To the Owner

Contact Information and Product Identification

If you need to contact an authorized Ventrac dealer for information on servicing your product, always provide the product model and serial numbers.

Please fill in the following information for future reference. See the picture(s) below to find the location of the identification numbers. Record them in the spaces provided.

Date of Purchase: _______________________________________________________
Dealer: __________________________________________________________________
Dealer Address: __________________________________________________________________
Dealer Phone Number: ______________________________________________________
Dealer Fax Number: __________________________________________________________________

Model # (A): ____________________________
Serial # (B): ____________________________

Affix Part/Serial Number label here.

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

## INTRODUCTION
- Product Description ................................................................. 5
- Why Do I Need an Operator’s Manual? .................................................. 5
- Using Your Manual ............................................................................. 6
- Manual Glossary ................................................................................ 6

## SAFETY
- Safety Decals ................................................................................... 7
- General Safety Procedures ..................................................................... 9
- Training Required ............................................................................... 9
- Requirements for Personal Protective Equipment (PPE) ......................... 9
- Operation Safety ............................................................................... 9
- Preventing Accidents ........................................................................ 10
- Keep Riders Off ............................................................................... 10
- Operating On Slopes ......................................................................... 11
- Roadway Safety .............................................................................. 11
- Truck Or Trailer Transport ................................................................ 11
- Maintenance .................................................................................... 12
- Fuel Safety ........................................................................................ 12
- Hydraulic Safety ............................................................................... 13
- Cutting Unit Safety ........................................................................... 14

## OPERATIONAL CONTROLS
- Jack Stand ...................................................................................... 15
- Primary S.D.L.A. Control Lever ........................................................... 15
- Weight Transfer ............................................................................... 15

## GENERAL OPERATION
- Daily Inspection ............................................................................. 16
- Attaching ........................................................................................ 16
- Detaching ....................................................................................... 16
- Mowing and Operating Procedure ...................................................... 16
- Transport of Mower .......................................................................... 16
- Cutting Height Adjustment ................................................................. 17

## SERVICE
- Cleaning and General Maintenance .................................................. 18
- Deck Flip-Up Procedure (Service Position) .......................................... 18
- Mower Blade Inspection/Replacement ................................................ 18
- Mower Blade Sharpening .................................................................... 19
- Belt Inspection .................................................................................. 19
- Drive Belt Replacement ...................................................................... 19
- Main Deck Belt Replacement .............................................................. 19
- Right Deck Belt Replacement ............................................................. 20
- Main Deck Belt Tensioning Adjustment ............................................... 20
- Lubrication Locations ........................................................................ 21
- Deck Leveling Procedure ................................................................... 21
- Storage .............................................................................................. 21
- Maintenance Schedule ....................................................................... 22
- Maintenance Checklist ...................................................................... 22
TABLE OF CONTENTS

SPECIFICATIONS PAGE 23
Dimensions ........................................................................................................................................23
Features .......................................................................................................................................23

WARRANTY PAGE 24
Venture Products Inc. is pleased to provide you with your new Ventrac tough cut mower! We hope that Ventrac equipment will provide you with a ONE Tractor Solution.

Listed below are just some of the items that can provide you versatility as you use your HQ680 tough cut mower. Please visit our web site, or contact your authorized Ventrac dealer for a complete list of items available for your new mower.

<table>
<thead>
<tr>
<th>Accessories</th>
<th>Item Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>HQ680 Swivel Wheel Kit</td>
<td>70.8213</td>
<td></td>
</tr>
</tbody>
</table>

Product Description

The HQ680 tough cut mower is designed for mowing high grass, thick weeds, and brush. A large baffled front opening allows brush to enter for cutting and hinders debris from escaping.

Three heavy duty blades counter rotate to cut and drop materials evenly without windrowing. Capable of cutting material up to one inch (2.5 cm) in diameter, the HQ680 mower makes short work out of heavy brush.

The HQ680 tough cut mower can be set to three different cutting heights of 3, 3-5/8, or 4-1/4 inches (76, 92, or 108 mm). The optional swivel wheel kit provides eight different cutting heights ranging from 3-1/2 to 7 inches (89 to 178 mm).

The HQ680 can be tilted up to access the underside of the deck for cleaning, maintenance, or storage.

Why Do I Need an Operator’s Manual?

This manual has been created to help you gain the important knowledge of what is needed to safely operate, maintain, and service your machine. It is divided into sections for convenient reference of the appropriate section.

You must read and understand the operator’s manual for each piece of Ventrac equipment you own. Reading the operator’s manual will help you become familiar with each specific piece of equipment. Understanding the operator’s manual will help you, as well as others, avoid personal injury and/or damage to the equipment. Keep this manual with the machine at all times. The manual should remain with the machine even if it is sold. If this manual becomes damaged or unreadable, it should be replaced immediately. Contact your local Ventrac dealer for a replacement.

When using a Ventrac attachment, be sure to read and follow the safety and operating instructions of both the power unit and the attachment being used to ensure the safest operation possible.

The information in this manual provides the operator with the safest procedures to operate the machine while getting the maximum use out of the unit. Failure to follow the safety precautions listed in this manual may result in personal injury and/or damage to the equipment.
Using Your Manual

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

**SYMBOL DEFINITIONS**

**ATTENTION**

This symbol identifies potential health and safety hazards. It marks safety precautions. Your safety and the safety of others is involved.

There are three signal words that describe the level of safety concern: Danger, Warning, and Caution. Safety should always be the #1 priority when working on or operating equipment. Accidents are more likely to occur when proper operating procedures are not followed or inexperienced operators are involved.

Note: Right-Hand and Left-Hand orientations may be referred to at different places throughout this manual. Right-Hand and Left-Hand is determined as if sitting on the power unit seat facing forward.

**SIGNAL WORD DEFINITIONS**

**DANGER**

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. This signal word is limited to the most extreme cases.

**WARNING**

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

**CAUTION**

Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury and/or property damage. It may also be used to alert against unsafe practices.

**Manual Glossary**

- **Power Unit**: A Ventrac tractor or other Ventrac engine powered device that may be operated by itself or with an attachment or accessory.
- **Attachment**: A piece of Ventrac equipment that requires a Power Unit for operation.
- **Accessory**: A device that attaches to a Power Unit or Attachment to extend its capabilities.
- **Machine**: Describes any “Attachment” or “Accessory” that is used in conjunction with a power unit.
SAFETY

Safety Decals
The following safety decals must be maintained on your HQ680 mower. Keep all safety decals legible. Remove all grease, dirt, and debris from safety decals and instructional labels. If any decals are faded, illegible, or missing, contact your dealer promptly for replacements. When new components are installed, be sure that current safety decals are affixed to the replacement components.
SAFETY

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

Safety - 8
SAFETY

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

Training Required

- The owner of this machine is solely responsible for properly training the operators.
- The owner/operator is solely responsible for the operation of this machine and prevention of accidents or injuries occurring to him/herself, other people, or property.
- Do not allow operation or service by children or untrained personnel. Local regulations may restrict the age of the operator.
- Before operating this machine, read the operator’s manual and understand its contents.
- If the operator of the machine cannot understand this manual, then it is the responsibility of this machine’s owner to fully explain the material within this manual to the operator.
- Learn and understand the use of all controls.
- Know how to stop the power unit and all attachments quickly in the event of an emergency.

Requirements for Personal Protective Equipment (PPE)
The owner is responsible for ensuring that all 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.
- A dust mask for dusty conditions.

Operation Safety

- Inspect machine before operation. Repair or replace any damaged, worn, or missing parts. Be sure guards and shields are in proper working condition and are secured in place. Make all necessary adjustments before operating machine.
- Some pictures in this manual may show shields or covers opened or removed in order to clearly illustrate any instructions. Under no circumstance should the machine be operated without these devices in place.
- Alterations or modifications to this machine can reduce safety and could cause damage to the machine. Do not alter safety devices or operate with shields or covers removed.
- Before each use, verify that all controls function properly and inspect all safety devices. Do not operate if controls or safety devices are not in proper working condition.
- Check parking brake function before operating. Repair or adjust parking brake if necessary.
- Observe and follow all safety decals.
- All controls are to be operated from the operator’s station only.
- Always wear a seat belt if the machine has a roll cage/bar installed and in upright position.
- Ensure the attachment or accessory is locked or fastened securely to the power unit before operating.
- Ensure that all bystanders are clear of the power unit and attachment before operating. Stop machine if someone enters your work area.
- Always be alert to what is happening around you, but do not lose focus on the task you are performing. Always look in the direction the machine is moving.
- Look behind and down before backing up to be sure of a clear path.
- If you hit an object, stop and inspect the machine. Make all necessary repairs before operating machine again.
- Stop operation immediately at any sign of equipment failure. An unusual noise can be a warning of equipment failure or a sign that maintenance is required. Make all necessary repairs before operating machine again.
- 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.
General Safety Procedures
for Ventrac Power Units, Attachments, & Accessories

Operation Safety (continued)

- Do not leave machine unattended while it is running.
- Always park the machine on level ground.
- Always shut off engine when connecting attachment drive belt to the power unit.
- Never leave the operator's station without lowering the attachment to the ground, setting the parking brake, shutting off the engine, and removing the ignition key. Make sure all moving parts have come to a complete stop before dismounting.
- Never leave equipment unattended without lowering the attachment to the ground, setting the parking brake, shutting off the engine, and removing the ignition key.
- Only operate in well-lit conditions.
- Do not operate when there is a risk of lightning.
- Never direct the discharge of any attachment in the direction of people, buildings, animals, vehicles, or other objects of value.
- Never discharge material against a wall or obstruction. Material may ricochet back towards the operator.
- Use extra caution when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
- Do not run the engine in a building without adequate ventilation.
- Do not touch the engine or the muffler while the engine is running or immediately after stopping the engine. These areas may be hot enough to cause a burn.
- Do not change the engine governor settings or over-speed the engine. Operating engine at excessive speed may increase the hazard of personal injury.
- To reduce the hazard of fire, keep the battery compartment, engine, and muffler areas free of grass, leaves, excessive grease, and other flammable materials.
- Secure long hair and loose clothing. Do not wear jewelry.

Preventing Accidents

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

Keep Riders Off

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

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

Operating On Slopes

- Slopes can cause loss-of-control and tip-over accidents, which can result in severe injury or death. Be familiar with the emergency parking brake, along with the power unit controls and their functions.
- If power unit is equipped with a fold down roll bar, it must be locked in the upright position when operating on any slope.
- Use low range (if equipped) when operating on slopes greater than 15 degrees.
- Do not stop or start suddenly when operating on slopes.
- Never shift between high and low range while on a slope. Always move the power unit to level ground and engage the parking brake before shifting range or placing the power unit in neutral.
- Variables such as wet surface and loose ground will reduce the degree of safety. Do not drive where machine could lose traction or tip over.
- Keep alert for hidden hazards in the terrain.
- Stay away from drop-offs, ditches, and embankments.
- Sharp turns should be avoided when operating on slopes.
- Pulling loads on hills decreases safety. It is the responsibility of the owner/operator to determine loads that can safely be controlled on slopes.
- Transport machine with attachment lowered or close to the ground to improve stability.
- While operating on slopes, drive in an up and down direction when possible. If turning is necessary while driving across slopes, reduce speed and turn slowly in the downhill direction.
- Ensure a sufficient supply of fuel for continuous operation. A minimum of one-half tank of fuel is recommended.

Roadway Safety

- Operate with safety lights when operating on or near roadways.
- Obey all state and local laws concerning operation on roadways.
- Slow down and be careful of traffic when operating near or crossing roadways. Stop before crossing roads or sidewalks. Use care when approaching areas or objects that may obscure vision.
- If there is doubt of safety conditions, discontinue machine operation until a time when operation can be performed safely.
- When operating near or on roadways, have a Slow Moving Vehicle Emblem clearly displayed.

Truck Or Trailer Transport

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

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

Maintenance

• Keep all safety decals legible. Remove all grease, dirt, and debris from safety decals and instructional labels.
• If any decals are faded, illegible, or missing, contact your dealer promptly for replacements.
• When new components are installed, be sure that current safety decals are affixed to the replacement components.
• If any component requires replacement, use only original Ventrac replacement parts.
• Always 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 parking brake, shut off engine, and remove the ignition key. Make sure all moving parts have come to a complete stop before cleaning, inspection, adjusting or repairing.
• If the power unit, attachment, or accessory requires repairs or adjustments not instructed in the operator's manual, the power unit, attachment, or accessory must be taken to an authorized Ventrac dealer for service.
• Never perform maintenance on the power unit and/or attachment if someone is in the operator's station.
• Always use protective glasses when handling the battery.
• Check all fuel lines for tightness and wear on a regular basis. Tighten or repair them as needed.
• To reduce the hazard of fire, keep the battery compartment, engine, and muffler areas free of grass, leaves, and excessive grease.
• Do not touch the engine, the muffler, or other exhaust components while the engine is running or immediately after stopping the engine. These areas may be hot enough to cause a burn.
• 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 speed may increase the hazard of personal injury.
• Springs may contain stored energy. Use caution when disengaging or removing springs and/or spring loaded components.
• An obstruction or blockage in a drive system or moving/rotating parts may cause a buildup of stored energy. When the obstruction or blockage is removed, the drive system or moving/rotating parts may move suddenly. Do not attempt to remove an obstruction or blockage with your hands. Keep hands, feet, and clothing away from all power-driven parts.

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 machine while smoking or at a location near flames or sparks.
• Always refuel the machine outdoors.
• Do not store machine or fuel container indoors where fumes or fuel can reach an open flame, spark, or pilot light.
• Only store fuel in an approved container. Keep out of reach of children.
• Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
• Remove 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 fuel cap or add fuel with the engine running. Allow engine to cool before refueling.
• Never remove fuel cap while on a slope. Only remove when parked on a level surface.
• Replace all fuel tank and container caps securely.
• Do not overfill fuel tank. Only fill to bottom of fuel neck, do not fill fuel neck full. Overfilling of fuel tank could
General Safety Procedures
for Ventrac Power Units, Attachments, & Accessories

Fuel Safety (continued)
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 fuel vapors have dissipated.
• If the fuel tank must be drained, it should be drained outdoors into an approved container.
• Check all fuel lines for tightness and wear on a regular basis. Tighten or repair them as needed.
• The fuel system is equipped with a shut-off valve. Shut off the fuel when transporting the machine to and from the job, when parking the machine indoors, or when servicing the fuel system.

Hydraulic Safety
• Make sure all hydraulic connections are tight and all hydraulic hoses and tubes are in good condition. Repair any leaks and replace any damaged or deteriorated hoses or tubes before starting the machine.
• Hydraulic leaks can occur under high pressure. Hydraulic leaks require special care and attention.
• Use a piece of cardboard and a magnifying glass to locate suspected hydraulic leaks.
  • Keep body and hands away from pinhole leaks or nozzles that eject high pressure hydraulic fluid. Hydraulic fluid escaping under high pressure can penetrate the skin causing serious injury, 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.
• Hydraulic system may contain stored energy. Before performing maintenance or repairs on the hydraulic system, remove attachments, engage parking brake, disengage weight transfer system (if equipped), shut off engine, and remove ignition key. To relieve pressure on the auxiliary hydraulic system, shut off the power unit engine and move the hydraulic control lever left and right before disconnecting the auxiliary hydraulic quick couplers.
HQ680 Safety Procedures

• Tall grass and thick brush can hide large obstacles such as rocks, tree stumps, etc. Check the area to be mowed for obstacles that could cause damage to the machine. If the obstacles cannot be removed, they should be marked to allow the operator to avoid them while mowing.

Cutting Unit Safety

• Rotating Blades: Contact with the rotating mower blades or other moving parts may cause personal injury. Keep hands and feet away.
• Rotation of one blade may cause another blade to rotate.
• Thrown Object Hazard: Do not point discharge toward people, animals, or buildings when operating. Never operate with the deflectors removed.
• When not mowing, always shut off the PTO to stop the mower blades.
• Never raise the mower deck with the blades running.
OPERATIONAL CONTROLS

Jack Stand
The HQ680 mower is equipped with a jack stand to keep the deck and hitch arms positioned for quick and easy attachment when the mower is not in use.

The jack stand has three positions:
1. Place the jack stand in the top position for mowing or transport.
2. Place the jack stand in the middle position when tilting the deck up to the service position. This position allows enough ground clearance to flip the deck up as well as ensuring the jack stand does not hit the front of the power unit.
3. Place the jack stand in the bottom position for storage prior to detaching from the power unit.

Primary S.D.L.A. Control Lever*
Pull the primary S.D.L.A. lever to the left to raise the power unit front hitch and HQ680 mower deck. Push the lever to the right to lower the power unit front hitch and mower deck. The control lever must be in the float (detent) position during operation of the mower. Float position is attained by pushing the lever to the right until the float detent locks the lever in place.

Weight Transfer*
Terrain and ground conditions may affect the appropriate setting for the power unit’s weight transfer system. In most cases, the weight transfer system should be set from 1/2 to 3/4 of maximum capacity.

* Refer to power unit operator’s manual for operation of power unit controls.
GENERAL OPERATION

Daily Inspection

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

1. Park machine on a level surface, with the engine shut off and all fluids cold.
2. Perform a visual inspection of both the power unit and the mower. Look for loose or missing hardware, damaged components, or signs of wear.
3. Inspect the drive belts and mower blades. Belts should be in good condition. Blades should be sharp and securely fastened. Service as required.
4. Refer to the power unit operator’s manual.
   Check the power unit’s engine oil, hydraulic oil, cooling system, tire pressure, and fuel level. Add fluid or service as required.
5. Test the power unit’s operator safety interlock system*.

Attaching

1. Drive the power unit slowly forward into the hitch arms of the mower. Align the lift arms of the power unit with the mower hitch arms by raising or lowering the front hitch and complete the engagement.
2. Once completely engaged, close the front hitch locking lever.*
3. Engage the parking brake* and shut off the engine.
4. Place the attachment belt onto the PTO drive pulley on the power unit. Ensure the belt is properly seated in each pulley.
5. Engage the PTO tension spring.
6. Raise the mower deck and move the jack stand to the mowing position (Position #1).

Detaching

1. Park the power unit on a level surface and set the parking brake.*
2. Move the jack stand to the storage position (Position #3) and lower the mower to the ground.
3. Shut off power unit engine.
4. Disengage the PTO tension spring.
5. Remove the attachment belt from the PTO drive pulley of the power unit.
6. Open the front hitch locking lever*.
7. Restart the power unit and slowly back away from the mower. A side to side movement of the steering wheel may aid disengagement.

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

Mowing and Operating Procedure

CAUTION
Tall grass and thick brush can hide large obstacles such as rocks, tree stumps, etc. Check the area to be mowed for obstacles that could cause damage to the machine. If the obstacles cannot be removed, they should be marked to allow the operator to avoid them while mowing.

Before operation, perform daily inspection, confirm cutting height is set properly, and verify the hitch pins are properly positioned so the deck is level.

Set the power unit’s weight transfer system (if equipped) to the desired setting.

With the power unit’s engine running between 2,000 and 3,000 RPM, engage the PTO switch. Adjust the throttle to the desired engine RPM.

Lower the mower deck to the ground and place the power unit’s primary S.D.L.A. control lever in the float position by pushing it to the right until the detent engages. The lever will stay in this position until manually removed.

Begin forward motion in the desired path of mowing. Avoid obstacles, removing debris as necessary.

Lift the mower deck when the edge of the mowing area is reached. Turn the power unit and mower around and align for the next pass.

Transport of Mower

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

**WARNING**

When working on a raised mower deck, the deck must be securely supported with blocks or jack stands. Accidental lowering of the deck could trap a person or appendage, if the mower deck is not securely supported.

Standard Wheels

1. Raise the front of the mower deck and support with blocks or jack stands.

2. Remove the wheel mounting bolt (A), move the wheel to the desired position, and reinstall the wheel mounting bolt. Torque to 75 ft-lbs (102 Nm).

3. Repeat for wheel on the opposite side of the deck.

4. After adjusting the cutting height, check the deck to make sure it is level front to back. Refer “Deck Leveling Procedure” in the service section.

Optional Swivel Wheel Kit

If your deck is equipped with front swivel wheels, use the following chart to set the front wheel and rear pin positions for the desired cutting height.

<table>
<thead>
<tr>
<th>Inches</th>
<th>Millimeters</th>
<th>Rear Pin Position</th>
<th>Front Wheel Position</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-1/2</td>
<td>89</td>
<td>B</td>
<td>E</td>
</tr>
<tr>
<td>4</td>
<td>102</td>
<td>C</td>
<td>E</td>
</tr>
<tr>
<td>4-1/2</td>
<td>114</td>
<td>C</td>
<td>D</td>
</tr>
<tr>
<td>5</td>
<td>127</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>5-1/2</td>
<td>140</td>
<td>D</td>
<td>C</td>
</tr>
<tr>
<td>6</td>
<td>152</td>
<td>E</td>
<td>C</td>
</tr>
<tr>
<td>6-1/2</td>
<td>165</td>
<td>F</td>
<td>B</td>
</tr>
<tr>
<td>7</td>
<td>178</td>
<td>F</td>
<td>A</td>
</tr>
</tbody>
</table>

*Cutting heights are approximate. Actual cutting heights may vary slightly due to factors such as: model of power unit, style of tire, etc.

1. Raise the mower deck and support with blocks or jack stands.

2. Place the rear pin on both the right and left hitch arms into the desired cutting position.

3. Remove the 4) bolts that fasten the swivel wheel frame to the mount bracket.

4. Move the swivel wheel frame to the desired cutting position and reinstall the 4) bolts. Torque to 31 ft-lbs (42 Nm).

5. Repeat for wheel on the opposite side of the deck.
Cleaning and General Maintenance
For best results, and to maintain the finish of the HQ680, clean or wash the mower to remove accumulated clippings, leaves, and dirt when the job is finished. Refer to the "Deck Flip-up procedure" in the service section to access the underside of the deck. If washing the deck, do not spray directly into bearings or seals. After washing, it is important to run the mower so that water does not reside on seals of bearings for the drive system. When washing is complete, return the deck to the operating position and activate the PTO for 30 seconds to remove any standing water.

Deck Flip-Up Procedure (Service Position)
1. Park the power unit on a smooth level surface.
2. Raise power unit front hitch to its highest position.
3. Set the parking brake, shut off the engine, and remove the ignition key.
4. Remove the deck cover shield.
5. Remove the 2) pins (A) at the top of the hitch arms and the 2 pins (B) at the front of the hitch arms.
6. Move the jack stand to the middle position.
7. Lift the front of the deck up to a near vertical position and reinstall the front pins (B) to lock the deck in the upright position.
8. To return the deck to the operating position, remove the 2) pins from the front of the hitch arms and lower the mower deck to the ground. Reinstall the front and rear pins.

Mower Blade Inspection/Replacement
1. Mower blades may be sharp. Always wear heavy gloves when working with mower blades.
2. Inspect the mower blades to ensure cutting edges are sharp. If blades are dull or damaged, they must be removed and sharpened or replaced.
3. Place a short piece of 2 x 4 wood between the end of the blade and an appropriate structural part of the underside of the deck to prevent the blade from rotating.
4. For mower blade removal, refer to the following picture (shown from in front of the deck with the deck flipped up in the service position) to determine the left and right hand spindles and bolt removal direction. This picture is also shown on the maintenance decal on the underside of the deck cover.

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

If any component requires replacement, use only original Ventrac replacement parts.
5. Remove the blades for sharpening or replacement.
6. When installing a blade, the wood block must be placed on the opposite side to prevent rotation for tightening the blade bolt.
7. Torque the blade bolt to 75-80 ft-lbs (102-108 Nm).

**Mower Blade Sharpening**
Blades should be sharpened and balanced by a professional. Maintain balance, same bevel, and length of sharpened surface.

**Belt Inspection**
Inspecting the drive belts of the mower 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.

**Drive Belt Replacement**
1. Detach the mower deck from the power unit.
2. Remove the drive pulley shield.
3. Remove the old drive belt.
4. Install the new drive belt over the pulley and replace the drive pulley shield.
5. When installing a blade, the wood block must be placed on the opposite side to prevent rotation for tightening the blade bolt.
6. Torque the blade bolt to 75-80 ft-lbs (102-108 Nm).

**Main Deck Belt Replacement**
1. Detach the mower deck from the power unit.
2. Raise the deck cover shield.
3. Release the belt tension by loosening the idler adjustment rod (A).
4. Remove the left hitch arm mounting bolt (B) and lift the hitch arm up away from the mounting brackets.
5. Slide the old deck belt off the hitch arm and remove from the deck pulleys.
6. Loop the new belt over the left hitch arm and place on the idler pulley. Refer to the belt diagram on the underside of the deck cover shield. Reinstall the left hitch arm and torque to 75 ft-lbs (102 Nm).
7. Place the belt into the pulley system according to the belt diagram on the underside of the deck cover shield.
8. Ensure the belt is engaged in the groove of each pulley.
9. Tighten the outer nut on the idler adjustment rod to apply tension to the deck belt until there is approximately 1/32 - 1/16 inch (.8 - 1.6 mm) gap between the spring coils.
10. Tighten the inner nut on the idler adjustment rod against the inner face of the hitch arm to secure.
Right Deck Belt Replacement
1. Detach the mower deck from the power unit.
2. Raise the deck cover shield.
3. Release the main deck belt tension by loosening the idler adjustment rod (A).
4. Remove the main deck belt from the double pulley (B) that drives the right deck belt.
5. Release the right belt tensioning spring (C).
6. Remove the right deck belt.
7. Install the new right deck belt into the bottom groove of the double pulley. Place the belt into the pulley system according to the belt diagram on the underside of the deck cover shield.
8. Engage the right belt tensioning spring.
9. Place the main deck belt back on the double pulley and ensure the belt is engaged in the groove of each pulley.
10. Tighten the outer nut on the idler adjustment rod to apply tension to the deck belt until there is approximately 1/32-1/16 inch (.8 - 1.6 mm) gap between the spring coils.
11. Tighten the inner nut on the idler adjustment rod against the inner face of the hitch arm to secure.

Main Deck Belt Tensioning Adjustment
If the deck belt slips during normal mowing operation, the belt tension will need to be adjusted.
1. Park power unit on a smooth level surface and lower the mower deck to the ground.
2. Set the parking brake, shut off the engine, and remove the ignition key.
3. Raise the main deck cover shield.
4. Loosen the nut (A) on the idler adjustment rod (B) on the inside of the hitch arm.
5. Tighten the outer nut (C) on the idler adjustment rod to apply tension to the deck belt until there is approximately 1/32-1/16 inch (.8-1.6 mm) gap between the spring coils.
6. Tighten the inner nut on the idler adjustment rod against the inner face of the hitch arm to secure.
7. If additional belt tension is needed, change the hook spring position to the left hole (D) in the belt pulley idler arm.
Lubrication Locations
Lubrication is required at the following locations using a lithium complex NLGI #2 grease. Refer to the maintenance schedule for service intervals and amount of grease.

Deck Leveling Procedure
1. Park the power unit and mower deck on a hard surface that is clean and level.
2. Set the parking brake, shut off the engine, and remove the ignition key.
3. Lower the mower deck to the ground and place the power unit's primary S.D.L.A. control lever in the float position by pushing it to the right until the detent engages.
4. Measure the distance from the flat surface to the top surface of the mower deck at the locations shown. If the measurement at the rear location is less than the front measurement or more than 1/4" (6.5 mm) greater than the front measurement, the rear pins (A) will need to be adjusted.
5. To lower the rear of the deck, move the rear pins to a higher position. To raise the rear of the deck, move the rear pins to a lower position.
6. After changing the rear pin position, recheck the deck to confirm it is level.

Storage
Preparation the HQ680 Mower for Storage
1. Clean the mower deck and frame.
2. Inspect for loose or missing hardware, damaged components, or signs of wear.
3. Inspect belts, spindles, and blades. Repair or replace any damaged or worn components.
4. Apply grease to all grease points.
5. Wipe off all excess grease or oil.

Removing the HQ680 Mower from Storage
1. Clean the mower deck to remove any accumulated dust or debris.
2. Inspect the mower as instructed in the daily inspection section of this manual.
3. Test the mower to ensure all components are working properly.
## Maintenance Schedule

<table>
<thead>
<tr>
<th>Maintenance Schedule</th>
<th>HQ680</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong># of Locations</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong># of Pumps</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Grease &amp; Lubrication:</strong></td>
<td>See Lubrication Section</td>
</tr>
<tr>
<td><strong>Driveshaft Bearing</strong></td>
<td>2 1</td>
</tr>
<tr>
<td><strong>Caster Wheel</strong></td>
<td>2 1</td>
</tr>
<tr>
<td><strong>Spindle</strong></td>
<td>3 3</td>
</tr>
<tr>
<td><strong>Wheel Swivel Bearing (Optional Swivel Wheel)</strong></td>
<td>2 1</td>
</tr>
<tr>
<td><strong>Wheel Axle Bearing (Optional Swivel Wheel)</strong></td>
<td>2 **</td>
</tr>
</tbody>
</table>

### Inspections
- Inspect for Loose, Missing, or Worn Components.
- Inspect Belts, Pulleys, Blades, and Blade Retaining Bolts
- Check Hitch Pivot Bolts. Torque to 75 ft-lbs (102 Nm)
- Inspect Safety Decals

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

### Grease & Lubrication
- **Grease Until Fresh Grease is visible**

## Maintenance Checklist

<table>
<thead>
<tr>
<th>Maintenance Checklist</th>
<th>HQ680</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong># of Locations</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong># of Pumps</strong></td>
<td>1</td>
</tr>
<tr>
<td><strong>Grease &amp; Lubrication:</strong></td>
<td>See Lubrication Section</td>
</tr>
<tr>
<td><strong>Driveshaft Bearing</strong></td>
<td>2 1</td>
</tr>
<tr>
<td><strong>Caster Wheel</strong></td>
<td>2 1</td>
</tr>
<tr>
<td><strong>Spindle</strong></td>
<td>3 3</td>
</tr>
<tr>
<td><strong>Wheel Swivel Bearing (Optional Swivel Wheel)</strong></td>
<td>2 1</td>
</tr>
<tr>
<td><strong>Wheel Axle Bearing (Optional Swivel Wheel)</strong></td>
<td>2 **</td>
</tr>
</tbody>
</table>

### Inspections
- Inspect for Loose, Missing, or Worn Components.
- Inspect Belts, Pulleys, Blades, and Blade Retaining Bolts
- Check Hitch Pivot Bolts. Torque to 75 ft-lbs (102 Nm)
- Inspect Safety Decals

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

**Grease Until Fresh Grease is visible**
## SPECIFICATIONS

### Dimensions

- **Overall Height**: 18 inches (46 cm)
- **Overall Length**: 45 inches (114 cm)
- **Overall Width**: 69 inches (175 cm)
- **Cutting Width**: 68 inches (173 cm)
- **Cutting Positions**: 3
- **Cutting Height Adjustments**: 3, 3-5/8, & 4-1/4 inches (7.6, 9.2, & 10.8 cm)
- **Weight**: 360 pounds (163 kg)

### Features

- Heavy duty deck construction
- Rear discharge deck design
- Flip-up deck design
- Field serviceable spindles
- Heavy duty blades
VENTRAC COMMERCIAL EQUIPMENT

Warranty - 24

LIMITED WARRANTY - VENTRAC COMMERCIAL EQUIPMENT

Venture Products, Inc., (henceforth referred to as V.P.I.) warrants on the terms and conditions herein, that it will repair, replace, or adjust any part manufactured by Venture Products Inc., and found by Venture Products, Inc., to be defective in material and/or workmanship during the applicable warranty term.

All Ventrac commercial equipment purchased and registered on or after January 1, 2019 will carry a 2-year commercial warranty. The warranty period begins on the date of original customer purchase:

<table>
<thead>
<tr>
<th>Ventrac Commercial Equipment</th>
<th>Warranty Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>2100 SSV &amp; Attachments</td>
<td>2-year</td>
</tr>
<tr>
<td>3000 Series Tractors &amp; Attachments</td>
<td>2-year</td>
</tr>
<tr>
<td>4000 Series Tractors &amp; Attachments</td>
<td>2-year</td>
</tr>
</tbody>
</table>

All Ventrac add-on kits and accessories such as: 3-point hitch, 12V front & rear power outlets, foot pedal, dual wheel kit, etc., will be covered under the above warranty periods provided they are installed by an Authorized Ventrac Dealer. This warranty may be transferred and will carry the remainder of the warranty starting from the original purchase/registration date with the dealership and/or V.P.I.

The engine warranty is covered by its respective engine manufacturer. Please refer to the engine manufacturer’s warranty statement that is included in the owner’s manual.

For warranty consideration on Ventrac commercial equipment, including any defective part, must be returned to an Authorized Ventrac Dealer within the warranty period. The warranty shall extend to the cost to repair or replace (as determined by V.P.I.) the defective part. The expense of pickup and delivery of equipment, service call drive time or any transportation expense incurred for warranty repair is the sole responsibility of the owner and is not covered under warranty by Ventrac and/or V.P.I. Ventrac and V.P.I.’s responsibility in respect to claims is limited to making the required repairs or replacements, and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Ventrac equipment. Proof of purchase may be required by the dealer to substantiate any warranty claim. Only warranty work performed and submitted by an Authorized Ventrac Dealer may be eligible for warranty credit.

This warranty extends only to Ventrac commercial equipment operated under normal conditions and properly serviced and maintained. The warranty expressly does NOT cover: (a) any defects, damage or deterioration due to normal use, wear and tear, or exposure; (b) normal maintenance services, such as cleaning, lubrication, oil change; (c) replacement of service items, such as oil, lubricants, spark plugs, belts, rubber hoses, bearings or other items subject to normal service replacement; (d) damage or defects arising out of, or relating to abuse, misuse, neglect, alteration, negligence or accident; (e) repair or replacement arising from operation of, or use of the equipment which is not in accordance with operating instructions as specified in the operator’s manual or other operational instructions provided by V.P.I.; (f) repair or replacement arising as a result of any operation from Ventrac equipment that has been altered or modified so as to, in the determination of V.P.I., adversely affect the operation, performance or durability of the equipment or that has altered, modified or affected the equipment so as to change the intended use of the product; (g) repair or replacement necessitated by the use of parts, accessories or supplies, including gasoline, oil or lubricants, incompatible with the equipment or other than as recommended in the operator’s manual or other operational instructions provided by V.P.I.; (h) repairs or replacements resulting from parts or accessories which have adversely affected the operation, performance or durability of the equipment; or (i) damage or defects due to or arising out of repair of Ventrac equipment by person or persons other than an authorized Ventrac service dealer or the installation of parts other than genuine Ventrac parts or Ventrac recommended parts.
WARRANTY

LIMITED WARRANTY - VENTRAC COMMERCIAL EQUIPMENT

The sole liability of V.P.I. with respect to this warranty shall be the repair and replacement as set forth herein. V.P.I. shall have no liability for any other cost, loss, or damage. In particular V.P.I. shall have no liability or responsibility for:

(i) expenses relating to gasoline, oil, lubricants; (ii) loss, cost or expense relating to transportation or delivery of turf equipment from the location of owner or location where used by owner to or from any Authorized Ventrac Dealer; (iii) travel time, overtime, after hours’ time or other extraordinary repair charges or charge relating to repairs or replacements outside of normal business hours at the place of business of an Authorized Ventrac Dealer; (iv) rental of like or similar replacement equipment during the period of any warranty repair or replacement work; (v) any telephone or telegram charges; (vi) loss or damage to person or property other than that covered by the terms of this warranty; (vii) any claims for lost revenue, lost profit or additional cost or expense incurred as a result of a claim of breach of warranty; or (viii) attorney’s fees.

The remedies of buyer set forth herein are exclusive and are in lieu of all other remedies. The liability of V.P.I., whether in contract, tort, under any warranty, or otherwise, shall not extend beyond its obligation as set forth herein. V.P.I. shall not be liable for cost of removal or installation nor shall V.P.I. be responsible for any direct, indirect, special or consequential damages of any nature. In no event shall V.P.I. be liable for any sum in excess of the price received for the goods for which liability is claimed.

There are no representations or warranties which have been authorized to the buyer of the Ventrac commercial equipment other than set forth in this warranty. Any and all statements or representations made by any seller of this equipment, including those set forth in any sales literature or made orally by any sales representative, are superseded by the terms of this warranty. Any affirmation of fact or promise made by V.P.I. or any of its representatives to the buyer which relates to the goods that are the subject to this warranty shall not be regarded as part of the basis of the bargain and shall not be deemed to create any express warranty that such goods shall conform to the affirmation or promise.

No employee, distributor, or representative is authorized to change the foregoing warranties in any way or grant any other warranty on behalf of V.P.I.

Some states do not allow limitations on how long an implied warranty lasts or allow the exclusion on limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty applies to all Ventrac commercial equipment sold by Venture Products Inc.