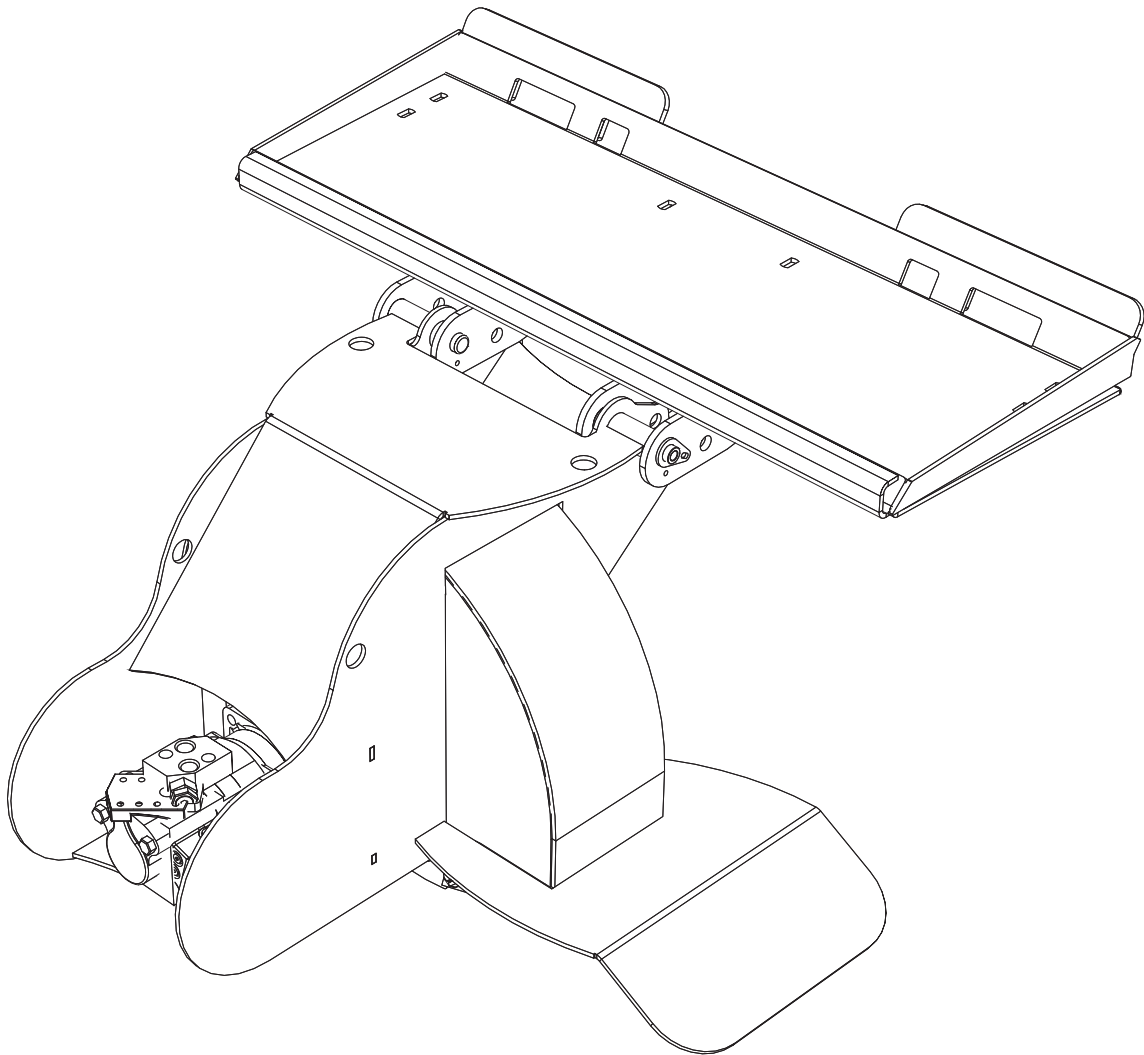


# QA224 Stump Grinder

## Operation And Maintenance Manual



**Skid Pro Attachments**  
**PO Box 982**  
**Alexandria, MN 56308**  
**[www.skidpro.com](http://www.skidpro.com)**  
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## 1. INTRODUCTION AND WARRANTY

### 1.1 INTRODUCTION

Congratulations on your purchase of a Skid Pro Skid Steer Stump Grinder. This equipment has been designed and manufactured to meet the needs of a discriminating buyer for efficient grinding of stumps.

Safe, efficient and trouble free operation of your stump grinder requires that you and anyone else who will be operating or maintaining the stump grinder, read and understand this Operator's Manual.

This manual covers the Skid Pro Skid Steer Stump Grinder, model QA224.

Keep this manual with the equipment for frequent reference and to pass on to new operators or owners. Call your Skid Pro dealer, distributor or the factory if you need assistance, information or additional copies of the manuals.

**OPERATOR ORIENTATION** - The directions left, right, front and rear, as mentioned throughout this manual, are as seen from the skid steer driver's seat and facing in the direction of travel.

### 1.2 WARRANTY

Skid Pro warrants products purchased from Skid Pro to the Original Purchaser to be free from defects in material and workmanship for a period of twenty four (24) months from the warranty start date.

Skid Pro's requirement for any issue with respect to attachments shall be limited to repairing or replacing the defective part, as this is a parts-only warranty and does not include any labor to replace or install the part or downtime from resulting issue. Skid Pro has full technical support & assistance to assure customer replaces the part properly for optimal performance on attachment. Skid Pro warranty service does not include:

1. Transportation to selling dealer's business location or, at the option of the original retail purchaser, the cost of a service call.
2. Used equipment.
3. Components covered by their own non-Skid Pro warranties
4. Normal maintenance service and expendable wear out items.
5. Repairs or adjustments caused by improper use; failure to follow recommended maintenance procedures; accidents or another casualty.
6. Liability for incidental or consequential damages of any type, including but not limited to lost profits of expenses of acquiring replacement equipment.

No agent, employee or representative of Skid Pro has authority to bind Skid Pro to any warranty except as specifically set forth herein. Any of these limitations excluded by local law shall be deemed deleted from this warranty; all other terms will continue to apply.

#### For warranty service contact:

##### **Skid Pro, Inc.**

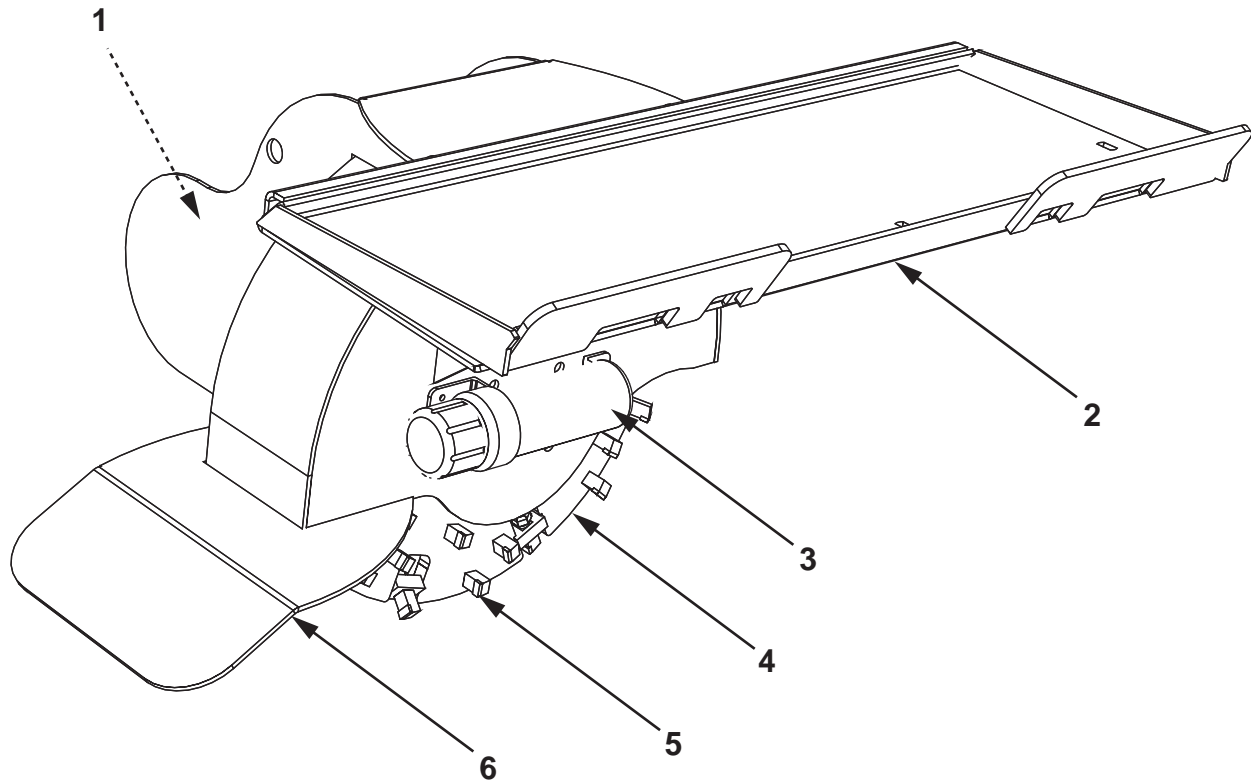
Toll Free: 877.378.4642

E-mail: sales@skidpro.com

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## 2. COMPONENT IDENTIFICATION

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- 1 - Hydraulic Motor
- 2 - Quick-Attach
- 3 - Operators Manual Holding Tube
- 4 - Cutting Wheel
- 5 - Cutting Teeth
- 6 - Debris Guard

### 3. SAFETY

#### 3.1 SAFETY ALERT SYMBOL AND SIGNAL WORDS

You must read, understand and follow the instructions given by the operating unit manufacturers, as well as the instructions in this manual.

The safety information in this manual is denoted by the safety alert symbol:



This symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

The level of risk is indicated by the following signal words:



#### **DANGER**

**DANGER** - Indicates a hazardous situation, which, if not avoided, **WILL** result in death or serious injury.



#### **WARNING**

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



#### **CAUTION**

**CAUTION** - Indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.

#### **NOTICE**

**NOTICE** - Indicates a situation that could result in damage to the equipment or other property.

### 3.2 OPERATIONAL HAZARDS



#### **WARNING**

**Prevent serious injury or death.**

**Read and understand this manual before operating stump grinder.**

**Always stop engine and remove key before leaving operators seat.**

**Never allow anyone near the stump grinder during operation.**

**Travel at a safe speed.**



#### **WARNING**

**Prevent serious injury or death from moving parts.**

**Moving parts can crush and dismember. Do not operate without guards and shields in place.**

**Disconnect and lockout power source before adjusting or performing maintenance.**



#### **WARNING**

**Use stump grinder only for the designed applications.**

**Any other use may result in personal injury, damage to equipment and may void the warranty.**



#### **WARNING**

**Prevent serious injury or death.**

**Verify stump grinder is locked to quick attach hitch before operation or transport.**

Carefully read all safety messages in this manual and on equipment safety signs. Keep safety signs in good condition and replace missing or damaged safety signs.

New equipment components and repair parts must include the current safety decal.

Learn how to properly operate equipment. NEVER operate or work around this equipment without proper instruction, while fatigued or under the influence of alcohol, prescription or non-prescription medication or if feeling ill.

Keep your equipment in proper working condition.

Know the regulations and laws that apply to you and your industry. This manual is not to replace any regulations or laws. Additional information may be found at: [www.asae.org](http://www.asae.org) or [www.osha.gov](http://www.osha.gov).

If you do not understand any part of this manual, contact Skid Pro at 866-232-8224.

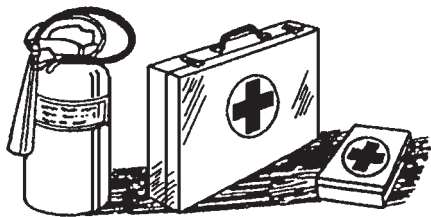
### **3.2.1 PREPARE FOR EMERGENCIES**

Be prepared in case of emergencies.

Keep a fire extinguisher and first aid kit close to the machine.

Keep emergency phone numbers close to your phone.

Know your address so emergency services can locate you if an emergency arises.



### **3.2.2 REPLACE SAFETY SIGNS**

Replace missing or damaged safety signs.

Safety sign location are identified in Section 4.5 of this manual.

Replacement safety signs are available from your dealer.

### **3.2.3 DO NOT ALLOW RIDERS**

NEVER lift or carry anyone on stump grinder.

NEVER use stump grinder as a work platform.

NEVER allow passengers on stump grinder.

### **3.2.4 LOWER OPERATING SPEED**

Keep stump grinder low and move at slow speeds on rough or uneven terrain.

### **3.2.5 AVOID ROLLOVER**

The equipment may rollover, resulting in death or serious injury. To help prevent rollover:

- Travel at a slow speed.
- Avoid sharp turns & sudden movement on slopes.
- Carry stump grinder close to the ground.
- Avoid holes, ditches and other obstructions which may cause equipment to rollover.
- Use caution when operating on slopes and do not operate on excessively steep slopes.
- Do not exceed load capacity of equipment.

### **3.2.6 AVOID POWER LINES & UNDERGROUND UTILITIES**



**DANGER**

**Prevent electrocution.**

**Death or serious injury can result if equipment comes near or contacts power lines.**

**Electrocution can occur without direct contact.**

Check clearance before raising equipment.

Have local utilities locate and mark under ground wires, cables, pipelines and other hazards before digging.

DO NOT leave the operator's seat if any part of the equipment contacts electric lines or cables.

### **3.2.7 DETACH STUMP GRINDER SAFELY**

Detach stump grinder on a firm and level surface. Stump grinder may fall over if detached on unlevel or soft surface.

### **3.2.8 TRANSPORT SAFELY**

Carry stump grinder low.

Travel slow and avoid slopes.

### **3.2.9 RAISED ATTACHMENT**



#### **WARNING**

**Crushing hazard.**

**Raised, unsupported stump grinder can fall, resulting in death or serious injury.**

**Never enter the area under a raised stump grinder.**

A raised stump grinder can lower unexpectedly, resulting in death or serious injury.

NEVER enter area under a raised stump grinder.

Lower stump grinder to ground, engage parking brake, shut off engine and remove key before servicing.

### **3.2.10 AVOID HIGH PRESSURE FLUIDS**



#### **WARNING**

**Pressurized fluids can penetrate the skin.**

**Hydraulic hoses can fail from age, damage and exposure.**

**Use body and face protection while searching for leaks. A tiny, almost invisible leak can penetrate the skin, thereby requiring immediate medical attention.**

**Use wood or cardboard to detect hydraulic leaks, never use your hands.**

Escaping fluid under pressure can penetrate the skin causing serious injury.

Prevent the hazard by relieving pressure before connecting or disconnecting hydraulic lines. Verify all connections are tight before applying pressure. Search for leaks with a piece of cardboard or wood.

Protect hands and body from high pressure fluids. If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or serious infection may result.

Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.

## **3.3 MAINTENANCE HAZARDS**

Before servicing, park machine on a firm and level surface, set parking brake, chock wheels, and place a "Do Not Operate" tag on control panel. Read and understand this manual. If you do not understand any part of the manual, contact Skid Pro at 866-232-8224.

Always wear face and/or eye protection, safety shoes, and other protective equipment appropriate for the job.

Always use Skid Pro replacement parts.



#### **WARNING**

**Crushing hazard.**

**Before performing inspections, service or maintenance, lockout operating unit by:**

- **Park machine on firm, level surface.**
- **Engage parking brake.**
- **Turn engine off and remove key.**
- **Place "Do Not Operate" tag on control panel.**



#### **WARNING**

**Moving parts can crush and cut.**

**Keep clear of moving components.**

**Follow lockout procedure before performing maintenance.**



**⚠ WARNING**

**Entanglement hazard.**

**Keep clear of moving components.**

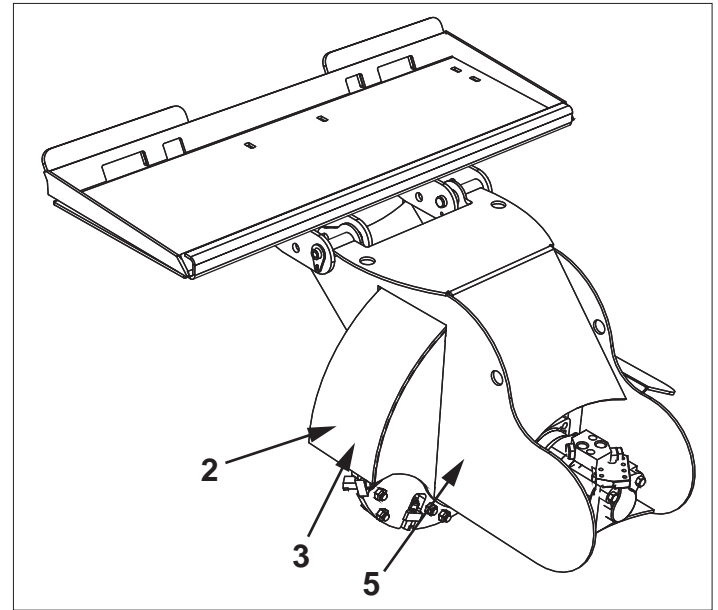
**Wear proper protective equipment appropriate for the job.**

**⚠ WARNING**

**Burn hazard.**

**Hot and high pressure hydraulic oil.**

**Allow oil to cool before servicing.**



### 3.4 HAZARDS FROM MODIFYING EQUIPMENT

Do not make any alterations to your stump grinder. Altering may cause your equipment to be unsafe and may void the manufacturers' warranty.

### 3.5 SAFETY WARNING LABELS

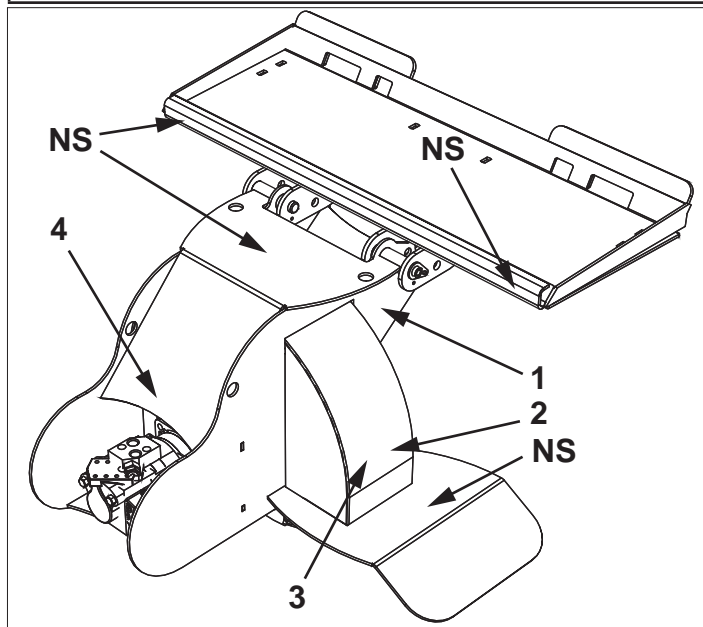
**⚠ WARNING**

**To protect you and others against death or serious injury, all labels shown must be on stump grinder and must be legible.**

**If any of these labels are missing or cannot be read, contact your dealer for replacement labels.**



*Decal 1*







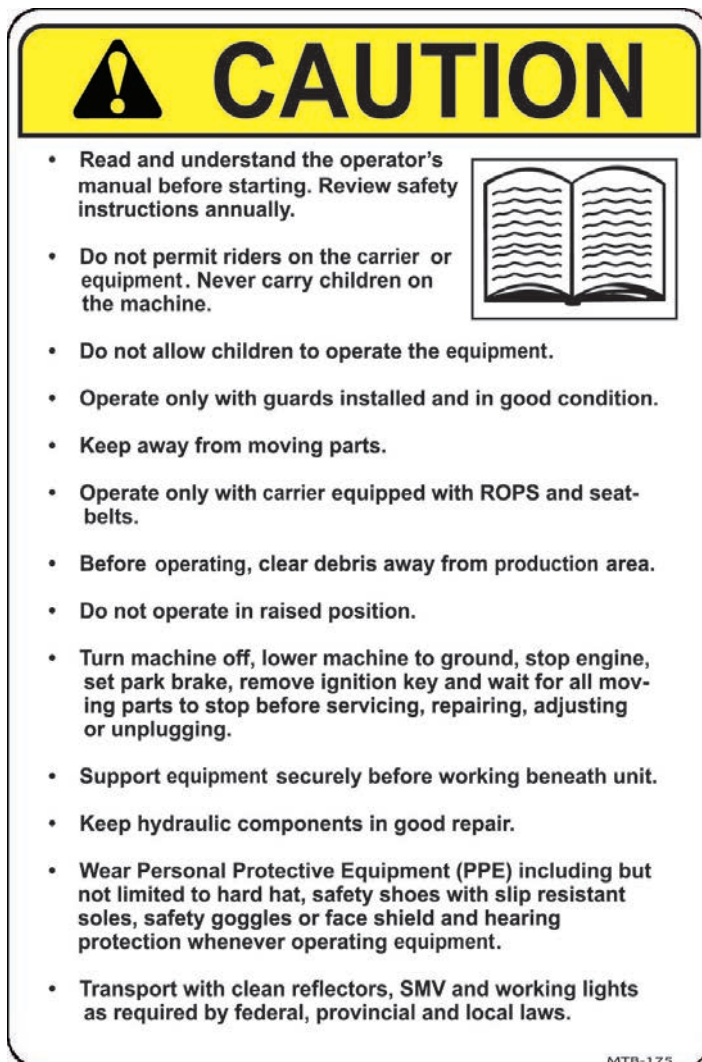
Decal 2



Decal 3



Decal 4



Decal 5

## 4. INITIAL SETUP

### 4.1 HYDRAULICS

#### WARNING

**Pressurized fluids can penetrate the skin. Disconnect and lock out power source before disconnecting and/or connecting hydraulic hoses.**

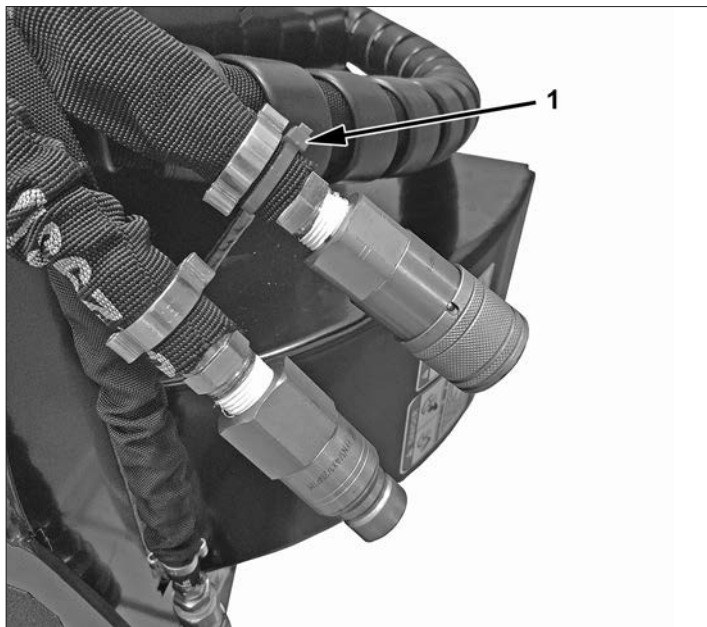
The stump grinder is equipped with short hoses that are connected to the hydraulic motor. You must connect your skid steer hoses to these hoses.

Skid steer hoses must be the same size as the stump grinder hoses. Using smaller diameter hoses will decrease hydraulic flow.









The stump grinder will have pressure and return connections. Pressure hose on stump grinder will have a red tie band (A) on it.

The hose end size is 1/2 in. male JIC for the pressure and return hoses.

Connect skid steer hoses to the stump grinder hoses. Be sure stump grinder pressure hose with red tie band (1) is connect to skid steer pressure hose.

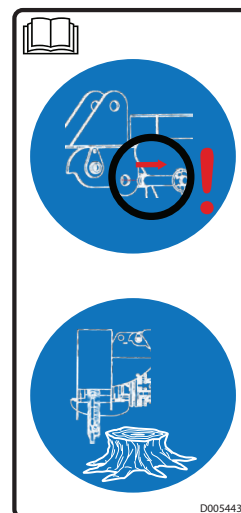


## 5. OPERATION

-  Quick-Attach must always be fully engaged and in the locked position.
-  Keep bystanders away from equipment while in use.
-  Always wear face or eye protection, safety shoes, and other protective equipment appropriate for the job.
-  Do not operate, work on or around this machine while under the influence of alcohol, drugs or if feeling ill.
-  Keep clear of moving machinery at all times.
-  Turn off machine before exiting operator station.
-  It is your responsibility to operate this equipment safely. You must be familiar with the equipment and all safety practices before use.
-  Do not allow untrained or unqualified people to operate this equipment.

### 5.1 STABILIZER PIN

Remove stabilizer pin before use to allow cutting wheel frame to pivot while grinding.



## 5.2 PRE-OPERATION CHECK LIST

It is operators responsibility to perform the following checks prior to operation of equipment.

Review and understand this manual and operating unit manual.

Verify safety decals are installed and legible. Replace if damaged or missing.

Verify that all hardware is tight.

Inspect hoses and fittings for wear, damage and leaks. Replace damaged or leaking hoses before use.

Verify that local utilities have marked all underground wires, cables and pipelines.

Refer to operating unit operator's manual for prestarting instructions.

Check swing frame to verify that it is free from obstruction and can operate smoothly without binding.

Never bar over the rotor, This could cause damage and result in personal injury or equipment damage.

The stump grinder must be lifted in a vertical direction only. Due to the weight of the rotor the device must be adjusted accordingly.

## 5.3 ATTACHING AND DETACHING

1. Read and follow all safety instructions.
2. Attach skid steer to stump grinder. See skid steer Operator's Manual.
3. Verify pins are secure in the correct position.
4. Connect hydraulic hoses. Verify hydraulic hoses are clear of pinch areas.
5. Move to a clear open area to test functions.

## 5.4 OPERATION

Before starting, stand to side of stump grinder and look at center point on bottom of cutting wheel, this will appear different from the skid steer seat and can be very deceiving.

Operate all functions in an open area with skid steer in idle to get a good feel for the controls.

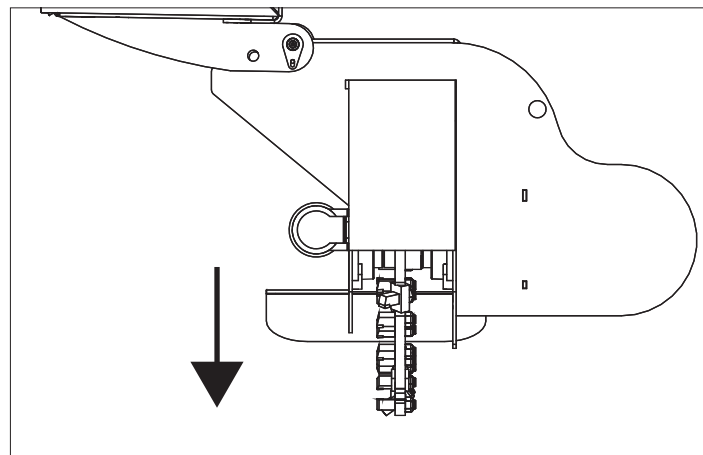


### WARNING

**Prevent serious injury or death.**

**Turn off engine and remove key before leaving operator's seat.**

1. Attach stump grinder to skid steer. See Attaching And Detaching in this section.
2. If stump is on a grade, position skid steer in low area. This will position stump grinder in high area for a greater advantage of weight for stable cutting.
3. Move over stump so cutting wheel torques downward, pushing frame up to avoid binding.



4. Engage cutting wheel and slowly lower it in a controlled manor to desired cutting depth. Always lower cutting wheel beside stump, never try cutting down, always cut from the side.
5. Slowly move into the stump.
6. If cutting wheel stalls, stop motion and rise slightly. After a complete pass, move to home position and lower cutting wheel to desired position for next pass.
7. Continue lowering the passes until sump is completely removed.

## 6. ROUTINE MAINTENANCE

### 6.1 INSPECTIONS

Check hydraulic hoses and fittings daily for leaks. Replace hose if worn or damaged.

Inspect the unit for any buildup of contamination (dirt, stones, etc.).

Check cutting teeth every 2 hours of use. Keep cutting teeth in good condition. Unit will cut faster and remaining teeth will last longer if broken teeth are replaced.

### 6.2 REPLACE CUTTING TEETH



#### WARNING

**Crushing hazard.**

**Raised, unsupported stump grinder can fall, resulting in death or serious injury.**

**Never enter the area under a raised stump grinder.**

1. Support stump grinder to prevent falling.
2. Stop skid steer engine and remove key.



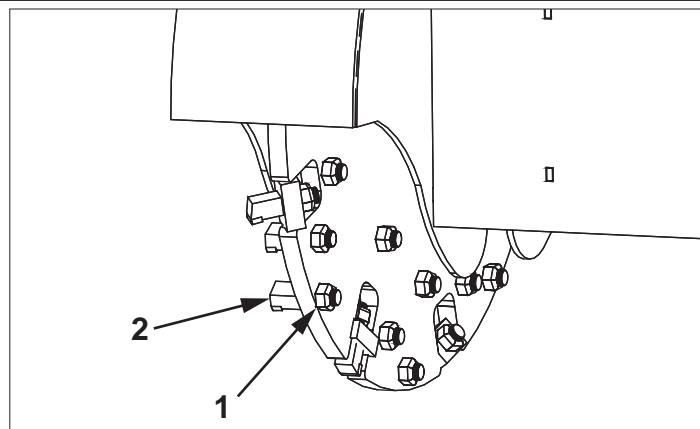
#### WARNING

**Moving parts can crush and cut.**

**Keep clear of moving components.**

**Lockout operating unit before performing maintenance.**

3. Inspect cutting teeth for damage. Replace individual teeth as needed.
4. Remove lock nut (1) and cutting tooth (2).



5. Install replacement tooth and lock nut. Tighten locknut (1) to 95 lb/ft (129 Nm) of torque.

### 6.3 REPLACE FLEX COUPLER

1. Lower stump grinder to ground.
2. Stop skid steer engine and remove key.



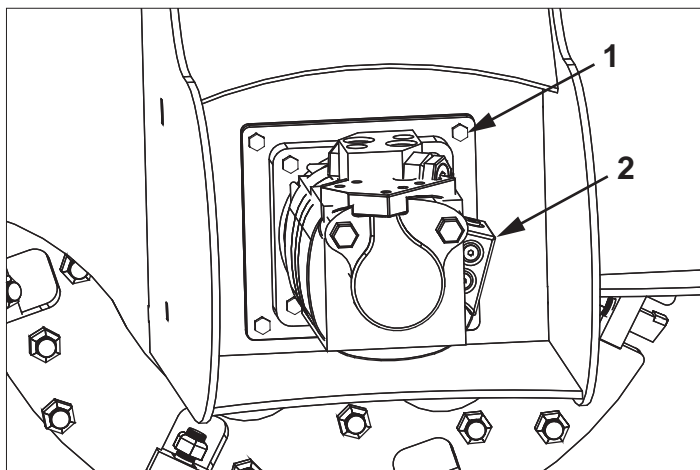
#### WARNING

**Moving parts can crush and cut.**

**Keep clear of moving components.**

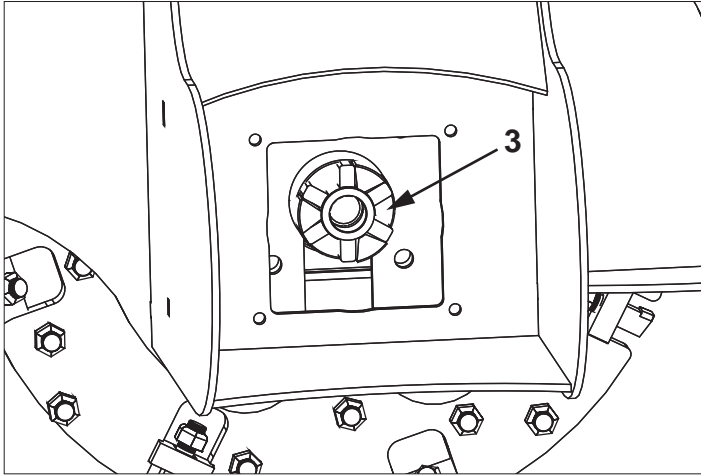
**Lockout operating unit before performing maintenance.**

3. Remove four cap screws (1) and remove hydraulic motor assembly (2).



4. Remove and replace flex coupler (3).

**Note:** Coupler hub on rotor shaft and motor shaft do not have setscrews. Setscrews are not needed in this application.



5. Install hydraulic motor assembly.

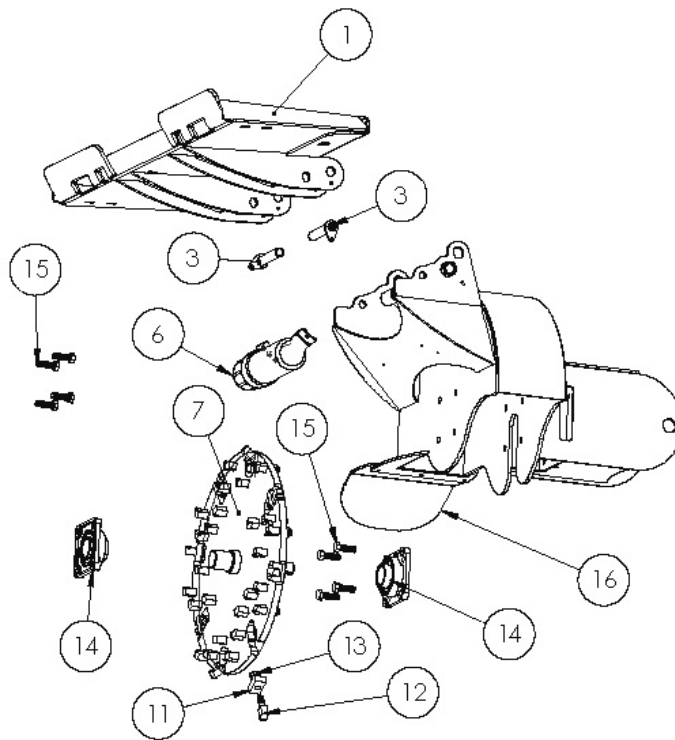
## 7. TROUBLESHOOTING

Problem	Probable Cause	Solution
Cutting wheel does not spin.	Cutting wheel jammed.	Remove material from cutting wheel.
	Low oil.	Check oil level in skid steer. Add if necessary.
	Not enough oil flow.	Check flow control on skid steer. See your dealer.
Cutting wheel low on power.	Low oil.	Check oil level in skid steer. Add if necessary.
	Oil filter plugged.	Replace skid steer oil filter.
	Relief valve not set properly.	Set relief valve. Pressure should be between 2,500 and 3,500 psi.
	Not enough oil flow.	Check flow control on skid steer. See your dealer.



## 8. PARTS

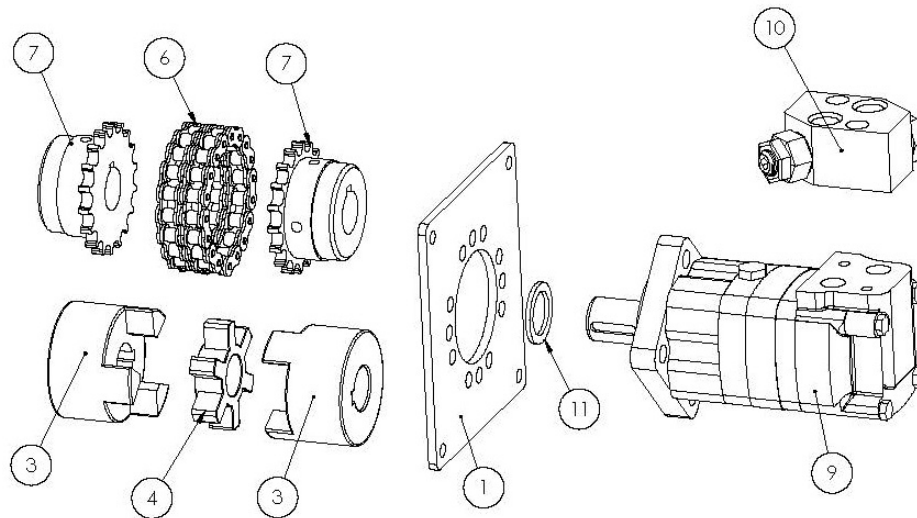
### 8.1 STUMP GRINDER



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	D001127	Skid steer attachment	1
2	SSQT plate	Standard skid steer plate	1
3	D001028	1 x 5" Flange Pin	2
4	D001674	1/2" Hose holder	1
5		Sheet	-
6	D001428	Rotor Frame	1
7	D002336	S1028 Rotor with teeth	1
8	S1028	Rotor Assembly with Keyed Shaft (S18 & S24) less teeth	1
9	750 3P24-1	Rotor Assembly	1
10	D001084	S18 Shaft	1
11	D002924	S1000 tooth holder block (weld- in) 750 3P24-2	8
12	S1000	5/8" threaded stump grinder tooth	34
13	D001773	Tooth Nut	34
14	B2005	4 Blot 210 Flange Green Cast	2
15	F2002	2 x.625 Fine Thread	8
16	S18-10	Safety deflector plate	1

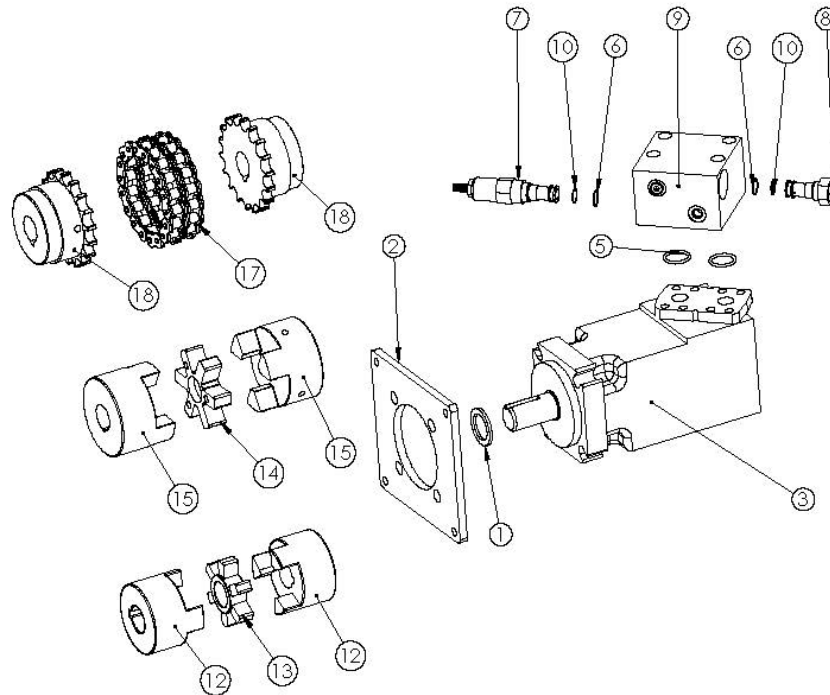


## 8.2 S450 MOTOR



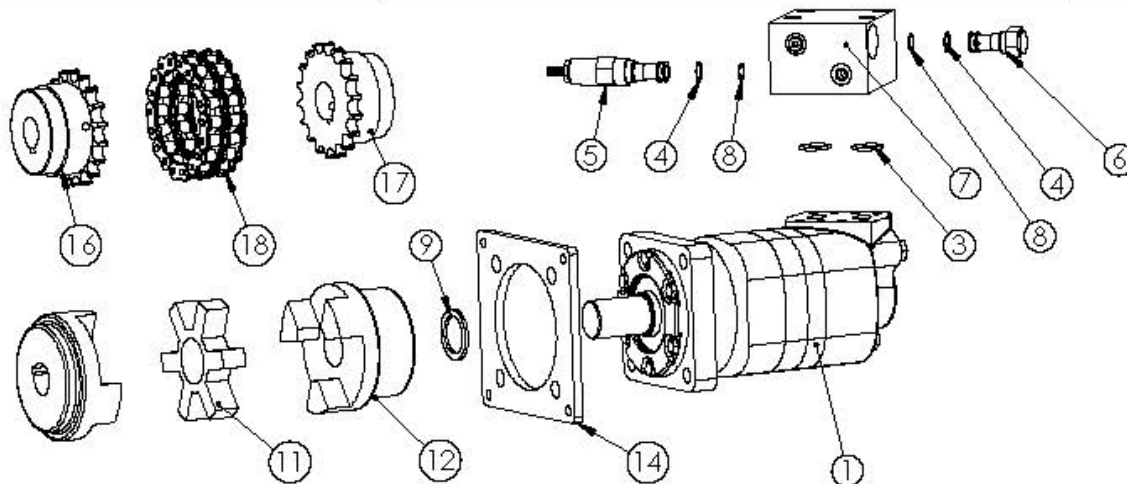
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	D001503	A-Motor Mount	1
2	B2000	L110 Flex	1
3	B2012	Flex Hub L110 1.25"	2
4	B2013	L110 Flex	1
5	D003999	A-Mount Chain Coupler Assembly	1
6	D003749	A-Mount Chain Coupler – Chain	1
7	D003748	Chain Link Coupler 1-1/4 x 5/16 Keyway	2
8	D004149	Complete Hydraulic Motor with Relief Block – A-Mount	1
9	D004147	Hydraulic Motor for A-Mount Options	1
10	D004148	Complete Relief Block for A-Mount Motor	1
11	D001374	Cat Motor Spacer 1.25" Shaft	1

## 8.3 S550 MOTOR



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	D001374	Cat Motor Spacer 1.25" Shaft	1
2	D001404	B Motor Mount	1
3	D001007	Char-Lynn 24 GPM Motor	1
4	D001009	Relief and Anti-Cav Assembly Valve Block	1
5	D001982	#214 O-Ring	2
6	D001981	#116 O-Ring	2
7	D001984	Pressure Relief Valve	1
8	D001983	Anti-Cavitation Check Valve	1
9	D001009	B-Mount Valve	1
10	D001987	#114 O-Ring	2
11	B2000	L110 Flex	1
12	B2012	Flex Hub L110 1.25"	1
13	B2013	L110 Flex	1
14	D002420	Flex L150 Hytrel Insert	1
15	D002419	Flex Hub L150 - 1.25" Keyed	2
16	D004000	B-Mount Chain Coupler Assembly	1
17	D003849	CH6018 Chain for Chain Coupler	1
18	D003995	CB6018 Chain Coupler Hub 1 1/4" Bore x 5/16"	2

## 8.4 S650 MOTOR



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	D001175	Motor	1
2	D001009	Anti-Cavitation Check Valve Assembly	1
3	D001982	#214 O-Ring	2
4	D001981	#116 O-Ring	2
5	D001984	Pressure Relief Valve	1
6	D001983	Anti-Cavitation Check Valve	1
7	D001009	B-Mount Valve	1
8	D001987	#114 O-Ring	2
9	D002062	Seal for 1.5" Shaft - 6000 Series CL Motor	1
10	D001020	L225 Flex Coupler Total Assembly with 6-Spline Insert	1
11	D001018	L225H Flex Hytrel Insert	1
12	D001024	Flex Hub L225 with 1.5" Bore	1
13	D003483	L225 Jaw Coupler - S18	1
14	S18-8	C Mount	1
15	D004001	C-Mount Chain Coupler Assembly	1
16	D003995	CB6018 Chain Coupler Hub 1 1/4" Bore x 5/16"	1
17	D003848	Chain Coupler Hub for C-Mount – Motor Side 1 1/2" Bore x 3/8"	1
17	D003849	CH6018 Chain for Chain Coupler	1





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**November 2021**