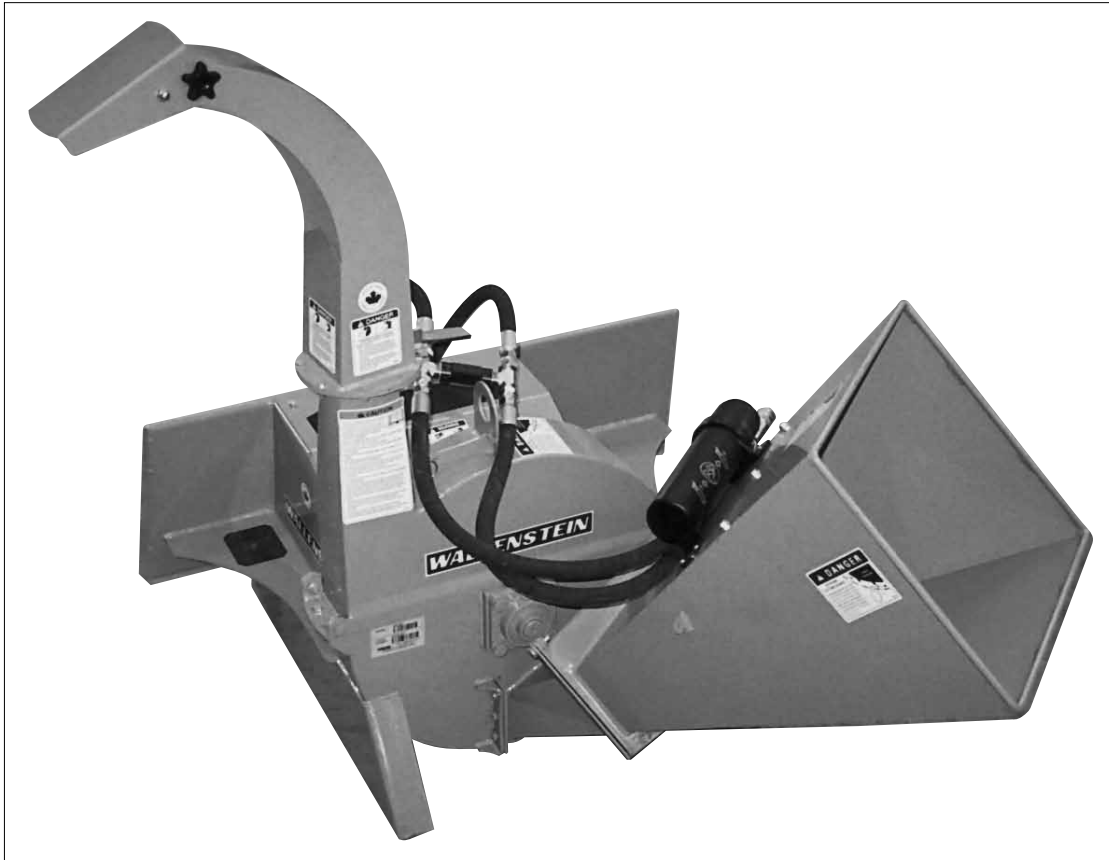


WALLENSTEIN

BY EMB MFG INC.

EMB Manufacturing Inc.
4144 Boomer Line · St. Clements, On · N0B 2M0 · Canada
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SKID STEER MOUNTED WOOD CHIPPER MODEL BXH42

OPERATOR'S MANUAL

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WARRANTY

Effective on products retailed on or after January 1, 2011.

Register your product online at www.embmfg.com within 30 days of purchase to activate warranty.

This product is warranted to be free of defects in materials and workmanship under normal use and service, for a period of

Three (3) Years for Consumer One (1) Year for Commercial/Rental

from the date of purchase, when operated and maintained in accordance with the Operating and Maintenance Instructions supplied with this unit. Warranty is limited to the repair of the product and/or replacement of parts.

This warranty does not cover the following items:

- 1) Machines or parts lost or damaged during shipment,
- 2) Normal maintenance or adjustments after initial pre-service and set up is completed
- 3) Normal replacement of service items.
- 4) Accessory items / parts not supplied by EMB MFG INC.
- 5) Damages resulting from:
 - misuse, negligence, accident, theft or fire
 - use of improper or insufficient fuel, fluids or lubricants
 - use of parts or after market accessories other than genuine EMB MFG INC. parts
 - modifications, alteration, tampering or improper repair performed by parties other than an authorized dealer
 - any device or accessories installed by parties other than an authorized EMB dealer or distributor

Engines are covered by the manufacturer of the engine and covered by the warranty period specified by that manufacturer.

Engine warranty must be registered at the engine manufactures website. For service contact your local engine dealer.

Under no circumstances will the manufacturer be liable for any consequential damage or expense of any kind, including loss of profits. The manufacturer is under no circumstances liable for tow vehicle of any kind. The manufacturer is not liable for the maintenance of the product.

This warranty is extended only to the original purchaser and is not transferable. Warranty is void if repairs are attempted by anyone other than a Wallenstein Authorized Service Centre.

If a difficulty develops with the product, contact the local dealer from which you purchased the unit. Only Wallenstein authorized dealers are authorized to make repairs to the product or affect the replacement of defective parts, which will be done at no charge within a reasonable time after the receipt of the product. Unit or parts shall be returned at the customer's expense to the Authorized Service Centre. Damage in transit is not covered by warranty. Include the original purchase receipt with any claim (keep a copy of the receipt for your files).

The distributor's liability under warranty is limited to the repair of the product and/or replacement of parts and is given to the purchaser in lieu of all other remedies including incidental and consequential charges. There are no warranties, expressed or implied, other than those specified herein.

EMB MFG Inc
4144 Boomer Line, St Clements, ON N0B 2M0 Canada
Phone: 519-699-9283 Fax: 519-699-4146 : attention to Warranty Dept
Email: warranty@embmfg.com

rev.201011

WARRANTY IS VOID IF NOT REGISTERED

WALLENSTEIN
SKID STEER MOUNTED WOOD CHIPPER
INSPECTION REPORT

This form must be filled out by the dealer and signed by both the dealer and the customer at the time of delivery.

Customer's Name _____	Dealer Name _____
Address _____	Address _____
City, State/Province, Code _____	City, State/Province, Code _____
Phone Number (____) _____	Phone Number (____) _____
Contact Name _____	
Model _____	
Serial Number _____	
Delivery Date _____	

DEALER INSPECTION REPORT

____ Check Blade Clearance
____ Blower Turns Freely
____ Fasteners Tight
____ Lubricate Machine
____ Lock Pins Engaged in Face Plate

SAFETY

____ All Decals Installed
____ Guards and Shields Installed and Secured
____ Review Operating and Safety Instructions

I have thoroughly instructed the buyer on the above described equipment which review included the Operator's Manual content, equipment care, adjustments, safe operation and applicable warranty policy.

Date _____ Dealer's Rep. Signature _____

The above equipment and Operator's Manual have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

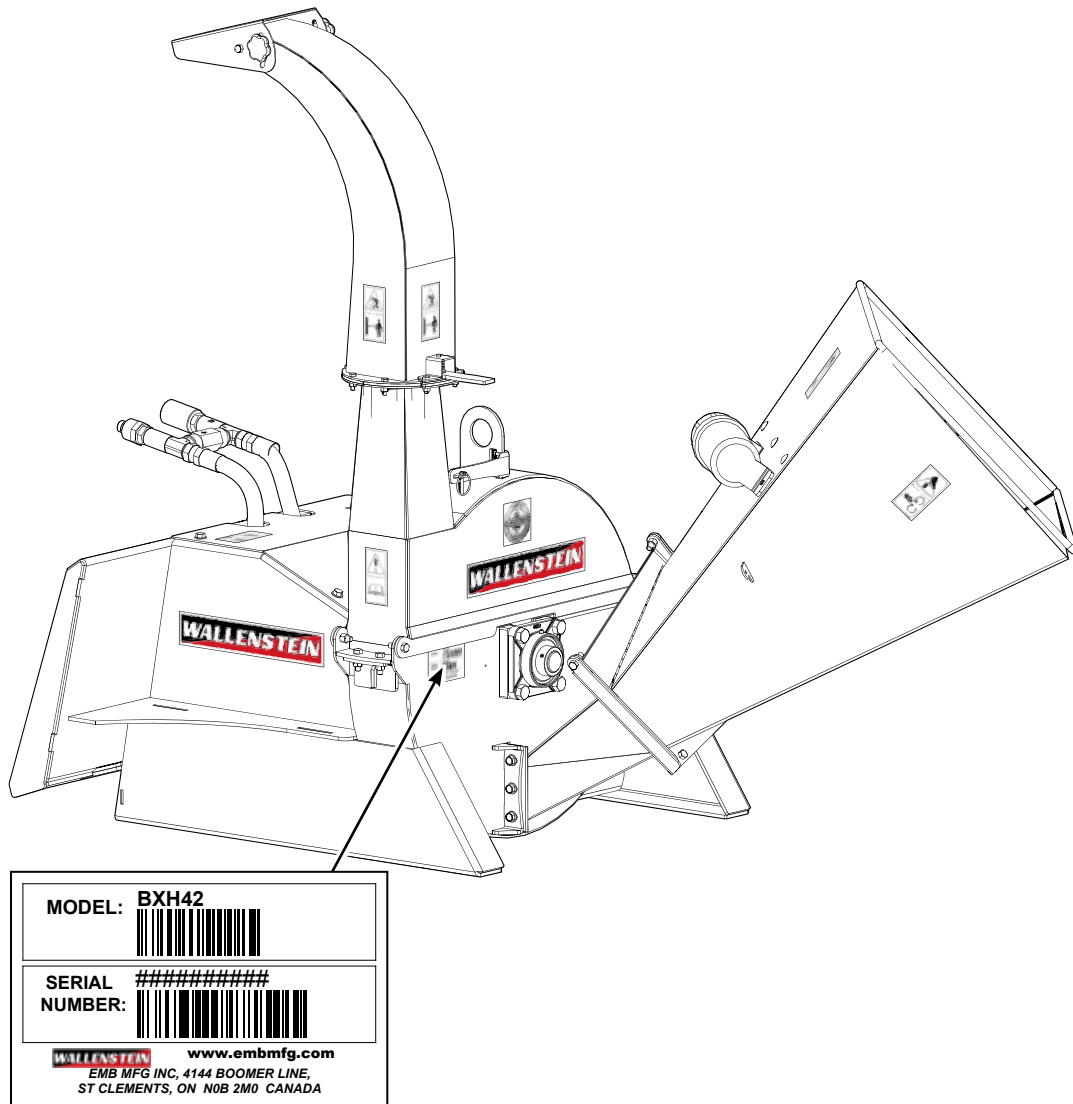
Date _____ Owner's Signature _____

To activate warranty, register your product online at www.embmfg.com

SERIAL NUMBER LOCATION

Always give your dealer the serial number of your Wallenstein Skid Steer Wood Chipper when ordering parts or requesting service or other information.

The serial number plates are located where indicated. Please mark the numbers in the spaces provided for easy reference.



SERIAL NUMBER LOCATION

Model Number _____

Chipper Serial Number _____

1 INTRODUCTION

Congratulations on your choice of a Wallenstein Skid Steer Mounted Wood Chipper to compliment your operation. This equipment has been designed and manufactured to meet the needs of a discerning timber or landscaping industry.

Safe, efficient and trouble free operation of your Wallenstein Wood Chipper requires that you and anyone else who will be using or maintaining the chipper, read and understand the Safety, Operation, Maintenance and Trouble Shooting information contained within the Operator's Manual.



This manual covers the Wallenstein Skid Steer Mounted Wood Chipper BXH42. Use the Table of Contents or Index as a guide to locate required information.

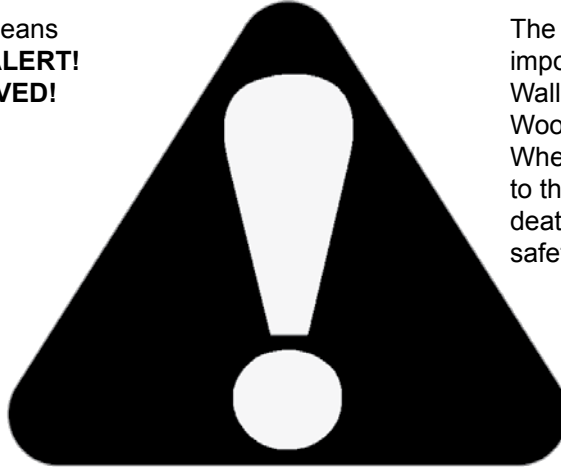
Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Wallenstein dealer or the Distributer if you need assistance, information or additional copies of the manuals.

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

2 SAFETY

SAFETY ALERT SYMBOL

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



The Safety Alert symbol identifies important safety messages on the Wallenstein Skid Steer Mounted Wood Chipper and in the manual. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

3 Big Reasons

Accidents Disable and Kill
Accidents Cost
Accidents Can Be Avoided

SIGNAL WORDS:

Note the use of the signal words **DANGER**, **WARNING** and **CAUTION** with the safety messages. The appropriate signal word for each message has been selected using the following guide-lines:

DANGER - Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.

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. It may also be used to alert against unsafe practices.

CAUTION - Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

If you have any questions not answered in this manual or require additional copies or the manual is damaged, please contact your dealer or Wallenstein, 4144 Boomer Line, St. Clements, ON, N0B 2M0. Phone (519) 699-9283 or Fax (519) 699-4146.

SAFETY

YOU are responsible for the SAFE operation and maintenance of your Wallenstein Skid Steer Mounted Wood Chipper. **YOU** must ensure that you and anyone else who is going to use, maintain or work around the Skid Steer Mounted Wood Chipper be familiar with the using and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be used while using the Skid Steer Mounted Wood Chipper.

Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** using this equipment is familiar with the recommended using and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

- Skid Steer Mounted Wood Chipper owners must give operating instructions to operators or employees before allowing them to operate the machine, and at least annually thereafter.
- The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to read and understand ALL Safety and Operating instructions in the manual and to follow these. Most accidents can be avoided.
- A person who has not read and understood all using and safety instructions is not qualified to use the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the equipment.
- Think SAFETY! Work SAFELY!

2.1 GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before using, maintaining, adjusting or cleaning the Skid Steer Mounted Wood Chipper.



2. Have a first-aid kit available for use should the need arise and know how to use it.



3. Have a fire extinguisher available for use should the need arise and know how to use it.



4. Do not allow riders.

5. Wear appropriate protective gear. This list includes but is not limited to:

- A hard hat
- Protective shoes with slip resistant soles
- Protective glasses, goggles or face shield
- Heavy gloves
- Wet weather gear
- Hearing Protection
- Respirator or filter mask




6. Install and secure all guards before starting.
7. Wear suitable ear protection for prolonged exposure to excessive noise.
8. Turn machine off, stop and disable engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
9. Clear the area of people, especially small children, before using the unit.
10. Review safety related items annually with all personnel who will be operating or maintaining the Skid Steer Mounted Wood Chipper.

2.2 EQUIPMENT SAFETY GUIDELINES

1. Safety of the operator and bystanders is one of the main concerns in designing and developing equipment. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment. You, the operator, can avoid many accidents by observing the following precautions in this section. To avoid personal injury or death, study the following precautions and insist those working with you, or for you to follow them.
2. In order to provide a better view, certain photographs or illustrations in this manual may show an assembly with a safety shield removed. However, equipment should never be used in this condition. Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use.
3. Replace any safety sign or instruction sign that is not readable or is missing. Location of such safety signs is indicated in this manual.
4. Never use alcoholic beverages or drugs which can hinder alertness or coordination while using this equipment. Consult your doctor about using this machine while taking prescription medications.
5. **Under no circumstances should young children be allowed to work with this equipment. Do not allow persons to use or assemble this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works.** Review the safety instructions with all users annually.
6. This equipment is dangerous to children and persons unfamiliar with its operation. The operator should be a responsible, properly trained and physically able person familiar with machinery and trained in this equipment's operations. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
7. Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely, is in question - **DON'T TRY IT.**
8. Do not modify the equipment in any way. Unauthorized modification may result in serious injury or death and may impair the function and life of the equipment.
9. In addition to the design and configuration of this implement, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the skid steer and machine manuals. Pay close attention to the Safety Signs affixed to the skid steer and the machine.

2.3 SAFETY TRAINING

1. Safety is a primary concern in the design and manufacture of our products. Unfortunately, our efforts to provide safe equipment can be wiped out by a single careless act of an operator or bystander.
2. In addition to the design and configuration of equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance and storage of this equipment.
3. It has been said, "The best safety feature is an informed, careful operator." We ask you to be that kind of an operator. It is the operator's responsibility to read and understand ALL Safety and Using instructions in the manual and to follow these. Accidents can be avoided.
4. Working with unfamiliar equipment can lead to careless injuries. Read this manual before assembly or using, to acquaint yourself with the machine. If this machine is used by any person other than yourself, or is loaned or rented, it is the machine owner's responsibility to make certain that the operator, prior to using:
 - a. Reads and understands the operator's manuals.
 - b. Is instructed in safe and proper use.
5. Know your controls and how to stop the skid steer tractor and machine quickly in an emergency. Read this manual and the one provided with skid steer tractor.
6. Train all new personnel and review instructions frequently with existing workers. Be certain only a properly trained and physically able person will use the machinery. A person who has not read and understood all using and safety instructions is not qualified to use the machine. An untrained operator exposes himself and bystanders to possible serious injury or death. If the elderly are assisting with the work, their physical limitations need to be recognized and accommodated.

2.4 SAFETY SIGNS

1. Keep safety signs clean and legible at all times.
2. Replace safety signs that are missing or have become illegible.
3. Replaced parts that displayed a safety sign should also display the current sign.
4. Safety signs displayed in Section 3 each have a part number in the lower right hand corner. Use this part number when ordering replacement parts.
5. Safety signs are available from your authorized Distributor or Dealer Parts Department or the factory.

How to Install Safety Signs:

- Be sure that the installation area is clean and dry.
- Be sure temperature is above 50°F (10°C).
- Determine exact position before you remove the backing paper.
- Remove the smallest portion of the split backing paper.
- Align the sign over the specified area and carefully press the small portion with the exposed sticky backing in place.
- Slowly peel back the remaining paper and carefully smooth the remaining portion of the sign in place.
- Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

2.5 PREPARATION

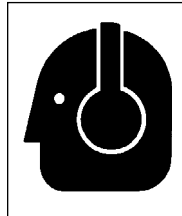
1. Never use the machine until you have read and completely understand this manual, the skid steer tractor Operator's Manual and each of the Safety Messages found on the safety signs on the skid steer tractor and machine.

2. Personal protection equipment including hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, cleaning, or moving the unit. Do not allow long hair, loose fitting clothing or jewellery to be around equipment.



3. **PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS!**

Power equipment with or without equipment attached can often be noisy enough to cause permanent, partial hearing loss. We recommend that you wear hearing protection on a full-time basis if the noise in the Operator's position exceeds 80db. Noise over 85db on a long-term basis can cause severe hearing loss. Noise over 90db adjacent to the Operator over a long-term basis may cause permanent, total hearing loss. **NOTE:** Hearing loss from loud noise (from tractors, chain saws, radios, and other such sources close to the ear) is cumulative over a lifetime without hope of natural recovery.



4. Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.
5. Use only in daylight or good artificial light.
6. Be sure machine is properly mounted, adjusted and in good operating condition.
7. Ensure that all safety shielding and safety signs are properly installed and in good condition.

2.6 MAINTENANCE SAFETY

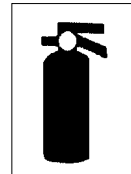
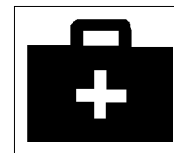
1. Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
2. Follow good shop practices.

- Keep service area clean and dry.
- Be sure electrical outlets and tools are properly grounded.
- Use adequate light for the job at hand.

3. Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
4. Before working on this machine, shut off the engine, set the brake, and turn fuel valve off.
5. Never work under equipment unless it is blocked securely.
6. Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work. Use heavy or leather gloves when handling blades.
7. Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
8. A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.



9. Periodically tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure unit is in a safe condition.



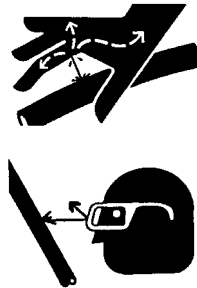
10. When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

2.7 OPERATING SAFETY

1. Please remember it is important that you read and heed the safety signs on the Skid Steer Mounted Wood Chipper. Clean or replace all safety signs if they cannot be clearly read and understood. They are there for your safety, as well as the safety of others. The safe use of this machine is strictly up to you, the operator.
2. All things with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices. The manufacturer has designed this Skid Steer Mounted Wood Chipper to be used with all its safety equipment properly attached, to minimize the chance of accidents. Study this manual to make sure you have all safety equipment attached.
3. Close and secure rotor cover before operating.
4. Close and secure all guards, deflectors and shields before starting and operating.
5. Read and understand operator's manual before starting. Review safety instructions annually.
6. Personal protection equipment including hearing protection, hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving. Do not allow long hair, loose-fitting clothing, or jewellery to be around moving parts.
7. Keep hydraulic lines and fittings tight, in good condition and free of leaks.
8. Never place any part of your body where it would be in danger if movement should occur during assembly, installation, operation, maintenance, repairing, unplugging or moving.
9. Turn machine off, stop engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
10. Do not run machine inside a closed building to prevent asphyxiation from engine exhaust.
11. Use care when feeding material into chipper. Do not send metal, bottles, cans, rocks, glass or other foreign material into wood chipper. If foreign material enters chipper, stop machine, turn engine off and place ignition key in your pocket and wait for all moving parts to stop before removing material and/or unplugging. Inspect machine for damaged or loose parts before resuming work.
12. Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
13. Do not allow riders on this machine at any time. There is no safe place for any riders.
14. Never allow children or unauthorized people to operate or be around this machine.
15. Do not reach into rotor or feed hopper openings when the engine is running. Install and secure access covers before starting engine.
16. Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
17. Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.
18. Do not move or transport chipper when the rotor is turning.
19. Do not exceed a safe travel speed when transporting.

2.8 HYDRAULIC SAFETY

1. Make sure that all the components in the hydraulic system are kept in good condition and are clean.
2. Before applying pressure to the system, make sure all components are tight, and that lines, hoses and couplings are not damaged.
3. Do not attempt any makeshift repairs to the hydraulic lines, fittings or hoses by using tapes, clamps or cements. The hydraulic system operates under extremely high pressure. Such repairs will fail suddenly and create a hazardous and unsafe condition.
4. Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.
5. If injured by a concentrated high-pressure stream of hydraulic fluid, seek medical attention immediately. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.
6. Relieve pressure on hydraulic system before maintaining or working on system.



2.10 TRANSPORT SAFETY

1. Comply with state and local laws governing safety and transporting of machinery on public roads.
2. Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
3. Do not exceed a safe travel speed. Slow down for rough terrain and cornering.
4. Fold up and secure feed hopper before moving or transporting.
5. Be sure the chipper is attached positively to the skid steer with the lock pins fully engaged.
6. Do not drink and drive.
7. Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Watch for traffic when operating near or crossing roadways.
8. Never allow riders on the machine.

2.9 STORAGE SAFETY

1. Store the unit in an area away from human activity.
2. Do not children to play on or around the stored machine.
3. Store the unit in a dry, level area. Support the frame with planks if required.

2.11 SIGN-OFF FORM

Wallenstein follows the general Safety Standards specified by the American Society of Agricultural and Biological Engineers (ASABE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be using and/or maintaining the Skid Steer Mounted Wood Chipper must read and clearly understand ALL Safety, Usage and Maintenance information presented in this manual.

Do not use or allow anyone else to use this chipper until such information has been reviewed. Annually review this information before the season start-up.

Make these periodic reviews of SAFETY and OPERATION a standard practice for all of your equipment. We feel that an untrained operator is unqualified to use this machine.

A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and understand the information in the Operator's Manual and have been instructed in the operation of the equipment.

SIGN-OFF FORM

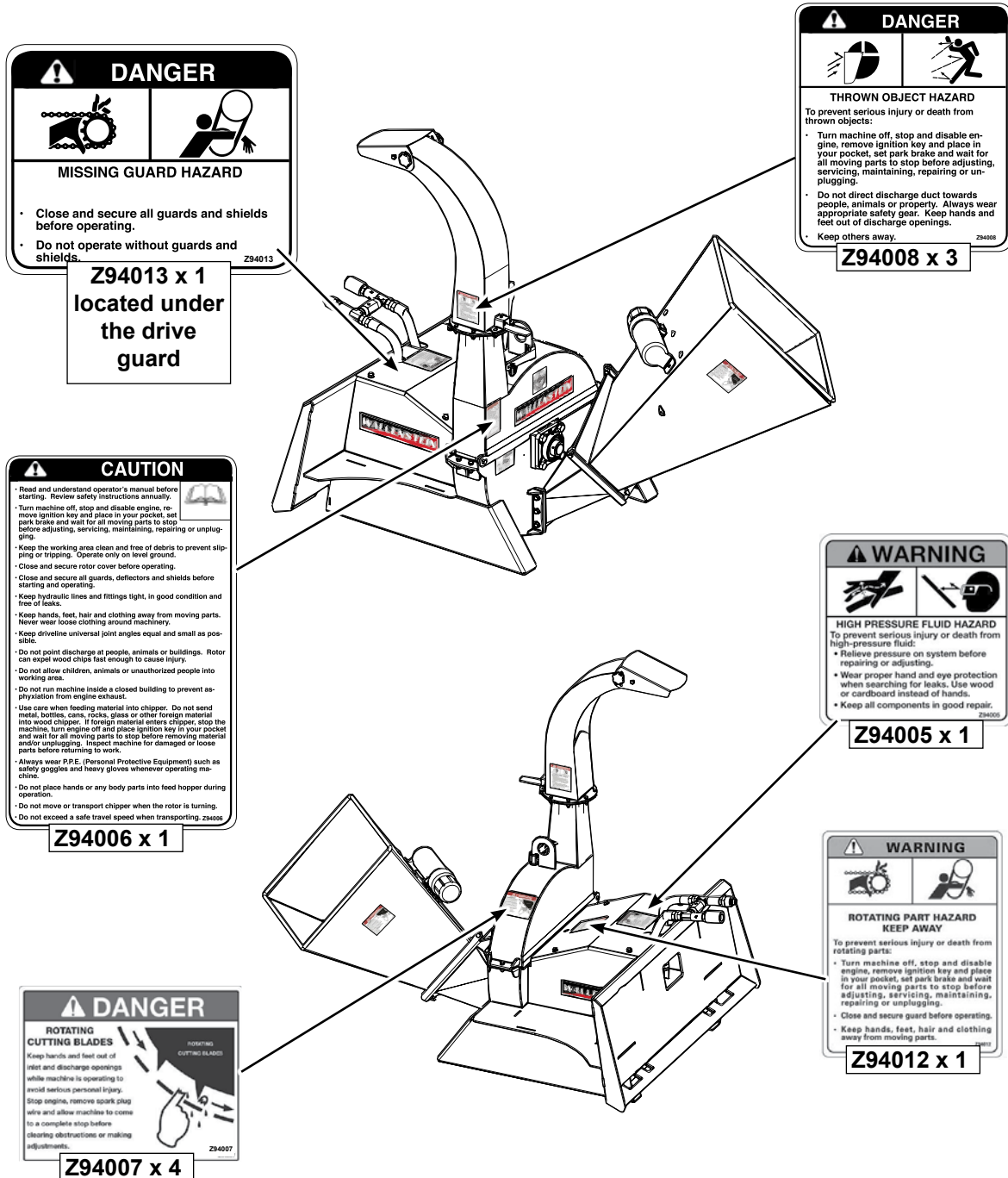
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3 SAFETY SIGN LOCATIONS

3.1 3 - PANEL SAFETY SIGNS

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!

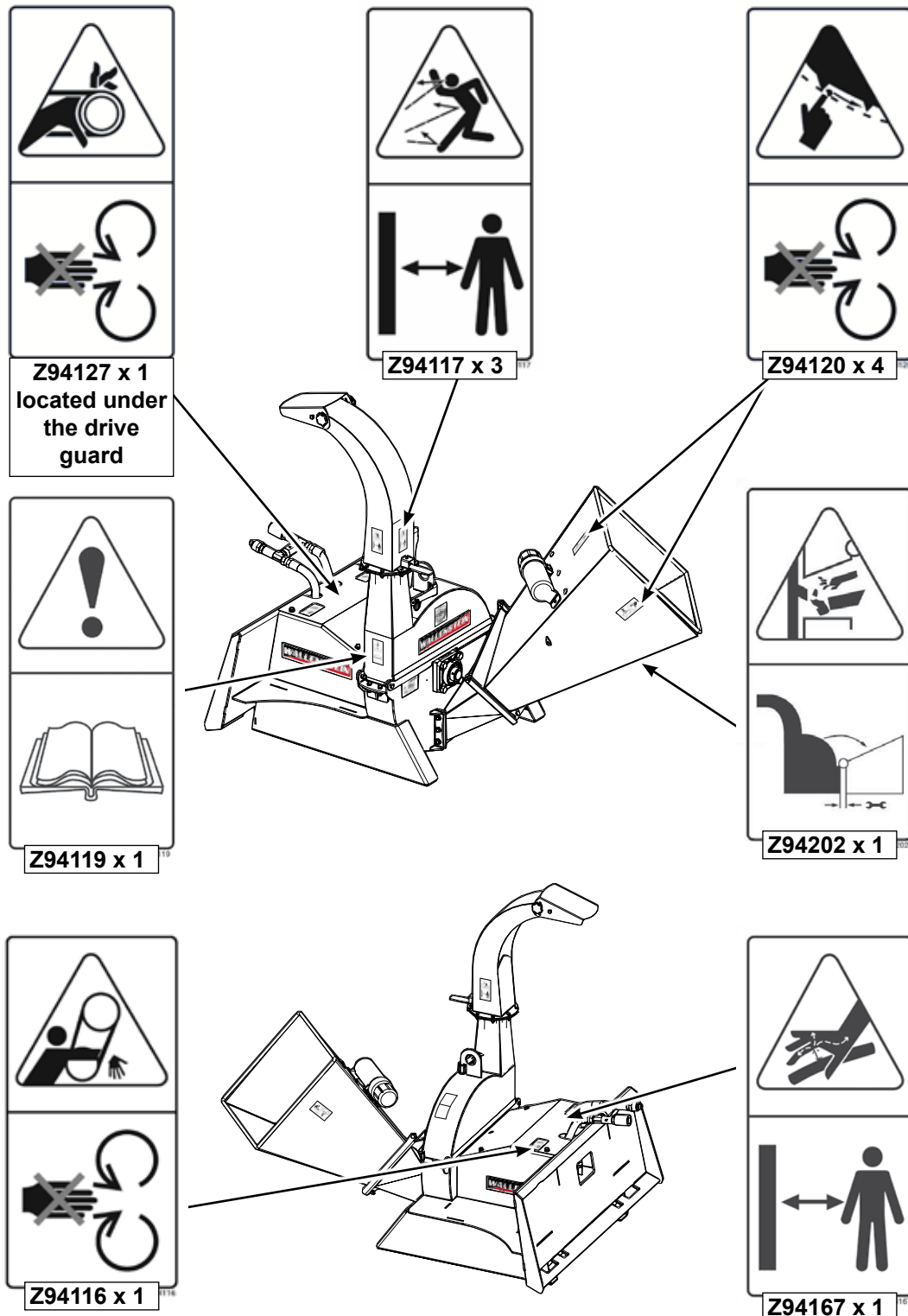


REMEMBER - If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied. New safety signs are available from your authorized dealer.

3.2 2 - PANEL SAFETY SIGNS

The types of safety signs and locations on the equipment are shown in the illustrations that follow. Good safety requires that you familiarize yourself with the various safety signs, the type of warning and the area, or particular function related to that area, that requires your SAFETY AWARENESS.

- Think SAFETY! Work SAFELY!



4 OPERATION



OPERATING SAFETY

- Read and understand operator's manual before starting. Review safety instructions annually.
- Turn machine off, stop engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
- Close and secure rotor cover before operating.
- Close and secure all guards, deflectors and shields before starting and operating.
- Keep hydraulic lines and fittings tight, in good condition and free of leaks.
- Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.
- Do not allow children, animals or unauthorized people into the working area.
- Do not run machine inside a closed building to prevent asphyxiation from engine exhaust.
- Use care when feeding material into chipper. Do not send metal, bottles, cans, rocks, glass or other foreign material into wood chipper. If foreign material enters chipper, stop machine, turn engine off and place ignition key in your pocket and wait for all moving parts to stop before removing material and/or unplugging. Inspect machine for damaged or loose parts before resuming work.
- Always wear P.P.E. (Personal Protective Equipment) such as safety goggles and heavy gloves whenever operating machine..
- Do not place hands or any body parts into feed hopper during operation.
- Do not move or transport chipper when the rotor is turning.
- Do not exceed a safe travel speed when transporting.

4.1 TO THE NEW OPERATOR OR OWNER

The Wallenstein Skid Steer Mounted Wood Chippers are designed to chip or chop scrap lumber, small trees, brush, limbs and other wood debris. The chipped material is fine enough to be composted or used in a variety of ways.

It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to use the machine.

Follow all safety instructions exactly. Safety is everyone's business. By following recommended procedures, a safe working environment is provided for the operator, bystanders and the area around the worksite. Untrained operators are not qualified to operate the machine.

Many features incorporated into this machine are the result of suggestions made by customers like you. Read this manual carefully to learn how to use the chipper safely and how to set it to provide maximum field efficiency. By following the using instructions in conjunction with a good maintenance program, your Skid Steer Mounted Wood Chipper will provide many years of trouble-free service.

4.2 MACHINE COMPONENTS

The Wallenstein Skid Steer Mounted Wood Chipper is a rotor with blades for chipping wood. A hinged feed hopper moves the wood material into the rotor. Each rotor is designed with 2 blades and a twig-breaker to generate the small pieces of wood. A stationary knife at the rear of the rotor housing is placed by the moving knives to shear, chip or chop the material.

The skid steer tractor provides rotational power through its hydraulic system into the hydraulic motor on the rotor shaft. This drive system is contained in the front frame.

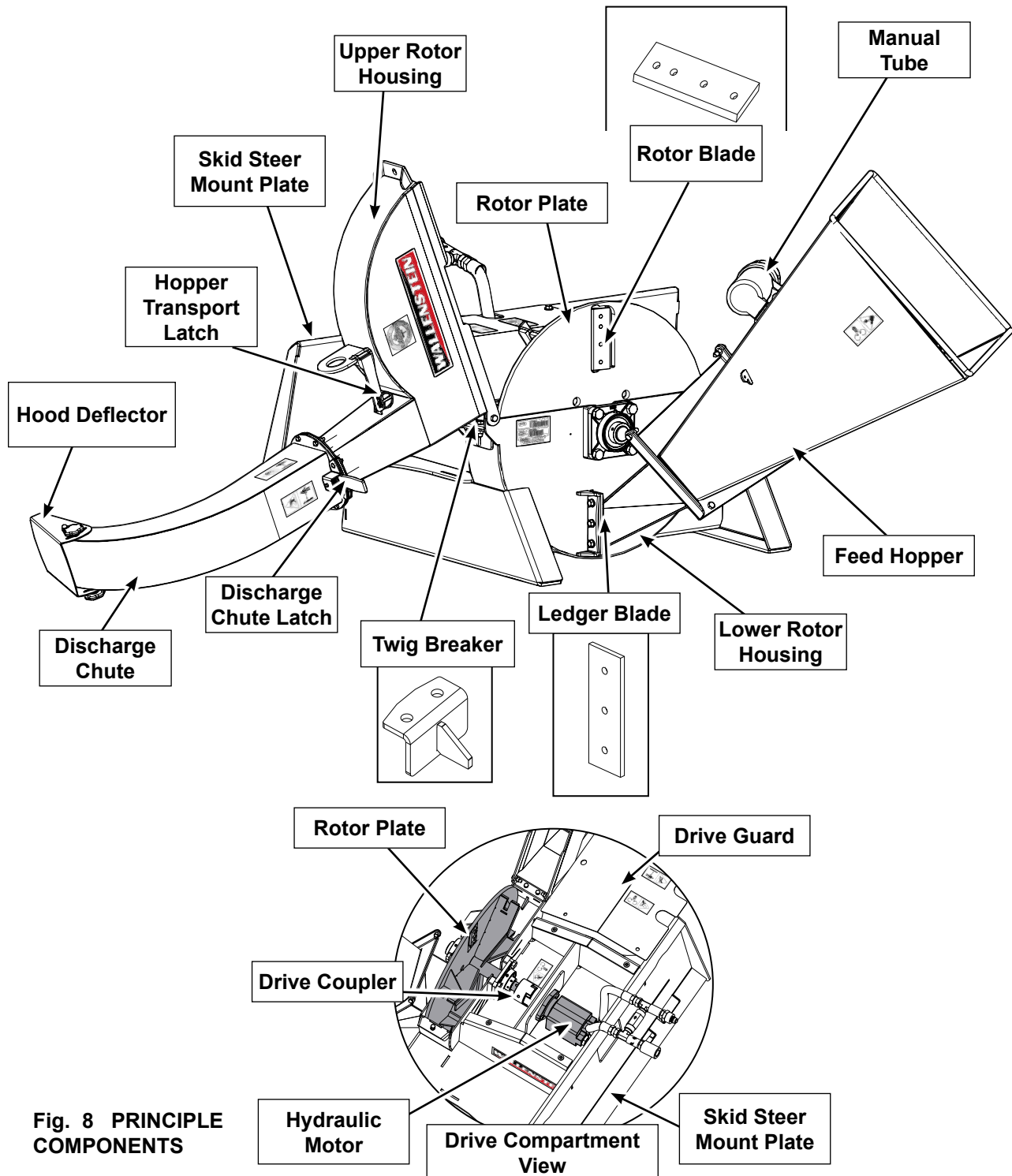


Fig. 8 PRINCIPLE COMPONENTS

4.3 MACHINE BREAK-IN

Although there are no operational restrictions on the Wood Chipper when used for the first time, it is recommended that the following mechanical items be checked:

A. After operating for 1 hour:

1. Torque all fasteners and hardware.
2. Check condition of rotor bearings.
3. Check the condition and clearance of the twig-breaker, rotor and stationary blades. Adjust or replace as required.
4. Check for entangled material. Remove all entangled material before resuming work.
5. Lubricate all grease fittings.

B. After operating for 10 hours:

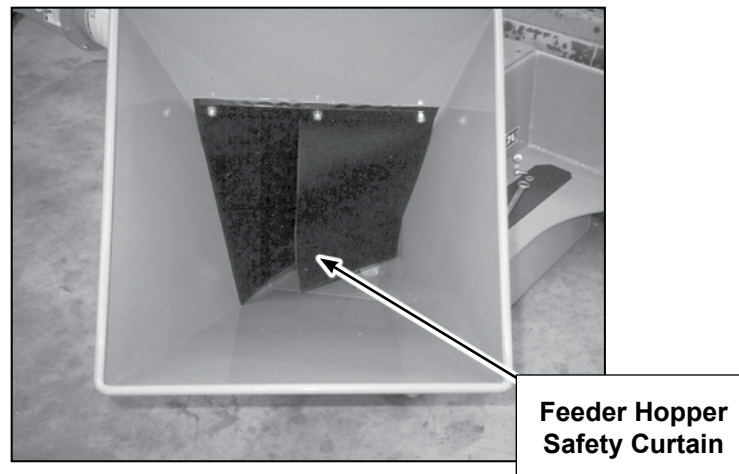
1. Repeat steps 1 through 5 listed above. (Section A)
2. Go to the normal servicing and maintenance schedule as defined in the Maintenance Section.

4.4 PRE-OPERATION CHECKLIST

Efficient and safe operation of the Wallenstein Skid Steer Mounted Wood Chipper requires that each operator reads and understands the using procedures and all related safety precautions outlined in this section. A pre-operation checklist is provided for the operator. It is important for both the personal safety and maintaining good mechanical condition that this checklist is followed.

Before operating the Wood Chipper and each time thereafter, the following areas should be checked off:

1. Lubricate the machine per the schedule outline in the Maintenance Section.
2. Check the rotor, blades and twig-breaker. Remove any twine, wire or other material that has become entangled.
3. Check the condition and clearance of the twig-breaker, rotor and stationary blades. Adjust or replace as required.
4. Check that all bearings turn freely. Replace any that are rough or seized.
5. Make sure that all guards and shields are in place, secured and functioning as designed.
6. Check the condition of the curtain in the feed hopper. It must be in good condition to prevent chips from flying out.



4.5 MACHINE SET-UP

Follow this procedure to prepare and set-up the machine at the work site:

1. Use the skid steer to position the Wood Chipper at the work site.

IMPORTANT

Position the machine so the prevailing wind/breeze blows the exhaust gases/fumes away from the operator's station.

2. Lower the feed hopper down into its working configuration:
 - a. remove the nuts on the hopper anchor bolts,
 - b. unpin and the feeder hopper latch
 - c. carefully lower the hopper and secure it with the with the nuts on the anchor bolts.

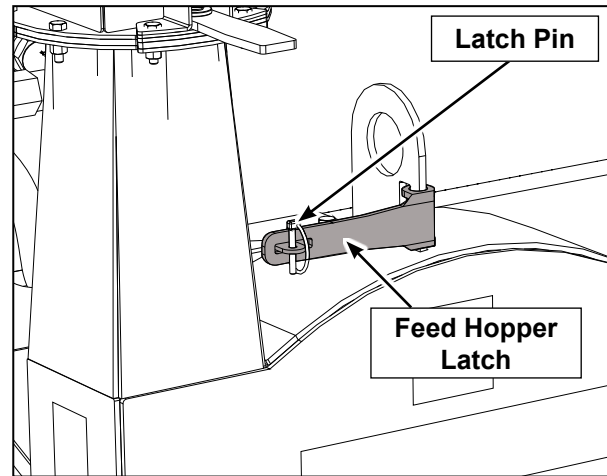


Fig. 12 FEED HOPPER LATCH SECURED

- d. Secure the feed hopper latch to the discharge chute with the latch pin.

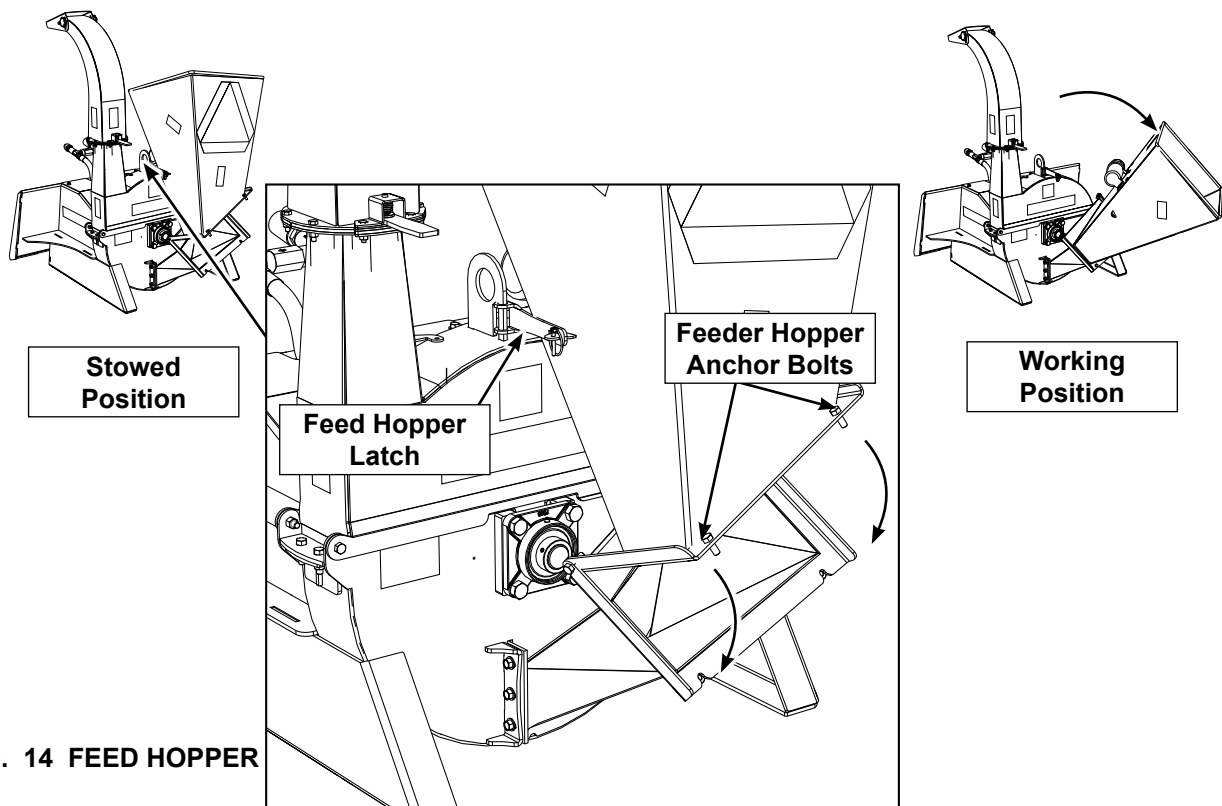


Fig. 14 FEED HOPPER

4.6 HYDRAULIC CONNECTIONS & MOUNTING

The machine is shipped from the factory in a basic, universal configuration that allows it to be mounted to any model skid steer. However, the skid steer must be equipped with a remote hydraulic outlet on the front of the cab frame.

The wood chipper should always be located on a level, dry area that is free of debris and other foreign objects. When attaching the wood chipper to a skid steer, follow this procedure:

1. Make sure that all bystanders, especially small children are clear of the work area.
2. Make sure there is enough room and clearance to safely drive up to the wood chipper.
3. Drive up to the wood chipper while aligning the mounting components, and hook up into the mount..

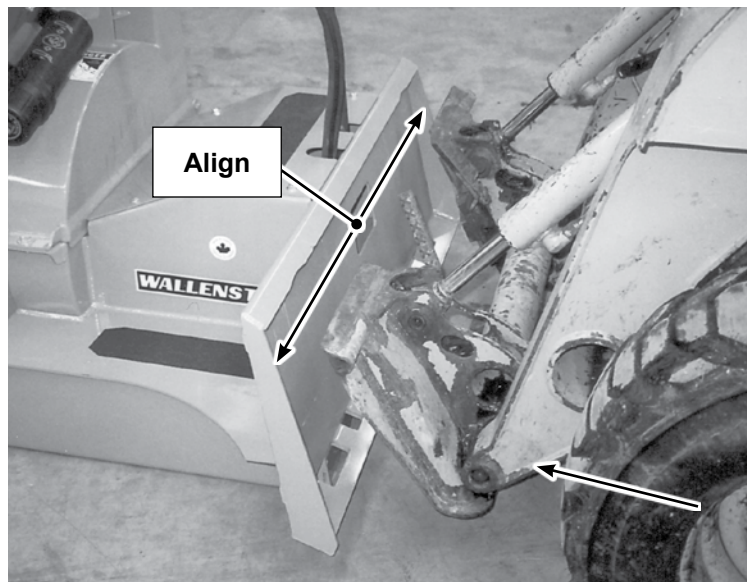
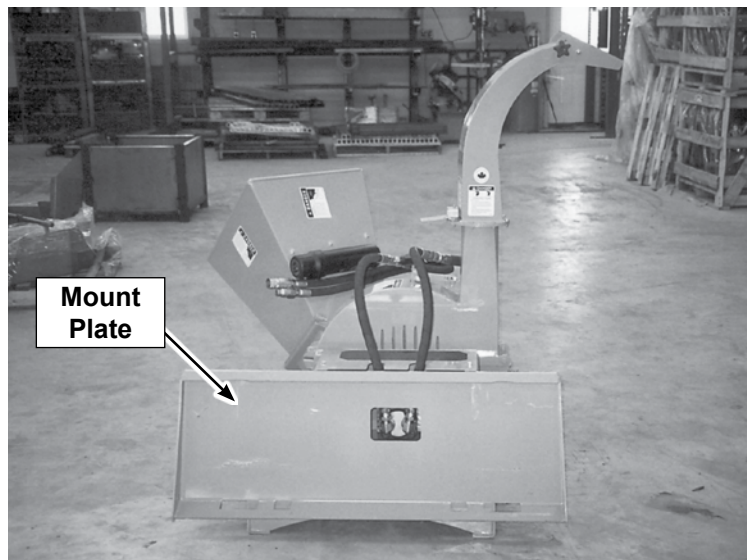
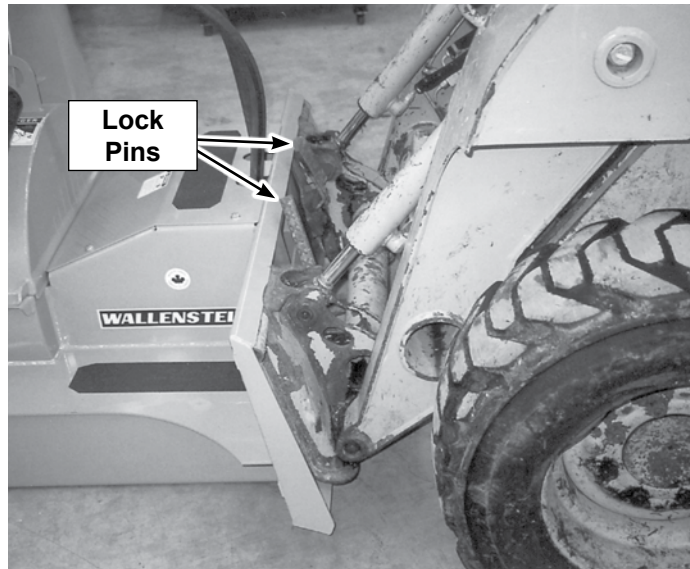


Fig. 10 ALIGNING

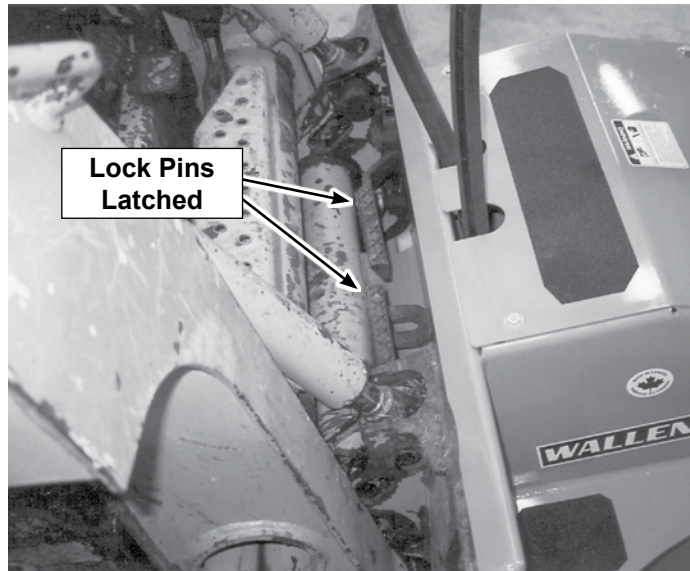
4. **Secure the mounting:**

- a. Drive into the mounting frame.
- b. Seat the top of the face plate into the frame of the wood chipper.
- c. Raise the loader and tilt the face plate until it is fully mated.



Mated

5. Engage the lock pins to secure the wood chipper to the loader.

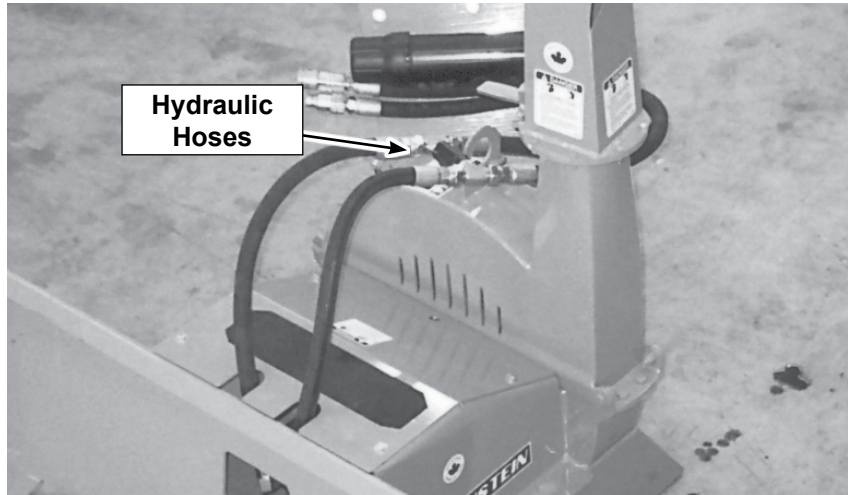


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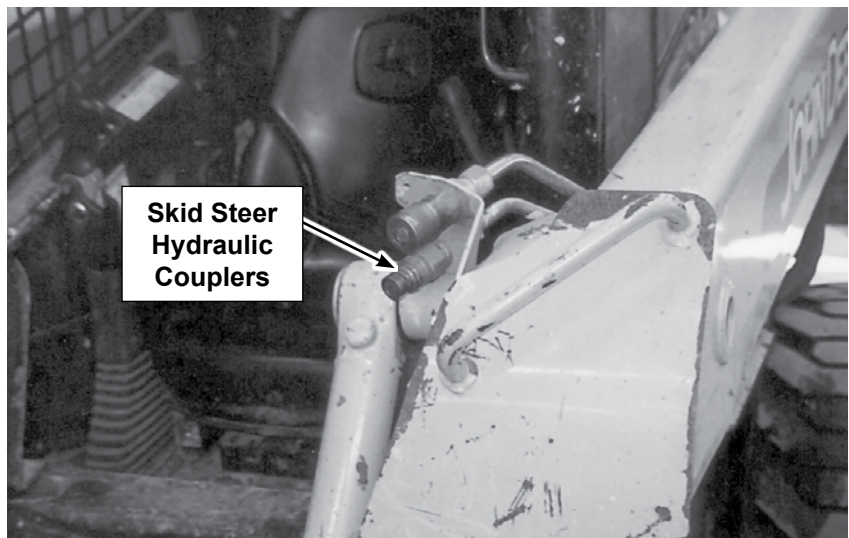
Fig. 11 MOUNTING

6. **Connect the hydraulics:**

- a. Use a clean rag or paper towel to clean the dirt from the couplers on the hose ends of the skid steer.



- b. Connect the hoses to the skid steer couplers. Be sure the couplers are securely seated.



- c. Route and secure the hoses along the frame with clips, tape or plastic ties to prevent binding and pinching. Be sure to provide slack for tilting.

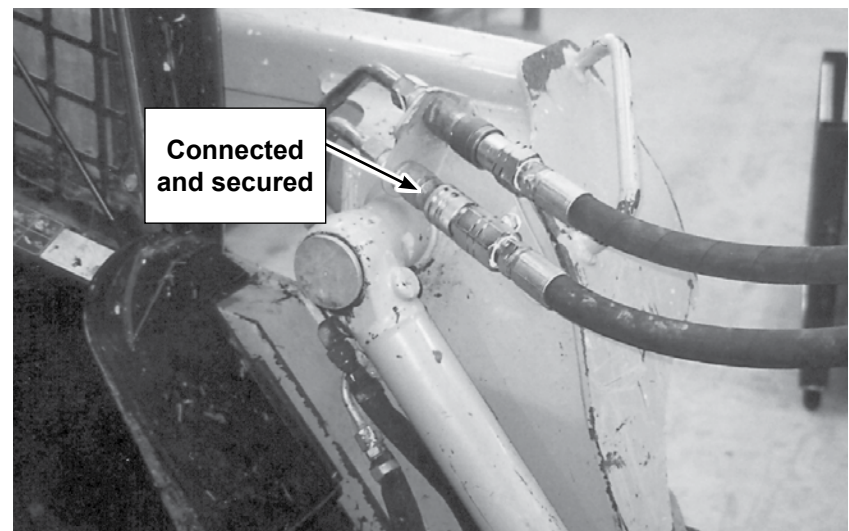


Fig. 6 HYDRAULICS

7. Raise the wood chipper.
8. Check that all hydraulic connections and locks are secure before beginning work.



Fig. 13 MOUNTED

Reverse the above procedure when unhooking.

Place planks or boards under the frame for extra support if required.

4.7 FIELD OPERATION



OPERATING SAFETY

- Read and understand operator's manual before starting. Review safety instructions annually.
- Turn machine off, stop engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
- Close and secure rotor cover before operating.
- Close and secure all guards, deflectors and shields before starting and operating.
- Keep hydraulic lines and fittings tight, in good condition and free of leaks.
- Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.
- Do not allow children, animals or unauthorized people into the working area.
- Do not run machine inside a closed building to prevent asphyxiation from engine exhaust.
- Use care when feeding material into chipper. Do not send metal, bottles, cans, rocks, glass or other foreign material into wood chipper. If foreign material enters chipper, stop machine, turn engine off and place ignition key in your pocket and wait for all moving parts to stop before removing material and/or unplugging. Inspect machine for damaged or loose parts before resuming work.
- Always wear P.P.E. (Personal Protective Equipment) such as safety goggles and heavy gloves whenever operating machine..
- Do not place hands or any body parts into feed hopper during operation.
- Do not move or transport chipper when the rotor is turning.
- Do not exceed a safe travel speed when transporting.

The operator has the responsibility of being familiar with all operating and safety procedures and following them.

Although the Trailer Wood Chipper is easy to use, each operator should review this section to familiarize himself with the detailed safety and operating procedures. When preparing this machine for use, follow this procedure:

4.7.1. PREPARE

- Clear the area of bystanders, especially small children.
- Each operator must be trained and familiar with the set up and operation of the Wood Chipper and its components.
- Review the machine components (see Section 4.2)
- Review and follow the Pre-Operation Checklist (see Section 4.4).
- Review hydraulic connections and mounting (see section 4.6)
- Survey the work site, move to a clear, level work area and position at the work site. Do not start the Wood Processor until it is in position.
- Set up the machine: lower the hopper into position. (see section 4.5).
- Each person must wear appropriate **Personal Protective Equipment (PPE)** whenever operating the Wood Processor or working in the vicinity. This equipment is designed to prevent injury to any personnel in the area. This list includes but is not limited to:
 - Safety shoes with slip resistant soles.
 - Safety goggles or face shield.
 - Hearing protection.
 - Heavy or leather gloves

4.7.2. STARTING PROCEDURE

- a. The Wood Chipper should be set up and ready to run. (see section 4.5 & 4.7)
- b. Set park brake on the skid steer.
- c. Start the skid steer tractor engine.
- d. Turn on hydraulic circuit to provide oil to the remote outlet.
- e. Set system to allow you to leave the seat.
- f. Slowly increase the engine speed until the engine is at rated speed.
- g. Climb out of cab.
- h. Turn the discharge head to its desired position.
- i. Start feeding material into hopper.
- j. Ensure that the rotor is up to speed, start feeding material into hopper.

4.7.3 STOPPING:

- a. Stop feeding material into the hopper.
- b. Climb into cab.
- c. Slow engine RPM.
- d. Place hydraulic lever in its OFF position.
- e. Stop engine, remove ignition key and place in your pocket and wait for all moving parts to stop.

4.7.4 EMERGENCY STOPPING

If an emergency occurs:

shut off the engine.

Place hydraulic lever in its OFF position.

Correct emergency situation before restarting engine and resuming work.

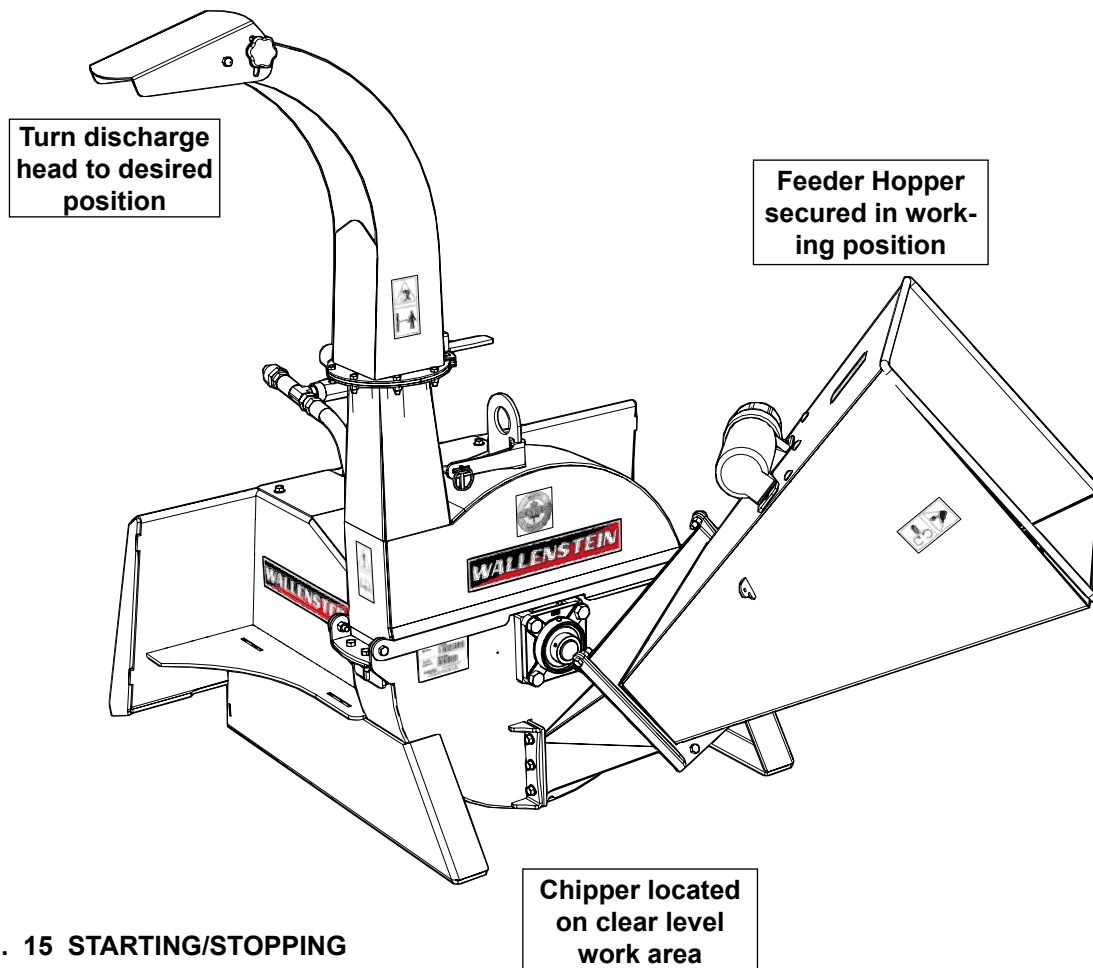



Fig. 15 STARTING/STOPPING

4.7.5 CHIPPING OPERATION

The BXH Wood Chipper is a strong, rugged machine that is built to a straight-forward design which provides consistent chipping of logs up to **4" (102mm)**

Always wear personal protective equipment (PPE) whenever operating the machine. This includes but is not limited to protective shoes with slip resistant soles, protective goggles or face shield, heavy gloves, hearing protection and protective clothing.

Do not place metal, bottles, cans, rocks, glass or other solid material into the wood chipper. If something like this gets into the machine, stop the machine immediately for a detailed inspection. Stop engine, remove ignition key and place in your pocket and wait for all moving parts to stop before inspecting or unplugging. Inspect machine for damaged or loosened parts before resuming work.

**WARNING**

Rotating Cutting Blades
keep hands and feet out of the inlet and discharge openings while the machine is operating to avoid serious personal injury. Turn off the hydraulics, stop the engine, and allow the machine to come to a complete stop before clearing obstructions or making adjustments.

Caution and care should be exercised when feeding material into the feeder. Do not reach into the hopper past the curtain barrier.

- Before beginning to feed the rotor is up to speed.
- Slowly slide the wooden material into the feed hopper and move it into the rotor.
- Do not force the material into the rotor, as the material engages the rotor, the rotor will draw the material in. Use continuous light pressure to guide in the material.
- Be aware of how much material you feed in, slow down or stop if the rotor begins to slow down.
- Do not reach into the feed hopper further than the curtain to be sure not to contact the blades on the rotor.
- Use a stick or branch to push any piece of material into the rotor that does not move on its own. If the jam persists then stop the engine and wait for the rotor to stop and then clear the jam. **Do not take a chance with getting your hand caught in the rotor.**
- Ensure your wood chip pile is contained and doesn't affect the immediate work area.



Fig. 16 OPERATING

4.7.6 UNPLUGGING:

Although the machine is designed to handle a wide variety of material without any problem, occasionally it plugs. When the machine plugs, follow this procedure to unplug:

- Clear the area of bystanders, especially small children.
- Turn off the hydraulics, stop the engine, remove the ignition key and place it in your pocket and wait for all moving parts to stop before unplugging.
- Pull the material out of the feed hopper. Be sure all the material is out and nothing is jammed or wedged between the input opening and the rotor.
- Pull the material out of the discharge hood. Use a stick to poke loose any material jammed into the discharge hood. Do not allow anything to remain in this area.
- Check that everyone is clear of machine before restarting engine.
- Start the engine turn on the hydraulics, and resume working.

4.7.7 SEVERE PLUG:

- Clear the area of bystanders, especially small children.
- Turn off the hydraulics, stop the engine, remove the ignition key and place it in your pocket or remove spark plug wire, and wait for all moving parts to stop before unplugging.
- Loosen the feed hopper anchor nuts and raise the feed hopper.
- Remove jammed material from inside the rotor compartment.
- Clean out the discharge area/rotor.
- Open the upper rotary housing and clean out the housing.
- Be sure to turn the rotor by hand to be sure there is nothing jammed between the rotor and stationary blades.
- Close, install and fold down all components opened to unplug. Tighten fasteners to their specified torque.
- Check that everyone is clear of machine before restarting engine.
- Start the engine turn on the hydraulics and resume working.



WARNING

Machine is shown with guard removed or rotor cover opened for illustrative purposes only. Do not operate machine with guard removed or cover opened.

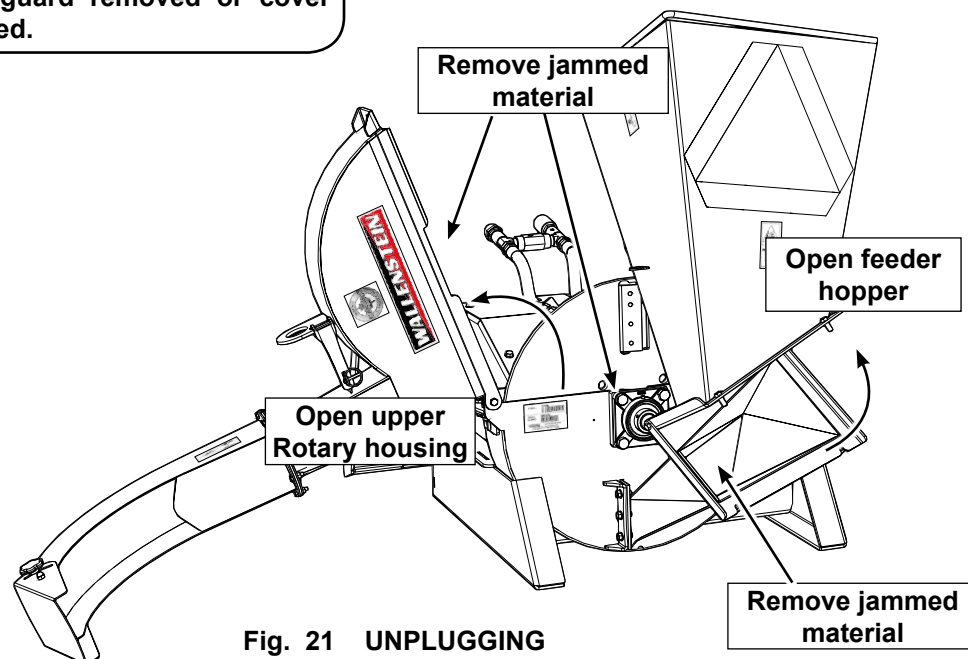


Fig. 21 UNPLUGGING

4.7.8 SAFETY CURTAINS:

Each feed hopper is designed with an internal rubber/belting curtain to prevent chips and debris from coming out of the hopper when working. Check the condition of the curtain each day prior to starting. Replace the curtain if torn, damaged or missing to minimize the chance of material coming out of the feed hopper.

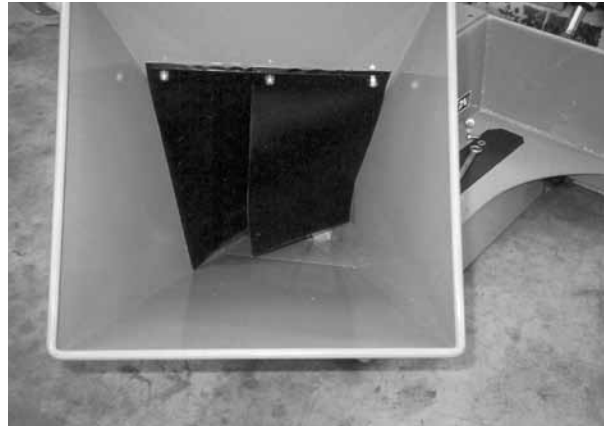


Fig. 22 CURTAIN

4.7.9 OPERATING HINTS:

- a. Keep the working area clean and free of debris to prevent slipping or tripping. Operate only on level ground.
- b. Do not place hands or any body parts into the feed hopper during operation. Use a stick or branch to push material into the rotor when it goes past the curtain in the feed hopper.
- c. Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.
- d. Use care when feeding material into the chipper. Do not send metal, bottles, cans, rocks, glass or other foreign material into the wood chipper. If foreign material enters chipper, stop machine, turn engine off and place ignition key in your pocket and wait for all moving parts to stop before removing material and/or unplugging. Inspect machine for damaged or loose parts before resuming work.
- e. Clean the machine frequently to prevent a build-up of dust, chips and trash on the frame. A clean machine reduces the chance of rusting.



Fig. 23 CLEAN & READY

5 TRANSPORTING



TRANSPORT SAFETY

- Comply with state and local laws governing safety and transporting of machinery on public roads.
- Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
- Do not exceed a safe travel speed. Slow down for rough terrain and cornering.
- Fold up and secure feed hopper before moving or transporting.
- Be sure the chipper is attached positively to the skid steer with the lock pins fully engaged.
- Do not drink and drive.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc. Watch for traffic when operating near or crossing roadways.
- Never allow riders on the machine.

When transporting the machine, review and follow these instructions:

1. Clear the area of bystanders, especially small children.
2. Check that all the lights and reflectors required by the highway authorities are in place, clean and working.
3. Insure that the machine is securely attached to the skid steer tractor with the lock pins fully engaged.
4. Do not allow riders.
5. Never exceed a safe travel speed. Slow down when encountering rough road conditions and cornering.
6. Do not drink and drive.
7. Raise and secure the feed hopper before transporting.
8. Turn the discharge hood and point toward the rotor to reduce the width of the machine.
9. Ensure upper rotor housing is securely bolted.

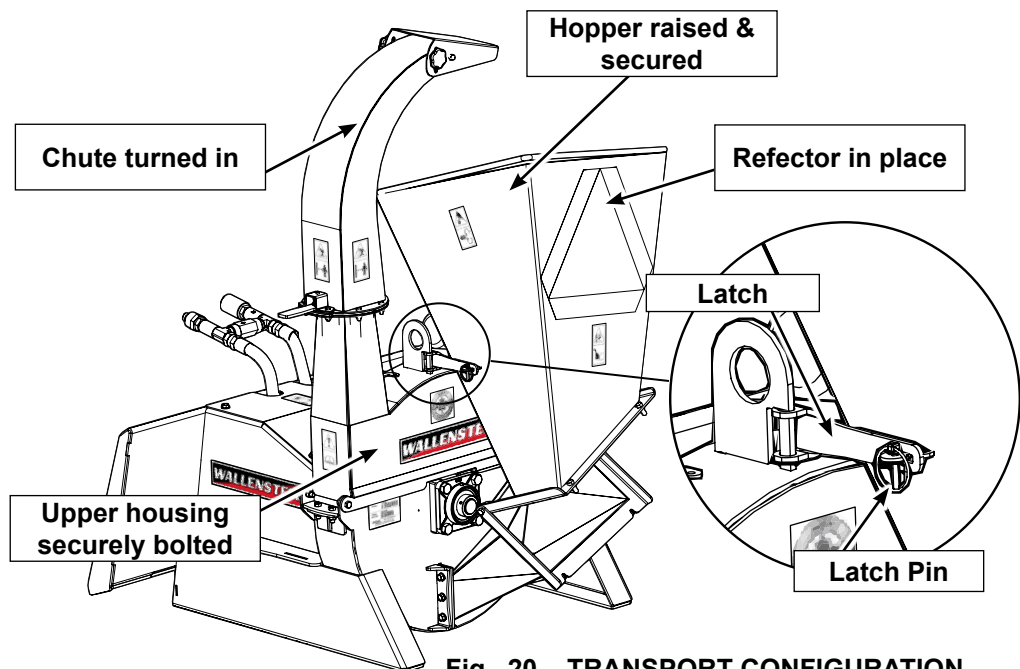


Fig. 20 TRANSPORT CONFIGURATION

6 STORAGE



OPERATING SAFETY

- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored machine.
- Store the unit in a dry, level area. Support the frame with planks if required.

6.1 PLACING IN STORAGE

After the season's use or when the machine will not be used for a period of time, completely inspect all major systems of the Skid Steer Mounted Wood Chipper. Replace or repair any worn or damaged components to prevent any unnecessary down time at the beginning of the next season.

Follow this procedure before storing:

1. Remove all material from the machine.
2. Thoroughly wash the machine with a pressure washer or water hose to remove all dirt, mud or debris.
3. Inspect all rotating parts for entangled material. Remove all entangled material.

4. Run the machine a few minutes to dry the moisture from inside the machine.
5. Move the feed hopper up and lock.
6. Turn the discharge hood and point toward the rotor to reduce the width of the machine.
7. Touch up all paint nicks and scratches to prevent rusting.
8. It is best to store the machine inside. If that is not possible, cover with a waterproof tarpaulin and tie down securely.
9. Store in an area away from human activity.
10. Do not allow children to play around the stored unit.

6.2 REMOVING FROM STORAGE

When removing this machine from storage, follow this procedure:

1. Remove the tarpaulin if covered.
2. Review and follow the pre-operation checklist.

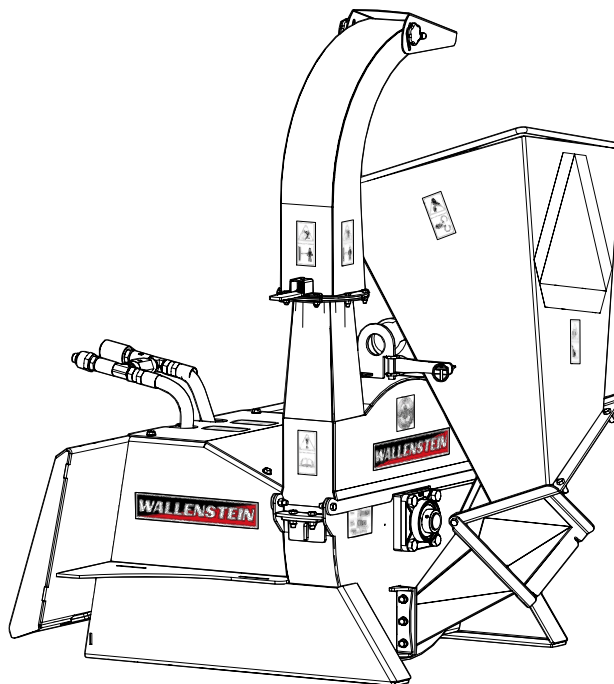


Fig. 26 STORED

7 SERVICE AND MAINTENANCE



MAINTENANCE SAFETY

- Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.
- Follow good shop practices.
 - Keep service area clean and dry.
 - Be sure electrical outlets and tools are properly grounded.
 - Use adequate light for the job at hand.
- Make sure there is plenty of ventilation. Never operate the engine of the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
- Before working on this machine, shut off the engine, set the brake, and remove ignition key.
- Never work under equipment unless it is blocked securely.
- Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work. Use heavy gloves when handling sharp components.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
- Periodically tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure unit is in a safe condition.
- When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

7.1 SERVICE

7.1.1 FLUIDS AND LUBRICANTS

1. **Grease:**
Use an SAE multipurpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multipurpose lithium base grease.
2. **Storing Lubricants:**
Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

7.1.2 GREASING

Use the Maintenance Checklist provided to keep a record of all scheduled maintenance.

1. Do not use pneumatic powered grease gun, use a hand-held grease gun for all greasing.
2. Use one shot of grease per grease fitting
3. Wipe grease fitting with a clean cloth before greasing, to avoid injecting dirt and grit.
4. Replace and repair broken fittings immediately.
5. If fittings will not take grease, remove and clean thoroughly. Also clean lubricant passageway. Replace fittings if necessary.



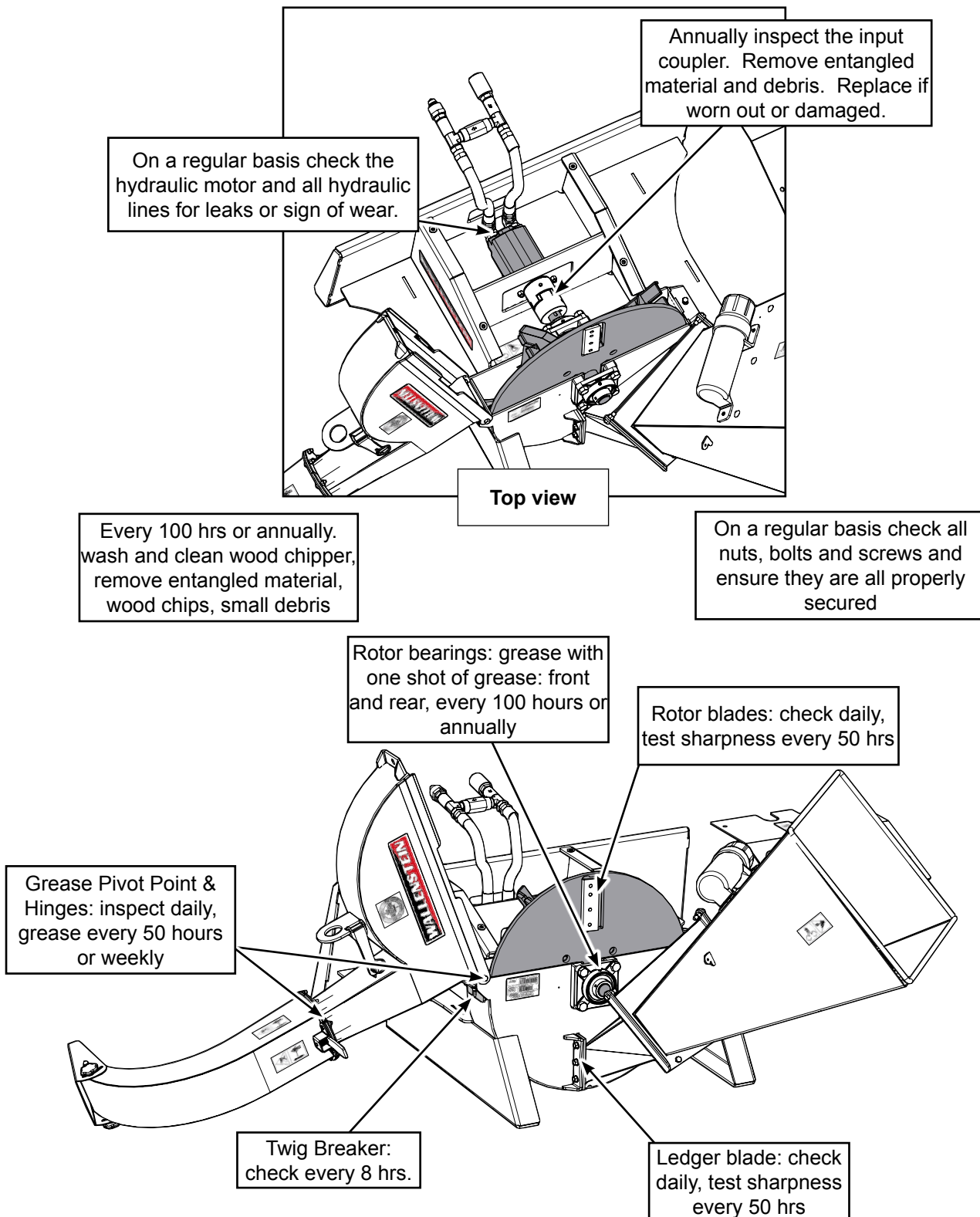
WARNING

Machine is shown with guard removed or rotor cover opened for illustrative purposes only. Do not operate machine with guard removed or cover opened.

7.1.3 SERVICE ILLUSTRATION

See Service Record Chart

This illustration shows the location of service points for the BXH42



7.1.4 SERVICE RECORD

See Lubrication and Maintenance sections for details of service. Copy this page to continue record.

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7.2 MAINTENANCE

By following a careful service and maintenance program for your machine, you will enjoy many years of trouble-free operation.

7.2.1 BLADE AND BREAKER MAINTENANCE:

The rotor and ledger blades need to be sharp for the Chipper to perform as expected. Periodic inspection is recommended. Keep the blades sharp to reduce the amount of power required during operation. Watch the sharpness of the blades when processing material with a lot of sand, soil or dirt mixed with it. Reverse or sharpen the blades if the cutting edge becomes dull. Twig breaker should be inspected for gouges or bent.

Rotor Blades:

The rotor is equipped with 2 blades spaced evenly to keep the rotor in balance. If one needs to be changed, the one opposite should also be changed.

It is recommended that the rotor blades be removed from the rotor when sharpening. Always sharpen the blades at a 45° angle to provide the best cutting effect as it meets the stationary blade. Be sure to tighten the blade mounting bolts to their specified torque when re-installing the blades to the rotor.

1. Turn off the hydraulics, stop the engine, remove the ignition key and place it in your pocket and wait for all moving parts to stop.
2. Remove the bolt that secures the upper rotor housing, and carefully open the rotor housing.
3. Manually rotate chipper rotor plate so that the blade is fully exposed
4. Remove the bolts that hold the rotor blade to the rotor, remove the blade.
5. Rotate the blade and reinstall or replace with new or re-sharpened blade.
6. Ensure the blade is properly oriented, with the leading edge out. The blade is designed to fit into the rotor one way only. See diagram for proper installation.
7. Tighten down bolts as specified in the torque chart
8. Repeat steps for remaining blades.

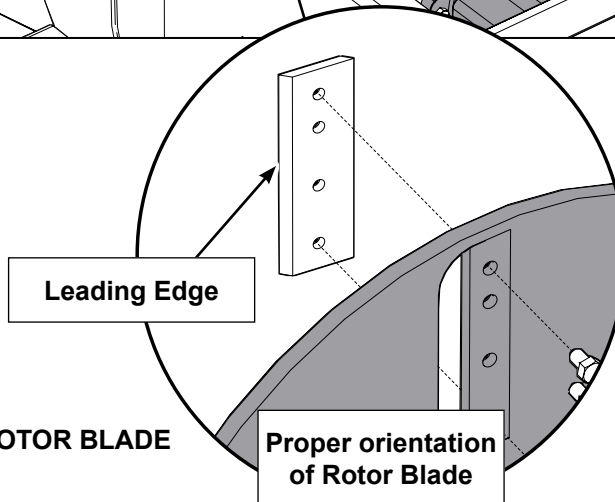
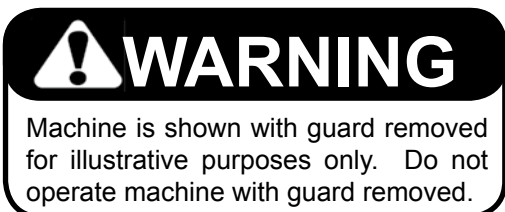
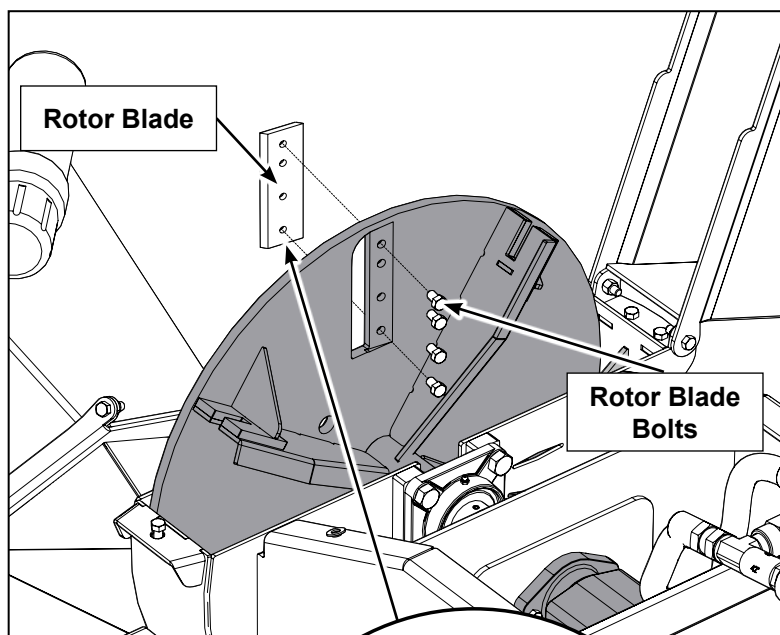


Fig. 26 ROTOR BLADE

Ledger Blades:

The BXH42 is equipped with a ledger (stationary) blade that acts as a shear for the moving rotor blades. The ledger blade is designed with 4 usable corners. When the corner facing the rotor blade rounds over, remove the blade and re-install with a different corner facing the rotor blade. It is recommended that the clearance between the rotor and stationary blades be set and maintained at 1/32 to 1/16" (.76 - 1.52 mm) to obtain the best performance.

1. Turn off the hydraulics, stop the engine, remove the ignition key and place it in your pocket and wait for all moving parts to stop .
2. Remove the 2 bolts that hold the ledger blade to the ledger mount, remove the blade.
3. Rotate the blade and replace or replace with new or re-sharpened blade.
4. Hand tighten the bolts and set the clearance between the ledger and rotor blades at 1/32 - 1/16" (.76 - 1.52 mm). For fast and easy setting, use our chipper clearance setting gauge, available from your dealer (see accessories)
5. Tighten down bolts as specified in the torque chart

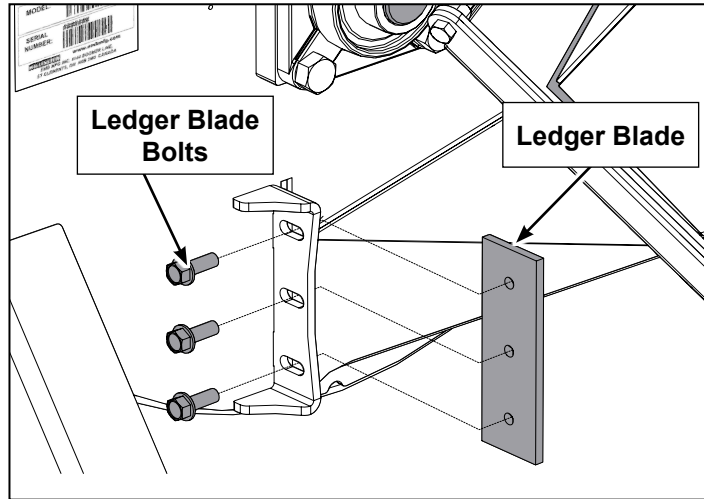



Fig. 27 LEDGER BLADE

Twig Breaker:

The Twig Breaker is a breaker tab located on side of the lower rotor housing. The discharge paddle passes around the twig breaker and helps to break the material into smaller pieces and turn it into mulch. Inspect the twig breaker for damage such as gouges, a bent, or missing tooth. A damaged twig breaker should be replaced. If the tooth is showing wear, remove and replace the twig breaker.

1. Turn off the hydraulics, stop the engine, remove the ignition key and place it in your pocket and wait for all moving parts to stop .
2. Remove the 2 bolts and nuts that hold the twig breaker to the housing, remove the twig breaker.
3. Reverse the steps to install the new twig breaker.

**WARNING**

Machine is shown with guard removed or rotor cover opened for illustrative purposes only. Do not operate machine with guard removed or cover opened.

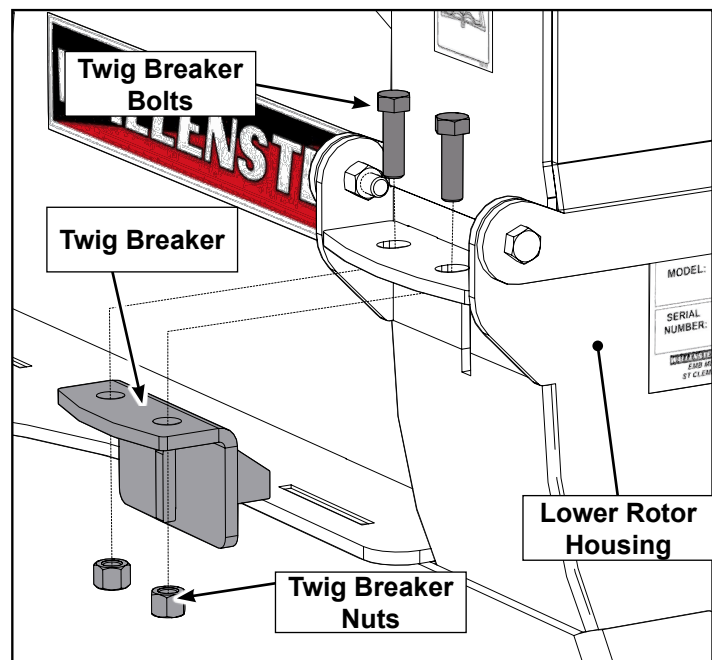













Fig. 28 TWIG BREAKER

8 TROUBLE SHOOTING

The Wallenstein Skid Steer Wood Chipper is designed with blades on a rotor to cut, shear and shred wooden material. It is a simple and reliable system that requires minimal maintenance.

In the following section, we have listed many of the problems, causes and solutions to the problems that you may encounter.

If you encounter a problem that is difficult to solve, even after having read through this trouble shooting section, please call your local distributor or dealer. Before you call, please have this Operator's Manual from your unit and serial number ready.

PROBLEM	CAUSE	SOLUTION	CAUTION	
Rotor does not turn	Obstructed discharge.	Clear debris from discharge chute.		Ensure machine is off
	Rotor plugged.	Inspect and clear chipper hopper lower rotor housing and rotor.		Ensure machine is off
Slow feeding.	Low engine speed.	Throttle is set to specified speed		
	Blades and/or knives are dull.	Rotate, sharpen or replace blade and/or knives.		Ensure machine is off
	Rotor blade angle wrong, improper angle.	Re-sharpen knives to specified angle and check that blade is installed properly.		Ensure machine is off
	Obstructed discharge.	Clear debris from discharge chute .		Ensure machine is off
Unusual vibration while running.	Broken or missing blade .	Replace broken/missing blade.		Ensure machine is off.
	Rotor may be bent	Check rotor to see if it wobbles. Replace rotor		Ensure machine is off, call technician for repair
Machine requires excessive power or stalls.	Obstructed discharge.	Clear debris from discharge chute .		Ensure machine is off
	Feeding in too much material	Feed smaller amounts into chipper hopper.		
	Feeding material too quickly	Feed larger material slowly into chipper hopper.		
	Rotor plugged.	Inspect and clear chipper hopper lower rotor housing and rotor.		Ensure machine is off
	Green material will not discharge.	Allow material to dry or alternate dry/wet material.		
	Chipper blade clearance too large.	Set clearance to 1/32 to 1/16 " (.76 - 1.52 mm). Use chipper clearance tool (see accessories)		Ensure machine is off.
	Dull blades.	Rotate, sharpen or replace blade		Ensure machine is off.

9 SPECIFICATIONS

9.1 MECHANICAL

Model	BXH42
Drive System	Hydraulic w/input coupler
Chipper Capacity	4" Dia.(10.1 cm) Max. 10" slab (25.4cm)
Chipper Housing Opening	4" × 10" 10.1cm x 25.4cm
Rotor Size (Dia)	25" 63.5cm
Number of Rotor Knives	2
Knife Type	Hardened tool steel
Rotor Weight	74 lb 33.6 kg
Feeding System Feed	Self Feed
Mounting System	Skid Steer
Dimensions (Hopper Folded) L x W x H	80" x 57"x 72" 203cm × 145cm × 183cm
Hopper Opening	20" x 20" 51cm x 51cm
Discharge Hood Rotation	360 degrees
Discharge Hood Height	72" 183cm
Rated RPM	1000
Weight	740 lb 336 kg

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

9.2 BOLT TORQUE

CHECKING BOLT TORQUE

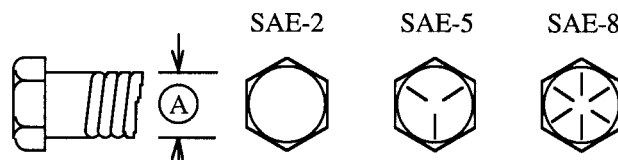
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

Torque figures indicated above are valid for non-greased or non-oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts or capscrews unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

* Torque value for bolts and capscrews are identified by their head markings.

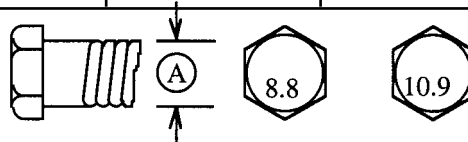
ENGLISH TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*					
	SAE 2 (N.m) (lb-ft)		SAE 5 (N.m) (lb-ft)		SAE 8 (N.m) (lb-ft)	
1/4"	8	6	12	9	17	12
5/16"	13	10	25	19	36	27
3/8"	27	20	45	33	63	45
7/16"	41	30	72	53	100	75
1/2"	61	45	110	80	155	115
9/16"	95	60	155	115	220	165
5/8"	128	95	215	160	305	220
3/4"	225	165	390	290	540	400
7/8"	230	170	570	420	880	650
1"	345	225	850	630	1320	970



METRIC TORQUE SPECIFICATIONS

Bolt Diameter "A"	Bolt Torque*			
	8.8 (N.m) (lb-ft)		10.9 (N.m) (lb-ft)	
M3	.5	.4	1.8	1.3
M4	3	2.2	4.5	3.3
M5	6	4	9	7
M6	10	7	15	11
M8	25	18	35	26
M10	50	37	70	52
M12	90	66	125	92
M14	140	103	200	148
M16	225	166	310	229
M20	435	321	610	450
M24	750	553	1050	774
M30	1495	1103	2100	1550
M36	2600	1917	3675	2710



9.3 HYDRAULIC FITTING TORQUE

Tightening Flare Type Tube Fittings *


1. Check flare and flare seat for defects that might cause leakage.
 2. Align tube with fitting before tightening.
 3. Lubricate connection and hand tighten swivel nut until snug.
 4. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.
- The torque values shown are based on lubricated connections as in reassembly.

HYDRAULIC FITTING TORQUE					
Tube Size OD	Nut Size Across Flats	Torque Value*		Recommended Turns To Tighten (After Finger Tightening)	
(in.)	(in.)	(N.m)	(lb-ft)	(Flats)	(Turn)
3/16	7/16	8	6	1	1/6
1/4	9/16	12	9	1	1/6
5/16	5/8	16	12	1	1/6
3/8	11/16	24	18	1	1/6
1/2	7/8	46	34	1	1/6
5/8	1	62	46	1	1/6
3/4	1-1/4	102	75	3/4	1/8
7/8	1-3/8	122	90	3/4	1/8

10 ACCESSORIES

Call your dealer for pricing and availability

For replacement parts, go to www.embmfg.com and click on "Parts and Manuals" to download the latest parts manual for you model splitter, then call your dealer to order.

 <p>#1012L269</p>	<p>#1012L269 LEDGER CLEARANCE SETTING GAUGE</p> <p>For BXH42 Chippers An easy and accurate way of setting the critical clearances between the ledger blade and the rotor chipper blade.</p>
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