

AMMBUSHER OWNERS MANUAL

AMMBUSHER ROTARY CUTTER

MODEL SERIAL NO. _____

DATE MFG. _____

MOTOR _____ DO NOT EXCEED _____ GPM.

SPECIFICATION QUICK VIEW:

1. Fastener Torques:

- Motor Mounting Nuts 75 ft lbs
- Gearbox Mounting Nuts 150 ft lbs
- Blade Mounting Nuts 450 ft lbs
- Blade Carrier Castle Nut 600 ft lbs

2. Lubrication:

- Gearbox 85-90 Gear Lube
- Wheel Kit (Option) NLGI Grade 2 Grease

3. BEFORE EACH USE:

Inspect complete cutter for:

- Loose or broken components
- Blade carrier for wire or debris wrapped on them
- Check oil level in gearbox

LIMITED WARRANTY

AMMBUSHER, Inc. warrants each new product to be free from defects in material and workmanship.

For 90 days from the date of purchase, when the attachment has been maintained and lubricated in accordance with the operating and maintenance instructions in the Owners Manual, AMMBUSHER will replace free of charge, any defect in material or workmanship in this product.

This warranty does not cover:

This warranty excludes blades, which are expendable and become worn during normal use.

Repairs on the motor, gearbox or couplers because of alteration, an accident, or operator abuse or negligence, including the failure to maintain and operate the equipment according to instructions contained in the Owners Manual, or if repairs have been made with parts other than those obtained through AMMBUSHER, Inc.

Disassembly of motor will void motor warranty.

Our obligation under this warranty shall be limited to repairing and replacing, free of charge to the original purchaser, any part that in our judgement shows evidence of a defect, provided the part is routed through the dealer and distributor from whom the purchase was made, transportation charges prepaid.

This warranty shall not be interpreted to render us liable for injury or damages of any kind. This warranty does not extend to any expense or loss incurred for labor, supplies, substitute machinery rental, or any other reason.

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

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

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

Every AMMBUSHER product is the highest quality. If you wish to contact us regarding this product, please call toll free between 8:00 a.m. and 4:30 p.m. EST, Monday through Friday. 1-800-432-5955.

AMMBUSHER

TABLE OF CONTENTS

		PAGE
	Limited Warranty	inside front cover
Section I.	Safety Instructions	1
Section II	Operating Instructions	3
Section III	Repair and Maintenance	3
	1. Blade Carrier Removal	3
	2. Blade Carrier Installation	4
	3. Blade Removal Procedure	4
	4. Blade Installation Procedure	4
	5. Gearbox Removal	5
	6. Gearbox Installation	5
	7. Coupling Removal and Installation	5 & 6
	8. Motor Removal and Installation	6
	9. Safety Shielding	6
	10. Cushion Valve	6
Section IV	Parts List	7 & 8

Thanks for selecting an AMMBUSHER ROTARY CUTTER

Your new Ammbusher Rotary Cutter is designed and manufactured to cut nearly all types of brush, grasses, shrubs, and small trees over a wide variety of terrains. When attached to your skid loader, it is highly maneuverable for close cutting in tight areas.

Built to Ammbusher's rigid quality standards, it will give you years of trouble free service and dependability. Should you have any questions or experience any problems, please contact AMMBUSHER at 1-800-432-5955 or E-mail: information@ammbusher.com

Please take the time to read this informative instruction manual and pay particular attention to the safety rules we've provided for your protection, as well as for the safety of others. Only with a complete understanding of your Ammbusher will you be able to get the most from it.

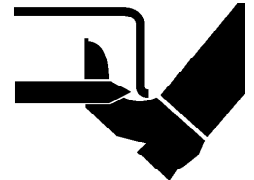
Don't forget to send in your owners registration form.

I. IMPORTANT SAFETY INSTRUCTIONS

Look for this symbol  to point out important safety precautions. Your safety or the safety of others is involved.

1. DISCHARGE DANGER LABEL

- a. The AMMBUSHER discharges materials out the front. When cutting with the AMMBUSHER, never discharge material toward bystanders nor allow anyone near the machine while in operation.
- b. When cutting near bystanders is unavoidable, do not operate the cutter without Front Deflector Chains in place, and do not cut in the direction of bystanders. Bystanders must be at least 75 ft (23M) away when operating.
- c. Clear the work area of objects (fencing, rocks, bottles, wire, etc.) which might be picked up and thrown.
- d. Always use a shatterproof cab door or the 3/8" thick Safety Door supplied with your AMMBUSHER when cutting. This is not only to protect you from thrown objects, but primarily to prevent overhanging or protruding objects such as rebar, tree limbs, or other objects from entering the cab and causing operator injury.
- e. Disengage power to the AMMBUSHER and shut the loader engine OFF before leaving the operators cab.
- f. Shut the AMMBUSHER down and the loader engine OFF before performing any inspection or maintenance to the cutter.
- g. NEVER place hands or feet under the AMMBUSHER deck or near any moving parts when unit is running. Always keep clear of front discharge area when operating AMMBUSHER.



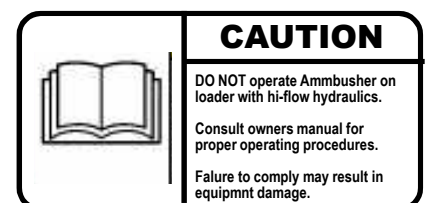
2. ROTATING PARTS WARNING LABEL

- a. There are rotating parts under the cover. NEVER operate the AMMBUSHER with the cover removed.
- b. Disengage power to the AMMBUSHER and stop the loader engine before removing the cover to perform maintenance or inspection.
- c. Do not stick hands or foreign objects under the cover when the unit is running.



3. CAUTION LABEL

If this label is on your machine, it means your machine was not equipped to operate with high-flow loaders. Use on high flow loaders will cause motor failure. AMMBUSHER is not responsible for damage incurred to the hydraulic motor due to hi-flow usage. Please refer to the front cover of this owners manual for the maximum allowable hydraulic flow for your AMMBUSHER.



4.  **LIFT LIMIT WARNING LABEL**

The Lift Limit Chain assembly is provided to prevent the operator from lifting the trailing edge (edge near loader) of the mower to the elevation (vertically) that would expose the rotating blades to operator, thereby presenting the hazard of throwing objects or blades at the operator.

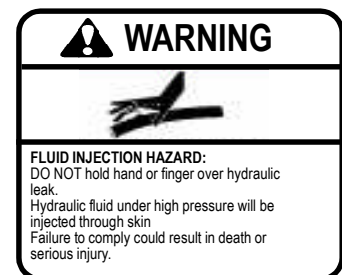
- a. Insure that the Lift Limit Chain is fastened before operating the AMMBUSHER.

5.  **HYDRAULIC LEAK WARNING LABEL**

AMMBUSHER equipment has been designed to reduce the likelihood of hydraulic system leakage. Each AMMBUSHER rotary cutter's hydraulic system is checked before shipment. However over time any hydraulic system may develop fluid leaks and very small leaks may produce high-pressure discharge flows capable of causing injury should skin come in contact with such discharge.

6. **Do not carry passengers on the AMMBUSHER.**

7. Never leave the AMMBUSHER unattended in a raised position.
8. The loader and AMMBUSHER should be stopped and inspected for damage after striking a foreign object and the damage should be repaired before restarting and continuing cutting.
9. Cut only in daylight or good artificial light.
10. Keep all nuts, bolts and screws tight and be sure the equipment is in safe working condition.
11. Check the blade mounting bolts for proper tightness at frequent intervals.
12. When working under the AMMBUSHER, always securely block it up. If attached to your loader, visually inspect your lock-on pins to make sure the Ammbusher is locked onto your loader. Remember: The AMMBUSHER weighs more than 1200 lbs.
13. Reduce speed on slopes and make turns gradually to prevent tipping or loss of control. Exercise caution when changing direction on slopes.
14. Stay alert for drop-offs or holes in the terrain.
15. Use caution when walking on AMMBUSHER deck. The deck can be slick when wet.
16. Never drive your skid loader with your AMMBUSHER raised more than 2 feet. Children are small, be aware of their presence and **ALWAYS** make sure you can see what you are cutting.



II. OPERATING INSTRUCTIONS

1. **HOOKUP** - The hookup procedure is the same as other powered attachments for you skid loader...

- a. Install Safety Door on hinge pins. See separate instruction sheet "Safety Door Installation" supplied with your door for proper procedure of the initial installation.
- b. Pull up and connect AMMBUSHER to your loader.
- c. Secure lock down levers.
- d. Connect (2) hydraulic hoses.
- e. Connect Lift Limit Chain to your skid loader. The back of the Ammbusher (nearest the operator) should never be raised more than 24 inches off the ground for proper and safe cutting operation.

2. **CUTTING OPERATION**


The Ammbusher Rotary Cutter is capable of, and in fact intended to be utilized, mulching trees and vegetation of varying height and up to 3-4" in diameter. Designed to make your loader more versatile the Ammbusher Rotary Cutter is intended to perform these functions without the housing being raised to a vertical height greater than 3 feet.

As an additionally safety feature, your Ammbusher Rotary Cutter is designed with a hydraulic system that has a built in cushion valve for fast blade rotation shut down. A front-edge chain curtain is provided reducing the likelihood of harm to bystanders from the discharge of materials. Always use a safety door on the front of your loader to provide the operator of the equipment an additional level of protection from both moving brush and the potential of discharged materials.

- a. Raise the back of the AMMBUSHER (nearest the operator) 4 or 5 inches off the ground. This is necessary for material to clear from under the cutting deck. Rotate the Ammbusher front up or down so that the skid rails are 1 - 2 inches off the ground. If unit is equipped with a front wheel, place wheel on the ground. The AMMBUSHER deck will be sloping front down (away) from the operator. This is the optimum method for cutting close to the ground.
- b. Never drive your loader with the AMMBUSHER raised more than 2 feet or tilted to the point your view is obstructed. Always make sure you can see what you are cutting.
- c. Never operate the AMMBUSHER in populated areas, or where thrown objects could injure persons or damage property. Safety chains MUST be installed.
- d. Never raise the back of the Ammbusher more than 2 feet off the ground. Never expose yourself or anyone else to the rotating blades. If you can see the rotating blades when operating the unit, the back of the AMMBUSHER is raised too high.
- e. When cutting large brush, operate the AMMBUSHER in the following manner:
Roll the front of the AMMBUSHER up 1 or 2 feet. Do not lift the back of the unit, just use the roll function to rotate the front up. Slowly drive into the tree, and use the hydraulic tilt (roll) hydraulics to bend or push the tree over. As you bend the tree, the blades will cut the tree off. The tree can now be mulched by rotating the front up, driving forward several feet, roll the front down onto the tree and backdrag.

III. REPAIR AND MAINTENANCE

1. **BLADE CARRIER REMOVAL**

- a.  Visually verify that the loader lock down pins are engaged through the AMMBUSHER Quick Tach. Tilt the front of the AMMBUSHER up and securely position a 4" x 4" post or equivalent strength strut under the front of the AMMBUSHER. The AMMBUSHER must be blocked up to avoid injury should a hydraulic failure occur or should the tilt or lift pedal/lever be accidentally activated by someone in the operator cab.

Turn off skid loader engine. From beneath the cutter deck, remove the cotter pin in the gearbox shaft and castle nut. Loosen the castle nut on the gearbox shaft but **DO NOT** remove the nut at this time. If the blade carrier does not easily slide down when loosening the castle nut, a wedge bar may be placed between the bottom of the gearbox and the top surface of the hub on the blade carrier. Strike the wedge to break the blade carrier free of the gearbox shaft. The castle nut will keep the blade carrier from falling off.

Hold the blade carrier onto the gearbox shaft while removing the castle nut. The blade carrier can now be slid off the shaft. Use 2 people if necessary.



SAFETY NOTE: If you are not immediately replacing the blade carrier, remove the strut and lower the unit to the ground. **DO NOT** leave the AMMBUSHER unattended in a raised position.

2. BLADE CARRIER INSTALLATION



- a. Visually verify that the loader lock down pins are engaged through the AMMBUSHER Quick Tach. Tilt the front of the AMMBUSHER up and securely position a 4" x 4" post or equivalent strength strut under the front of the AMMBUSHER. The AMMBUSHER must be blocked up to avoid injury should a hydraulic failure occur or should the tilt or lift pedal/lever be accidentally activated by someone in the operator cab.
- b. Slide blade carrier hub onto gearbox shaft. Hold blade carrier in position while installing castle nut with Loctite. Torque to a minimum of 600 ft - lbs., then tighten further until the slots in the castle nut align with the hole in the gearbox shaft. Install the cotter pin and bend the ends tight against nut.
- c. Remove the AMMBUSHER support struts and lower unit to the ground.

3. BLADE REMOVAL PROCEDURE

- a. Set the AMMBUSHER flat on the ground. Turn the loader engine off. Loosen the nut on the slot on the access cover plate on the top of deck. Rotate the access cover plate to expose the access hole in the deck. SLOWLY rotate the blade carrier until blade attaching nut is aligned in the access hole. From the top of the deck, insert a 1 11/16" socket thru the access hole onto the blade nut. Remove the nut and insure that the blade drops to the ground.



SAFETY NOTE: If you must work under the deck to remove a blade from the blade carrier visually verify that the loader lock down pins are engaged thru the AMMBUSHER Quick Tach.

After the blade nuts have been removed and the blades have dropped down, backup the skid loader and AMMBUSHER to retrieve the blades.

- b. Lower AMMBUSHER to the ground. DO NOT leave AMMBUSHER in the raised position unattended.

NOTE: When sharpening or replacing the cutting blades, both blades must be sharpened or replaced at the same time to maintain proper balance.

Your AMMBUSHER is equipped with forged steel blades to produce the most satisfactory results. The free swinging blades and blade carrier permits the AMMBUSHER to take a great deal of punishment without damage.

IMPORTANT: Use genuine AMMBUSHER blades and attaching hardware only, new with lock nuts must replace used lock nuts each time the blades are removed. Substitute or inferior blades, bolts, nuts, and blade carrier may be dangerous.

4. BLADE INSTALLATION PROCEDURE



Visually verify that the loader lock down pins are engaged through the AMMBUSHER Quick Tach. Tilt the front of the AMMBUSHER up and securely position a 4" x 4" post or equivalent strength strut under the front of the AMMBUSHER. The AMMBUSHER must be blocked up to avoid injury should a hydraulic failure occur or should the tilt or lift pedal/lever be accidentally activated by someone in the operator cab.

IMPORTANT: Use genuine AMMBUSHER blades and attaching hardware only, new lock nuts must replace used lock nuts each time the blades are removed. Substitute or inferior blades, bolts, nuts, and blade carrier may be dangerous.

- a. Turn your loader engine off. Install keyed bolt through blade and through hole in blade carrier. Nut may be tightened at this point, but it is easier to perform final torquing through the access hole in the deck. Insure proper blade orientation. The sharpened edge of the blade should be lower than bolted end when the AMMBUSHER is in a level position (due to the offset bend in the blade). Repeat this step for remaining blades.
- b. Remove supporting strut and lower AMMBUSHER to the ground and turn the loader engine off. Turn your loader engine off while tightening nut. Final torque the blade nuts to 450 ft.-lbs. through the access hole in the deck. Slowly rotate blades to align blade nut with deck access hole to tighten remaining nuts. Visually verify that the blade bolt is threaded completely through the nut. This is necessary for proper seating of the bolt and proper locking of the locknut.

5. GEARBOX REMOVAL

- a. To remove and replace the gearbox, first remove the red E-20 or E30 coupling.
Coupling removal instructions: Set AMMBUSHER flat on the ground and turn your skid loader engine off. Remove motor cover. Remove 12 screws from coupling. The coupling can be removed in two halves.
- b. Next knock out the 4" roll pin from the steel hub on the gearbox.
- c. Next remove the blade/blade carrier using the following instructions.



SAFETY NOTE: Visually verify that the loader lock down pins are engaged through the AMMBUSHER Quick Tach. Tilt the front of the AMMBUSHER up and securely position a 4"x 4" post or equivalent strength strut under the front of the AMMBUSHER. The AMMBUSHER must be blocked up to avoid injury should a hydraulic failure occur or should the tilt or lift pedal/lever be accidentally activated by someone in the operator cab.

Turn off skid loader engine. From beneath the cutter deck, remove the cotter pin in the gearbox shaft and castle nut. Loosen the castle nut on the gearbox shaft but **DO NOT** remove the nut at this time. If the blade carrier does not easily slide down when loosening the castle nut, a wedge bar may be placed between the bottom of the gearbox and the top surface of the hub on the blade carrier. Strike the wedge to break the blade carrier free of the gearbox shaft, the castle nut will keep the blade carrier from falling off.

Hold the blade carrier onto the gearbox shaft while removing the castle nut. The blade carrier can now be slid off the shaft.

- d. While the AMMBUSHER is still in a raised position and supported, remove the 4 nuts and bolts attaching the gearbox to the deck. This is most easily performed with two persons. Remove the gearbox and slide machine hub off the gearbox input shaft.



SAFETY NOTE: If you are not immediately replacing the gearbox, remove the strut and lower the unit to the ground. Do not leave the AMMBUSHER unattended in a raised position.

6. GEARBOX INSTALLATION



SAFETY NOTE: Visually verify that the loader lock down pins are engaged through the AMMBUSHER Quick Tach. Tilt the front of the AMMBUSHER up and securely position a 4"x 4" post or equivalent strength strut under the front of the AMMBUSHER. The AMMBUSHER must be blocked up to avoid injury should a hydraulic failure occur or should the tilt or lift pedal/lever be accidentally activated by someone in the operator cab.

- a. Replace the gearbox hub and connect with a new 4" roll pin.
- b. Reinstall the gearbox in the reverse order of the removal and tighten 8 gearbox nuts/bolts. Torque to 150 ft lbs. This is most easily accomplished with two persons.
- c. Reinstall blade carrier: Slide blade barrier hub onto gearbox shaft. Hold blade carrier in position while installing castle nut with Loctite. Torque to 600 ft - lbs., then tighten further until the slots in the castle nut align with the hole in the gearbox shaft. Install the cotter pin and bend the ends against the nut. Remove the AMMBUSHER support struts and lower unit to the ground.
- d. Reinstall Red E-20 or E30 coupler: align coupling holes and reinstall 12 screws. Torque to 30 ft.-lbs.
- e. Reinstall motor cover.

NOTE: New replacement gearboxes are shipped without gear lube. Fill gearbox with 85-90 GL-5 gear lube to level of the small 1/4" plug in side of gearbox. Do not fill all the way to the top of the gearbox.

7. RED E-20 or E-30 COUPLING REMOVAL AND INSTALLATION

- a. Set the AMMBUSHER flat on the ground. Turn your skid loader engine off before attempting to perform service or remove the drive components cover.
- b. Remove the motor cover.
- c. Remove 12 screws from coupling turning coupler as necessary to access the screws. The coupling can be removed in two halves.
- d. To reinstall new coupling, align coupling holes and reinstall 12 screws. Torque to 30 ft.-lbs.

NOTE: These screws have a preapplied lock patch, and should not be used more than twice. However they may be further used with the application of a thread locking adhesive (such as Loctite).

DO NOT lubricate screw threads. Replacement screws may be reordered from AMMBUSHER.



SAFETY NOTE: The rotating coupling, motor, and gearbox are potentially dangerous. Never operate unit with the cover removed. Failure to secure coupling screws properly could cause coupling components to dislodge during operation, possibly resulting in personal injury.

8. MOTOR REMOVAL AND INSTALLATION

Note: Disassembly of motor will void warranty.

- a. Set the AMMBUSHER flat on the ground. Turn your skid loader engine off before attempting to perform service or remove the motor cover.
- b. Remove the motor cover.
- c. Remove 12 screws from Red E-20 or E30 coupling turning coupler as necessary to access screws. The coupling can be removed in two halves.
- d. By hand, spin motor hub to get motor shaft/hub key on top.
- e. Loosen the set screw on the motor hub with an Allen wrench. One Allen screw holds the key and hub on the motor shaft. Slide the motor hub off the motor shaft as far as possible.
- f. "Loosen" the fittings on the two hydraulic hoses. (Do not remove hoses)
- g. Remove the two 1/2" bolts attaching the motor to the motor mounting plate.
- h. Remove the two hydraulic hoses from the motor.
- i. To reinstall new motor, perform the above steps in reverse order. Tighten the nuts/bolts to 75 ft-lbs

9. SAFETY SHIELDING

Always keep the motor cover and front chain curtain in place and in a good state of repair.

10. CUSHION VALVE

The cushion valve is preset at the factory for smooth shutdown of the AMMBUSHER. Changing the pressure settings on the cushion valve can cause premature motor failure or reduced torque output of your cutter and will void the warranty.

PARTS LIST

<u>Ref. No.</u>	<u>Part No.</u>	<u>Quantity</u>	<u>Description</u>
1	84912	1	Safety Decal Kit
2	84797	1	Non-Skid Tape Kit
3	85186	1	Larger Shaft Gearbox (Machine Mfg. after 2/15/98)
4	84322	1	Red E-20 Coupling with 12 bolts
4	84870	1	Red E-30 High Flow Coupling with 12 bolts
4a	84353	1	Motor Hub 4 1/2", with Allen Head Bolt, fits Red E-20 coupler
4a	84640	1	Large Motor Hub, 5 7/16", fits Red E-30 coupler
4b	84352	1	Gearbox Hub 4 1/2" with Roll Pin, fits Red E-20 coupler
4b	84641	1	Large Gearbox Hub, 5 7/16", with Solid Pin fits Red E-30 coupler
	84379	1	Roll Pin 1/2" x 4" for E-20 Gearbox Hub (not shown)
	84913	1	Solid pin 1/2" x 4" for E-30 Gearbox Hub (not shown)
5		1	Hydraulic Motor (Specify skid steer model)
6	84542	1	Hose Clamp
7a	84595	1	Single Blade Hole Cover Assembly - 5ft mach. and 6ft. mfg. before 3/7/04
7b	84914	1	Dbl. Blade Hole Cover Assembly - 6ft mach. mfg after 3/7/04 (used with 84905)
8	84415-1	2	Hydraulic Hose, 3/4" dia., 6' long
8	84427-1	2	Hydraulic Hose, 1" dia., 6 1/2' long
9	84418	1	Quick Disconnect Male Coupling, 1/2"
10	84417	1	Quick Disconnect Female Coupling, 1/2"
11	84331	2	1/2" - 13 Thread Shoulder Bolt, 2" long, grade 5
12	84332	2	1/2" - 13 Thread Nut
13	84333	2	1/2" Lockwasher
14	84334	4	5/8" - 18 Thread Bolt, 2 1/4" long, grade 5
15	85202	4	5/8" - 18 Thread Nut
16	85203	4	5/8" -18 Toplock Jam Nut
17	84308	1	Motor Cover
19		1	Safety Door Assembly (Specify skid steer model)
20a	84629	1	5ft. 2-Blade Carrier - Option (use with 84562 blade)
20b	84628	1	5ft. 4-Blade Carrier - Option (use with 84562 blade)
21a	84635	1	6ft 2-Blade Carrier - Option (use with 84562 blade)
21b	84636	1	6ft. 4-Blade Carrier - Option (use with 84562 blade)
22a	84562	2	Blades 19 1/2" long for 5ft & 6ft mfg. prior to 3/7/04
22b	84957	2	Blades 24 1/2" long for 6ft mfg after 3/7/04 (80000 series Mach with 84905)
23	84363	2	Blade Nuts
24	84365	2	Blade Bolts
25	84374	1	Castle Nut w/roll pin for Gearbox
26		1	Door Bar Assembly (Specify skid steer model)
27	84339		Chain guard, 4-link chain (Specify mower size)
28	84337	1	5' unit Chain Bar
29	84355	1	6' unit Chain Bar
30	84905	1	35" Round Stump Jumper for 5ft Mach after 5/2/02 & 6ft Mach after 3/7/04
31	DISCONTINUED		DISCONTINUED - 46" Round Stump Jumper 6ft Mach Mfg. between 5/2/02 & 3/7/04
32		1	Owner's Manual Tube
33	84627	1	Wheel Kit - Option

