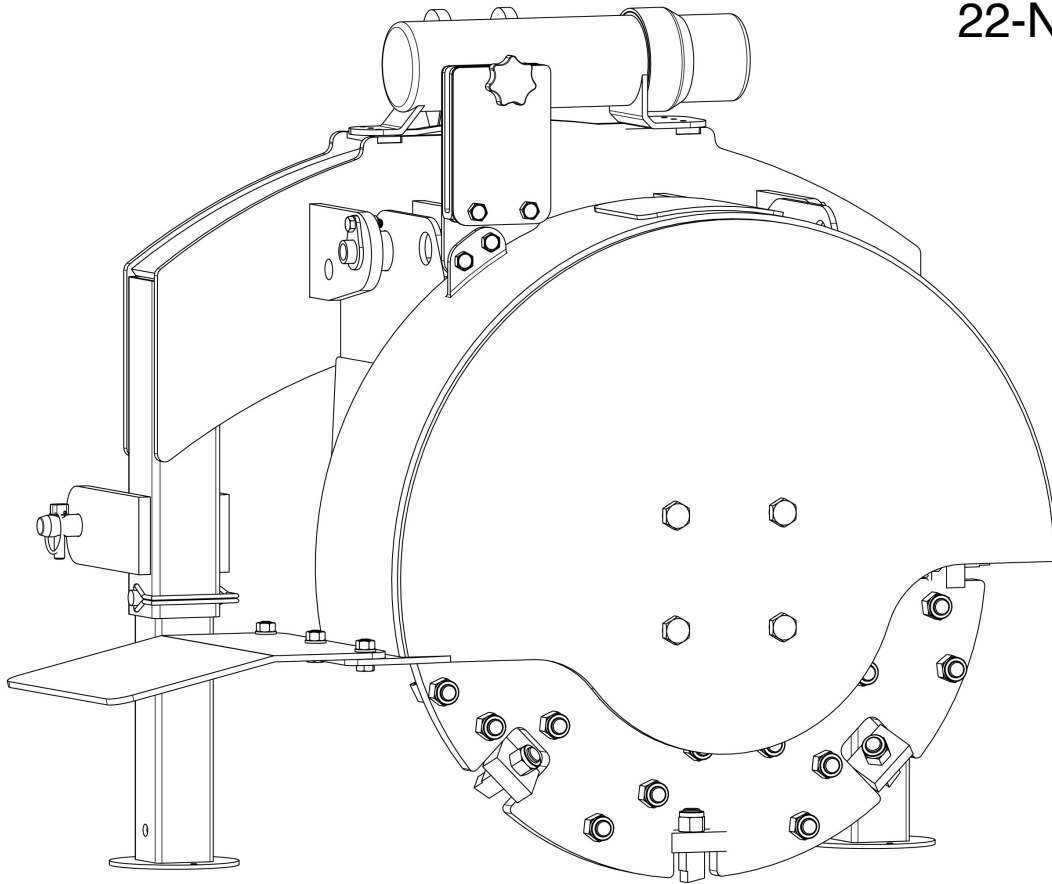


# WG24 STUMP GRINDER

WG24

22-Nov-2016



## OWNER'S MANUAL





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## INTRODUCTION

Congratulations on your purchase and welcome to Woodland Mills. This manual gives you the necessary information about your machine so you will be able to use it properly. The entire manual must be read and understood before you start using the machine. If any questions should arise that are not covered by this manual, please contact Woodland Mills.

### OWNER'S RECORD

Please take a moment to record the following information about your stump grinder. If you need to call for assistance, please be ready to provide your model number. This information will allow us to help you more quickly when you call.

#### MODEL NUMBER

#### SERIAL NUMBER

#### DATE OF PURCHASE

This machine is designed for certain applications only. We strongly recommend this machine is not modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the machine until you have first contacted us to determine if it can or should be performed on the product.

For technical questions and replacement parts, please contact Woodland Mills.



## INTENDED USE

This stump grinder is designed for grinding stumps using a tractor PTO at 540 RPM.

## TECHNICAL SPECIFICATIONS

Recommended HP	20 HP - 45 HP
Cutting Wheel	24" (610mm)
Number of Teeth	34
Tooth	Grade 8.8 Carbide Steel Bolt in
Tooth Torque Specification	160 ft-lbs (215 Nm)
Required PTO Speed	540 RPM
Maximum Cutting Depth Per Pass	5" (127mm)
Maximum Depth Below Grade	6" (152mm)
Shipping Weight	470 lbs (213 kg)

## GENERAL SAFETY RULES



### **WARNING!**

Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.



### **WARNING!**

The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

**NOTE:** All Federal and State laws and any regulation having jurisdiction covering the safety requirements for use of the machine take precedence over the statements in this manual. Users of this machine must adhere to such regulations.

Only people that have read and understood these instructions are able to use the stump grinder.

Inspect the stump grinder and tractor at the beginning of every working day and repair any defects.

Stop the engine and make sure that the machine will not start accidentally while repairing defects or doing maintenance.

Do not remove the stump grinders safety devices or make them inactive.

Always locate buried wires, cables, and pipelines before grinding.



## PERSONAL SAFETY

- ⚠ Stay alert,** watch what you are doing and use common sense when operating the machine. Do not use the machine while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating machines may result in serious personal injury.
- ⚠ Dress properly.** Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts. Air vents often cover moving parts and should be avoided.
- ⚠ Use safety apparel and equipment.** Use safety goggles or safety glasses with side shields which comply with current national standards, or when needed, a face shield. Use a dust mask in dusty work conditions. This applies to all persons in the work area. Also use safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate.
- ⚠ Do not over reach.** Keep proper footing and balance at all times.
- ⚠ Remove adjusting keys or wrenches** before connecting to the power supply or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may result in personal injury.
- ⚠ Never conduct any maintenance or make any other adjustments when the engine is running.** Always shut the engine off, remove the ignition key, and keep the engine off before carrying out any of the aforementioned procedures. Consult your engine manual for safe shutdown procedures to prevent accident ignition.
- ⚠ Never** allow passengers on the stump grinder.

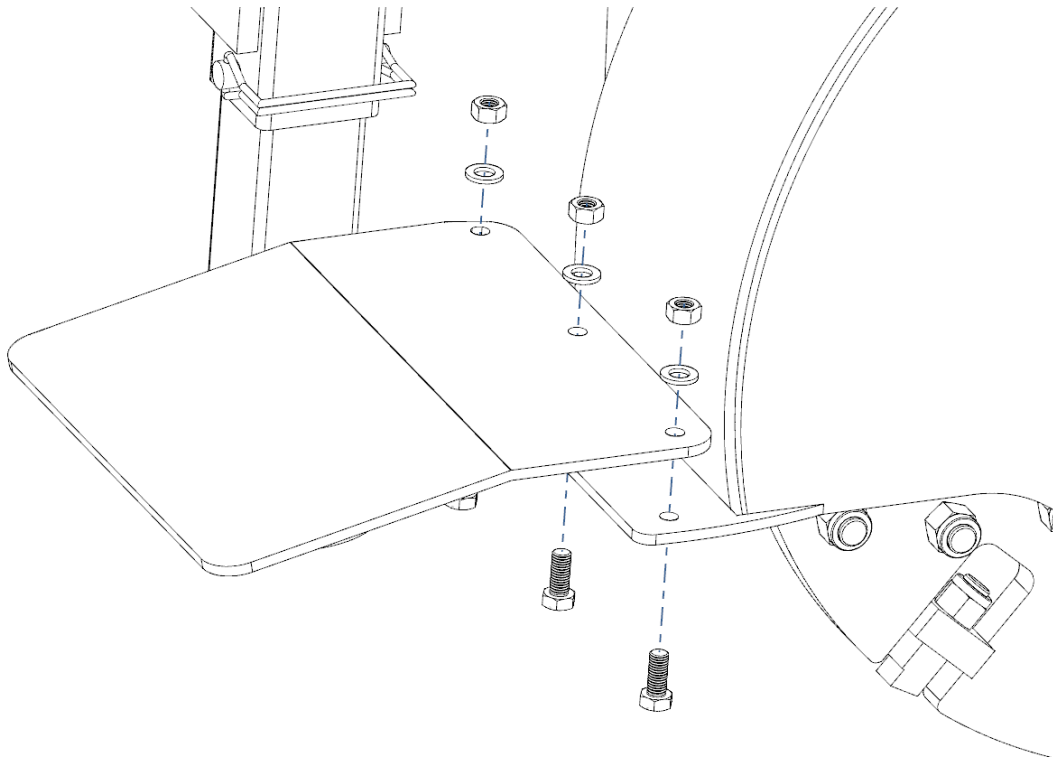


## TOOL USE AND CARE

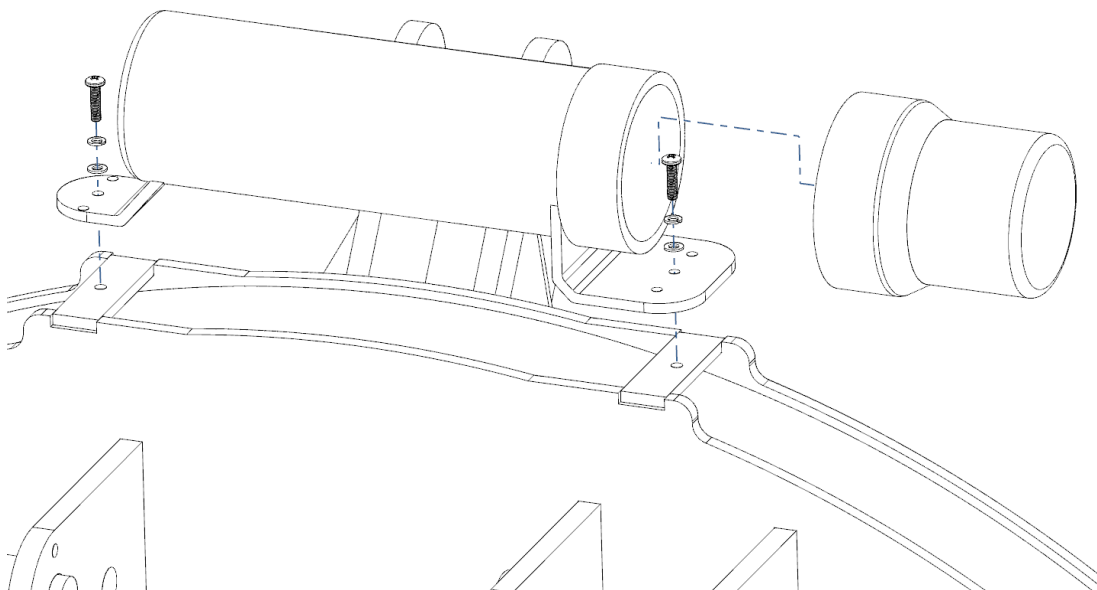
- ⚠ Always** be sure operator is familiar with proper safety precautions and operation techniques before using machine.
- ⚠ Do not force the machine.** Machines do a better and safer job when used in the manner for which they are designed.
- ⚠ Storing the machine.** When the machine is not in use, store it in a dry, secure place or keep well covered and out of the reach of children. Inspect the machine for good working condition prior to storage and before re-use.
- ⚠ Maintain the machine.** It is recommended that the general condition of the machine be examined before it is used. Keep the machine in good repair by adopting a program of conscientious repair and maintenance in accordance with the recommended procedures found in this manual. If any abnormal vibrations or noise occurs, turn the machine off immediately and have the problem corrected before further use.
- ⚠ Cleaning.** Use a pressure washer to clean the carbide teeth while taking care not to pressure wash the bearings as this may introduce water into areas of the machine that will result in malfunction or damage.
- ⚠ Use only accessories that are recommended** by the manufacturer. Accessories that may be suitable for another machine may create a risk of injury when used on this machine.
- ⚠ Always** operate the machine with all safety devices and guards in place and in working order. DO NOT modify or make changes to safety devices. DO NOT operate the machine if any safety devices or guards are missing or inoperative.
- ⚠ Never leave the machine running unattended.**
- ⚠ Never use the machine to grind anything other than stumps** or for any purpose other than grinding stumps as described in this manual.

# STUMP GRINDER ASSEMBLY

1. Install the deflector plate using the 3 supplied nuts, bolts, and washers.



2. Install the manual tube using the 2 supplied bolts and washers.



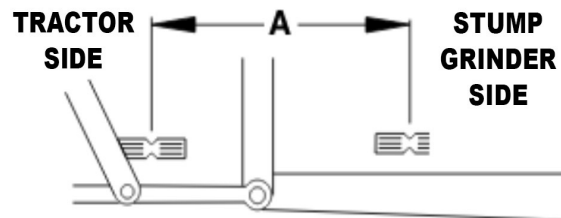


# STUMP GRINDER SET-UP PROCEDURES

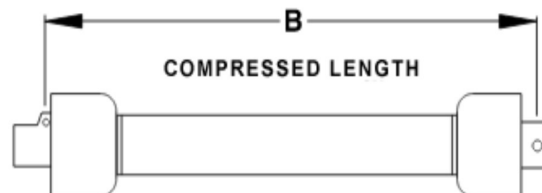
## TRIMMING THE PTO SHAFT

The stump grinder is shipped with a slip clutch PTO shaft that can be fitted to most tractors. The PTO shaft may need to be trimmed depending on your tractor and configuration. Follow the below steps to ensure that the PTO shaft is fitted to your tractor correctly. **Note that the slip clutch side of the PTO shaft should mount to the stump grinder.**

1. Attach the stump grinder to the tractor, but do not install the PTO shaft.
2. Raise the stump grinder using the tractors 3 point hitch system so that the shaft on the tractor is level with the shaft on the stump grinder.
3. Measure the distance between the locking grooves on the shaft of the tractor and stump grinder (**A**) as shown below.



4. Measure the distance between the locking pins on the PTO shaft itself when it is in the compressed/shortest length (**B**) as shown below.



5. If (**A**) is at least 1" longer than (**B**), the PTO shaft will not need to be cut. It is recommended that the shaft not be used if any less than 3" of overlap between the two halves of the PTO shaft is found when the equipment is in the operating position.
6. If dimension (**B**) is longer than (**A**), the PTO shaft will need to be cut. The below equation may be used to calculate the correct amount to trim.

$$(B-A) + 1 \text{ INCH} = C \text{ (AMOUNT TO CUT)}$$

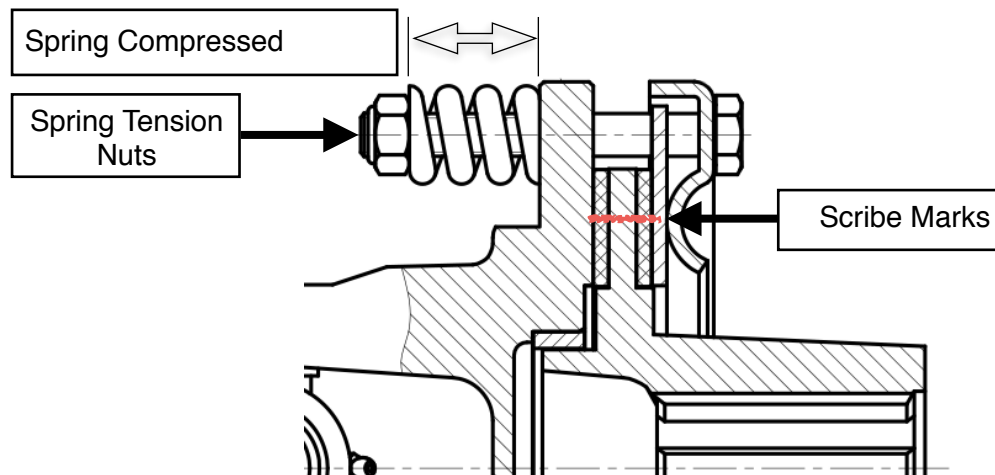
7. Once (**C**) has been calculated; this amount will need to be cut off of **BOTH** halves of the PTO shaft.
8. After both halves of the PTO shaft have been cut, use a file to remove any burrs or sharp edges and slide the shaft together ensuring it telescopes in and out freely. The PTO shaft can now be attached to the stump grinder and tractor, ready for use.

# STUMP GRINDER SET-UP PROCEDURES

## PTO SHAFT CLUTCH RUN IN

The stump grinder is shipped with a slip clutch PTO shaft. Follow the below steps before using your stump grinder to ensure that the PTO shaft clutch plates are set properly. **Note that the slip clutch side of the PTO shaft should mount to the stump grinder.**

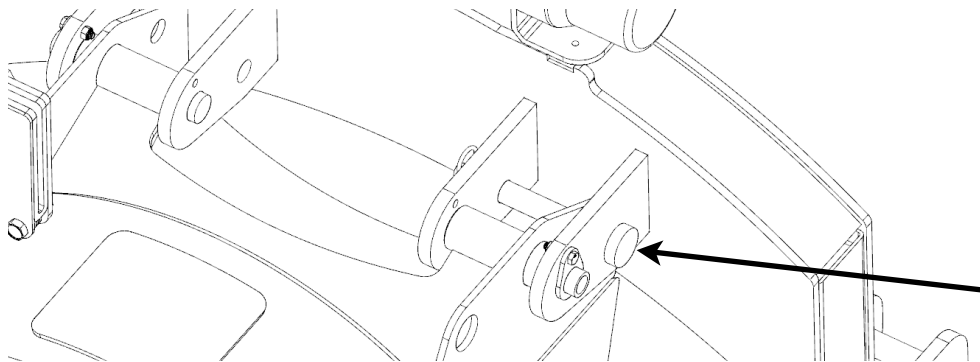
- 1) Using a pencil or other marker, scribe a line across the exposed edges of the clutch plates.
- 2) Measure the “spring compressed length” and note it on a piece of paper.
- 3) Loosen all 8 spring tension nuts uniformly until spring load is low enough that the clutch slips freely with PTO engaged.



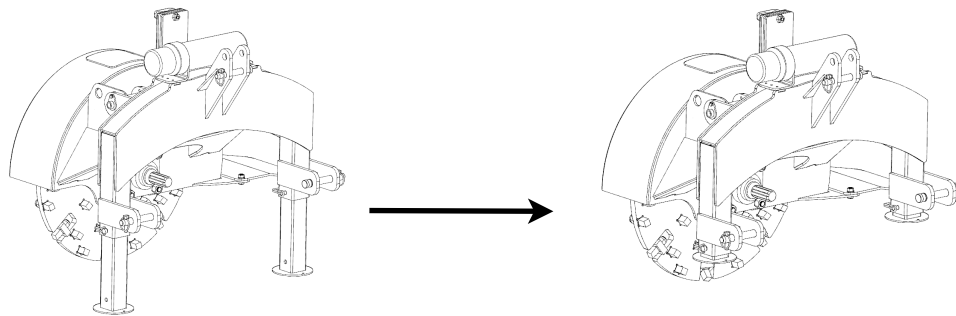
- 4) Start tractor and engage PTO for 2-3 seconds to permit slippage of clutch surfaces. Disengage PTO, then re-engage a second time for 2-3 seconds. Disengage PTO, shut off tractor, and remove key. Wait for all components to stop before removing the PTO shaft from tractor.
- 5) Inspect clutch and ensure that the scribed markings made on the clutch plates have changed position. Slippage has not occurred if the two marks on the clutch plates are still aligned. A clutch that has not slipped must be disassembled to separate the clutch plates.
- 6) Tighten all 8 nuts back to achieve the original “spring compressed length” dimension. Clutch is now ready for use.
- 7) The clutch should be checked during first hour of use and periodically each week. Excessive clutch plate slippage, burning odour or smoking should not be noted during use.

## EQUIPMENT OPERATION

1. Wear heavy-duty work gloves, ANSI-approved goggles behind a full face shield, and steel-toed work boots.
2. Securely attach the stump grinder to the tractor's 3 point hitch system and install the PTO shaft.
3. Remove the stabilizer pin prior to operation.



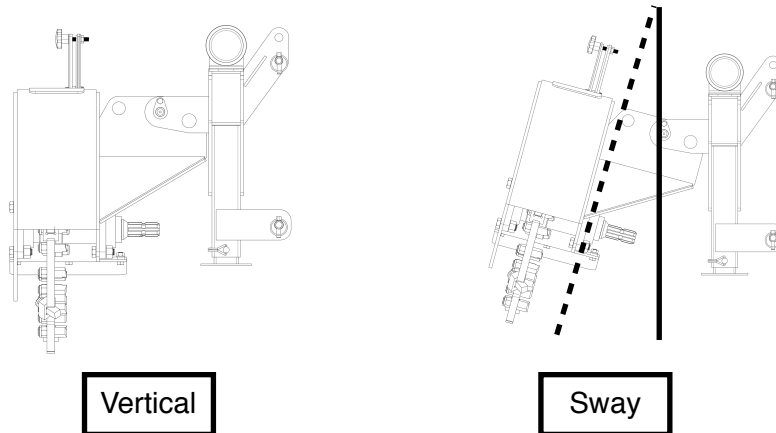
4. Move the legs up inside the tubes so they are out of the way and install the retaining pins to hold the legs in place.



5. Back over a stump and lower the stump grinder so it will take 1" to 4" (25-100mm) per pass. Always make sure the grinder is cutting properly and not jumping around erratically.
6. Once the stump is at ground level, continue to take 1" to 4" (25-100mm) passes until the stump and roots are 4" to 6" (100-150mm) below grade.

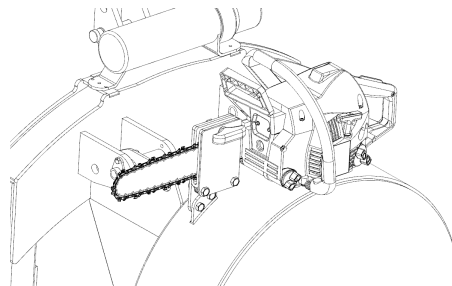
## EQUIPMENT OPERATION

7. During use, it is important to never let the stump grinder sway beyond an angle that will allow the PTO shaft to come apart. Do not operate the stump grinder with less than 3" (75mm) of overlap between the two halves of the PTO shaft. If the stump grinder begins to sway, it means that the tractor has advanced faster than the grinder can remove material or that too much material is being removed at once. When this is observed, immediately stop moving forward and position the tractor and stump grinder in a manner as so that it is in the vertical position again.



## CHAINSAW HOLDER

Use the chainsaw holder only to transport a chainsaw. Remove the chainsaw from the chainsaw holder prior to grinding stumps.



## STORING THE STUMP GRINDER

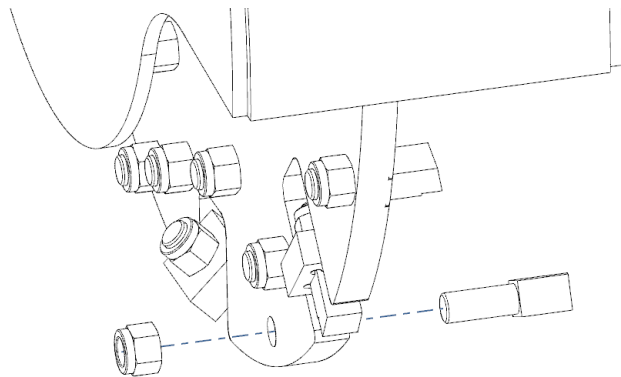
1. Lower both support legs and insert the retaining pins.
2. Insert the stabilizer pin.
3. Lower the stump grinder onto a flat, level surface.
4. Disconnect the PTO shaft.
5. Remove the stump grinder from the tractors 3 point hitch system.

## MAINTENANCE

1. Proper and routine maintenance is critical to operator safety, achieving proper stump grinding results and in prolonging the life of the machine.
2. For cleaning and maintenance of the stump grinder, switch off the tractor PTO shaft and turn the engine off.
3. Inspect the unit before each use for loose nuts and worn cutting teeth. Also clean any build up of debris.
4. After 2 hours of operation, check for loose nuts and worn cutting teeth. Tighten and replace as necessary.
5. Grease the bearings and the pivot pins on the main housing as needed before each use. Do not over grease the the bearings as this will blow out the seals and cause premature bearing failure.
6. Inspect the clutch plates on the PTO shaft periodically to ensure that they are not seized together. Refer to "***PTO Shaft Clutch Run In***" in the "***Stump Grinder Set Up Procedures***" section of the manual.

## REPLACING TEETH

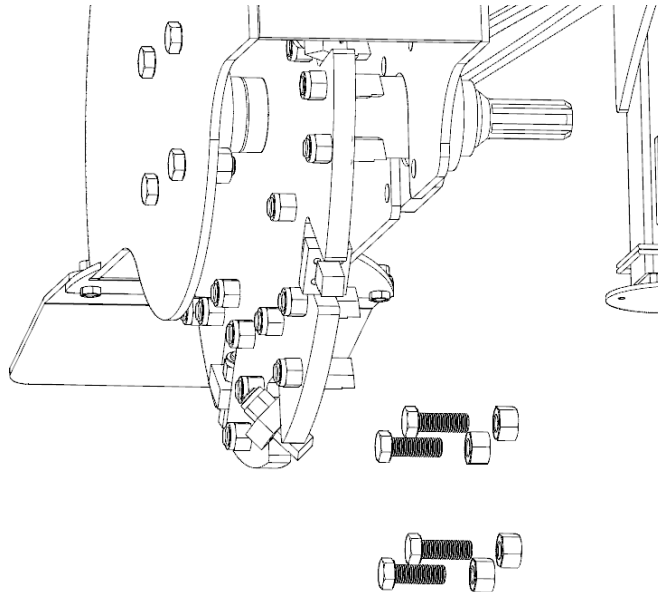
1. Disconnect the PTO shaft from the tractor and set the stump grinder on a flat and level surface.
2. Remove the lock nut using a 24mm wrench or socket.
3. Remove the cutting tooth.



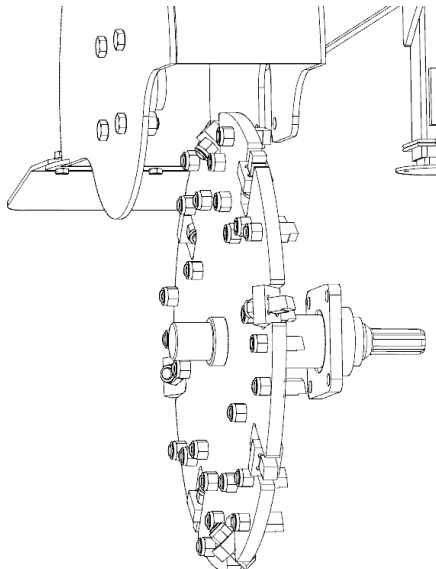
4. Install a replacement tooth and lock nut using a torque wrench set to 160 ft-lbs (215 Nm)

## REPLACING BEARINGS

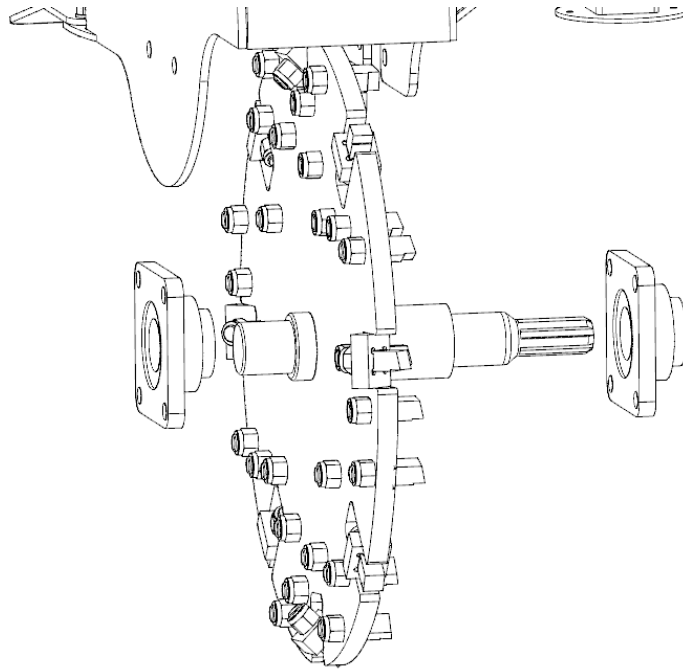
1. Remove the 4 lock nuts from the bolts using an 18mm and 19mm socket or wrench on the front bearing only.



2. Slide the flywheel assembly forward and down.



3. Remove the lock nuts and bolts from the remaining bearing and slide the front bearing forward off the flywheel shaft.



4. Installation is the reverse of removal. Tighten the lock nuts to 65 ft-lbs (88 Nm).



# PARTS LIST

WG24 Stump Grinder Part List							
1	Back Frame Assembly		1		23	Chainsaw Holder B	1
2	Pin		1		24	Threaded Knob	M10 x 45 1
3	Pan Head Bolt	M5 x 20	2		25	Hex Bolt	M10 x 35 2
4	Lock Washer	M5	2		26	Deflector Plate	1
5	Manual Tube		1		27	Hex Bolt	M8 x 25 3
6	Lock Pin		2		28	Flat Washer	M8 3
7	Back Support Leg Assembly		2		29	Rubber Mat B	1
8	Pin		2		30	Locking Nut	M8 5
9	Linch Pin	12 x 80	3		31	Flat Washer	M10 8
10	Hex Bolt	M8 x 30	2		32	Hex Bolt	M10 x 25 2
11	Spacer		2		33	Locking Nut	M10 4
12	Pin Assembly		2		34	Locking Nut	M16 34
13	Housing Assembly		1		35	Grease Nozzle	M6 2
14	Cotter Pin	4 x 70	1		36	PTO Shaft	1
15	Stabilizer Pin		1		37	Flat Washer	M5 2
16	Locking Nut	M12	8		38	Flat Washer	M12 8
17	Flange Bearing	UCF210	2		39	Flywheel Shaft	1
18	Hex Bolt	M12 x 45	8		40	Flywheel	1
19	Tungsten Carbide Tooth		34		41	Socket Head Cap Bolt	M16 x 60 4
21	Chainsaw Holder A		1		42	Locking Nut	M16 4
22	Rubber Mat A		2		43	Washer	M16 4



# DIAGRAM

