

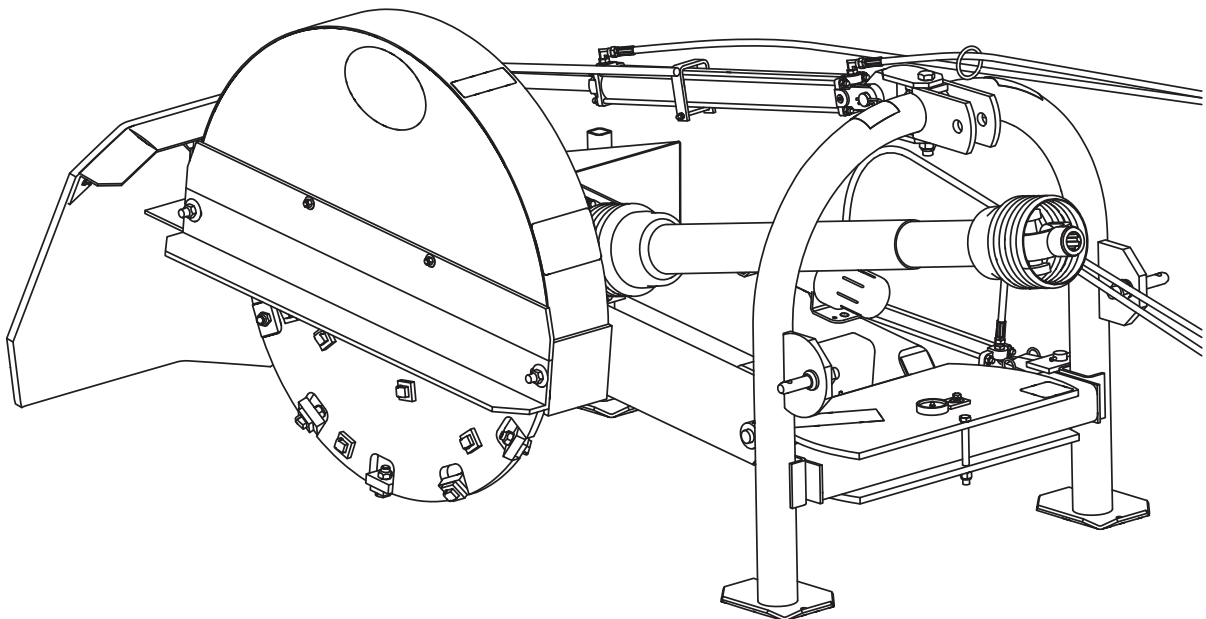


Operation and Parts Manual

3-Point PTO and Hydraulic
Stump Grinders

Models:
SC-25 and SC-25H
SC-50 and SC-50H

Safety
Operation
Maintenance
Repair
Troubleshooting
Parts



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Introduction

The Shaver Manufacturing Company would like to congratulate you on your purchase of the Shaver Stumpbuster™. You have selected the best Stump Grinder in its class. The clean design and uncomplicated working principle have made Shaver the largest selling Stump Grinder in the country.

Shaver manufactures four models of stump grinders. Two of the models are hydraulically powered. All the models are a durable piece of equipment that, with regular maintenance, will provide many years of service.

This manual provides information regarding assembly, operation, and maintenance. It is important to read and become familiar with this manual before assembling or operating the Shaver Stumpbuster™.

Note: For other valuable information on farm equipment operation and safety, refer to the following resources.

- Farm Equipment Manufacturers Association (FEMA)
<http://www.farmequip.org/home>
- National Ag Safety Database
<http://www.cdc.gov/nasd>

Product Information

The SC-25 Stumpbuster™ is shipped in one piece, ready to mount on a Category I tractor. The SC-50 mounts on a Category II tractor.

The SC-25-H and SC-50-H Hydraulic Stumpbuster™ is shipped in one piece ready to mount to a skidsteer loader with a standard universal mounting bracket.

Record the Shaver product information here. The model number and serial number are found on the metal tag attached to the stump grinder.

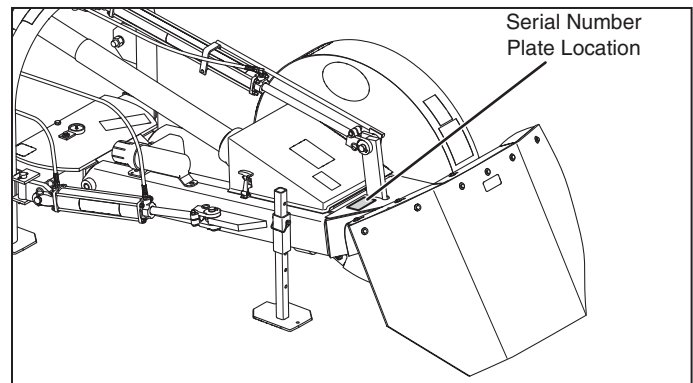
Model Number: _____

Serial Number: _____

Date Purchased: _____

Dealer Name: _____

Note: For the operation of this stump cutter, references to direction (right, left, forward, and rearward) are determined from the operator's position in the tractor seat.



Safety

General

Safety of the operator and bystanders is one of the main concerns in designing and developing a new piece of equipment. Designers and manufacturers build in as many safety features as possible. However, every year many accidents occur, which could have been avoided by a few seconds of thought and a more careful approach to handling the equipment.

Most work-related accidents are caused by failure to observe basic safety rules or precautions. An accident can often be avoided by recognizing potentially hazardous situations before an accident occurs. As you fill, tow, operate, or maintain the trailer (unit), you must be alert to potential hazards. You should also have the necessary training, skills, and tools to perform any assembly or maintenance procedures.

Improper operation and maintenance of this unit could result in a dangerous situation that could cause injury or death.

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or

Shaver Manufacturing Company
103 South Washington Avenue
P.O. Box 358
Graettinger, Iowa 51342

Phone: (712) 859-3293
Fax: (712) 859-3294
www.shavermfg.com

WARNING



Do not use the unit until you read and understand the information contained in this manual.



Safety precautions and warnings are provided in this manual and on the unit. If these hazard warnings are not heeded, bodily injury or death could occur to you or to other persons.

Shaver Manufacturing Company cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the unit are, therefore, not all-inclusive. If a method of installation or operation not specifically recommended by us is used, you must satisfy yourself that it is safe for you and for others. You should also ensure that the unit will not be damaged or be made unsafe by the methods that you choose.

The information, specifications, and illustrations in this manual are based on the information that was available at the time this material was written and can change at any time without notice.

Safety Alert Symbols



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

This manual contains DANGERS, SAFETY INSTRUCTIONS, CAUTIONS, IMPORTANT NOTICES, and NOTES which must be followed to prevent the possibility of improper service, damage to the equipment, personal injury, or death. The following key words call the readers' attention to potential hazards.

Hazards are identified by the "Safety Alert Symbol" and followed by a signal word such as "DANGER", "WARNING", or "CAUTION".

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 situations.

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.

NOTICE

Indicates that equipment or property damage can result if instructions are not followed.

SAFETY INSTRUCTIONS

Safety instructions (or equivalent) signs indicate specific safety-related instructions or procedures.

Note: Contains additional information important to a procedure.

Safety Instructions

BEFORE OPERATING THE STUMPBUSTER:
PAY ATTENTION!
STAY ALERT!
YOUR SAFETY IS INVOLVED!


Safety is a primary concern in the design and manufacturing of our products. Unfortunately our efforts to provide safe equipment can be wiped out by an operator's single careless act.

In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, judgement, and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment.

It has been said "The best safety device is an informed, careful operator." We ask you to be that kind of operator.

Training

WARNING

 **Read And Understand Manual**
Safety instructions are important! To prevent personal injury or even death, be sure you read and understand all of the instructions in this manual and other related OEM equipment manuals! Also follow all safety sign (decal) information.


This unit was designed for a specific application; removing stumps from the ground. **DO NOT** modify or use this stump grinder for any application other than which it was designed.

Stump grinders that are operated improperly or by untrained personnel can be dangerous; exposing themselves and/or bystanders to possible serious injury or death.


Replacement manuals are available from your dealer, online at www.shavermfg.com, or if you live in the United States or Canada, you can call (712) 859-3293.

If you do not understand any part of this manual and need assistance, see your dealer.


 Know your controls and how to stop the engine and attachment quickly in an emergency.

 Operators must be instructed in and be capable of safely operating this equipment, its attachments, and all controls. Do not allow anyone to operate this equipment without proper instructions.

WARNING

 Keep hands and body away from pressurized lines. Use paper or cardboard, not hands or other body parts, to check for leaks. Wear safety goggles. Hydraulic fluid under pressure can easily penetrate skin and will cause serious injury or death.





Make sure that all operating and service personnel know that if hydraulic fluid penetrates the skin, it must be surgically removed as soon as possible by a doctor familiar with this form of injury or gangrene, serious injury, or death will result. **CONTACT A PHYSICIAN IMMEDIATELY IF FLUID ENTERS THE SKIN OR EYES. DO NOT DELAY.**


 Never allow children or untrained persons to operate equipment.

Preparation


WARNING



To prevent possible injury or death:


    Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing, and head.


 Make sure shields and guards are properly installed and in good condition. Replace if damaged.

 Make sure the stump grinder is properly attached to the tractor, adjusted properly, and in good operating condition.

 Make sure the spring-activated locking pin or collar slides freely and is seated firmly in the tractor PTO spline groove and in the gearbox spline groove.


  The tractor unit must be equipped with a ROPS or ROPS cab and a seat belt. Keep the seat belt securely fastened. Falling off the power unit can result in death from being run over or crushed. Keep the foldable ROPS systems in the "locked up" position at all times.

 Inspect the area and remove stones, branches, or other hard objects that might be thrown, causing injury or damage.

 Consult the local utilities before digging. Know the location of and avoid contacting all underground cables, pipelines, overhead wires, and other hazards in the digging area.

SAFETY INSTRUCTIONS


 Check that all hardware and cotter pins are properly installed and secured.

 Check all lubrication points and grease, as instructed in the Lubrication Information section.

ON SC-25-H and SC-50-H make sure the skid loader bracket is secured by the locking levers in the down position.


Raise the hydraulic stump cutter 24" from the ground to the bottom of the cutting wheel. Place the lift limit chain through the skid steer's safety loop. Connect both ends of the chain with bolts, washers, and hex nuts provided.

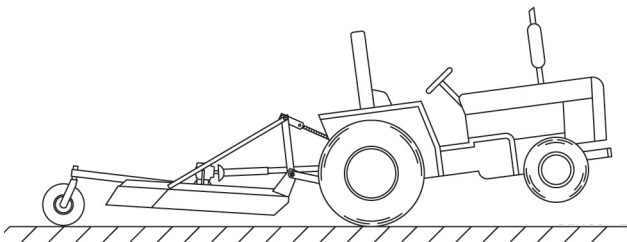
 Make sure all safety decals are installed and understood. Replace if damaged.

 Check the condition of the stump grinder teeth before operation.


Operation

WARNING


 A minimum 20% of the tractor and equipment weight must be on the tractor front wheels when the attachments are in the transport position. Without this weight, the tractor could tip over causing personal injury or death. The weight may be attained with a loader, front wheel weights, and ballast in the tires or front tractor weights. Weigh the tractor and equipment. Do not estimate.



 Do not allow bystanders in the area when operating, attaching, removing, assembling or servicing the equipment.

 Never allow children or untrained persons to operate the equipment.

WARNING


 Consult the local utilities before working. Know the location of all underground cables, pipelines, overhead wires, and other hazards in the working area and avoid contact.


 Avoid contact with the electrical wires.


 Do not put the stump grinder into service unless the cutting teeth edges are intact and in good condition.

 Do not put the stumpbuster into service unless all the shields and guards are in place and in good condition. Replace if damaged.


 Do not operate the equipment while under the influence of alcohol or drugs.



 Operate only in daylight or good artificial light.


 Do not raise the stumpbuster more than 24" above ground level.

 Keep hands, feet, hair, and clothing away from the equipment while the engine is running. Stay clear of all moving parts.

 Always comply with all state and local lighting and marking requirements.



 Never allow riders on the power unit or attachment.

  Always sit in the power unit seat when operating the controls or starting the engine. Securely fasten the seat belt, place the transmission in neutral, engage the brake, and ensure all other controls are disengaged before starting the power unit engine.

 NEVER WORK UNDERNEATH EQUIPMENT. Never place any part of the body underneath the equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures, or movement of the control levers can cause the equipment to drop or rotate unexpectedly and cause severe injury or death.

Operation (continued)

WARNING

  For Models SC-25 and SC-50, shift the tractor into park or neutral and set the brakes before engaging the PTO shaft or grinding the tree stump. For Models SC-25-H and SC-50-H, put the skid loader into park or neutral and set the brake before engaging the hydraulics.




Do not operate on steep slopes. Do not stop, start, change directions suddenly, or use excessive speed on steep slopes.



Look in ALL directions to make sure the area is clear and safe before operating the equipment.

Maintenance

WARNING

 Service and maintenance work not covered in OWNER SERVICE must be done by a qualified dealership. Special skills, tools, and safety procedures may be required. Failure to follow these instructions can result in serious injury or death.



Before you or the dealer performs service or maintenance, lower the equipment to the ground and block securely. Turn the engine off and remove the key. On SC-25 and SC-50, disconnect the PTO shaft from the tractor. On SC-25-H and SC-50-H, disconnect the two hydraulic hoses from the skid loader.



Before servicing, make sure the unit is properly attached to the tractor.



Keep all persons away from the operator control area while performing adjustments, service, or maintenance.



Never perform service or maintenance with the engine running.



Do not modify or alter, or permit anyone else to modify or alter, the equipment or any of its components in any way. This will void the warranty.



Do not allow bystanders in the area when operating or servicing the equipment.



After servicing, make sure the shields and guards are properly reinstalled and in good condition. Replace if damaged.

SAFETY INSTRUCTIONS



Tighten all bolts, nuts, and screws to torque chart specifications in this manual. Check that all cotter pins are installed securely before putting the unit into service.

Storage

WARNING



Block the equipment securely for storage.



Do not climb or lean on equipment stored on a stand.



Keep children and bystanders away from the storage area.



Make sure the stabilizer legs and jack stand leg are securely seated on level ground.

Driveline Safety

The area between the tractor and the PTO-driven implement is a DANGER zone. This can be one of the most dangerous places near the stump grinder.

The total shielding system includes the tractor's master shield, driveline guards, and implement shield. When operating the unit, keep all guards and shields in place. The tractor master shield and implement shield must be installed to work with the driveline guard and provide the intended coverage of rotating parts.

Almost every driveline accident happens during the day and near the work site. Certain operating conditions are particularly dangerous, as described in the following paragraphs.

Shields and Guards

WARNING



Do not remove the tractor's master shield or the implement shield. Do not operate the unit with missing guards or shields. Most driveline accidents happen when the drivelines are operated without shields or guards or they are improperly maintained.

Replace the driveline guards and safety signs with the original equipment manufacturer's replacement parts.

Make sure the driveline guard can rotate independent of the shaft a full rotation and can telescope freely.

Never operate an implement with driveline guards in a damaged condition.

Work Area

WARNING



Stay clear of potential hazards. Pay close attention to the surrounding work area.

Keep children and bystanders away from the storage area.

Do not use the tractor drawbar or the implement tongue as a step. Do not step on or over a driveline.

Personal Protection

WARNING



Do not wear loose fitting clothes around the driveline. Keep long hair tied back or under a hat. Make sure the driveline parts are completely stopped before approaching the stump grinder. Do not operate the unit when tired or in a rush to get finished.

WARNING

Always disengage the PTO shaft and turn off the tractor before making any maintenance inspections, repairs, or working around the PTO driveline. Keep clear of the machine until all parts have stopped moving.

Operation

WARNING



The driveline must be attached securely to the tractor and the stump grinder. Do not attach the drivelines with bolts or pins, which are longer than recommended. They cannot only catch loose clothing, boot-laces, or a pant cuff but, while spinning rapidly, they can cause serious bodily injury or death.

If the driveline has been provided with a retaining chain, make sure the chain is in place and has been properly connected to the tractor or the implement attachment point.

Make sure the drawbar does not interfere with the driveline guard. Make sure the 3-point hitch and drawbar are correctly positioned so neither interferes with the driveline. Lock the 3-point hitch when not in use.

Equipment Damage

SAFETY INSTRUCTIONS



Do not allow the driveline to rest on the ground. Rust and mud may interfere with the proper operation of the driveline.

Never allow guards to pull apart. Guards can be damaged during reassembly, resulting in possible malfunction.

Don't allow any hydraulic hoses, electric cords, ropes, or other items to drape over the driveline guard. This could result in damage to the hoses, cords, or guards.

Do not exceed the recommended PTO operating speed.

Make sure that any shear pins are correctly installed and that the proper replacement pins are readily available. Check any other overload devices to ensure they are operable and have been serviced according to the manufacturer's instructions.

Do not weld any protruding device onto the equipment that would interfere with the driveline.

Specifications

SC-25 3 POINT STUMPBUSTER	
Description	Specification
Weight	804 lbs
Cutting Wheel Diameter	24 inches
Cutting Wheel Speed	895 rpm
Cutting Arc	55 degrees
Hub Torque	450 ft lbs
Required Power Source	15 to 35 hp
Cutting Teeth	23 carbide steel teeth
Maximum Stump Height	22 inches
Maximum Cutting Depth	10 inches

SC-25-H HYDRAULIC STUMPBUSTER	
Description	Specification
Weight	800 lbs
Cutting Wheel Diameter	24 inches
Cutting Wheel Speed	980 rpm
Cutting Arc	50 degrees
Hub Torque	140 ft lbs
Required Power Source	15 to 25 GPM High Flow
Cutting Teeth	23 carbide steel teeth
Maximum Stump Height	22 inches
Maximum Cutting Depth	10 inches

SC-50 3 POINT STUMPBUSTER	
Description	Specification
Weight	1144 lbs
Cutting Wheel Diameter	34 inches
Cutting Wheel Speed	895 rpm
Cutting Arc	55 degrees
Hub Torque	450 ft lbs
Required Power Source	35 to 100 hp
Cutting Teeth	25 carbide steel teeth
Maximum Stump Height	24 inches
Maximum Cutting Depth	12 inches

SC-50-H HYDRAULIC STUMPBUSTER	
Description	Specification
Weight	1200 lbs
Cutting Wheel Diameter	34 inches
Cutting Wheel Speed	795 rpm
Cutting Arc	55 degrees
Hub Torque	450 ft lbs
Required Power Source	25 to 40 GPM High Flow
Cutting Teeth	25 carbide steel teeth
Maximum Stump Height	24 inches
Maximum Cutting Depth	12 inches

Safety Signs and Informational Labels

General Information

The types of safety signs (hazard labels) and instructional labels are shown in the following illustrations. Good safety practices require that you familiarize yourself with the various safety signs, the type of warning, and the area or particular operation related to that area that requires your SAFETY AWARENESS.



Think SAFETY!

Work SAFELY!

Pay close attention to the safety and instructional signs attached to the tow vehicle and the trailer. Duplicate safety signs, which are attached to the trailer, can also be found in this section. If the trailer is missing a sign or one is unreadable, replace the sign before using the trailer.

SAFETY INSTRUCTIONS



Safety and Instructional Signs

1. Keep safety or instructional signs clean and legible at all times.
2. Replace any missing or hard-to-read safety or instructional signs.
3. Use care when washing or cleaning the trailer not to remove or damage the signs.
4. Locations for the signs and replacement part numbers are shown in this section.
5. Replacement parts must have replacement signs attached during installation and/or before the trailer is used.
6. Safety signs are available from your authorized dealer or from Duo Lift at no charge.

How to Install Replacement Safety Signs

1. Clean and dry the installation area.

Note: Do not install the signs if the temperature is below 50°F (10°C).

2. Determine the exact position before you remove the backing paper.
3. Remove the backing paper.
4. Align the sign over the specified area and carefully press the sign to the part/frame.

Note: Small air pockets can be pierced with a pin and smoothed out using the piece of backing paper.

SC-50 3 Point Stumpbuster			
Item	Part No.	Description	Qty.
1	MS-203	Reflector Decal	1
2	MS-503	Mud Flap Safety Decal	1
3	MS-280	FEMA Member Decal	1
4	MS-161A	Shaver Decal (small)	2
5	MS-507	Gearbox Oil Decal	1
6	MS-509	Top Cylinder Raise Decal	1
7	MS-502-A	Crush Hazard Decal	1
8	MS-171	High Pressure Warning Decal	2
9	MS-505	Shield Missing Decal	1
10	MS-506	PTO Speed Warning Decal	1
11	PHDC4	Danger, Read The Manual Decal	1
12	MS-500	Stump Grinder Direction Decal	1
13	MS-811	Call to Dig Decal	1
18	—	Serial Number Plate	—
19	MS-504-G	Depth Gauge Decal	1

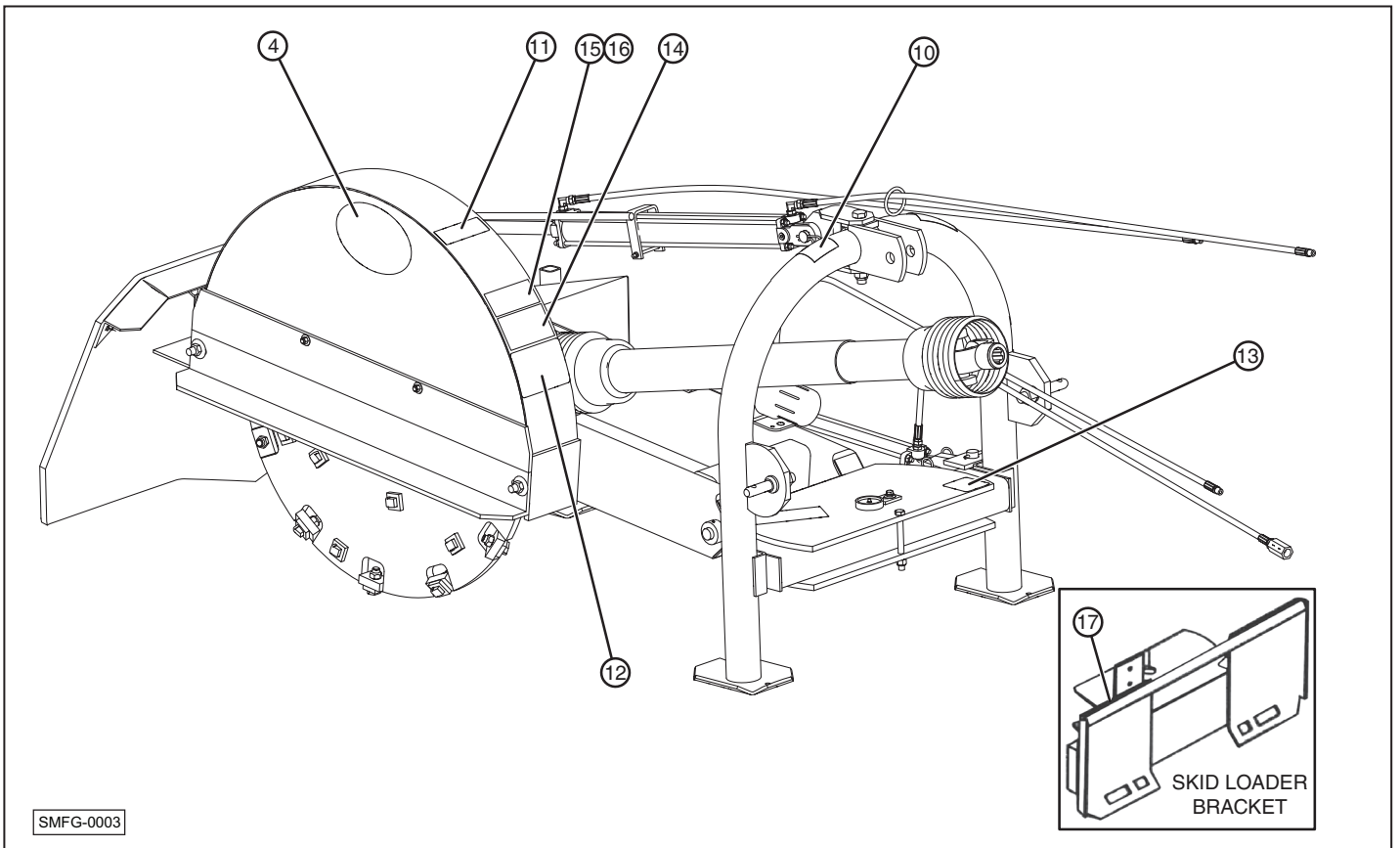
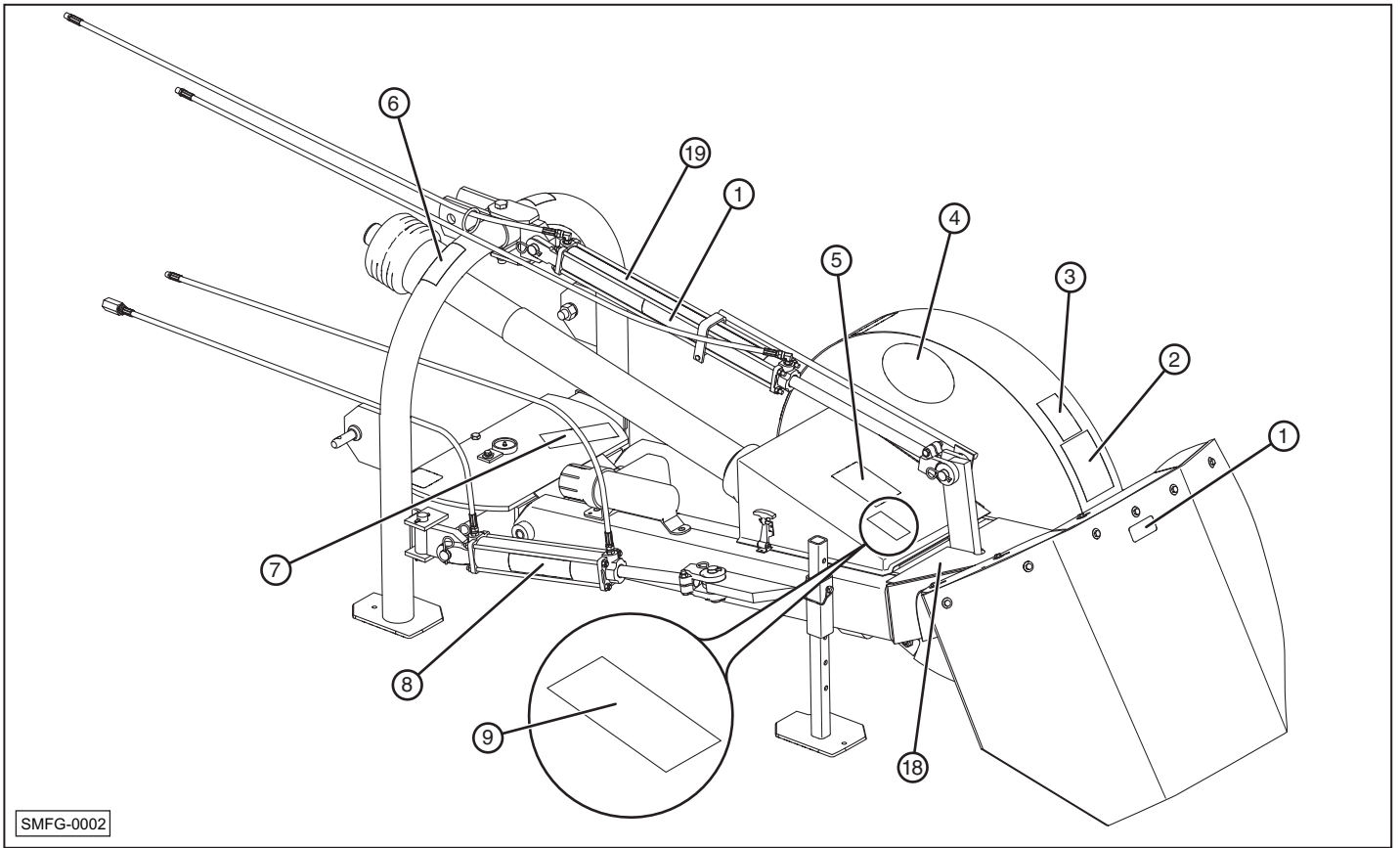
SC-25 3 Point Stumpbuster			
Item	Part No.	Description	Qty.
1	MS-203	Reflector Decal	1
2	MS-503	Mud Flap Safety Decal	1
3	MS-280	FEMA Member Decal	1
4	MS-161B	Shaver Decal (Large)	2
5	MS-507-A	Oil Fill Decal	1
6	MS-509	Top Cylinder Raise Decal	1
7	MS-502-A	Crush Hazard Decal	1
8	MS-171	High Pressure Warning Decal	2
9	MS-505	Shield Missing Decal	1
10	MS-506	PTO Speed Warning Decal	1
11	PHDC4	Danger, Read The Manual Decal	1
12	MS-500	Stump Grinder Direction Decal	1
13	MS-811	Call to Dig Decal	1
18	—	Serial Number Plate	—
19	MS-504-G	Depth Gauge Decal	1

SC-50-H Hydraulic Stumpbuster			
Item	Part No.	Description	Qty.
1	MS-203	Reflector Decal	1
2	MS-503	Mud Flap Safety Decal	1
3	MS-280	FEMA Member Decal	1
4	MS-161A	Shaver Decal (small)	2
5	MS-507	Gearbox Oil Decal	1
7	MS-502-A	Crush Hazard Decal	1
8	MS-171	High Pressure Warning Decal	2
9	MS-505	Shield Missing Decal	1
11	PHDC4	Danger, Read The Manual Decal	1
12	MS-500	Stump Grinder Direction Decal	1
13	MS-811	Call to Dig Decal	1
14	MS-504	Stump Cutter Height Decal	1
15	MS-508	Hydraulic Flow Warning (40 gpm)	1
17*	MS-2550-H	Clean Quick Couplers Decal	1
18	—	Serial Number Plate	—
19	MS-504-G	Depth Gauge Decal	1

SC-25-H Hydraulic Stumpbuster			
Item	Part No.	Description	Qty.
1	MS-203	Reflector Decal	1
2	MS-503	Mud Flap Safety Decal	1
3	MS-280	FEMA Member Decal	1
4	MS-161B	Shaver Decal (Large)	2
5	MS-507-A	Oil Fill Decal	1
7	MS-502-A	Crush Hazard Decal	1
8	MS-171	High Pressure Warning Decal	2
9	MS-505	Shield Missing Decal	1
11	PHDC4	Danger, Read The Manual Decal	1
12	MS-500	Stump Grinder Direction Decal	1
13	MS-811	Call to Dig Decal	1
14	MS-504	Stump Cutter Height Decal	1
16	MS-508-A	Hydraulic Flow Warning (25gpm)	1
17*	MS-2550-H	Clean Quick Couplers Decal	1
18	—	Serial Number Plate	—
19	MS-504-G	Depth Gauge Decal	1

*Not shown.

*Not shown.



1. MS-203 – Reflector Decal (red reflective material)



4. MS-161-A – Shaver Decal (small)
MS-161-B – Shaver Decal (large)



2. MS-503 – Mud Flap Safety Decal



5. MS-507-A – Oil Fill Decal



6. MS-509 – Top Cylinder Raise Decal



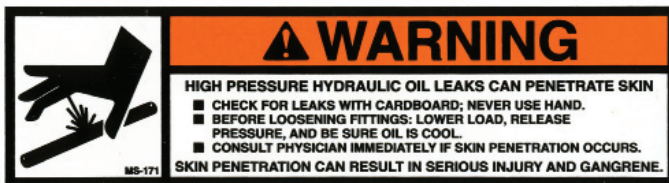
3. MS-280 – FEMA Member Decal



7. MS-502A – Crush Hazard Decal



8. MS-171 – High-Pressure Warning Decal



9. MS-505 – Shield Missing Decal



10. MS-506 – PTO Speed Warning Decal



11. PHD-C4 – Danger, Read the Manual Decal



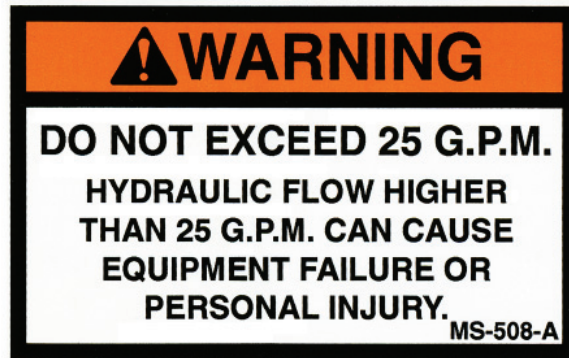
12. MS-500 – Stump Grind Direction Decal



13. MS-811 – Call to Dig Decal



15. MS-508-A – Hydraulic Flow Warning Decal



16. MS-508 – Hydraulic Flow Warning Decal



14. MS-504 – Stump Cutter Height Decal



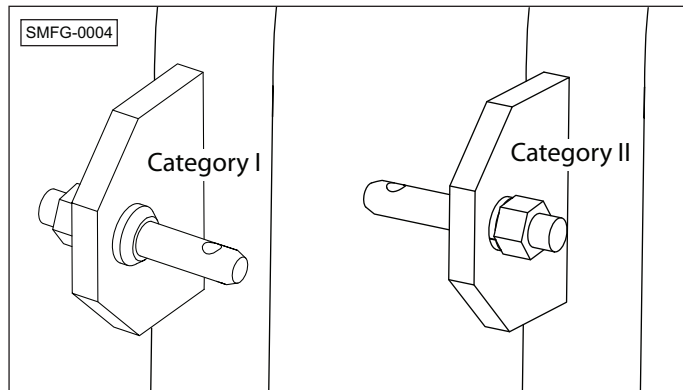
17. MS-2550-H – Clean Quick Couplers Decal



Set Up

Install Attachment Pins

Install either the Category I 3-point pins (SC-25) or the Category I or II pins for the SC-50. The stump grinder is shipped with both Category 1 and Category II attachment pins.



Category I Pins

1. Install the attachment pin on the inside of 3-point attachment bracket for Cat I.
2. Secure with lock washer and hex nut.

Category II Pins

1. Install the hitch pin on the outside of a 3-point attachment bracket for Cat II on SC-50.
2. Secure with lock washer and hex nut.

Shaft Operating Angle

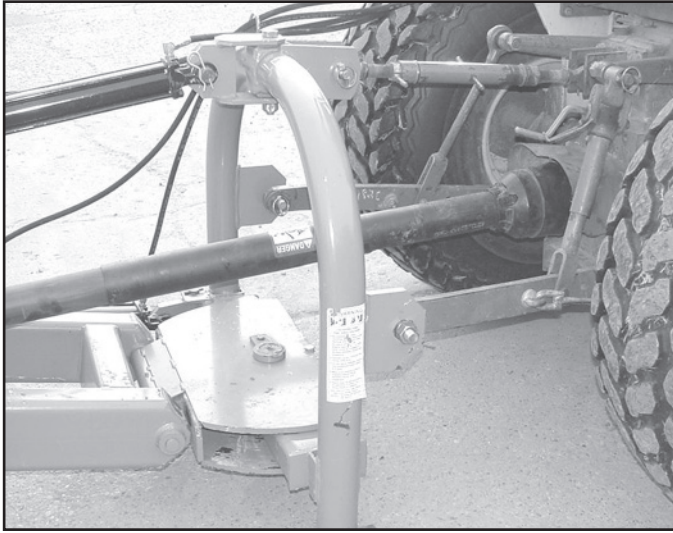
Adjust the tractor's hydraulic control to minimize the lift height. Lifting the stump grinder too high (severe shaft angle) will place stress on the universal joint and cause it to fail.

Single Universal Joint	
Part Number	Description
Intermittent operation	Maximum angle 25 degrees
Continuous operation	Maximum angle 17 degrees

Double Universal Joint	
Part Number	Description
Intermittent operation	Maximum angle 80 degrees
Continuous operation	Maximum angle 25 degrees

Attachment

Attaching SC-25 and SC-50 Stumpbuster to a Tractor's 3-Point Hitch



1. Raise the top cylinder completely BEFORE raising the lower lift arms to avoid damaging the PTO shaft.
2. Make sure the jack stand leg and the two stabilizers are securely on the ground.
3. Attach the stump cutter hitch pins to the tractor's lower lift arms and secure.
4. Attach the tractor top link to the third arm ear and secure by installing the tractor top link pin.
5. Connect the PTO shaft to the tractor's power take-off.
6. Slide the slip collar back or push the slip pin in to make a secure connection. The slip collar or slip pin should snap back into its original position if the connection is secure.
7. Adjust the 3-point anti-sway devices to prevent the stumpbuster from side-to-side movement during transport.
8. Adjust the tractor's drawbar so it will not interfere with the stumpbuster or the PTO shaft.
9. Adjust the four quick couplers to the tractor's hydraulic power source. These couplers are customer supplied.
10. Place the jack stand leg into the working position and pin securely.
11. Raise the top cylinder and then raise the lower lift arms.

Attaching SC-25-H and SC-50-H Hydraulic Stumpbuster to a Skid Steer Loader

1. Make sure the jack stand leg and stabilizers are securely on the ground.
2. Attach the stumpbuster to the skid loader with the quick attach bracket by mounting the plate on the boom and moving the boom levers into the down position. Make sure the levers are locked and secure.
3. Locate the hose connected to the valve port marked "P". This is the pressure hose. Attach a quick coupler to its end and then connect to the skid loader's hydraulic pressure source.
4. Locate the hose connected to the valve port marked "R". This is the hose for the oil to return to the skid loader. Connect a quick coupler to the end and then connect it to the skid loader return outlet.
5. Place the operating toggle switch in the desired position on the frame of the skid loader. Drill a ½ inch hole and mount the toggle switch with the nut provided on the toggle switch.
6. Connect the black wires of the harness provided to the "ground" terminal on the skid loader.
7. Connect the red wires to the "power" (12 Volt) terminals of the skid loader.
8. Place the jack stand leg into the working position and pin securely.
9. Attach the lift limit chain to the skid loader's safety loop. Raise the skid loader boom arms.

Operation

Model SC-25 and SC-50

NOTICE

The top cylinder must be completely raised to avoid damage to the PTO shaft before raising the lower lift arms of the 3-point hitch.

WARNING



Power for operating the stump grinder is supplied by the tractor's power take-off. Know how to stop the tractor and the stump cutter quickly in case of an emergency.

1. Position the stump cutter above the stump to be removed. Engage the PTO at low engine rpm to avoid excess stress on the gearbox and PTO shaft. Once the PTO shaft is engaged, increase the PTO speed to 540 rpm and maintain during the cutting.
2. Lower the 3-point arms until the stabilizer pads are securely on the ground.
3. Engage the top cylinder to lower the wheel to the desired depth on the stump.
4. Start the wheel on the left edge of the stump and slowly engage the side cylinder to begin cutting.
5. Once each pass is completed, activate the side cylinder to the left. Lower the cylinder. Activate the side cylinder to the right. If the stump is large, reposition the tractor and repeat the process.
6. When finished removing the stump, disengage the PTO shaft, raise the top cylinder, and then raise the stump grinder off the ground by raising the 3-point lower lift arms.

Note: Do not raise the stump cutter more than 24" above ground level.

Model SC-25-H and SC-50-H

WARNING



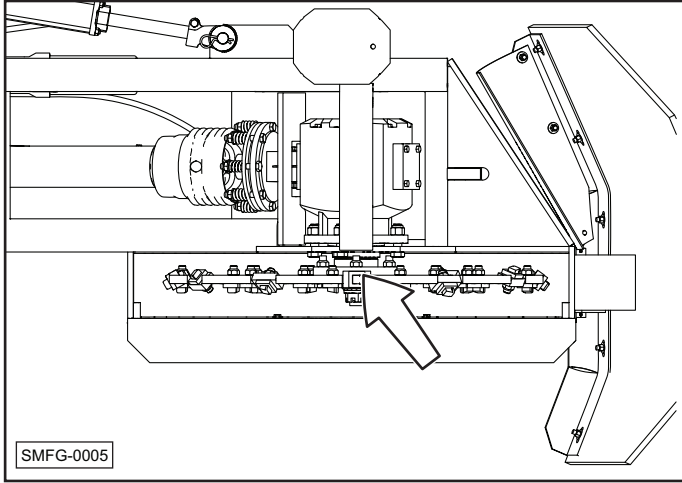
Power for operating the stump grinder is supplied by the skid loader's hydraulic pressure. Know how to stop the skid loader and the stump cutter quickly in case of an emergency.

1. Engage the hydraulic pressure. Increase rpm to 980 and maintain during the cutting.
2. Lower the skid loader boom arms onto the stump until the wheel is at the desired cutting depth.
3. Engage the wheel motion and position on the right side edge of the stump. Slowly activate the side cylinder to begin cutting.
4. With each pass complete, activate the side cylinder to the right. Lower the stump cutter to the desired depth. Activate the side cylinder to the left. If the stump is large, reposition the skid loader and repeat the process.
5. Once the stump is removed, disengage the skid loader hydraulics. Raise the stump cutter until the stabilizer pads are off the ground.
6. Do not raise the stump grinder more than 24" above ground level.
7. When completed:
 - a. Raise the stump grinder 24" from the ground to the bottom of the cutting wheel.
 - b. Place the lift limit chain through the skid steer's safety loop.
 - c. Connect both ends of the chain with bolts, washers, and hex nuts provided.

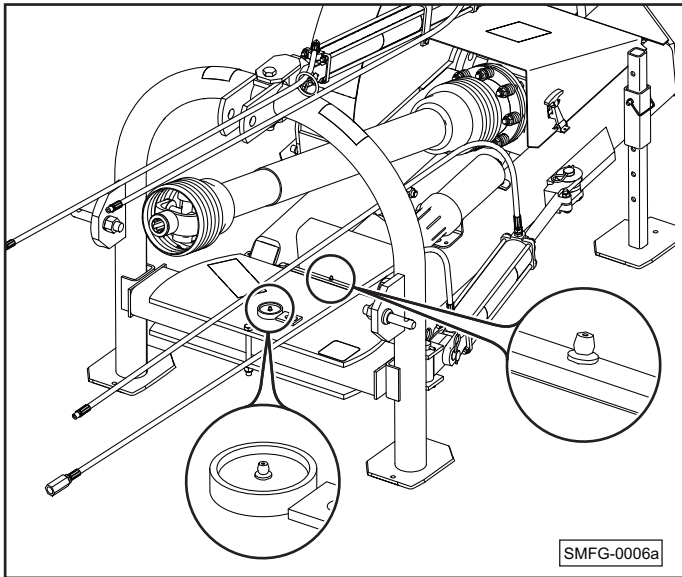
Maintenance

Lubrication

Stump Cutter Unit

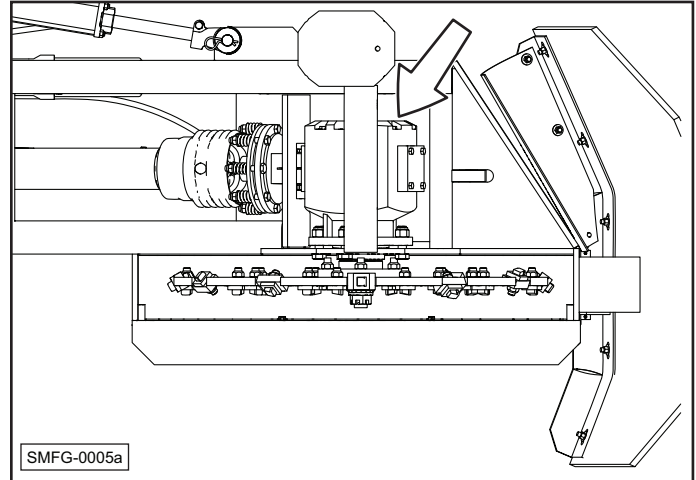


1. Do not let excess grease collect on or around parts, particularly when operating in sandy areas.
2. Use a lithium grease of #2 consistency for all locations unless otherwise noted.
3. Grease the stump cutter swivel points every eight hours.



Note: Be sure to clean the fittings thoroughly before attaching the grease gun. One good pump of most guns is sufficient when the lubrication schedule is followed.

Gearbox Lubrication



1. The gearbox does not contain oil. Fill before operating. Failure to do so will void the one year warranty.
2. Fill the gearbox with two pints of SAE 90 oil.
3. For the gearbox, use a high quality gear oil with a viscosity index of 80W or 90W and an API service rating of GL-4 or 5 in the gearboxes.
4. Fill the gearbox until the oil runs out of the side plug on the gearbox. Check the gearbox daily for evidence of leakage. Contact your dealer if leakage occurs.

Sliding Members

Use high temperature grease similar to HP multi-purpose chassis grease.

Grease sliding members prior to assembly and after every 20 hours of use. For applications with high telescoping movement, grease every eight hours.

Universal Joints

Grease the standard joints every 20 hours, or every 8 hours for severe conditions, and wide angle joints every 8 hours under wide angle conditions. Operating the standard shafts at greater than 10 degrees angle or wide angle shaft at greater than 18 degrees angle dramatically reduces cross bearing life and requires more frequent lubrication.

NOTICE

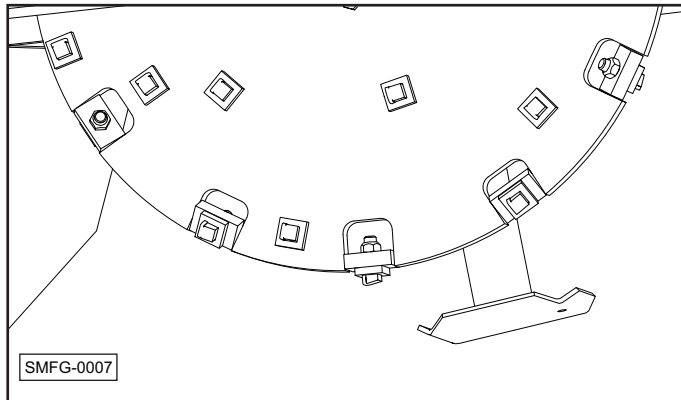
Grease follows the easiest path through internal ports to the four cross bearings. Overheating and poor quality grease baked in one port will prevent grease reaching that bearing, resulting in failure of individual cross bearings.

Carbide Teeth Replacement

Note: Replace teeth whenever they become damaged, broken, or excessively worn. Excessively worn cutting edges greatly decrease cutting efficiency. Teeth are not a “warranty” part.

NOTICE

Never operate the stumpbuster that has missing teeth.



1. Remove the hex nut from the tooth.
2. Remove the tooth.
3. Insert the new tooth and secure with the hex nut.
4. Torque the nut to 170 ft lbs.

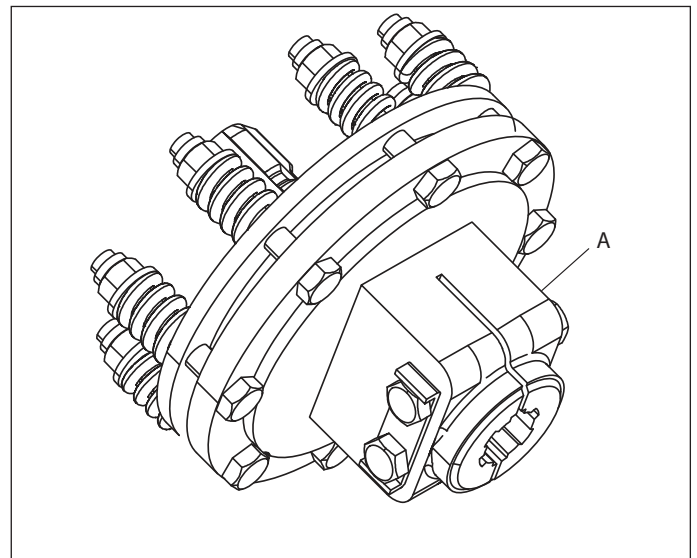
Adjusting Slip Clutch

The slip clutch is designed to slip so that the gearbox and driveline are protected if the cutter strikes an obstruction.

To avoid damage to the implement, driveline, or tractor, do not exceed the manufacturer’s recommended settings, or use a spring that is not recommended.

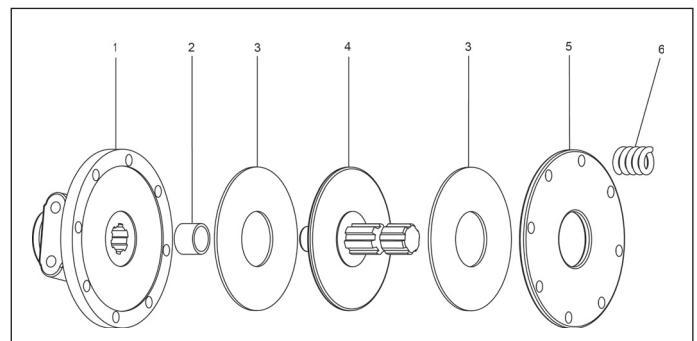
A new slip clutch, or one that has been in storage over the winter, may seize. Before operating the grinder, make sure it will slip by performing the following operation:

1. Turn the tractor engine off and remove the key.
2. Remove the driveline from the tractor PTO.
3. Loosen the eight cap screws to remove all tension from the pressure plate.



4. Hold and prevent the clutch support from moving, and turn the shaft to make sure the clutch slips.
5. If the clutch does not slip freely, disassemble and clean the inner clutch plate faces, flange yoke, and clutch support.
6. Reassemble the clutch.
7. Tighten the springs until they are compressed to 1-1/4”.
8. If the clutch continues to slip when the springs are compressed to the 1-1/4” dimension, check the lining ring for excessive wear.

Note: The slip clutch is not a “warranty” part.



Slip Clutch	
Item	Description
1	Spline Base Assembly
2	Bushing
3	Friction Disc
4	Spline Drive Plate
5	Outer Pressure Plate
6	Spring

Note: See page 35 for service part numbers.

Driveline Maintenance

Trimming Driveline Shaft

NOTICE

The end thrust from a driveline that is too long or a telescopic tube that is not functioning properly can destroy the tractor's internal PTO drive or implement clutch and gearbox, voiding the machine warranty.

1. Measure the groove-to-groove distance from the implement shaft to the tractor shaft with the stump grinder in its closest position.
2. Remove the safety guard from the new shaft and measure the length between the shaft lock buttons or clamp bolts with the shaft in the closed position.
3. The required length of the shaft is the groove-to-groove length minus at least three inches to allow the shaft to be disconnected from the tractor. This length should also prevent end thrust damage. If the shaft is shorter than this, make sure that at least 50% of the telescopic tubes overlap.
4. If the shaft ends require cutting:
 - a. Measure the length of the new shaft.
 - b. Subtract the groove-to-groove measurement.
 - c. Add three inches to the length from Step B.
 - d. Cut this amount off of both inner and outer drive tubes.
 - e. Remove the burrs and grease tubes.

Cutting Safety Guard

1. Measure the outer drive tube length.
2. Measure the safety guard shield from the red lever to the red lever.
3. The safety guard shield needs to be 3" less than the outer drive tube.
4. Grease both ends of the tube.
5. Position the safety guard to the drive tube and secure in place.

Note: Additional instructions come with the PTO shaft.

Driveline Guard Replacement

If a driveline guard needs to be replaced:

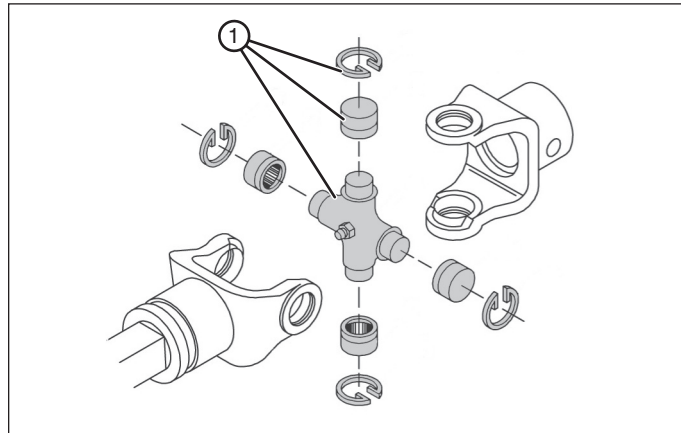
1. Make sure the proper guard bearings are used for installation.
2. Lubricate the bearing grooves per the OEM manufacturer's recommendation.
3. If the driveline will not accept a guard, replace the driveline.

4. Do not modify the driveline when being repaired or replaced. The driveline was engineered and manufactured for a specific implement application and must not be altered.

CAUTION

Proper maintenance of all shields, guards, and overload devices is important for safe operation. A shield must be fitted to the implement input connection so that it will overlap with the driveline guard.

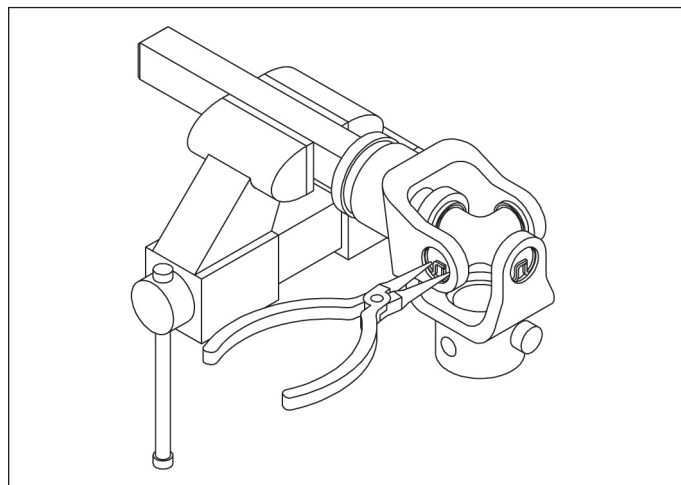
Universal Joint Repair



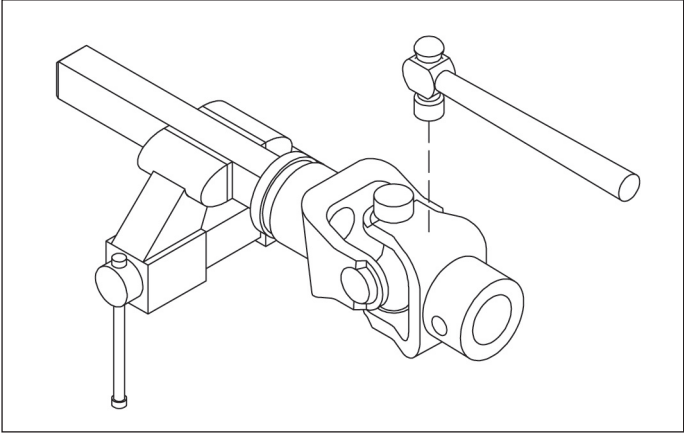
1) Cross Bearing (Ordered as a unit).

U-Joint Disassembly

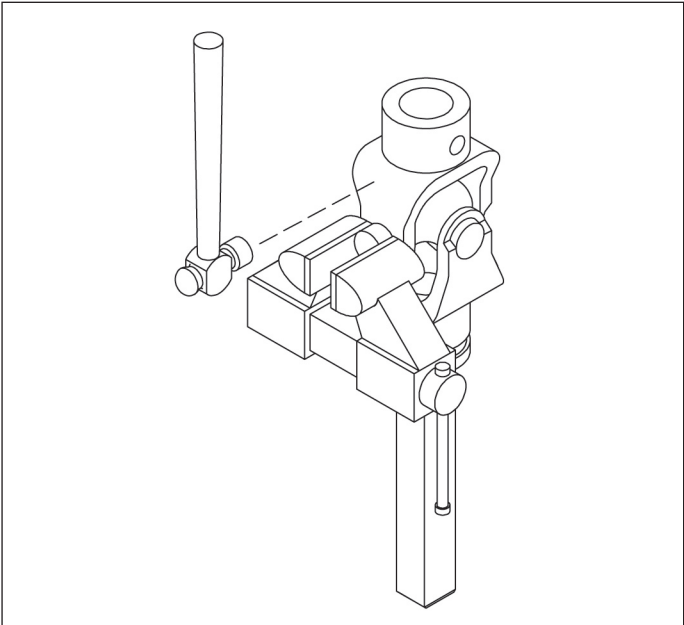
1. Remove the external snap rings from the yokes in four locations.



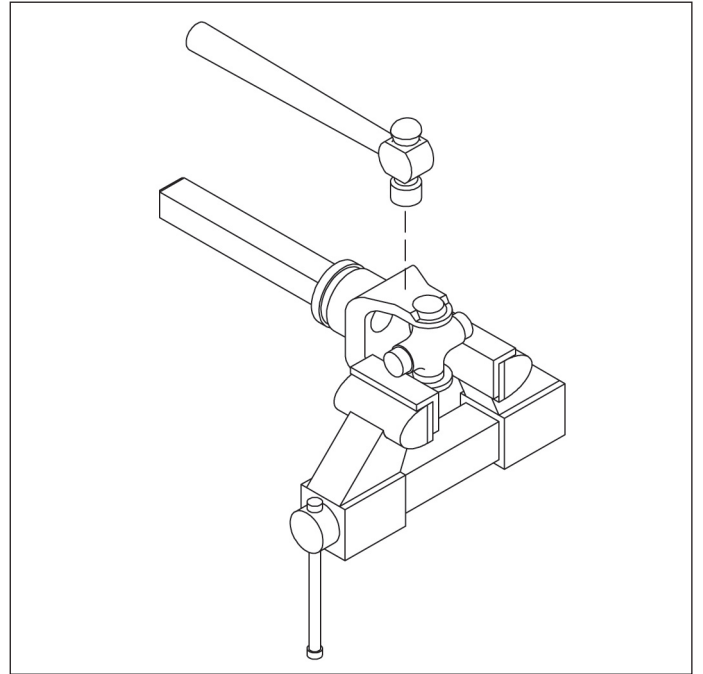
2. With the snap rings removed and the support drive in the vise, hold the yoke in your hand and tap on the yoke to drive the cup up out of the yoke.



3. Clamp the cup in the vise and tap on the yoke to completely remove the cup from the yoke. Repeat Steps 2 and 3 for the opposite cup.

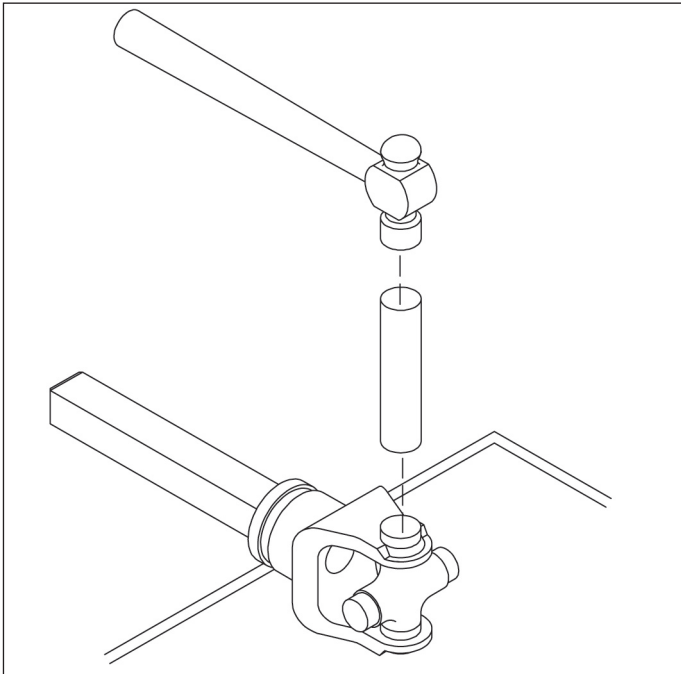


4. Place the universal cross in the vise and tap on the yoke to remove the cup. Repeat Step 3 for the final removal. Drive the remaining cup out with a drift and hammer.



U-Joint Assembly

1. Place the seals securely on the bearing cups. Insert the cup into the yoke from the outside and press in with hand pressure as far as possible. Insert the journal cross into the bearing cup with the grease fitting away from the shaft. Be careful not to disturb the needle bearings. Insert another bearing cup directly across from the first cup and press in as far as possible with hand pressure. Tap the cups in the vise and apply pressure. Be sure the journal cross is started into the bearings and continue pressure with the vise, squeezing in as far as possible. Tapping the yoke will help.
2. Seat the cups by placing a drift or socket (slightly smaller than the cup) on the cup and tap with a hammer. Install the snap ring and repeat on the opposite cup.
3. Repeat Steps 1 and 2 to install the remaining cups in the remaining yoke.
4. Move both yokes in all directions to check for free movement. If movement is restricted, tap sharply on the yokes with a hammer to relieve any tension. Repeat until both the yokes move in all directions without restriction.



Gearbox Maintenance

Note: Read this entire section before starting any repair. Many steps are dependent on each other.

Fill the gearbox with six pints of SAE 80W or 90W gear lube.

Note: Repair to this gearbox is limited to replacing bearings, seals, and gaskets. Replacing gears, shafts, and a housing is not cost-effective. Purchasing a complete gearbox is more economical.

Inspect the gearbox for leakage and bad bearings. Leakage is a very serious problem and must be corrected immediately.

Bearing failure is indicated by excessive noise and side-to-side or end-play in gear shafts.

Remove Gearbox from Stumpbuster

Note: The gearbox is heavy; do not attempt to move it without mechanical assistance.

1. Disconnect and remove the driveline from the tractor.
2. Remove the safety pin and clevis pin from the top cylinder mount.
3. Move the top cylinder out of the work area.
4. Disconnect and remove the driveline from the gearbox.
5. Remove the vent plug and siphon gear lube from the housing through this opening.
6. Remove the four bolts that attach the gearbox to the stump grinder.
7. Remove the gearbox.

Seal Replacement

Recommended sealant for gearbox repair is Permatex® Aviation 3D Form-A-Gasket or equivalent.

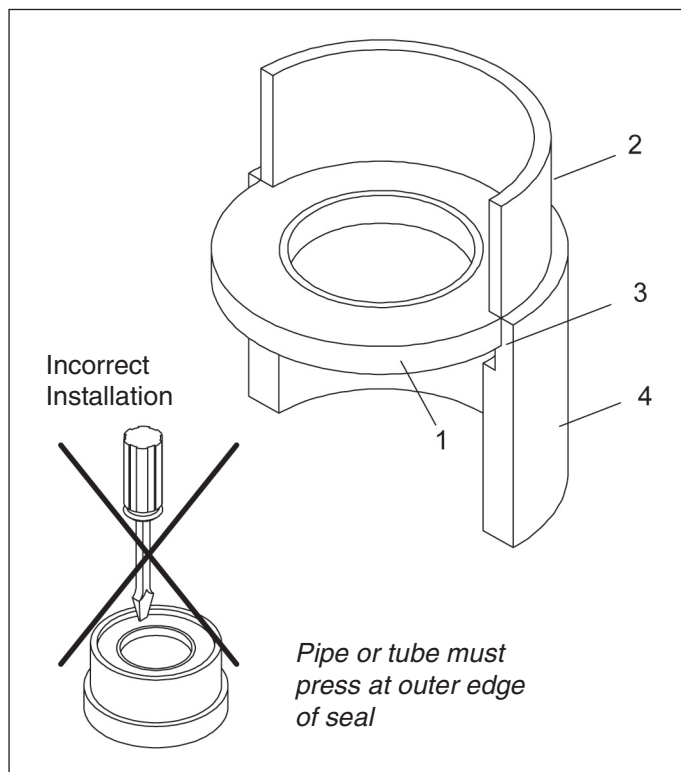
Leakage can occur at the input or output gaskets and shaft seals.

Seal Installation

Note: Proper seal installation is important. An improperly installed seal will leak.

1. Clean the area in the housing where the seal outer diameter (OD) seats. Apply a thin coat of Permatex®.
2. Inspect the area of the shaft where the seal seats. Remove any burrs or nicks with an emery cloth.
3. Lubricate the gear shaft and seal lips.
4. Place the seal squarely on the housing with the spring-loaded lip toward the housing. Select a piece of pipe or tubing with an OD that will sit on the outside edge of the seal but will clear the housing. Using tubing with an OD that is too small will bow the seal cage and ruin the seal.

Carefully press the seal into the housing, avoiding distortion to the metal seal cage.



1) Seal. 2) Pipe or Tube. 3) Seal Seat. 4) Casting.

Output Shaft Repair

1. Disconnect and remove the rear driveline from the gearbox.
2. Remove the vent plug and siphon gear lube from the housing through this opening.
3. Remove the cutting wheel.
4. Remove the cutting wheel shaft seal. Replace with the new seal.

This seal should be recessed in the housing. The front seal should be pressed flush with the outside of the housing.

- Note:** Distortion to the seal cage or damage to the seal lip will cause the seal to leak.
5. Fill the gearbox with SAE 80W or 90W gear lube until it runs out of the level plug.
 6. Remove and replace any seal damaged in the installation.

Cleaning and Storage

Cleaning

After Each Use

1. Remove large debris, such as clumps of dirt, grass, crop residue, etc., from the machine.
2. Inspect the machine and replace worn or damaged parts.
3. Replace any safety decals that are missing or not readable.

Periodically or Before Extended Storage

1. Clean large debris, such as clumps of dirt, grass, crop residue, etc., from the stump grinder.
2. Remove the remainder using a low pressure water spray.
 - a. Be careful when spraying near scratched or torn safety decals or near the edges of the decals, as water spray can peel the decal off the surface.
 - b. Be careful when spraying near chipped or scratched paint as water spray can lift the paint.
 - c. If a pressure washer is used, follow the advice of the pressure washer manufacturer.
3. Inspect the stump grinder and replace worn or damaged parts.
4. Sand down scratches and the edges of areas of missing paint and coat with spray paint of matching color.
5. Replace any safety decals that are missing or not readable (supplied free by dealer). See Safety Signs section for the installation location.

Storage

1. Raise the stump cutter.
2. Remove the retainer pin from the jack stand.
3. Lower the jack stand and align the top hole in the jack stand leg with the hole in the support bracket.
4. Insert the retainer pin to secure the jack stand into position.
5. Lower the stump cutter to the ground until the jack stand and the two stabilizers are securely on the ground.

Bolt Torque Chart

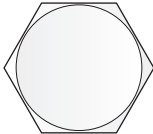


Always tighten hardware to these values unless a different torque value or tightening procedure is listed for a specific application.

Fasteners must always be replaced with the same grade as specified in the manual parts list.

Always use the proper tool for tightening hardware: SAE for SAE hardware and Metric for metric hardware.

Make sure the fastener threads are clean and start the thread engagement properly.

All torque values are given to specifications used on hardware defined by SAE J1701 MAR 99 & J1701M JUL 96.

 No Marking	 3 Radial Lines	 6 Radial Lines
Grade 2 Low or Medium Carbon Steel	Grade 5 Medium Carbon Steel Quenched and Tempered	Grade 8 Medium Carbon Alloy Steel, Quenched and Tempered

Diameter (Inches)	Wrench Size	MARKING ON HEAD					
		SAE 2		SAE 5		SAE 8	
		lbs-ft	N-m	lbs-ft	N-m	lbs-ft	N-m
1/4"	7/16"	6	8	10	13	14	18
5/16"	1/2"	12	17	19	26	27	37
3/8"	9/16"	23	31	35	47	49	67
7/16"	5/8"	36	48	55	75	78	106
1/2"	3/4"	55	75	85	115	120	163
9/16"	13/16"	78	106	121	164	171	232
5/8"	15/16"	110	149	170	230	240	325
3/4"	1-1/8"	192	261	297	403	420	569
7/8"	1-5/16"	306	416	474	642	669	907
1"	1-1/2"	467	634	722	979	1020	1383

Warranty

Limited Warranty

Shaver Manufacturing Company, LLC warrants each new Shaver product to be free from defects in material and workmanship. This warranty is applicable only for the normal service life expectancy of the product or components, not to exceed 12 consecutive months from the date of delivery of the new Shaver product to the original purchaser.

Genuine Shaver replacement parts and components will be warranted for 90 days from the date of purchase, or the remainder of the original equipment warranty period, whichever is longer.

Under no circumstances will it cover any merchandise or components thereof, which, in the opinion of the company, have been subjected to misuse, unauthorized modification, alteration, an accident, or if a repair has been made with parts other than those obtainable through Shaver.

Our obligation under this warranty shall be limited to repairing or replacing any part that, in our judgment, shall show evidence of such defect, provided further that such part shall be returned within thirty (30) days from the date of failure to Shaver, routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid. These are the items that must be returned: gearboxes, valves, base plates, PTO shafts, boom, arch, whole good (ex: driver, stumpbuster), motors, driver cylinders, and short channels. If you are uncertain what to return, please call Shaver. Provide pictures if you are unable to return parts. Include pictures of the serial number of the unit and a copy of the invoice for date-of-purchase proof. All returned items must have an RGA number. Contact Shaver at 712-859-3293 to get authorization to return, file your warranty claim and, if needed, an RGA will be provided.

This warranty shall not be interpreted to render Shaver liable for injury or damages of any kind or nature to person or property. This warranty does not extend to the loss of crops, loss because of delay in harvesting, or any expense or loss incurred for labor, substitute machinery, rental, or for any other reason.

Except as set forth above, Shaver shall have no obligation or liability of any kind on account of any of its equipment and shall not be liable for special or consequential damages. Shaver makes no other warranty, expressed or implied, and specifically, Shaver disclaims any implied warranty of merchantability or fitness for a particular purpose. Some states or provinces do not permit limitations or exclusions of implied warranties or incidental or consequential damages, so the limitations or exclusion in this warranty may not apply.

This warranty is subject to any existing conditions of supply which may directly affect our ability to obtain materials or manufacture replacement parts.

Shaver reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligation to owners of units previously sold.

No one is authorized to alter, modify, or enlarge this warranty, nor the exclusion, limitations, and reservations.

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