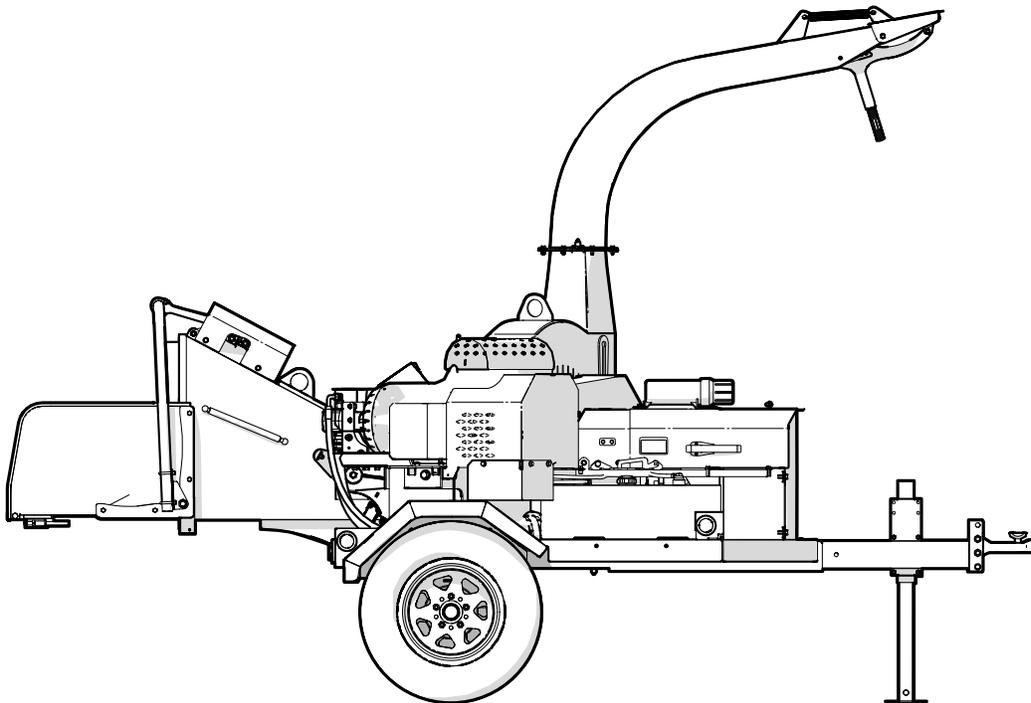


OPERATOR'S MANUAL

S/N 2E9US1110GS091272 & Up

BXTR6438F/P **TRAILER WOOD CHIPPER**



Rev Jan-2020

Document Number: Z97073_En

WALLENSTEIN

TABLE OF CONTENTS

WARRANTY	3
DELIVERY INSPECTION REPORT	4
SERIAL NUMBER LOCATION	5
LABEL INFORMATION	5
1 INTRODUCTION	6
2 SAFETY	7
2.1 SAFETY DO'S & DON'TS'	8
2.2 EQUIPMENT SAFETY GUIDELINES	9
2.3 SAFETY TRAINING	10
2.4 PREPARATION	11
2.5 MAINTENANCE SAFETY	12
2.6 OPERATING SAFETY	13
2.7 TRANSPORT SAFETY	14
2.8 HYDRAULIC SAFETY	14
2.9 GAS MOTOR SAFETY	15
2.10 REFUELLING SAFETY	16
2.11 TIRE SAFETY	16
2.12 STORAGE SAFETY	16
2.13 FEED ROLLER SAFETY	16
2.14 BATTERY SAFETY	16
2.15 SIGN-OFF FORM	17
3 SAFETY SIGNS	18
3.1 HOW TO INSTALL SAFETY SIGNS: ..	18
3.2 SAFETY SIGN EXPLANATIONS:	18
3.3 SAFETY SIGN LOCATIONS	19
4 OPERATION & FEATURES	20
4.1 TO THE NEW OPERATOR OR OWNER	20
4.1.1 IMPORTANT	20
4.2 MACHINE COMPONENTS	21
4.3 MACHINE BREAK-IN	22
4.4 PREOPERATION CHECKLIST	22
4.5 CONTROLS	23
4.5.1 ENGINE KOHLER CH980 38HP	23
4.5.2 INDICATOR LIGHTS.....	24
4.5.3 DISCHARGE CHUTE:	25
4.5.4 HOOD DEFLECTOR:.....	25
4.5.5 ROLLER FEED CONTROL BAR:.....	26
4.5.6 INTELLIFEED OPERATION AND PRO- GRAMMING:.....	27
4.6 BALL & COUPLER	29
4.6.1 COUPLING FOR TRANSPORT	29
4.6.2 ADJUSTABLE HEIGHT	29
4.7 MACHINE SET-UP	30
4.8 FIELD OPERATION	31
4.8.1. PREPARE	31
4.8.2. STARTING PROCEDURE	32
4.8.3 STOPPING:	32
4.8.4 EMERGENCY STOPPING	32
4.8.5 CHIPPING OPERATION.....	33
4.8.6 UNPLUGGING:.....	34
4.8.7 SEVERE PLUG:	34
4.8.8 REFUELLING:	36
5 TRANSPORTING	37
5.1 PREPARE FOR TRANSPORT:	37
6 STORAGE	38
6.1 PLACING IN STORAGE	38
6.2 REMOVING FROM STORAGE	38
7 SERVICE AND MAINTENANCE	39
7.1 SERVICE	39
7.1.1 FLUIDS AND LUBRICANTS.....	39
7.1.2 GREASING	39
7.1.3 SERVICE ILLUSTRATION	40
7.1.4 SERVICE ILLUSTRATION	41
7.1.5 SERVICE RECORD	42
7.2 MAINTENANCE	43
7.2.1 KOHLER CH980 38HP ENGINE	43
7.2.2 HYDRAULIC OIL FILL	43
7.2.3 HYDRAULIC OIL DRAIN	44
7.2.4 HYDRAULIC OIL FILTER	44
7.2.5 SERVICING THE BATTERY	45
7.2.6 DRIVE BELT REPLACEMENT	46
7.2.7 BELT TENSION	47
7.2.8 SHEAVE ALIGNMENT	48
7.2.9 ROTOR BLADES:	49
7.2.10 LEDGER BLADES:.....	50
7.2.11 TWIG BREAKER:	50
7.2.12 FLUID COUPLING	51
7.2.13 SAFETY RELEASE:.....	51
7.2.14 RESET THE SAFETY:	51
7.2.15 SPILL BASIN:	52
8 TROUBLE SHOOTING	53
9 ACCESSORIES	56
10 SPECIFICATIONS	57
10.1 MECHANICAL	57
10.2 BOLT TORQUE	58
10.3 HYDRAULIC FITTING TORQUE	59
10.4 WHEEL LUG TORQUE	59
INDEX	60



LIMITED WARRANTY

Wallenstein products are warranted to be free of defects in materials and workmanship under normal use and service, for a period of

Five Years for Consumer Use

Two Years for Commercial/Rental Use

from the date of purchase, when operated and maintained in accordance with the operating and maintenance instructions supplied with the unit. Warranty is limited to the repair of the product and/or replacement of parts.

This warranty is extended only to the original purchaser and is not transferable.

Repairs must be done by an authorized dealer. Products will be returned to the dealer at the customer's expense. Include the original purchase receipt with any claim.

This warranty does not cover the following:

- 1) Normal maintenance or adjustments
- 2) Normal replacement of wearable and service parts
- 3) Consequential damage, indirect damage, or loss of profits
- 4) Damages resulting from:
 - Misuse, negligence, accident, theft or fire
 - Use of improper or insufficient fuel, fluids or lubricants
 - Use of parts or aftermarket accessories other than genuine Wallenstein 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 dealer
- 5) Engines. Engines are covered by the manufacturer of the engine for the warranty period they specify. For the details of your engine warranty, see your engine owner's manual. Information about engine warranty and service is also available in the FAQ section at www.wallensteinequipment.com

**WALLENSTEIN
BXTR6438 / BXTR6438P TRAILER WOOD CHIPPER**

DELIVERY INSPECTION REPORT

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

Customer's Name _____

Contact Name _____

Dealer Name _____

(_____) _____
Phone Number

Serial Number _____

_____/_____/_____
Delivery Date

✓	Pre-Delivery Inspection
	Inspect for damage from shipping, immediately contact the shipping company if damage is found.
	BXTR6438 Trailer Wood Chipper
	Check Blade Clearance
	Rotor Turns Freely
	Belt Tension Checked
	Pulleys Aligned
	Fasteners Tight
	Grease Zerks / Lubricate Pivot Points
	Check Tire Pressure / Wheel Nuts
	Check Engine Fluid Levels
	Review Operating and Safety Instructions
	Safety Checks
	All Safety Decals Installed
	Guards and Shields Installed and Secured
	Check Function of Brake and Signal Lighting
	Safety Chain on Hitch
	Retainer Installed Through Ball Hitch
	Review Operating and Safety Instructions

I have thoroughly instructed the buyer on the equipment care, adjustments, safe operation and applicable warranty policy and reviewed the manual.

Dealer's Rep. Signature

_____/_____/_____
Date

The product manuals have been received by me and I have been thoroughly instructed as to care, adjustments, safe operation and applicable warranty policy.

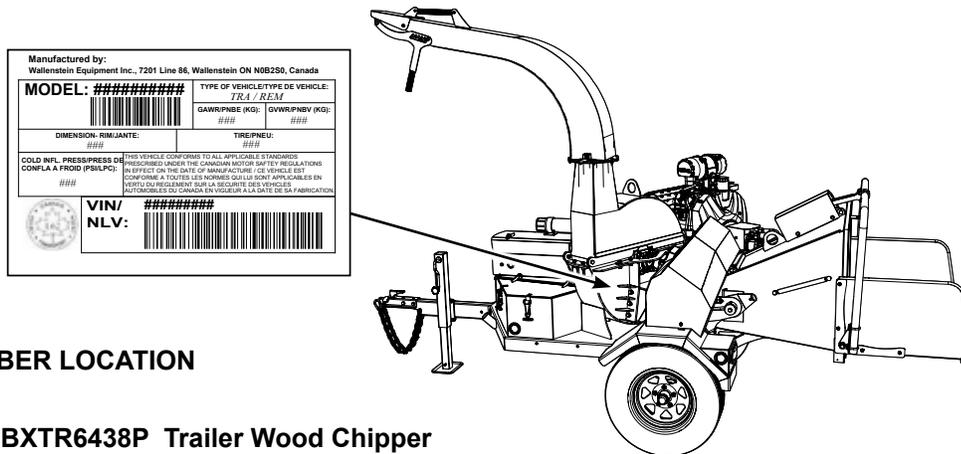
Owner's Signature

_____/_____/_____
Date

SERIAL NUMBER LOCATION

Always give your dealer the serial number of your Wallenstein Trailer Wood Chipper and Feed Hopper when ordering parts or requesting service or other information.

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



SERIAL NUMBER LOCATION

BXTR6438F / BXTR6438P Trailer Wood Chipper

Serial Number _____

LABEL INFORMATION

As you begin to get familiar with your Wallenstein product, you will notice that there are numerous labels located on the machine. Here is a brief explanation of what they are for and how to read them.

There are three different types of labelling: safety, informative and product labels.

Safety Labels are pictorial with a yellow background and generally 2 panel. The top panel shows the safety alert (the potential hazard) and the bottom panel shows the message (how to avoid the hazard).

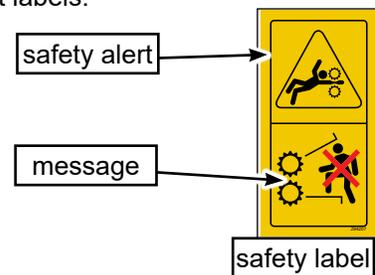
Safety Notice Labels are pictorial with a blue background and generally rectangular with single or multiple symbols. The label illustrates requirements for safe operation (safety equipment, housekeeping etc). These labels are accompanied by detailed instructions in the owners manual, with the label illustrated along side.

Informative Labels are generally pictorial with a white background and can vary to the number of panels. The label will illustrate the function of a feature and is accompanied by detailed instructions in the owners manual, with the label illustrated along side.

Product Labels are associated with the product and carry various messages (model, serial, etc).

Maintenance Labels are associated with the product and carry various messages. They are generally pictorial. They may be round or rectangular, have a green background and can vary to the number of panels. The label may illustrate the type maintenance and frequency in time between services. Labels are accompanied by detailed instructions in the owners manual, with the label illustrated along side.

See the section on safety signs for safety label definitions. For a complete illustration of labels and label locations, download the parts manual for your model product at www.wallensteinequipment.com.



1 INTRODUCTION

Congratulations on your choice of an Wallenstein **BXTR6438 Trailer Wood Chipper** to compliment your operation. This equipment has been designed and manufactured to meet the needs of the timber or landscaping industry as well as township and municipal requirements.

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, review this Wallenstein Operators manual and read and understand the Safety, Operation, Maintenance and Trouble Shooting information contained within this Manual.

The Wallenstein Trailer Wood Chipper is designed for chipping wood in a fast and efficient manner.

A feed table folds down exposing the opening to the feed hopper. A "U" shaped tube handle located around the feed table controls the forward / stop / reverse of the feed rollers. The tube handle also acts as a safety stop lever for the feed rollers in case of emergency.

The feed table directs the wood material into the hydraulically driven feed rollers in the throat of the feed hopper. The feed rollers pull and direct the wood material into the rotor.

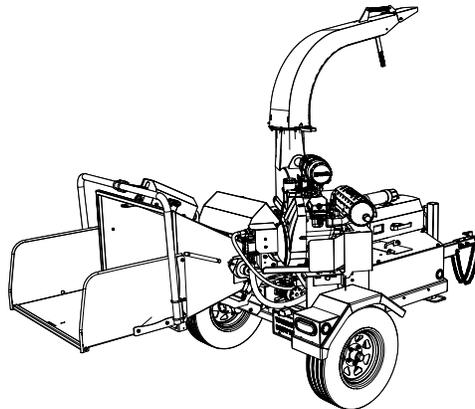
The rotor is designed with 2 pairs of chipper blades (one pair offset) and along with a stationary knife mounted to the rotor housing, shears, chips and chops the material. The blower paddles feature integrated twig breakers that are designed to break up twigs and make for more consistent sized chips exiting the machine. The rotor paddles move the processed material from the rotor housing, out to the adjustable discharge hood, where the material is directed to where you want it.

A powerful gas engine is mounted on the frame to drive the rotor. Power is transmitted through a centrifugal clutch. When engine RPM is sufficient, the clutch automatically engages the engine output shaft, to the V belt drive system on the rotor. An hydraulic pump is mounted on the engine provides hydraulic power to the feed rollers in the chipper hopper.

The IntelliFeed controller is used to control and monitor the efficiency of the BXTR6438. IntelliFeed monitors the rotor's rpm, slowing the rollers' speed as needed. If the rpm reaches its minimum setting, IntelliFeed takes over, automatically reversing the log away from the rotor, eliminating friction against the rotor, allowing the rotor to get back up to speed faster.

The result is the BXTR6438 continues chipping at a volume that best matches its rpm, eliminating time consuming stall outs. The display on the controller displays engine oil life, machine hours or rotor RPM.

BXTR6438



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 Distributor 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 tow vehicles 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 Trailer 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 Trailer Wood Chipper. **YOU** must ensure that you and anyone else who is going to use, maintain or work around the Trailer Wood Chipper be familiar with the use 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 Trailer 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 use 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.

2.1 SAFETY DO'S & DON'TS'

- **DO** give operating instructions to operators or employees before allowing them to operate the machine, and REVIEW annually thereafter.
- **DO** read and understand ALL Safety and Operating instructions in the manual and follow them. Most accidents can be avoided. The most important safety device on this equipment is a SAFE operator. 
- **DO NOT** expect a person who has not read and understood all use and safety instructions to operate the machine. An untrained operator is not qualified and exposes himself and bystanders to possible serious injury or death. It is the owners responsibility to the operator to ensure familiarity and understanding of the machine.
- **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.
- **DO NOT** allow riders.
- **DO NOT** risk injury or death by ignoring good safety practices.
- **DO** review safety related items annually with all personnel who will operating or maintaining the Trailer Wood Chipper.

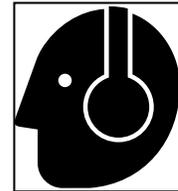
- **DO** have a first-aid kit available for use should the need arise and know how to use it. 
- **DO** read and understand all safety signs located on the machine before using, maintaining, adjusting or cleaning the Trailer Wood Chipper.

- **DO** have a fire extinguisher available for use should the need arise and know how to use it. 
- **DO** inspect and secure all guards before starting.
- **DO** wear appropriate protective gear. This list includes but is not limited to:

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



- **DO** wear suitable ear protection for prolonged exposure to excessive noise.
- **DO** prepare before servicing, adjusting, repairing or unplugging:
 - stop the machine,
 - shut off the engine,
 - remove ignition key and place in your pocket,
 - wait for all moving parts to stop
 - clear the area of people, especially small children.
 - set tow vehicle brake
- **DO** check input and discharge chutes, air vents, intakes and exhausts, that they are clear of debris prior to starting the machine
- **DO NOT** touch hot engine parts, muffler, muffler cover, radiator, hoses, engine body, coolants, engine oil, etc. during operation and after the engine has been shut off. Contact may cause burns.
- **DO NOT** modify, disable or change in any way the roller feed safety / control bar
- **DO** think SAFETY! Work SAFELY!



2.2 EQUIPMENT SAFETY GUIDELINES

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, follow them.

1. 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.
2. Replace any safety sign or instruction sign that is not readable or is missing. Location of such safety signs is indicated in this manual.
3. 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.
4. **Under no circumstances should young children be allowed to work with this equipment. Do not allow persons to use or assemble this chipper 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.
5. 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 familiar with this equipment's operations. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
6. 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.**
7. 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.
8. 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 engine and machine manuals. Pay close attention to the Safety Signs affixed to the tow vehicle and the machine.
9. When operating this equipment it is recommended to have at least 2 operators present and trained in safe operation of the machine. All operators must be completely familiar with all components of the machine and their function. **Never allow the machine to be operated by a lone operator!**
10. **Safe condition** involves the following procedure:
 - shut off the engine
 - ensure all components have stopped moving.
 - remove and pocket the ignition key
 - disconnect the battery
 - block & chock the wheelsSafe Condition procedure should be performed before any service, maintenance work or storage preparation.

2.3 SAFETY TRAINING

1. Train all new personnel and review instructions frequently with existing workers. 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 Use 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:**
 - Reads and understands the operator's manuals.
 - Is instructed in safe and proper use of the equipment.
 - Understands and knows how to perform the "safe condition" procedure:
 - shut off the engine
 - ensure all components have stopped moving.
 - remove and pocket the ignition key
 - disconnect the battery
 - block & chock the wheels
5. Know your controls and how to stop the engine and machine quickly in an emergency. Read this manual and the one provided with your engine.
6. 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.
7. When operating this equipment it is recommended that at least 2 operators be present and trained in safe operation of the machine. All operators must be completely familiar with all components of the machine and their function. **Never allow the machine to be operated by a lone operator!**

2.4 PREPARATION

1. Never use the engine and machine until the operators have been adequately trained in the safe operation of the machine and have read and completely understand:

- Safety, Operation and Feature sections of this manual,
- Engine Operator's Manual
- Each of the Safety Messages found on the safety signs on the engine and machine.

2. Personal protection equipment including:

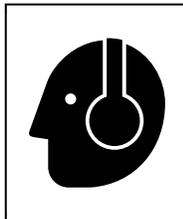
- hard hat
- safety glasses
- safety shoes
- gloves
- hearing protection
- safety vest



are recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, cleaning, or moving the chipper. 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. 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.



Caution: 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. Determine where the chips will be piled and ensure it does not interfere with safe loading of material into the machine
6. Precut material so that it is ready to load into the machine. Do not run a chainsaw and the machine at the same time.
7. Use only in daylight or good artificial light.
8. Be sure machine is properly mounted, adjusted and in good operating condition.
9. Ensure that all safety shielding and safety signs are properly installed and in good condition.
10. If fuel is on site, store it well away from the chip pile and feed material.
11. Perform the "PreOperation Checklist" procedure before starting work.

2.5 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 machine or the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.
4. Put the machine in **safe condition** before working on this machine:
 - shut off the engine
 - ensure all components have stopped moving.
 - remove and pocket the ignition key
 - disconnect the battery
 - block & chock the wheels
5. Allow the engine to cool before performing maintenance, engine components and oil may be hot enough to cause injury.
6. Never work under equipment unless it is blocked securely.
7. When performing any service or maintenance work always use personal protection devices such as
 - safety glasses,
 - hand protection - gloves
 - hearing protectors
 - safety shoes

Use heavy or leather gloves when handling blades.

8. 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.
9. A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.  
10. Inspect and tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure chipper is in a safe condition.
11. When completing a maintenance or service function, make sure all safety shields and devices are installed before placing chipper in service.
12. When performing maintenance on this equipment always have at least 2 workers present. Do not work alone in case an emergency should arise.
13. A When cleaning any parts, do not use gasoline but use regular cleanser.
14. Always use proper tools, that are in good condition. Make sure you understand how to use them, before performing any service work.

2.6 OPERATING SAFETY

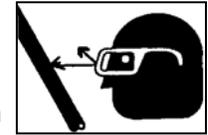
1. When operating this equipment always have at least 2 operators present and trained in safe operation of the machine. All operators must be completely familiar with all components of the machine and their function. **Never allow the machine to be operated by a lone operator!**
2. Please remember it is important that you read and heed the safety signs on the Trailer 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.
3. 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 Trailer Wood Chipper to be used with all its safety equipment properly attached, to minimize the chance of accidents. Read and understand operator's manual before starting, to make sure you have all safety equipment attached and operational.
4. Close and secure all covers, guards, deflectors and shields before starting and operating.
5. 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.
6. Keep hydraulic lines and fittings tight, in good condition and free of leaks.
7. Inspect electrical harness, sensors and controller to ensure they are in good condition before operating to maintain control.
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. Do not run machine inside a closed building to prevent asphyxiation from engine exhaust.
10. 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.
11. 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.
12. Do not climb or sit on machine when operating. Keep proper balance and footing at all times.
13. Never allow children or unauthorized people to operate or be around this machine.
14. Do not reach into rollers or feed hopper openings when the engine is running. Inspect and secure access covers before starting engine.
15. Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
16. Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.

2.7 TRANSPORT SAFETY

1. Comply with Provincial / state and local laws governing safety and transporting of machinery on public roads.
2. Do not exceed a safe travel speed. Slow down for rough terrain and cornering.
3. Fold up and secure the feed table before moving or transporting.
4. Do not move or transport chipper when the rotor is turning.
5. Do not transport or move the chipper with the engine running.
6. Turn the discharge hood and point toward the rotor to reduce the width of the machine. Ensure the latch handle is in locked position.
7. Be sure the trailer is hitched positively to the towing vehicle and the handwheel is securely tightened
8. Always attach safety chain between the hitch and the towing vehicle.
9. Inspect rims for dents or damage, check wheel lugs and tighten if required.
10. Inspect tires for cuts or damage, check tire pressure and top up if required.
11. Ensure the side wind jack is in the up position and the extension is secured with the latch pin.
12. Ensure your tow vehicle has the correct sized towing ball - 2.0"
13. Inspect all access panels and guards to ensure they are secured.
14. Inspect fuel and hydraulic tank caps are on tight to prevent spills while transporting.
15. Clean off all debris from the chipper.
16. Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
17. Never allow riders on the machine.
18. Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, etc.
19. Watch for traffic when near or crossing roadways.
20. Do not drink and drive.
21. Just before transport, perform a circle check to ensure everything is safe.

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.



2.9 GAS MOTOR SAFETY

BEFORE STARTING ENGINE, READ AND UNDERSTAND THE OPERATING AND MAINTENANCE INSTRUCTIONS THAT CAME WITH YOUR ENGINE.

WARNING: DO NOT

1. DO NOT start the engine with out checking fluid levels
2. DO NOT run engine in an enclosed area. Exhaust gases contain carbon monoxide, an odourless and deadly poison.
3. DO NOT choke carburettor to stop engine. Whenever possible, gradually reduce engine speed before stopping.
4. DO NOT run engine above rated speeds. This may result in injury or engine failure.
5. DO NOT tamper with governor springs, governor links or other parts which may increase the governed speed.
6. DO NOT tamper with the engine speed selected by the original equipment manufacturer.
7. DO NOT check for spark with spark plug or spark plug wire removed.
8. DO NOT crank engine with spark plug removed. If engine is flooded, place throttle in "FAST" position and crank until engine starts.
9. DO NOT operate engine without a muffler.
10. DO NOT remove fuel tank cap while engine is running.
11. DO NOT operate engine with an accumulation of grass, leaves, dirt or other combustible materials in the muffler area.
12. DO NOT touch hot muffler, cylinder or fins because contact may cause burns.
13. DO NOT run engine without air cleaner or air cleaner cover removed.
14. DO NOT use this engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed on the muffler. The arrester must be maintained in effective working order by the operator. In the state of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal land.

WARNING: DO

1. ALWAYS DO remove the wire from the spark plug when servicing the engine or equipment TO PREVENT ACCIDENTAL STARTING.
2. DO keep cylinder fins and governor parts free of grass and other debris which can affect engine speed.
3. DO examine muffler periodically to be sure it is functioning effectively. A worn or leaking muffler should be repaired or replaced as necessary.
4. DO use fresh gasoline. Stale fuel can gum carburettor and cause leakage.
5. DO check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.

2.10 REFUELLING SAFETY

1. Handle fuel with care. It is highly flammable.
2. Allow engine to cool for 5 minutes before refuelling. Clean up spilled fuel before restarting engine.
3. Do not refuel the machine while smoking or when near open flame or sparks.
4. Fill fuel tank outdoors.
5. Prevent fires by keeping machine clean of accumulated trash, grease and debris.



2.11 TIRE SAFETY

1. Have a qualified tire dealer or repair service perform required tire maintenance, never attempt to mount a tire on your own.
2. Inflate tires to manufacturer's specifications as stated on the tire sidewall.
3. Do not exceed the maximum towing speed indicated on tire sidewall.
4. When replacing worn tires, make sure they meet the original tire specifications. Never undersize.

2.12 STORAGE SAFETY

1. Store the chipper in an area away from human activity.
2. Do not allow children to play on or around the stored machine.
3. Store the chipper in a dry, level area. Support the frame with planks if required.
4. If storing for long periods consult your engine owners manual for safe storage.

2.13 FEED ROLLER SAFETY

1. Do not overreach into the hopper. Keep proper balance and footing at all times.
2. Feed rollers can cause serious injury or death. Keep hands, feet and clothing away from the feed roller.
3. Never climb onto the feed table or hopper when the chipper is operating or running.
4. Never allow anyone to sit on the feed table.
5. When feeding material into the feed roller wear eye face and hearing protection.

2.14 BATTERY SAFETY

Caution: Poison / Danger - Causes Severe Burns. The battery contains sulphuric acid. Avoid contact with skin, eyes or clothing. Keep out of reach of children.

1. Wear gloves and safety glasses or face shield when working on or near batteries.
2. Use a battery carrier to lift the battery or place hands at opposite corners to avoid spilling acid through the vents.
3. Avoid contact with battery electrolyte:
External Contact: Flush immediately with water.
Eye Contact: Flush with water for 15 minutes. Get prompt medical attention. Clean up any spilled electrolyte immediately.
4. Avoid contact with battery posts, terminals and related accessories, they contain lead and lead compounds, chemicals known to cause harm. Wash hands immediately after handling battery.
5. Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive.
6. To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of the electrical system.
7. FROZEN BATTERIES CAN EXPLODE and result in death or serious injury. DO NOT jump start / charge a frozen battery. Let battery thaw before charging.

3 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 in Section 3 each have a part number displayed with it. Use this part number when ordering replacement parts.
5. Safety signs are available from your authorized Distributor or Dealer Parts Department or the factory.

3.1 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.

3.2 SAFETY SIGN EXPLANATIONS:



Caution: keep hands and feet out of inlet and discharge openings while machine is operating to avoid serious personal injury. Wait for all moving parts to come to a complete stop before clearing obstructions.



Caution: Do not operate machine without shields in place failure to do so may cause serious injury or death.



Caution: flying objects, be aware of and stay clear of material discharge chute, machine can expel wood chips fast enough to cause injury. Do not point discharge at people, animals or buildings.



Caution: Do not step into or place any part of your body inside the feed hopper, failure to do so may cause serious injury or death.



Caution: pulley and belt entanglement danger present, keep hands, loose clothing, and long hair away from moving parts.



Caution: Hydraulic fluid under pressure, do not check for leaks with you hand or fingers when the system is pressurized. Serious injury will result.



Caution: do not refuel the machine while smoking or when near open flame or sparks. Fuel is highly flammable, handle with care.



Caution: read and understand ALL **safety and operating instructions** in the manual, read and understand ALL **safety labels** located on the machine. The most important safety device on this equipment is an informed SAFE operator.

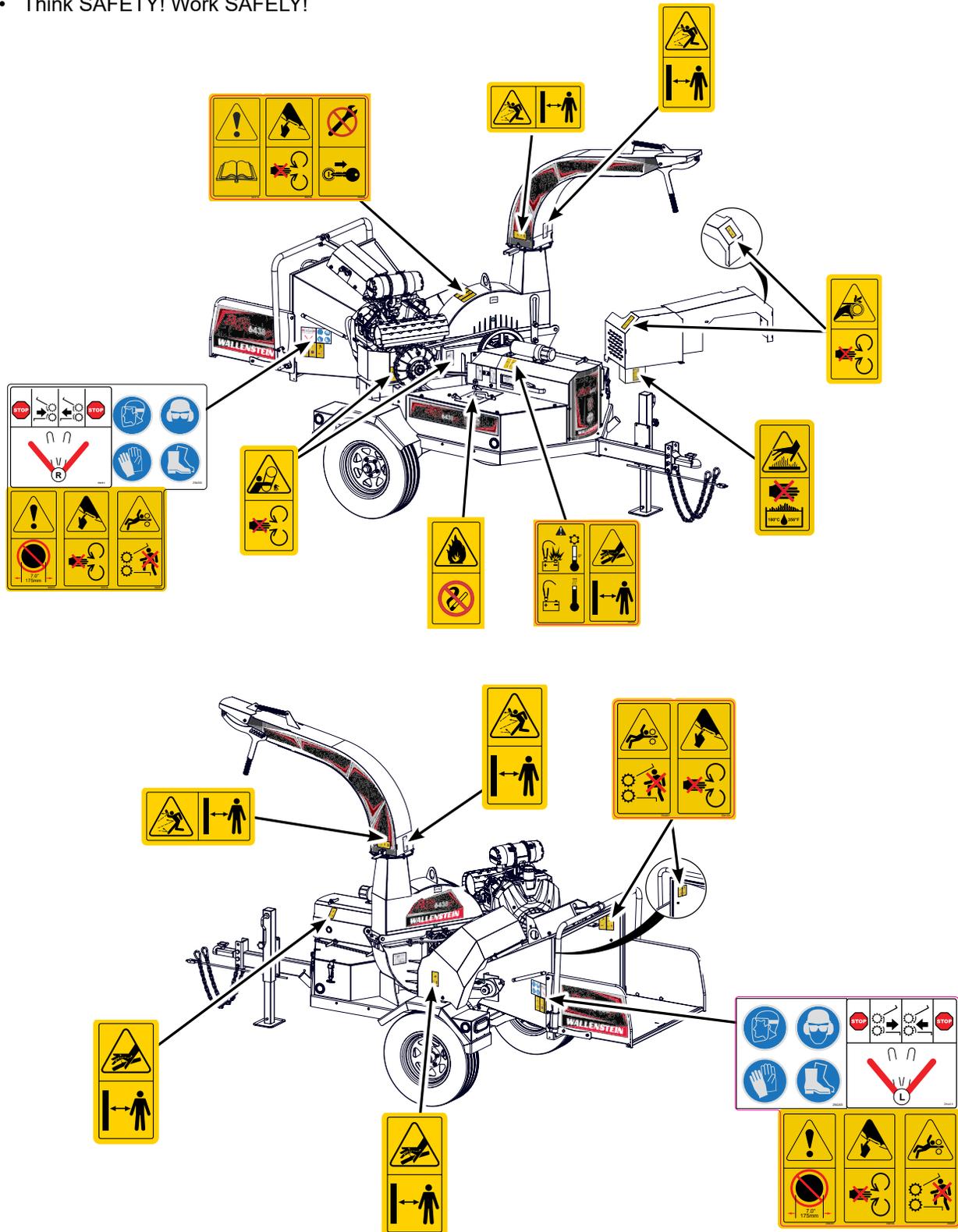


Caution: Hot Oil & Container: If there is a fluid release from the hydraulic coupler, the oil and container could reach temperatures of 180°C (356°F). To prevent severe burns, wait for the oil and container to cool before attempting any maintenance.

3.3 SAFETY SIGN LOCATIONS

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.

4 OPERATION & FEATURES



OPERATING SAFETY

- Please remember it is important that you read the operator's manual and heed the safety signs on the Trailer Wood Chipper. 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.
- Personal protection equipment including hearing protection, hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, or repairing. Do not allow long hair, loose-fitting clothing, or jewellery to be around moving parts.
- 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.
- 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.
- 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.
- Do not allow riders on this machine at any time. There is no safe place for any riders.
- Never allow children or unauthorized people to operate or be around this machine.
- Do not reach into feed rollers or feed hopper when the engine is running. Inspect and secure all access covers before starting engine.
- When operating this equipment always have at least 2 operators present and trained in safe operation of the machine. All operators must be completely familiar with all components of the machine and their function. **Never allow the machine to be operated by a lone operator!**
- Keep hydraulic lines and fittings tight, in good condition and free of leaks.
- Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
- Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.

4.1 TO THE NEW OPERATOR OR OWNER

The Wallenstein Trailer Wood Chippers are designed to chip and 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 work site. Untrained operators are not qualified to use 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 these instructions in conjunction with a good maintenance program, your Trailer Wood Chipper will provide many years of trouble-free service.

4.1.1 IMPORTANT

Ensure all operators understand how to put the machine in safe condition before working with this machine,

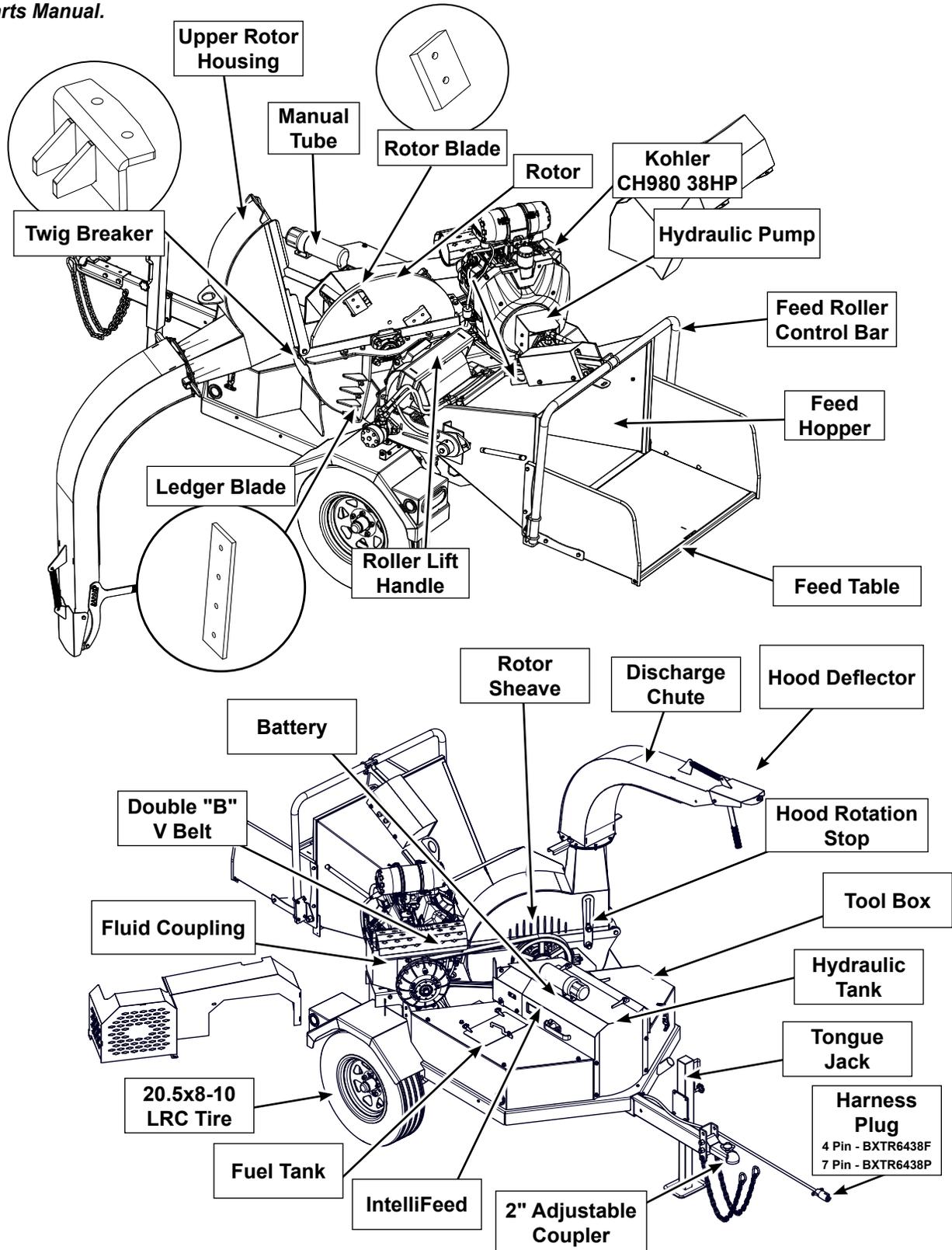
- shut off the engine.
- ensure all components have stopped moving.
- remove and pocket the ignition key.
- disconnect the battery.
- block & chock the wheels.

4.2 MACHINE COMPONENTS

The Wallenstein Trailer Wood Chipper is designed for chipping wood in a fast and efficient manner.

Major components of the BXTR6438 are illustrated here. Please review this section, many of the component descriptions here are used throughout the manual to explain function and safety.

For a detailed parts breakdown, see your dealer or visit the Wallenstein website to download the **BXTR6438 Parts Manual**.



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. Ensure the machine is in **safe condition** before checking any components. (see 4.1.1)
2. Review the engine operators manual for break-in.
3. Inspect the axle, tires, wheels, and hub maintenance.
4. Check alignment of pulleys. Align as required.
5. Check belt tension. Adjust as required.
6. Torque all fasteners and hardware.
7. Check condition of rotor bearings.
8. Check the condition and clearance of the twig-breaker, rotor and ledger blades. Adjust as required.
9. Check for entangled material. Remove all entangled material before resuming work.
10. Check tire pressure. Inflate as required.
11. Check condition of electrical and hydraulic components. Keep all components in good condition.
12. Check all fluid levels. Top up as required.

B. After operating for 8 hours:

1. Repeat steps 1 through 13 listed above. (Section A)
2. Go to the normal servicing and maintenance schedule as defined in the Maintenance Section.

C. After operating for 20 hours:

Check fluid level in the fluid coupling as described under fluid coupling maintenance in the Transfluid installation & maintenance manual.

4.4 PREOPERATION CHECKLIST

Efficient and safe operation of the Wallenstein Trailer Wood Chipper requires that each operator reads and understands the use procedures and all related safety precautions outlined in this section. A PreOperation 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:

Pre-Operation Checklist	✓
Check and lubricate the machine per the schedule outline in the Maintenance Section.	
Check the tension and alignment of the belts. Adjust tension and align as required.	
Check the rotor housing and discharge chute,. Remove any blockages, twine, wire or other material that has become entangled .	
Check the condition and clearance of the twig-breaker, rotor and stationary blades. Adjust or replace as required.	
Check condition of the battery and other electrical components. Keep all components in good condition.	
Check condition of all hydraulic components. Keep all components in good condition.	
Check engine fluid levels. Top up as required. Refere to the engine operators manual.	
Check that all bearings turn freely. Replace any that are rough or seized.	
Check and ensure that all covers, guards and shields are in place, secured and functioning as designed	
Check and inspect tires, wheels, brakes and hubs .	
Check all fasteners and tighten, and esure your equipment is working and in good repair.	
Check that personal protection equipment including hard hat, safety glasses, safety shoes, safety vest, hearing protection and gloves are used and in good repair.	
Check that all loose fitting clothing or jewellery is not worn and loose long hair is tied back.	

4.5 CONTROLS

Please review this section to familiarize yourself with the location and function of each control before starting. The BXTR6438 control panel is laid out so that the controls are easy to see and use. Familiarizing yourself with the controls will enable you to take advantage of all the features available on the BXTR6438 and apply them as conditions demand.

4.5.1 ENGINE KOHLER CH980 38HP

Always read the engine operator's manual supplied with the machine to familiarize yourself with its operating and procedure details.

Ignition Switch: This key operated switch controls the electric power to the engine.



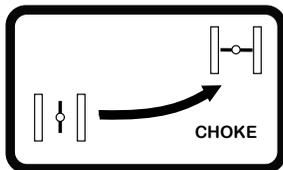
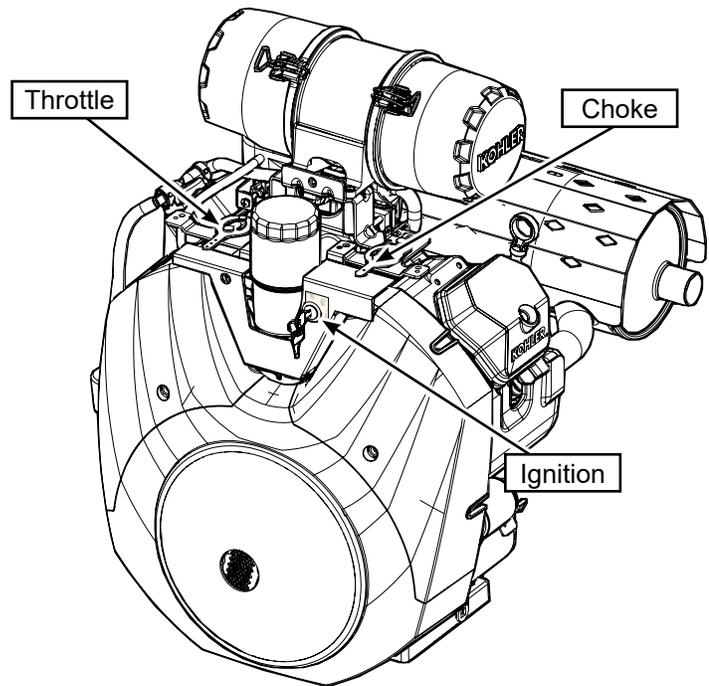
Turn key fully counter-clockwise to stop the electrical system power and turn the engine off.



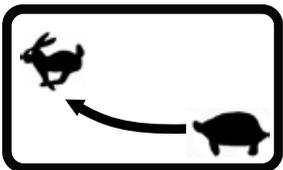
Turn clockwise to the centre detent for the run position. This is the position where the engine will continue to run.



Turn fully clockwise to the last spring-loaded detent position to engage the starter solenoid and start the engine. Release the key when the engine starts and it will return to the RUN position.



Choke: This left/right slider controls the position of the choke. Slide the choke to the right to close the choke for starting when the engine is cold. Slide the knob to the left to open the choke as the engine warms. Always slide the choke fully to the left when operating the machine.

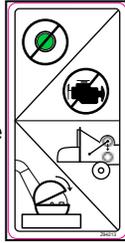


Throttle: This lever controls the engine RPM. Slide the lever to the left to increase engine speed and right to decrease.

4.5.2. INDICATOR LIGHTS

The BXTR6438 features a set of indicator lights showing the status of the safety interlock features on the chipper.

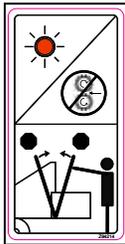
Safety Interlock Indicator: this indicator is connected to the upper rotor hood and the upper feed roller. The interlock sensors (plunger switches) at these locations will detect if there is an unsafe condition (the hood is open or the feed roller is in the up position), and prevent the engine from starting.



Safe: When the key is in "start" position, this indicator will glow green showing sensor switches are closed and once the engine has started and the key returns to the "run" position, the indicator will stop glowing.

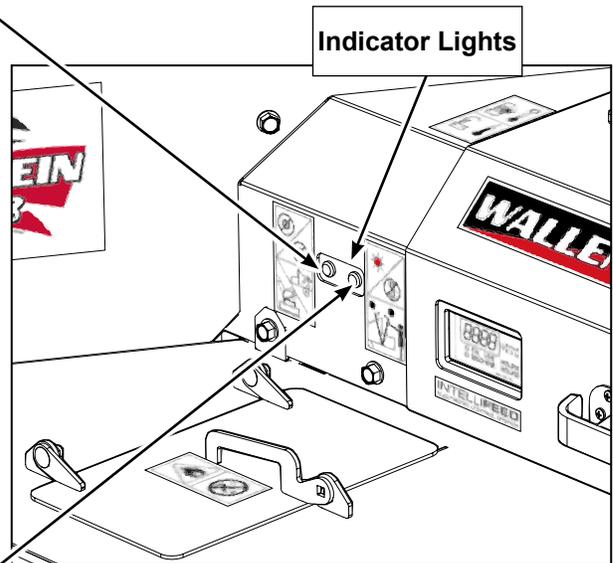
Fault: When the key is in "start" position and the indicator doesn't glow, the engine will not start, indicating that the sensor switch is open and there is an unsafe condition (the hood is open or the feed roller is in the up position). Correct the condition before continuing on.

Feed Roller Control Indicator: this indicator is connected to the Feed Roller Control Bar. The sensors (plunger switches) at this location will detect if the bar is in a stop position (extreme front or back), and prevent rollers from turning.



Safe: When the control bar is set to either operating position (forward or reverse) the indicator will not glow and the rollers will continue to operate.

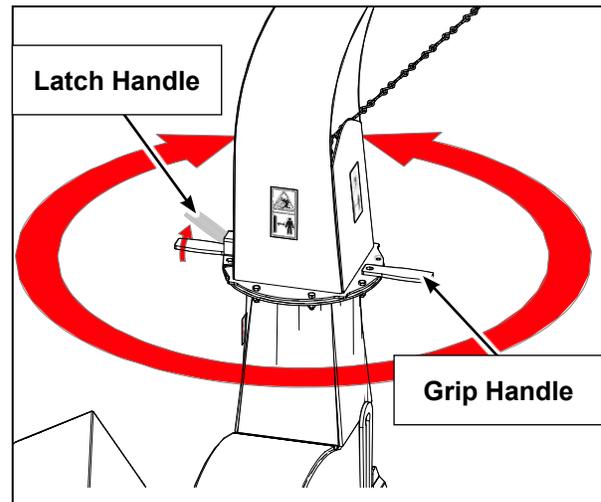
Fault: When the control bar is set to the extreme front or back (stop) position, the rollers will stop turning and the indicator will glow red. The indicator will continue to glow until the control bar is taken out of stop position.



4.5.3. DISCHARGE CHUTE:

The discharge chute is designed with a spring-loaded latch handle that allows the chute to be positioned 360° then locked into position with the latch.

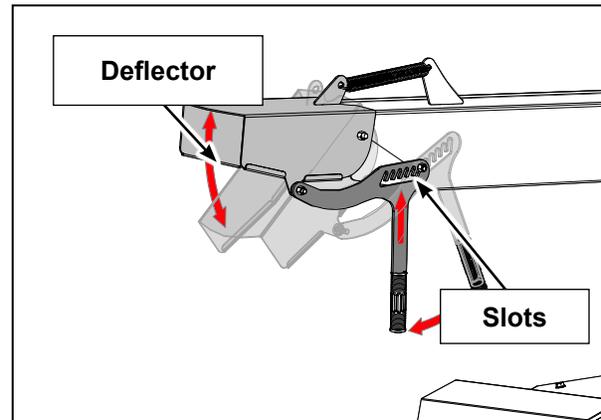
1. Lift the latch handle till the chute lock pin disengages.
2. Use the latch and grip handles to position the chute as required.
3. Release the latch handle and lock the chute into position at the next nearest lock point.



4.5.4 HOOD DEFLECTOR:

The discharge chute is equipped with a hood deflector on the end of the chute to direct the chips exactly where desired. The deflector is held in position by a slotted position handle.

1. Grasp the handle and lift slightly to clear the handle cogs.
2. Move the deflector with the handle as required.
3. Lock the deflector into position by lowering the handle into one of the slots.

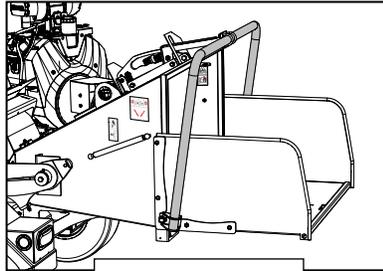
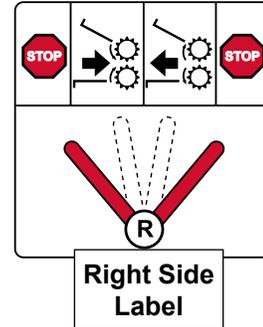
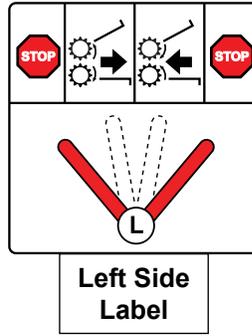


4.5.5 ROLLER FEED CONTROL BAR:

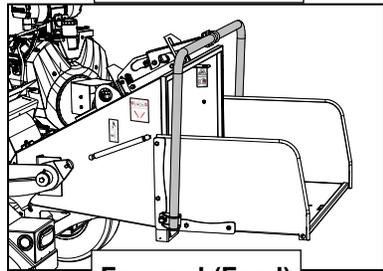
The feed roller control bar controls the forward, reverse and stop action of the feed rollers.

IMPORTANT

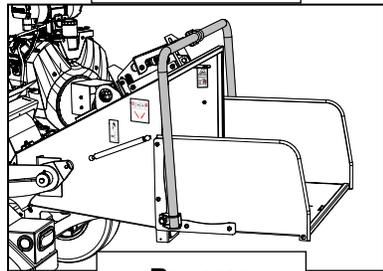
To quickly stop the feed rollers in an emergency situation, the bar can be rapidly pulled or pushed to its maximum position and will immediately stop the rollers. Rollers can be restarted by pulling the handle out of the stop position.



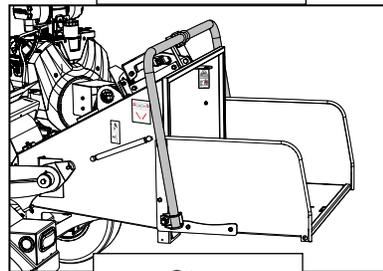
Stop



Forward (Feed)



Reverse



Stop

1. Pull the bar to its maximum detent position away from the feed table, into the forward stop position, and feed rollers stop turning.
2. Push the bar to the next detent position and the feed rollers begin to turn forward (feed). This is the normal operating position for the control bar and will stay in position until moved.
3. Push the bar to its next position and the feed rollers will reverse. The control bar can be moved freely between forward and reverse without locking.
4. Push the bar to its maximum detent position, towards the feed table, into the back stop position, and feed rollers stop turning.

4.5.6 INTELLIFEED OPERATION AND PROGRAMMING:

The **IntelliFeed Controller** is used to manage and oversee the efficiency of the BXTR6438 by controlling the roller feed speed based on the rotor RPM. The readout is capable of displaying: the status of the machine, and the upper and lower settings of the Rapid Recovery Auto Feed and flow control. (roller speed)

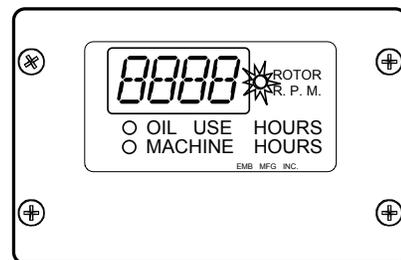
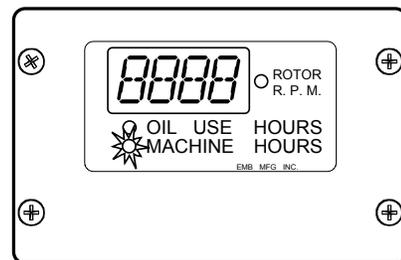
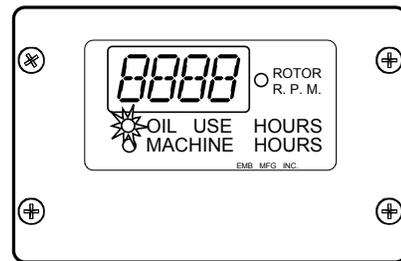
As material is fed into the chipper, Intellifeed monitors the RPM of the rotor by a sensor on the rotor sheave. As rotor RPM drops, IntelliFeed slows the rollers (governed by the upper and lower flow rate) so as not to overload the rotor and still maintain a good feed rate. IntelliFeed continually monitors and adjusts to find the best balance between feed and speed.

If at some point the rotor is overcome and reaches its lower RPM limit setting, IntelliFeed initiates Rapid Recovery Auto Reverse: reverse then suspend the feed rollers until the rotor gets back up to speed (upper limit setting) then starts feeding again.

The combination of these two features keep your BXTR6438 running at maximum efficiency.

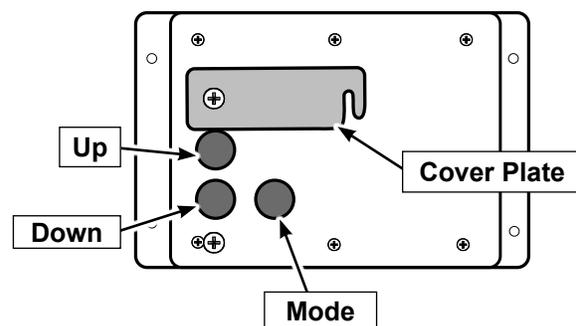
1. The front of the controller displays:

- **Oil Use Hours:** this is the default display when the rotor is not turning. When the ignition switch is turned to "run":
 - ◆ the oil use indicator lights up.
 - ◆ the display indicates the number of hours the oil has been in use.
 - ◆ oil use hours can be reset by depressing the function control for 10 seconds.
- **Machine Hours:** with the rotor at rest, depressing the mode button once:
 - ◆ activates the machine hours indicator.
 - ◆ the display shows total machine run time.
 - ◆ the meter is active only when the engine is running **and is not resettable**.
- **Rotor RPM:** when the rotor begins to rotate:
 - ◆ the rotor RPM indicator activates.
 - ◆ the display automatically indicates the RPM of the rotor as long as it is in motion.
 - ◆ when the rotor has fully stopped the display returns to the default oil life.



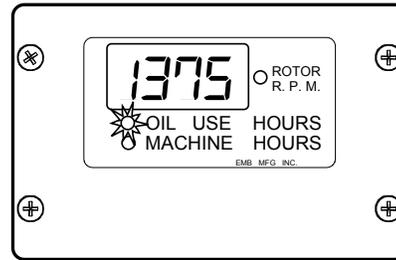
2. The back of the controller shows the programming button cover plate and 3 control buttons. The Cover plate slides over the up/down buttons to prevent accidental changes. When the rotor is at rest, their functions are:

- Mode button: pages through the 5 readout displays.
- Up Button - programming: increases value.
- Down Button - programming: decreases value.



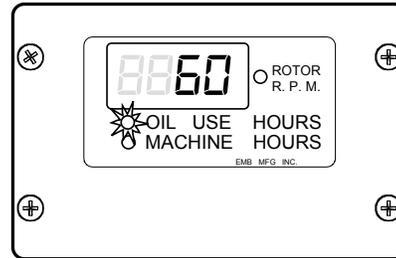
3. Programming Upper RPM Limit (Ceiling):

- Press mode button twice. Digital readout will display current upper limit setting. This represents the RPM at which the Rapid Recovery Auto Reverse will re-start the feed rolls after a suspension.
- Oil Use indicator will flash. Increase or decrease setting using program buttons. (factory setting is 1375 RPM)



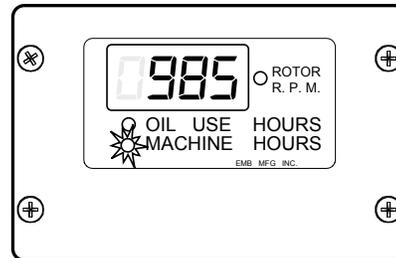
4. Programming Upper Flow Percentage:

- Press mode button once more. Digital readout will display current upper flow setting. This represents the percent of hydraulic flow that will be sent to the feed rolls. (Feed speed.)
- Oil Use indicator will flash. Increase or decrease setting using program buttons, do not set above 80 %. (factory setting is 60%)



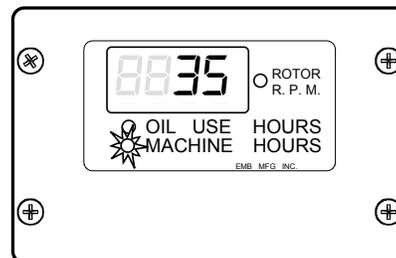
5. Programming Lower RPM Limit (Floor) :

- Press mode button once more. Digital readout will display current lower limit setting. This represents the rotor RPM at which the Rapid Recovery Auto Reverse will reverse and suspend the feed rolls.
- Machine hours indicator will flash. Increase or decrease setting using program buttons. (factory setting is 985 RPM)



6. Programming Lower Flow Percentage:

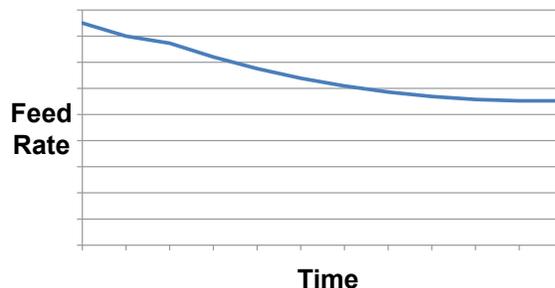
- Press mode button once more. Digital readout will display current lower flow setting. This represents the percent of hydraulic flow that will be sent to the feed rolls. (Feed speed) Machine hours indicator will flash. Increase or decrease setting using program buttons, do not set below 25% (factory setting is 35%)



7. Programming Hints:

The factory settings provide good overall performance for the BXTR6438, however you may under certain circumstances, choose to customize performance. Here are some helpful hints:

- For heavier brush, decrease the upper flow percentage for slower feed speed.
- For lighter brush, increase the upper flow percentage for faster feed speed.
- If the chipper is stalling before the feed rolls stop, increase the rotor floor setting.
- If you prefer more aggressive feeding with faster feed and more stops, increase the lower flow percentage.



Graph demonstrates how the IntelliFeed finds the optimum performance between roller feed and rotor speed. (Feed Rate)

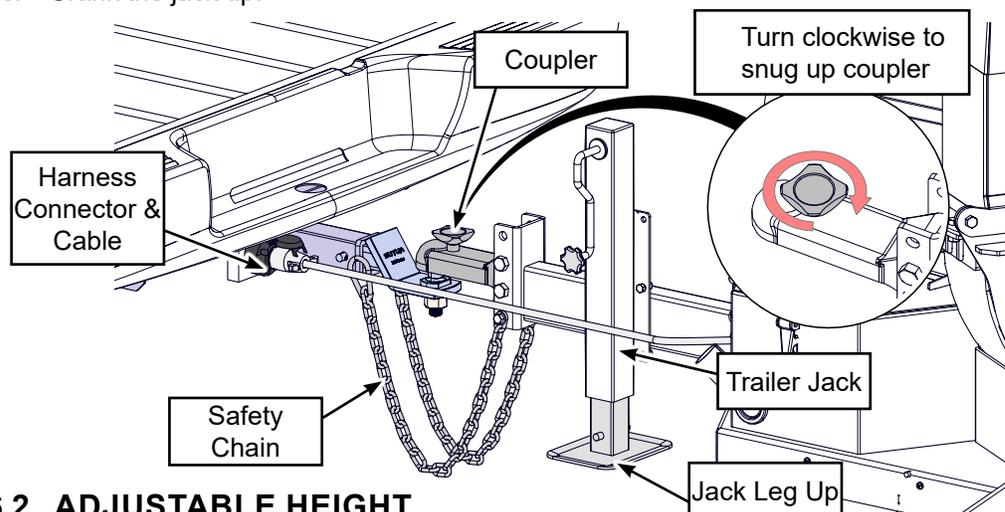
4.6 BALL & COUPLER

4.6.1 COUPLING FOR TRANSPORT

Review the transport safety section (2.7) before proceeding.

The Wood Chipper should always be located on a level, dry area that is free of debris and other foreign objects. When attaching the machine to a tow vehicle, follow this procedure:

1. Make sure that all bystanders, especially small children, are clear of the working area.
2. Make sure there is enough room and clearance to safely back up to the machine.
3. Use the trailer jack to raise the tongue above the height of the tow vehicle ball hitch.
4. Slowly back the tow vehicle until the coupler on the hitch and ball are aligned.
5. Attach the ball hitch:
 - a. Place the coupler over the ball on the hitch.
 - b. Turn the hand wheel clockwise until it is snug and the hitch ball is secure.
 - c. Crank the jack up.
6. Attach the safety chain securely to the tow vehicle to prevent unexpected separation. Cross the chains when attaching to the tow vehicle.
7. Ensure light harness cable is firmly connected to the tow vehicle, and the signal lights are working.
8. Route the harness and cables across the hitch to prevent snagging. Be sure to provide slack for turning.
9. Reverse the above procedure when unhooking.

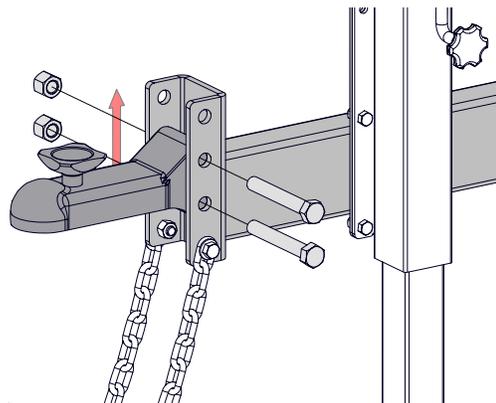


4.6.2 ADJUSTABLE HEIGHT

An additional feature of the hitch coupler is adjustable height. Handy when using a different tow vehicle to haul the chipper.

Ensure the chipper is located on a level, dry area that is free of debris and other foreign objects, and chocks are applied to the wheels to prevent unexpected movement of the chipper.

1. Remove the 2 bolts & nuts that fasten the coupler to the hitch ladder.
2. Move the coupler to the desired position
3. Reinstall the bolts & nuts, torque each pair to 160 ft lbs.

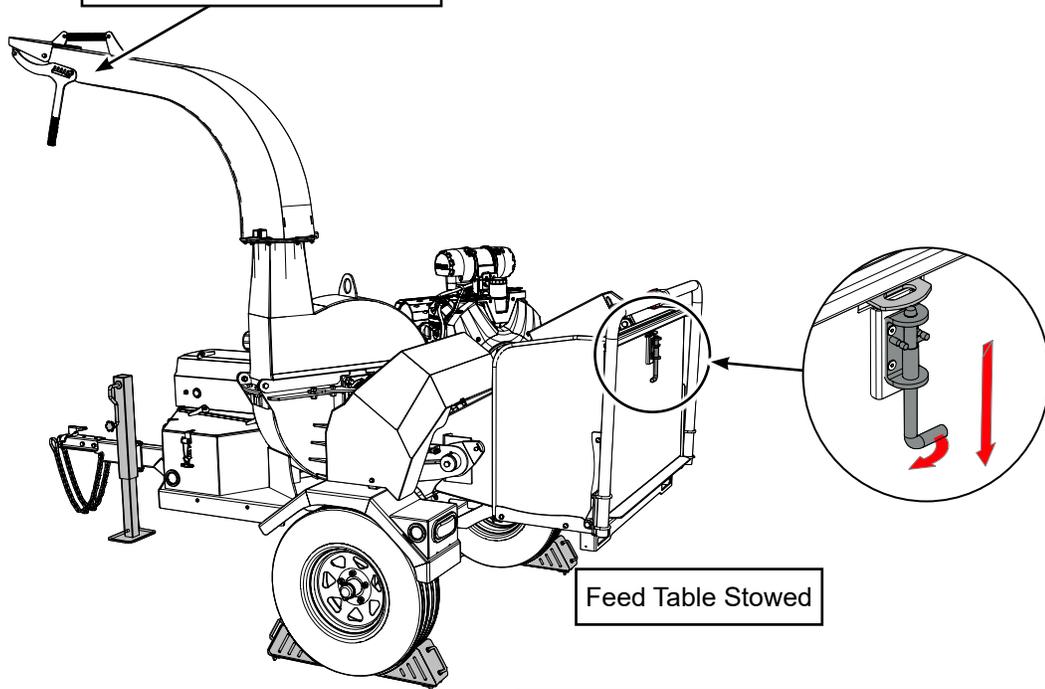


4.7 MACHINE SET-UP

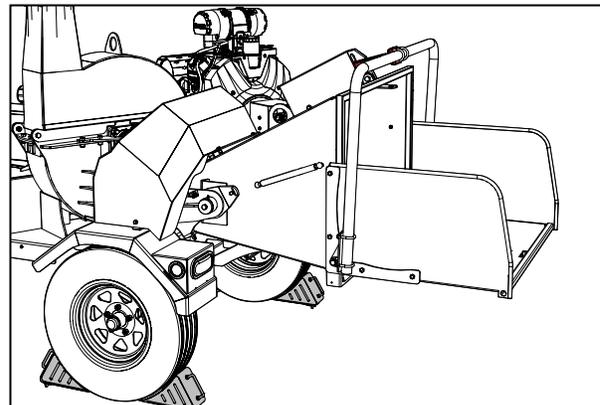
Follow this procedure to prepare and set-up the machine at the work site:

1. Use the tow vehicle to position the Wood Chipper at the work site.
2. For greater stability leave your chipper attached to the tow vehicle. The chipper can be used as a stand alone, but be sure to chock the wheels.
3. Lower the crank jack so that the machine is stable.
4. Open the latch on the feed table and carefully lower the feed table.
5. Turn the discharge chute to the desired position and adjust the deflector as required.
6. Check the battery cable and if required, connect the cable and tighten fastener securely to ensure a good connection.

Caution: Always point the discharge chute away from people, animals or objects. The rotor can expel wood chips fast enough to cause injury.



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



4.8 FIELD OPERATION



OPERATING SAFETY

- Please remember it is important that you read the operator's manual and heed the safety signs on the Trailer Wood Chipper. 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.
- Personal protection equipment is recommended. Do not allow long hair, loose-fitting clothing, or jewellery to be around moving parts.
- Turn machine off, stop and disable engine, remove ignition key and place in your pocket, and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- 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, inspect machine for damaged or loose parts before resuming work.
- 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.
- Never allow children or unauthorized people to operate or be around this machine.
- Do not reach into rotor or feed hopper openings when the engine is running. Install and secure access covers before starting engine.
- Do not move or transport chipper when the rotor is turning.
- Keep hydraulic lines and fittings tight, in good condition and free of leaks.
- Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
- Do not point discharge at people, animals or buildings. Rotor can expel wood chips fast enough to cause injury.
- Be aware of the size and shape of the material, crotchety branches and logs can move in unpredictable ways as they pass through the feed rollers and could cause injuries. Large curved pieces should be cut to smaller straighter sections.
- Do not work alone, it is safer to work in pairs in case an emergency arises.
- Never stand, sit or climb onto any part of the chipper while it is running.
- Use the rotor lock to immobilize the rotor when attempting to clear a clog or changing chipper blades.
- Shut down the chipper and remove the ignition key when it is unattended.

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:

4.8.1. 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 PreOperation Checklist. (see Section 4.4).
- Review operation and function of the controls. (see section 4.5)
- Survey the work site, move to a clear, level work area and position at the work site. Do not start the chipper until it is in position.
- Set up the machine. (see section 4.7).
- Each person must wear appropriate **Personal Protective Equipment (PPE)** whenever operating the chipper 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.

4.8.2. STARTING PROCEDURE

Please review the engine controls section (4.5.1) and the engine owners manual for starting and stopping the engine.

- a. The Wood Chipper should be set up and ready to run. (see 4.7)
- b. Set park brake if connected to tow vehicle.
- c. Lower the support leg stand.
- d. Close the choke if the engine is cold.
- e. Move the throttle to its 1/4 throttle position. (if the throttle is set any higher the centrifugal clutch could potentially engage and stall a cold engine.)
- f. Use the ignition key and turn it to the "start" indicator to turn over the engine. Release the key when the engine has started and the key will return to the centre run position.
- g. Run the engine for a few minutes to allow it to warm.
- h. Gradually open the choke.
- i. Turn the discharge head to its desired position.
- j. Slowly increase the engine speed to engage the centrifugal clutch.
- k. Increase throttle setting to maximum speed for operation.
- l. Ensure that the rotor is up to speed, start feeding material into hopper.

IMPORTANT

Once the engine has started all indicator lights should be off. If any lights remain lit or come on after starting the engine, make note of which indicator is on. Correct the condition before continuing.

4.8.3 STOPPING:

- a. Stop feeding material into the hopper.
- b. Slow engine RPM.
- c. Stop engine using ignition switch.

4.8.4 EMERGENCY STOPPING

If an emergency occurs:

shut off the engine.

Correct emergency situation before restarting engine and resuming work.

 **Caution:** Be aware that the rotor will continue to turn for a few minutes after the engine has stopped. Wait for all parts to stop moving before attempting to access the machine in any way.

4.8.5 CHIPPING OPERATION

The BXTR6438 Wood Chipper is a strong, rugged machine that is built to a straight-forward design which provides consistent chipping of logs up to **7" (177mm)** in diameter.

Always wear personal protective equipment (PPE) whenever operating the machine. This includes but is not limited to a hard hat, 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.

Put the machine in **safe condition**:

- shut off the engine.
- ensure all components have stopped moving.
- remove and pocket the ignition key.
- disconnect the battery.
- block & chock the wheels.

Inspect machine for damaged or loosened parts, repair or replace parts as required before resuming work.

Caution and care should be exercised when feeding material into the feeder. Do not reach into the feed hopper at any time.

- a. De-limb large branches and trees, the limbs on the branches may catch the roller feed control bar as they pass by them and shut the rollers off.
- b. Be aware of the size and shape of the material, crotchety, curved branches and logs can move in unpredictable ways as they pass through the feed rollers. Large curved pieces should be cut to smaller straighter sections.
- c. Hold small diameter branches / limbs together in a bundle and feed in simultaneously.
- d. Place short branches on top of longer ones, to avoid reaching into the hopper.
- e. Before beginning to feed, ensure the motor is warmed up and the rotor is up to speed.
- f. Move the feed control bar into the feed position to start the feed rollers turning.
- g. Stand to the side of the feed table, slowly slide material into the feed table and move it into the feed rollers.
- h. Do not force the material into the rollers, as the material engages the roller, the roller will draw the material in.
- i. Ensure your wood chip pile is contained and doesn't affect the immediate work area.



Caution: Do not reach into the feed hopper at any time, use a stick or branch to push any piece of material into the rollers 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 chance getting your hand caught in the rollers.

4.8.6 UNPLUGGING:

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

- Before shutting the engine off, reverse the feed rollers to remove the material from the feed hopper.
- Ensure the machine is in **safe condition** before beginning to unplug. (see 4.8.5)
- Clear the area of bystanders, especially small children.
- Visually inspect and ensure all the material is out and nothing is jammed or wedged between the rollers and the rotor. If this does not unplug the chipper or the engine is stopped, the plug must be removed by hand.
- Pull any remaining material out of the feed hopper and discharge hood.
- Use a stick to poke loose any material jammed into the discharge hood. Be sure all the material is out and nothing is jammed or wedged between the input opening and the rotor.
- Check that everyone is clear of machine before restarting engine.
- Start the engine and resume working.

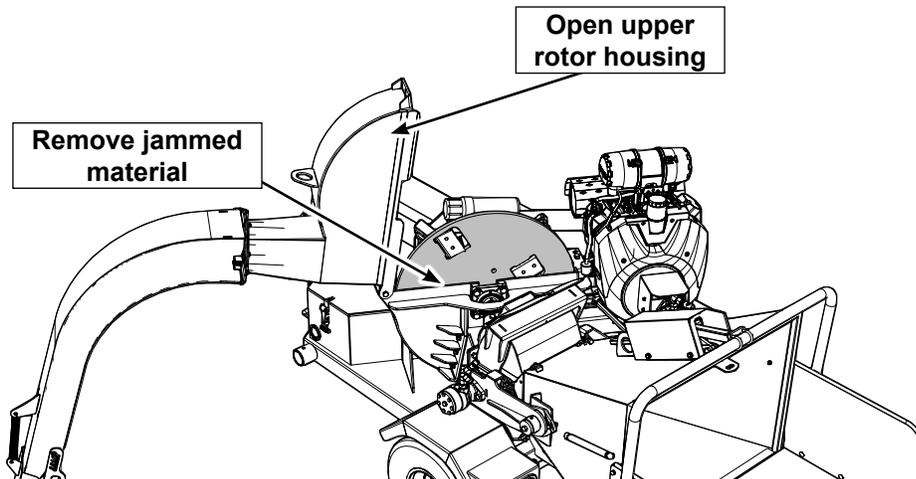
4.8.7 SEVERE PLUG:

- Ensure the machine is in **safe condition** before beginning to unplug (see 4.8.5)
- Clear the area of bystanders, especially small children.
- Open the upper rotor housing.
- Remove jammed material from inside the rotor compartment.

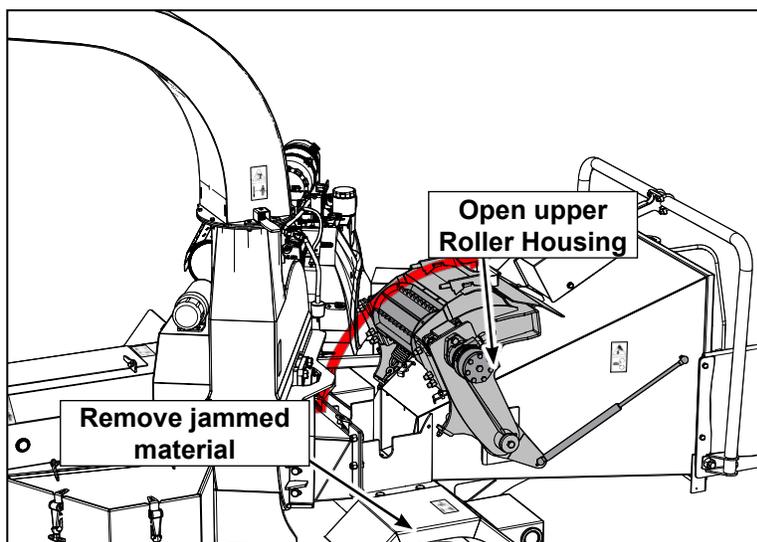
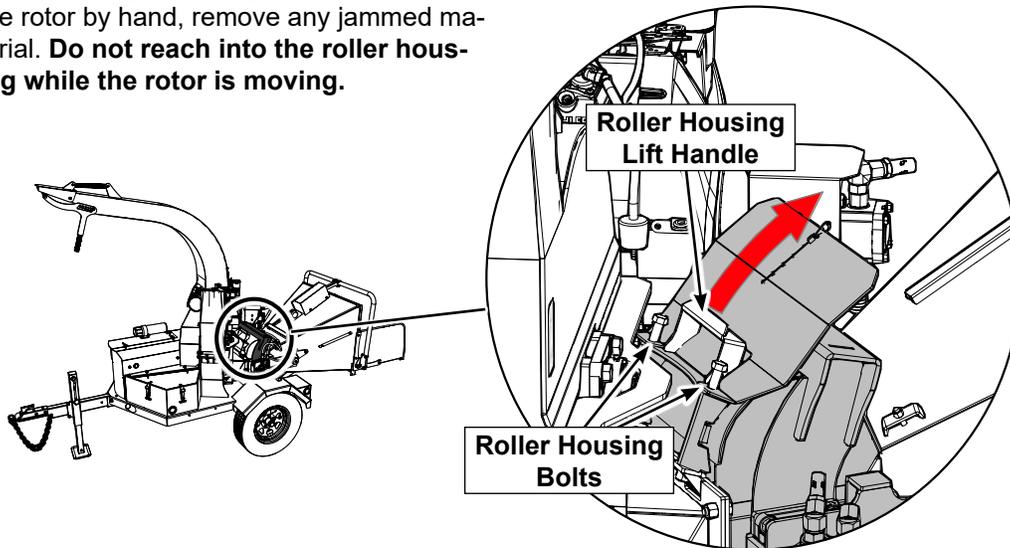
 **IMPORTANT** Be aware that the rotor has 4 chipper blades, reaching into the rotor compartment to clear a plug must be done with great care.

- Clean out the discharge chute.
- Inspect the lower rotor housing and clean out any debris.
- If required, rotate the rotor: **very carefully** and slowly turn the rotor by hand to be sure there is nothing jammed between the rotor and stationary blades. **Do not reach into the rotor housing while the rotor is moving.**

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



- h. Unscrew the 2 bolts that secure the upper roller assembly.
- i. Grasp the roller assembly lift handle, and pull the assembly up and back.
- j. Once the roller assembly is up, the gas springs will keep the assembly up in position, and you will have access to the roller housing.
- k. **Carefully** reach into the roller housing and remove any debris.
- l. If required to dislodge material in or around the rotor: **very carefully** and slowly turn the rotor by hand, remove any jammed material. **Do not reach into the roller housing while the rotor is moving.**
- m. When all debris has been removed, lower the upper roller housing back into position, and tighten up the housing bolts.
- n. Close the upper rotor housing. Tighten fasteners to their specified torque.
- o. Check that everyone is clear of machine before restarting engine.
- p. Start the engine and resume working.

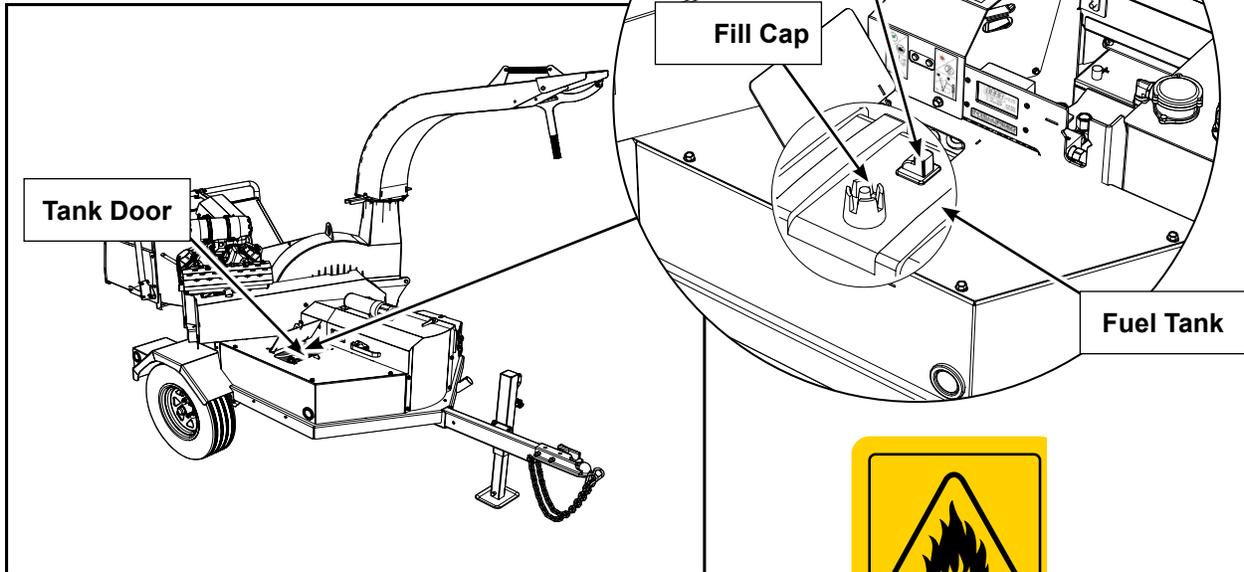


Caution: Machine is shown with guard removed or rotor cover opened for illustrative purposes only. Do not operate machine with guard removed or cover opened.



4.8.8 REFUELLING:

BXTR6438 fuel tank holds 50 L (12 US gallons) of fuel, and is located in front of the engine. Avoid running the tank dry. Use the appropriate grade of fuel, and use caution to prevent spilling. **Do not smoke while refuelling.**



To add fuel:

1. Ensure the machine is in **safe condition** before beginning to fuel (see 4.8.5)
2. Allow the engine and muffler to cool.
3. Clean area around fuel compartment lid, and open it.
4. Find the fuel fill cap and remove cap.
5. Using a clean funnel, fill fuel tank to 1/2" (1.25cm) below bottom of filler neck to provide space for any fuel expansion. Do not overfill.
6. Install fuel fill cap securely and wipe up any spilled fuel.



Caution: Fire Hazard - No Smoking
To Prevent serious injury or death:

- Do not smoke while refueling
- Keep sparks, flames, and hot material away
- Ensure the engine is off and cooled
- Ensure muffler is cooled

5 TRANSPORTING



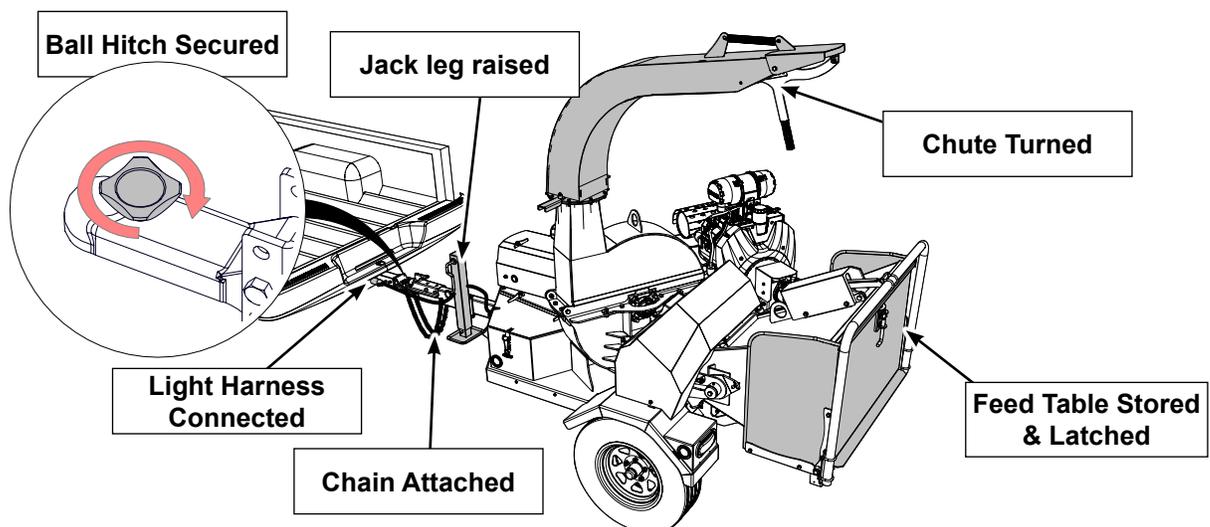
TRANSPORT SAFETY

- Do not exceed a safe travel speed.
- Always follow and obey applicable highway rules and regulations.
- Be sure all lights and markers required by the traffic regulations are in place, clean and working.
- Always attach the safety chains between the machine and the pick-up. Cross the chains under the hitch when connecting.
- Always use a mechanical retainer through the ball hitch mechanism when attaching to tow vehicle.
- Do not drink and drive.
- Plan your route to avoid rough terrain. Slow down when encountering rough conditions or cornering.
- Stow and secure feed table before moving or transporting.

5.1 PREPARE FOR TRANSPORT:

When transporting the machine, review sections 4.6 (ball & coupler) & 4.7 (machine setup) and follow these instructions:

1. Clear the area of bystanders, especially small children.
2. Stow feed table and secure the latch.
3. Insure that the machine is securely attached to the tow vehicle and the ball coupler hand wheel is snug.
4. Always use safety chains crossed between the tow vehicle and machine.
5. Raise jack stand and move and secure it to the transport socket on the side of the trailer.
6. Connect the light harness cable. Check that all the lights and reflectors required by the highway authorities are in place, clean and working.
7. Check tires for correct pressure, cuts or damaged rims.
8. Check lug nuts and re torque if necessary. New chippers check after 20-25 miles (32-40 Km) and regularly check at least weekly.
9. Inspect and replace any axle dust caps that are damaged or leaking.
10. Turn the discharge hood and point toward the feed table to reduce the width of the machine.
11. Check & secure chipper components including:
 - tool and tank doors: latched
 - belt access covers, and shields: bolted
 - rotor housing: bolted
 - feed table latched.
12. Do not allow riders. Do not drink and drive.
13. Never exceed a safe travel speed. Slow down when encountering rough road conditions and cornering.



6 STORAGE



STORAGE SAFETY

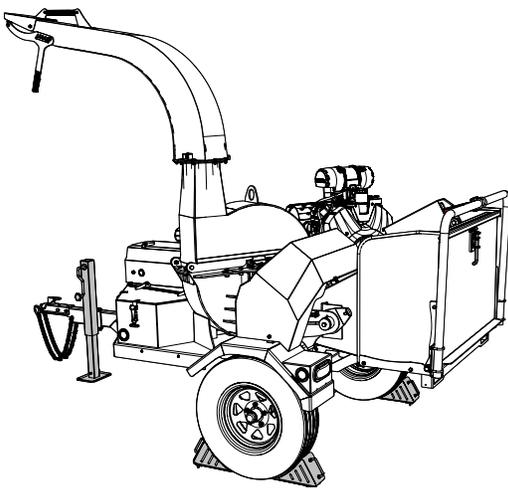
- Store the chipper in an area away from human activity.
- Do not permit children to play on or around the stored machine.
- Replace any missing or unreadable safety decals.
- Allow machine to cool before covering or storing in an enclosure.

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 BXTR6438 Trailer 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. Review the engine owners manual concerning storage and prepare the engine for storage.
2. Remove ignition key and store in a secure place.
3. Remove the battery and store it in a cool, dry area that won't freeze.
4. Charge it monthly to maintain an adequate charge.
5. Inspect all rotating parts for entangled material. Remove all entangled material.



Prepared for Storage

6. Remove all remaining material and debris from the machine.
7. Thoroughly wash the machine with a pressure washer or water hose to remove all dirt, mud or debris.
8. Check the condition of the belts and pulleys. Replace or adjust as required.
9. Move the feed table up and secure, and rotate the discharge chute towards the engine.
10. Secure chipper components including:
 - tool and tank doors - latched.
 - belt access covers, and shields - bolted.
 - rotor housing - bolted.
 - raise the feed table - latched.
11. Touch up all paint nicks and scratches to prevent rusting.
12. Do not allow children to play around the stored chipper.
13. Store in an area away from human activity.
14. It is best to store the machine inside. If that is not possible, cover with a waterproof tarpaulin and tie down securely.
15. To reduce the chance of condensation and contamination, store the chipper with a full fuel tank and treat the fuel. Run the engine for a few minutes to make sure the treatment gets throughout the fuel system.

6.2 REMOVING FROM STORAGE

When removing this machine from storage, follow this procedure:

1. Review and follow the pre-operation checklist.
2. Review safety and operation procedures.
3. Remove the tarpaulin if covered.
4. Install and connect the battery.

IMPORTANT

Review the Engine owners manual concerning storage when preparing the chipper for storage or retrieving from storage.

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, ensure the machine is in **safe condition**:
 - shut off the engine.
 - ensure all components have stopped moving.
 - remove and pocket the ignition key.
 - disconnect the battery.
 - block & chock the wheels.
- 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 chipper is in a safe condition.
- When completing a maintenance or service function, make sure all safety shields and devices are installed before placing chipper 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. **Engine Oil:** Refer to the engine manufacturer's manual for maintenance and service information.
3. **Engine Fuel:** Refer to the engine manufacturer's manual for fuel type information. Fuel Tank Capacity: 50 L (12 US Gal.)
4. **Hydraulic Oil:** Use Dexron III hydraulic oil for all operating conditions. Reservoir Capacity 30 L (7 US Gal.)
5. **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

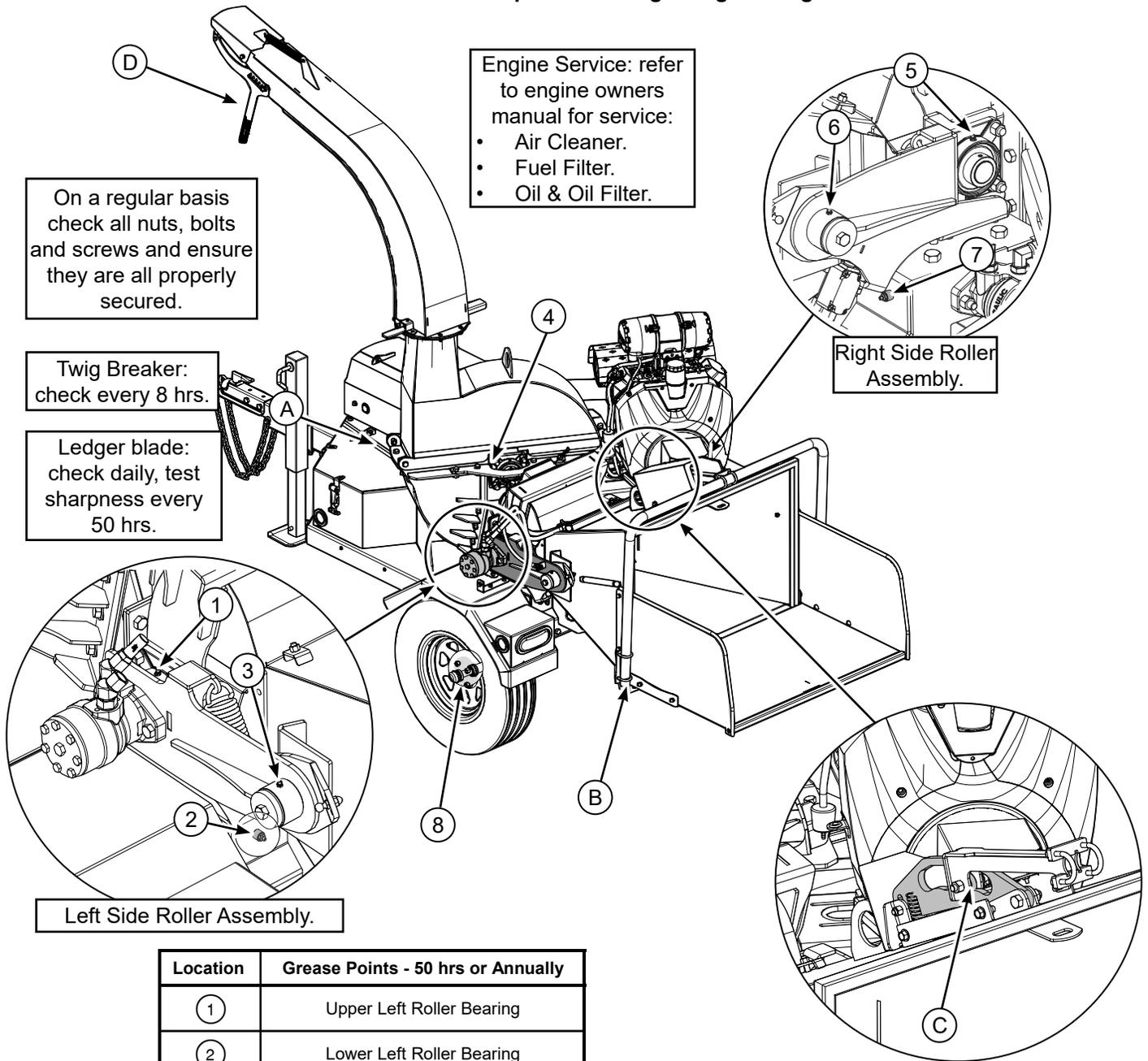
Refer to section 7.1.1 for recommended grease.

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

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

7.1.3 SERVICE ILLUSTRATION

See Service Record Chart This illustration shows the general location of service points for BXTR6438
Refer to the manufacturers instruction manual for specific maintenance instructions / requirements regarding the Engine.



Location	Grease Points - 50 hrs or Annually
①	Upper Left Roller Bearing
②	Lower Left Roller Bearing
③	Left Roller Pivot Bushing
④	Rotor Main Shaft Front Roller Flange
⑤	Upper Right Roller Bearing Housing
⑥	Right Roller Pivot Bushing
⑦	Lower Right Roller Bearing Housing
⑧	Left Wheel Bearing
grease with one shot of grease	

Location	Lubricate Hinges & Pivot Points
Ⓐ	Rotor Cover hinge (2 sides)
Ⓑ	Feed Table / Control Hinge (2 sides)
Ⓒ	Feeder Control Linkage / Bearing
Ⓓ	Hood Deflector
inspect daily, lubricate every 40 hours or weekly	

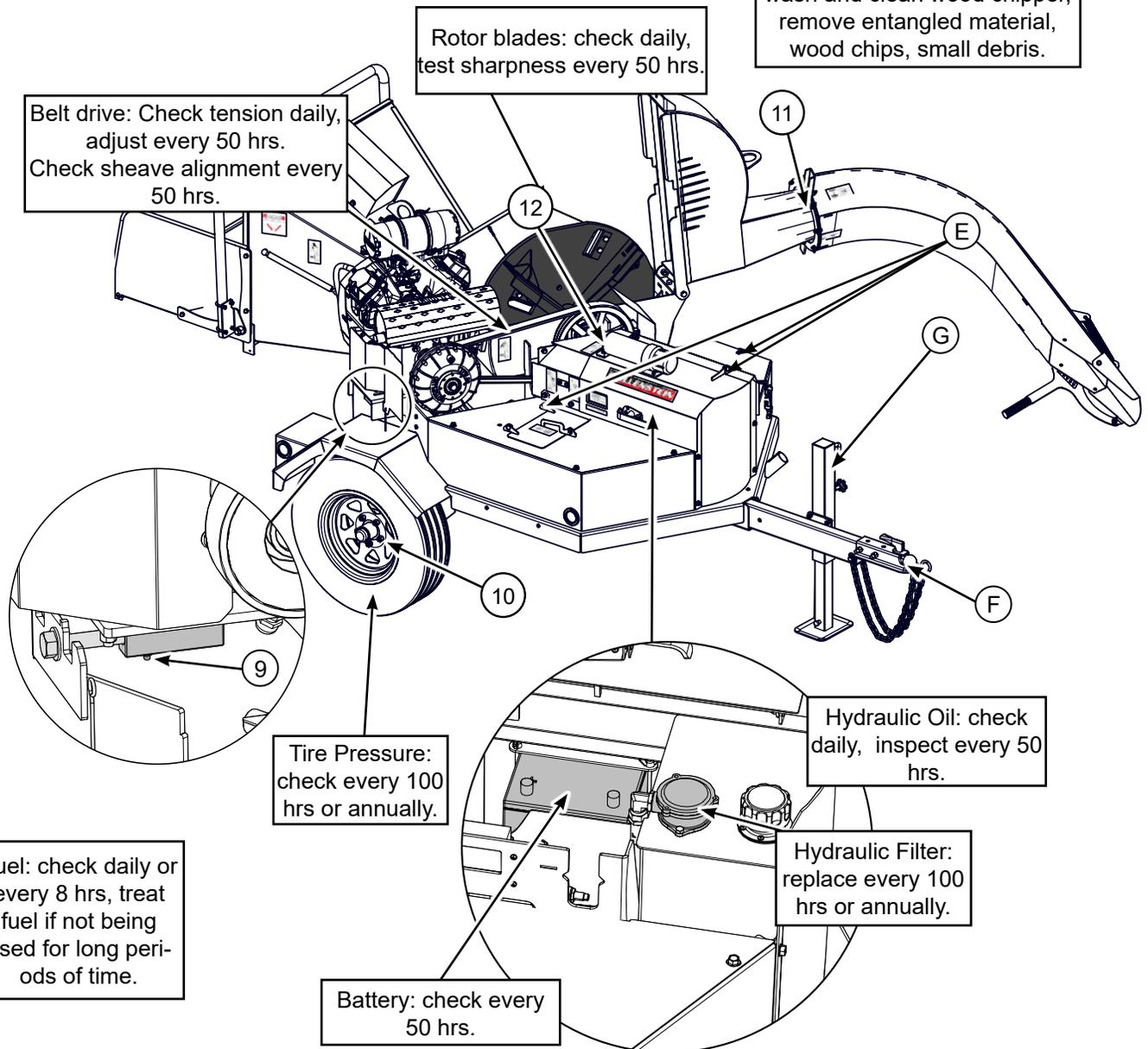
7.1.4 SERVICE ILLUSTRATION

See Service Record Chart

On a regular basis check the condition of all hydraulic lines, hoses and fittings. Replace any that are damaged. Re-route those that are rubbing, pinched or crimped. Tighten any fitting that is leaking. Ensure fittings are clean and free of dirt.

! WARNING
Machine is shown with guard removed for illustrative purposes only. Do not operate machine with guard removed.

Every 100 hrs or annually, wash and clean wood chipper, remove entangled material, wood chips, small debris.



Location	Grease Points - 50 hrs or Annually
⑨	Engine Adjustment Plate
⑩	Right Wheel Bearing
⑪	Discharge Chute Adjustment Ring
⑫	Rotor Main Shaft Rear Roller Flange
grease with one shot of grease.	

Location	Lubricate Hinges & Pivot Points
Ⓔ	Lid Hinges (fuel, hydraulic, tool)
Ⓕ	Hitch Coupler
Ⓖ	TongueJack
inspect daily, lubricate every 40 hours or weekly.	

7.1.5 SERVICE RECORD

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

8 Hours or Daily				50 Hours or Annually				100 Hours or Annually						
Check	Secure fasteners	Check	Twig Breaker, Rotor Blades, Ledger Blade	Check	Check	Check	Check	Check	Change	Adjust	Clean	Change	Adjust	Clean
Lubricate	Lubricate Hinges & Pivot Points	Adjust	Tires, Wheel & Wheel Bearings	Check	Grease	Check	Check	Check	Check	Check	Check	Check	Check	Check
Check	Engine Oil Level	Check	Fuel Level	Check	Check	Check	Check	Check	Check	Check	Check	Check	Check	Check
Check	Belt Drive Tension	Check	Grease Points (see illustration)	Grease	Check	Check	Check	Check	Check	Check	Check	Check	Check	Check
Check	Pulley Alignment	Check	Check Hydraulic Oil Level	Check	Check	Check	Check	Check	Check	Check	Check	Check	Check	Check
Check	Engine Maintenance (check engine owners manual)	Check	Rotor & Ledger Blades	Check	Check	Check	Check	Check	Check	Check	Check	Check	Check	Check
Check	Hydraulic Oil Filter	Check	Frame & Running Gear	Check	Check	Check	Check	Check	Check	Check	Check	Check	Check	Check
Check	Clean Machine	Check		Check	Check	Check	Check	Check	Check	Check	Check	Check	Check	Check

7.2 MAINTENANCE

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

Put the machine in **safe condition** before working on this machine,

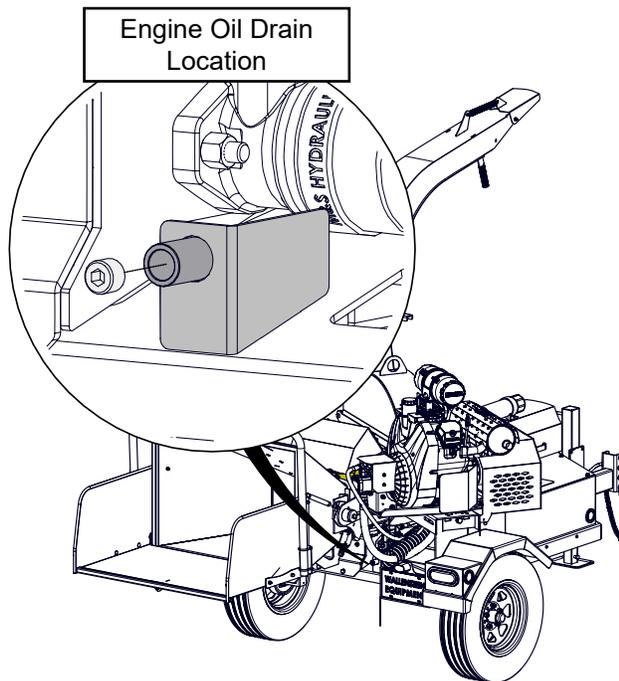
- shut off the engine.
- ensure all components have stopped moving.
- remove and pocket the ignition key.
- disconnect the battery.
- block & chock the wheels.

7.2.1 KOHLER CH980 38HP ENGINE

For periodic service, review your engines instruction manual for specific instructions / requirements for:

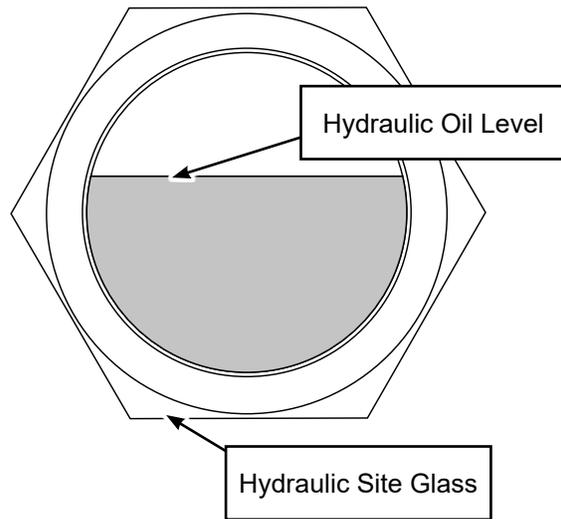
- Oil
- Oil filter
- Air cleaner
- Fuel filter
- Fuel lines

In order to make the process of changing oil easier an oil drain extension has been added and is located at the rear of the machine.



7.2.2 HYDRAULIC OIL FILL

The BXTR6438 hydraulic tank is located next to the fuel tank and is equipped with a site glass that shows the level of the oil in the tank. (located just above the tool box lid)



Hydraulic oil level should be checked daily, and the quality of the oil should be inspected every 50 hrs. If the oil is dirty or smells burnt, it should be replaced.

For optimum performance, the filter should be changed every 100 hrs, and the hydraulic oil should be changed every 500 hrs or once a year.

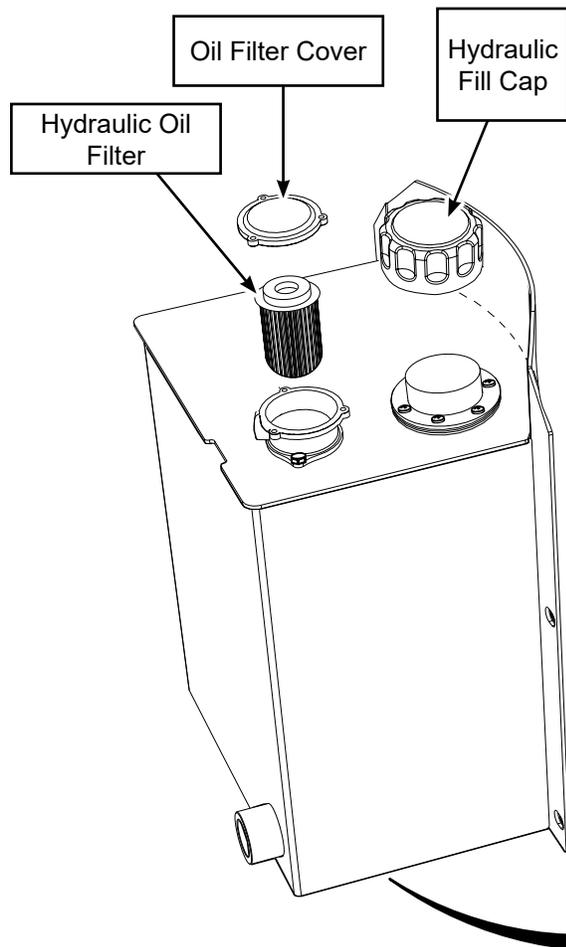
1. Ensure the machine is in **safe condition**. (see 8.2)
2. Allow the engine and muffler to cool.
3. Clean area around fill cap and remove cap.
4. Using a clean funnel, fill the tank according to the oil level gauge:
 - When filling the tank with oil, the window of the site glass will also fill with oil as the level gets higher in the tank.
 - Never fill the oil tank above the **site glass**.
 - Do not run the machine with the oil level below the **site glass**.
 - Reservoir Capacity 30 L. (7 US Gal.)
 - Use Dexron III hydraulic oil for all operating conditions.
5. Install fill cap securely and wipe up any spilled oil.

Check levels after changing filters or servicing hydraulic components.

7.2.3 HYDRAULIC OIL DRAIN

The hydraulic tank may occasionally need to be drained. The drain plug is located at the bottom of the hydraulic tank. Follow this procedure to drain the tank:

1. Ensure the machine is in **safe condition**. (see 8.2)
2. Allow the machine to cool before changing the oil. Hot oil can cause burns if it contacts exposed skin. It is best to change oil while the machine is warm to keep the contaminants in suspension.
3. Have a drain pan ready that can hold 30+ L. (7+ US Gal.)
4. The oil drain plug is located under the machine, and requires an allen wrench to remove.
5. Clean area around drain and remove the allen screw.
6. Allow the oil to drain, then flush the tank.
7. Replace the allen screw, and refill the tank with 30 L (7 US Gal.) of Dexron III hydraulic oil.
8. Dispose of used oil in a environmentally acceptable fashion.



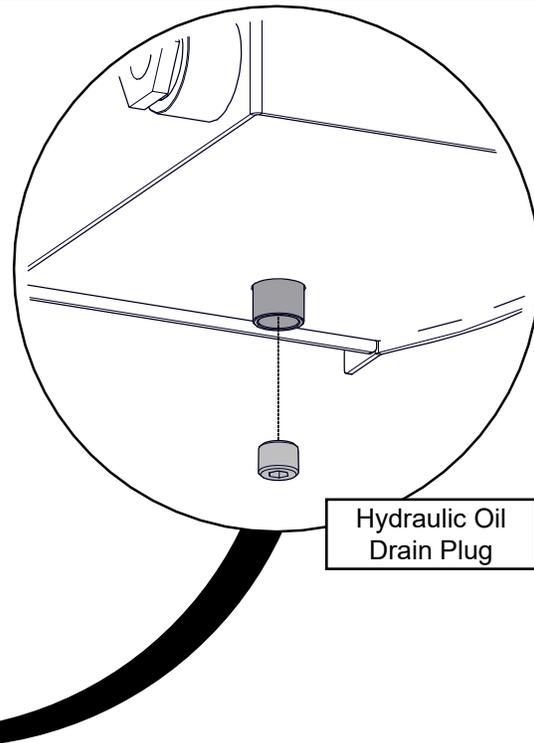
7.2.4 HYDRAULIC OIL FILTER

The hydraulic filter needs to be cleaned at least every 100 hours or annually. The filter is located on top of the hydraulic oil tank. Follow this procedure to clean the filter:

1. Ensure the machine is in **safe condition**. (see 7.2)
2. Allow the machine to cool before changing the oil filter. Hot oil can cause burns if it contacts exposed skin.
3. Have a drain pan ready to catch any dripping.
4. Find the oil return on the top of the reservoir, and remove the 3 screws on the filter cover.
5. Remove the cover and pull out the hydraulic oil filter.
6. With the screen in hand, simply wash it out with diesel fuel or varsol.
7. Once clean inspect the filter mesh for any holes, perforation, rust or tears.
8. Replace the clean filter into the tank, install and secure the filter cover. Check hydraulic reservoir oil level. Top up as required.

IMPORTANT

Be aware of high oil temperature, optimum temperatures are 50°C-60°C (120°F-140°F). Temperatures higher than 82°C (180°F) could cause seal damage and degrade the hydraulic oil. High oil temperatures are often a symptom of another problem.



7.2.5 SERVICING THE BATTERY

Read Section 2.14 on battery safety for safe handling of the battery

Caution: Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to cause cancer and reproductive harm. Wash hands immediately after handling battery.

Remove

1. Disconnect negative (–) cable first, then positive (+) cable.
2. Remove battery hold-down bracket and battery from unit.

Install

1. Install battery on unit with battery hold-down bracket.
2. Connect positive (+) cable first, then negative (–) cable.
3. Coat terminals with dielectric grease or petroleum jelly.

Cleaning the Battery

1. Disconnect negative (–) cable first, then positive (+) cable.
2. Clean battery cable ends and terminals with wire brush. Rinse with a weak baking soda solution.
3. Connect positive (+) cable first, then negative (–) cable.
4. Coat terminals with dielectric grease or petroleum jelly.

Charging the Battery

DO NOT fast charge. Charging at a higher rate will reduce battery life.

ALWAYS follow information provided on battery and battery charger. Contact battery manufacturer and battery charger manufacturer for detailed instructions.

1. Remove battery from unit.
2. Use a battery carrier to lift the battery or place hands at opposite corners to avoid spilling acid through the vents
3. Place battery on bench or other well-ventilated area.
4. Connect positive (+) lead of charger to positive (+) terminal, and negative (–) lead to negative (–) terminal.
5. Charge battery according to the instructions from battery charger manufacturer and battery manufacturer.

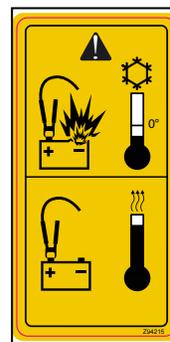
Jump Starting Battery

Read Section 2.14 on battery safety for safe handling of the battery.

WARNING: frozen batteries can explode and result in death or serious injury. DO NOT charge a frozen battery. Let battery thaw before charging.

Unit used for jump-starting should have a 12-volt battery and a negatively grounded system.

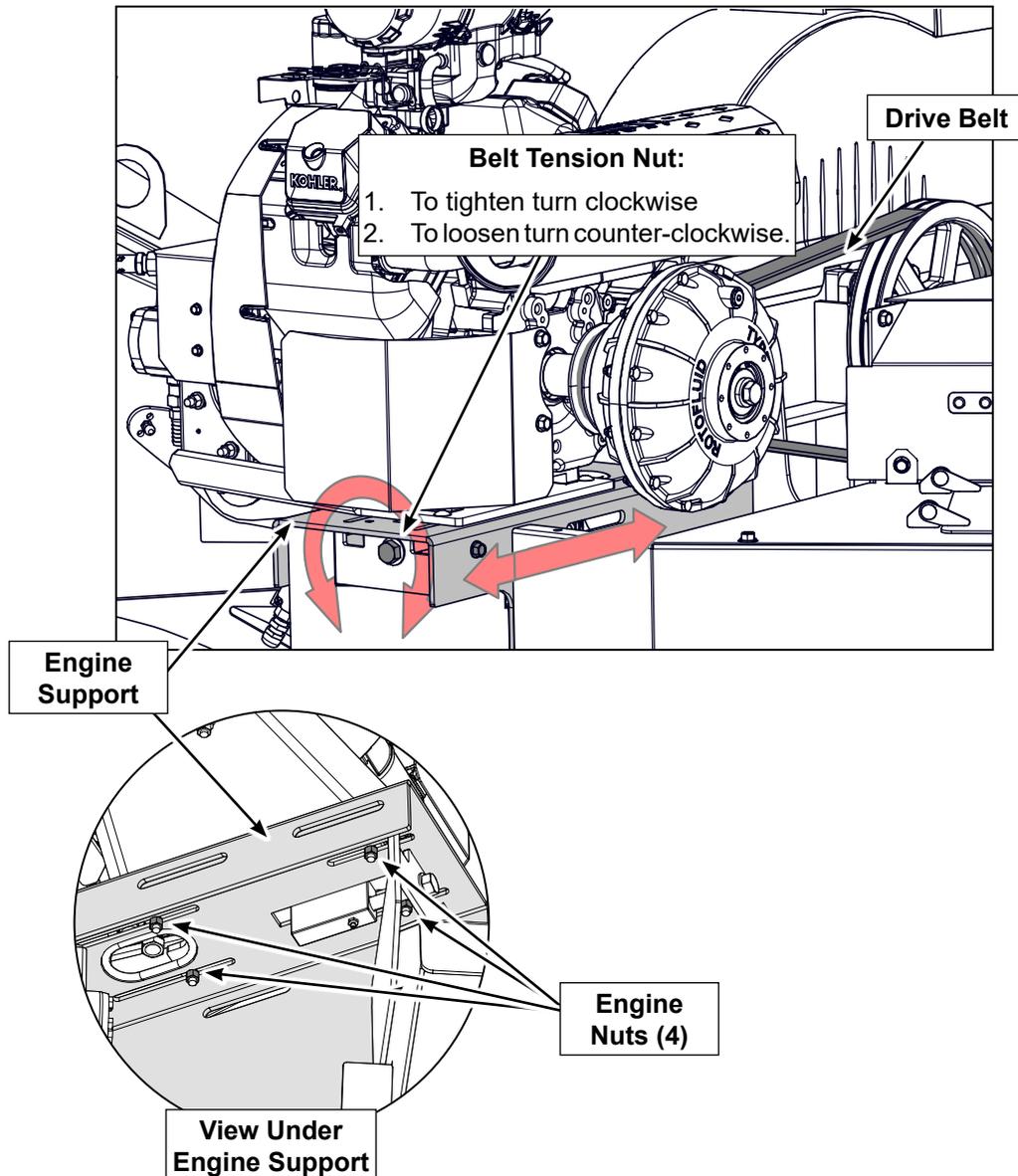
1. Connect positive (+) jumper cable to positive terminal of discharged battery.
2. Connect the other end of the same jumper cable to positive (+) terminal of booster battery.
3. Connect one end of the second jumper cable to negative (–) terminal of booster battery.
4. Make the final jumper cable connection to engine block or the furthest ground point away from the discharged battery.
5. Start engine.
6. After engine starts leave cables connected for one to two minutes.
7. Disconnect jumper cables in reverse order of installation.
8. Operate unit as normal to charge battery.



7.2.6 DRIVE BELT REPLACEMENT

This procedure is for models BXTR6438 and BXTR6438P

1. Ensure the machine is set in **safe condition** (see 7.2)
2. Remove the 3 bolts that secure the belt shield, and remove the shield.
3. Loosen (do not remove) the 4 x engine nuts that hold the engine sub frame to the main frame. (located under the main frame)
4. Turn the belt tensioning nut counter clockwise, until the drive belt is loose enough to remove, then remove the belts.
5. Replace with the new dual band belt. (#Z41262 Double Belt 2B78)
6. Turn the belt tensioning nuts clockwise, to tighten the belt. (ensure you tighten both nuts equally)
7. Check the tension by pushing on the belt with your fore finger and measure its deflection. Drive belt should deflect no more than 3/8 to 7/16". (10 mm to 12 mm)
8. When tension is correct, check pulley alignment then tighten up all four engine sub frame bolts, and replace the belt shield, cover and reinstall the bolts.
9. Recheck tension after 10 hrs of use.



7.2.7 BELT TENSION

The machine is designed with a fluid coupling on the engine shaft to drive the rotor plate sheave.

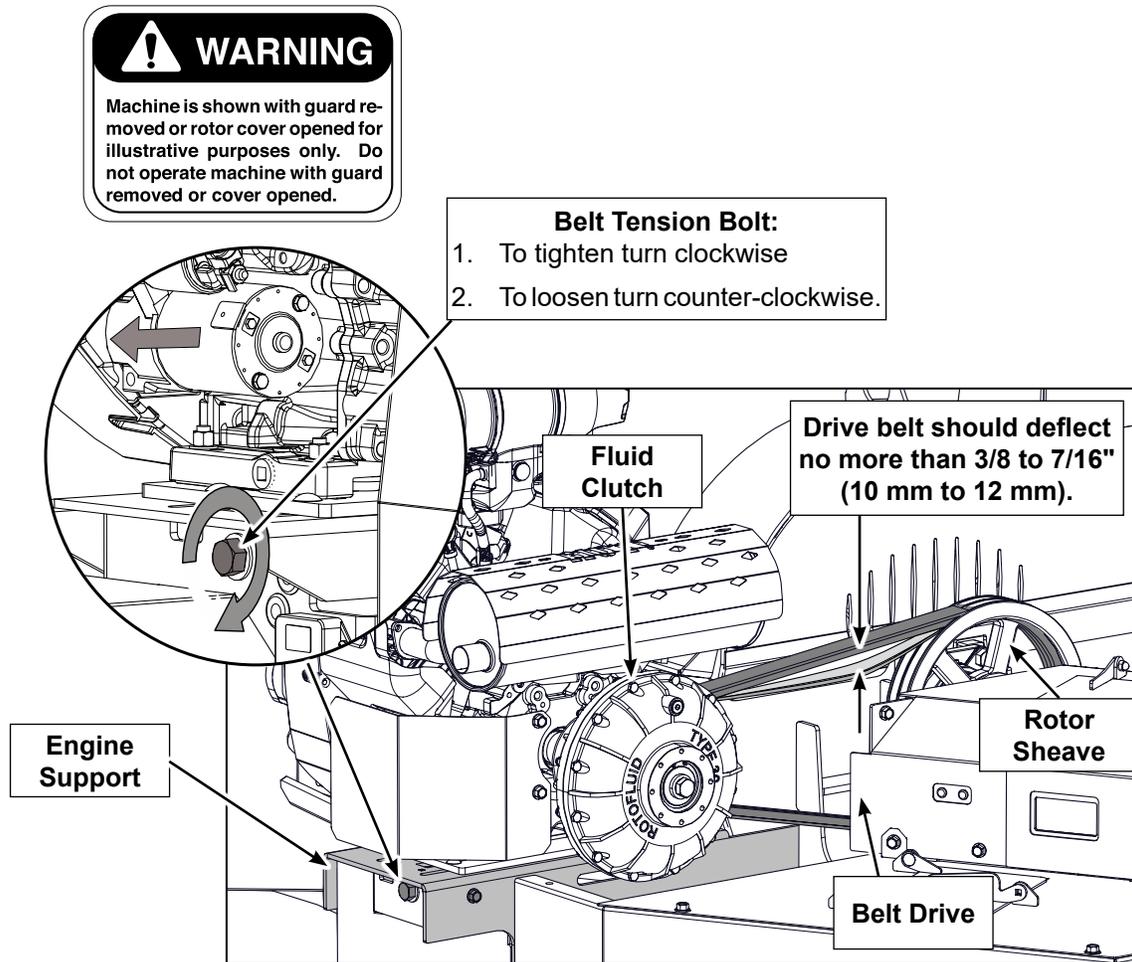
When the belt is in disrepair or loose, the ability to efficiently drive rotor may be affected.

Therefore it is important to periodically check the condition as well as the tension of the belt.

Frayed, cracked or worn drive belts should be replaced. Drive belt should deflect no more than 3/8 to 7/16". (10 mm to 12 mm). For accurate measurement use a drive belt tension gauge. Contact your dealer for more information on belt tension.

Drive Belt Tension Check and Adjustment:

1. Ensure the engine is off (ignition switch is off and the fuel valve is closed).
2. Remove the bolts that hold the belt guard to the chipper, remove the belt guard.
3. Check the tension by pushing on the belt with your fore finger and measure its deflection. Drive belt should deflect no more than 3/8 to 7/16". (10 mm to 12 mm).
4. If the belt requires adjustment, loosen (do not remove) the 4 x bolts that hold the engine mount to the main frame. (access from the front of the motor, under the motor mount).
5. Turn the belt tensioning bolt clockwise, to pull the engine mount outwards to tighten the belt or turn the bolt clockwise, to loosen the belt.
6. Snug 1 bolt on each side of the engine mount.
7. Check the tension by pushing on the belt with your fore finger and measure its deflection. Drive belt should deflect no more than 3/8 to 7/16". (10 mm to 12 mm).
8. If the tension is incorrect, loosen the engine mount bolts and adjust the belt tension bolt as required.
9. When tension is correct, tighten up all four engine mount bolts and replace the belt shield and bolts.



7.2.8 SHEAVE ALIGNMENT

A set of V belts transmits rotational power to the rotor. They must be kept properly tensioned and the sheaves aligned to obtain the expected performance and life.

For maximum accuracy, have your sheaves aligned with a laser alignment tool. Contact your dealer for information on laser alignment.

Alignment may be carried out using a straight edge, to check the alignment, follow this procedure:

1. Clear the area of bystanders, especially small children.
2. Turn machine off, stop engine, remove ignition key and place in pocket and wait for all moving parts to stop.
3. Remove the belt guard and upper belt guard.
4. Have a straight edge at least 50" (127cm) in length.
5. Place the straight edge along the face on the back of the clutch, and place the opposite end along the back face of the rotor sheave.

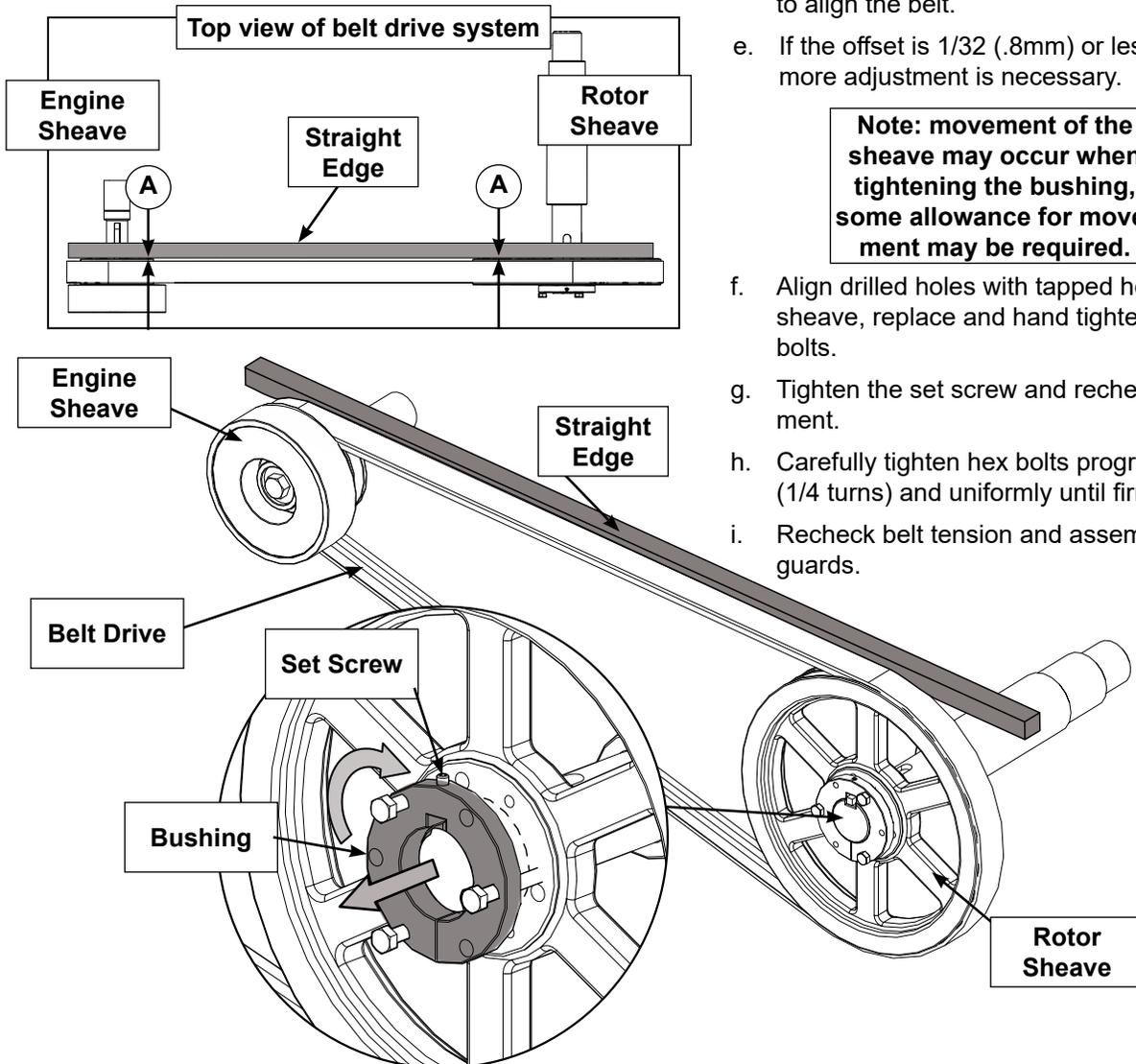
6. Check to see if there is a gap between the straight edge and the sheaves, measure the gap (A).
7. If there is more than 1/32" (.8mm) offset then adjustment is required.

8. To adjust alignment:

- a. Loosen the set screw on the bushing attached to rotor sheave.
- b. Remove the 3 hex bolts on the bushing, and thread them into the tapped holes on the bushing.
- c. Tighten the hex bolts progressively with 1/4 turns until bushing is free from the sheave taper.
- d. Move the sheave to the required position to align the belt.
- e. If the offset is 1/32 (.8mm) or less then no more adjustment is necessary.

Note: movement of the sheave may occur when tightening the bushing, some allowance for movement may be required.

- f. Align drilled holes with tapped holes on the sheave, replace and hand tighten the 3 hex bolts.
- g. Tighten the set screw and recheck alignment.
- h. Carefully tighten hex bolts progressively (1/4 turns) and uniformly until firmly seated.
- i. Recheck belt tension and assemble belt guards.



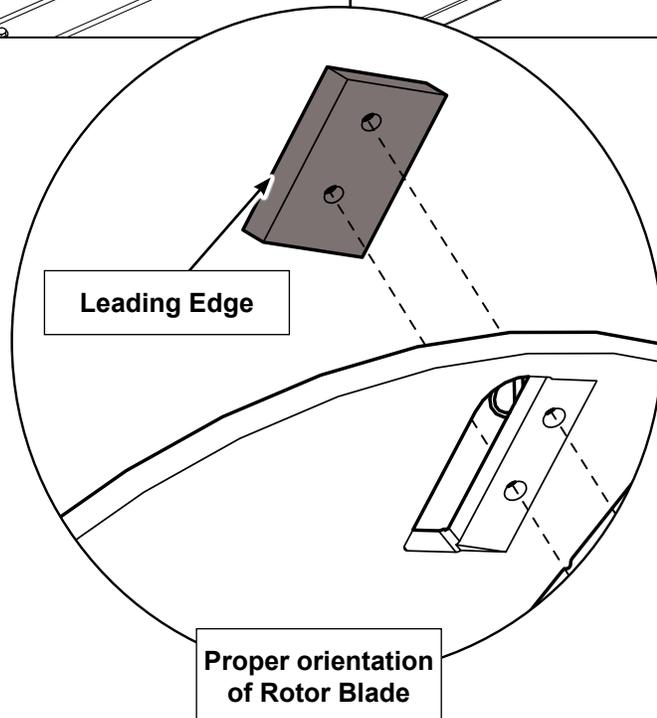
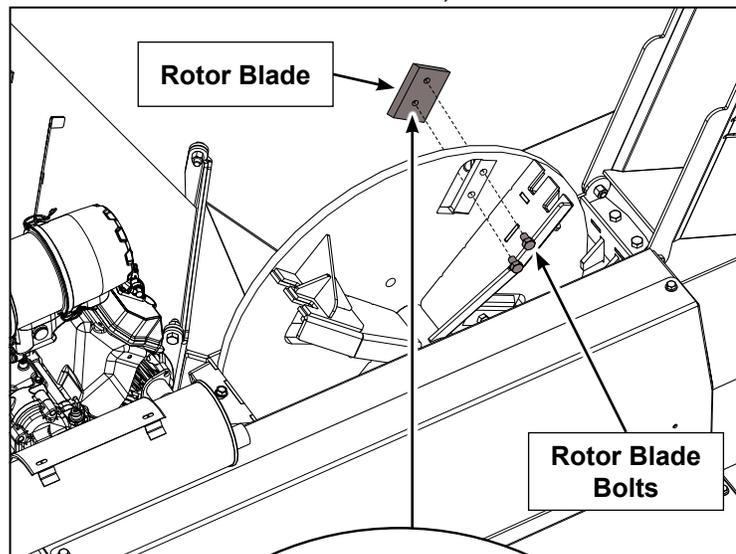
The rotor and ledger blades need to be sharp for the Chipper to perform as expected. Periodic inspection is recommended. Keep the blades sharp to reduce the amount of power required during operation. Watch the sharpness of the blades when processing material with a lot of sand, soil or dirt mixed with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

7.2.9 ROTOR BLADES:

The rotor is equipped with 4 segmented (offset) 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. Ensure the engine is off. (ignition switch is off and the fuel valve is closed)
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 second blade.



IMPORTANT **Avoid Serious Injury**

The rotor is very heavy, turn rotor slowly and be aware of hand positioning: avoid getting pinched or wedged between the lower rotor housing and rotor.

WARNING

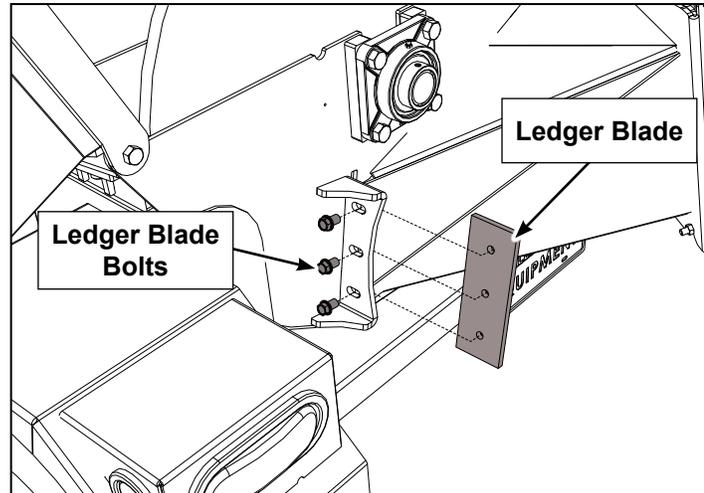
Machine is shown with guard removed for illustrative purposes only. Do not operate machine with guard removed.

7.2.10 LEDGER BLADES:

Each machine 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.

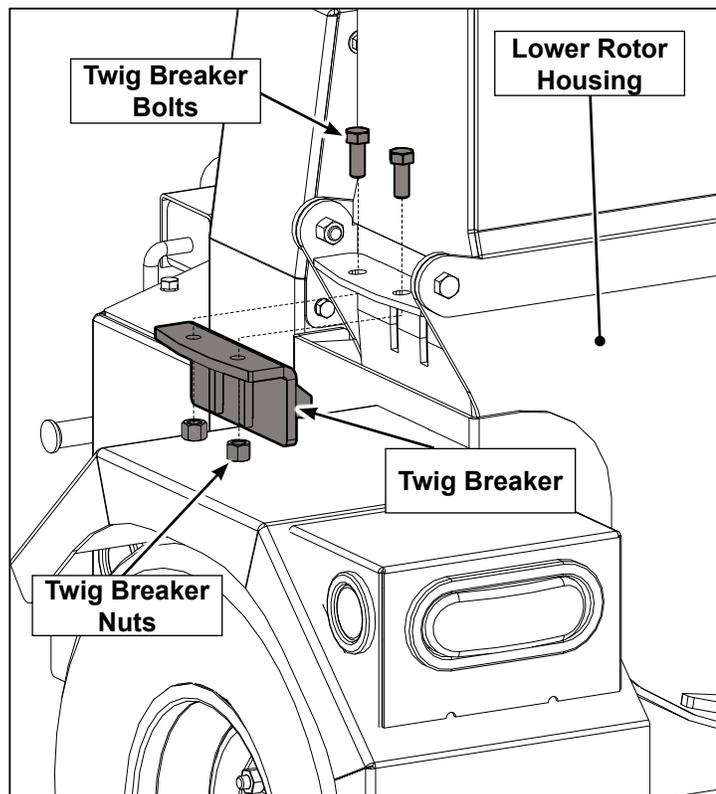
1. Ensure the engine is off (ignition switch is off and the fuel valve is closed).
2. Remove the 2 bolts that hold the ledger blade to the ledger mount, remove the blade.
3. Rotate the blade and replace, or swap with new or re-sharpened blade.
4. Hand tighten the bolts and set the clearance between the 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.



7.2.11 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. Ensure the engine is off. (ignition switch is off and the fuel valve is closed)
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.

7.2.12 FLUID COUPLING

The BXTR6438 series is designed with fluid coupling that converts the rotational power of the engine to the rotor in an efficient controlled manner.

The fluid coupling does not have a direct mechanical connection to the sheave, but instead drives the sheave through fluid contained inside the coupling.

It is an alternative to a mechanical clutch where controlled start-up without shock loading of the power transmission system is an advantage and results in a superior, robust, low maintenance drive system.

7.2.13 SAFETY RELEASE:

Although the fluid coupling is robust in its operation, when the rotor is under excessive load or stalled, or if there is excessive slipping, it causes a buildup of heat in the fluid. To protect the system against damage, there is a safety device built into the fluid coupling, called the Fusible Plug.

If the coupling experiences sustained overload, and begins to overheat, the fusible plug is designed to release the overheated fluid in the coupling, avoiding damage to seals etc.

If the fusible plug releases, there will be a sudden loss of power to the rotor, and a noticeable puddle of fluid will appear under the machine.

The temperature at which the fusible plug activates is 180°C (356°F).

7.2.14 RESET THE SAFETY:

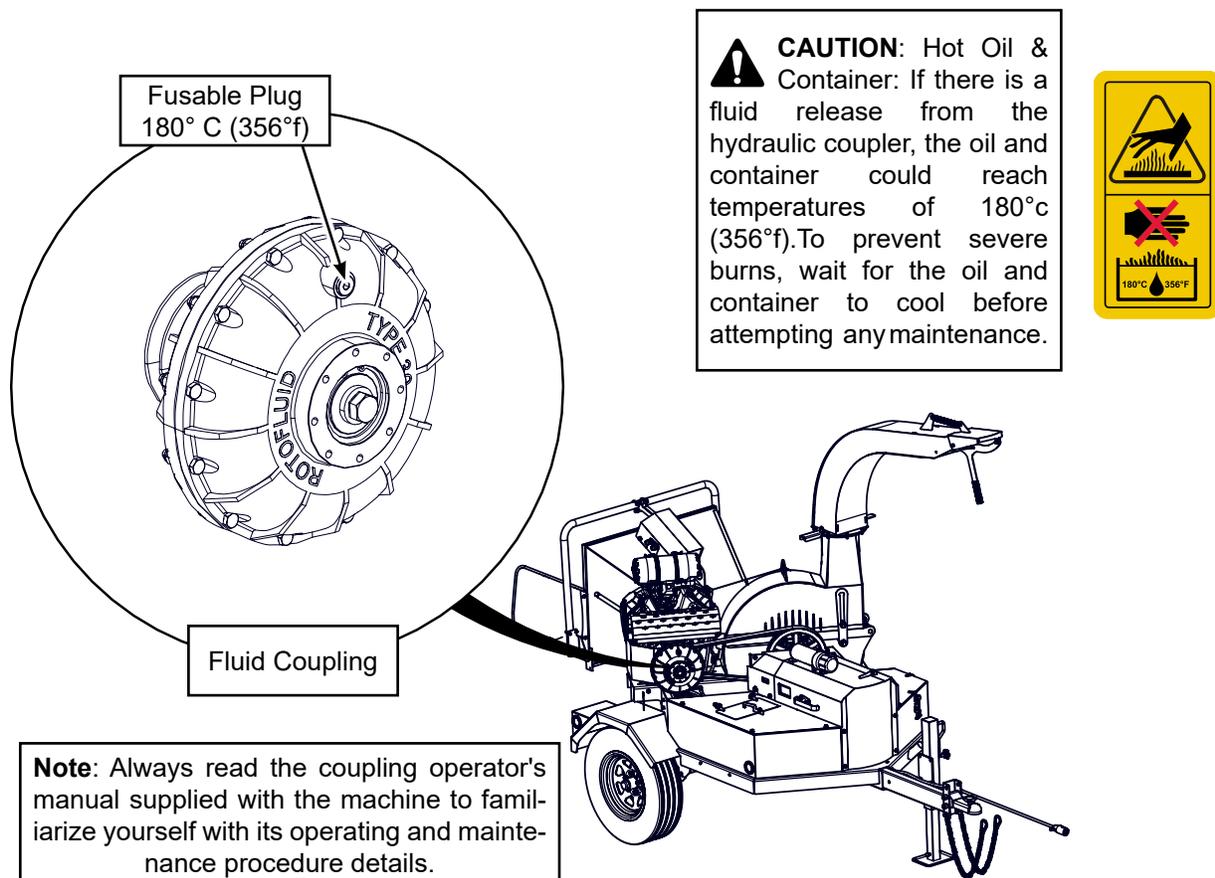
The fusible plug is a replaceable component and the BXTR6438 comes with an extra plug in case of a release.

To bring the fluid coupling back into service the fluid must be restored and the fusible plug replaced.

Follow the directions found in the coupling installation and maintenance manual that came with the CR70.

When replacing the fluid on the coupler, we recommend using the

- "45" fill mark when replacing the fluid on the **RotoFluid** coupler, and
- Use the fluid specified in the manual ISO AW22 classification.



7.2.15 SPILL BASIN:

In the event a fluid coupling release occurs, the chipper is equipped with spill basin to catch the fluid before it has a chance to spill, and contaminate the ground.

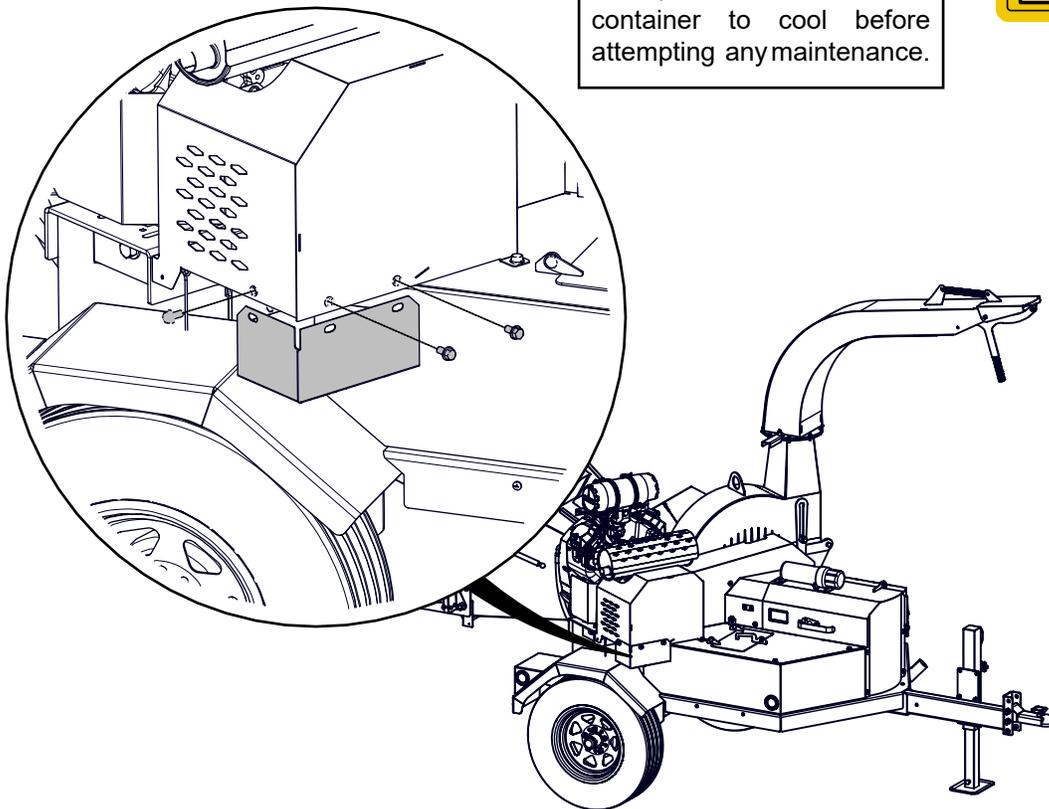
The spill basin is designed to hold up to 4 litres (4.2 quarts) and will hold the contents of the fluid coupler. Before moving the chipper, the basin should be emptied to prevent further spillage during transportation.

Before you empty the catch basin or perform any maintenance, ensure that you have waited long enough to allow the fluid to cool. The temperature of the fluid when released could be as hot as 180°C (356°F), which will cause severe burns when contact is made with bare skin.

Follow this procedure to empty the spill basin.

1. The basin is located under the fluid coupler and is held on by 2 bolts.
2. Support the spill basin and carefully remove the 3 bolts that hold the basin in place.
3. Remove the basin and carefully dump the contents into a container.
4. Dispose of the fluid in an environmentally responsible way at a chemical recycler or in accordance to hazardous waste laws in your area. Do not dispose of the fluid in any way that would result in contaminating the environment.
5. To bring the fluid coupling back into service the fluid coupler must be refilled and the fusible plug replaced.
6. See section 5.7.2 in this manual or review the RotoFluid owners manual that came with your BXTR6438

CAUTION: Hot Oil & Container: If there is a fluid release from the hydraulic coupler, the oil and container could reach temperatures of 180°C (356°F). To prevent severe burns, wait for the oil and container to cool before attempting any maintenance.



8 TROUBLE SHOOTING

The Wallenstein Trailer 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 3 pages, we have listed many of the 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 chipper and serial number ready.

PROBLEM	CAUSE	SOLUTION	CAUTION	
Rotor does not turn	Obstructed discharge.	Clear debris from discharge chute.	Ensure machine is off	
	Fluid coupler not engaged	Check fluid level in the coupler is correct, belt has proper tension.	Ensure machine is off	
	Rotor plugged.	Inspect and clear chipper hopper lower rotor housing and rotor.	Ensure machine is off	
Slow feeding.	Low engine / rotor speed.	Set throttle to increase rotor RPM. (1375 RPM)		
	Blades and/or knives are dull.	Check rotor and ledger blades, rotate, sharpen or replace.	Ensure machine is off	
	Rotor blade angle wrong, improper angle.	Re-sharpen rotor knives to specified 45° angle and check that blade is installed properly.	Ensure machine is off	
	IntelliFeed programing incorrect,	Adjust programming or return to factory settings.		
	Slow hydraulic flow	Filter is dirty, change filter		Ensure machine is off
		Hydraulic oil is contaminated, inspect oil condition (dirt, foaming). Replace oil.		
	Lower roller is jammed (not cleaned out from last use)	Open lower roller cleanout, and clean out chips. Jams could freeze in winter time.		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 for rotor wobble. Replace rotor.	Ensure machine is off, call technician for repair	

PROBLEM	CAUSE	SOLUTION	CAUTION	
Engine won't start	Upper rotor housing open	Inspect upper rotor housing that it is closed and secured & interlock cable is connected.		
	Interlock switch defective	Check interlock switch, replace if not working		Ensure machine is off
	Interlock wiring harness damaged	Inspect wiring harness, repair or replace.		Ensure machine is off
Machine requires excessive power or stalls.	Obstructed discharge.	Clear debris from discharge chute .		Ensure machine is off
	Feeding in too much material	IntelliFeed programing incorrect, adjust programming		
	Feeding material too quickly	IntelliFeed programing incorrect, adjust programming		
	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.	Check rotor and ledger blades, rotate, sharpen or replace.		Ensure machine is off
Squeeling Belt / premature belt wear.	Drive belts loose or worn.	Inspect drive belts, adjust tension or replace if needed.		Ensure machine is off.
	Wrong replacement belt	Inspect drive belts, replace with (2B-82) double banded 'B' 70" dia belts.		Ensure machine is off.
	Sheaves misaligned	Check sheave alignment and adjust.		
	Rotor plugged.	Inspect and clear chipper hopper, lower rotor housing and rotor.		Ensure machine is off
	Belt tension too high	Check belt tension and adjust		
	Sheaves worn	Inspect sheaves and bearings, replace if required.		Ensure machine is off, call technician for repair
	Oil or grease on drive system	Check for source of oil / grease and correct. Clean sheaves and belts, belts may require replacment.		Ensure machine is off

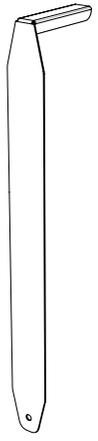
PROBLEM	CAUSE	SOLUTION	CAUTION	
Poor Quality Chips	Dull blades.	Check rotor and ledger blades, rotate, sharpen or replace.	Ensure machine is off	
	Drive belts loose or worn.	Inspect drive belts, adjust or replace if needed.	Ensure machine is off	
	Poor quality material	Material is small or rotting, mix with higher quality material.		
Feed rollers intermittent or not turning	Feed roll control bar set to stop.	move to forward / reverse position		
	RPM not at or above minimum setting	Set engine throttle for maximum RPM, ensure engine is tuned up, ensure RPM is at or above intellifeed "Upper RPM Limit" setting.	Ensure machine is off	
	Intellifeed programming incorrect	Check that intellifeed settings are at factory specifications, reset if required.	Ensure machine is off	
	Intellifeed not receiving signal	Inspect rotor sensor for damage, replace unit if required.		Ensure machine is off, call technician for repair
		Inspect rotor sensor mount or sheave mounted indicator plate for damage or misalignment, repair or replace.		Ensure machine is off
		Check IntelliFeed unit for output signal, replace unit if required.		Ensure machine is off, call technician for repair
		Check harness for bad ground connection.		Ensure machine is off
		Inspect IntelliFeed wiring harness for damage, repair or replace if damaged.		Ensure machine is off, call technician for repair
	IntelliFeed hydraulic block malfunction	Inspect hydraulic control unit for damage, check functionality.		Ensure machine is off, call technician for repair
	Feed control bar malfunction	Check feed control bar switches, replace, reposition pickup trigger.		Ensure machine is off
	Slow hydraulic flow	Filter is dirty, change filter.		Ensure machine is off
		Hydraulic oil is contaminated, inspect oil condition (dirt, foaming). Replace oil.		
	No electrical power	Check battery, engine charging system for power.		
Hydraulic motor slow	Check hydraulics, contaminated hydraulic fluid, check motor condition, replace if required.		Ensure machine is off, call technician for repair	

PROBLEM	CAUSE	SOLUTION	CAUTION	
Hydraulic oil overheating / Hydraulic pump makes noise	Tank level is too low,	Inspect and fill tank.		
	Filter is dirty	Change filter.		
	Hydraulic oil is contaminated,	Inspect oil condition (dirt, foaming). Replace oil		
	Feed rollers binding	Inspect bearings, lubricate or replace		Ensure machine is off, call technician for repair
	Lines is crimped or pinched	Inspect, repair or replace lines		Ensure machine is off, call technician for repair
	Pump is worn	Check and replace		Ensure machine is off, call technician for repair
	Line leak	Inspect hydraulic lines / fittings for leaks, repair or replace.		Ensure machine is off, call technician for repair
	Pump leak	Pump seals are worn, inspect seals, replace.		Ensure machine is off, call technician for repair
	Pump noisy at startup	Oil temperature too, low allow machine to warm up.		

9 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 BXTR6438 Trailer Woodchipper An easy and accurate way of setting the critical clearances between the ledger blade and the rotor chipper blade.</p>
--	---

10 SPECIFICATIONS

10.1 MECHANICAL

Specifications	BXTR6438F	BXTR6438P
Engine	Kohler CH980 999 CC (38HP)	
Drive System	Rotor: Dual Belt, Auto Engage Centrifugal Clutch	
Chipper Housing Opening	7"H x 11"W 18cm x 28cm	
Capacity	7" Dia. (Max. 11" Slab) 17cm Dia. (Max. 28cm Slab)	
Chipper Hopper Opening	25" x 34" 63.5cm x 86.25 cm	
Chipper Rotor Diameter / Weight	30" @ 197 lbs 76cm @ 89.3kg	
Feed System	IntelliFeed - electronic monitoring and feed control	
Max Feed Rate	129 fpm 39 mpm	
Knife Type	Hardened tool steel	
Number of Rotor Knives	4 segmented knives	
Rollers	Dual Horizontal with Hydraulic Drive	
Discharge Hood Rotation	360 degrees	
Discharge Hood Height	100" 252 cm	
Hydraulic Tank	7 gallons (US) 30 litres	
EPA Fuel Tank	9 gallons (US) 34 Litres	
Mounting System	Trailer: 2" Adjustable Ball Coupler	
Dry Weight	2225 lbs.	
Dimensions (LxWxH)	148.5 x 64 x 100" (Open) 128 x 64 x 100" (Closed) 378cm x 162.5cm x 254.5cm" (Open) 326cm x 162.5cm x 254cm" (Closed)	
Distance of feed roller to edge of feed table to ground. (WorkSafe BC safety specification)	85"	
Axle	5 Bolt Hub Heavy Duty 2200 Lb Torsion Axle	5 Bolt Hub Heavy Duty 2200 Lb Torsion Axle with 7" Electric Brakes
Tire Size	ST205/75R14 Radial Trail	
Features	IntelliFeed - Electronic Feed Control & Rapid Recovery Auto Reverse Height Adjustable 2" Ball Coupler Hydraulic Fluid Level Site Glass Fuel Level Gauge EPA Emission Compliant Stop / Forward / Reverse / Stop Feed Roller Control Bar 360° Rotating Discharge chute Tool Compartment Lockable Fuel / Hydraulic Compartment Extendable Two Position Tongue Highway Trailer Lights Electric Start, Heavy Duty Battery Latching Feed Table (closed position) Lift Assist for Feed Roller (for maintenance) Meets "2013 WorkSafe BC" safety standards	

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

10.2 BOLT TORQUE

CHECKING BOLT TORQUE

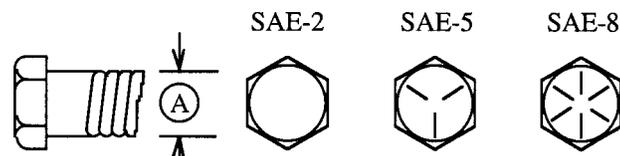
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

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.

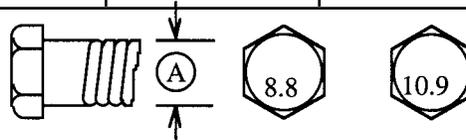
ENGLISH TORQUE SPECIFICATIONS

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



10.3 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.

Tube Size OD (in.)	Nut Size Across Flats (in.)	Torque Value*		Recommended Turns To Tighten (After Finger Tightening)	
		(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

The torque values shown are based on lubricated connections as in reassembly.

10.4 WHEEL LUG TORQUE

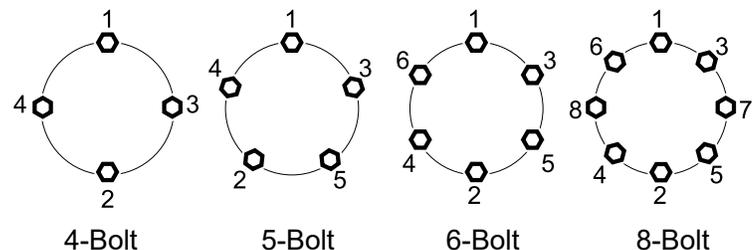
It is extremely important safety procedure to apply and maintain proper wheel mounting torque on your trailer axle. Torque wrenches are the best method to assure the proper amount of torque is being applied to a fastener.

Wheel lugs should be torqued before first road use and after each wheel removal. Check and re torque after the first 16Km (10 miles), 40Km (25 miles), and again at 80Km (50 miles). Check periodically thereafter.

Note: Wheel lugs must be applied and maintained at the proper torque levels to prevent loose wheels, broken studs, and possible dangerous separation of wheels from your axle.

Wheel Lug Nut Torque				
Wheel Size	Units	1st Stage	2nd Stage	3rd Stage
8"	lbf•ft	12–20	30–35	45–55
	N•m	16–26	39–45.5	58.5–71.5
12"	lbf•ft	20–25	35–40	50–60
	N•m	26–32.5	45.5–52	65–78
13"	lbf•ft	20–25	35–40	50–60
	N•m	26–32.5	45.5–52	65–78
14"	lbf•ft	20–25	50–60	90–120
	N•m	26–32.5	65–78	117–156
15"	lbf•ft	20–25	50–60	90–120
	N•m	26–32.5	65–78	117–156
16"	lbf•ft	20–25	50–60	90–120
	N•m	26–32.5	65–78	117–156

Wheel Lug Torque Pattern



- Start all lugs by hand to prevent cross threading.
- Tighten lugs in sequence, per wheel lug torque sequence chart.
- The tightening of the fasteners should be done in stages. Following the recommended sequence, tighten fasteners per wheel torque requirements chart.

INDEX

B		LEDGER BLADES	51
BATTERY	39	LOWER FLOW PERCENTAGE	28
BELT TENSION	48	LOWER RPM LIMIT	28
C		LUG TORQUE	59
CAUTION	7	M	
CENTRIFUGAL	33	MACHINE HOURS	27
CHOKE	23	O	
COMPONENTS	21	OIL USE HOURS	27
D		P	
DANGER	7	PROGRAMMING HINTS	28
DEFLECTOR	25	R	
DE-LIMB	34	RESPONSIBLE	8
E		ROLLER HOUSING	36
EMERGENCY	33	ROTOR BLADE	50
EMERGENCY	33	ROTOR HOUSING	35
ENGINE FUEL	40	ROTOR RPM	27
ENGINE OIL	40	S	
ENGINE SERVICE	41	SAFE CONDITION	12
F		SAFETY	15
FEED ROLLER CONTROL INDICATOR	24	SAFETY INTERLOCK INDICATOR	24
FEED ROLLERS	26	SHARPEN	50
FEED TABLE DOWN	30	SHEAVE	49
FITTING TORQUE	59	STORING LUBRICANT	40
FROZEN BATTERIES	46	STRAIGHT EDGE	49
G		T	
GAUGE	51	TABLE DOWN	31
GREASE	40	TABLE STOWED	31
H		TENSION BOLT	48
HYDRAULIC OIL	40	TENSION CHECK	48
I		TRANSPORT	38
IGNITION	23	TWIG BREAKER	41, 51
INSPECTION	4	U	
J		UNPLUGGING	35
JAMMED	35	UPPER FLOW PERCENTAGE	28
K		UPPER RPM LIMIT	28
KOHLER	44	W	
L		WARNING	7
LABELING	5		
LATCH	25		