Operator's Manual

KJ520

Power Broom

VENTRAC.COM

Original Operator's Manual

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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.

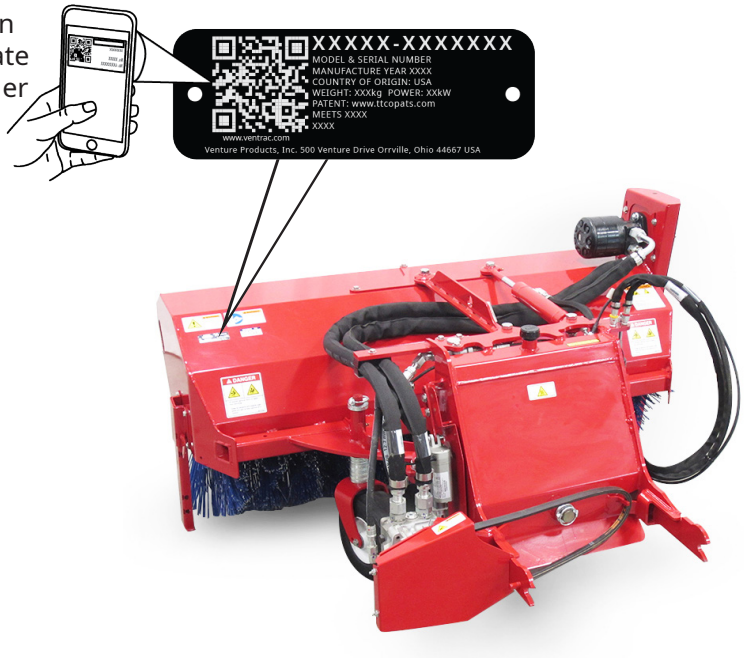
Dealer_____ **Date of Purchase:** _____

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 # _____

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INTRODUCTION

Venture Products Inc. is pleased to provide you with your new Ventrac power broom! 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 KJ520 power broom.

Accessories	Item Description	Part Number
	12 Volt Actuator Kit* (reverse rotation and variable speed)	70.8211

Product Description

The Ventrac KJ520 power broom is designed for sweeping and removal of material such as snow, leaves, dirt, light gravel, and even thatch. The broom has a straight working width of 132 cm (52 inches) and an angled working width of 122 cm (48 inches).

The broom can be hydraulically angled left or right and raised or lowered using the power unit's SDLA control lever. A corner-less frame permits sweeping against curbs and allows for the cleaning of corners.

The gauge wheel height can be easily adjusted to accommodate brush wear.

An optional electric actuator* allows the operator to adjust the speed and direction of the broom rotation from the power unit.

*The power unit must be equipped with an optional 12V front plug kit. Check with your Ventrac dealer or the Ventrac website to find the correct kit for your power unit.

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.

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.

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.
- Always wear a seat belt if the machine has a roll cage/bar installed and in the upright position.

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

- 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.

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.

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.

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.

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.

KJ520 Safety Procedures

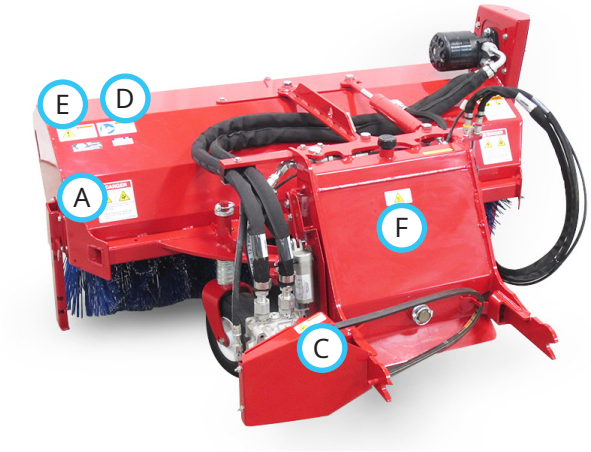
- The KJ520 power broom is designed to sweep. Do not use the power broom to push or pull objects.
- The power broom can create a cloud of blowing snow or dust that may obstruct your vision. Slowing the rotational speed of the broom by either reducing the power unit engine RPM or using an optional electric actuator can reduce the amount of blowing snow or dust .
- Use caution when sweeping near anything that could be damaged by thrown objects. Whenever possible, sweep away from buildings and other objects of value. When sweeping near buildings or objects of value, slowing the rotational speed of the broom by either reducing the power unit engine RPM or using an optional electric actuator will reduce the distance and velocity at which objects can be thrown from the power broom.
- Do not operate the power broom when people are in the area. Frozen snow, ice, gravel, and other objects can be thrown at high velocity.
- Operators should be familiar with the area they are clearing and make preparations ahead of time. Place guide stakes appropriately and remove stones, markers, or other debris that may be hidden after a snowfall. Curbs, offsets, steps, man hole covers, broken or raised pavement, etc. should be noted. Operators should map areas to be cleared before the winter season so they can review potential hazards prior to clearing snow in the area.
- If an area is to be cleared that is unfamiliar to the operator, travel slowly and use EXTREME CAUTION. Inquire of anyone who might know of potential hazards.
- Always block up the power broom securely when adjusting the gauge wheel height.
- Make sure the pinch point areas of the power broom are clear, prior to changing the broom angle.
- Attachment hydraulic system may contain stored energy. Before performing maintenance or repairs on the hydraulic system, the attachment's auxiliary hydraulic hoses must be disconnected from the power unit. Lower the attachment to the ground, shut off power unit engine, move the hydraulic control lever left and right to relieve auxiliary hydraulic pressure, and disconnect the auxiliary hydraulic quick couplers.

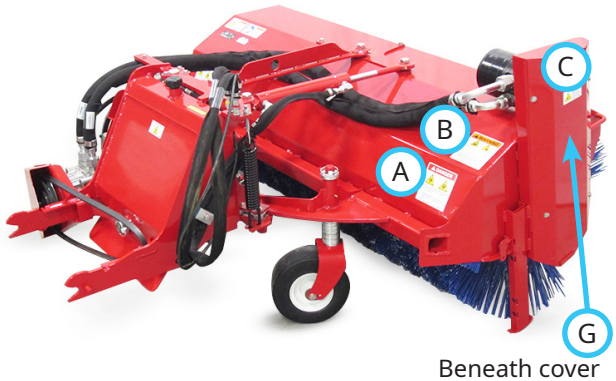
Safety Decals

The following safety decals must be maintained on your KJ520 power broom.

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.

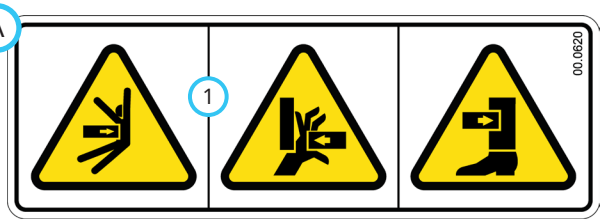
When new components are installed, be sure that current safety decals are affixed to the replacement components.





Beneath cover

A



1. Pinching or crushing hazard.

B

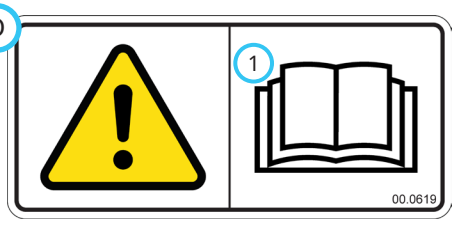
High pressure fluid hazard.

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

C

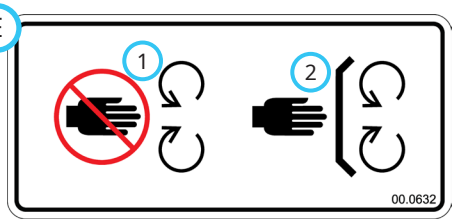
1. Finger or hand entanglement.
2. Stay away from moving parts.

D



1. Read the operator's manual.

E

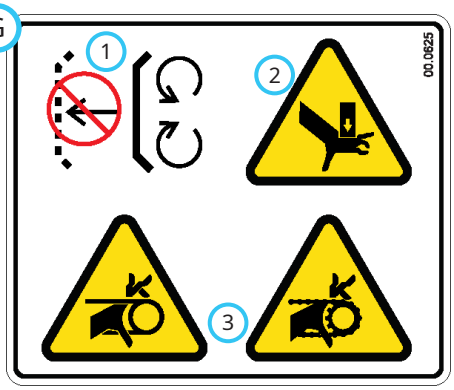


1. Stay away from moving parts.
2. Keep all guards and shields in place.

F

1. Hot surface. Do not touch.

G



1. Shield missing - do not operate.
2. Pinching or crushing hazard.
3. Finger or hand entanglement.

Decal	Description	Part Number	Quantity
A	Pinching or Crushing Hazard	00.0620	2
B	High Pressure Fluid Hazard	00.0621	1
C	Finger/Hand Entanglement	00.0631	2
D	Read Operator's Manual	00.0619	1
E	Moving Parts Hazard	00.0632	1
F	Hot Surface Hazard	00.0374	1
G	Shield Missing	00.0625	1

Daily Inspection

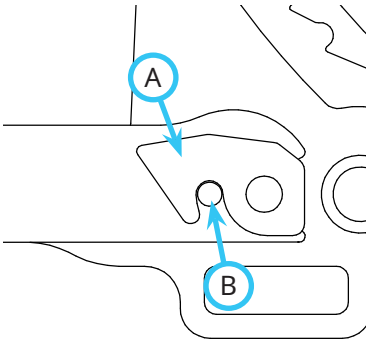
⚠ WARNING

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.
3. Inspect the hydraulic hoses and the hydraulic fittings to ensure tight, leak free connections.
4. Inspect the belts for damage or excessive wear. Refer to the Belt Inspection section of this manual.
5. Check the gauge wheel height setting and adjust if necessary..

Attaching

1. Drive the power unit slowly forward into the hitch arms of the attachment. Align the lift arms of the power unit with the attachment hitch arms by raising or lowering the front hitch and complete the engagement.
2. Once completely engaged, move the front hitch latch lever* to the locked position. The latch (A) must lock over the attachment's hitch arm pin (B).



3. Engage the parking brake* and shut off the engine.
4. Place the attachment belt onto the PTO drive pulley on the power unit. Ensure the belt is properly seated in each pulley.
5. Engage the PTO belt tensioner rod.
6. Wipe the hose ends clean and connect to the power unit's hydraulic quick couplers. If equipped, connect the hoses and the quick couplers so the colored indicators are paired together (red to red, etc.).
7. If the broom is equipped with an electric actuator, connect the electric plug to the power unit.
8. Raise the power broom slightly. Rotate the storage stand pins 180 degrees and pull to remove. Move the storage stands up to the operating position and reinstall the pins.

Detaching

1. Park the power unit on a level surface and engage the parking brake.*
2. Rotate the storage stand pins 180 degrees and pull to remove. Move the storage stands down to the storage position and reinstall the pins.
3. Lower the attachment to the ground.
4. Shut off the power unit engine.
5. Disengage the PTO belt tensioner rod.
6. Remove the attachment belt from the PTO drive pulley of the power unit.
7. Disconnect the hydraulic quick couplers from the power unit and store the hose ends in the frame holes on the attachment.
8. If the broom is equipped with an electric actuator, disconnect the electric plug from the power unit.
9. Disengage the front hitch locking lever.*
10. Restart the power unit and slowly back away from the attachment. A side to side movement of the steering wheel may aid in disengagement.

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

Operating Procedure

Before operation, perform the daily inspection and engage the power unit's weight transfer (if equipped).

Move the machine into position and lower the power broom to the ground. Place the power unit's primary SDLA lever in the float position by pushing it to the right until the detent engages. The lever will stay in this position until intentionally removed. Move the secondary SDLA lever to the left or right to adjust the broom to the desired angle.

⚠ WARNING

When the broom is angled to the left or right, pinch points are created between the brush frame and the hitch frame. Make sure the area between these frames is clear, prior to changing the broom angle.

With the power unit's engine running between 2,000 and 2,500 RPM, engage the PTO switch. Adjust the power unit throttle until the desired engine speed is reached. Drive forward at a speed that is safe and gives the desired results.

The power broom can be used to sweep debris, including leaves and snow, from driveways, sidewalks, parking lots, etc. The power broom can effectively sweep several inches of snow. The type of snow and prevailing winds will affect the results.

When sweeping, cooperate with the wind direction as much as possible. Slowing the broom rotation RPM can reduce blowing snow or dust. Reduce rotation speed by slowing the power unit engine RPM or adjusting the electric actuator (if equipped).

Excessive amounts of snow or debris on the broom frame can obstruct vision and add unwanted weight. Clean as necessary.

Transport of the Attachment

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

Gauge Wheel Height Check and Adjustment

The power broom is equipped with two adjustable gauge wheels. As the nylon broom bristles wear, the gauge wheels will need to be adjusted to maintain proper ground contact. The gauge wheel height is determined by the placement of spacer washers between the gauge wheel spindle and the gauge wheel mount. Extra washers are stored on top of the gauge wheel mount.

ATTENTION

Excessive heat and/or damage may occur to the drive train if the power broom is abused by stoppage or severe loads. Proper sweeping action requires the broom rotor to rotate freely.

The recommended gauge wheel height setting is the point at which the broom bristles contact 5 to 10 cm (2 to 4 inches) of ground surface when the broom is lowered to the ground.

1. Park the power unit and power broom on a level surface and engage the parking brake.
2. Raise the storage stands to the operating position.
3. Adjust the broom angle so the brush is perpendicular to the power unit. Lower the broom to the ground and place the hydraulic control lever in the float position.
4. Shut off the engine and remove the ignition key.
5. Measure the distance of the contact the broom bristles make with the ground surface.

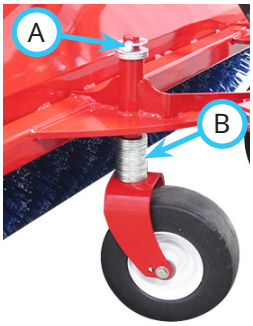
5-10 cm (2-4 inches)

6. If the distance falls outside the suggested measurement, raise the broom to the highest position and support the broom frame with blocks or jack stands.

⚠ WARNING

Do not make gauge wheel height adjustments unless the broom is securely supported with blocks or jack stands.

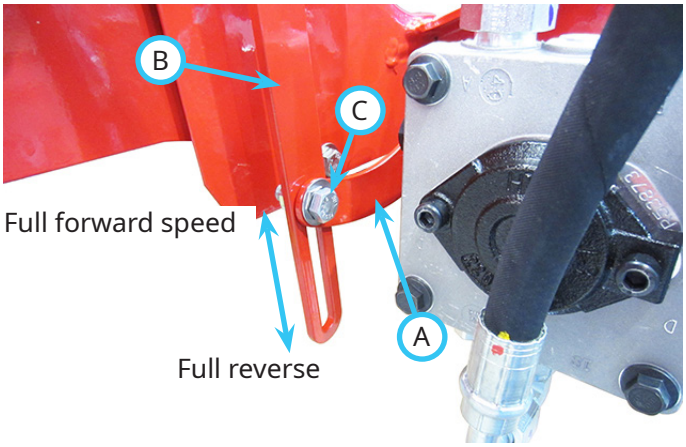
Hydraulic drift or accidental release of hydraulic pressure could allow the broom to lower and trap a person or appendage if the broom is not securely supported.



7. Remove the linch pin (A) and the spacer washers from the top of the gauge wheel mount.
8. Remove the gauge wheel from the mount and add or remove washers (B) to adjust gauge wheel height. Add spacer washers to raise the broom and decrease ground contact. Remove spacer washers to lower the broom and increase ground contact. NOTE: the left and right gauge wheels must be set to the same height.
9. Insert the gauge wheel back into the mount, place any extra spacer washers on top of the mount, and fasten the gauge wheel in place with the linch pin.
10. Remove blocks or jack stands, lower the broom to the ground, and measure the amount of ground contact to verify adjustments.

Slowing or Reversing the Broom Rotation (Manual Link)

The broom rotation can be slowed or reversed by adjusting the pump control lever (A) in the slot in the pump control link (B). Loosen the bolt (C) that secures the pump control link to the pump control lever.



Lowering the pump control lever in the slot will slow or reverse the broom rotation. Raise the pump control lever to the top of the slot in the pump control link to return broom to full forward speed. When the desired speed/direction is reached, tighten the pump control link bolt.

Slowing or Reversing the Broom Rotation (Electric Actuator)

If the broom is equipped with an electric actuator, the broom rotation can be slowed or reversed from the power unit. The reversing feature is designed for pulling snow from corners or tight spots and from in front of doors, walls, steps, etc.

The normal setting for sweeping is full speed forward. To slow or reverse broom rotation, press and hold the momentary 12 volt front switch on the power unit. The broom rotation will slow down, change rotation direction, and speed up in the reverse direction. Release the switch at any time to hold the current speed and direction.

⚠ 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 power broom, clean or wash the broom to remove dirt, salt deposits, and snow or ice accumulations.

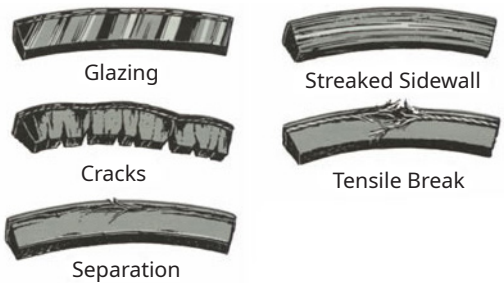
ATTENTION

To maintain the finish of the power unit and attachment, thoroughly wash the equipment after each use to remove any corrosive agents (e.g., salt). Failure to clean the equipment may result in corrosion of (including but not limited to) steel, aluminum, and electrical components. Equipment that will experience repeated exposure to corrosive agents should be pretreated with a corrosion preventative.

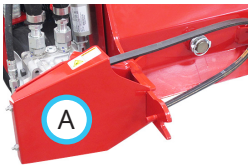
Belt Inspection

Inspecting the drive belts of the attachment 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.



Belt Replacement

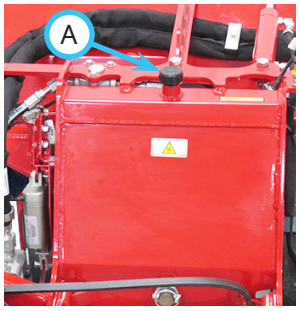


1. Detach the broom from the power unit.
2. Remove the drive pulley shield (A).
3. Remove the old drive belt and install the new drive belt over the pulley.
4. Reinstall the drive pulley shield.

Checking the Hydraulic Oil Level

Check hydraulic oil level before operating the broom when the hydraulic circuit is cold. If the hydraulic system is warm, allow 1 hour for the hydraulic system to cool before checking. If the hydraulic system is warm when the oil level is checked, it will produce an inaccurate oil level reading.

1. Park the power broom on a level surface and allow time for the hydraulic system to cool, if necessary.
2. Remove the dipstick (A) from the hydraulic oil tank and wipe with a clean cloth.
3. Set the dipstick back into place without threading in.
4. Remove the dipstick and check the oil level. The level should be between the two notches on the dipstick.



5. If the hydraulic oil level is low, add Ventrac HydroTorq XL synthetic hydraulic oil until the proper level is reached.
6. Reinstall the dipstick into the hydraulic oil tank.

Changing the Hydraulic Oil

1. Detach the broom from the power unit.
2. Place a drain pan of sufficient size under the drain plug on the bottom of the oil tank.
3. Remove the plug to drain the oil.
4. After oil has drained, reinstall the drain plug.
5. Remove the dipstick from the oil tank and add Ventrac HydroTorq XL synthetic hydraulic oil until the proper level is reached.
6. Clean up any spilled oil and dispose of oil in accordance with local laws.

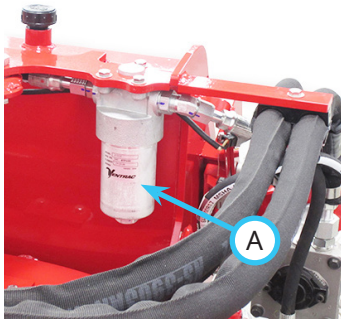
ATTENTION

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

7. Refer to the following section for oil filter replacement instructions.

Changing the Hydraulic Oil Filter

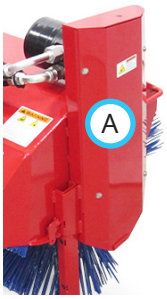
1. Place a drain pan beneath the filter area to catch any oil leakage.
2. Remove the oil filter bowl (A) from the filter assembly and unscrew the filter element from the filter head.

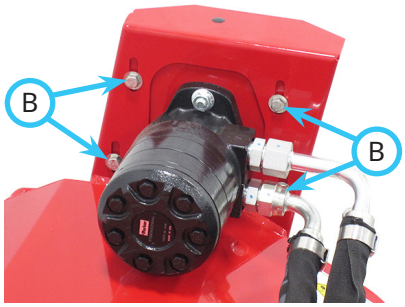


3. Screw the new filter element onto the filter head.
4. Reinstall the oil filter bowl onto the filter assembly and torque to 61 Nm (45 ft-lbs).
5. Clean up any spilled oil and dispose of oil and filter in accordance with local laws.

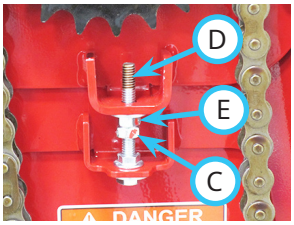
Brush Wafer Replacement

1. Park the broom on a level surface.
2. Remove the drive chain cover (A).

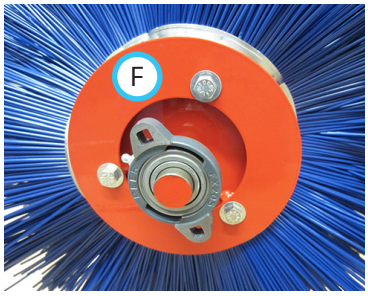




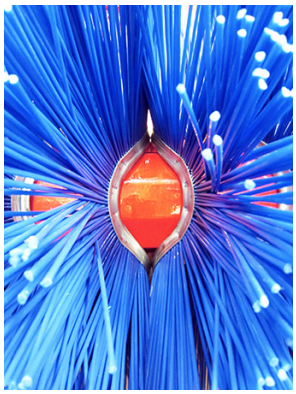
3. Loosen the four motor mount bolts (B).
4. Loosen the jam nut (C) on the chain tension adjustment bolt (D) and loosen the adjustment nut (E) until the chain is slack.



5. Remove the master link from the chain and remove the chain from the sprockets.
6. Remove the hardware that fastens the left rotor shaft bearing and the right bearing mount plate to the broom frame.
7. Lift the broom frame off the brush assembly.
8. Remove the three bolts and the clamp plate (F) from the idler end of the brush rotor frame.

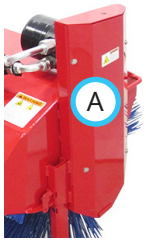


9. Remove brush wafers from the rotor frame.
10. Install new brush wafers onto the rotor frame. Rotate the brush wafer pins to the next slot in the rotor frame and flip every other brush wafer to alternate the offset in the brush wafers as shown.



11. Reinstall the clamp plate and torque the bolts to 28 Nm (21 ft-lbs).
12. Lower the broom frame back onto the brush assembly.
13. Reinstall the left rotor shaft bearing and the right bearing mount plate onto the broom frame and torque bolts to 28 Nm (21 ft-lbs).
14. Place the chain back onto the sprockets and install the master link.
15. Refer to the drive chain tension inspection and adjustment sections for instructions to properly set chain tension.
16. After setting the chain tension, tighten the four motor mount bolts. Torque to 28 Nm (21 ft-lbs).
17. Reinstall the drive chain cover and torque the bolts to 8 Nm (67 in-lbs).
18. After installing new brush wafers, check and adjust the gauge wheel height setting.

Drive Chain Tension Inspection

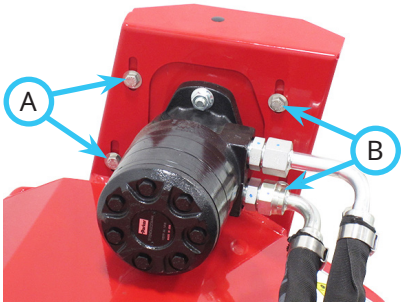


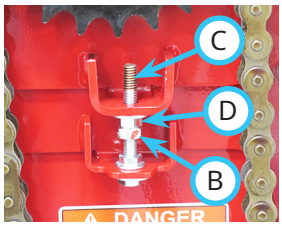
1. Park the broom on a level surface.
2. Remove the drive chain cover (A).
3. Apply pressure to the chain halfway between the sprockets. Proper chain deflection should be between 3.5 - 9.5 mm (1/8 - 3/8 inch).
   NOTE: measure the distance between the two chain strands with and without pressure applied to determine the amount of chain deflection.

4. If the chain tension needs adjusted, refer to the following section for adjustment procedures.
   If chain tension is correct, reinstall the drive chain cover and torque the bolts to 8 Nm (67 in-lbs).

Drive Chain Tension Adjustment

5. Loosen the four motor mount bolts (A).





6. Loosen the jam nut (B) on the chain tension adjustment bolt (C).
7. Tighten or loosen the chain tension adjustment nut (D) until the correct chain tension is achieved.
8. Lock the jam nut against the adjustment nut and torque the four motor mount bolts to 28 Nm (21 ft-lbs).
9. Reinstall the drive chain cover and torque the bolts to 8 Nm (67 in-lbs).

Lubrication Locations

Lubrication is required at the following locations using a lithium complex NLGI #2 grease.

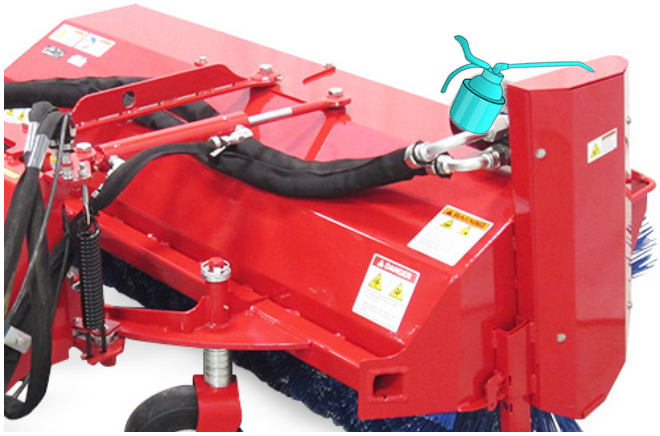
Wipe the grease fittings clean before applying grease to the grease fittings.

Refer to the maintenance schedule for service intervals and the amount of grease.

Cylinder Ends and Upper Link Ends

Brush Rotor Bearings (2), Wheel axles (2), and Caster Pivots (2)

Remove the plastic plug and apply chain oil to the drive chain. Reinstall the plastic plug.



Storage

Preparing the Attachment for Storage

1. Clean the power broom.
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. Repair or replace any damaged or worn components.
5. Inspect the drive belt for damage or wear and replace if necessary.
6. Service all lubrication points and wipe off any excess grease or oil.
7. Check the hydraulic oil level.
8. Inspect the painted components for chips, scratches, or rust. Clean and touch up the surfaces as needed.

Removing the Attachment from Storage

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

SERVICE

Maintenance Schedule

	# of locations	# of pumps	Daily	At 25 hours	At 50 hours	At 75 hours	At 100 hours	At 125 hours	At 150 hours	At 175 hours	At 200 hours	At 225 hours	At 250 hours	At 275 hours	At 300 hours	At 325 hours	At 350 hours	At 375 hours	At 400 hours	At 425 hours	At 450 hours	At 475 hours	At 500 hours	5 yeas or 500 Hrs	5 Years or 2,000 Hrs.
Grease and Lubrication: See Lubrication Section																									
Brush Rotor Bearing	2	1			✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		
Upper Link End	2	^			✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		
Cylinder End	2	^			✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		
Wheel Castor Pivot	2	^			✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		
Wheel Axle	2	^			✓		✓		✓		✓		✓		✓		✓		✓		✓		✓		
Oil Drive Chain	1			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Hydraulic System																									
Check the Hydraulic Oil Level			✓																						
Change the Hydraulic Filter																								✓	
Change the Hydraulic Oil																									✓
Inspection																									
Inspect for Loose, Missing, or Worn Components			✓																						
Inspect the Belts and Pulleys			✓																						
Inspect the Drive Chain							✓				✓				✓				✓				✓		
Inspect the Hydraulic Hoses and Fittings			✓																						
Inspect the Safety Decals			✓																						

^Grease until fresh grease is visible.

Maintenance Checklist

	# of locations	# of pumps	Daily	At 25 hours	At 50 hours	At 75 hours	At 100 hours	At 125 hours	At 150 hours	At 175 hours	At 200 hours	At 225 hours	At 250 hours	At 275 hours	At 300 hours	At 325 hours	At 350 hours	At 375 hours	At 400 hours	At 425 hours	At 450 hours	At 475 hours	At 500 hours	5 yeas or 500 Hrs	5 Years or 2,000 Hrs.
Grease and Lubrication: See Lubrication Section																									
Brush Rotor Bearing	2	1																							
Upper Link End	2	^																							
Cylinder End	2	^																							
Wheel Castor Pivot	2	^																							
Wheel Axle	2	^																							
Oil Drive Chain	1																								
Hydraulic System																									
Check the Hydraulic Oil Level																									
Change the Hydraulic Filter																									
Change the Hydraulic Oil																									
Inspection																									
Inspect for Loose, Missing, or Worn Components																									
Inspect the Belts and Pulleys																									
Inspect the Drive Chain																									
Inspect the Hydraulic Hoses and Fittings																									
Inspect the Safety Decals																									

^Grease until fresh grease is visible.

SPECIFICATIONS

Dimensions

Overall Height	82.5 cm (32-1/2 inches)
Overall Length	147-3 cm (58 inches)
Overall Width	155 cm (61 inches)
Working Width	132 cm (52 inches)
Angled Width	122 cm (48 inches)
Weight	226 kg (500 pounds)
Brush Diameter	61 cm (24 inches)
Broom Speed	277 RPM
Hydraulic Oil Capacity	20.8 liters (5-1/2 gallons)

Features

Hydraulic angle left and right

Adjustable gauge wheels

Replaceable brush wafers

Reversible rotation and adjustable rotation speed