

WOOD BEAVER

OPERATION, MAINTENANCE,
AND PARTS MANUAL



www.woodbeaver.com

1117 WESTERN DR.
HARTFORD, WI 53027
Phone: 800.569.6813 262.673.6801

E-mail: scott@rrsinc.net

WOOD BEAVER



Thank you for choosing Wood Beaver Forestry for you firewood processor needs and welcome to the Wood Beaver family. We strive to manufacture the fastest, most reliable processors on the market. From the way we choose our vendors and components, to how we choose the team that built your machine, we are always looking to improve our products at every turn.

This manual, like all of our products is always being updated. We strive to have the most concise and accurate information possible. Due to the high level of options available and constant improvement, your machine may not appear exactly like the machines pictured. If you have any questions specific to your machine or general questions about operation, please feel free to call us Monday through Friday 8 to 5 Central time. We are happy to help you get the most out of your machine.

WOOD BEAVER

NOTES

WOOD BEAVER

Table of Contents

THANK YOU.....	2
NOTES.....	3
TABLE OF CONTENTS.....	4
INTRODUCTION.....	5
OVERVIEW.....	6
OPERATOR SAFETY.....	7
ABOUT THIS MANUAL.....	10
WARNING LABELS.....	11
WARRANTY ACCEPTANCE (fill in and return to factory).....	12
WARRANTY POLICY.....	13
SPECIFICATIONS.....	14
OPERATING INFORMATION AND CONTROLS.....	15
SEQUENCE OF OPERATION AND MAINTENANCE.....	20
HYDRAULIC HOSES.....	25
LONG-TERM STORAGE.....	26
OPERATOR ACKNOWLEDGEMENT.....	27
TROUBLESHOOTING.....	28
REMOVAL FROM SERVICE.....	31

DISCLAIMER AND COPYRIGHT

All information, illustrations and specifications in this manual are based on the latest design releases available at the time of publishing. Illustrations and pictorial symbology are intended as representative reference only. Due to continuous product improvement, cost reduction initiatives, warranty/service claims, **Wood Beaver** reserves the right to make changes without notice.

Wood Beaver reserves all trademarks described in this manual. Reproduction of any information or illustrations without the written consent of **Wood Beaver** is forbidden. Failure to obtain written consent will result in penalty as governed by the court of law.

WOOD BEAVER

INTRODUCTION

WOOD BEAVER

We would like to thank you for purchasing a WOOD BEAVER firewood processor. The Wood Beaver was engineered and constructed to provide productive results on any job.

READ THIS MANUAL PRIOR TO OPERATING THE WOOD BEAVER.

This manual is intended as a guide for the safe and most efficient operation of the **WOOD BEAVER**.

This manual covers the procedures for the proper operation and maintenance of this machine.

Equipment Description: _____

Model: _____ Serial Number: _____

Date Equipment was put into service: _____

Reading and understanding the manual will help you and others avoid personal injury and help prevent machine damage. This manual should be kept with the Wood Beaver at all times and be readily accessible in order to answer questions. If this manual is lost or damaged, contact **WOOD BEAVER** or your authorized dealer immediately to order a replacement.

WOOD BEAVER

Overview



Your Wood Beaver firewood processor is designed and built to provide many years of dependable service with minimal maintenance. You Lil Beaver 13 is capable of turning 1/2 or more cords of wood into firewood in an hour. By taking the time to understand operation, you will be able to maximize performance and see the maximum value from the machine.

Remember, we give you “Maximum Performance at a Minimum Price.” By reading this manual, you will be able to maximize productivity and keep your machine in top operating condition – whether you process 10 cords a year to keep your home fires burning or thousands of cords each year to sell commercially.

Thank you again for purchasing a Wood Beaver Forestry firewood processor. We look forward to working with you for years to come!

WOOD BEAVER

OPERATOR SAFETY

As an owner/manager, operator safety concerns you deeply. As a hydraulic equipment manufacturer and fabricator, it concerns us deeply as well. Just as you are committed to providing a safer working environment for you and your employees, we are committed to making every machine we build safer to operate.

Our combined efforts to reduce injuries can still fall short if operators do not thoroughly know and understand safe working practices or if they are unaware of possible hazards that their equipment may present. This is particularly true on mobile machines where extensive guarding is impractical.

To focus attention on these important safety procedures, Wood Beaver wants you to review our safety manual for operators. We are happy to enclose your complimentary copy in this manual. We strongly urge your supervisors to review the information in this manual with your operating personnel. We would also encourage you to consider making an individual copy available for each operator. Additional copies available can be ordered by calling 800-569.6813.

We sincerely hope you will join us in the effort to make safety consciousness an everyday part of our employees' jobs.

IMPORTANT SAFETY NOTICES

Most accidents involving machine operations are caused by failure to observe basic safety rules or precautions. An accident will often be avoided by recognizing potentially hazardous situations before an accident occurs.

Improper operation is dangerous and could result in injury.

READ AND UNDERSTAND ALL SAFETY PRECAUTIONS AND WARNINGS BEFORE OPERATING THIS MACHINE.

Basic safety precautions are outlined in the **SAFETY** section of this manual.

!WARNING! labels have been put on the machine to provide instructions and to identify specific hazards which, if not heeded, could cause serious injury or death to the operator or other persons.

!CAUTION! labels alert you to hazards that could result in injury.

!NOTICE! labels alert you to hazards that may result in machine damage.

Wood Beaver cannot anticipate every possible circumstance that might involve a potential hazard. The warnings in this manual and on the machine are therefore not all inclusive. If an operation is not performed as specifically recommended by Wood Beaver, you must satisfy yourself that it is safe for you and others. You should ensure that the machine will not be damaged or made unsafe by the method of operations you choose.

The proper and lubrication and maintenance procedures for this machine, recommended by Wood Beaver, are outlined in the **MAINTENANCE** section for this machine and may require the use of special tools or work methods. Periodic and proper lubrication and maintenance is important to the safe and reliable operation of this machine. Improper performance or lubrication or maintenance procedures is dangerous and could result in injury or death.

READ AND UNDERSTAND ALL SAFETY PRECAUTIONS AND WARNINGS BEFORE PERFORMING LUBRICATION OR MAINTENANCE ON THIS MACHINE.

WOOD BEAVER

!WARNING!

INSPECT ALL EQUIPMENT CAREFULLY

Inspect the Wood Beaver Processor carefully before you operate it. Guards must remain in place. Keep nuts and bolts and screws tight.

!WARNING!

AVOID HIGH-PRESSURE FLUIDS

Escaping fluid under pressure can penetrate the skin causing serious injury. Relieve pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Keep hands and body away from pinholes nozzles which eject fluids under high pressure. Use a piece of cardboard or paper to search for leaks.

If **any** fluid is injected into the skin, it must be surgically removed within a few hours by a doctor familiar with this type of injury or gangrene might result.

!WARNING!

DO NOT TAMPER WITH ANY PRESSURE SETTING

If the machine is not performing to your expectations, please contact our **SERVICE DEPARTMENT** to correct any problem you may have at 800-569-6813 or 262-673-6801. Should it become necessary to loosen or remove any hydraulic fitting, please follow these procedures:

- 1. Shut off the engine to stop the hydraulic pump.**
- 2. Remove all pressure in the circuit by operating the control valve handle back and forth several times**

Hydraulic power is excellent, but it can be as dangerous as electricity or fire if not properly contained or controlled.

An operator must be conditioned to think about mechanical failures and broken metal components as being a hazard to the safety of others and himself while working. Sometimes not enough attention is paid to the condition of the hoses, pump, valves, etc. because they do not appear to do much.

Do not neglect frayed, kinked, cracked or otherwise damaged hydraulic components. Just because it isn't leaking doesn't prove that it will not fail.

Very high pressure (3,000 psi is normal) must be developed within hydraulic system components in order to perform the tasks demanded of them. Rupture of a pressurized component will allow that trapped oil to be released suddenly with potentially deadly force.

TRANSPORT YOUR WOOD BEAVER PROCESSOR SAFELY

Be sure the Wood Beaver Processor has all the necessary lights and signs required by local, state, provincial or federal laws. It is classified as agricultural equipment (forestry), so in most locations does not require license plates. All axle mounted units are equipped with lighting meeting Federal DOT standards at time of manufacture, however, some locations may have additional requirements.

USE A SAFETY CHAINS

Safety chains will help control towed equipment should it accidentally separate from the towing vehicle transporting it. Attach the safety chain to the towing vehicle support or other specified anchor location. Provide only enough slack in the chain to permit turning.

WOOD BEAVER

!WARNING!

SERVICE TIRES SAFELY

Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death. Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job. Have it done by a qualified tire repair service.

When sealing tire beads on rims, never exceed 60psi or maximum inflation pressures specified by the tire manufacture for mounting tires. Inflation beyond this maximum pressure may break the bead, or even the rim with dangerous explosive force. If both beads are not seated when the maximum recommended pressure is reached, deflate, reposition tire, re-lubricate the bead and re-inflate. A tire should be enclosed in a cage in case of accidental explosion.

!WARNING!

REMOVAL FROM TOWING VEHICLE

Safety chains - attach to towing vehicle support or other specified location to help control processor should it accidentally separate from the vehicle. Provide only enough slack in the chain to permit turning

The processor is easily removed from the hitch of the towing vehicle by using the crank jack, located near the front of the unit.

- 1. Block the tires on the processor to keep it from rolling.**
- 2. Raise the front end of the processor with the crank jack.**
- 3. Lower the stabilizer and pin into position.**
- 4. Crank the jack so the front end of the processor is supported by the stabilizer.**

!WARNING!

To prevent tipping of the machine, be certain stabilizers are down and adjusted so machine is **flat** and **level** before splitting operation begins. Tipping of the machine can cause serious injury or death to operator. All new operators of the processor must become familiar with all controls before putting the machine to work. This can be done by carefully reading the manuals and then running the processor in an open, clean area.

WOOD BEAVER

This manual provides important information to familiarize you with safe operating and maintenance procedures. Even though you may be familiar with similar equipment, you **MUST** read and understand this manual before operating the Wood Beaver.

Safety is everyone's business and is our top concern. Knowing the guidelines covered in this section will help ensure your safety, the safety of those around you and the proper operation of the Wood Beaver.

LOOK FOR THESE SYMBOLS, WHICH POINT OUT ITEMS OF EXTREME IMPORTANCE TO THE SAFETY OF YOU AND CO-WORKERS. READ AND UNDERSTAND THOROUGHLY. HEED THE WARNINGS AND FOLLOW THE INSTRUCTIONS.

!WARNING!

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

!CAUTION!

Indicates a hazardous situation that, if not avoided, **could** result in injury.

!NOTICE!

Indicates a situation that can cause damage to the Wood Beaver, personal property, the environment, or cause the Wood Beaver machine to operate improperly.

Keep safety labels in good condition. If safety labels become missing or damaged, replacement safety labels are available from **WOOD BEAVER** or your dealer.

!WARNING!

Crush Hazard

Keep bystanders away from work area before and during operation.

!WARNING!

Entanglement / Cutting Hazard

Verify there are no people, obstacles or other equipment near the Wood Beaver equipment before starting the operation.



If the **WOOD BEAVER** machine needs to be serviced during operation, **TURN OFF machine** and **DISCONNECT** power supply before conducting any maintenance.

Verify that all guards and covers are attached properly to the **Wood Beaver** before starting the operation. Do not start

the machine if any guards are not properly installed.

!CAUTION!

Pre-Operation Hazard

- Never permit anyone to set up or operate the **Wood Beaver** without proper training.



Read manual or handbook

- Read and understand this Operation Manual before operating the wood processor or attachments to ensure that safe operating practices and maintenance procedures are followed.

- Safety signs and labels are additional reminders for safe operating and maintenance techniques.

- Contact **WOOD BEAVER** for additional training.

- Make sure you are aware of all laws and regulations that are in effect where the machine is operated. Make sure you have all necessary licenses to operate equipment.

!CAUTION!

Alcohol and Drug Hazard

Never operate machinery while under the influence of alcohol or drugs.



!CAUTION!

Flying Object Hazard

Always wear eye protection when cleaning the **WOOD BEAVER** with compressed air or high-pressure water. Dust, flying debris, compressed air, pressurized water or steam may injure your eyes.



EYE PROTECTION MUST BE WORN

REMEMBER: ALWAYS WEAR EYE PROTECTION WHEN OPERATING OR WORKING ALONGSIDE THE WOOD BEAVER MACHINE. NEVER WEAR LOOSE CLOTHING.

!CAUTION!

Exposure Hazard

Always wear personal protective equipment, including appropriate clothing, gloves, work shoes, and hearing protection, as required by the task at

WOOD BEAVER

hand.

WARNING LABELS

**THIS MACHINE
HAS NO BRAIN
USE YOUR
OWN!**



Brimat 360-274-0271 / J0219-0F



Brimat 360-274-0271 / J0014-0F



WOOD BEAVER

WARRANTY ACCEPTANCE

Delivery/Maintenance Walkthrough Report Important!

Equipment Description: _____

Model: _____ Serial Number: _____

Date Equipment was put into service: _____

Customer Name: _____ Address: _____

City: _____ State: _____ Zip Code: _____

Phone#: _____ Contact: _____

Dealer Name: _____ Address: _____

City: _____ State: _____ Zip Code: _____

Phone#: _____ Contact: _____

Start up procedure check list
(to be filled out by Dealer or Serviceman, if present)

Customer has been instructed on operation and all safety aspects of operating and maintaining the equipment.
Customer has been furnished with all parts, maintenance and instruction manuals.

Customer has been instructed on equipment maintenance schedules and procedures.
All operation and warning decals are properly displayed on the equipment.

Customer has been furnished with the Wood Beaver warranty conditions.

Comments: _____

I have inspected this equipment and find it in good working order; to the best of my knowledge, the customer and his personnel are well versed on the above procedures.

Signed: _____ Title: _____
(Dealer/serviceman)

Customer Agreement

I agree the equipment has been thoroughly serviced and checked by the above named representative and I am satisfied with his instructions and inspection. I have been provided with a copy of the Wood Beaver

Signed: _____ Title: _____
(Customer)

*****THIS PAGE MUST BE FINISHED BEING FILLED OUT COMPLETELY AND RETURNED TO US. FAILURE TO RETURN WILL NULL AND VOID WARRANTY. PLEASE MAKE A COPY AND RETURN ORIGINAL COPY. *****

WOOD BEAVER

LIMITED WARRANTY POLICY

Product Covered - This warranty is for the new Wood Beaver branded log splitters, conveyors, wood processors and their attachments or accessories.

Date Warranty Begins - Within the warranty time period, Resource Recovery Systems, will, at its sole and exclusive option, and at no charge to the purchaser, either repair, replace f.o.b. its factory or allow credit at the then current dealer net price for any part manufactured by Resource Recovery Systems that shall be proved to be defective in workmanship or material, provided that, upon receipt of written request from Resource Recovery Systems, all parts claimed defective be properly identified and returned within (30) days of such request shall be made, however, without prior written consent and approval of an authorized agent of Resource Recovery Systems. Resource Recovery Systems will not accept any charges for labor and/or parts incidental to the removal and remounting of parts repaired or replaced under this warranty. Warranty is Six Months from date of purchase.

What We Will Do for You - This warranty covers only new equipment in the original owner's possession which, after shipment from Resource Recovery Systems, has not been manufactured or altered in any manner whatsoever without the written consent of Resource Recovery Systems. The express warranty herein furthermore shall not apply to any equipment defect caused, either directly or indirectly, or in part, by the neglect, misuse, abuse or operation of said equipment under conditions other than those specified by Resource Recovery Systems. Request for warranty will be accepted on service parts that fail due to defects and workmanship within six months from date of purchase.

What is not Covered - This warranty does not apply to parts that have been damaged by accident, alteration, misuse, abuse or improper lubrication. Wear items are not covered under this warranty. Shipping to/from Wood Beaver is not covered under warranty. Any Wood Beaver equipment purchased used.

How to Get Service - To obtain service, contact Resource Recovery System, Inc. at 1117 Western Drive, Hartford, WI 53027, or call us at 1-800-569-6813. For engines, contact us, or consult your Yellow Pages for the name of the service dealer that is authorized by the manufacturer.

Disclaimer of Consequential Damages - Resource Recovery Systems, Inc. shall not be liable under any circumstances for any incidental or consequential damages or expenses of any kind, including – but not limited to – the cost of equipment rental, loss of profits, or cost of hiring services to perform tasks normally performed by the equipment.

Limitation of Implied Warranties - Any implied warranties, including without limitation of implied warranty of merchantability or fitness for a particular purpose, shall be limited in duration to a period of one year from the date of sale. Same states do not allow the exclusion or limitation of incidental or consequential damages, or limitation on how long an implied warranty lasts.

Other Limitations - In no event, whether as a result of breach of contract or warranty or alleged negligence or liability without fault, shall **WOOD BEAVER** be liable for special incidental or consequential damages including, without limitation, loss of profit or revenue, cost of capital, cost of substituted equipment, facilities or services, downtime costs, labor costs or claims of customers, purchasers or lessees for such damages. In no event will warranty compensation, or other damages available from Wood Beaver exceed the purchase price of the product

Your Rights Under State Law - This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

Wood Beaver Forestry, RRS, Inc. 1117 Western Drive Hartford, WI 53091 www.rrsinc.net

Engines are warranted by their manufacturer and have warranties from 2 to 5 years. Please refer to you engine owner's manual for engine specific warranty.

WOOD BEAVER

WOOD BEAVER OPERATING SPECIFICATIONS

ALL 13 SERIES FIREWOOD PROCESSORS	
OVERAL LENGTH – With standard in feed	196 INCHES
OVERAL LENGTH – With standard in feed and conveyor folded	1208 INCHES
OVERALL HEIGHT – No conveyor	68 INCHES
OVERALL HEIGHT – With conveyor folded	99 INCHES
OVERALL WIDTH	48 INCHES
CONVEYOR LENGTH	96 OR 144 INCHES
MACHINE WEIGHT	>1600LBS. Depending on options

WOOD BEAVER

OPERATING INFORMATION

Before operating the Wood Beaver machine, read the following safety information and review safety information on page 8.

!WARNING!

OPERATION HAZARD! Never allow anyone who is not properly trained to operate this machine. Only authorized personnel who are properly trained in the Wood Beaver operation can operate the Wood Beaver.

!WARNING!

OPERATION HAZARD! Do not operate the **Wood Beaver** machine if it requires repairs or scheduled maintenance. Put an information tag on the machine that reads “**DO NOT OPERATE**”. Repair all damages at once and perform routine maintenance per attached schedule.

!WARNING!

OPERATION HAZARD! Do not, under any circumstance, reach past the chain guard while the chain is running. This includes reaching into the splitting well area. Always stop the chain prior to opening the saw guard.

!WARNING!

OPERATION HAZARD! Do not wear loose clothing or jewelry during operation of your Wood Beaver processor. Keep all body parts and foreign object clear of all moving parts.

OPERATOR CONTROLS

Wood Beaver firewood processors are designed to be optioned for specific needs. Your machine will not have all of the options or controls possible. This section will give you an overview of available controls and options. Control layout may differ from the pictures, please familiarize yourself with the controls on your specific machine.

The term “feathering” of a control refers to partial activation, rather than opening the control fully. This restricts the flow of hydraulic fluid, therefore slowing the operation down.

START UP/WARM UP PROCEDURES

Engines and hydraulic systems require some amount of warm up time. This varies depending on ambient temperature. A good rule of thumb is to allow 15 minutes, except in extreme condition where more or less may be required. After starting the engine, give it a minute to start warming up, then activate a hydraulic accessory. If you have a discharge conveyor, turn it on and let it run through the rest of the warm up period. If not, activating the saw will warm the hydraulic system, however, additional care needs to be taken if the saw is used (and be sure to open the bar and chain oiler). Once the machine has warmed up, activate each hydraulic system several times to assure proper function. You are now ready to start working.

PREPARING FOR OPERATION

Once you have chosen an appropriate site to set up your 13 Series firewood processor (open with minimal obstructions, reasonably level) and started it warming up, it is time to get it ready for production. This procedure only takes a few minutes. And only needs to be done once at any location.

SETTING THE STABILIZER LEGS

While there are several ways to set the legs, here is a quick easy method. After disconnecting the processor from the tow vehicle, lower the tongue jack as far as possible. Drop the rear legs and pin them at the desired height. Using the tongue jack, lift the front of the machine and set the rest of the legs to the appropriate height to leave it sitting as level as possible. Remember that if it sits in one location for extended periods, the ground under the legs may compact.

WOOD BEAVER

EXTENDING THE CONVEYOR

8' conveyor

The conveyor is raised and lowered manually. Unlatch all travel latched and check that chains are free and unobstructed. If winch equipped, let enough winch strap out that the conveyor can be pushed over center. Push the conveyor away from the machine, then lower by hand to about a 45 degree angle and engage the support chains. Reverse procedure to stow for travel. Never move the machine with conveyor extended – this can damage components

12' conveyor

The conveyor is raised and lowered with a winch to assist lifting. Unlatch all travel latched and check that chains are free and unobstructed. Let enough winch strap out that the conveyor can be pushed over center. Push the conveyor away from the machine, then either lower by hand all the way to the ground. Extend the 4' conveyor extension and push downward to flatten the conveyor. Using the winch, lift until the conveyor is just above 45 degrees, engage the support chains, and lower until the chains support the weight. Reverse procedure to stow for travel. Never move the machine with conveyor extended – this can damage components

!WARNING!

OPERATION HAZARD! The conveyor winch can freewheel, allowing the conveyor to crash to the ground. Always lock the conveyor by switching to the lift position before releasing the crank.

BAR AND CHAIN OILER

Any time the saw is running, the oiler must also be opened to properly lubricate the components. The control for the oiler is on the right side of the chain guard. Adjust the bar and chain oil for a steady flow, enough to keep the chain well oiled, but not so much that you have an oil mist spraying off the chain. The valve usually needs to only be opened about ¼ turn. It is a gravity feed system that provides excellent oil control under all conditions. Warmer weather will require the valve to be open less, because the oiler will flow better. Be sure to close the valve any time you are shutting down the saw to avoid wasting oil. We recommend bar and chain oil for best performance. There is a sight gauge on the operator side of the chain guard so you can easily monitor your oil supply. A full tank should easily last through a full day of cutting.



SAW ON/OFF

The saw motor is activated by a cam as the chain moves toward the log. Whether you have a manual pull down or the EZ control, the motion of the saw starts the motor. The motor will automatically disengage as the saw returns to the sowed position. When the saw is running, keep everything well clear of the saw and saw guard. Never operate the machine with the saw guard not latched down.

LOG LIFT UP/DOWN

The mechanical log lift is standard on the Lil Beaver 13 to load the infeed table. Logs will move about three feet away from the operator as they lift, before returning toward the operator. Roll the log off the lift and onto the infeed table when it is in the upright position. Unhook the log lift actuator between logs as a safety precaution.

!WARNING!

OPERATION HAZARD! Extra caution should be used during log lift operation – the lift can pick up logs in excess of 1,000#. There is a lot of both momentum and force behind the movement. Be sure to keep everyone well clear of the lift area.

WOOD BEAVER



Log Lift travel lock. Remove lynch pin to use Log Lift. Reinstall when moving your firewood processor.

Mechanical Log Lift lifting hook in the “rest” position.



Log Lift lifting hook – close up – engaging with the Log Shuttle Table for lifting next log.



Log Lift in the full up and full down positions. Note that the arms have been positioned in the work position. For travel they need to be rotated 90 degrees to store parallel to the processor.



LOG SHUTTLE TABLE FORWARD/BACKWARD

The Lil Beaver 13 has a unique in feed system in the Wood Beaver line up. It uses a 2 function Log Shuttle Table to advance the log as well as split the previous piece. To advance a log into the saw area use the splitter control lever. Move the table fully forward. Depending on the length of log you are cutting, the log may hit the positive log stop prior to fully extension – in which case the log will slide on the table as the table continues to advance. Use the log hold down lever to hold the log as you retract the table. When moving forward for the first cut on a log, you may need to advance the table more than once before the log seats against the log stop. If you need to adjust or replace the chain, you can reverse the log out of your way by using the log hold down when the table is retracted and releasing when it is extended. For the final cut on a log, advance it to your cut length on the back scale to make a clean-up cut.

WOOD BEAVER

SAW UP/DOWN

There are two different styles of saw controls. Manual and Hydraulic. In either case, the saw motor is automatically engaged as the bar starts to sweep downward.

!NOTICE!

The Log Shuttle Table and saw are interlocked. If the saw will not come down, the table has not returned to the full retracted position. Finish retracting the table and the saw will function correctly.

MANUAL SAW UP/DOWN

Reach up for the overhead pull down lever. By adjusting the amount of pressure you apply to the lever, you can speed up or slow down the cut – too much pressure is harder on chains and bars. Apply enough pressure to cut smoothly without bogging down the engine or causing the saw to bounce on the log. Release the lever once the log drops into the splitting well.



EZ HYDRAULIC SAW UP/DOWN

Using the lever on your control panel, activate the saw down until the log drops into the splitting well, IMMEDIATELY return the saw to the upright position. On a very large or particularly hard piece of wood, it may be beneficial to feather the control to slow it down slightly.

!NOTICE!

Be cautious to always return the saw to its full up position BEFORE activating the infeed. The force of the table extending could cause damage to the saw mechanism.

WOOD BEAVER

Adjusting Saw down pressure – Hydraulic EZ Controls

The down pressure adjustment is fairly easy to make. Refer to your hydraulic pressure settings sheet for where it was factory set. The normal base setting while “deadheading” the saw down is between 800 and 850 psi on engine equipped models and 700-750 on PTO units. Depending on the type of wood, some minor adjustment may allow the machine to operate more efficiently. When looking at the valve from the end, turning clockwise increases pressure while counter clockwise decreases pressure. With either valve, very small movements make a difference, generally 1/8 turn up or down is enough. Best down pressure for the type of wood is maximum pressure for a smooth cut – if the saw is chattering, pressure is too high. We recommend shutting the machine down while making the adjustment. A small amount of hydraulic fluid may be present when adjusting, this is normal.



The down pressure adjuster is located below the control panel as in this picture.



Wood Beaver uses two styles of adjuster, depending on the machine. The control shown on the left is a thumbscrew adjustment. The control on the right requires two allen wrenches (1/4” and 5/16”). In either case, a 1” open end wrench fits on the body of the control.



The control that requires allen wrenches has a cap (5/16”) that must be removed before the adjustment screw (1/4”) can be reached.



WOOD BEAVER

LOG HOLD DOWN

The hold down applies downward pressure on the log to keep it stable during the cutting operation and hold the log forward as the Log Shuttle Table retracts.

MANUAL HOLD DOWN

During normal operation, this automatically rides on top of the log and requires no operator input. When making the clean-up cut (last cut for consistent log lengths) the operator should apply slight downward pressure to help stabilize the log.



Pressure is applied to the hold down lever both holding the log from moving backward while retracting the table (or forward if you are moving the log backward) and to stabilize the log during the final “clean up” cut for consistent firewood lengths.

Raise the log hold down to allow the log top move freely with the table.



POSITIVE LOG LENGTH ADJUSTMENT

By loosening the bolt, length can be set between 10” and 24”. As the saw reaches the bottom of its movement, the cam action of the log stop causes it to move up allowing the log to drop freely. This relieves the cut and guides the log to drop cleanly into the splitting well.

WOOD BEAVER

SPLITTER OPERATION

Watch to be sure the log has dropped properly into the splitting well – logs that do not fall straight need to be turned before splitting. Pushing down on the lever extends the Log Shuttle Table, splitting the log in the well, while advancing the log for the next cut. Lifting the lever returns the block – the return has a detent so you do not have to hold the lever for the return trip.

!WARNING!

OPERATION HAZARD! Before reaching into the splitting well **ALWAYS** stop the saw. Use extreme caution near the wedge, it has a very sharp splitting edge (ax edge wedge) and can very easily cause serious injury.

!NOTICE!

While some machines are powerful enough to split logs sideways on the wedge, it is not a practice that is of any value. There is a strong potential of damaging the machine and/or wedge. Never split wood that is not laying straight in the splitting well.

WEDGE CONTROLS

!CAUTION!

Always set wedge crossbars at or below centerline of log. Failure to set below this level can cause excessive twisting and potential wedge failure. Clear material from under the crossbars from time to time. Especially on 6- and 8-way wedges, excessive build up will eventually bend the cutting edges upward and ultimately cause failure. Wedge failure due to distortion is not covered under warranty, only defects in materials and workmanship are covered by the warranty.

Manual wedge - is adjusted with a lever next to the splitter well. Pull the lever away from the machine and move left or right to adjust the height.



CONVEYOR FORWARD/REVERSE

Under normal running conditions, you will start the conveyor running forward when you start processing and stop it when you finish. In the odd instance that the conveyor jams, reversing it will often clear the jam. The lever is located between the log hold down base and the chain guard.

!NOTICE!

Keep the area at the base of the conveyor free of debris. The cleats hitting debris can cause jams and other damage to the machine.

WOOD BEAVER

SEQUENCE OF OPERATIONS

By following a logical sequence of operations, you will help maximize productivity:

1. With the Log Shuttle Table retracted and the Log lift in the down position, engage the Log Lift hook with the table.
2. Roll a log onto the arms of the Log Lift.
3. Extend the Log Shuttle Table, causing the log lift to raise the log to table height. Roll the log onto the table.
4. Retract the table, lowering the lift to the ground. Disengage the hook.
5. Extend the table. Using the log hold down, hold the log forward while retracting the table.
6. Repeat Step 5 as needed to get log up to the log stop.
7. Activate the saw with either the joystick or pull down lever (depending how machine is equipped).
8. Repeat from Step 5, until you need to lift the next log, then return to step 1.

!NOTICE!

Be cautious to always return the saw to its full up position **BEFORE** activating the infeed. The force of the table extending could cause damage to the saw mechanism.

MAINTENANCE

Maintenance must be a planned program that includes periodic Wood Beaver inspection and lubrication procedures. The maintenance program must be done based on the **WOOD BEAVER** operating hours and should be recorded on the Periodic Maintenance Schedule which is done daily, weekly and monthly. Follow the Periodic Maintenance Schedule Chart and all Maintenance Procedures to maintain the Wood Beaver in top operating order. ***** Dusty, dirty conditions require service more frequently. *****

MAINTENANCE INSTUCTIONS

“HOUSEKEEPING” SCHEDULE	
ITEMS CLEANED	DAILY and AS NEED
REMOVE SAWDUST AND CHIPS FROM UNDER AND AROUND MACHINE	CLEAN
REMOVE DEBRIS UNDER DISCHARGE CONVEYOR	CLEAN
CLEAN OPERATOR AREA OF DEBRIS, TOOLS, RAGS, ICE AND SNOW	CLEAN
CLEAN DEBRIS FROM WEDGE SLIDE GROOVE	CLEAN

MACHINE MUST BE SHUT OFF BEFORE MAKING ANY ADJUSTMENT!!!

Check level of hydraulic oil daily. The correct level is 4 inches below the top of the filter pipe.

The level is to be checked with the cylinders fully retracted. Change oil every 500 hours of operation HDMV OIL.

Check engine oil level daily. Add when necessary and change in accordance with engine manufacture’s recommendation.

Repack wheel bearing with Chevron Starplex 2 or equal if the machine has been subjected to the following conditions:

- Extremely dusty/dirty conditions
- Wheels submerged
- High mileage (10,000)

WOOD BEAVER

Visually inspect tires for proper inflation, cuts, gouges, blisters or tread separation.

!WARNING!

Improperly inflated tires can cause excessive heat buildup, which can result in blowouts.

!CAUTION!

Over or under inflated tires can cause a drastic reduction in tire and rim life.

!CAUTION!

REPLACEMENT OF ANY OF THE HYDRAULIC COMPONENTS other than the filter elements should be done by an expert mechanic of hydraulics.

PERIODIC MAINTENANCE SCHEDULE				
ITEMS SERVICED	DAILY and AS NEED	FIRST 100 HOURS	EVERY 6mo Or 100 HOURS	EVERY 12mo or 500 HOURS
HYDRAULIC HOSES	CHECK			
HYDRAULIC OIL AW-32	CHECK			REPLACE
HYDRAULIC FILTER		REPLACE		REPLACE
BEARINGS	CHECK			
INFEED AND DISCHARGE BELTS	CHECK			
ENGINE OIL	CHECK		REPLACE	
ENGINE OIL FILTER			REPLACE	
ENGINE AIR FILTER	CHECK			
CHAIN AND BAR	CHECK			
MACHINE HARDWARE	CHECK			
<p>All "CHECK" items, repair/replace as necessary. Never run you Wood Beaver with inferior or failing parts.</p>				

WOOD BEAVER

SAW CHAIN ADJUSTMENT

Prior to adjusting the saw chain tension, shut the engine off. **Never adjust or handle the saw chain without gloves on.** The saw chain is maintained basically the same as a saw chain on a hand held chain saw. To adjust the chain, loosen the (2) mounting bolts at the left side of the saw bar and turn the adjusting screw that is next to the saw bar until the chain can be pulled away from the bar (the tip of one driver will just clear the bar). Follow the sharpening procedures as outlined by the manufacturer. Hold the saw bar back into the saw guard and retighten the (2) bolts. Maintain chain tension as loose as possible as long as chain doesn't slip.

Never handle or perform adjustments on the saw chain or bar without shutting the power off. Keep personnel away from the engine controls at this time so that an accidental start-up does not occur.



FILTERS

Changing your filters regularly helps keep particulates out of the systems. Change them every time you change the associated fluids.

OIL FILTER

Many of the engines used by Wood Beaver have an automotive style canister oil filter, although some have no filter at all. If equipped with a filter, be sure you change it with every oil change.



AIR FILTER

Wood Beaver firewood processors have an engine mounted air filter. Cleaning/replacing regularly will help your machine maintain peak performance.



WOOD BEAVER

HYDRAULIC FILTER

Hydraulic filters keep debris out of your hydraulic system. Replace after the first 100 hours and every 500 hours thereafter.



HYDRAULIC HOSES

Hydraulic hoses are designed to withstand variations of temperatures and pressures. However, they may be susceptible to failure if not properly handled, maintained, or inspected.

!WARNING!

ESCAPING FLUID PRESSURE CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY!!
RELIEVE PRESSURE BEFORE DISCONNECTING HYDRAULIC HOSES. TIGHTEN ALL CONNECTIONS BEFORE APPLYING PRESSURE. KEEP HANDS AND BODY AWAY FROM PINHOLES THAT MAY ALLOW FLUIDS TO ESCAPE UNDER HIGH PRESSURE. USE A PIECE OF CARDBOARD OR PAPER TO SEARCH FOR LEAKS. DO NOT USE YOUR HANDS!! IF FLUID IS INJECTED UNTO THE SKIN, PROMPT MEDICAL ATTENTION IS REQUIRED!!

Because of the various types of hydraulic hoses and how they are used, installation or environmental stress can be blamed for many failures. The most frequent problems are:

*Twisting the hose during installation – When a hose is twisted during installation structural damage may occur (especially if they are twisted to the point that kinks develop). Some of the braiding may break or separate at the kink, causing a weak point and possibly a hose rupture. A hose may look fine on the outside but be damaged internally. Make sure hoses are not distorted when fittings are tightened.

*Installing the hose with sharp bends in it – Sharp bends can cause hoses to rupture on the outside radius. You can correct the problem by properly routing the hose or installing shields to prevent bending over sharp corners.

*Excessive heat or cold – unless hoses are specifically designed for high heat usage, some become brittle and hard from extremely high temperature operation. The inner liner in many hoses will start to harden when exposed to temperatures above **200° (93°C)**. Extreme heat build-up can be the result of many factors such as

- Faulty or improperly adjusted valves
- High pressure leaks
- Low fluid levels
- Dirt build-up on lines, hoses reservoir or cooler

When replacing any heat-damaged hose, determine whether the system is exceeding recommended temperature levels. If it is, correct the overheating problem before installing the new hose.

WOOD BEAVER

Cold temperatures can also cause hose failures. Flexing of very cold lines can crack both the inner linings and outer covers.

* External damage or aging of hoses – Hoses can be damaged by abrasion, corrosion, heat from being too close to high temperature sources, prolonged exposure to sunlight and age. Constant exposure to extreme conditions will eventually deteriorate any hose.

Take special care in the installation and routing of hoses to protect them from external damage.

When hoses begin to deteriorate, replace them. Replacement prior to failure can save costly down-time or repairs and may mean a safer operation for people on or around the job site.

HYDRAULIC SYSTEM CONTAMINATION CONTROL

Contamination control not only helps maximize machine performance, it has a significant effect on components life. Even very small debris can cause problems within a hydraulic system. Implement the following practices to guard against the effects of contamination:

DURING OPERATION;

- Fix leaks immediately. If oil is leaking out, particles are getting in.
- Replace worn seals immediately. Rod wipers seals are a main point of dirt entry
- Control operating temperature by keeping the oil tank full and properly maintaining the oil cooler (if equipped) and relief valves.
- Use protectors such as cylinder rod boots or bellows in a dusty environment to prevent rod damage that can carry contaminants into the system.

DURING MAINTENANCE:

- Change hydraulic oil filters on schedule.
 - Always use a clean rag to clean the area around fill cap and filter housing to keep debris out of the system.
 - Remove old filters carefully-they contain sludge that can fall back into system.
 - Keep new filter packaged until installation.
- Change hydraulic oil on schedule
 - Drain dirty oil as completely as possible when it is warm (**NOT HOT**) and agitated. Warm up the machine, operate all functions, and return all cylinders to the retracted position.
 - Protect oil stored in 55-gallon drums with barrel covers to keep out water and dust.
 - Filter new oil from drums using a fluid/filter transfer cart.
 - Use final filtration transferring oil from bulk cart.

WOOD BEAVER

LONG TERM STORAGE (2+ MONTHS)

- Drain fuel system, run engine until it shuts down – fuel related problems are the number one cause of a no start after storage. Today's ethanol mix fuels deteriorate in as little as 2 months.
- Remove battery and keep in cool dry place. Do not allow battery to freeze! We recommend keeping the battery attached to battery maintainer, for maximum life.
- Clean the machine thoroughly inside and outside. Dirt attracts moisture, which causes corrosion.
- Washing can be done with a pressure washer. **NOTE! NEVER DIRECT WATER JET DIRECTLY TOWARDS BEARINGS AND OR OTHER PARTS THAT MAY GET DAMAGED.**
- Apply oil to all joints.
- The unpainted, unprotected metal parts will get a longer life, if you spray them lightly with oil before storage.
- Never store the machine near artificial fertilizers.
- Store the machine on a level and hard surface. You may leave the discharge and feed conveyor in transport position.
- Oil the chain and bar.

WOOD BEAVER

Operator Acknowledgment

I have reviewed all the above items with the technician performing the startup of the equipment and its safe operation, and hereby confirm my understanding. I have been instructed and informed of the importance of the foregoing safety procedures, and reviewed all safety procedures contained in the Operator's manual and parts manual provided to me.

Signed: _____ Title: _____
(Customer)

Printed name: _____ Date: _____

Signed: _____ Title: _____
(Technician performing start-up)

Printed name: _____ Date: _____

WOOD BEAVER

TROUBLESHOOTING

ENGINES

ENGINE WILL NOT CRANK OR SLOW CRANK

- Check battery connections are clean and tight.
- Check battery is charged and in good working condition.
- Test starter.

ENGINE WILL NOT START

2. Fuel related.

- Check fuel tank and fill as need.
- Check fuel lines for water, frozen lines, dirt or debris.
- Thaw or drain fuel tank.
- Drain and flush fuel system. Change fuel filter.

3. Air related

- Air filter restricted with dirt, snow, or water:
- Clean or replace filter.
- Air intake pipe screen plugged:

4. Spark related.

- Check for spark at plug.
- Verify spark plugs are clean and in good condition.

5. Oil related

- Low engine oil pressure:
- Check oil levels.
- Fill to correct level.
- Check for leaks and repair leaks
- Low viscosity:
- Using wrong oil Winter oil in Summer and vice versa
- Drain and fill with the correct weight oil (HDMV OIL).

ENGINE OVERHEATS

- Engine overloaded. Reduce load.
- Air filter plugged:
- Clean and replace air filter.
- Fuel line restriction.

HYDRAULIC SYSTEM

1. PUMP OR MOTOR TOO NOISY

- Low oil supply or wrong viscosity:
- Fill reservoir with the proper oil.
- Air in oil:
- Check for foamy oil, tighten connection:
- Replace o-rings or lines.

2. OIL OVER HEATS

- Fluids may be dirty or low supply:
- Fill reservoir to proper level.
- Incorrect fluid viscosity:

WOOD BEAVER

- Replace oil with proper viscosity (AW-32 or 46).
 - Excessive load, reduce load.
3. **NO FLOW PRESSURE**
- Pump not receiving fluid.
 - Any or all of the following may contribute/cause problem:
 - Replace dirty filters:
 - Clogged inlet line:
 - Clean reservoir breather vent:
 - Fill reservoir to proper level:
 - Check pumps and valves:

Splitter cylinder will not extend

- 1) Using the splitter valve (with engine running), retract the cylinder and looking at the splitter pressure gauge on the front panel, be sure that pressure is reading minimum 2000 psi when fully retracted, if not, adjust pressure relief valve on the splitter valve (located under the 1-1/16" steel hex cap) near handle and adjust clockwise (using an allen wrench) while retracting the cylinder fully until you reach 2500 psi on the gauge.
- 2) If cylinder still will not extend and your system has a regeneration manifold on it, remove the hydraulic filter element (located under the plastic hydraulic filter cap on top of tank, once cap is removed you will see a clear plastic tab attached to filter element, grab this tab and pull up to remove. If cylinder now extends, replace filter element as it is saturated with contamination and needs replacement.

Splitter cylinder is not splitting my wood that previously it did or stalls when it runs up against the wood

- 1) Hold the splitter valve in the retract position with engine running, the pressure gauge on front panel for the Splitter cylinder should read 2500 psi when cylinder is completely retracted. If not, adjust pressure relief valve on the splitter valve (located under the 1-1/16" steel hex cap) near handle and adjust clockwise (using an allen wrench) while retracting the cylinder until you reach 2500 psi on the gauge.
- 1) If #1 is Ok and you have a regeneration valve. With engine shut off. In the Regeneration manifold find the cavity stamped 'CV2'. In this cavity is a check valve cartridge. Using an allen wrench, remove this cartridge and if when looking at the nose of this cartridge, you see a piece of contamination (could be a tiny piece of hose, plastic, etc.) blocking the small hole on the nose, remove and re-install and you should be good. If you don't see anything obstructing the hole, chances are the contamination has worked its way inside this hole and is stuck internally between the poppet and the seat keeping the check open and this valve will need to be replaced.
- 2) If #1 and # 2 are Ok... Extend cylinder completely using Splitter valve (with no log in splitting chamber), remove hose connection at rod side of cylinder. Now hold the Splitter valve handle in the 'EXTEND' position (not retract or hydraulic oil will come rushing out of hose you disconnected). If oil comes rushing out of rod port of cylinder while extending the cylinder , then the seals on the hydraulic cylinder piston need to be replaced.

WOOD BEAVER

REMOVING PROCESSOR FROM USE, END OF USEFUL LIFE PROCEDURE

- The processor end user, or the person or company that owns the processor at the time of removal from use, has complete responsibility for removing the processor from use.
- Disposal of hoses, oil, and rubber and plastic parts is to be done conforming to prevailing laws and orders.
- Iron and other metal shall be recycled through machine and metal waste companies for recovery of materials.
- Every state and county has its own laws, instructions, and regulations for the removal of products from use and handling of the different waste materials, which must be obeyed. Environmental authorities give information on scrapping and waste disposal, if needed