

Operator's Manual

RV602

Collection Vacuum





500 Venture Drive
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.

Dealer _____ Date of Purchase: _____

Dealer Address: _____

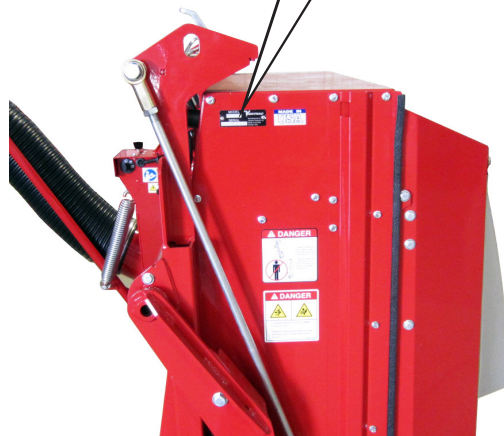
Dealer Phone Number: _____ Dealer Fax Number: _____

With your mobile device, you can scan the QR code on the serial number plate to access manuals, warranty, and other product information.



Model # _____

Serial # _____



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 RV602 collection vacuum! We hope that Ventrac equipment will provide you with a ONE Tractor Solution.

Please visit our website, or contact your authorized Ventrac dealer for a complete list of items available for your new RV602 collection vacuum.

Accessories	Item Description	Part Number
	HM602 Collection Vacuum Boot	70.8090
	HM722/HP722 Collection Vacuum Boot	70.8091
	MS/MT Collection Vacuum Boot	70.8210
	Docking Station	70.8092

Product Description

The Ventrac RV602 vacuum collection system is designed for the sole purpose of grass and leaf collection. The vacuum collection system consists of three primary components.

1. The bin assembly mounts to the rear of the 4000 series power units.
2. The suction/blower system is powered by a 10 horsepower engine with electric start for efficient pickup and superior performance.
3. The high lift mechanism raises the collection bin up to 152 cm (60 inches) to dump the contents into a garbage bin or trailer.

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 and maintain your machine, and to avoid injury and product damage. It is divided into chapters for convenient reference of the appropriate information.

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. 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

This manual identifies potential hazards and safety concerns to help you, as well as others, avoid personal injury and/or damage to the equipment.

Safety should always be the first 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.

SYMBOL DEFINITIONS



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.

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.

This manual also uses two words to highlight information. **ATTENTION** calls attention to special mechanical information to prevent equipment damage and/or best practices for equipment service and care.

NOTE emphasizes general information that is worthy of special attention.

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 facing forward from the operator station.

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



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

Requirements for Personal Protective Equipment (PPE)

- The owner is responsible for ensuring that all the operators use the proper PPE while operating the machine. Whenever you use the machine, use the following PPE:
- Certified eye protection and hearing protection.
- Closed toe, slip resistant footwear.
- Long pants or trousers.
- A dust mask for dusty conditions.
- Additional PPE may be required. Refer to the product safety procedures for any additional requirements.

Operation Safety

- Secure long hair and loose clothing. Do not wear jewelry.
- Inspect the machine before operation. Repair or replace any damaged, worn, or missing parts. Be sure the guards and shields are in proper working condition and are secured in place. Make any necessary adjustments before operating the machine.
- Some pictures in this manual may show shields or covers opened or removed in order to clearly illustrate the 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 the safety devices or operate with the shields or covers removed.
- Before each use, verify that all the controls function properly and inspect all the safety devices. Do not operate if the controls or safety devices are not in proper working condition.
- Check the parking brake function before operating. Repair or adjust the parking brake if necessary.
- Observe and follow all of the safety decals.
- All the controls are to be operated from the operator's station only.

SAFETY



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



- Always wear a seat belt if the machine has a roll cage/bar installed and in the 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 the attachment before operating. Stop the 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 any necessary repairs before operating the 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 any necessary repairs before operating the 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 engage the parking brake before shifting range.
- Do not leave the machine unattended while it is running.
- Always park the machine on level ground.
- Always shut off the engine when connecting the attachment drive belt to the power unit.
- Never leave the operator's station without lowering the attachment to the ground, engaging 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 the machine unattended without lowering the attachment to the ground, engaging 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. The material may ricochet back toward the operator.
- Use extra caution when approaching blind corners, shrubs, trees, or other objects that may obscure your 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 the engine at excessive speeds 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, excessive grease, and other flammable materials.
- Clear the working area of objects that might be hit or thrown from the machine.

SAFETY



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



- Keep people and pets out of the working 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 the machine if you are not in good physical and mental health, if you will be distracted by personal devices, or if you are under the influence of any substance which might impair your decisions, dexterity, or judgment.
- Children are attracted to machine activity. Be aware of children and do not allow them in the work area. Turn off the machine if a child enters the work area.
- Power units, attachments, and accessories are not designed or intended for travel on public roadways. Never operate or travel on public roads or highways.
- Operate with safety lights when operating near 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.

Keep Riders Off

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

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 the 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 surfaces and loose ground will reduce the degree of safety. Do not drive where the 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.

SAFETY



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



- Transport the machine with the attachment lowered or close to the ground to improve stability.
- While operating on slopes, drive in an up and down direction whenever possible. If turning is necessary while driving across slopes, reduce your speed and turn slowly in the downhill direction.
- Ensure a sufficient supply of fuel for continuous operation. A minimum of one-half tank of fuel is recommended.

Truck Or Trailer Transport

- Use care when loading or unloading the machine into a truck or trailer.
- Use full width ramps for loading the 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 securely using straps, chains, cables, or ropes. Both the front and rear straps should be directed down and outward from the machine.
- Shut off the fuel supply to the power unit during transport on a truck or trailer.
- If equipped, turn the battery disconnect switch to the Off position to shut off electrical power.

Maintenance

- Keep the safety decals legible. Remove all grease, dirt, and debris from the 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 the current safety decals are affixed to the replacement components.
- If any component requires replacement, use only original Ventrac replacement parts.
- Always turn the battery disconnect to the Off position or disconnect the battery before performing any repairs. Disconnect the negative terminal first and the positive terminal last. Reconnect the positive terminal first and the negative terminal last.
- Keep all bolts, nuts, screws, and other fasteners properly tightened.
- Always lower the attachment to the ground, engage the parking brake, shut off the engine, and remove the ignition key. Make sure all moving parts have come to a complete stop before cleaning, inspecting, 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 in the operator's station.
- Always use protective glasses when handling the battery.
- Check the 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 excess 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.

SAFETY



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



- Allow the engine to cool before storing and do not store near an open flame.
- Do not change the engine governor settings or over-speed the engine. Operating engine at excessive speeds 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 your hands, feet, and clothing away from all power-driven parts.

Fuel Safety

- To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.
- Do not refuel the machine while smoking or at a location near flames or sparks.
- Always refuel the machine outdoors.
- Do not store the machine or fuel container indoors where the fumes or fuel can reach an open flame, spark, or pilot light.
- Only store fuel in an approved container. Keep out of the reach of children.
- Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place the containers on the ground away from your vehicle before filling.
- Remove the machine from the truck or trailer and refuel it on the ground. If this is not possible, refuel the machine using a portable container, rather than from a fuel dispenser nozzle.
- Never remove the fuel cap or add fuel with the engine running. Allow the engine to cool before refueling.
- Never remove the fuel cap while on a slope. Only remove the fuel cap when parked on a level surface.
- Replace the fuel tank cap and the container cap securely.
- Do not overfill the fuel tank. Only fill to the bottom of the fuel neck, do not fill the fuel neck full. Overfilling of the fuel tank could result in engine flooding, fuel leakage from the tank, and/or damage to the emissions control system.
- 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 the fuel vapors have dissipated.
- If the fuel tank must be drained, it should be drained outdoors into an approved container.
- Check the 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 the 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 your 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, leading to severe complications and/or secondary infections if left untreated. If hydraulic fluid is injected into the skin, seek immediate medical attention no matter how minor the injury appears.
- The hydraulic system may contain stored energy. Before performing maintenance or repairs on the hydraulic system, remove any attachments, engage the parking brake, disengage the weight transfer system (if equipped), shut off the engine, and remove the ignition key. To relieve pressure on the auxiliary hydraulic system, shut off the power unit engine and move the hydraulic control lever left and right before disconnecting the auxiliary hydraulic quick couplers.

SAFETY



RV602 Safety Procedures



- The maximum degree of operation is 10 degrees if the power unit is equipped with single wheels, or 15 degrees if the power unit is equipped with dual wheels. On slopes of 10 degrees or greater, the power unit's weight transfer system must be engaged.
- Do not operate the power unit, mower, or collection vacuum with the collection bin in a raised position, except when on a level surface and to empty the collection bin.
- A mower deck must be attached to the front of the power unit anytime the collection system is attached.
- The mower deck must be in the raised position when raising the collection bin.
- Shut off both the power unit and the collection vacuum engines when refueling.
- Do not connect or disconnect the collection vacuum battery cable while refueling.

Engine and Blower Fan Safety

- Rotating fan blades may cause personal injury. Never operate the RV602 collection vacuum with the hose removed, the inlet duct removed, or the collection bin in the raised position. Always remove the ignition key and ensure that all moving parts have stopped before servicing.

Material Collection Safety

- Always empty the collection vacuum after every use. Do not store with material in the collection bin. Decomposing material stored in the collection bin may result in spontaneous combustion.

Safety Interlock System

- If the collection bin is raised while the collection vacuum engine is running, the engine will automatically shut off. The engine can be restarted after the collection bin is lowered and it is safe to resume operation.

Testing The Safety Interlock System

Perform the following safety interlock tests daily. Test the switch operation according to the following procedure.

1. Confirm the collection bin is lowered completely to the down position.
2. Start the collection vacuum engine.
3. Raise the collection bin. The collection vacuum engine should automatically shut off within the first 5 cm (2 inches) of movement of the collection bin.
4. If this test fails, do not use the RV602. Refer to the Automatic Engine Shut-off Switch section in the service chapter of this manual for adjustment procedures.

California Proposition 65



Warning

Operating, servicing, and maintaining off-road equipment can expose you to chemicals including engine exhaust, carbon monoxide, phthalates, and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service equipment in a well-ventilated area and wear gloves or wash your hands frequently when servicing your equipment.

For more information go to www.P65Warnings.ca.gov



Attention

It is a violation of California Public Resource Code Section 4442 to use or operate this engine on forest-covered, brush-covered, or grass-covered land unless the exhaust system is equipped with a spark arrestor maintained in effective working order. If your power unit is not equipped with a spark arrestor, contact your authorized Ventrac dealer for purchase of a spark arrestor.

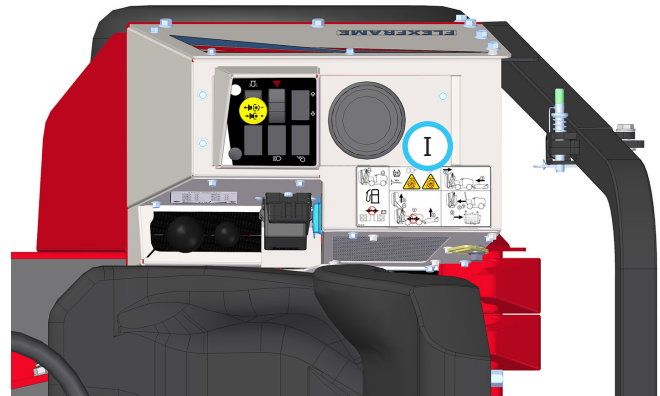
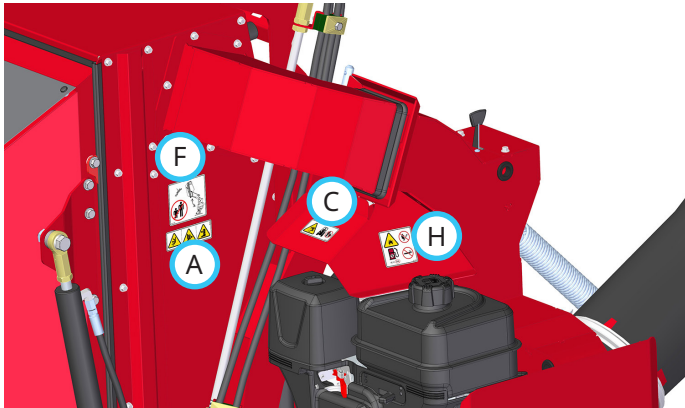
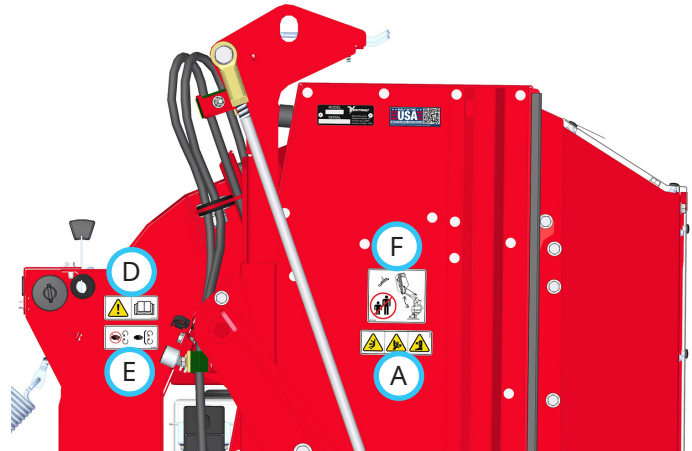
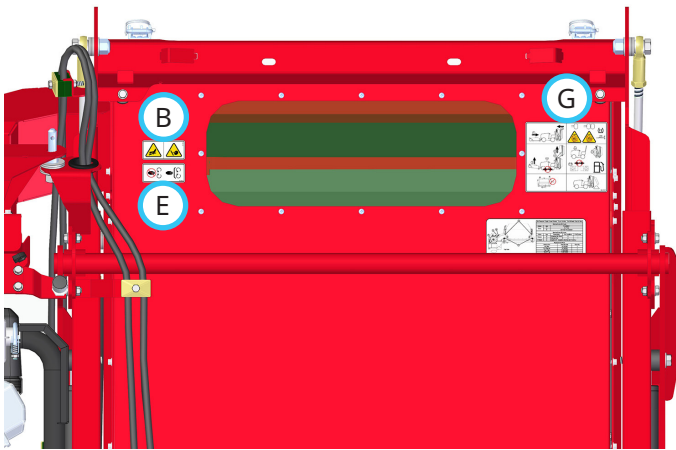
SAFETY

Safety Decals

The following safety decals must be maintained on your attachment.

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



1. Pinching or crushing hazard.



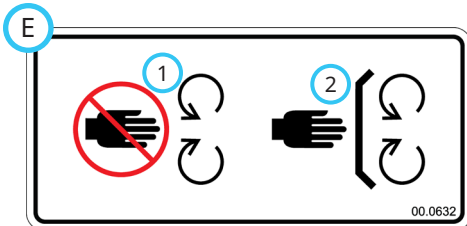
1. Keep your body and hands away from suspected hydraulic leaks.
2. Wear eye protection when inspecting the hydraulic system for leaks.



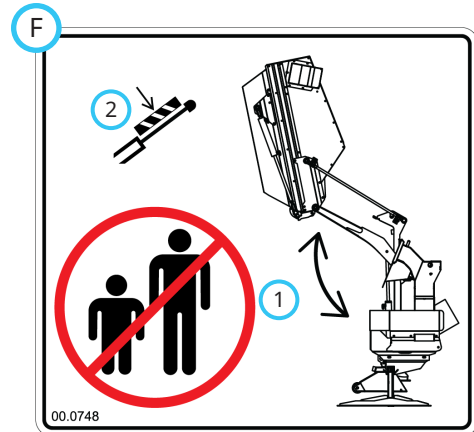
1. Thrown object hazard.
2. Keep bystanders away from the machine.



1. Read the operator's manual.

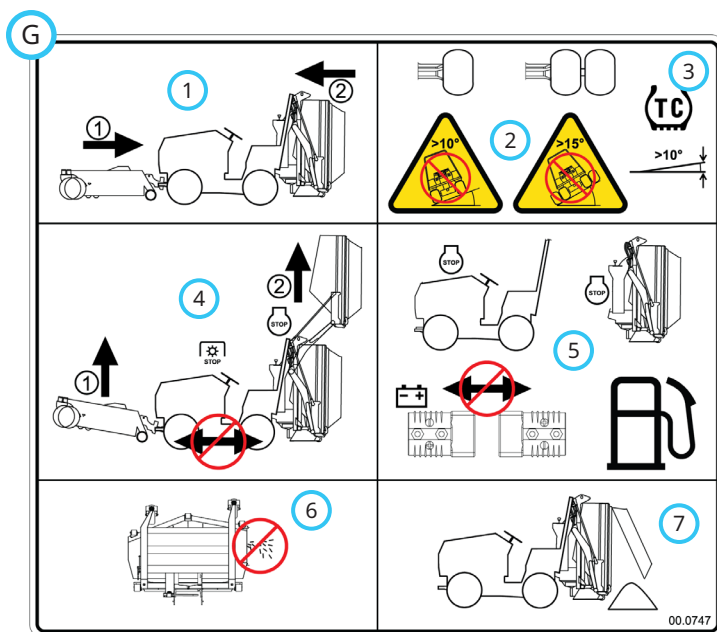


1. Stay away from moving parts.
2. Keep all guards and shields in place.



1. Keep bystanders and objects away from the machine when raising and lowering the bin.
2. Always install the cylinder lift lock before working on or around the raised bin.

SAFETY

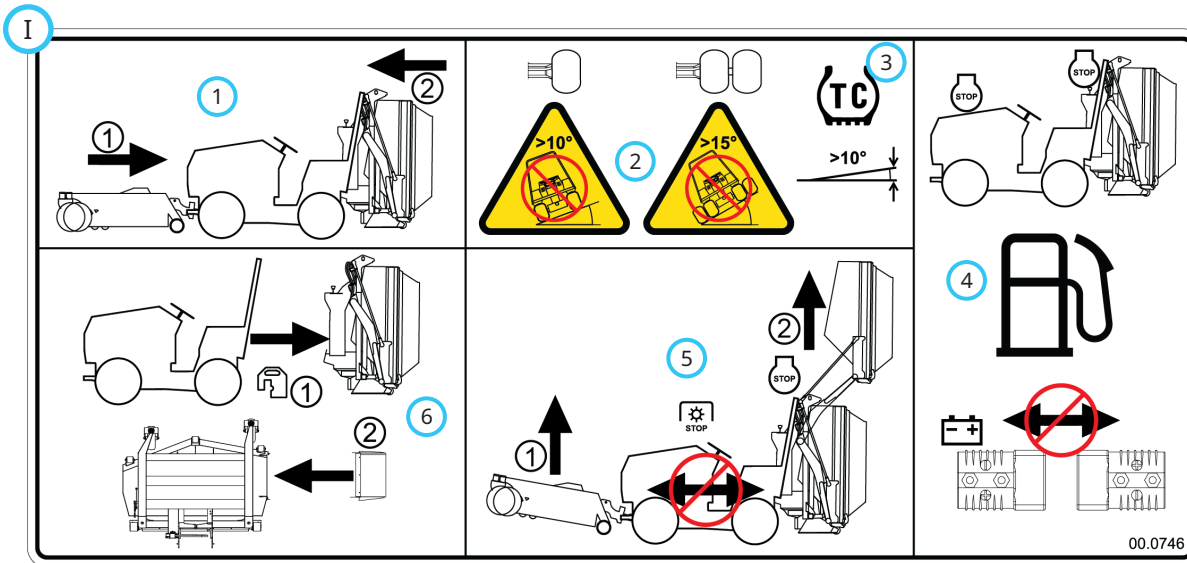


1. A mower deck must be attached to the front of the power unit at all times when the collection system is attached to the power unit.
2. Warning - 10 degree slope rating when equipped with single wheels.
Warning - 15 degree slope rating when equipped with dual wheels.
3. Engage the power unit weight transfer system when operating on slopes of 10 degrees or greater.
4. Shut off the power unit PTO, raise the mower deck, and shut off the collection system engine before raising the collection bin.
5. Shut off both the power unit engine and the collection system engine when refueling. Do not connect or disconnect the collection system battery cable while refueling.
6. Do not operate the mower deck without a collection boot or side discharge chute installed.
7. Do not store with material in the collection bin. Empty the collection bin after every use.



1. Warning - Explosion/fire hazard.
2. Keep away from fire, sparks, and pilot lights when refueling or storing machine and fuel.
3. Smoking is prohibited.
4. Use unleaded gasoline only with an ethanol content of 10 percent or less.

SAFETY

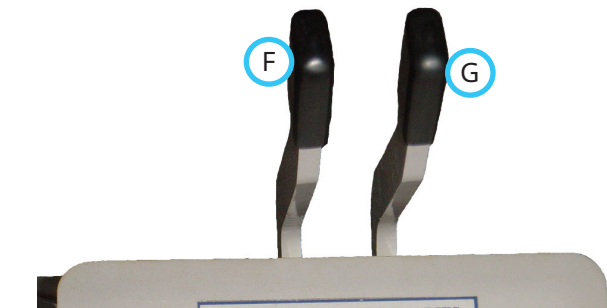
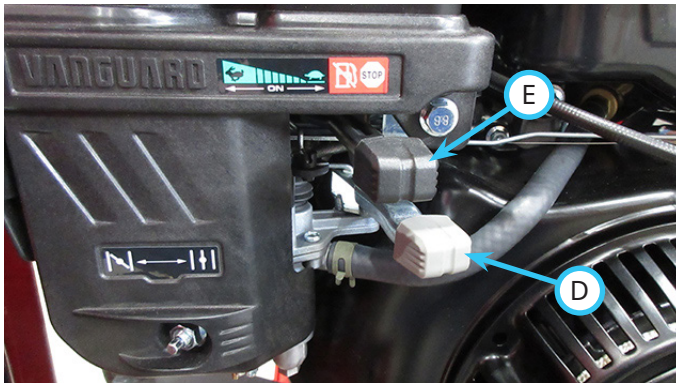
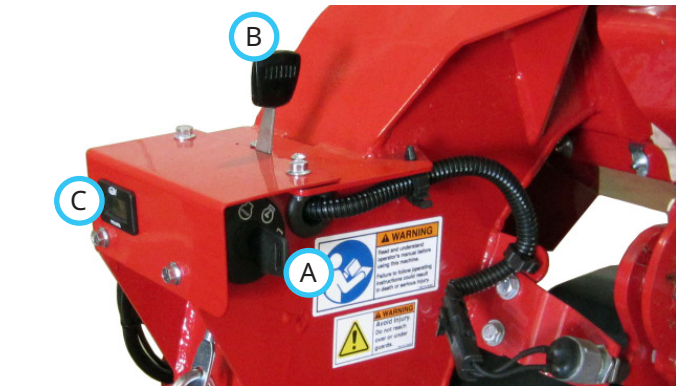


1. A mower deck must be attached to the front of the power unit at all times when the collection system is attached to the power unit.
2. Warning - 10 degree slope rating when equipped with single wheels.
Warning - 15 degree slope rating when equipped with dual wheels.
3. Engage the power unit weight transfer system when operating on slopes of 10 degrees or greater.
4. Shut off both the power unit engine and the collection system engine when refueling. Do not connect or disconnect the collection system battery cable while refueling.
5. Shut off the power unit PTO, raise the mower deck, and shut off the collection system engine before raising the collection bin.
6. When the collection system is removed from the power unit, reinstall any weights that were removed from the rear hitch. Reinstall the side discharge chute onto the mower deck.

Decal	Description	Part Number	Quantity
A	Pinching or Crushing Hazard	00.0620	2
B	High Pressure Fluid Hazard	00.0621	1
C	Thrown Object Hazard	00.0674	1
D	Read Operator's Manual	00.0619	1
E	Moving Parts Hazard	00.0632	2
F	Bin Safety	00.0748	2
G	Collection System Safety (RV602)	00.0747	1
H	Gasoline Safety	00.0457	1
I	Collection System Safety (power unit)	00.0746	1

OPERATIONAL CONTROLS

Operational Control Locations



Become familiar with all the controls before you operate the machine.

A - Ignition Key Switch

B - Throttle

C - Hour Meter

D - Choke

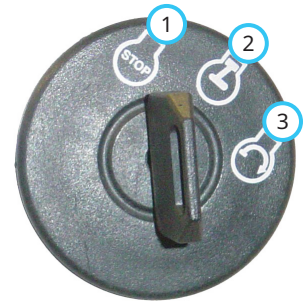
E - Fuel Shut-off Lever

F - Left Rear Auxiliary Hydraulics Handle

G - Right Rear Auxiliary Hydraulics Handle

Ignition Key Switch (A)

1. Off or Stop Position. Shuts off the collection vacuum engine.
2. On or Run Position. Engine run position.
3. Start Position. When key is turned to the start position, the starter will engage.



Throttle (B)

Moving the lever to the right increases the engine Revolutions Per Minute (RPM). Moving the lever to the left slows the engine to an idle.

Hour Meter (C)

Displays the engine run time in hours.

Choke (D)

Moving the choke lever to the choke position aids in starting a cold engine.

Fuel Shut-off Lever (E)

The fuel shut-off lever controls the flow of fuel to the collection vacuum engine. Moving the fuel shut-off lever to the right shuts off the flow of fuel to the engine. Turn off the fuel shut-off valve when transporting the collection vacuum on a truck or trailer and when parking the collection vacuum indoors.

Left Rear Auxiliary Hydraulics Handle (F)

The collection bin is raised and lowered using the left rear auxiliary hydraulics handle. Pull back on this handle to raise the collection bin. Push forward on this handle to lower the collection bin.

Right Rear Auxiliary Hydraulics Handle (G)

The collection bin door is opened and closed using the right rear auxiliary hydraulics handle. Pull back on the lever to open the door. Push forward on the lever to close and latch the door.

GENERAL OPERATION

Daily Inspection

WARNING

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

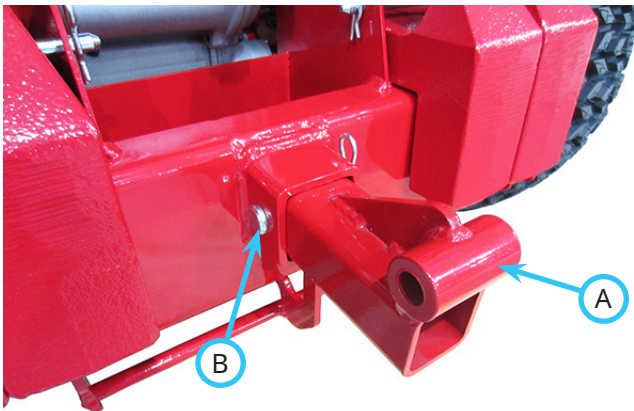
1. Park the machine on a level surface, with the engine shut off and all fluids cold.
2. Perform a visual inspection of both the power unit and the attachment. Look for loose or missing hardware, damaged components, or signs of wear. Ensure the collection vacuum is properly fastened to the power unit.
3. Inspect the hydraulic hoses and the hydraulic fittings to ensure tight, leak free connections.
4. Check the collection vacuum's engine oil level and fuel level. Add fluid or service as required.
5. Test the collection vacuum's safety interlock system. Refer to the Safety Interlock System section in the Safety chapter of this manual.

Attaching

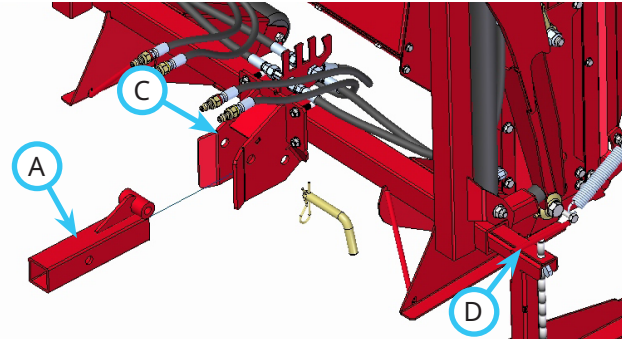
ATTENTION

If the power unit is equipped with a 3 point hitch, the center weight must be removed in order to install the RV tractor hitch.

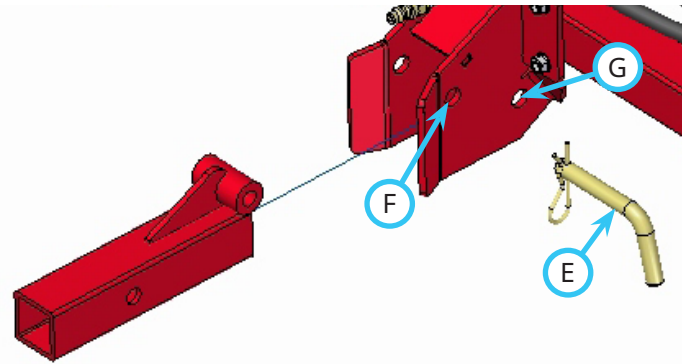
1. Remove the center weight (3 point hitch only) and insert the RV tractor hitch (A) into the power unit's hitch receiver tube. Insert the hitch pin (B) through the receiver tube and RV tractor hitch and secure with the hairpin.



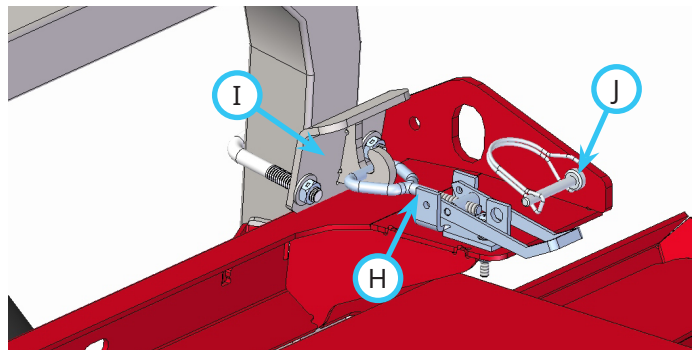
2. Align the RV tractor hitch (A) with the collection vacuum hitch (C) and back slowly into position. If the collection vacuum is not at the correct height, turn the storage stand handles (D) to raise or lower the collection vacuum to the correct height. NOTE: the power unit hitch height can be affected by the terrain, the tire pressure, and the attachment on the front of the power unit.



3. Install the pin (E) to couple the RV tractor hitch with the collection vacuum hitch. Power units equipped with a standard hitch should use hitch location (F). Power units equipped with a 3 point hitch should use hitch location (G).

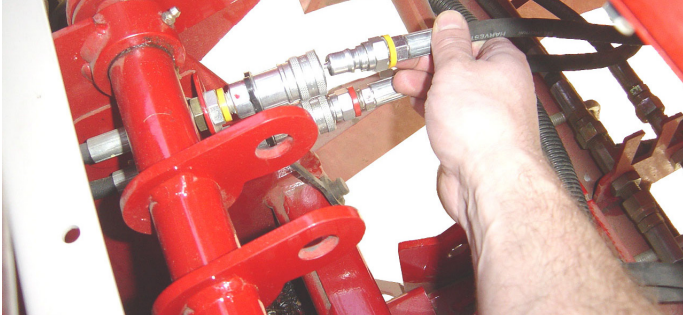


4. Hook the roll bar latches (H) onto the roll bar mounts (I). Pull down the latch handles and install the retainer pins (J) to lock in place.

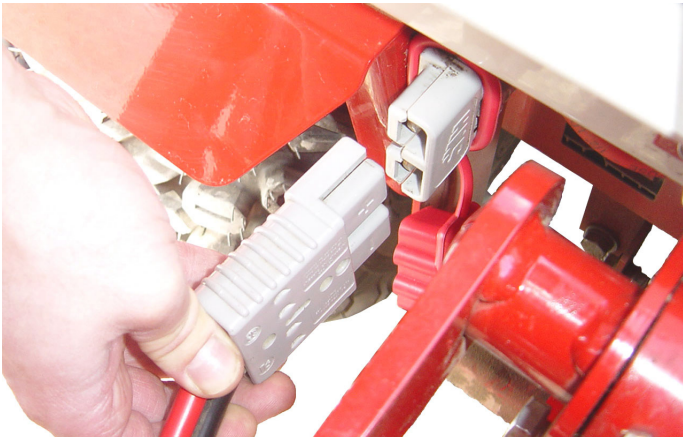


GENERAL OPERATION

5. Connect the left set of hydraulic hoses to the left hydraulic couplers of the power unit. Match the colored indicators on the hoses and couplers.
6. Connect the right set of hydraulic hoses to the right hydraulic couplers of the power unit. Match the colored indicators on the hoses and couplers.



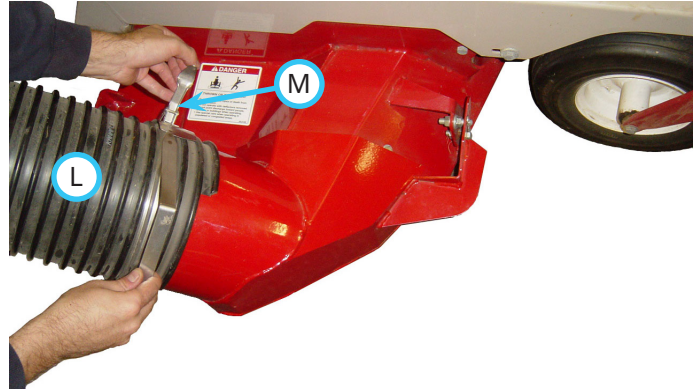
7. Connect the battery cable to the quick connect plug on the power unit.



8. Remove the storage stands from the collection vacuum.
9. Remove the mower discharge chute and install the mower collection boot. Install the keeper pins (K) to secure the collection boot to the mower deck.



10. Slide the suction hose (L) onto the collection boot. Fasten the clamp (M) to secure the suction hose to the collection boot.

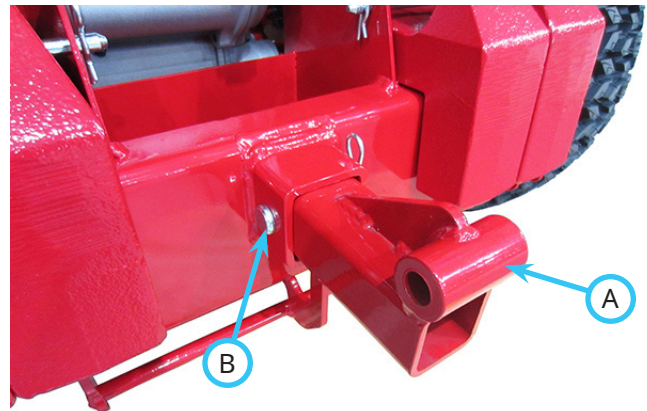


Attaching Using an Optional Docking Stand

ATTENTION

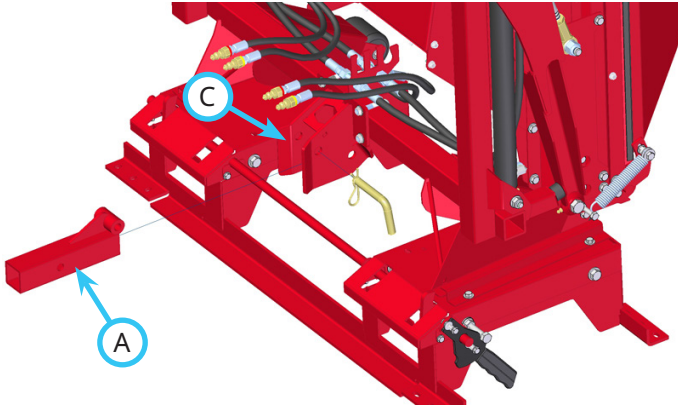
If the power unit is equipped with a 3 point hitch, the center weight must be removed in order to install the RV tractor hitch.

1. Remove the center weight (3 point hitch only) and insert the RV tractor hitch (A) into the power unit's hitch receiver tube. Insert the hitch pin (B) through the receiver tube and RV tractor hitch and secure with the hairpin.

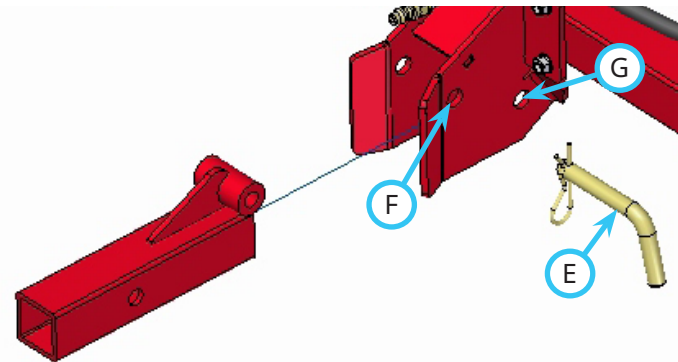


GENERAL OPERATION

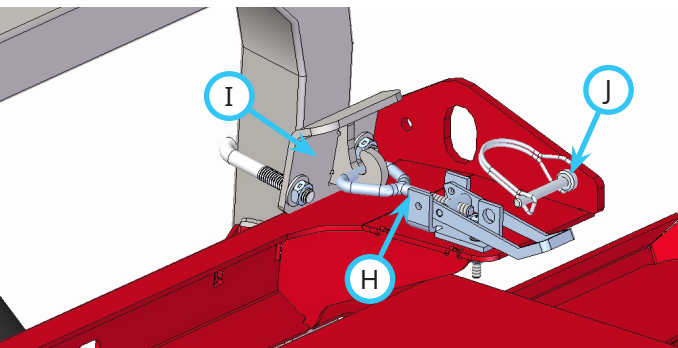
- Align the RV tractor hitch (A) with the collection vacuum hitch (C) and back slowly into position.



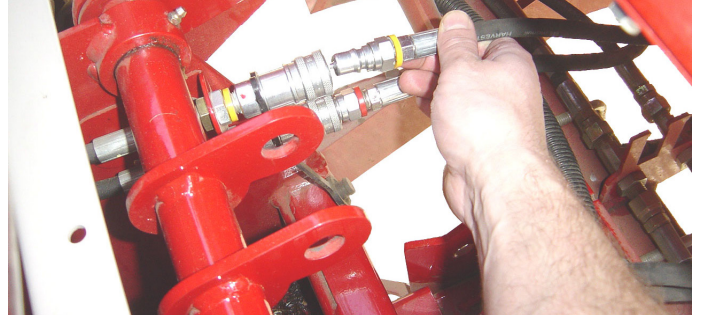
- Install the pin (E) to couple the RV tractor hitch with the collection vacuum hitch. Power units equipped with a standard hitch should use hitch location (F). Power units equipped with a 3 point hitch should use hitch location (G).



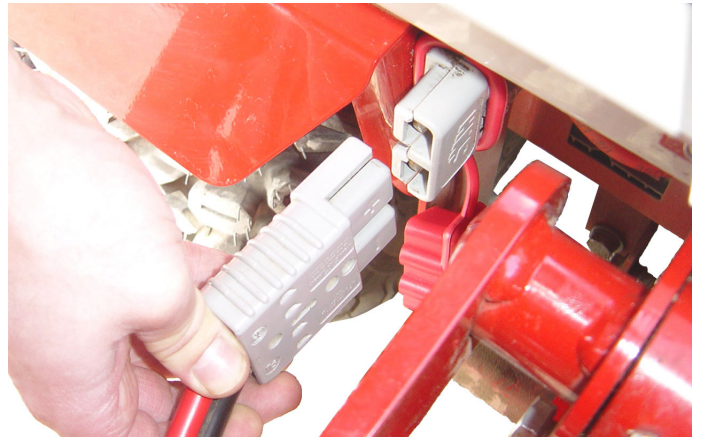
- Hook the roll bar latches (H) onto the roll bar mounts (I). Pull down the latch handles and install the retainer pins (J) to lock in place.



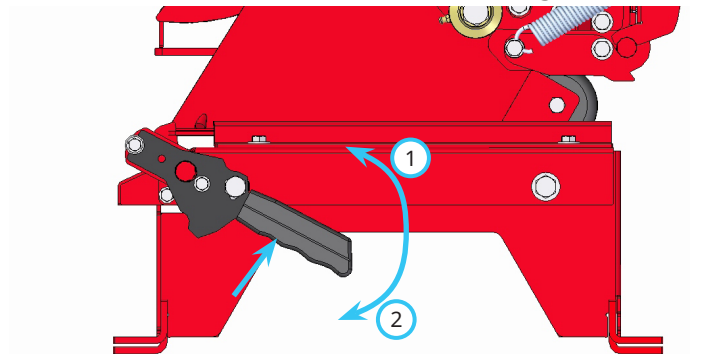
- Connect the left set of hydraulic hoses to the left hydraulic couplers of the power unit. Match the colored indicators on the hoses and couplers.
- Connect the right set of hydraulic hoses to the right hydraulic couplers of the power unit. Match the colored indicators on the hoses and couplers.



- Connect the battery cable to the quick connect plug on the power unit.



- Rotate the docking station handle (K) to release the collection vacuum from the docking station.



1. Released

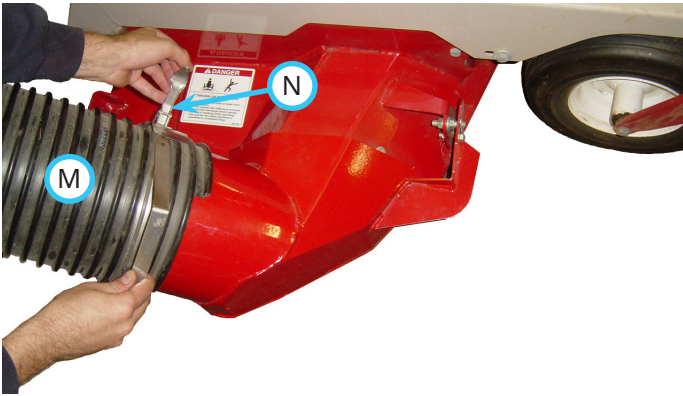
2. Latched

GENERAL OPERATION

9. Remove the mower discharge chute and install the mower collection boot. Install the keeper pins (L) to secure the collection boot to the mower deck.



10. Slide the suction hose (M) onto the collection boot. Fasten the clamp (N) to secure the suction hose to the collection boot.



Detaching

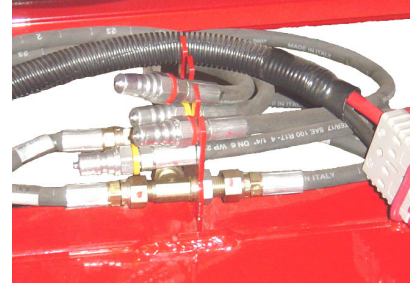
1. Ensure the collection bin is empty, the collection bin door is closed and latched, and the collection bin is completely lowered.

⚠ WARNING

Always empty the collection bin after use. Never store the collection vacuum with material in the collection bin.

2. Position the collection system at the desired location for detachment.
3. Engage the parking brake, shut off the engine, and remove the ignition key. Move the lift and door hydraulic levers to relieve any hydraulic pressure that may be present in the hydraulic system.
4. Install the storage stands, one on each side of the collection vacuum. Turn the handles until some of the weight is on the storage stands and the collection vacuum begins to rise.
5. Disconnect the collection boot from the mower deck.

6. Disconnect the four hydraulic hoses from the hydraulic couplers and store in the hose holder.



7. Disconnect the battery cable.
8. Remove the retainer pins from the roll bar latches, lift up to release the latches, and unhook the latches from the roll bar mounts.
9. Resume raising the collection vacuum with the storage stand handles. Lift the collection vacuum until the weight is no longer on the power unit. When the hitch pin turns freely, remove the hitch pin and drive the power unit away from the collection vacuum.
10. Remove the RV tractor hitch from the power unit hitch receiver.
11. If the power unit is equipped with a 3 point hitch, reinstall the center weight onto the hitch.

⚠ DANGER

Thrown Object Hazard

Never operate the mower deck without either the discharge chute or the collection boot in place.

12. Reinstall the mower discharge chute onto the mower deck.

Detaching Using an Optional Docking Stand

1. Ensure the collection bin is empty, the collection bin door is closed and latched, and the collection bin is completely lowered.

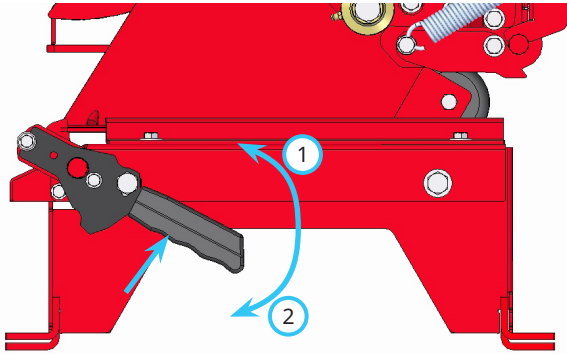
⚠ WARNING

Always empty the collection bin after use. Never store the collection vacuum with material in the collection bin.

2. Ensure the docking station handle is in the released position. Back the collection vacuum onto the docking station until it contacts the stops.
3. Engage the parking brake, shut off the engine, and remove the ignition key. Move the lift and door hydraulic levers to relieve any hydraulic pressure that may be present in the hydraulic system.

GENERAL OPERATION

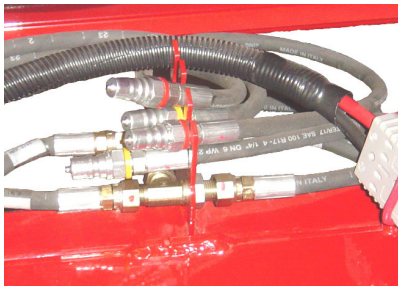
4. Rotate the docking station handle down to engage the latches and lock the collection vacuum onto the docking station.



1. Released

2. Latched

5. Disconnect the collection boot from the mower deck.
6. Disconnect the four hydraulic hoses from the hydraulic couplers and store in the hose holder.
7. Disconnect the battery cable.
8. Remove the retainer pins from the roll bar latches, lift up to release the latches, and unhook the latches from the roll bar mounts.
9. Remove the hitch pin and drive the power unit away from the collection vacuum.
10. Remove the RV tractor hitch from the power unit hitch receiver.
11. If the power unit is equipped with a 3 point hitch, reinstall the center weight onto the hitch.



DANGER

Thrown Object Hazard

Never operate the mower deck without either the discharge chute or the collection boot in place.

12. Reinstall the mower discharge chute onto the mower deck.

Mowing and Operating Procedure

1. Before operation, perform the daily inspection, ensure the collection bin door is closed, the mower deck is set to the desired cutting height, and the weight transfer is set at the desired position.
2. Inspect the area where the power unit and collection vacuum will be used. The area should be clear of bystanders, debris, and other obstacles that will impede the safe operation of the machine.
3. Start the collection vacuum engine. When the engine is cold, it may be necessary to use the choke and start the engine while standing beside the collection vacuum. After the initial startup, the engine can be stopped and started from the operator's station.
4. Start the power unit engine. Allow the power unit and collection vacuum engines to warm up to operating temperature before beginning operation.
5. Move the collection vacuum throttle to full throttle and start the power unit PTO to begin mowing.
6. Begin mowing while avoiding obstacles and objects that may plug or damage the collection vacuum. Refer to the Mowing Speed section.
7. When the material in the collection bin reaches the bottom of the viewing window, the performance of the collection vacuum will begin to decrease. Stop mowing and empty the collection bin at this point to maintain the best performance. Refer to the Emptying the Collection Bin section.

DANGER

Thrown Object Hazard

Never operate the mower deck without either the discharge chute or the collection boot in place.

WARNING

When using the collection vacuum with an HM602, HP722, MS600, or MT720 mower deck, the power unit cannot be equipped with dual wheels, due to the potential of the collection hose contacting the right front dual wheel when making a left hand turn, causing damage to the collection hose.

GENERAL OPERATION

Mowing Speed

When mowing using the collection vacuum, your travel speed will typically need to be slower than when mowing without the collection vacuum.

Travel speed may need to be further reduced when mowing thick, tall, or wet grass or leaves.

Travel speed may be increased in normal mowing conditions or as conditions allow.

If clippings are not being picked up, your travel speed may need to be reduced, or there may be an obstruction present in the system. Refer to the following section on Checking For and Removing Obstructions from the Collection Vacuum.

Checking For and Removing Obstructions from the Collection Vacuum

When mowing thick, tall, or wet grass, the potential increases for an obstruction to develop and plug the collection vacuum. Additionally, allowing the collection bin to overfill may cause an obstruction to develop.

1. If an obstruction develops, stop the power unit, engage the parking brake, shut off the power unit PTO, and shut off the collection vacuum engine. Wait until all moving parts have come to a complete stop before leaving the operator's seat.
2. Check the collection boot first. Uncouple the suction hose from the collection boot. If an obstruction is present, remove the obstruction from the collection boot.
3. Check the suction hose. With the hose uncoupled from the collection boot, shake the suction hose so that any material present will fall out. Pull the material out, if necessary.
4. If the obstruction is not in the collection boot or the suction hose, it may be present in the outlet of the fan system. Raise the collection bin and install the cylinder lockout to secure the bin in the raised position. Remove any material with a stick or similar object.
5. On rare occasions, the inlet to the fan can become obstructed. If this occurs, remove the suction hose from the fan inlet and remove the obstruction.

Emptying the Collection Bin

1. When it is time to empty the collection bin, shut off the power unit PTO and slow the collection vacuum engine to an idle. Raise the mower deck off the ground and drive the machine to the location where the collection bin will be emptied.
2. Turn off the collection vacuum when the location is reached.
3. With the power unit on level ground, back the power unit until approximately 2 meters (6 feet) away from the receptacle or disposal area.

ATTENTION

When raising the collection bin, the mower deck must also be in the raised position.

4. Raise the collection bin to the required height for the receptacle. If emptying onto the ground, the bin does not need to be raised to open the collection bin door.
5. Back the power unit up until the collection bin is over the receptacle or disposal area.
6. Open the collection bin door to empty the collection bin.
7. After the collection bin is empty, close the collection bin door.
8. Drive the power unit forward until the bin can be lowered without contacting the receptacle.
9. Lower the collection bin and return to the mowing area.
10. Start the collection system engine and resume mowing.

NOTE: periodically check the air intake on the collection vacuum engine to ensure that material does not accumulate on the air intake. Check more frequently when emptying the collection bin during windy conditions.

Transport of the Collection Vacuum

Shut off the power unit PTO and slow the collection vacuum engine to an idle or shut off the engine. Lower the collection bin to the operating position and raise the mower deck off the ground. Drive carefully, exercising caution on slopes and when making turns.

Empty the collection bin before transporting the machine on a truck or trailer.

SERVICE

WARNING

Always engage the parking brake, shut off the power unit engine, remove the ignition key, and ensure that all moving parts have come to a complete stop before inspecting the 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 collection vacuum, clean or wash the equipment to remove accumulated clippings, leaves, or dirt when the job is finished.

Always allow time for the equipment to cool before washing. Do not spray directly into bearings or seals and use caution when washing around the engine. After washing, run the mower and the collection system engine to disperse any standing water.

Bin Cylinder Lockout with Bin in Raised Position

DANGER

Hydraulic drift or accidental release of hydraulic pressure could allow the collection bin to lower and trap a person or appendage.

When working on or around the raised collection bin, the cylinder lockout must be installed on the right lift cylinder.

A cylinder lockout is provided with the collection vacuum and is stored on the right lift arm. When servicing the collection vacuum with the bin raised, this cylinder lockout must be installed on the right bin lift cylinder.

1. Raise the collection bin to its highest position.
2. Remove the cylinder lockout (A) from the storage position.
3. Place the cylinder lockout over the rod on the right lift cylinder and fasten with the safety snap pin.



Power Unit Tire Pressure

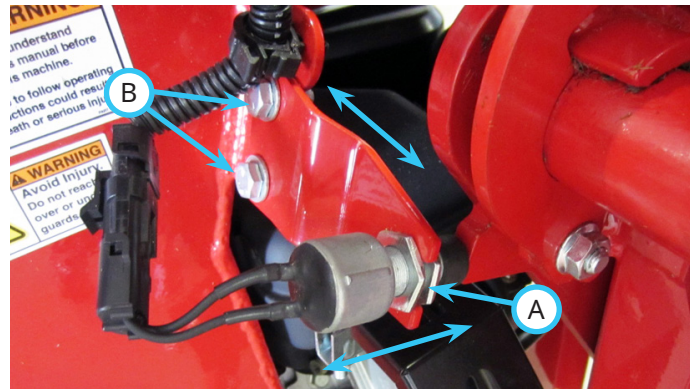
Single wheels - inflate all tires to 103 kPa (15 psi).

Dual wheels - inflate the inner tires to 103 kPa (15 psi) and the outer tires to 41-55 kPa (6-8 psi).

Automatic Engine Shut-off Switch Adjustment

When the collection bin is raised, the collection vacuum engine must automatically shut off within the first 5 cm (2 inches) of bin travel. If the engine fails to shut off within the first 5 cm (2 inches) of movement, the shut-off switch must be adjusted. Alternately, if the switch is out of adjustment, it may prevent the collection vacuum engine from starting even though the collection bin is completely lowered.

If the switch needs to be adjusted in or out, loosen the nuts (A) that secure the switch and adjust the switch in or out so the engine shut-off occurs in 5 cm (2 inches) or less. Tighten the nuts that secure the switch to the bracket.



If the switch needs to be adjusted from side to side, loosen the bolts (B) that fasten the switch bracket to the fan housing and move the switch bracket until the switch is centered with the right bin lift arm. Torque the bolts to 24 Nm (210 in-lbs).

If you cannot adjust the switch to shut off the engine within the specified distance, contact your Ventrac dealer for further service.

SERVICE

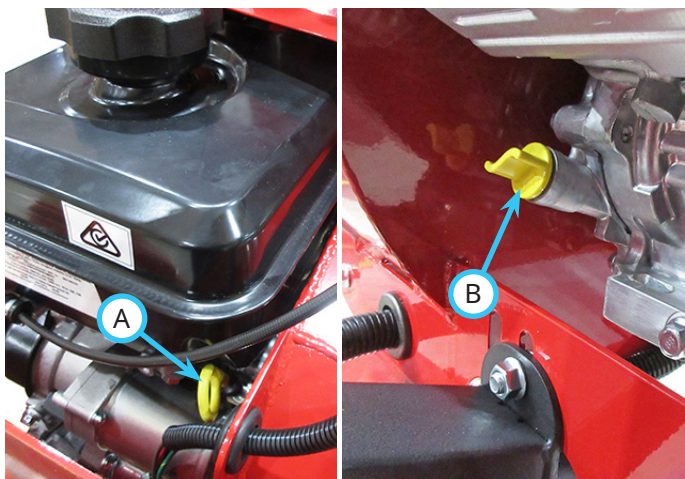
Checking the Engine Oil Level

ATTENTION

Failure to check the engine oil level regularly could lead to serious damage to your engine, if the engine is run with an incorrect oil level.

- Check the engine oil with the machine sitting on a level surface and with the engine shut off and the oil cold.
- Keep the oil level between the **Full** and **Add** marks.
- Do not add oil with the engine running.

1. If the engine has been running, allow the engine and the oil to cool.
2. The oil level can be checked using the dipstick (A) above the starter or the dipstick (B) at the base of the engine behind the fan housing .



3. Remove the dipstick and check the oil level. The oil level should be between the Full and Add marks on the dipstick.
4. If the oil level is low, add small amounts of engine oil to bring the oil level no higher than the Full level on the dipstick.
5. If the oil level is above the Full mark, drain some of the engine oil to achieve the proper level.
6. Reinstall the dipstick.

Changing the Engine Oil

CAUTION

Contact with engine oil can irritate your skin. Wear protective gloves when working with engine oil. If you come in contact with engine oil, wash it off your skin immediately.

ATTENTION

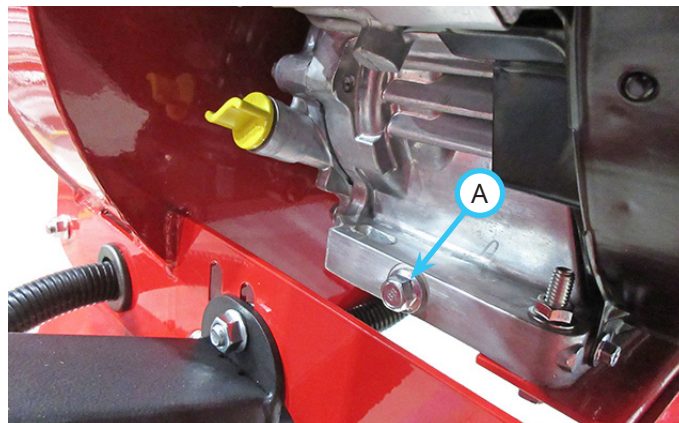
Oil is hazardous to the environment. Drain the engine oil into an approved container. Dispose of used engine oil in accordance with local laws.

1. Start the collection vacuum engine and allow it to run until the engine reaches operating temperature.
2. Park the machine on a level surface.
3. Shut off the engine and allow the engine to cool from hot to warm.

WARNING

Hot engine oil can cause severe burns. Allow the engine temperature to drop from hot to warm before draining the engine oil.

4. Place a drain pan underneath the oil drain (A).



5. Remove the oil drain plug and drain the oil into the pan while the oil is warm.
6. After the oil has drained, reinstall and tighten the oil drain plug.
7. Remove the dipstick from the engine.
8. Add oil to the engine. Refer to the Engine Owner's Manual for the proper oil specifications and capacity.
9. Install and remove the dipstick. Check the oil level and add oil if necessary.
10. Reinstall the dipstick.

SERVICE

Servicing the Air Filter Element

ATTENTION

When the air filter element is removed, an opening is created to the internal parts of the engine.

Be sure nothing falls into the air intake. Have the new filter element ready to install immediately after removing the old filter element.

Improper service to the engine air filter can result in severe engine damage.

- Inspect the filter daily in extreme heat, dust, or other severe conditions.
- Never run the engine without a proper air filter installed.
- Never wash or use compressed air to attempt to clean the paper filter element.

1. If the collection vacuum engine has been running, allow the engine to cool.
2. Unscrew the plastic nuts on top of the air cleaner cover (A) and remove the cover.



3. Remove the filter element (B).



4. To loosen debris, gently tap the filter element on a hard surface. If the filter element is excessively dirty, replace it with a new air filter element.
5. Install the air filter element.
6. Install the air cleaner cover and secure with the plastic nuts.

Filling the Fuel Tank

⚠ DANGER

Fuel is flammable and explosive. Follow all the safety instructions in the Fuel Safety section and in the Engine Owner's Manual.

⚠ WARNING

Long term exposure to fuel vapors can cause serious injury or illness. Avoid prolonged breathing of fuel vapors.

If fuel is spilled on your skin or clothing, change your clothing and wash the affected area immediately.

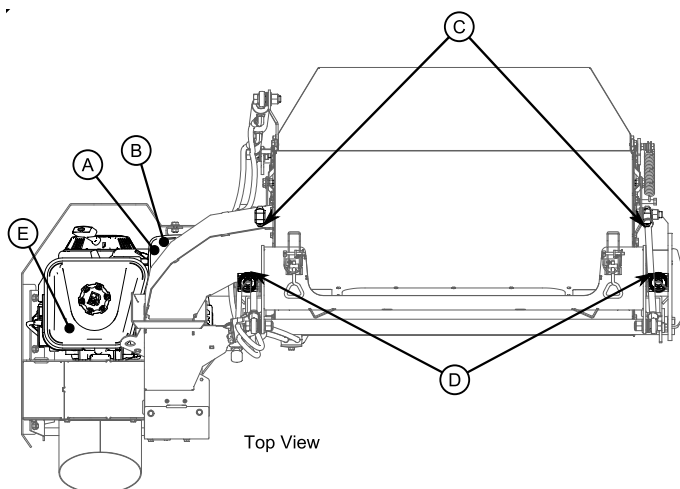
ATTENTION

Improper fuel can damage your engine. Only use fuel that meets the fuel grade and specifications listed in the Engine Owner's Manual.

1. Park the machine on a level surface.
2. If the collection vacuum engine has been running, allow the engine to cool.
3. Wipe any dust and dirt off the fuel cap and fuel tank to prevent dirt from falling into the fuel tank and remove the fuel cap.
4. Add fuel to the tank until the fuel level reaches the bottom of the fuel neck. Do not overfill. Keep the fuel nozzle in contact with the rim of the fuel neck until fueling is completed.
5. Replace the fuel cap and tighten.
6. Wipe up any fuel spills and allow fuel vapors to dissipate before starting the engine.

SERVICE

Service and Lubrication Diagram



Service Every 25 Hours				
Action	Item	Description		
Clean	A	Air Filter Element		
	B	Foam Pre-cleaner Element		
Service Every 50 Hours				
Action	Item	Description	# of Locations	# of Pumps
Grease*	C	Collection Bin Pivot	2	1
	D	Cylinder End	4	1
Change	E	Engine Oil	Capacity: 0.77-0.83 L (26-28 oz.)	

*Use a lithium complex NLGI #2 grease.

Storage

Preparing the Collection Vacuum Engine for Storage

1. Clean the engine of any surface debris, chaff, or grass.
2. Change the engine oil to prevent damage that can be caused by acidic build up in used motor oil.
3. To prevent acid and gum deposits from stale fuel from forming in the fuel system or on essential carburetor parts, add a good quality fuel stabilizer to the fuel tank following the manufacturer's recommended mixing ratio.
4. Start the collection vacuum engine and run for 2-3 minutes to circulate the stabilizer throughout the fuel system. The engine and fuel can then be stored for the length of time indicated on the fuel stabilizer bottle.

5. If the fuel in the tank has not been treated with a fuel stabilizer, drain the fuel into an approved container, then start the engine and allow it to run until the engine stops from lack of fuel.
6. Turn off the collection vacuum engine and remove the ignition key.
7. Move the fuel shut-off lever to the Off position.

Preparing the Collection Vacuum for Storage

1. Clean the collection vacuum to remove accumulated grass, dust, and debris.
2. Inspect for loose or missing hardware, damaged components, or signs of wear. Repair or replace any damaged or worn components.
3. Inspect the safety decals. Replace any decals that are faded, illegible, or missing.
4. Inspect the hydraulic hoses and fittings to ensure tight, leak-free connections. Replace any worn or damaged hoses.
5. Inspect the collection bin, frame, fan housing, and engine. Repair or replace any damaged or worn components.
6. Apply grease to all grease points and wipe off any excess grease.
7. Inspect the painted components for chips, scratches, or rust. Clean and touch up the surfaces as needed.
8. Store in a clean, dry area.

Removing the Collection Vacuum from Storage

1. Clean the collection vacuum to remove any accumulated dust or debris.
2. Inspect the collection vacuum as instructed in the Daily Inspection section of this manual.
3. Test the collection vacuum to ensure that all the components are working properly.

SERVICE

Maintenance Schedule

	# of locations	# of pumps	As Needed	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 and Lubrication: See Lubrication Section																									
Lift Cylinder End	4	^			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Bin/Lift Arm Pivot	2	^			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Engine																									
Check the Engine Oil Level				✓																					
Change the Engine Oil and Filter ¹					✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		✓
Clean/Replace the Spark Plugs	Consult the engine owner's manual: Follow service intervals for heavy loads and high temperatures*																								
Check the Valve Clearance	Consult the engine owner's manual: Follow service intervals for heavy loads and high temperatures*																								
Clean the Air Filter			**		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Clean the Pre-cleaner			**		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Clean the Finger Guard			**	✓																					
Clean the area around the engine and muffler			**	✓																					
Clean the Air Cooling System			**																						✓
Replace the Air Filter			**																						✓
Replace the Pre-cleaner			**																						✓
Replace the Fuel Filter			**																						✓
Inspection																									
Inspect for Loose, Missing, or Worn Components				✓																					
Inspect the Hydraulic Hoses and Fittings				✓																					
Inspect the Battery Cables				✓																					
Inspect the Safety Decals				✓																					
* If heavy load, high temperature, or dusty condition service intervals are not specified, Ventrac recommends servicing more frequently at one half of the standard service interval.																									
**Operation in severe conditions may require more frequent service intervals.																									
¹ Consult the engine owner's manual for engine oil information and complete servicing information.																									
^ Grease until fresh grease is visible.																									

SERVICE

Maintenance Checklist

	# of locations	# of pumps	As Needed	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 and Lubrication: See Lubrication Section																									
Lift Cylinder End	4	^																							
Bin/Lift Arm Pivot	2	^																							
Engine																									
Check the Engine Oil Level																									
Change the Engine Oil and Filter ¹																									
Clean/Replace the Spark Plugs	Consult the engine owner's manual: Follow service intervals for heavy loads and high temperatures*																								
Check the Valve Clearance	Consult the engine owner's manual: Follow service intervals for heavy loads and high temperatures*																								
Clean the Air Filter																									
Clean the Pre-cleaner																									
Clean the Finger Guard																									
Clean the area around the engine and muffler																									
Clean the Air Cooling System																									
Replace the Air Filter																									
Replace the Pre-cleaner																									
Replace the Fuel Filter																									
Inspection																									
Inspect for Loose, Missing, or Worn Components																									
Inspect the Hydraulic Hoses and Fittings																									
Inspect the Battery Cables																									
Inspect the Safety Decals																									
* If heavy load, high temperature, or dusty condition service intervals are not specified, Ventrac recommends servicing more frequently at one half of the standard service interval.																									
**Operation in severe conditions may require more frequent service intervals.																									
¹ Consult the engine owner's manual for engine oil information and complete servicing information.																									
^ Grease until fresh grease is visible.																									

SPECIFICATIONS

Dimensions

Overall Height.135 cm (53 inches)
Overall Length102 cm (40 inches)
Overall Width165 cm (65 inches)
Weight	238 kg (525 pounds)
Capacity (Recommended)	0.37 m ³ (13 ft ³ / 10 bushel)
Capacity (Maximum)	0.45 m ³ (16 ft ³ / 13 bushel)
Bin Lifting Height.	152 cm (60 inches)
Hose Diameter	20 cm (8 inches)

Engine

Manufacturer	Vanguard
Model Number	19
Type	Gasoline
Cylinders.	One
Engine Gross Horse Power	10 HP
Engine Oil Capacity.	0.77-0.83 L (26-28 ounces)
Cooling System	Air Cooled
Starting	Electric

Features

- Storage stands with caster wheels
- Hydraulic lift and dump
- Hour meter
- Handles on suction hose for clean up
- Window for viewing material level in the collection bin
- Collection bin vent deflector

Power Unit Requirements

The RV602 collection vacuum is recommended for use with all KN4500 and KN4520 power units. The collection vacuum can be used on KT4100 serial number EC1501 and higher and KT4200 serial number EB2555 and higher. The power unit must be equipped with either an optional 3-point hitch or an optional rear hydraulic valve kit. The RV602 collection vacuum can not be used on a power unit equipped with a Ventrac cab or canopy. The RV602 collection vacuum can not be used on a 4500Z power unit equipped with a propane kit. The RV602 collection vacuum can not be used on a power unit equipped with directional/hazard lights.