Operator's Manual

MA900

Boom Mower

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.

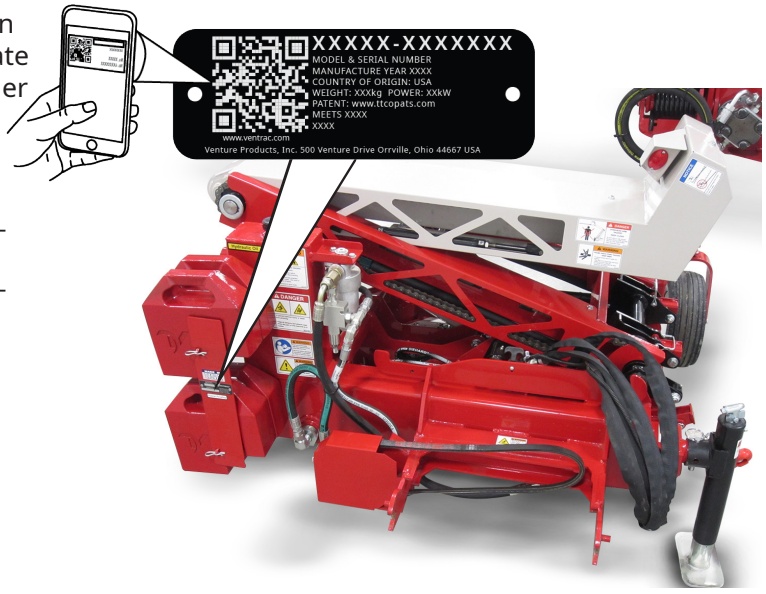
Dealer_____ **Date of Purchase:** _____

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 MA900 boom mower! We hope that Ventrac equipment will provide you with a ONE Tractor Solution.

Product Description

The Ventrac MA900 boom mower is designed for mowing and trimming hard to reach areas such as steep embankments, under fences and guardrails, across ditches, and around ponds. It can also be used for trimming hedges or small tree branches along trails, driveways, or roads.

The boom mower features double action sickle bar with a 99 cm (39 inch) cutting width and a horizontal reach of 2.9 m (115 inches) from the outside of single wheels / 2.6 m (103 inches) from the outside of dual wheels. The boom mower features a vertical reach of 3.6 m (142 inches) from the ground. Maximum height for a cut parallel to the ground is 2.1 m (82 inches).

The cutter bar can be rotated from 90 degrees up to 45 degrees down (135 degrees total range) and features an innovative design that maintains the cutter bar angle when the boom arm is extended/retracted or raised/lowered. The boom mower also features float capabilities (optional auxiliary float spool required) for either the cutter bar angle, the boom arm height, or both simultaneously.

The cutter bar is equipped with breakaway features that allow the cutter bar to rotate to the rear if an object is struck and also to rotate upward in case of excessive ground contact. The cutter bar motor is equipped with a relief valve that relieves hydraulic flow to the motor if the knife blades become jammed.

The power unit must be equipped with both a 12 volt front (switch & plug) kit and a dual hydraulic auxiliary kit. Visit ventrac.com, or contact your authorized Ventrac dealer for the proper kits for your power unit.

In order to use the boom mower's float capabilities, the power unit must be equipped with a float spool on the secondary port of the SDLA hydraulic valve.

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.

MA900 Safety Procedures

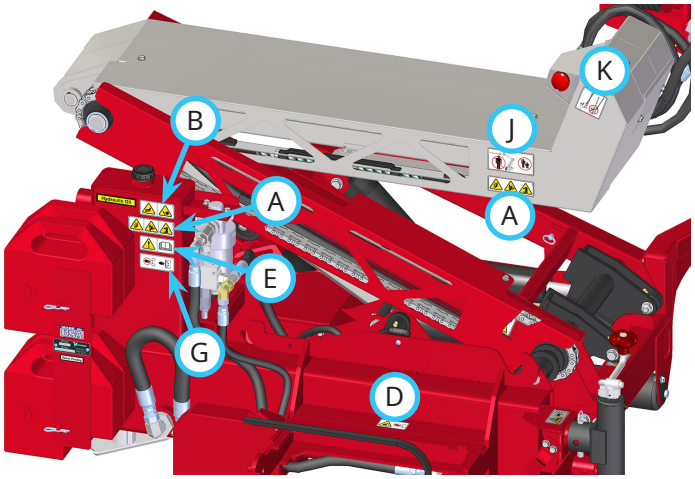
- Contact with the knife blades or other moving parts may result in personal injury. Keep hands and feet away.
- Movement of the blade bar or finger guard bar may cause unintended movement of other parts. Keep hands and fingers away from moving parts.
- Wear heavy gloves when removing, installing, or adjusting the knife blades and/or cutter arm.
- Never perform adjustments or maintenance to the cutter arm with the engine running.
- When removing a blockage from the cutter bar, pressure or tension in the drive system may cause movement of the knife blades or finger guards . Never use your hands or feet to remove a blockage.
- The boom mower must be equipped with counterweights during operation. Install four Ventrac weights on the boom mower weight bars.
- When not mowing, always shut off the PTO to stop the cutter bar.
- Install the blade cover onto the cutter arm whenever the mower is not in use.
- Ensure that there are no objects or persons in the area of the mower arms or cutter bar before folding or adjusting the position of the mower arms or cutter bar.
- Use caution when operating around objects that can obstruct your vision.
- Do not attempt to cut material larger than the rated capacity of 12.7 mm (1/2 inch) diameter.
- Do not contact overhead objects with the raised mower arms or cutter bar.
- Do not contact overhead electric lines with the mower arms or cutter bar. Contact with electric lines could cause serious injury or death. To avoid serious injury or death from electrical contact, keep raised arms or cutter bar at least 3 meters (10 feet) from any electric lines.
- Inspect work area for obstacles that may be hidden by tall grass or brush. Check for wires or cables that could become entangled in the cutter bar. Mark any obstacles that cannot be removed.
- If trimming trees or hedges along driveways or roadways, ensure there are no overhead lines in the work area.
- Maximum degree of operation is 10° if the power unit is equipped with single wheels or 18° if the power unit is equipped with dual wheels.
- During transport, move the mower arms and cutter bar to the applicable transport position to reduce shock to the boom mower and power unit. Refer to the operation section of this manual for instructions.
- When parking the boom mower, the mower arms and cutter bar must be placed in one of the storage positions. Refer to the operation section of this manual for instructions.
- If performing service on the boom mower with the mower arms extended, the mower arms and cutter bar must be securely supported with blocks or jack stands to prevent movement of the mower arms or cutter bar.
- 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, move the boom mower arms and cutter bar to the storage position,shut off power unit engine, turn the ignition key to the run position, move the secondary SDLA lever left and right to relieve auxiliary hydraulic pressure (both with and without the switch pressed), and disconnect the auxiliary hydraulic quick couplers.

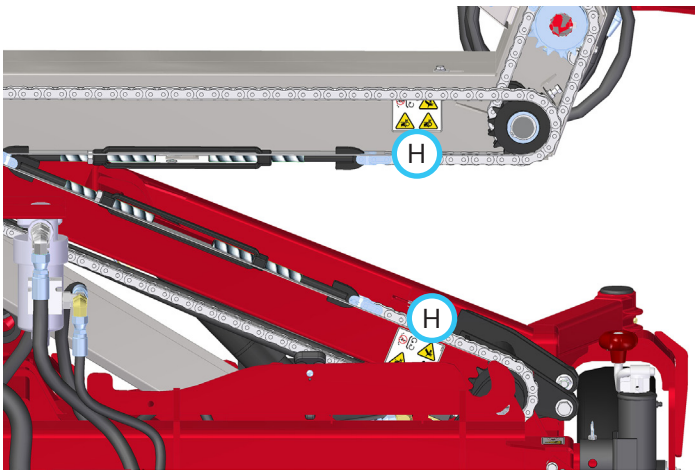
Safety Decals

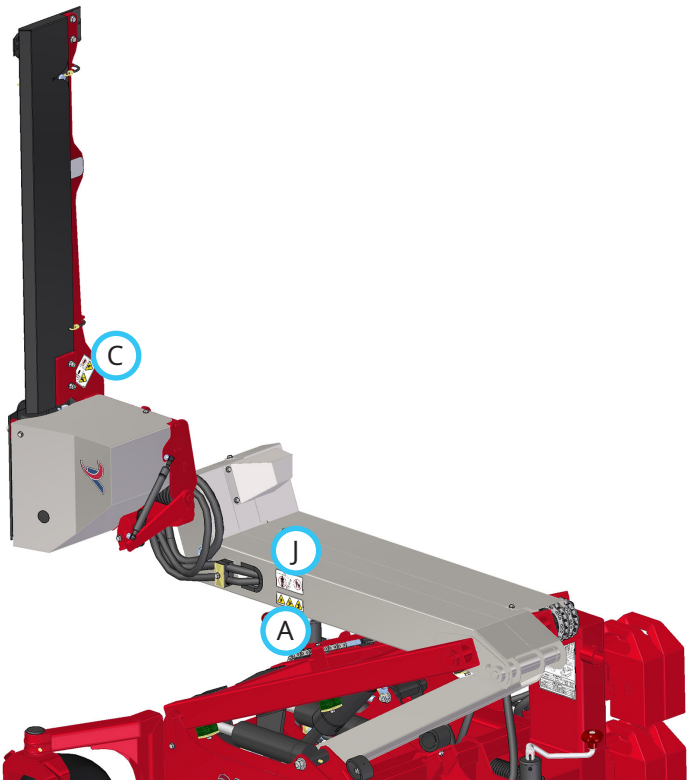
The following safety decals must be maintained on your attachment.

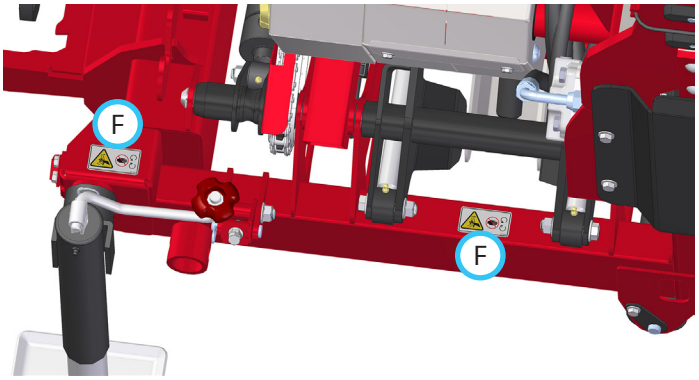
Keep all safety decals legible. Remove all grease, dirt, and debris from safety decals and instructional labels. If any decals are faded, illegible, or missing, contact your dealer promptly for replacements.

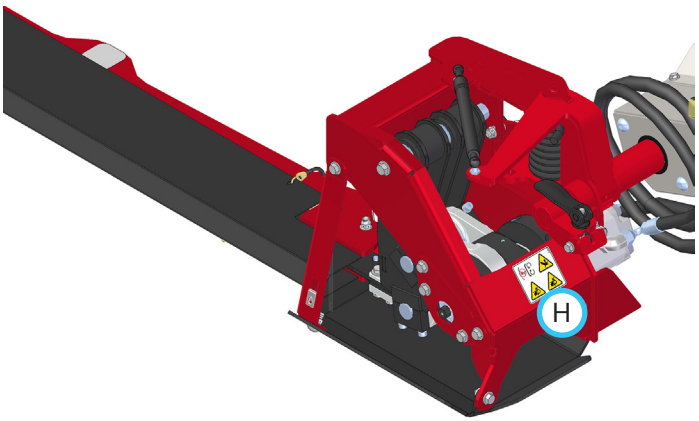
When new components are installed, be sure that current safety decals are affixed to the replacement components.



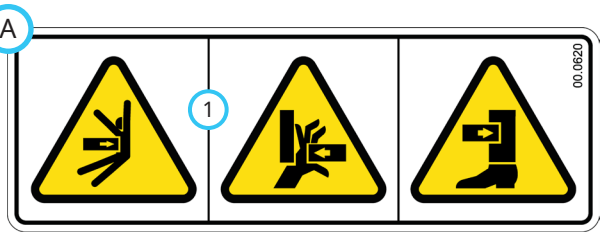








A

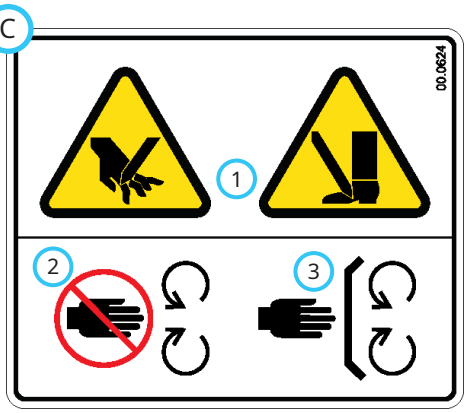


1. Pinching or crushing hazard.

B

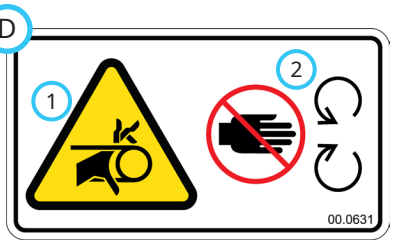
1. Keep your body and hands away from suspected hydraulic leaks.
2. Wear eye protection when inspecting the hydraulic system for leaks.

C



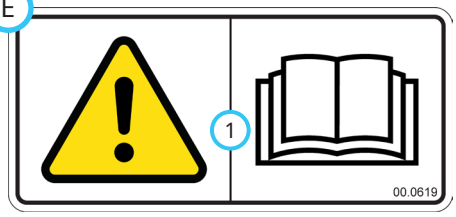
1. Cutting/dismemberment hazard of the hand or foot.
2. Stay away from moving parts.
3. Keep all guards and shields in place.

D



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

E

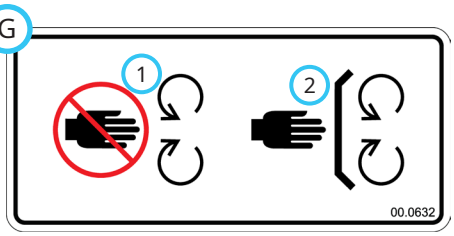


1. Read the operator's manual.

F

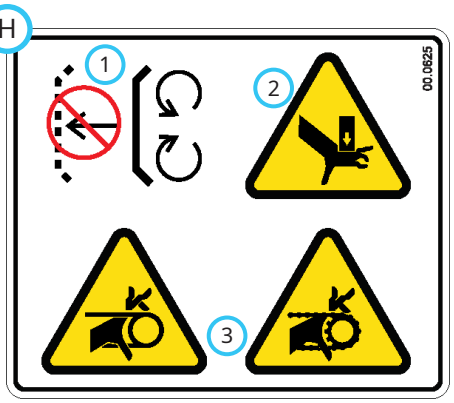
1. Caution - pinch point. Stay away from moving parts.

G



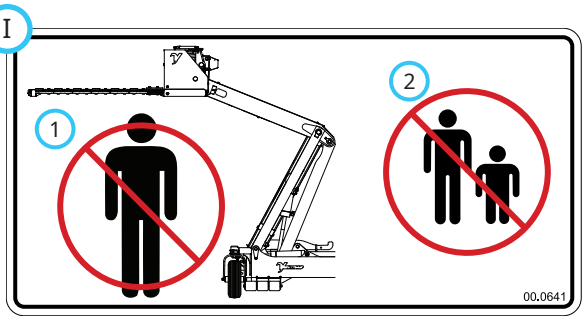
1. Stay away from moving parts.
2. Keep all guards and shields in place.

H



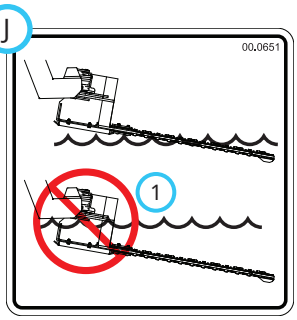
1. Shield missing - do not operate.
2. Pinching or crushing hazard.
3. Finger or hand entanglement.

I



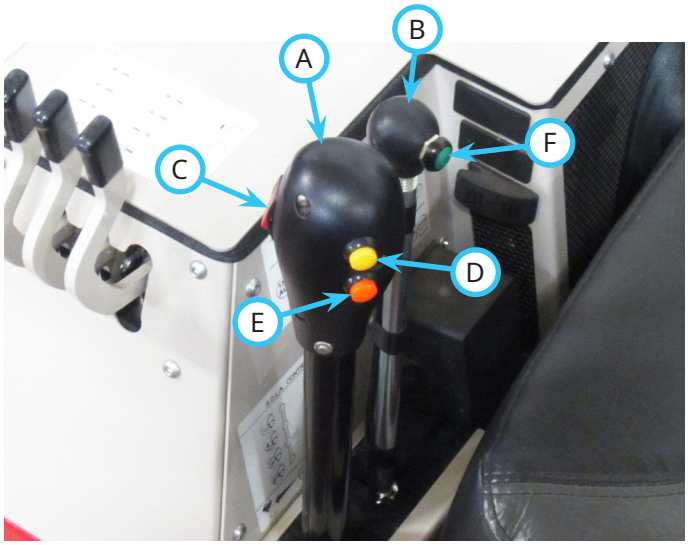
1. Overhead arm hazard - keep clear. Do not stand or walk beneath the boom arms or cutter bar when they are in the raised position.
2. Keep bystanders away.

J

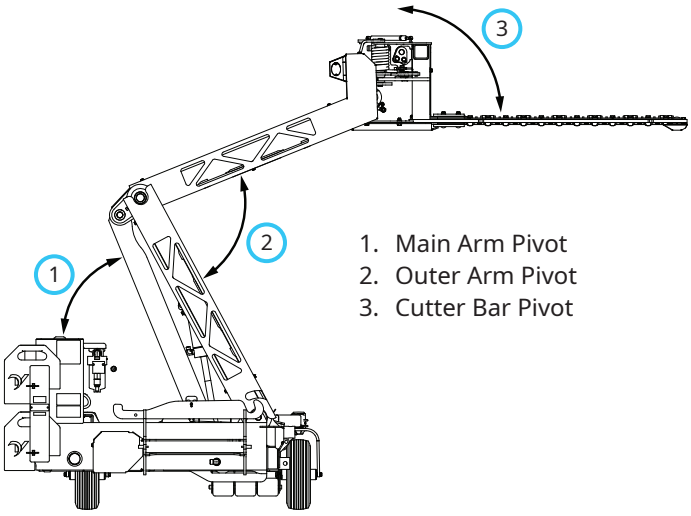


1. Do not submerge the cutter head in water.

Decal	Description	Part Number	Quantity
A	Pinching or Crushing Hazard	00.0620	3
B	High Pressure Fluid Hazard	00.0621	1
C	Cutting Hazard of Hands and Feet	00.0624	1
D	Finger/Hand Entanglement	00.0631	1
E	Read Operator's Manual	00.0619	1
F	Warning - Pinch Point	00.0364	2
G	Moving Parts Hazard	00.0632	1
H	Shield Missing	00.0625	3
I	Overhead Arm Hazard	00.0641	2
J	Do Not Submerge	00.0651	1



A. Primary SDLA Control Lever
B. Secondary SDLA Control Lever
C. Main Arm/Cutter Bar Selector Switch
D. Float Switch - Active Function Only
E. Float Switch - Main Arm and Cutter Bar
F. Outer Arm Selector Switch



1. Main Arm Pivot
2. Outer Arm Pivot
3. Cutter Bar Pivot

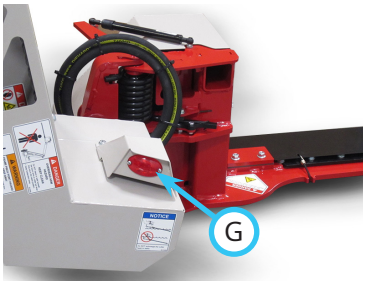
Primary SDLA Control Lever (A)

Pull the power unit's primary SDLA control lever to the left to raise the power unit front hitch and boom mower main frame. Push the control lever to the right to lower the power unit front hitch and boom mower main frame. The control lever must be in the float (detent) position during operation and transport of the boom mower.

Secondary SDLA Control Lever (B)

The power unit's secondary SDLA control lever controls boom mower functions through the auxiliary hydraulic quick couplers and depends on various inputs to determine the function being controlled. Moving the control lever to the left or right controls either the main arm pivot or the cutter bar pivot depending on the function selected using the main arm/cutter bar selector switch (C). Pressing the outer arm selector switch (F) while moving the lever left or right controls the outer arm pivot.

Main Arm/Cutter Bar Selector Switch (C)



The main arm/cutter bar selector switch is used to select the axis controlled by the secondary SDLA control lever. The boom mower is equipped with an indicator light (G) to show which function is selected. When the light is off, the main arm pivot function is selected. When the light is on, the cutter bar pivot function is selected.

Float Switch - Active Function Only (D)

Pressing and holding the yellow float switch^ allows the pivot that is currently selected by the main arm/cutter bar switch to float and follow the ground contour.

Float Switch - Main Arm and Cutter Bar (E)

Pressing and holding the orange float switch^ allows both the main arm and cutter bar pivots to float simultaneously to follow the ground contour.

Outer Arm Selector Switch (F)

Pressing and holding the outer arm selector switch selects the outer arm pivot as the pivot controlled by the secondary SDLA control lever.

^ The power unit must be equipped with a float spool on the secondary port of the SDLA hydraulic valve and the secondary control lever must be in the float (detent) position in order for the boom mower float switches to function.

Daily Inspection

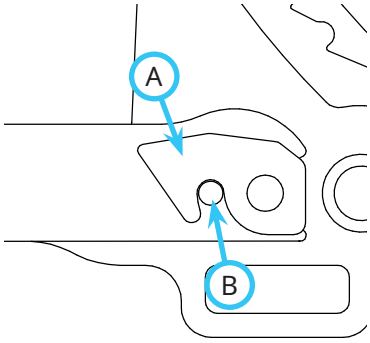
⚠ WARNING

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.

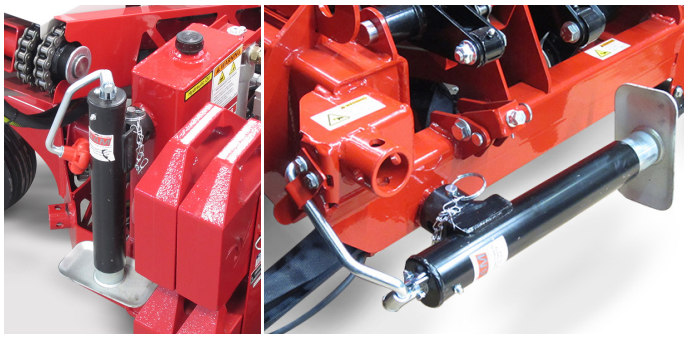
1. Park the machine on a level surface, with the engine shut off and all fluids cold.
2. Perform a visual inspection of both the power unit and the attachment. Look for loose or missing hardware, damaged components, or signs of wear.
3. Inspect the hydraulic hoses and fittings to ensure tight, leak free connections.
4. Inspect the drive belt for damage or excessive wear. Refer to the Belt Inspection section of this manual.
5. Inspect the cutter bar, knife blades, and blade guards for damage or wear. Service as required.
6. Check the hydraulic oil level.

Attaching

1. Set the power unit's weight transfer system to high (maximum weight transfer).
2. Park the power unit directly in front of the boom mower hitch arms.
3. Adjust the power unit's front hitch to level the hitch lift arms. Adjust the two jacks to align the boom mower hitch arms with the power unit's lift arms and drive the power unit slowly forward into the hitch arms of the attachment.
4. 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).



5. Engage the parking brake* and shut off the engine.
6. Raise the two jacks. Remove the ball pins and move the jacks to the operating positions. Secure with the ball pins. Secure the right jack handle with the jack handle latch.



7. Place the attachment belt onto the PTO drive pulley on the power unit. Ensure the belt is properly seated in each pulley.
8. Engage the PTO belt tensioner rod.
9. 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.).
10. Connect the electric plug to the power unit.
11. Disengage any mower arm and cutter bar lockout devices.

Detaching

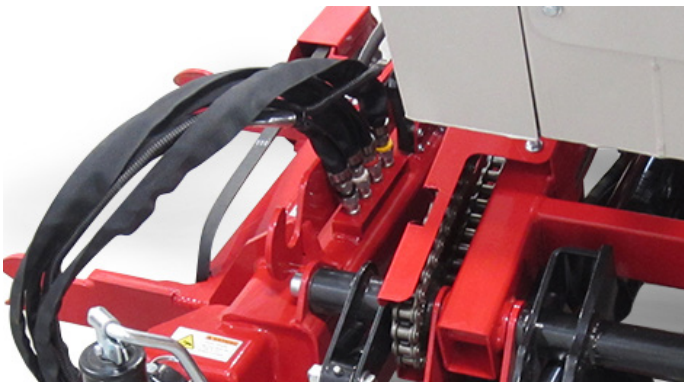
1. Park the power unit on a level surface and engage the parking brake.*
2. Install the cutting edge cover onto the cutter bar and secure with the bungee cords.

3. Lower the boom mower to the ground and fold in the boom mower arms and the cutter bar as instructed in the Boom Mower Storage Position section.

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

4. Shut off the power unit engine.
5. Remove the ball pins and move the jacks to the storage positions. Secure with the ball pins. Lower the jacks to support the boom mower.

6. Disengage the PTO belt tensioner rod.
7. Remove the attachment belt from the PTO drive pulley of the power unit.
8. Disconnect the hydraulic quick couplers from the power unit and store the hose ends in the storage holes on the attachment.



9. Disconnect the electric plug from the power unit.
10. Disengage the front hitch locking lever.*
11. Restart the power unit and slowly back away from the attachment. A side to side movement of the steering wheel may aid in disengagement.

Operating Procedure

Before operation, perform the daily inspection and confirm the power unit's weight transfer system is set to high (maximum weight transfer). Ensure that four Ventrac weights are installed on the boom mower weight bars.

Remove the cutting edge cover from the cutter bar.

Lower the boom mower frame to the ground and 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.

Align the power unit and boom mower with the work area and move the boom mower arms and cutter bar into the desired position. With the power unit engine running at approximately 2,000 RPM, engage the PTO switch, then adjust the throttle to the desired engine RPM.

Drive forward slowly along the mowing path, moving the mower arms and cutter bar as necessary to avoid obstacles.

Using the float controls will allow the cutter bar to follow the ground contours without having to manually adjust the cutting height and/or cutting angle. Pressing and holding the yellow switch will float the currently selected function. If the cutter bar function is selected, the cutter bar will follow the angle of the ground. If the main arm function is selected, the cutter bar height will raise or lower to follow the ground contours. Pressing and holding the orange switch will float both functions simultaneously.

The cutter head frame is designed with a spring loaded pivot that allows the cutter bar and head to rotate backward if contact is made with an obstacle. If contact with an obstacle causes the cutter head to break away, stop the power unit immediately. Shut off the PTO and back the power unit and boom mower slowly away from the obstacle until the cutter bar returns to the operating position. Do NOT raise or lower the mower arms or cutter bar while engaged with an obstacle. Anytime contact is made with an obstacle that causes the cutter head to break away, stop the machine and inspect the cutter bar for damage before proceeding.

If using the boom mower to trim overhead branches, extend the cutter bar away from the boom mower and reduce travel speed to prevent debris from falling on the machine or the operator. Whenever possible, approach the material to be cut from an angle that allows debris to fall away from the machine.

Transport of the Attachment

Always disengage the power unit PTO before transporting the attachment.

Always fold in the boom mower arms and cutter bar before transporting the boom mower.

ATTENTION

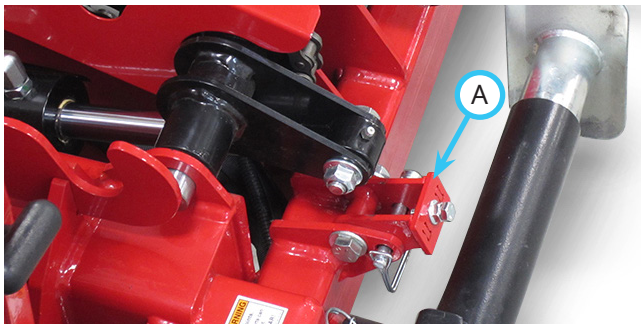
Transport the boom mower with the power unit's primary SDLA lever in the float position.

Travel slowly when transporting over undulating or rough surfaces to maintain control of the power unit and to reduce the shock to the power unit and boom mower.

When transporting the boom mower on a trailer, fold the boom mower arms and the cutter bar as instructed in the Boom Mower Trailer Transport and Storage Positions section. Always engage the applicable mower arm or cutter bar lock out devices when transporting the boom mower on a trailer.

Cutter Bar Lockout Arm

When the cutter bar is rotated fully counterclockwise, the cutter bar lockout arm (A) can be engaged to prevent the cutter bar from rotating down due to hydraulic failure.

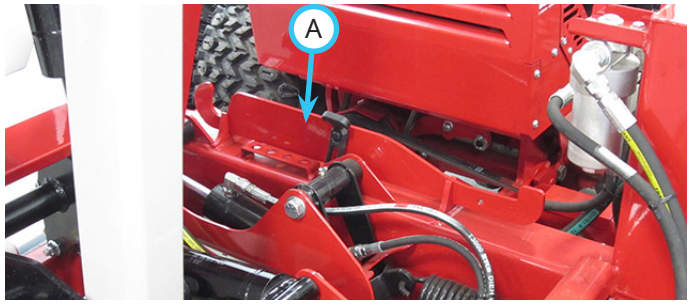


1. Remove the pin from the lockout arm.
2. Rotate the lockout arm up under the cylinder end.
3. Reinstall the pin to secure the lockout arm.

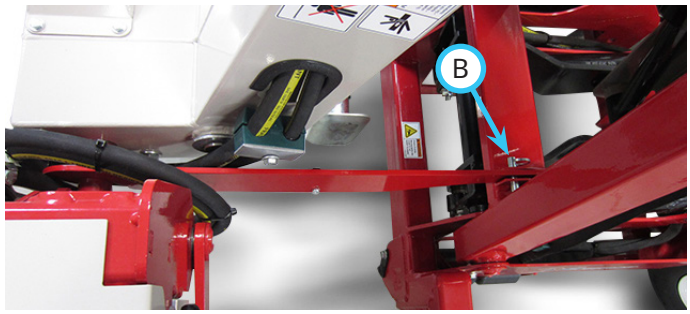
Boom Mower Outer Arm Lockout

When the outer arm of the boom mower is folded in, the lockout link can be used to prevent the outer arm from unfolding.

1. Remove the lockout link (A) from the storage position.



2. Place the hook end over the cutter head shaft.
3. Remove the ball pin (B) from the lockout tabs on the main arm cross tube and place the lockout link between the two tabs.



4. Unfold the outer arm slowly until the tab on the lockout link hooks on the cross tube.
5. Reinstall the ball pin (B) to secure the lockout link.

After removing the lockout link, return it to the storage position and secure with the rubber latch handle.

Boom Mower Storage Position

Use the following position when storing the boom mower between uses or for seasonal storage.

1. Install the cutting edge cover onto the cutter bar.
2. Fold in the outer arm completely.
3. Fold the main arm down against the main frame bumper.
4. Rotate the cutter bar counterclockwise completely and engage the cutter bar lockout arm.

Boom Mower Trailer Transport and Storage Position

Use the following position when transporting the boom mower and power unit on a trailer.

1. Install the cutting edge cover onto the cutter bar.
2. Rotate the main arm up into a vertical position.
3. Install the outer arm lockout link to secure the outer arm.
4. Rotate the cutter bar counterclockwise completely and engage the cutter bar lockout arm.
5. Rotate the main arm clockwise until the cutter head assembly is resting on the trailer.

This position can also be used for storage.

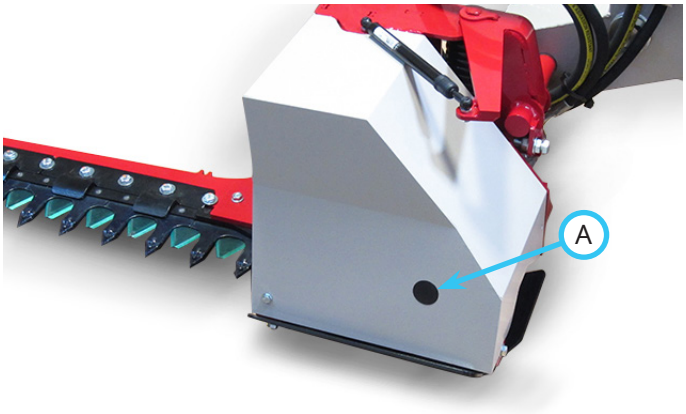
Clearing a Blockage

If the knife blades become jammed on brush or a sapling that is too thick to cut:

1. Shut off the power unit PTO.
2. Back slowly away until the blade releases from the object.
3. Inspect the knife blades and guards for damage before proceeding.

If the knife blades become jammed with grass or other material between the guards and the knife blades:

1. Shut off the power unit PTO, engage the parking brake, shut off the engine, and remove the ignition key.
2. Remove the plastic plug (A) from the cutter drive cover.



3. Place a 5/8 inch socket and a ratchet or breaker bar on the hex end of the crankshaft end plate, and turn the crankshaft clockwise to reverse the drive and discharge the material.
4. Reinstall the plastic plug in the cutter drive cover.

⚠ 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.

⚠ CAUTION

The knife blades and guards are sharp. Always wear heavy gloves when working with the knife blades and guards.

ATTENTION

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

Cleaning and General Maintenance

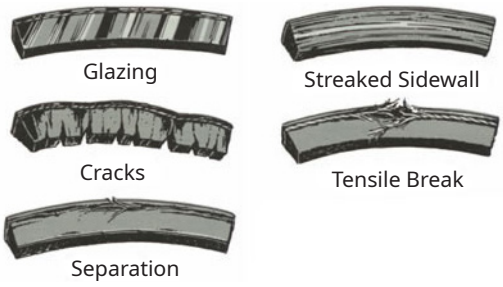
For best results, and to maintain the finish of the boom mower, clean or wash the boom mower to remove accumulated clippings, leaves, brush, and dirt when the job is finished.

Clean and oil the cutter bar according to the instructions in the Cleaning and Lubricating the Cutter Bar section.

Belt Inspection

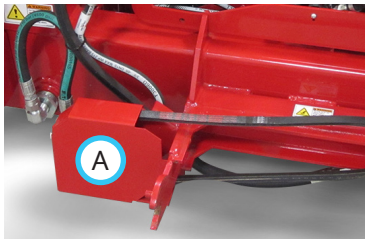
Inspecting the drive belts of the attachment can prevent sudden belt failure by finding problems before they cause a belt to break.

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

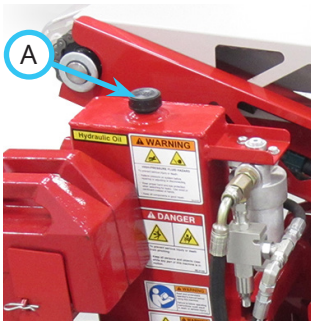
1. Detach the boom mower from the power unit.
2. Remove the drive pulley shield (A).
3. Remove the old drive belt and install the new drive belt onto the pulley.
4. Reinstall the drive pulley shield.



Checking the Hydraulic Oil Level

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

1. Park the power unit and boom mower on a level surface and fold in the boom mower arms.
2. Engage the parking brake, shut off the engine, and remove the ignition key. If necessary, allow time for the hydraulic system to cool.
3. Remove the dipstick (A) from the hydraulic oil tank and wipe with a clean cloth.
4. Set the dipstick back into place without threading it in.
5. Remove the dipstick and check the oil level. The level should be between the two indicator lines on the dipstick.
6. If the hydraulic oil level is low, add Ventrac Hydro-Torq XL synthetic hydraulic oil until the proper level is reached.
7. Reinstall the dipstick into the hydraulic oil tank.



Changing the Hydraulic Oil

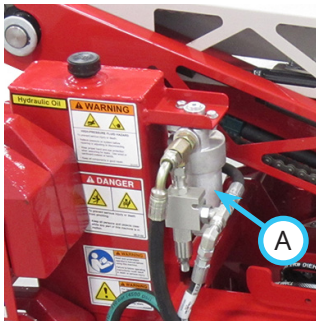
1. Park the power unit and boom mower on a level surface and fold in the boom mower arms.
2. Engage the parking brake, shut off the engine, and remove the ignition key.
3. Place a drain pan of sufficient size under the drain plug on the bottom of the oil tank.
   NOTE: the boom mower holds approximately 20.8 liters (5-1/2 gallons) of hydraulic oil.
4. Remove the drain plug to drain the oil.
5. After draining the oil, reinstall the drain plug into the oil tank.
6. Remove the dipstick from the oil tank and add Ventrac Hydro-Torq XL synthetic hydraulic oil until the proper level is reached.
7. Clean up any spilled oil and dispose of the oil in accordance with local laws.

ATTENTION

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

Changing the Hydraulic Oil Filter

1. Park the power unit and boom mower on a level surface and fold in the boom mower arms.
2. Engage the parking brake, shut off the engine, and remove the ignition key.
3. Place a drain pan beneath the filter area to catch any oil leakage.
4. Remove the oil filter bowl (A) from the filter assembly and unscrew the filter element from the filter head.



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

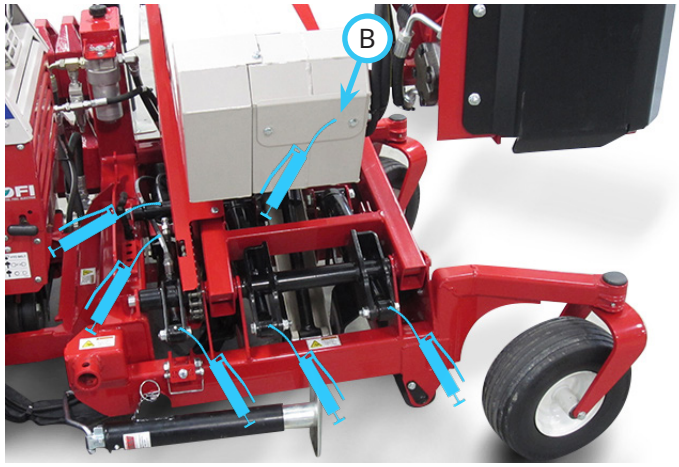
Lubrication Locations

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

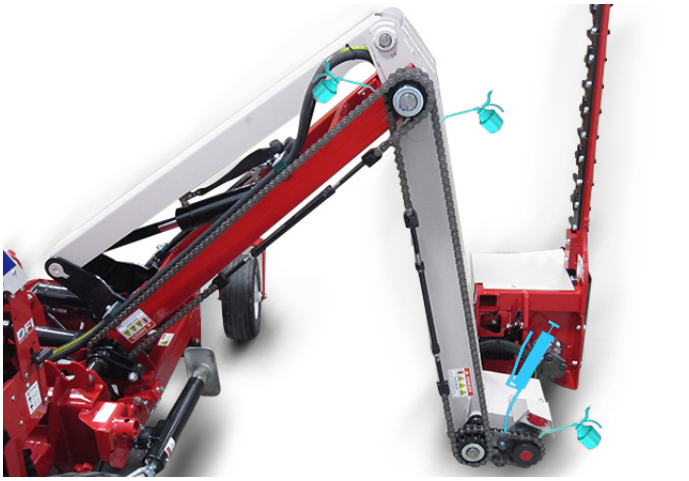
Wipe the grease fittings clean before applying grease to the grease fittings.

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

1. Remove the cutter drive cover (A) and the cutter head pivot cover (B).



2. Rotate the main arm up and extend the outer arm away from the main arm to provide clearance for removing the chain guards. After removing the chain guards, lower the cutter head until it is resting on the ground. Apply grease to the following grease points and apply chain oil to the pivot control chains.



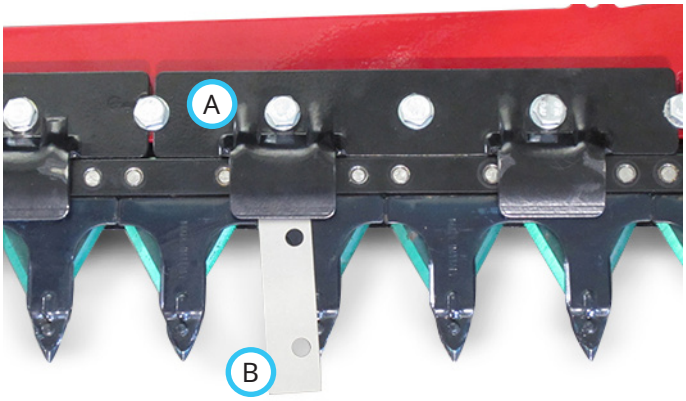
3. Clean up any excess grease or oil.
4. Check the chain tension prior to reinstalling the chain guards.
5. Reinstall the guards and covers.

Cleaning and Lubricating the Cutter Bar

1. Fold in the boom mower arms and rotate the cutter bar down to an accessible position.
2. Park the power unit and boom mower on a level surface.
3. Engage the parking brake, shut off the engine, and remove the ignition key.
4. Wash the cutter bar with a pressure washer.
5. Run the cutter bar for a few seconds to shed excess water.
6. When the cutter bar is dry, lubricate thoroughly with an environmentally friendly, viscous oil. The Ventrac recommended oil is UltraLube Chain and Cable Oil (Ventrac part number 15.0043).
7. Run the cutter bar for a minimum of ten seconds to evenly distribute the oil.
8. Install the cutting edge cover onto the cutter bar.

Checking and Adjusting the Upper Blade Guide Clearance

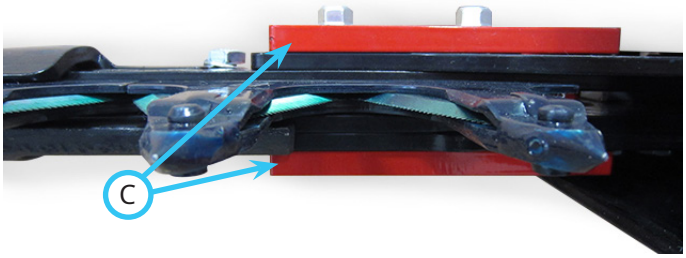
1. Park the power unit and boom mower on a level surface, rotate the cutter bar parallel with the ground, and support the cutter bar with blocks beneath the inner and outer skid plates.
2. Engage the parking brake, shut off the engine, and remove the ignition key.
3. Check the clearance between the upper blade guide (A) and the guard. There should be enough clearance to insert one blade guide shim (B), but not enough to allow the insertion of two shims.



4. If the upper blade guide clearance needs to be adjusted, remove the bolts for the blade guide.
5. Add or remove one shim at a time until the correct clearance is achieved.

6. Loosely install the upper blade guide bolts down through the cutter bar and into the double inner guides on the bottom of the cutter bar.
7. Place shims between the front edge of the upper blade guide and the blade bar to properly locate the upper blade guide.

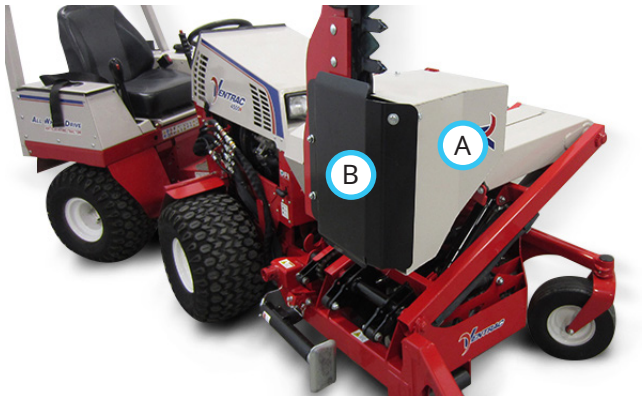
8. Torque the blade guide bolts to 55 Nm (40 ft-lbs).
9. Check the clearance between the drive plates and the upper and lower blade drive clamps (C). there should be enough clearance to insert one blade guide shim between the drive plate and the clamp on both the top and bottom.



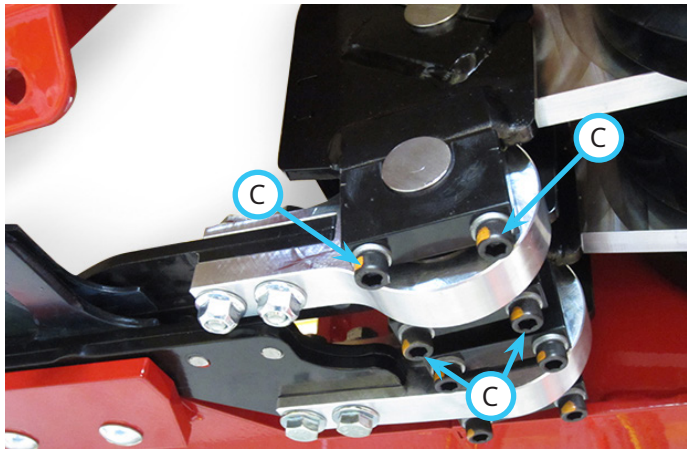
10. If the blade drive clamps need to be adjusted, remove the two clamp bolts.
11. Add or remove one shim at a time to the clamp that needs adjustment until the correct clearance is achieved.
12. Reinstall the clamp bolts up through the clamps and torque to 42 Nm (31 ft-lbs).

Blade Assembly Removal

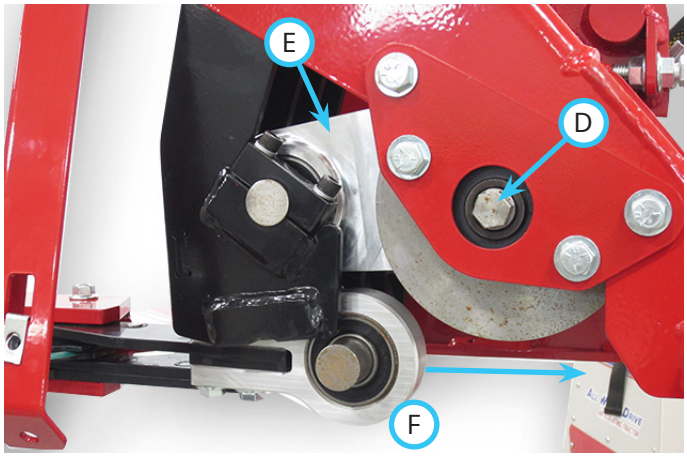
1. Park the power unit and boom mower on a level surface and fold in the boom mower arms.
2. Engage the parking brake, shut off the engine, and remove the ignition key.
3. Remove the cutter drive cover (A) and the skid plate (B) under the cutter drive.



4. Rotate the cutter bar until it is parallel to the ground. Support the outer end of the cutter bar with a stand or a hoist.
5. Remove the four bolts (C) from the clamps for the blade bearing housing.



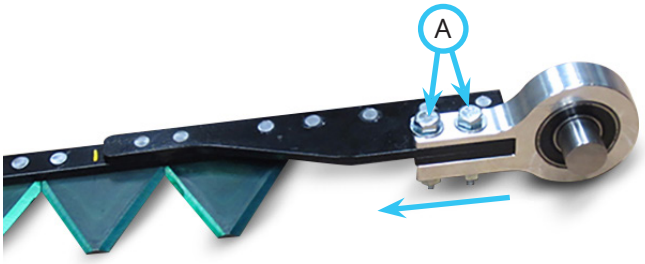
6. Rotate the crankshaft (D) to position the rod (E) near the top of the stroke to clear the blade bearing housing (F).



7. Pull the blade bearing housing straight back to remove the blade assembly from the cutter bar.

Blade Assembly Replacement

1. If replacing the entire blade assembly (Ventrac part number 70.8189), remove the two bolts (A) that fasten the blade bearing housing to the blade assembly.

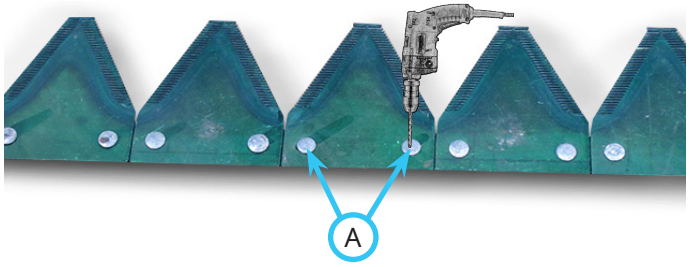


2. Install the blade bearing housing onto the new blade assembly. Slide the bearing housing up against the end of the blade bar. Make sure the bearing housing is square with the blade bar. Torque the bolts to 42 Nm (31 ft-lbs).

Install the new blade assembly in the cutting arm. If the old blade assembly can be repaired, save and repair it for future use.

Knife Blade Replacement

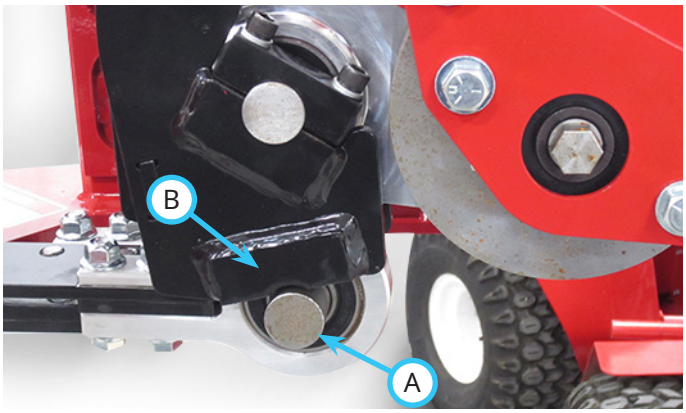
1. After removing the blade assembly from the cutter bar, place the blade assembly on your work surface with the bottom side up.
2. Center punch the two rivets (A) on the knife blade that is being replaced.



3. Use a 6mm (1/4 inch) drill bit to drill through the rivet head.
4. Remove and discard the knife blade and rivets.
5. Place the new tooth in position and insert the new rivets up through the blade bar and knife blade. NOTE: the rivets must be installed from the blade bar side, not from the knife blade side.
6. Crimp the rivets to secure the knife blade to the blade bar.
7. Inspect the rivets to ensure the knife blade is held securely and that the rivet head is flush with the bottom of the knife blade. If necessary, grind the rivets down until flush with the knife blade.

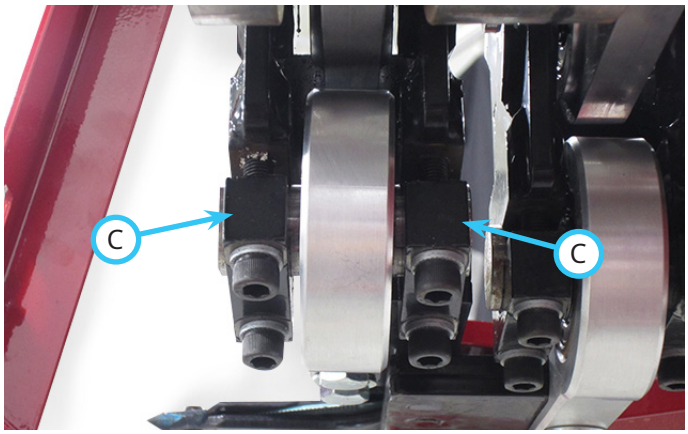
Blade Assembly Installation

1. Slide the blade assembly into the cutter bar until the bearing shaft (A) is aligned with the groove in the drive link base (B).

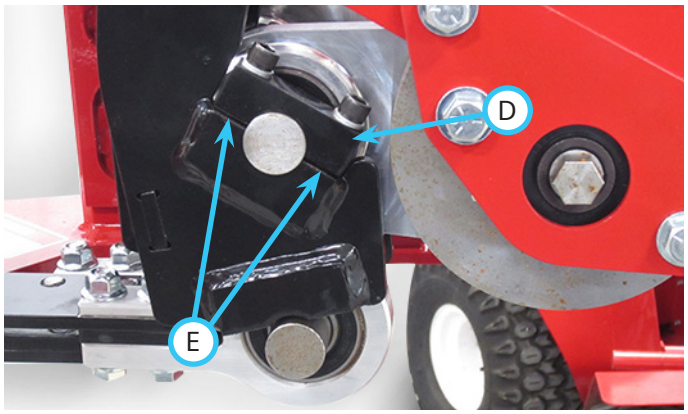


2. Position the blade assembly in the cutter bar by placing shims between the blade bar and the upper blade guides.

3. Position the clamps (C) on the drive link base and loosely install the bolts.



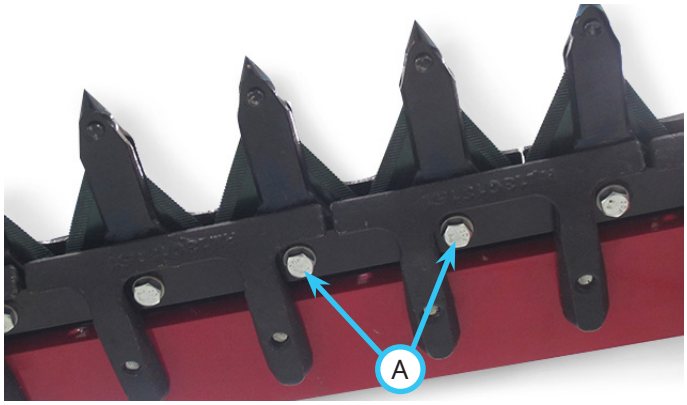
4. Tighten the clamp bolts, alternating between the bolts in order to maintain an even gap between the clamp and base on both sides of the shaft. Torque to 34 Nm (25 ft-lbs).
5. Rotate the crankcase to ensure the blade bearing housing does not contact the blade clamps at any point in the stroke.
6. If the blade bearing housing makes contact with one of the clamp blocks, loosen the bolts for the blade bearing housing clamps.
7. Loosen the bolts on the drive shaft clamp (D) and move the drive link rocker in or out on the shaft until the blade bearing housing is centered between the two clamps.



8. Tighten the bolts on the drive shaft clamp, alternating between the bolts in order to maintain an even gap (E) between the clamp and base on both sides of the shaft. Torque to 34 Nm (25 ft-lbs).
9. Tighten the bolts on the blade shaft clamps, alternating between the bolts in order to maintain an even gap between the clamp and base on both sides of the shaft. Torque to 34 Nm (25 ft-lbs).

Double Finger Guard Replacement

1. Remove the two bolts (A) that fasten the double finger guard being replaced.

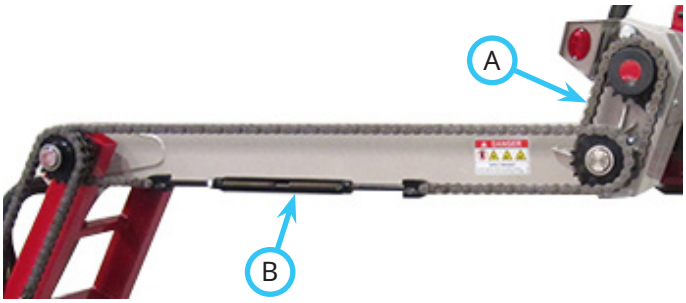


2. Slide the double finger guard out of the cutter bar.
3. Insert the new guard into the cutter bar.
4. Install the bolts through the mounting plate and into the double finger guard. NOTE: the washer is installed with the serrated edge against the bolt head.
5. Torque the bolts to 23.5 Nm (17 ft-lbs). This torque specification is critical to prevent the bolts from either working loose or stripping the threads.

Pivot Chain Tension Inspection and Adjustment

1. Park the power unit and boom mower on a level surface.
2. Fully extend the outer arm away from the boom mower and rotate the cutter bar until it is parallel with the ground.

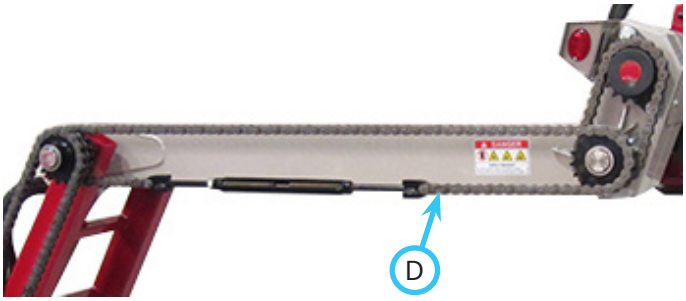
3. Rotate the main arm until the outer arm is parallel with the ground.
4. Remove the chain guards from the main arm and then the outer arm.
5. Check the cutter head chain (A) first. If there is any slack in this chain, loosen the locking nut on the turnbuckle (B) of the outer arm chain.



6. Tighten the turnbuckle until the slack has been removed from the cutter head chain. NOTE: the outer arm chain will be need to be over-tightened in order to remove the slack from the cutter head chain.
7. Loosen the locking nuts on the eccentric pin stop bolt (C) and adjust the bolt until the end just touches the flange on the eccentric pin. NOTE: the stop bolt should not place any tension on the eccentric pin.

8. Tighten the locking nuts to secure the stop bolt.

9. Loosen the outer arm turnbuckle to create some slack in the lower strand (D) of the outer arm chain.



10. Adjust the outer arm turnbuckle until just tight enough to remove any slack from the lower strand of the chain, then tighten the locking nut against the end of the turnbuckle.
11. Check the lower (turnbuckle) strand on the main arm chain.
12. If there is slack in the lower strand of chain, loosen the locking nut on the turnbuckle.
13. Adjust the main arm turnbuckle until the slack is removed from the lower strand of chain, then tighten the locking nut against the end of the turnbuckle.
14. Reinstall the outer arm chain guard.
15. Reinstall the main arm chain guard.

Storage

These storage procedures are provided for seasonal storage or anytime the boom mower will remain inactive for a long period of time.

Preparing the Attachment for Storage

1. Clean the boom mower thoroughly.
2. Clean and lubricate the cutter bar.
3. Inspect for loose or missing hardware, damaged components, or signs of wear. Repair or replace any damaged or worn components.
4. Inspect for worn, loose, or damaged knife blades and guards. Repair or replace any damaged or worn components.
5. Inspect the drive belt for signs of damage or wear and replace if necessary.
6. Inspect the hydraulic hoses and fittings for damage or wear. Connections must be tight and leak free. Replace damaged or worn components.
7. Inspect the safety decals. Replace any decals that are faded, illegible, or missing.
8. Apply grease to all grease points and oil the pivot control chains. Wipe off any excess grease or oil.
9. 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.

Maintenance Schedule

	# of locations	# of pumps	As Needed	Daily	At 50 hours	At 100 hours	At 150 hours	At 200 hours	At 250 hours	At 300 hours	At 350 hours	At 400 hours	At 450 hours	At 500 hours	At 550 hours	At 600 hours	At 650 hours	At 700 hours	At 750 hours	At 800 hours	At 850 hours	At 900 hours	At 950 hours	At 1,000 hours	5 Years or 500 hours	5 Years or 1,000 Hours
Grease and Lubrication: See Lubrication Section																										
Cutter Head Bearing	3	1			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Cutter Bar Cylinder	2	1			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Cutter Bar Cylinder Rocker	1	1			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Outer Arm Cylinder	1	1			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Main Arm Cylinders	4	1			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Caster Wheel Pivot	2	1			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Wheel Axle Bearing	2	^			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Cutter Bar	-	&	*	#	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Pivot Control Chains	-	$	*		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Hydraulic System																										
Checking the Hydraulic Oil Level				✓																						
Checking the Hydraulic Filter																								✓		
Checking the Hydraulic Oil																										✓
Inspection																										
Inspect for Loose, Missing, or Worn Components				✓																						
Inspect for Worn, Loose, or Broken Knife Blades and Guards				✓																						
Inspect the Drive Belt				✓																						
Inspect the Hydraulic Hoses and Fittings				✓																						
Inspect the Blade / Guide Clearance					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Inspect the Pivot Control Chain Tension					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Inspect the Safety Decals				✓																						

[#]Clean and lubricate after each use.

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

^Grease until fresh grease is visible.

[&]Lubricate thoroughly with viscous (chain and cable) oil.

[$]Lubricate with chain oil.

Maintenance Checklist

	# of locations	# of pumps	As Needed	Daily	At 50 hours	At 100 hours	At 150 hours	At 200 hours	At 250 hours	At 300 hours	At 350 hours	At 400 hours	At 450 hours	At 500 hours	At 550 hours	At 600 hours	At 650 hours	At 700 hours	At 750 hours	At 800 hours	At 850 hours	At 900 hours	At 950 hours	At 1,000 hours	5 Years or 500 hours	5 Years or 1,000 Hours
Grease and Lubrication: See Lubrication Section																										
Cutter Head Bearing	3	1																								
Cutter Bar Cylinder	2	1																								
Cutter Bar Cylinder Rocker	1	1																								
Outer Arm Cylinder	1	1																								
Main Arm Cylinders	4	1																								
Caster Wheel Pivot	2	1																								
Wheel Axle Bearing	2	^																								
Cutter Bar	-	&	*	#																						
Pivot Control Chains	-	$	*																							
Hydraulic System																										
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$Lubricate with chain oil.

SPECIFICATIONS

Dimensions

Overall Height	222.3 cm (87-1/2 inches)
Overall Length	147.3 cm (58 inches)
Overall Width	.160 cm (63 inches)
Weight	399.2 kg (880 pounds)
Cutting Width	99.1 cm (39 inches)
Material Cut Diameter	.13 mm (1/2 inch)
Vertical Reach (From Ground)	.361 cm (142 inches)
Horizontal Reach (Outside of Single Wheels)	.292 cm (115 inches)
Horizontal Reach (Outside of Dual Wheels)	.262 cm (103 inches)
Max Flat Top Cut (From Ground)	.208 cm (82 inches)

Features

An out front design that increases visibility

Maintains the head angle when extending or retracting the boom arms

A double action sickle bar

A head angle ranging from 45 degrees below horizontal to 90 degrees vertical (135 degrees total range)

The ability to operate on 10 degree slopes when used with a power unit with single wheels or 18 degree slopes when used with a power unit with dual wheels.