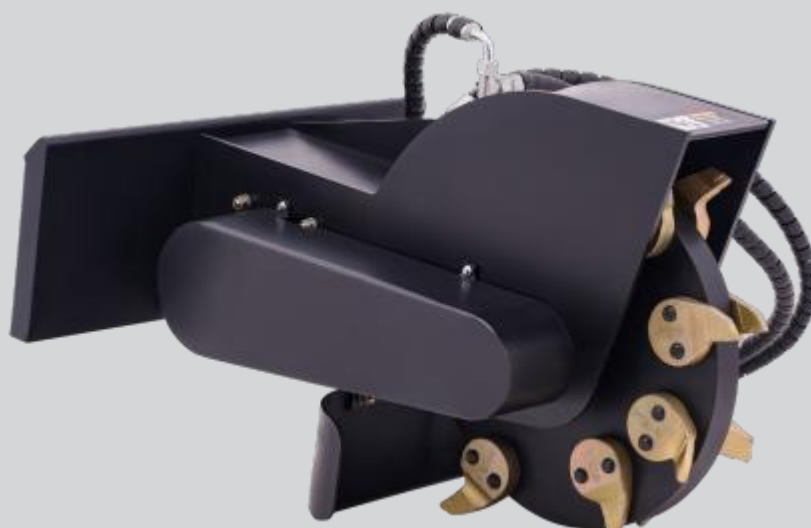


Skid Steer Loader Stump Grinder User Manual



Read Carefully Before Use
Keep for Future Reference

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1. Safety Information

1.1 Symbol Guide

The following symbols and safety signal words are used in this manual. **DO** obey the accompanying messages to avoid possible injury or death.



Indicates an imminently hazardous situation which, if not avoided, **WILL** result in death or serious injury.



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



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



Indicates practices or situations which **MAY** result in the malfunction of, or damage to equipment.

1.2 General Safety

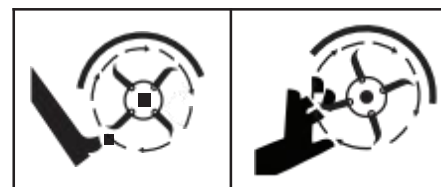
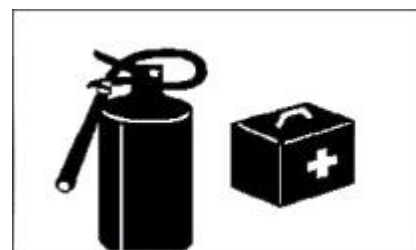
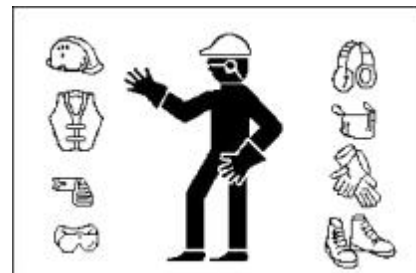


- **ALWAYS** follow federal, state, and local laws, codes, and regulations concerning the use of construction machinery.
- **ALWAYS** follow all other applicable instructions and precautions as stated in your skid steer loader's manual.
- Read and understand this manual before actually attaching this stump grinder to your compatible skid steer loader. Familiarize yourself with the instructions that provide crucial information on the installation, operation, and maintenance.
- Before installation, follow the manual of your skid steer loader to run a routine check of all major parts, especially the hydraulic system.
- **ONLY** use with compatible skid steer loader models. **DO** research compatibility before actually working with this stump grinder. For details, see **Specifications**.
- **DO NOT** operate, inspect, or maintain the skid steer loader when your faculties or judgment are impaired by alcohol, drugs, medicines, fatigue, or lack of sleep. **NEVER** allow any persons under such conditions to operate, inspect, or maintain this heavy machinery.
- **IMMEDIATELY** cease to use and contact Customer Service if the stump grinder shows any sign of anomalies or malfunctions, such as noise, vibration, breakage, and so on. **NEVER** attempt to resume using the stump grinder if the issues remain unsolved.

1.3 Personal Safety

Warning

- **DO NOT** wear loose clothes or accessories that may get caught into the moving parts of your skid steer loader in operation. Wear clothes that are oil-repellent. Replace them if grim or grease has started to build up. Fabrics coated or soaked with grim can burn in proximity to heated machinery.
- **ALWAYS** use personal protective equipment (PPE) suitable to your task. Always wear ANSI and OSHA-approved eye, breathing, and hand protection while using this product. Nonslip and steel-toe footwear is also highly recommended. Other equipment such as ear, head, and body protection may also be necessary depending on your work, work environment, and other equipment.
- **ALWAYS** keep a fire extinguisher and first-aid kit in an easily accessible place. Familiarize yourself with the protocols for using the first-aid kit and operating the fire extinguisher. Ensure that you provide training to other individuals who will be operating the skid steer loader. This ensures that everyone is prepared to handle potential emergencies effectively.
- Display the contact details of the nearest Emergency Room (ER) prominently in the operator's area. Make sure that all personnel operating the skid steer loader are well-informed about this information.
- **DO NOT** place your hands or feet near the stump grinder.



1.4 Operational Safety

Danger

- **ALWAYS** remain focused on the task at hand. Operating heavy equipment requires your full attention.
- **ONLY** operate the stump grinder from the skid steer loader's driver area.
- **NEVER** operate the skid steer loader in an area with people present. You should maintain at least 100 yards of distance between the stump grinder and people, animals, or property.
- **NEVER** lift hoist, or carry humans on any part of the skid steer loader or loader attachments. Failure to heed may result in serious injury or even death.
- If you hit a solid object, you should **IMMEDIATELY** stop the stump grinder and inspect for damage. Check the cutting wheel and teeth. If there is any kind of excess vibration, stop using the stump grinder **IMMEDIATELY** until this has been remedied. Replace damaged parts at once.

1. Safety Information

- **NEVER** suddenly stop when lowering or lifting the loader boom to prevent loss of control over the machine, which may result in serious injury or death.
- Be extremely careful when working on inclines or near loose fill, rocks, and holes as they can cause tipping or upsetting which may result in serious injury or death.
- Be certain to avoid overhead electrical wires when operating the skid steer loader. Contact with power lines may cause serious injury or death.
- Transport the skid steer loader with the stump grinder at the slowest speed possible, and with the loader boom at the lowest position to avoid tipping or upsetting, which may result in serious injury or death.

Warning

- **DO NOT** drop the stump grinder rapidly toward a stump. Sudden impact may result in structural failure and possible serious injury or death.
- **DO NOT** operate the stump grinder underwater. Otherwise, the hydraulic system **WILL** be damaged.
- **DO NOT** dismount from a moving skid steer loader with this stump grinder or leave the skid steer loader with this stump grinder unattended with the engine running.

Stop the skid steer loader, place the hydraulic controls in neutral, set the parking brake, shut off the engine, and make sure **ALL** moving parts have been stopped before dismounting the skid steer loader for any reason.

- Keep all bystanders away from the work area, especially children.
- Before applying pressure to the hydraulic system, make sure **ALL** components are tight and that steel lines, hoses, and couplings are not damaged.

1.5 Maintenance Safety

Danger

- **ALWAYS** lower the attachment to the ground, shut off the engine, and relieve pressure in the hydraulic system before any maintenance.
- **NEVER** use any part of your body to check for hydraulic leaks. Use a piece of wood or cardboard as a backstop when searching for a pin-hole leak in a hose or line.
- **DO NOT** attempt any makeshift repairs to the hydraulic lines, fittings, or hoses by using tape, clamps, or cement. The hydraulic system operates under extremely high pressure. Such repairs will fail suddenly and create hazardous conditions.

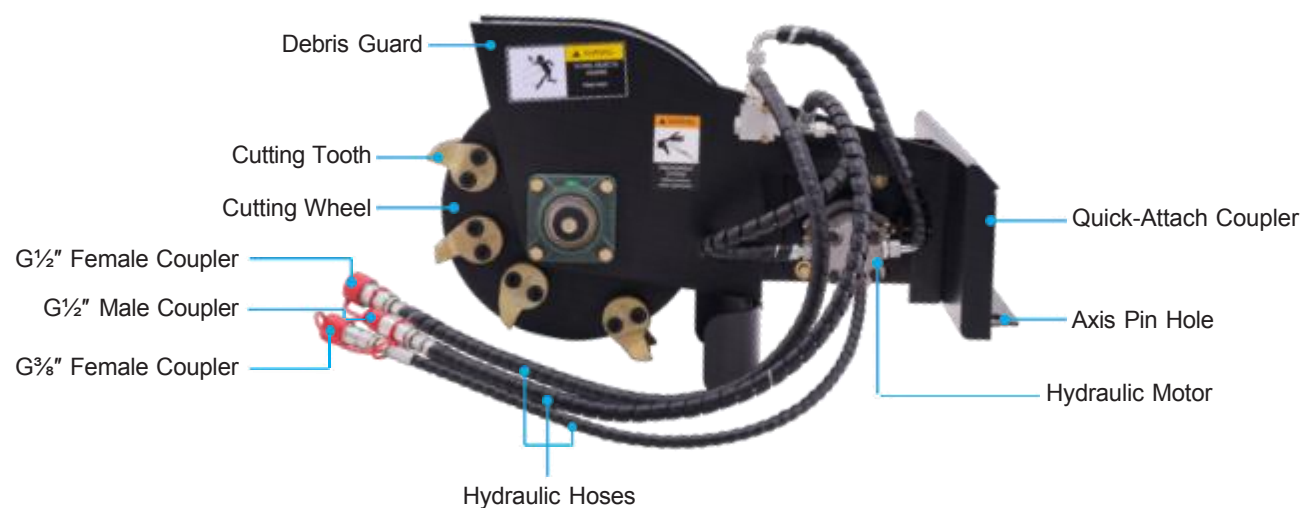
Warning

- **ALWAYS** wear PPE appropriate and adequate for maintenance.
- **DO NOT** make any alterations to the stump grinder.

2. Specifications

Cutting Wheel	Diameter	20.5 in.	520 mm
	Speed	1250 rpm	
Cutting Depth		5.5 in.	140 mm
Cutting Width		2 in.	50 mm
Cutting Teeth	Material	40Cr Steel	
	Number	16 (8 pairs)	
Quick-Attach Coupler Size		23.6×9.4 (in.)	600×240 (mm)
Axis Pin Hole	Spacing	14.6 in.	370 mm
	Diameter	0.73 in.	18.6 mm
Compatible Axis Pin Diameter		0.55–0.59 (in.)	14–15 (mm)
Distance between Axis Pin Holes and the Outer Surface of the Quick-Attach Coupler		2.4 in.	60 mm
Length		35.3 in.	896 mm
Width		24.4 in.	620 mm
Height		24.7 in.	628 mm
Net Weight		264.6 lb.	120 kg
Hydraulic Hose	Length	3.9 ft.	1.2 m
	Coupler Size	G $\frac{1}{2}$ " (Male), G $\frac{1}{2}$ " (Female), G $\frac{3}{8}$ " (Female)	

3. Product Diagram



4. Installation

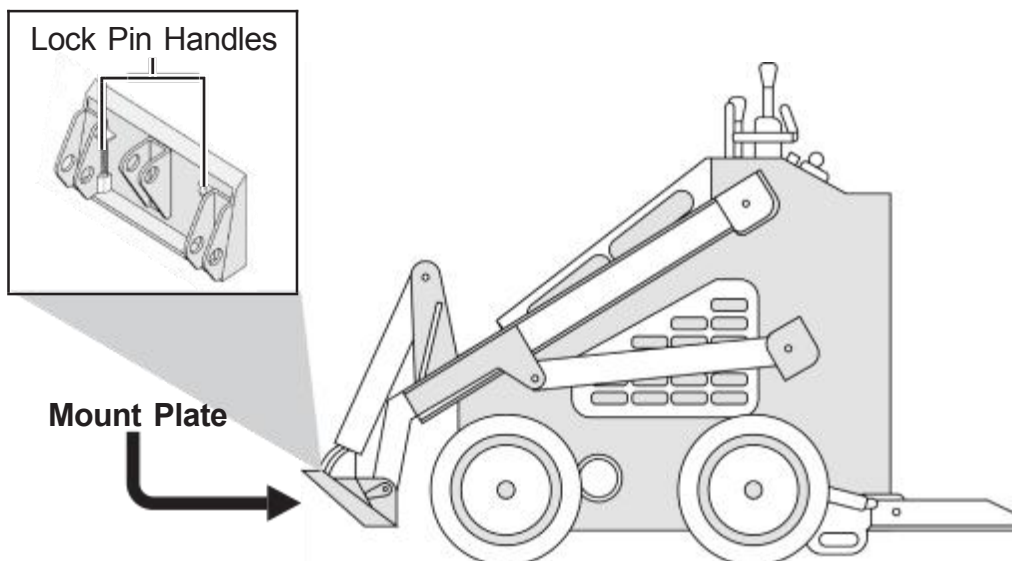
4.1 Removing the Current Attachment

Note: This chapter only provides general guidance on the loader's current attachment removal. For more specific information, refer to your skid steer loader's manual or your attachment's manual.

If the current attachment on your skid steer loader does not require hydraulic power, follow **Regular Attachment** below to remove it; if it does, follow **Hydraulic Attachment**.

4.1.1 Regular Attachment

1. Start the engine of the skid steer loader following the normal protocols.
2. Stand the attachment vertically by pushing the right control rod left a small amount.
3. Lay the attachment on the level ground by pushing the left control rod left.
4. Shut the engine.
5. Release the coupler locking mechanism by pulling up the lock pin handles on the mount plate and turning them away from the center of the attachment.



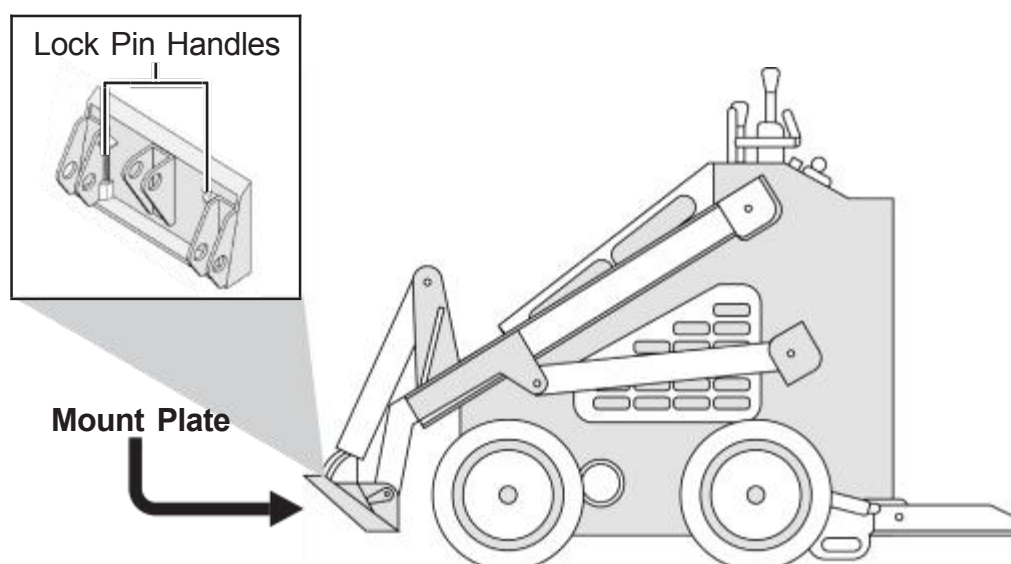
6. Remove the freed attachment using at least two people.

4.1.2 Hydraulic Attachment

Warning

- *Wear gloves and other protective gear, and use **EXTREME** care when handling the hydraulic hoses, which may remain hot enough to cause skin burns.*
- **ALWAYS** set the attachment control rod neutral before handling the hoses.

1. Start the engine of the skid steer loader following the normal protocols.
2. Stand the attachment vertically by pushing the right control rod left a small amount.
3. Lay the attachment on the level ground by pushing the left control rod left.
4. Shut the engine.
5. Move all the control rods back and forth to release any built-up pressure, and then set them neutral.
6. Wait until the engine and hydraulic oil have cooled to ambient temperature.
7. If the hydraulic connections have retaining clips, remove them first.
8. Disconnect all the hydraulic hoses that connect your skid steer loader to the hydraulic system of the current attachment by releasing their couplers.
9. Release the coupler locking mechanism by pulling up the lock pin handles on the mount plate and turning them away from the center of the attachment.



10. Remove the freed attachment using at least two people.

4.2 Attaching the Stump Grinder

Warning

- *Ensure that the stump grinder and the mount plate of your skid steer loader are free of dirt and debris.*
- *Use level ground to install the stump grinder. If the ground is not level, use woodblocks to help.*
- *Use at least three people to move the stump grinder. If possible, use a forklift.*

1. Unpack the stump grinder and lay it on a level, stable surface.
2. Start the engine of the skid steer loader following the normal protocols.
3. Drive the skid steer loader to the rear of the stump grinder.
4. Angle the mount plate to hook the stump grinder's quick-attach. Tilt the mount plate backward a bit until it is fully engaged in the mount plate.
5. Stop the engine and engage the parking brake.
6. Secure the coupler locking mechanism by pulling up the lock pin handles on the mount plate and turning them to the center of the attachment.

Ensure that the lock pins have been inserted into the axis pin holes on the quick-attach coupler.

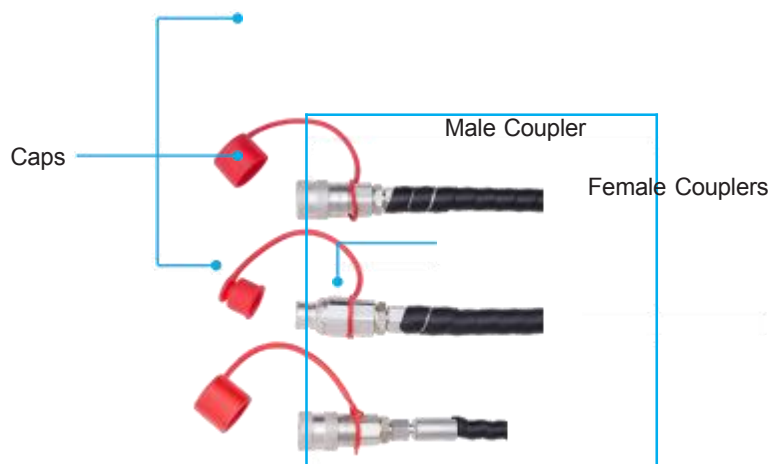
4.3 Connecting the Hydraulic Hoses

Warning

- **ALWAYS** *attach the stump grinder to your loader before connecting the hydraulic hose. Otherwise, it could cause serious personal injuries or machinery damage.*
- *Wear gloves and other protective gear, and use **EXTREME** care when handling the hydraulic hoses, which may remain hot enough to cause skin burns.*
- *Ensure that the hydraulic couplers are free of dirt and debris.*

1. Shut the engine.
2. Move all the control rods back and forth several times so that there is no residual pressure at the hydraulic couplers.
3. Ensure that all controls are in neutral.
4. Wait until the engine and hydraulic oil have cooled to ambient temperature.

5. Open the cap and connect the male coupler of one hydraulic hose on the stump grinder to the female coupler on the loader by inserting the male coupler.
6. Open the cap and connect the female couplers of the other two hydraulic hoses on the stump grinder to the male couplers on the loader by inserting the female couplers.



7. Arrange the hydraulic hoses as needed to ensure they are not at risk of damage or interfering with operations.
8. Test the stump grinder and make sure you have enough hose length to perform the full range of the loader's operating heights, but be careful not to over-extend the cylinders.
9. Visually check for any hydraulic oil leak.

5. Operation

Warning

- **NEVER** allow anyone to operate the stump grinder until they have carefully read and understood this manual.
- **ONLY** use this stump grinder for its intended purposes, removing tree stumps by grinding them into small woodchips.
- Before operating, carefully check for hazards and obstructions.
- Keep all bystanders away from the work area, especially children.

5.1 Pre-Operation Checklist

This stump grinder is designed to ensure years of trouble-free use. However, a poorly maintained machine is an invitation to expenses and trouble. We recommend following the checklist below to inspect the stump grinder and your skid steer loader before operation.

Tasks	√
Ensure that the stump grinder is tightly attached to your loader.	
Check the lock pins for wear that may cause the stump grinder to falloff.	
Ensure that all the hydraulic hoses are securely connected to your loader.	
Check for excessive wear and cracks on the cutting wheel.	
Ensure that all hoses are clear of cuts, abrasions, worn spots, and pinch points.	
Ensure that all hoses do not get caught in the pinch areas of your skid steer boom.	
Ensure that there is no tool lying on or in your loader.	
Check the tire pressure of your loader and make sure they are inflated to their recommended pressures.	

5.2 First-Time Use

1. Activate your skid steer loader and the stump grinder.
2. Perform a few test passes on an easy stump so that you feel confident with what the stump grinder is capable of grinding and the direction the material will exit the stump grinder.
3. Progress towards larger material and try full passes above and below the ground level so that you can see where your blind spots may occur.

Note: It is important to maintain visibility with the cutter portion of the stump grinder so that you do not inadvertently strike a fixed object and possibly damage your stump grinder.

5.3 General Instructions

1. Activate your skid steer loader and the stump grinder.
2. Move your loader to the area beside the target stump.
3. If the stump is on a slope, position your skid steer loader in a low area. This will position the stump grinder in a high area for a greater advantage of weight for stable cutting.
4. Align the cutting wheel of the stump grinder with the front side of the stump (viewed from the loader control area) and slowly lower it to the desired cutting depth.

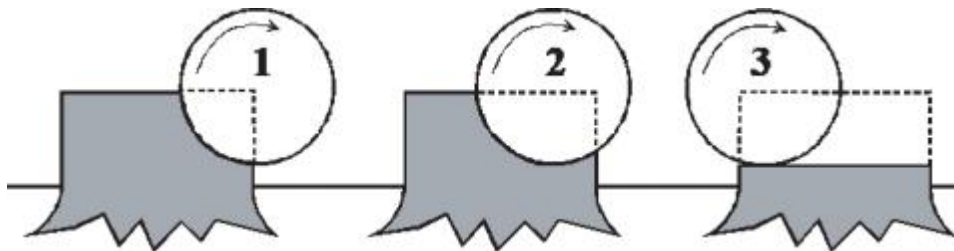
Warning

ALWAYS lower the cutting wheel beside the stump and cut the stump from the side.

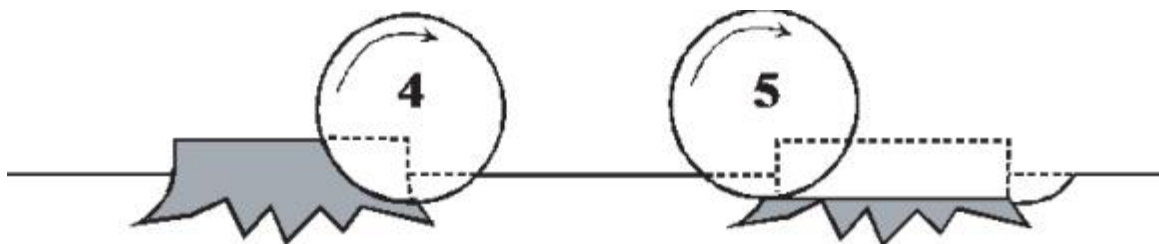
5. Slowly move the cutting wheel into the stump and complete a full pass.

Note: The cutting rate depends on the type of tree, the condition of the wood, and the condition of the cutters.

6. Move the stump grinder back to the home position, lower the cutting wheel to the desired position for the next pass, and continue lowering the passes until the stump is cut to the ground level.
7. Before cutting the stump below the ground level, make certain that all rocks or stones have been removed from the immediate area of the cutting wheel.
8. Cut the remaining parts of the stump below the ground level.
9. After use, place the hydraulic controls in neutral, set the parking brake, shut off the engine, and make sure all moving parts have been stopped before dismantling the skid steer loader.



7. Before cutting the stump below the ground level, make certain that all rocks or stones have been removed from the immediate area of the cutting wheel.
8. Cut the remaining parts of the stump below the ground level.




9. After use, place the hydraulic controls in neutral, set the parking brake, shut off the engine, and make sure all moving parts have been stopped before dismantling the skid steer loader.

6. Maintenance

 **Danger**

ALWAYS lower the stump grinder to the ground, shut off the engine, and relieve pressure in the hydraulic system before any maintenance.

 **Warning**

ALWAYS wear PPE appropriate and adequate for maintenance.

- Check all parts for wear and loosened fit before each use, and replace as necessary.
- Check the hydraulic hoses and the couplers daily for leaks. Replace the hose if worn or damaged.
- Inspect the stump grinder for any buildup of contamination. Remove debris, dirt, and wood chips on the stump grinder after each use.
- Check the cutting teeth every 2 hours of use. Keep the cutting teeth in good condition and replace the broken ones as necessary. The stump grinder will cut faster and the remaining teeth will last longer if the broken ones are replaced.
- Regularly lubricate moving parts such as bearings, shafts, and cutting teeth to reduce friction and wear.
- If the grinder is not to be in use, store in a dry and safe place away from direct sunlight and inaccessible to children.