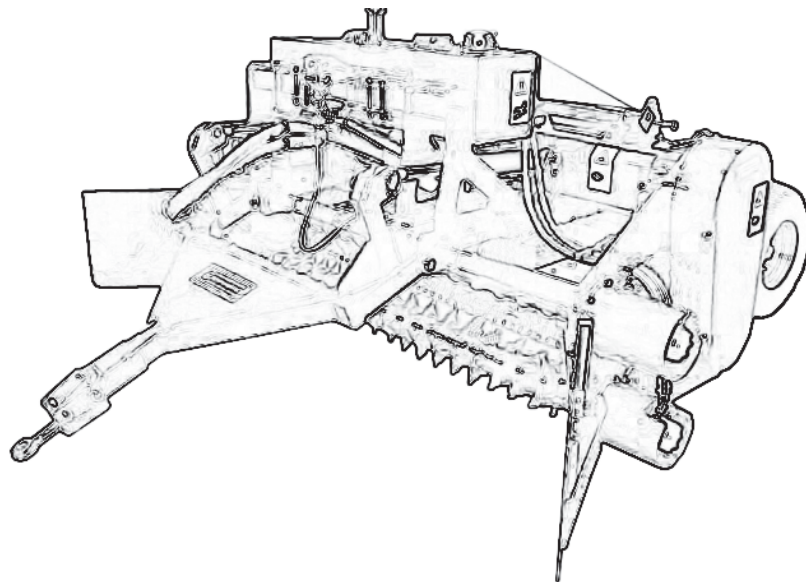


GEARMORE INC.

ORCHARD BRUSH PROCESSOR



Operation & Service Manual For Model WBS225

July 2009

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1 INTRODUCTION

We would like to thank you for purchasing a Gearmore product and we assure you that you have made a good choice, as now you have a very high quality machine. Please follow all instructions contained in this manual for a long and trustworthy machine life.

Know your controls. Read this manual and the manual provided with your tractor before operating your equipment. Keep this manual handy for ready reference. Learn how to stop the tractor engine and brush processor quickly in case of an emergency. **DO NOT** allow adults without proper instructions or children to operate machinery. Require all operators to read this manual carefully and become acquainted with all adjustments and operating procedures before attempting to operate the equipment. Replacement manuals can be obtained from your selling dealer.



It is IMPORTANT to read this manual carefully before operating the brush processor!

The equipment you have purchased has been carefully engineered and manufactured to provide dependable and satisfactory use. Like all mechanical products, it will require cleaning and upkeep. Lubricate the unit as specified. Please observe all safety information in this manual and safety decals on the equipment.

For service, your authorized dealer has trained mechanics, genuine service parts, and the necessary tools and equipment to handle all of your service needs.

Use only genuine service parts. Substitute parts will void the warranty and may not meet standards required for safe and satisfactory operation. Record the model number and serial number of your equipment in the warranty page of this manual.

Throughout this manual, the term **IMPORTANT** is used to indicate that failure to observe procedures can cause damage to equipment. The terms **CAUTION**, **WARNING** and **DANGER** are used in conjunction with the Safety-Alert Symbol, (a triangle with an exclamation mark), to indicate the degree of hazard for items of personal safety.



This Safety-Alert Symbol indicates a hazard and means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!



DANGER

Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.



WARNING

Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed.



CAUTION

Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.

IMPORTANT

Indicates that failure to observe can cause damage to equipment.

NOTE

Indicates helpful information.

2 PREPARATION

2.1 TRACTOR REQUIREMENTS

The Gearmore Brush Processor reduces orchard brush to a very fine mulch.

Thus, it is very important to have the correct tractor specifications to operate the processor.



IMPORTANT!

The tractor used must meet or exceed the following specifications:

1. The tractor **must** have a minimum of 95 P.T.O. Horsepower
2. The tractor **must** have 1000 RPM P.T.O.
3. The tractor **must** have creeper transmission
4. The tractor **must** have a wet clutch
5. The tractor **must** have a modulating type P.T.O.
6. The tractor **must** have two sets of remotes.

The WBS Brush Processor will operate on any make or model tractor with a minimum of 95 P.T.O. horsepower and a very low first gear speed. Creep gears and wet P.T.O. clutches with modulation are recommended for Brush Processor use when the machine is to be used for any brush disposal due to the severity of the application.

2 PREPARATION (CONTINUED)



THIS CHECK LIST TO REMAIN IN OWNER'S MANUAL

**IT IS YOUR RESPONSIBILITY TO COMPLETE THE PROCEDURES LISTED
BELOW BEFORE OPERATING THE BRUSH PROCESSOR**

2.2 PREPARATION CHECK LIST

- 1. Implement is completely assembled.
- 2. Inspect for damage and loose or missing parts
- 3. All decals in place and readable.
- 4. All fittings and drive components are secure.
- 5. Overall condition good.
- 6. Check machine for any foreign objects.
- 7. Operator has been instructed on the safe and proper use of the implement.
- 8. Lubrication - See *Lubrication & Maintenance* Section

The purpose of this manual is to assist you in operating and maintaining your brush processor for years of service. Read it carefully. The information and instructions in this manual have been compiled from extensive field experience and engineering data. Some information may be general in nature due to unknown and varying operating conditions. However, through experience and these instructions, you should be able to develop procedures suitable to your particular situation.

The illustrations and data used in this manual were current at the time of printing, but because we maintain an ongoing program of product improvement, we reserve the right to make improvements in design or changes in specifications without incurring any obligation to install them on units previously sold. Because of the possibility that some photographs in this manual were taken of prototype models, production models may vary in some detail.

All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

2.3 RETAIL CUSTOMER'S WARRANTY RESPONSIBILITY

It is the Retail Customer and/or Operator's responsibility to read the Operator's Manual, to operate, lubricate, maintain and store the product in accordance with all instructions and safety procedures. Failure of the operator to read the Operator's Manual is a misuse of this equipment. It is the Retail Customer and/or Operator's responsibility to inspect the product and to have any part(s) repaired or replaced when continued operation would cause damage or excessive wear to other parts or cause a safety hazard. It is the Retail Customer's responsibility to deliver the product to the authorized dealer from whom he purchased it, for service or replacement of defective parts which are covered by warranty. Repairs to be submitted for warranty consideration must be made within thirty (30) days of failure. It is the Retail Customer's responsibility for any cost incurred by the dealer for traveling to or hauling of the product for the purpose of performing a warranty obligation or inspection.

3 SAFETY INFORMATION

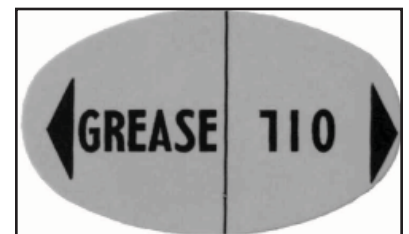
3.1 SAFETY SYMBOLS



ATTENTION!

Be sure that the safety labels are readable. Clean them up using a cloth, water and soap. Replace the damaged labels placing them in the right position, as subsequently described.

There are decals with safety warnings placed on the machine in visible positions. These decals must never be removed or covered and in case of wearing, they must be replaced with new ones. We will provide new decals when asked to do so. (See parts manual for ordering.) The safety symbols applied to the machine provide a series of very important information; which needs to be followed to assure your safety.



3 SAFETY INFORMATION (CONTINUED)

THE FOLLOWING SAFETY RECOMMENDATIONS ARE TO PROTECT YOU FROM INJURY; IT IS THEREFORE IMPORTANT TO READ THEM CAREFULLY, MEMORIZE THEM AND ALWAYS APPLY THEM.

The owner and the operator(s) must read carefully all instructions given in this manual. Negligence or disregard of the warnings can cause severe damages, injuries and even death!

3.2 GENERAL WARNINGS

The machine must only be operated by qualified persons of full age, in normal psychological and physical conditions. The operator must be instructed in the operation of the machine and informed on the related risks. The operator must read all the manuals and information provided with the machine. The machine must never be left unattended while working. Tiredness, sickness, influence of alcohol or other drugs or narcotics can affect the safety. The operator must be informed on national laws concerning safety and personal injury protection.

3.3 INTENDED USE

The machine must only be used for purposes described in this manual and in the range of the specified technical data. Further it must be driven by a tractor which is suitable to the machine and respects laws on public transport (See *Transporting Section*)

It is neither considered nor allowed to:

- Use the machine for other than the mentioned purposes, especially on stony grounds.
- Operate the machine by unqualified personnel.
- Modify the technical characteristics of the machine or its components.
- Modify or remove protections or guards.

3.4 RESIDUAL RISKS

The machine has been designed and manufactured with the goal to eliminate risks connected to its operation. Considering the way of utilization though, the machine can bear risks to the operator, the maintenance personnel or other persons, during operation, maintenance, or storage (e.g. accidental contacts, projection of materials, crushing), which cannot be completely eliminated due to the nature of the product.

To reduce the risks to a minimum, please follow the instructions in the manuals accurately.

Never exceed the functional capacity of the machine and always wear personal injury protection (such as goggles, gloves, hearing protection, etc.) required for operation or maintenance.

3 SAFETY INFORMATION (CONTINUED)

The individual residual risks are as follows:

1. The machine crashing or rolling over.
2. The operator falling off the machine when stepping on it.
3. Crushing caused by the top cover or by the machine itself when lifted.
4. Injuries from cuts on sharp edges and cutting surfaces.
5. Breakdown of the machine. Could be caused by the processing of unintended objects, like stones or rocks, or by the cracking of a hammer tool. Such a breakage could lead also to the dangerous ejection of machine fragments.
6. Injuries caused by ejected pieces of wood or other processed materials, when approaching the working machine or when the protection is damaged or worn out or when unintended material is being processed and even when the protections are fully working.
7. Ignition of the machine, which could be caused by the presence of highly flammable material on the working ground (e.g. very dry leaves) or by the exhaust.
8. Injuries resulting from noise and acoustic emissions. The Brush Processor, when in operation, emits a high decibel level of noise. Operators must wear ear protection. Prolonged use could create hearing loss.

To reduce the risks mentioned above, it is necessary to pay utmost attention to each step of operation and maintenance, adapt the RPM of the machine and the speed of the prime mover to the specific working ground conditions (surface, incline, traction) and adhere exactly to the following instructions:

Consider the information contained in the operators manual of the tractor. The prime mover must be fully enabled to carry the mulcher machine.

When the machine is lifted in any position a minimum of 20% of the weight must be carried on the steering wheels of the prime mover without the use of counter weights.

The connection of the machine to the mulcher must not allow any accidental movement.

It is forbidden to step on the machine, except for special maintenance jobs, which are accurately described in the maintenance section of this manual. In this case, you must wear proper working shoes with anti-slipping soles and safety garments.

Before stepping on the machine take care of clearing any slippery material off it (water, oils, leaves).

Adding fuel or oil must be performed from the ground.

During inspections and maintenance never approach any part of the body even slightly to moving parts of the machine.

3 SAFETY INFORMATION (CONTINUED)

During inspections and maintenance you need to fix the hydraulic rotor hood additionally to avoid accidental crashes.

Pay attention to your hands when opening the guards. When fully opened the grids must be secured with the provided chains to avoid accidental crashes.

When the top cover is opened you must secure it by placing the spacer on the hydraulic cylinder before performing any maintenance operation.

At the end of operation the machine must always be placed on the ground.

Always wear safety gloves when performing maintenance or handling operations.



Before approaching the machine, wait for a few minutes until the machine has completely stopped.

Inspect the working ground before you start operation to check if it doesn't contain any dangerous material, like big stones, rocks, wires, or other material which could damage the rotor and the hammers. Check also if it doesn't contain flammable materials and keep a fire extinguisher ready.

Please respect the inspection time table to check if the wearing parts of the machine are still okay and protection intact.

During operation it is the operator's responsibility to make sure there are no persons within 100 ft. (30 m) and constantly check that nobody is approaching. The operator must also put a warning sign on the prime mover, which states that approaching the working machine is strictly forbidden (like the one already present on the mulcher). The sign must be readable from the mentioned distance.

Beware if processed material can be thrown directly to the operator's cabin it is necessary to equip it with a bullet-proof window or metal grids.

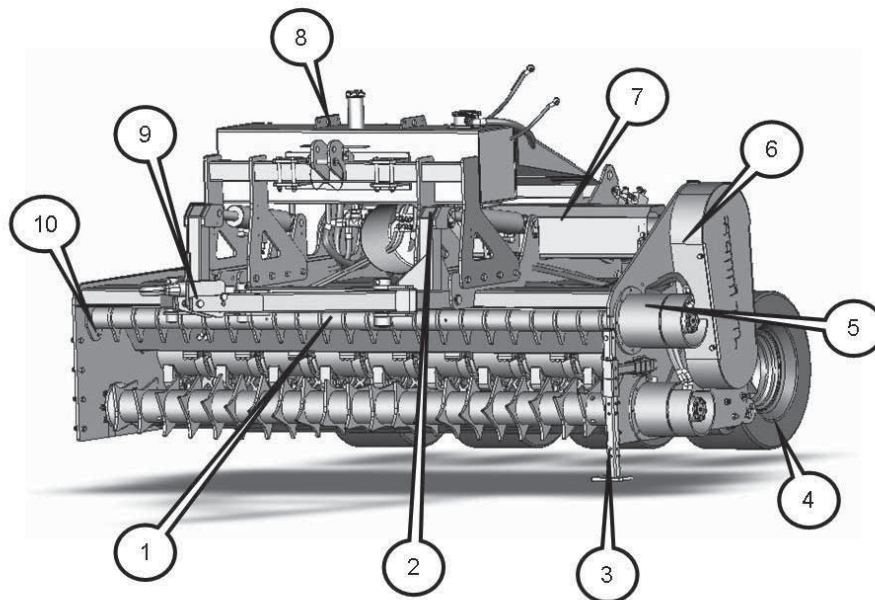
Before performing any maintenance to the transmission, the exhaust or the hydraulic components wait for them to be completely cooled down.

Wear ear protection gear during operation, while being careful that when doing so your perception of acoustic signals is diminished. Check it is possible to do so when working along a road. If available use a tractor with a cab.

The Manufacturer is not responsible in case of:

- ~ Improper use of the machine, use by untrained staff.
- ~ Serious lack of maintenance.
- ~ Non-authorized modifications or interventions.
- ~ Use of not original or specific spare parts.
- ~ Total or partial inobservance of the instructions.
- ~ Inobservance of the common safety rules during work.

4 DESCRIPTION & MAIN COMPONENTS



Drawing Front Side

The machine's central part is the processing rotor (**1**). The rotor sits in the processing chamber which is fed by the pick-up rotors (**10**).

The pick-up rotors lift branches up to 4 inches (10 cm) in diameter from the ground. They are then mulched finely through a screen which defines the size of the output.

The machine is pulled by a tractor and connected to it with a drawbar (**9**). For road transport the machine can be carried on wheels (**4**). The tractor powers the machine by a PTO shaft which connects to the PTO of the tractor to the gearbox of the machine (**2**). From there the power is transmitted to a cross shaft which transmits the power sideways (**7**) and drives the rotor (**1**) by a belt drive (**6**).

The pick-up rotors (**10**) are powered by two hydraulic motors (**5**) which are supplied with oil from the hydraulic pump system (**8**) installed on the gearbox (**2**).

5 TRACTOR HYDRAULIC REQUIREMENTS

The machine needs two auxiliary hydraulic double acting controls; one to adjust the height of the drawbar, the other one to adjust the height of the transport wheels.

5.1 AMBIENT CONDITIONS

The machine does not require special ambient conditions. It is designed to work in virtually every environment. However, it is still necessary to be careful of the weather conditions as they may have an impact on the soil condition on which the machine must work. This can lead to instability of the tractor and the mulcher.

The stability can also be lost if the terrain is too steep for the prime mover. Please refer to the manual of the prime mover, to check how steep it can work.

5.2 ILLUMINATION

When working it is necessary to have good illumination in all directions to be able to overlook the structure of the terrain and the space required by the prime mover with machine.

5.3 VIBRATIONS AND ACOUSTIC EMISSIONS

On the machine there are no vibrations which could harm the operator's health.



WARNING! If the machine happens to vibrate excessively it must be promptly stopped and the cause for this malfunction must be found. Vibrations can cause further damages to the machine and can be a danger to the operator. Vibrations can be caused by excessively worn out or broken parts.

The machine is designed to reduce acoustic emissions at their source.

6 TRANSPORT & PREPARATION FOR OPERATION

6.1 GENERAL WARNINGS

- All the operations described in this section are dangerous and if they are not well performed they can result in machine damage or personal injury. The operations described subsequently must be performed by qualified personnel, equipped with proper tools and wearing proper safety attire in respect to the national laws on safety and after reading carefully the owners manual and all other information provided with the machine.



WARNING!

During operation insure that there are no animals or people within 100 ft. When you work near roads or public places it is **COMPULSORY** to keep people away and increase precautions.



IMPORTANT!

Anyone that approaches the machine is in a danger area, and he becomes an "EXPOSED PERSON". The operator must prevent anyone from coming into a danger area and work with the maximum caution. If somebody comes up, stop the tractor engine.

6.2 TRANSPORT AND STORAGE



IMPORTANT!

Always follow the highway code applicable in the country of use.
Always observe extreme caution before transporting on public roads.

For the storage of the machine it must be placed on the ground on its wheels or on the roller and on the support foot. Leave the machine on flat and stable ground away from people, where it is not exposed to weather or crashes with other objects. When the machine is not working it is forbidden to leave it lifted from the ground.



The machine is made to be handled and transported in a safe manner.
To lift the machine use the hooking points on the edges labelled with a decal with a hook on it.

Remember that if you use ropes, they must be able to carry 5 times as much weight, if you use chains 4 times as much weight and if you use belts 7 times as much weight as the machine weighs. You can find the weight of the machine on the identification plate.

The transport and handling must be carried out with proper handling equipment. The machine must be securely tightened to the transporting vehicle with appropriate chains or straps.

Before starting transport or handling, remove all parts which could move or detach themselves possibly causing injury to the operator. Damages resulting from transport and handling are ***not covered*** by the manufacturer warranty.

6 TRANSPORT & PREPARATION (CONTINUED)

6.3 PREPARATION FOR USE

The tractor must have a draw pin which is suitable for the drawbar of the machine. The height of the drawbar must be between 12 - 20 inches (30 - 50 cm).

The tractor pulling the machine must be suitable to carry half of the machines weight on the draw pin. The tractor needs two double acting hydraulic controls to set working height and to lift the wheels for road transport.

6.4 SET-UP AND PRELIMINARY INSPECTIONS

To connect the mulcher to the tractor, approach the tractor to the mulcher until you are able to connect the hydraulic couplers. Adjust the height of the drawbar with the hydraulic cylinders until it reaches the height of the draw pin of your tractor.

Now move the tractor further backward so that you are able to insert the pin and connect the drawbar. Lock the pin securely. Now you can lift the machine from the ground by further acting on the cylinders.

Remove the support foot and lower the wheels fully before moving the machine.

Connect the PTO shaft first to the mulcher and then to the tractor. If necessary shorten the PTO shaft so that it won't interfere with the movements of the tractor, but make sure that the correct engagement of the shaft tubes is maintained. Please observe separate operating instructions.

Connect the electric controls to the power supply of your tractor.

Place the control panel of the mulcher in the cabin. Fix it tightly to the arm rest of the seat or in another position where it can safely be operated.

6.5 OPERATING PERSONNEL

This machine has been designed and manufactured to be used by a professional operator trained for operation and setup.

The operators must have read the present manual and the Safety Instructions and comply with the following prerequisites:

- Enough cultural and technical knowledge to read and understand the content of the manual and be able to interpret images, schemes and drawings.
- Knowledge of specific safety, hygiene and technical standards.
- Knowledge of how to proceed in cases of emergency and how to use safety garment.

7 OPERATION

7.1 GENERAL WARNINGS



CAUTION! - WARNING!

The operator, during the period of use, maintenance, repair, transport or storing of the machine, must wear accident-prevention shoes and gloves of security. If it is necessary, he will have, moreover, to wear headset, mask, and glasses.

Before starting to operate the machine, it is necessary to inspect the working ground to make sure there are no dangerous material or obstacles, like big stones, rocks, wires, metals, etc. In case there are such materials they must be removed before starting operation.

Check also the terrain, which must be able to support the pressure of the operating machine and the incline which must not exceed the level specified by the tractor manufacturer. Excessive incline can cause the machine to tip over.

It is important to take into account the ambient conditions as the soil can get really unstable and slippery and the visibility can be diminished.

7.2 STARTING AND OPERATING THE BRUSH PROCESSOR

1. Attach the brush processor hitch to the tractor and connect the driveshaft to the **1000 RPM tractor P.T.O.** Before continuing, adjust the P.T.O. slip clutch by compressing springs fully, then back off two turns.



DANGER! Nobody should be standing near the machine when started. When shredding **NEVER** allow anyone, other than the operator, within 100 feet (30 m) of the shredder.



CAUTION! As the rotor has high inertia, ***engage the P.T.O. only at low engine RPM.*** This will avoid damaging the drive train of the tractor. Then bring engine to maximum power.

2. After attaching the shredder to the tractor proceed to a very flat surface, such as a shop floor. The machine should be lowered down so that the lower pick-up fingers are ½" off the ground. While operating in the field the pick-up fingers consistently need to be at ¼" to ½" off the orchard floor.
3. Move the lever on the control panel in one direction; the pick-up rotors will start to rotate. Rotation can be reversed by moving the lever in the other direction.

7.3 OPERATING IN THE ORCHARD

1. Set the hydraulic rear gauge wheels so that the machine is supported on the rear roller.

7 OPERATION (CONTINUED)

2. Approach the brush pile and before entering, engage the tractor P.T.O.



IMPORTANT! As the rotor has high inertia, ***engage the P.T.O. only at low engine RPM.*** This will avoid damaging the drive train of the tractor. Then bring engine to maximum power.

3. Drive forward into the pile at forward speed to 1/2 to 1 1/2 miles per hour.
Special Note: The brush processor achieves maximum performance at very slow speeds. Shredding speeds will vary based on the amount of brush and the hardness of the wood.
Note: If heavy pruning is done, suggest you do not pile brush from two rows into one.
4. Things to look out for:



CAUTION! If you notice a piece of wood larger than 4 inches in diameter, stop the tractor and reverse the feeding rotors. ***Then stop the shredder and wait for the rotors to stop completely.*** When safe, you can approach the mulcher and remove the pieces of wood that can not be mulched.

5. **Adjusting the pick-up rotor.** When first operating the processor you may want to readjust the speed of the pick-up rotors. This can be accomplished with the two handles which are under the rear cover close to the hydraulic tank. By turning the handles clockwise you will slow the rotors down. Turn the handles counter-clockwise and you will speed up the rotors. The rotors can work at full speed in many conditions, but may be slowed down to avoid too much material entering the processor.
6. If the machine plugs. In heavy material the machine could plug. In this instance, completely stop the tractor and shut it off immediately. Inspect the front of the rotor for the jammed material and remove it. If there is no jammed material in the front of the unit, open up both rear inspection doors and remove the jammed material. Re-start the tractor and engage the P.T.O. at low RPM's. **DO NOT ATTEMPT TO UNPLUG THE UNIT USING FULL TRACTOR POWER.** Continue the engagement slowly until the rotor starts to spin freely allowing the material to eject out the rear of the machine through the inspection door opening. This will allow the machine to clear itself under low RPM's and not damage the tractor, driveline, or re-plug.



WARNING - Ejection of wood chips exiting the rear doors.

The material can fly out of these doors, in some cases 30 feet or more. Before starting up the rotor to clear the jam, all people need to be completely away from the rear of the machine.

7. **Transporting The Processor.**



CAUTION! When transporting the machine always shut off the P.T.O. first. When in operation make wide sweeping turns, as the P.T.O. needs to be engaged.

8 MAINTENANCE & LUBRICATION



WARNING!

All maintenance, regulation and cleaning operations are to be carried out with tractor engine off, hand brake engaged, and ignition key removed from the starter panel.



WARNING!

Always use suitable individual protection means for all maintenance operations (safety footwear and work gloves) and ensure that all accident prevention precautions are taken for the operation underway.

8.1 CHECKING OF THE MAIN COMPONENTS & SAFETY PARTS

Every 8 hours or at the end of a working day, check the protections. If faulty parts have been detected, they must be replaced or repaired immediately.

Every 8 hours or at the end of a working day, check the hydraulic hoses. A faulty hose can explode and result in personal injury. A faulty hose must be replaced immediately before continuing to work. When replacing use only original spare parts.

Every 8 hours or at the end of a working day, check the state of the safety decals and replace them if needed.

Every 30 hours, check the stoppers for the grids on both sides of the machine.

Every 40 hours, check the state of electric wires which connect the machine with the battery on the tractor and the ones which connect the control panel.

Every 50 hours, check all the connections of the parts of the machine, like stoppers and bolts.

Every 50 hours, check the weldings and the state of the rotor.



ATTENTION: Periodically during hot days, check that the hydraulic fan motor is operating. The fan motor has a thermo-coupler which automatically starts and stops. The fan must be in operation for hydraulic motor cooling.

With a good maintenance program, the machine will work for a long time without trouble!

8.2 CHECKING, ADJUSTING & REPLACING THE BELTS

Belt transmission depends on a good and even tension of the belts.

The tension can be adjusted by tightening the bolt which sets the position of the driving pulley. Adjust the tension of the belts in the way that, if you apply a force of 120N (27 pound force) to the long side of the belt it will flex by ½" (12 mm).

8 MAINTENANCE & LUBRICATION (CONTINUED)

After the first 30 minutes and then every 50 hours check that the belts are correctly tensioned.

To check and to adjust the belt tension, operate as follows:

- Open the lateral transmission protection cover.
- Verify the state of the belts visually. Belts should never show signs of wear. If one or more belts are worn out the whole set must be replaced. Old belts cannot be combined with new belts, because while working their length changes slightly.
- Check the tension of the belts by pressing with 120 N (27 pound force) in the middle of the long side of the belts. The belt should flex by ½" (12 mm). To adjust the tension, turn the bolt which controls the position of the driving pulley (the upper).
- Finally close the transmission protection again.

If during inspection one or more belts seem to be worn out, the whole set must be replaced. To replace belts operate as follows:

- Open the later transmission protection cover.
- Unfasten the bolt which holds the tension pulley until all the belts are free. Remove all the belts.
- Check that the pulleys are free from any residuals from the old belts.
- Place the new belts on the pulleys and refasten the tension pulley until the tension is as mentioned above.
- Finally close the transmission protection again.

Taking off the pulleys for any other kind of maintenance is a job for authorized personnel only. When doing so the personnel should be careful to mark the pulleys before taking them off.

8.3 CHECKING AND REPLACING HAMMERS

To achieve high quality material processing and to have a high efficiency of the machine you should be careful to exchange the hammers when needed.

Every 8 hours check the hammers.

To check the hammers operate as follows:

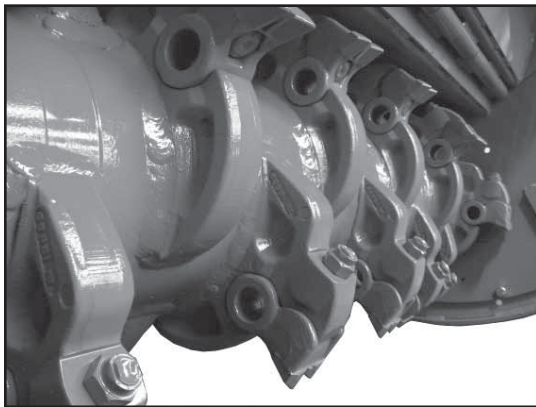
- Rotate the rotor by hand while checking every single hammer. They should all be equally worn, not cracked and properly fixed.

8 MAINTENANCE & LUBRICATION (CONTINUED)

If during inspection one or more hammers have been found damaged or worn out it is necessary to replace them. When replacing a single damaged hammer you should use a hammer of similar state of wear (an old intact hammer) in order to avoid unbalancing the rotor. That's why it is recommended to keep old hammers apart.

To replace the hammers operate as follows:

- Disconnect the machine from the tractor and park it on stable ground. Lift the drawbar as high as possible to be able to access the hammers from the front aperture. Make sure that the drawbar is safely supported before continuing.



(Fig. 2: Remove the bolt which holds the hammer in its seat. Exchange the hammer, the bolt and the nut and fasten with 500 Nm (370 ft/lb)

- Rotate the rotor by hand to be able to access the nuts on the back of the hammer seat. Open the nut with a long wrench.
- Remove the bolt and the old hammer.
- Insert the new hammer, new bolt, and new nut.
- Tighten the hammer with a long wrench to 500 Nm (370 ft/lb)
- Use a hammer to squeeze the top of the nut, so that it will be secured against untightening.
- Repeat this action for each hammer on the rotor.

8.4 LUBRICATION

Before starting greasing or refilling make sure that all grease nipples and oil intakes and their surrounding area are free of dirt or dust. Clean them properly before performing the following operations, to avoid impurities to reach bearings, cranks or other.

Perform greasing with care and without exceeding recommended quantities, as too much grease can damage the gaskets and sealing rings. When greasing two or three pump shots at a time are sufficient (about 50 ml or 0.2 cups).

8 MAINTENANCE & LUBRICATION (Continued)

LUBRICATION POINTS AND OIL RESERVOIRS

Area of Lubrication:	Recommended Intervals (Operation Hours):
Tractor PTO Shaft	8
Cross Shaft From Gearbox To Belt Drive	8
Rotor Shaft Bearings	8
Upper Pick Up Shaft Bearings	50
Lower Pick Up Shaft Bearings	50
Rear Roller	50
Rear Gauge Wheel Cylinder Pins	50
Rear Gauge Wheel Arm	50
Pivot Pins At Top Of Mower Deck	50

OIL RESERVOIRS

Main Gearbox	SAE 140 EP	Change oil first after 50 hours then every 800 hours
Hydraulic Motor Speed Up Gearbox	SAE 140 EP	Change oil first after 50 hours then every 800 hours
Extension Shaft	SAE 140 EP	Top up as needed to half level, check every 40 hours
Hydraulic Oil Reservoir	Hydraulic Oil	Change every 800 hours

8.5 CLEANING

A frequent cleaning of the machine is necessary to ease the visual inspections of the state of the machine and the maintenance operations.

In any case after an operating cycle or before long storage the machine should be washed with a warm water jet to eliminate all residuals of the processed materials

After washing you should dry the machine and store it in a sheltered and dry place away from people.

8.6 STOPPING, DETACHMENT AND STORAGE

To stop the machine, switch off the PTO of the tractor and bring the lever of the pick up rotors back into the original position so that the pick up rotors stand still. Wait until all the rotors have stopped rotating before approaching the mulcher. This can take up to 5 minutes.

Remove the PTO shaft from the tractor. Remove also the remote control panel and the electrical power plug from the tractor. Place the machine on even, stable ground when parking. Lower the wheels and insert the support feet while the drawbar is still attached to the tractor. Now raise the drawbar so that the feet will touch the ground gently.

When weight of the machine is carried by the wheels on the back and the support feet in the front detach the drawbar from the tractor. Remove the hydraulic couplings from the tractor last.

9 TROUBLESHOOTING

TROUBLESHOOTING CHART

PROBLEM:	POSSIBLE CAUSE:	SOLUTION:
Abnormal machine vibration	Hammer rotor out of balance	Replace the rotor
	One or more of the hammers are broken or badly worn	Replace hammers
	Loss of counterweight	Replace counterweight
The PTO turns but the rotor does not	Gearbox is broken	Replace or repair the gearbox
	Belts are broken	Replace the belts
	Slip clutch not tightened	Re-adjust per slip clutch instructions
Poor cut	The rotor does not reach the correct working speed	Check belt tension
	Machine adjustment does not comply with the instructions	Check transmission R.P.M.
	Forward speed is too fast	Adjust forward speed
	Worn hammers or parts	Replace hammers
Rotor does not turn	Plugged with too much material or a foreign body	Stop the tractor and turn the rotor backward with a bar if needed
	No lubrication	Lubricate
	Gears or bearings in the box are broken	Replace the gears or bearings
	Rotor bearings worn or broken	Replace bearings and gaskets
Machine absorbs too much power	Too much material and low tractor power	Adjust the machine following the instructions and find a compromise between power and forward speed
	Low R.P.M.'s	Tractor must operate at full rated P.T.O. speed
Machine ruining the grass cover	Wrong working height or roller height	Check adjustment
	Broken roller bearings	Replace bearings
Roller does not turn	Inadequate roller lubrication	Lubricate
	Material is fouling the guards	Clean the guards
	Roller is bent	Replace roller
	Sandy soil	Fit roller with larger diameter roller
Labyrinths and seal rings are broken	Excessive lubrication, fatigue or no lubrication	Replace seal ring and lubricate properly
Bearings break frequently	Casing is bent by excessive loads	Replace casing
	No lubrication	Lubricate
	Machine is overloaded	Keep to operating limitations
	Rotor improperly installed or adjusted or out of balance	Check installation and adjustment

9 TROUBLESHOOTING (CONTINUED)

TROUBLESHOOTING CHART (CONTINUED)

PROBLEM:	POSSIBLE CAUSE:	SOLUTION:
Belts wear prematurely	Transmission speed too low	Adjust R.P.M.
	Rotor cannot start and the belts slip	Bring the machine up to working speed before starting cutting
	Inadequate belt tension	Check whether the rotor is blocked. Tighten the belts
Prunings left on the floor	Machine not set correctly to the required height	Adjust machine lift via hydraulic cylinders. Adjust machine fore and aft positions via hydraulic cylinders
	Travelling too fast	Slow down
	Pick-up tines are worn	Re-weld tine ends
	Pick-up reel is turning too slowly	Increase reel speed
Pick-up reel will not turn	Power failure to switch box	Check power source and connections
	Solenoid valve is not working	Check connections and voltage. Change solenoid valve
	Hydraulic failure	Check pump and motor. Check filter
	Coupling between motor and reel is broken	Replace coupling
Mulched material is not fine enough	Ground speed too fast	Slow down. Mulched material relative to rotor and ground speed
	Wrong screen is fitted	Fit correct screen
Hydraulic oil overheats	Fan on cooler is not working	Check power source and connections
	Blocked filter	Change filter

10 LIMITED WARRANTY



GEARMORE, INC., warrants each new Gearmore product to be free from defects in material and workmanship for a period of six (6) months from date of purchase to the original purchaser. The warranty period is three (3) months for custom operators. This warranty shall not apply to implements or parts that have been subject to misuse, negligence, accident, or that have been altered in any way.

Our obligation shall be limited to repairing or replacement of any part, provided that such part is returned within thirty (30) days from date of failure to Gearmore through the dealer 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 or nature, direct, consequential or contingent, to person or property. This warranty does not extend to loss of crops, loss because of delay in harvesting or any other expenses, for any other reasons.

Gearmore in no way warrants engines, tires, or other trade accessories, since these items are warranted separately by these respective manufacturers.

Gearmore reserves the right to make improvements in design or changes in specification at any time, without incurring any obligations to owners or units previously sold.

GEARMORE, INC.
13477 Benson Ave.
Chino, CA 91710

Always refer to and heed machine operating warning decals on machine.

*The serial number of this product is stored in our computer database,
thus submitting a warranty registration card is not required.*

The wood processor has been delivered to me. I understand the operation and maintenance of this machine that has been well explained to me. I also acknowledge the warranty conditions and limitations as outlined in the Gearmore document sale and delivery conditions.

CUSTOMER INFORMATION

NAME: _____

PURCHASED FROM: _____

DATE OF PURCHASE: _____

MODEL NUMBER: _____

SERIAL NUMBER: _____

11 LOG BOOK (CONTINUED)

11 LOG BOOK (CONTINUED)
