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› MechMaxx SG24 Heavy Duty 3-Point PTO Stump Grinder User Manual

MechMaxx SG24

MechMaxx SG24 Heavy Duty 3-Point PTO Stump Grinder

USER MANUAL

1. Introduction

This manual provides essential information for the safe and effective operation, maintenance, and setup of your MechMaxx SG24 Heavy Duty 3-Point PTO Stump Grinder. Read this manual thoroughly before operating the equipment. Keep it for future reference.



Figure 1.1: MechMaxx SG24 Stump Grinder overview highlighting key specifications.

2. Safety Information

Operating heavy machinery carries inherent risks. Adhere to all safety warnings and instructions to prevent injury or equipment damage.

- **Read the Manual:** Understand all instructions and warnings before operation.
- **Personal Protective Equipment (PPE):** Always wear safety glasses, hearing protection, heavy-duty gloves, and appropriate footwear.
- **Clear Work Area:** Ensure no bystanders, children, or pets are within the operating zone. Clear the area of debris that could become projectiles.
- **PTO Safety:** Never approach or work near the PTO shaft or cutting wheel when the tractor engine is running. Ensure the PTO shaft guard is always in place.
- **Tractor Compatibility:** Use only with tractors meeting the specified HP requirements (15-45HP) and equipped with a Cat 1 3-point hitch.
- **Secure Attachment:** Verify the stump grinder is securely attached to the tractor's 3-point hitch and PTO shaft before starting.
- **Emergency Shut-off:** Know how to quickly shut off the tractor and disengage the PTO in an emergency.

3. Product Overview and Features

The MechMaxx SG24 is a PTO-powered stump grinder designed for efficient removal of tree stumps and roots. It connects to a tractor's 3-point hitch and utilizes the tractor's PTO for power.



Figure 3.1: Labeled components of the SG24 Stump Grinder.

Key Features:

- **PTO Powered:** Utilizes a 540 RPM PTO input with a 1200 N·m maximum torque for efficient power transfer.
- **3-Point Hitch:** Designed for Cat 1 tractors (15-45HP) with a 3-point hitch for stable and secure attachment.
- **Cutting Wheel:** Features a 24-inch diameter flywheel equipped with 34 tungsten carbide cutting teeth.
- **Cutting Depth:** Capable of removing roots up to 6 inches below ground level.
- **Integrated Storage:** A small compartment is provided for storing instructions or small tools.
- **PTO Shaft with Slip Clutch:** Includes a PTO drive shaft with a slip clutch for safety protection.

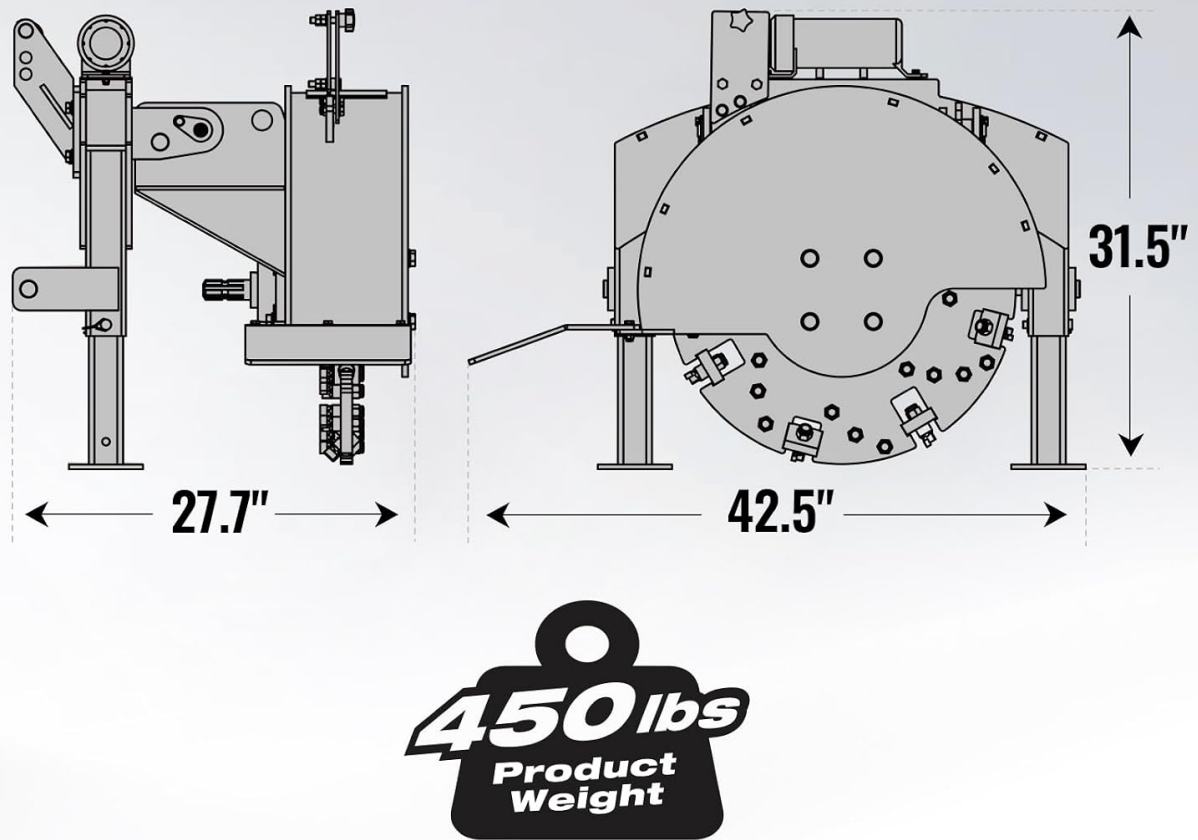


Figure 3.2: Dimensions and weight of the SG24 Stump Grinder.

4. Specifications

Specification	Value
Brand	MechMaxx
Model	SG24
Material	Tungsten Carbide (teeth)
Product Dimensions (L x W x H)	42.5" x 27.7" x 31.5"
Power Source	15-45hp Tractor (PTO)
PTO Input RPM	540 RPM
Max. Torque	1200 N·m

Specification	Value
Flywheel Diameter	24 inches
Cutting Teeth	34 Tungsten Carbide
Max. Cutting Depth	6 inches below ground level
Hitch Type	Cat 1 3-Point Hitch (Quick Attach Compatible)

5. Setup and Assembly

Follow these steps to safely attach the stump grinder to your tractor.

5.1 Tractor Requirements

- Ensure your tractor has a PTO output of 15-45 horsepower.
- The tractor must be equipped with a Cat 1 3-point hitch.
- For optimal performance, the tractor's PTO shaft should be independent of the transmission drive system, allowing separate control of PTO speed and tractor movement.



Figure 5.1: The SG24 Stump Grinder requires a 15-45 HP PTO tractor.

5.2 Attaching the Stump Grinder

1. **Position Tractor:** Back the tractor up to the stump grinder, aligning the 3-point hitch arms with the grinder's mounting points.
2. **Connect Lower Arms:** Attach the tractor's lower 3-point hitch arms to the grinder's lower pins. Secure with appropriate locking pins.
3. **Connect Top Link:** Attach the tractor's top link to the grinder's upper mounting point. Adjust the top link to ensure the grinder is level or slightly angled as recommended for initial cuts.



CAT. 1 3-POINT HITCH (QUICK ATTACH COMPATIBLE)

The three-point connection ensures the stability of the root grinder connected to the tractor and remains stable when the machine is running, improving grinding efficiency and reducing working time.

Figure 5.2: Cat 1 3-Point Hitch connection points.

4. **Connect PTO Shaft:** Carefully connect the PTO drive shaft from the tractor to the grinder's input shaft. Ensure the shaft is fully engaged and locked into place. The included PTO shaft features a slip clutch for safety.



Figure 5.3: PTO Shaft with Slip Clutch.



Figure 5.4: SG24 attached to a tractor, rear view.

5. **Check Clearance:** Raise and lower the 3-point hitch to ensure there is no interference or binding with the PTO shaft or other tractor components throughout the full range of motion.
6. **Final Inspection:** Double-check all connections, pins, and guards before starting the tractor.

6. Operating Instructions

Proper operation ensures efficiency and safety when grinding stumps.

6.1 Pre-Operation Checklist

- Ensure all safety guards are in place.
- Verify all bolts and fasteners are tight.
- Inspect carbide teeth for wear or damage. Replace as needed.
- Clear the stump area of rocks, debris, and foreign objects.
- Ensure adequate fuel in the tractor.

6.2 Grinding Procedure

1. **Start Tractor and Engage PTO:** Start the tractor and engage the PTO at a low RPM. Gradually increase to the recommended 540 RPM.
2. **Position Grinder:** Slowly lower the stump grinder until the cutting wheel is just above the stump.

3. **Begin Grinding:** Engage the cutting wheel with the edge of the stump. Move the tractor slowly and steadily, allowing the grinder to cut through the stump. The tractor's movement rate should be independent of the PTO speed.



Figure 6.1: The 24-inch diameter cutting wheel in action.

4. **Control Depth:** Adjust the 3-point hitch height to control the cutting depth. The SG24 can cut up to 6 inches below ground level.
5. **Grind Systematically:** Work across the stump in a systematic pattern, removing material in layers. Avoid forcing the grinder, which can cause strain on the equipment and tractor.
6. **Disengage and Clear:** Once the stump is ground to the desired depth, disengage the PTO, raise the grinder, and turn off the tractor. Allow all moving parts to stop before approaching the machine or clearing debris.

7. Maintenance

Regular maintenance extends the life of your stump grinder and ensures safe operation.

7.1 After Each Use

- **Clean:** Remove wood chips, dirt, and debris from the cutting wheel, shield, and frame.
- **Inspect Teeth:** Check all 34 tungsten carbide teeth for wear, chips, or damage. Replace any worn or broken teeth promptly.



CARBIDE TEETH*34

Equipped with 34 tungsten carbide cutting teeth that sharpen stumps quickly, speeding up work and making stump removal a breeze.

Figure 7.1: Inspecting the 34 carbide teeth.

- **Check Fasteners:** Ensure all bolts, nuts, and pins are secure. Tighten any loose fasteners.
- **PTO Shaft:** Inspect the PTO shaft and slip clutch for damage or wear. Ensure guards are intact.

7.2 Seasonal / Extended Storage

- **Lubrication:** Lubricate all grease points as indicated in the product diagram (if applicable, consult specific product diagram for locations).
- **Rust Prevention:** Apply a light coat of oil or rust inhibitor to exposed metal surfaces, especially the cutting wheel and teeth.
- **Storage:** Store the stump grinder in a dry, protected area away from direct sunlight and moisture.

8. Troubleshooting

This section addresses common issues you might encounter.

Problem	Possible Cause	Solution
Grinder not engaging or losing power	PTO not fully engaged; Tractor PTO RPM too low; Slip clutch activated; PTO shaft damaged.	Ensure PTO is fully engaged and at 540 RPM. Check for slip clutch activation (overload). Inspect PTO shaft for damage.
Poor cutting performance	Worn or damaged carbide teeth; Incorrect cutting angle; Stump too hard/large for single pass.	Inspect and replace worn teeth. Adjust 3-point hitch for optimal cutting angle. Take shallower passes.
Excessive vibration	Unbalanced cutting wheel (due to missing/damaged teeth); Loose fasteners; Bent PTO shaft.	Inspect cutting wheel for missing teeth and replace. Tighten all fasteners. Check PTO shaft for straightness.
Grinder not lowering/raising	3-point hitch hydraulic issue; Obstruction.	Check tractor hydraulics. Inspect for physical obstructions.

9. Warranty and Support

Your MechMaxx SG24 Stump Grinder is backed by a 1-year warranty, as indicated on the product. For specific warranty details and claims, please refer to the documentation included with your purchase or contact MechMaxx customer support.

Additional Protection Plans:

Extended protection plans may be available for purchase, offering additional coverage beyond the standard warranty period. These plans typically include:

- **4-Year Protection Plan:** A one-time purchase for extended coverage.
- **Complete Protect:** A monthly subscription plan covering eligible past and future purchases.

For more information on these plans, please consult the retailer or MechMaxx directly.

Customer Support:

For technical assistance, parts, or warranty inquiries, please visit the official MechMaxx store or contact their customer service department. You can find more information and contact options at the [MechMaxx Store on Amazon](#).