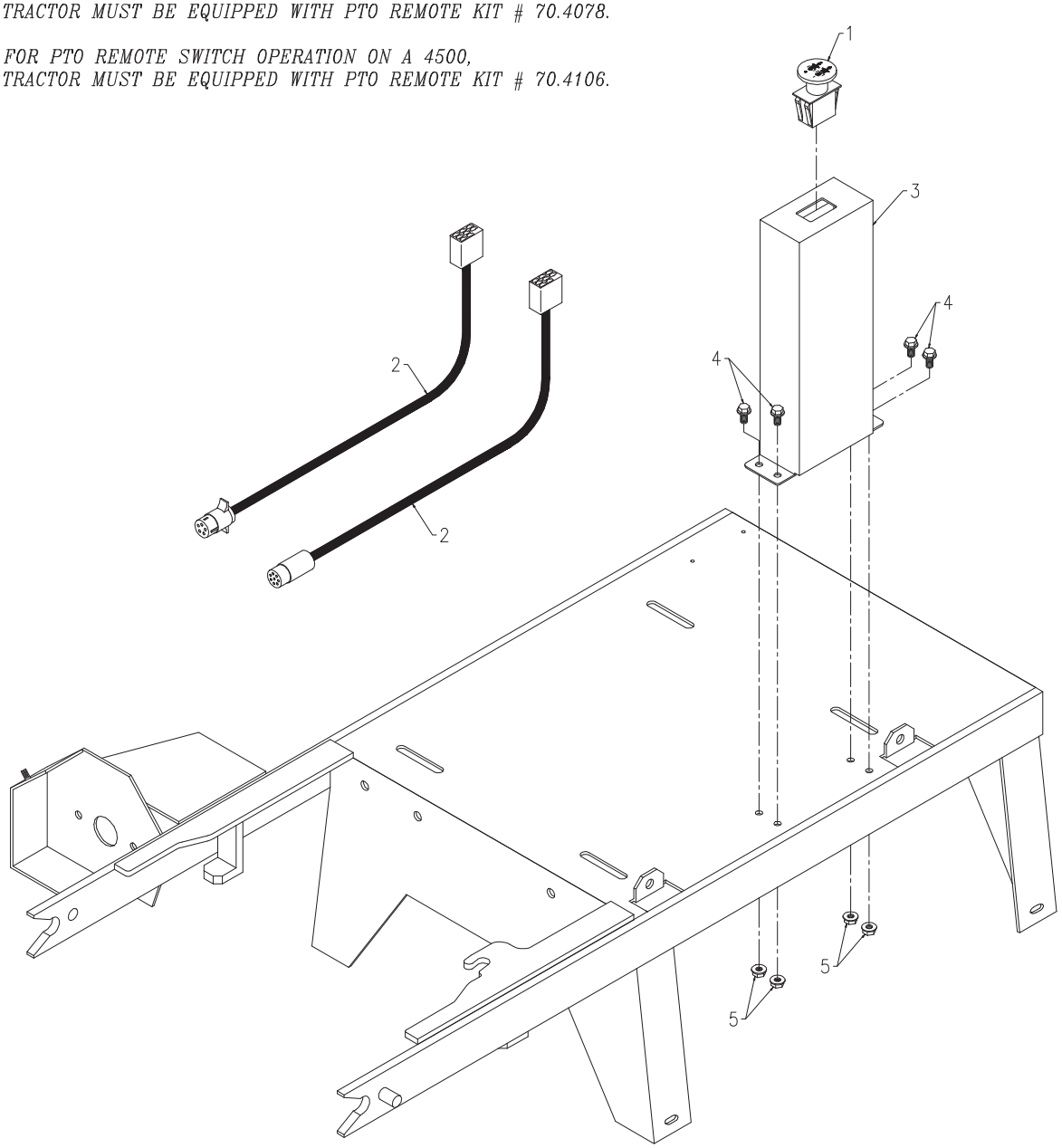
Bearings, Shields, & Decals

REF.	PART NO.	DESCRIPTION	QTY.
1	99.E0004	NUT, WING 1/4-20 USS	1
2	60.0665	SHIELD, DRIVE PULLEY	1
3	97.0508	BOLT, CARRIAGE 5/16 X 1	4
4	99.SF06	NUT, SRF 3/8-16 USS	3
5	00.0123	DECAL, KEEP HANDS & FEET CLEAR	1
6	00.0101	DECAL, HAZARD-MOVING PART	1
7	55.FB16016	BEARING, FLANGE BLOCK 1” REGGF	2
8	99.SF05	NUT, SRF 5/16-18 USS	4
9	00.0062	DECAL, DANGER SHIELD MISSING	1
10	64.0755	SHIELD, BELT DRIVE	1
11	62.0796	SHIELD, BELT/BEARING MOUNT	1
12	99.SF0606	BOLT, SRF 3/8-16 USS X 3/4	3
13	60.0698	SHIELD, SHAFT END	1
14	00.0217	DECAL, WARNING READ OWNERS MAN	1
15	00.0189	DECAL, VENTRAC ORBITAL	1
16	00.0192	DECAL, V-DECAL DIE CUT BLUE	1
17	00.0100	DECAL, MADE IN USA	1
18	99.A04	LOCKNUT, STOVER 1/4-20 USS	2
19	99.E0004	NUT, WING 1/4-20 USS (Serial # 1001-1359)	5
19	99.SF04	NUT, SRF 1/4-20 USS (Serial # 1360-)	5

ILLUSTRATED DRAWING
Remote PTO Switch

FOR PTO REMOTE SWITCH OPERATION ON A 4100 OR 4200,
TRACTOR MUST BE EQUIPPED WITH PTO REMOTE KIT # 70.4078.

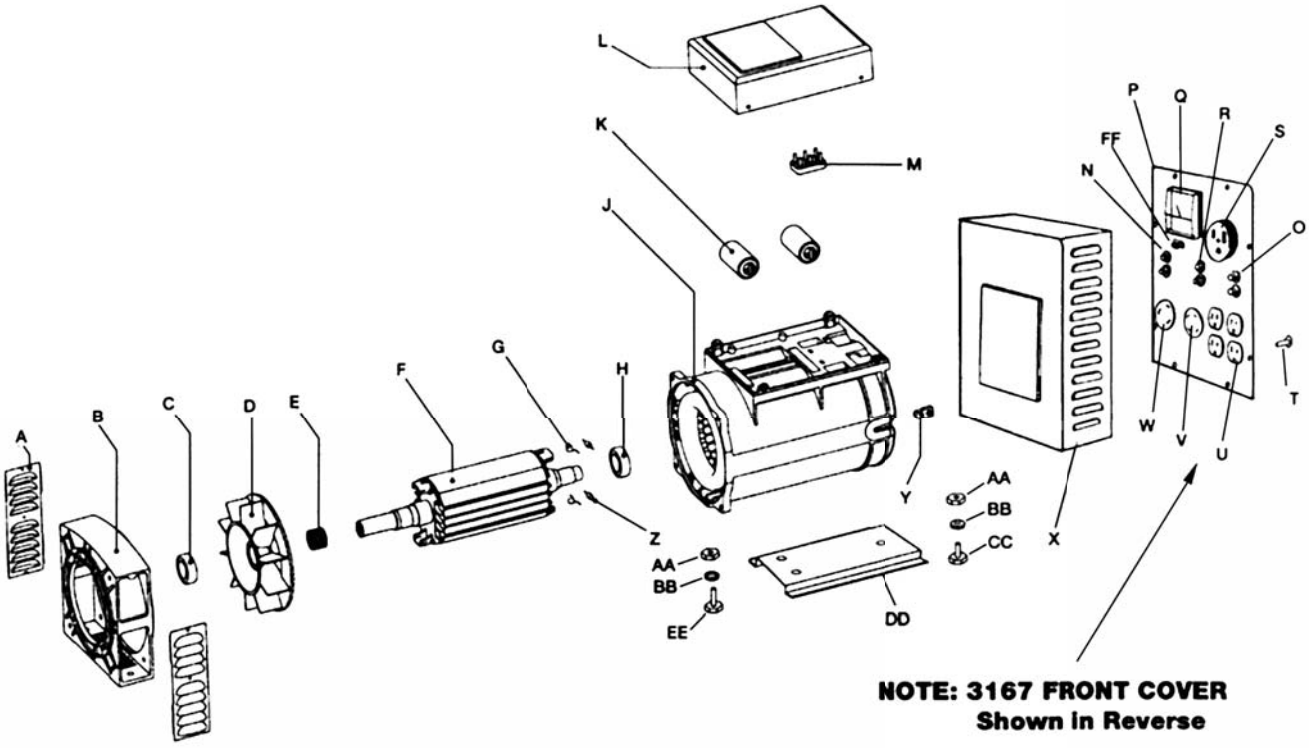
FOR PTO REMOTE SWITCH OPERATION ON A 4500,
TRACTOR MUST BE EQUIPPED WITH PTO REMOTE KIT # 70.4106.



Remote PTO Switch

REF.	PART NO.	DESCRIPTION	QTY.
1	31.0043	SWITCH, PTO - PUSH/PULL	1
2	32.0090	HARNESS, PTO REMOTE 60” (KT4100 & 4200)	1
2	32.0128	HARNESS, PTO REMOTE 60” (KN4500)	1
3	64.1364	BRACKET, PTO DISCONNECT MOUNT	1
4	99.SF0404	BOLT, SRF 1/4-20 X 1/2	4
5	99.SF04	NUT, SRF 1/4-20 USS	4

ILLUSTRATED DRAWING
AR120 Generator



PARTS

AR120 Generator

REF.	PART NO.	DESCRIPTION	QTY.
A	07.123330	GUARD, FAN	2
B	07.123328	BRACKET, FAN	1
C	55.0083	BEARING, BALL 30MM X 72MM	1
D	07.123332	FAN.	1
E	07.123349	FIXING RING	1
F	07.12AR120R	ROTOR, COMPLETE.	1
G	07.122603	VARISTER	2
H	55.0084	BEARING, BALL 25MM X 52MM	1
J.	07.123346	STATOR, COMPLETE	1
K	07.121134	CAPACITOR, 31.5 MF	2
L.	07.123281	TOP BOX	1
M	07.123184	TERMINAL	1
N	07.121069	CIRCUIT BREAKER, 20A.	2
O	07.121112	CIRCUIT BREAKER, 30A.	2
P	07.123167	COVER, FRONT	1
Q	07.122024	GAUGE, VOLTMETER 120/240	1
R	07.122883	CIRCUIT BREAKER, 50A.	2
S	07.123506	RECEPTACLE, 240V - 50A	1
T	99.K0128	MACHINE SCREW, 8-32 X 1/2 PHLP	8
U	07.121011	RECEPTACLE, DUPLEX 120V	2
V	07.121117	TWISTLOCK RECEPTACLE, 120V 30A	1
W	07.121101	TWISTLOCK RECEPTACLE, 240V 30A	1
X	07.123168	CONTROL BOX	1
Y	07.123282	GROMMET, RUBBER	2
Z	07.123190	DIODE	2
AA	92.06	NUT, 3/8-16 USS	3
BB	96.06	WASHER, LOCK 3/8	3
CC	90.0606	BOLT, 3/8-16 USS X 3/4	1
DD	07.123168-B	BRACKET, BASE PLATE	1
EE	90.0608	BOLT, 3/8-16 USS X 1	2
FF	07.121024	GROUND LUG	1

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.