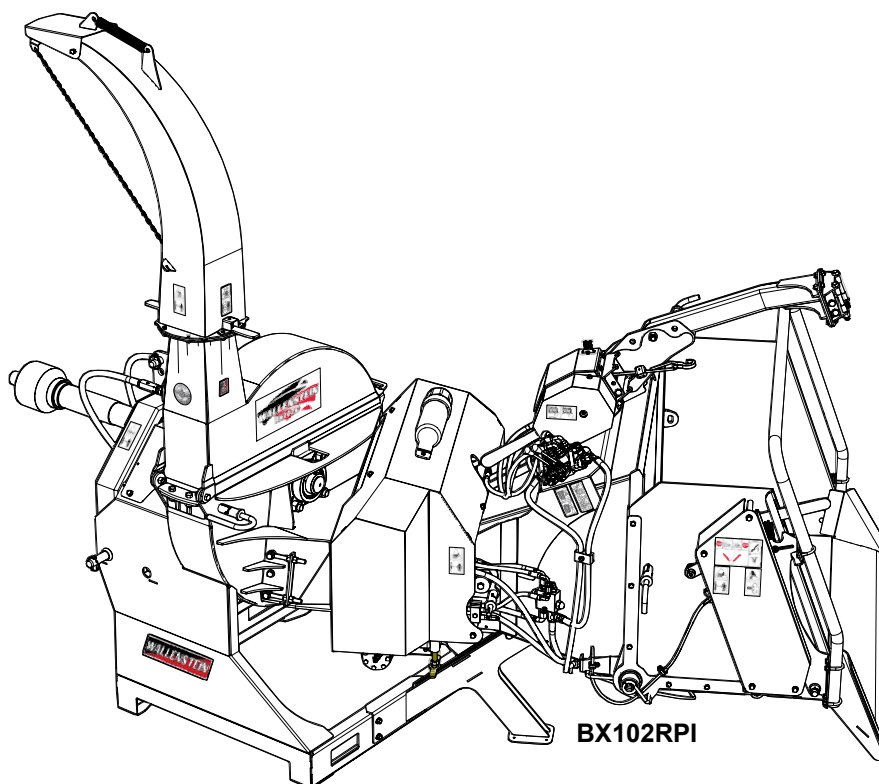


WALLENSTEIN

BY EMB MFG INC.

EMB Manufacturing Inc.
4144 Boomer Line · St. Clements, On · N0B 2M0 · Canada
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www.embmfg.com



BXR SERIES

3 POINT HITCH WOOD CHIPPER

MODELS BX102R, BX102RI, BX102RP, BX102RPI
BX72R, BX72RI and BX52R, BX52RI

EU MODELS BX102REU, BX102RIEU, BX102RPEU, BX102RPIEU
BX72REU, BX72RIEU and BX52REU, BX52RIEU

OPERATOR'S MANUAL



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WARRANTY

Effective on products related on or after January 1, 2015.

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

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

Five (5) Years for Consumer
Two (2) Year for Commercial/Rental

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

This warranty does not cover the following items:

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

Engines are covered by the manufacturer of the engine and covered by the warranty period specified by that manufacturer. Engine warranty must be registered at the engine manufactures website. For service contact your local engine dealer.

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

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

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

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

EMB MFG Inc
4144 Boomer Line, St Clements, ON N0B 2M0 Canada
Phone: 519-889-8283 Fax: 519-889-4146 : attention to Warranty Dept
Email: warranty@embmfg.com

WALLENSTEIN
BXR SERIES 3 POINT HITCH WOOD CHIPPER
DELIVERY INSPECTION REPORT
 To activate warranty, register your product online at
www.embmfg.com

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

Customer's Name _____

Contact Name _____

Dealer Name _____

(_____) _____
 Phone Number

Serial Number _____

_____/_____/_____
 Delivery Date

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

Dealer's Rep. Signature _____

_____/_____/_____
 Delivery 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 _____

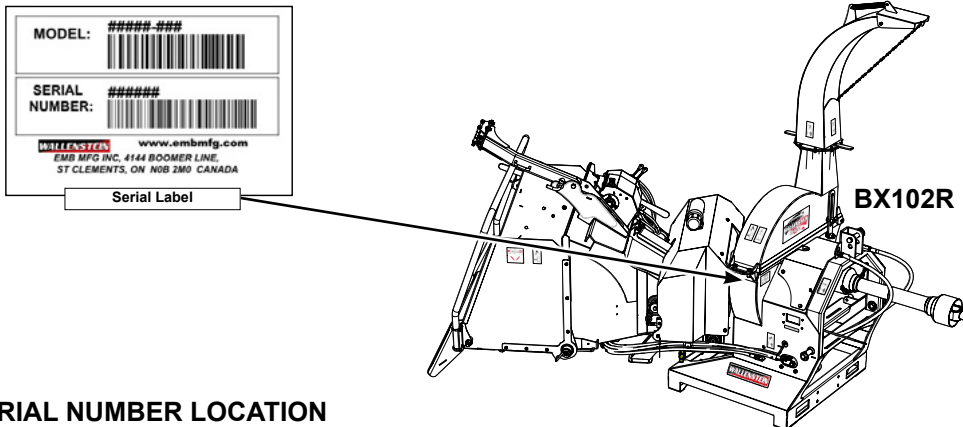
_____/_____/_____
 Delivery Date

| | |
|---|--|
| ✓ | Pre-Delivery Inspection |
| | Inspect for damage from shipping, immediately contact the shipping company if damage is found. |
| BXR SERIES 3PH Wood Chipper | |
| | Check Blade Clearance & Rotor Turns Freely |
| | Feed Table & Control Handle Move Freely |
| | FeedTable Lock Pins Align & Move Freely |
| | Discharge & Deflector Moves Freely |
| | Lower Roller Clean Out Moves Freely |
| | Fasteners Tight |
| | Grease Zerks / Lubricate Pivot Points |
| | Hydraulic Connections |
| | Review Operating and Safety Instructions |
| Safety Checks | |
| | All Safety Decals Installed |
| | Guards and Shields Installed and Secured |
| | Check SMV Installed |
| | Retainer Installed Through Hitch Points |
| | Review Operating and Safety Instructions |
| Hydraulic Winch Option (BX102RP, BX102RPI) | |
| | Check Gear Lock Lever |
| | Check Winch Rope / Hook / Fairlead |
| | Check Hydraulic Function |
| | Check Winch Boom |
| | Grease Zerks / Lubricate Pivot Points |
| | Review Operating and Safety Instructions |
| Hydraulic Feed Roller Lift Option (BX102RP, BX102RPI) | |
| | Check Hydraulic Function |
| | Lubricate Pivot Points |
| | Lock Pins Align & Move Freely |
| | Review Operating and Safety Instructions |
| Intellifeed Option (BX102RI, BX102RPI, 72RI & 52RI) | |
| | Check Electrical Power Connection |
| | Check Wiring Connections |
| | Review Operating and Safety Instructions |

SERIAL NUMBER LOCATION

Always give your dealer the serial number of your Wallenstein 3 Point Hitch Wood Chipper and Feed Hopper when ordering parts or requesting service or other information.

The serial number plates are located where indicated. The BX102R is shown, but the serial location will be similar for the BXR series. Please mark the numbers in the spaces provided for easy reference.



SERIAL NUMBER LOCATION

Model Number _____

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).

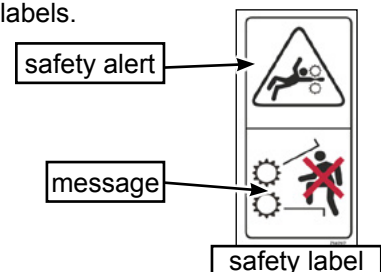
Safety Notice Labels are pictorial with a blue background and generally rectangular with single or multiple symbols. The label illustrates requirements for safe operation (safety equipment, housekeeping etc). These labels are accompanied by detailed instructions in the owners manual, with the label illustrated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

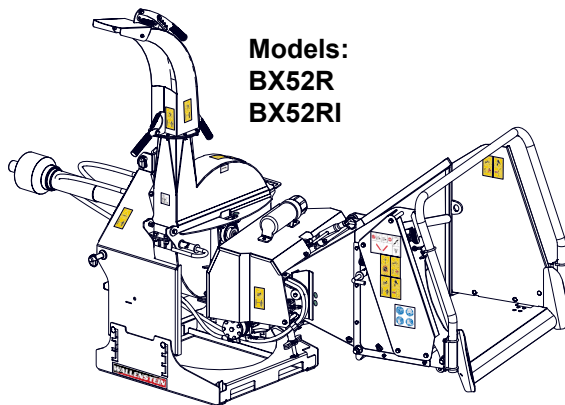
See the section on safety signs for safety label definitions. For a complete illustration of labels and label locations, download the parts manual for your model product at www.embmfg.com.



1 INTRODUCTION

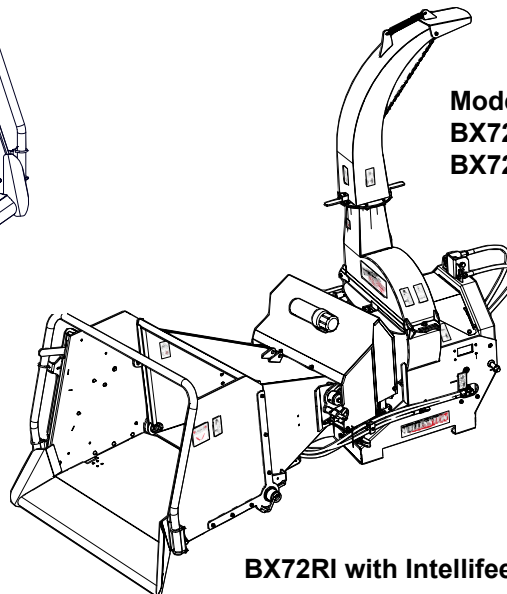
Congratulations on your choice of a Wallenstein 3 Point Hitch Wood Chipper to compliment your operation. This equipment has been designed and manufactured to meet the needs of a discerning timber or landscaping industry.

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



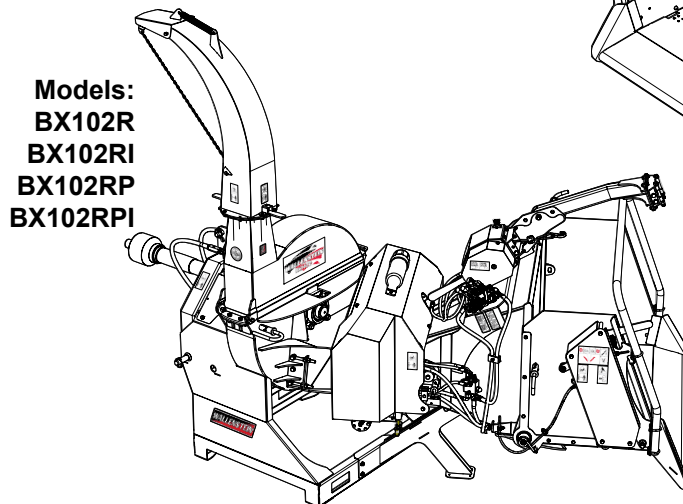
Models:
BX52R
BX52RI

BX52RI with Intellifeed option



Models:
BX72R
BX72RI

BX72RI with Intellifeed option



Models:
BX102R
BX102RI
BX102RP
BX102RPI

BX102RPI shown with full option package:

- Intellifeed
- Hydraulic Winch
- Hydraulic Roller Lift

This manual covers all models and variations of the Wallenstein BXR Series 3 Point Hitch Wood Chipper. Your particular model may vary from the illustrations shown depending on your options package. 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 tractor 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 3 Point Hitch 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 3 Point Hitch Wood Chipper. **YOU** must ensure that you and anyone else who is going to use, maintain or work around the 3 Point Hitch Wood Chipper be familiar with the using and maintenance procedures and related **SAFETY** information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be used while using the 3 Point Hitch Wood Chipper.

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

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** review safety related items annually with all personnel who will operating or maintaining the 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 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 (PPE). This list includes but is not limited to:
 - Hard hat
 - Heavy gloves
 - Hearing protection
 - Protective shoes with slip resistant soles
 - Protective glasses, goggles or face shield
- **DO** prepare before servicing, adjusting, repairing or unplugging:
 - stop the machine, disengage the PTO
 - shut off the power source,
 - remove ignition key and place in your pocket,
 - wait for all moving parts to stop
 - set the rotor lock
 - clear the area of people, especially small children
 - set tow vehicle brake
- **DO NOT** touch hot engine parts, muffler cover, hoses, engine body, coolants, engine oil, etc. during operation and after the engine has been shut off. Contact may cause burns.
- **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** think SAFETY! Work SAFELY!

2.2 EQUIPMENT SAFETY GUIDELINES


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



Z94203

**Use Your Personal
Protection Equipment**

2.3 SAFETY TRAINING

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

2.4 PREPARATION

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

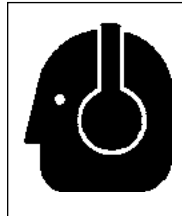
2. Personal protection equipment (PPE) including hard hat, safety glasses, safety shoes, and gloves are recommended



during assembly, installation, operation, adjustment, maintaining, repairing, removal, cleaning, or moving the unit. Do not allow long hair, loose fitting clothing or jewellery to be around equipment.

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

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



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

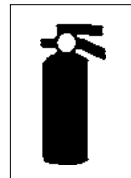
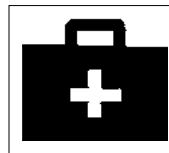
2.5 MAINTENANCE SAFETY

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



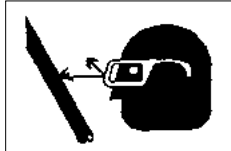
9. Periodically tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure unit is in a **Safe Condition**. (See Section 4.1.1).
10. When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

2.6 OPERATING SAFETY

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

2.7 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 (PPE) 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 TRANSPORT SAFETY

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

2.8 STORAGE SAFETY

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

2.10 SIGN-OFF FORM

Wallenstein follows the general Safety Standards specified by the American Society of Agricultural and Biological Engineers (ASABE) and the Occupational Safety and Health Administration (OSHA). **Anyone who will be using and/or maintaining the 3 Point Hitch Wood Chipper must read and clearly understand ALL Safety, Usage and Maintenance information presented in this manual.**

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

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

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

SIGN-OFF FORM

[illegible]

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: 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: rotating driveline, entanglement danger present. Keep hands, loose clothing, and long hair away from driveline while it is rotating.



Caution: when performing any maintenance on the chipper ensure you stop and disengage the PTO. Potential for serious injury or death if the PTO is not stopped and disengaged.



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: 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: Hydraulic fluid under pressure. Do not check for leaks with your hand or fingers when the system is pressurized. Serious injury will result.

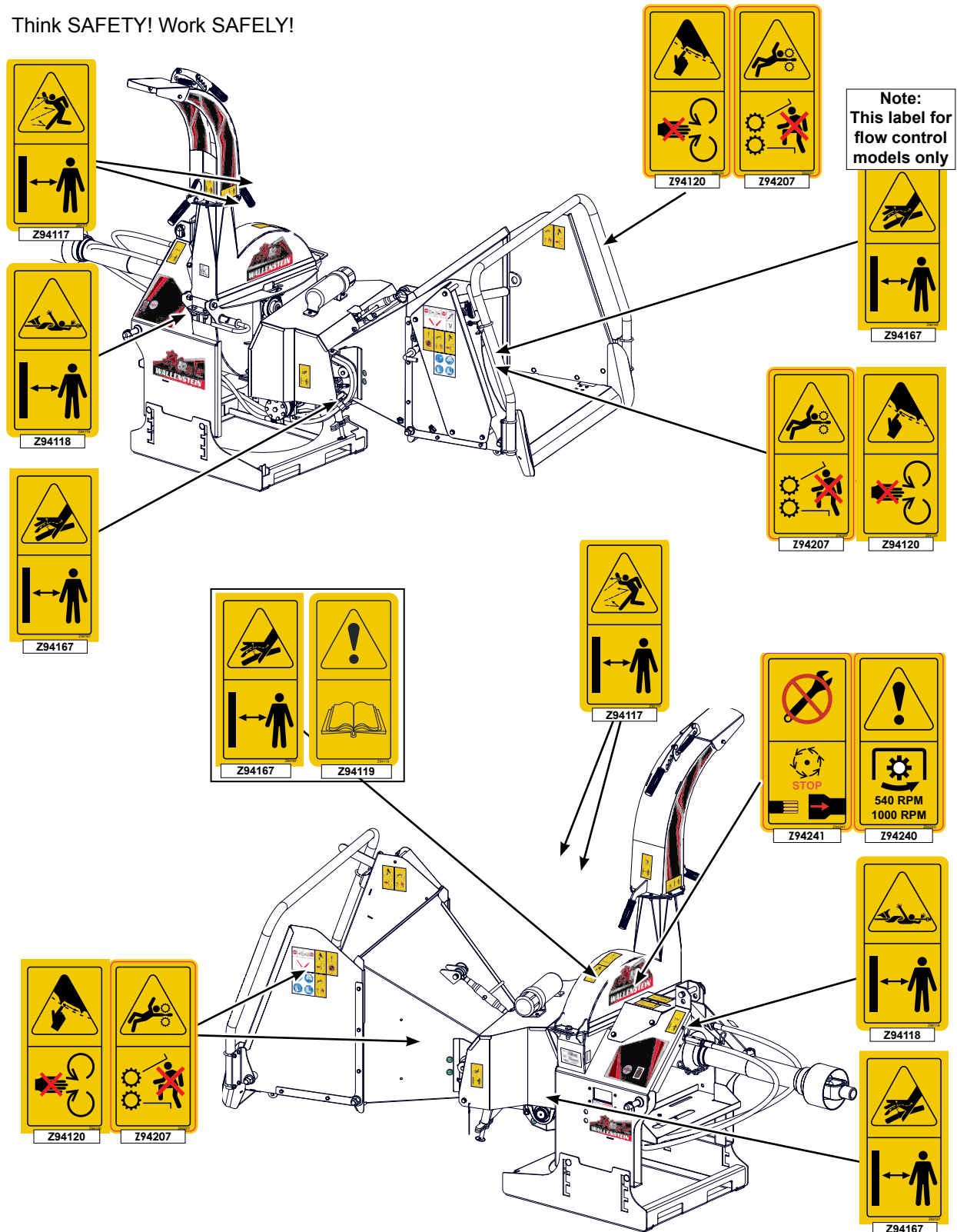


Caution: Ensure the drive line is rotating in the proper direction at the rated RPM

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. The BX52R is illustrated, labels and locations are the similar for the BXR Series.

- 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



OPERATING SAFETY

- Please remember it is important that you read the operator's manual and heed the safety signs on the 3 Point Hitch 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, repairing, or plugging. 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 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.
- Do not exceed a safe travel speed when transporting.
- 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

Wallenstein BX 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 BX 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,**

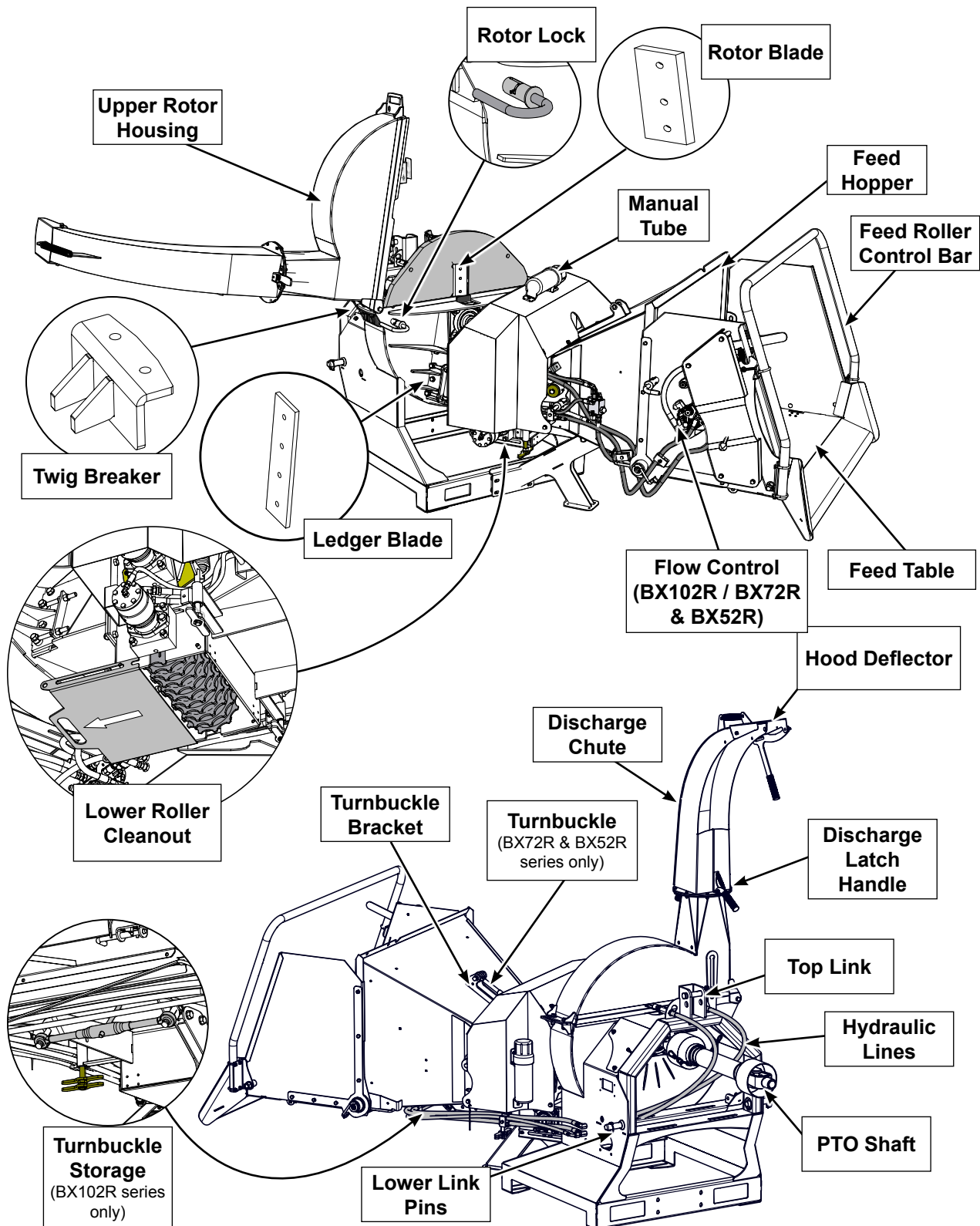
- disengage the PTO
- shut off the engine
- ensure all components have stopped moving.
- remove and pocket the ignition key
- block & chock the tractor wheels
- set rotor lock if required.

4.2 MACHINE COMPONENTS

The Wallenstein BX series wood chipper is designed for chipping wood in a fast and efficient manner.

Major components of the BX base model chippers are illustrated here. Please review this section, many of the component descriptions here are used throughout the manual to explain function and safety. BX102R is illustrated, but is similar to all BXR series chippers. See Optional Equipment Section 5.3, for Intellifeed and winch information.

For a detailed parts breakdown, see your dealer or visit the Wallenstein website to download the **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 Section 4.1.1).
2. Torque all fasteners and hardware.
3. Check condition of rotor bearings.
4. Check the condition and clearance of the twig-breaker, rotor and stationary blades. Adjust or replace as required.
5. Check for entangled material. Remove all entangled material before resuming work.
6. Lubricate all grease fittings.

B. After operating for 10 hours:

1. Repeat steps 1 through 6 listed above.
2. Go to the normal servicing and maintenance schedule as defined in the Maintenance Section.



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**Use Your Personal
Protection Equipment**

4.4 PRE-OPERATION CHECKLIST

Efficient and safe operation of the Wallenstein 3 Point Hitch Wood Chipper requires that each operator reads and understands the using procedures and all related safety precautions outlined in this section. A pre-operation checklist is provided for the operator. It is important for both the personal safety and maintaining good mechanical condition that this checklist is followed.

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

| Pre-Operation Checklist | ✓ |
|--|---|
| Check and lubricate the machine per the schedule outline in the Maintenance Section. | |
| 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 all hydraulic components. Keep all components in good condition. (see "Hydraulic Fitting Torque" specification chart: pg 51) | |
| 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 all fasteners and tighten, and ensure 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 PTO DRIVELINE

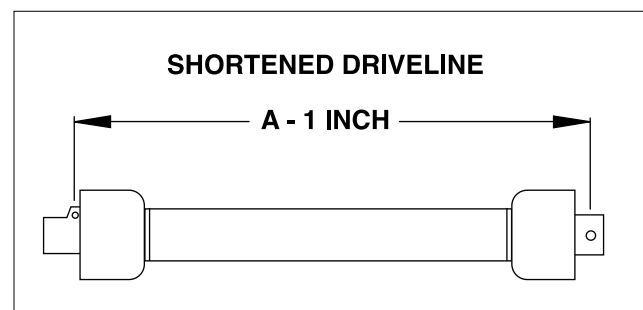
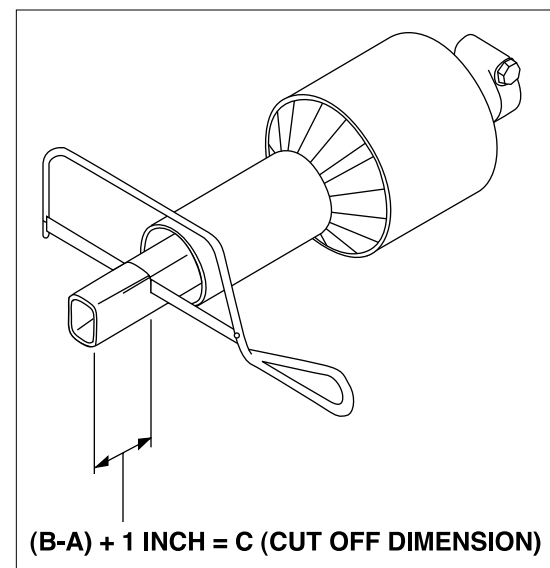
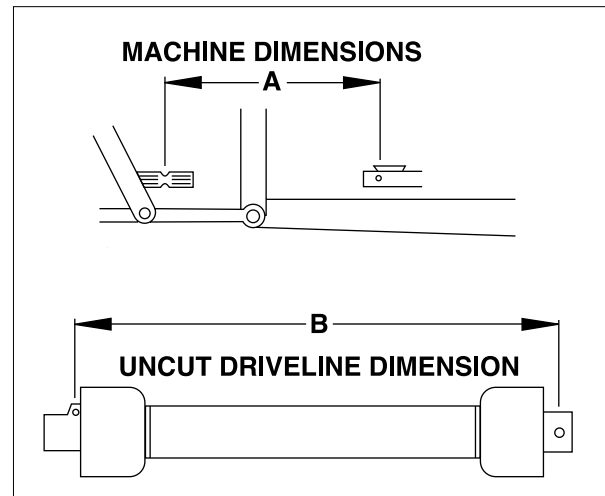
A PTO drive line is supplied with the machine. To accompany the variety of 3 point hitch geometry available today, the drive line can be too long for most machines or too short for others. It is very important that the drive line be free to telescope but not to bottom out when going through its working range. If the drive line bottoms out, the bearings on both the machine and tractor PTO shaft will be overloaded and fail in a short time.

1. To determine the proper length of the drive line, follow this procedure:

- Clear the area of bystanders, especially small children.
- Attach the chipper to the tractor (see section 4.6) but do not attach the drive line.
- Raise the machine until the input shaft is level with the tractor PTO shaft.
- Measure the dimension between the locking grooves on the tractor PTO shaft and the machine input shaft.
- Measure the same dimensions on the compressed drive line.
- If the compressed drive line dimension (B) exceeds the machine dimension (A), the drive line will have to be cut.

2. When cutting the drive line, follow this procedure:

- Subtract the machine dimension (A) from the uncut drive line dimension (B) or $(B-A=C)$.
- Add one inch (25 mm) to dimension (C) to determine the cut off dimension.
- Use a hacksaw to cut dimension (C) from both ends. Cut both the plastic tubes and the metal cores.
- Use a file to remove the burrs from the edges that were cut.
- Assemble the 2 ends of the shaft.
- Make sure the shaft can telescope freely. If it does not, separate the 2 parts and inspect for burrs or cuttings on the shaft ends. Be sure it telescopes freely before installing.
- Raise and lower the chipper. A correctly sized shaft should not bottom out or come apart.



NOTE

Telescoping shaft
Should overlap at
least 6" under load.

4.6 ATTACH TO TRACTOR

This section describes the 3 point hitch, PTO and hydraulic attachments.

The BX102 series is a category II 3 point hitch.

The BX72 series is category I and is quick hitch & imatch compatible.

The BX52 series is both category I & II and is quick hitch & imatch compatible.

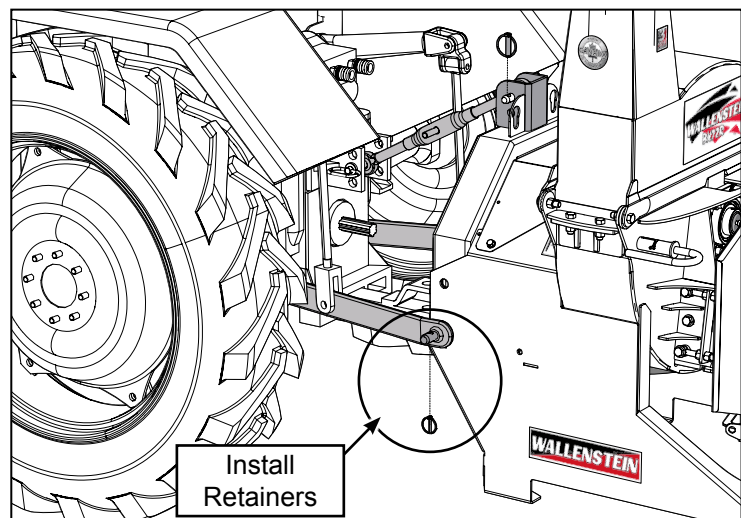
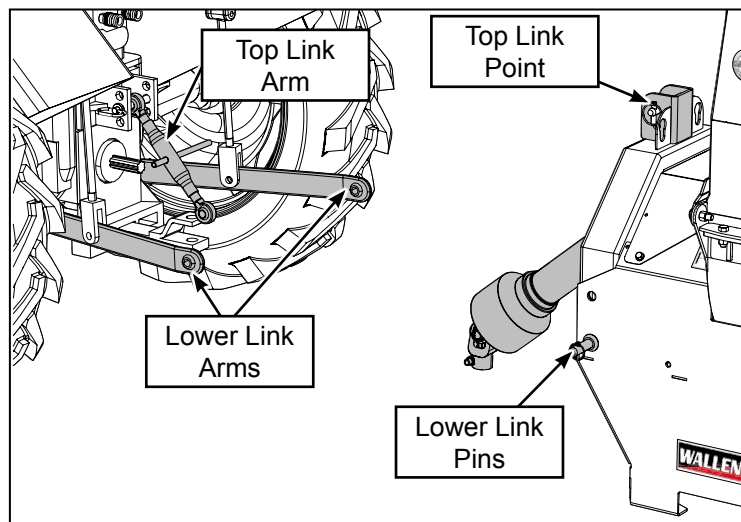
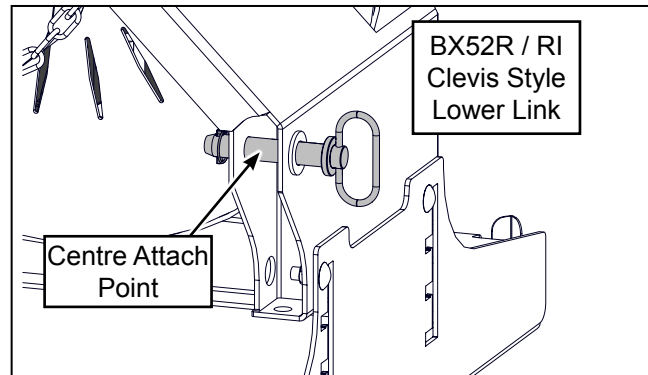
For maximum life and safety, PTO connection should be as level as possible when the chipper is in the is in the down (working) position.

The BX52 series features a lower ski that is adjustable by 6.0". Ski adjustment may be required to help make the PTO connection as level as possible. (See Section 4.8 Machine Setup)

The BX52 features clevis style (3 position) lower link attachment points. To use the centre attachment point, you will need a 7/8 pin (not supplied). Use the existing bolt in implement pin for the inside or outside points

When attaching the chipper to a tractor, follow this procedure:

1. Clear the area of bystanders, especially small children.
2. Make sure there is enough room and clearance to safely back up to the chipper.
3. Place the tractor arms in their full sway position.
4. At the slowest speed possible, back the tractor towards the chipper with the tractor "square" to the chipper.
5. Engage the tractor park/lock brake, dismount the tractor and inspect the link and pin alignment (vertical and horizontal).
6. Raise or lower the lower link arms to align them to the pins on the chipper.
7. Return to tractor, make any necessary adjustments (up/down)
8. Slowly back up the tractor until the lower arm holes are lined up with the link pins.
9. Engage the tractor park/lock brake, dismount the tractor, make any final adjustments, and slide the left and right lower arm holes onto the link pins.
10. Install the retainers on the link pins.
11. Remove the top pin and install the top link.
12. Use the turnbuckle to align the top link. Insert the pins and install the retainers.
13. Return the turnbuckle to its original length and lock.



14. Ensure that the PTO driveline has been cut to size (see section 4.5) Install the PTO drive line:

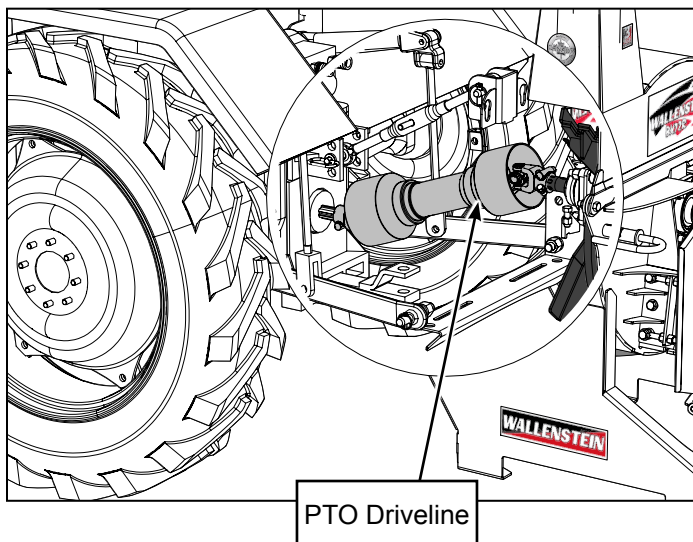
- a. Slide the collar back on the yoke, align the splines and slide the yoke on the tractor.
- b. Release the collar and make sure the locking pin clicks into position.

NOTE

Be sure the telescoping portion of the shaft is greased and free of dirt.

NOTE - BX52 series:

Ski adjustment may be required for best PTO operating angle.
(see Section 4.8 Machine Setup)

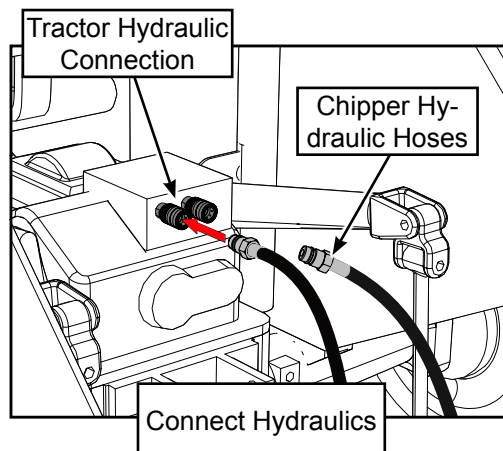


15. Connect the hydraulics:

- a. Use a clean rag or paper towel to clean the dirt from couplers on the hose ends and the tractor.
- b. Connect the hoses to the tractor couplers. Be sure the couplers are securely seated.
- c. Route and secure the hoses along the hitch with clips, tape or plastic ties to prevent binding and pinching. Be sure to provide slack for turning.

NOTE

Always connect to the hydraulic circuit with a detent control.



16. Slowly raise the machine through its working range to make sure the telescoping portion of the PTO shaft doesn't bottom out and that the working angle is not too severe.
17. Level the machine front and rear, and side to side using the jackscrew on the right arm and the turnbuckle on the top link.
18. The chipper should always be level on the ground in its working position.
19. To unhook from the tractor, reverse the above procedure. Always park the machine in a dry, level area. If vandalism is a problem, remove the PTO drive line and store in a secure place.



WARNING

HIGH PRESSURE FLUID HAZARD
To prevent serious injury or death from high-pressure fluid:

- Relieve pressure on system before repairing or adjusting.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

4.7 CONTROLS

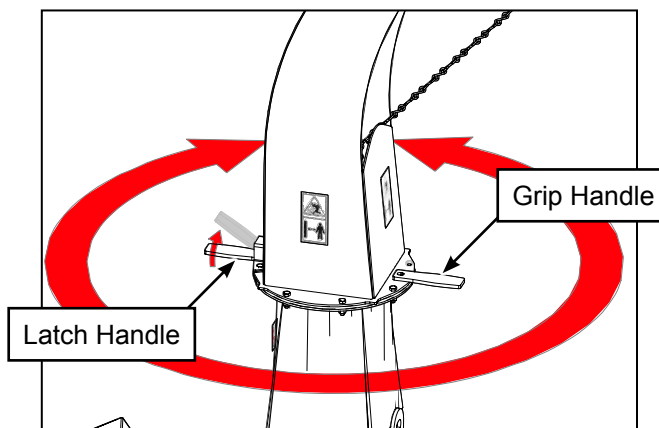
Please review this section to familiarize yourself with the location and function of each control before starting. Familiarizing yourself with the controls will enable you to take advantage of all the features available on the BXR Series and apply them as conditions demand.

4.7.1 DISCHARGE CHUTE:

Models BX102, BX72 Series

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 until 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.

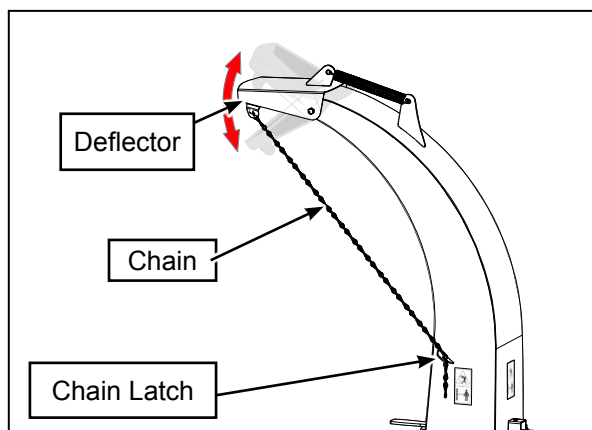


4.7.2 HOOD DEFLECTOR:

Models BX102, BX72 Series

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

1. Unlatch the end of the chain, move the deflector into position as required.
2. Lock the deflector into position engaging the chain in the chain latch

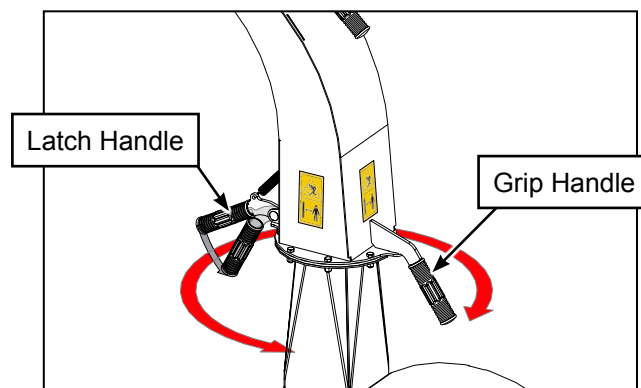


4.7.3 DISCHARGE CHUTE:

Model BX52 Series

The discharge chute is designed with a spring-loaded latch handle that allows the chute to be positioned 270° then locked into position with the latch.

1. Push down on the latch handle until 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.

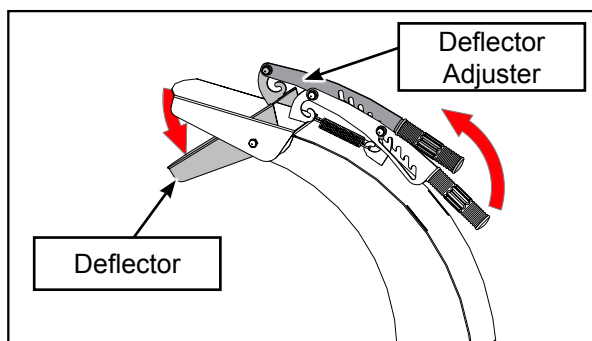


4.7.4 HOOD DEFLECTOR:

Models BX52 Series


The discharge chute is equipped with a spring tensioned hood deflector on the end of the chute to direct the chips exactly where desired.

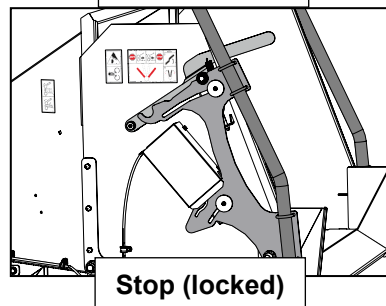
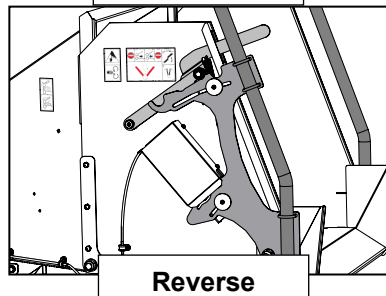
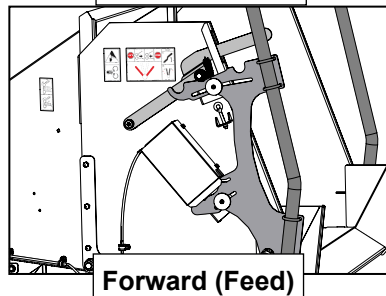
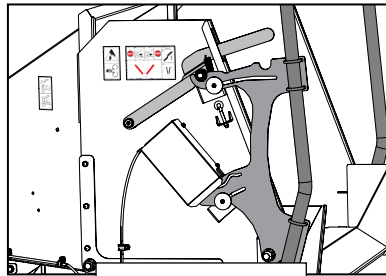
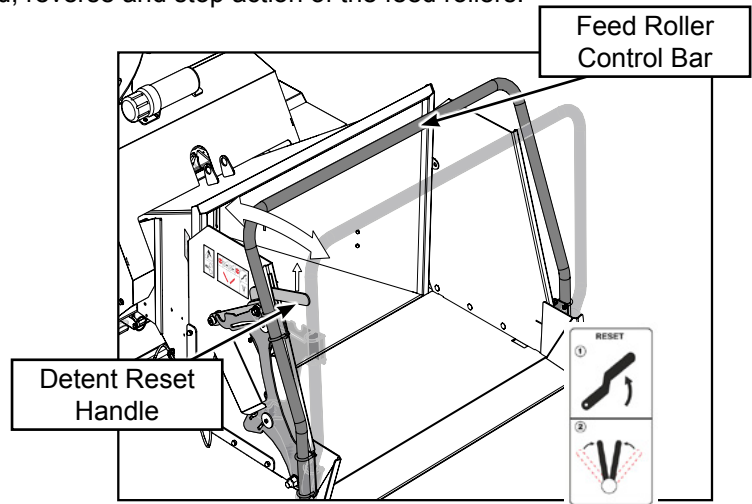
1. Lift and push forward the adjustor grip handle and move the deflector into position as required.
2. Lock the deflector into position by pulling back and down.



4.7.5 ROLLER FEED CONTROL BAR:

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

 **Caution: To quickly stop the feed rollers** in an emergency situation, the bar can be rapidly pulled or pushed to its maximum position and will lock in the stop position until it is released by the detent reset handle.



1. Pulling the bar to its maximum detent position away from the feed table, locks it into a stop position, and feed rollers stop turning.

To unlock the bar from the stop position, the **detent reset handle** must be raised and the bar will be free to move

2. Push the bar to the next detent position and the feed rollers begin to turn forward (feed). The control bar will stay in this position until moved.

3. Push the bar to its next position and the feed rollers will reverse. When the control bar is released it will stay in this position until moved. The control bar can be moved freely between forward and reverse without locking.

4. Pushing the bar to its maximum detent position, towards the feed table, locks it into a stop position, and feed rollers stop turning.

To unlock the bar from the stop position, the **detent reset handle** must be raised and the bar will be free to move to any of the other positions.

4.7.6 FLOW CONTROL FOR FEED ROLLERS:

Models BX102R, BX72R & BX52R

Flow Control Valve:

Use the flow divider valve if the tractor hydraulics exceeds the chipper flow requirements.

The flow divider can also be used to set the speed of the feed hopper. Use the material size and the quality of the job required to establish the appropriate feed speed. Increase the speed when chipping brush or twigs. Decrease the speed when chipping hard, solid material or when the engine load is excessive.

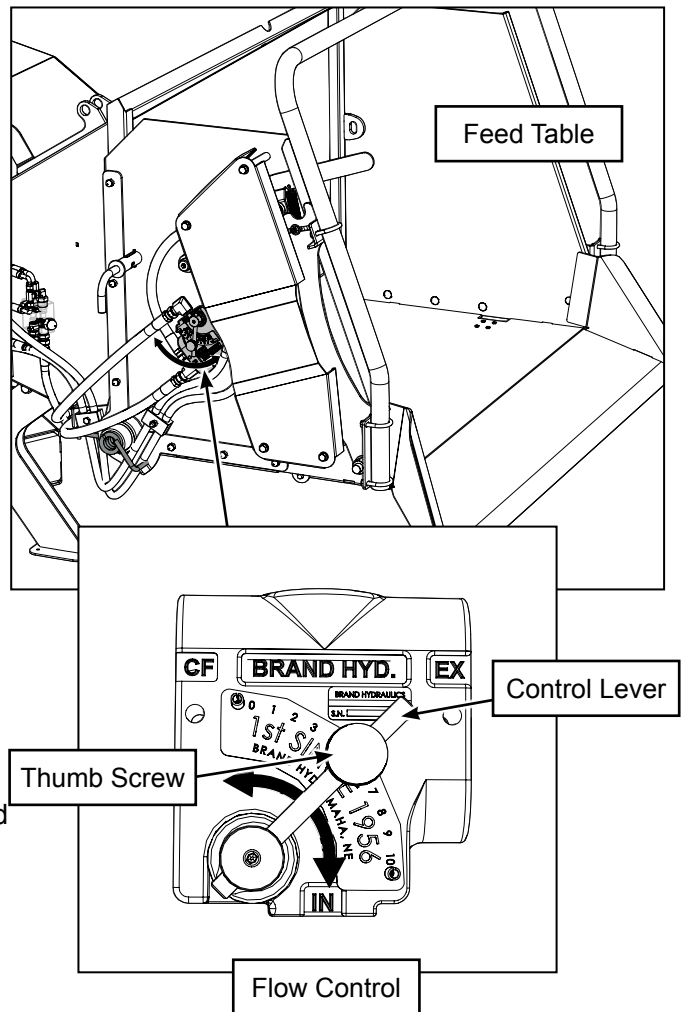
The hydraulic feed circuit is equipped with a manually-set flow control. The operator can adjust the feeding speed appropriate for the operating conditions.

A scale on the face of the valve is numbered from 0 to 10 (0 to 100%).

To adjust the feed:

1. Loosen the thumb screw
2. Move the control lever to the desired position.
3. Tighten the thumb screw

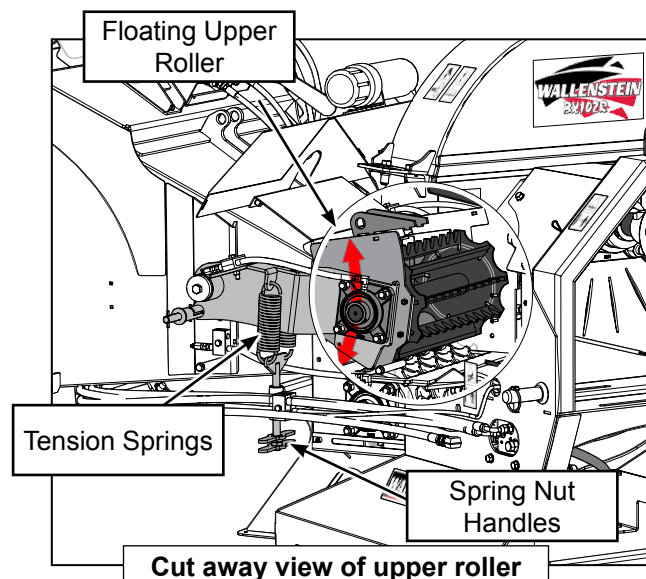
Note: Adjust in small increments as a small change can result in a large change to feeding speed.



4.7.7 "EASY START" SYSTEM:

The upper roller "floats" to accommodate different sizes of material. Adjustable spring tension keeps pressure on the material, while the "Easy Start" feature allows larger end cut material to be fed in. "Easy Start" means that there is 1/2" -1" play at the springs allowing the roller wheel to easily climb up on large material before spring tension activates. Two nut handles on each side of the feed roller control the spring tension adjustment:

1. Turn the bottom nut handle counter clockwise to unjam the nut handles.
2. Turn the top nut handle
 - clockwise to increase tension or
 - counter clockwise to decrease tension
 - adjust each side of feed rollers evenly
3. Jam the nut handles to lock them in place.



4.8 MACHINE SET-UP

Follow this procedure to prepare and set-up the machine at the work site: the chipper is attached to the tractor 3 point hitch, PTO driveline is installed and hydraulics are connected.

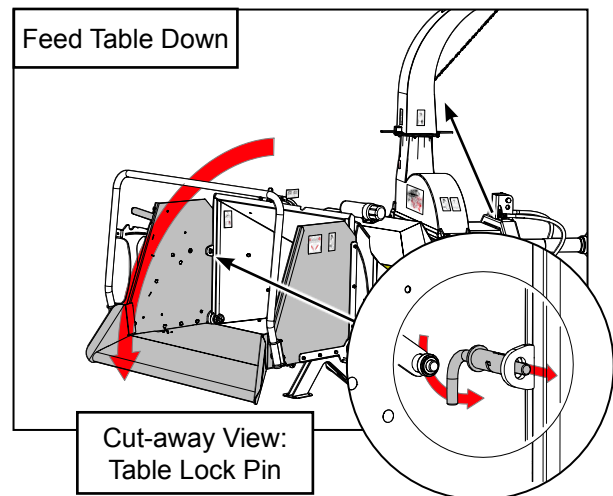
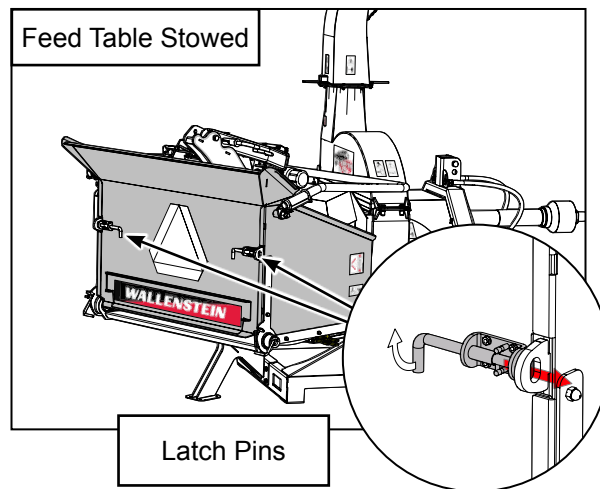
1. Position the tractor / wood chipper at the work site.
2. Set the tractor brake and block / chock the wheels.
3. Lower the chipper, ensure that the machine is resting on the ground and is level and stable.
4. Release the two spring loaded latch pins from the feed table pin tabs, and carefully lower the feed table.
5. With the feed table in position, engage the spring loaded table lock pin to secure the table.
6. Turn the discharge chute to the desired position and adjust the deflector as required.

IMPORTANT

The chipper must be resting on the ground during operation, using the chipper while raised up off the ground is dangerous and will result in damage to the machine.

IMPORTANT

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



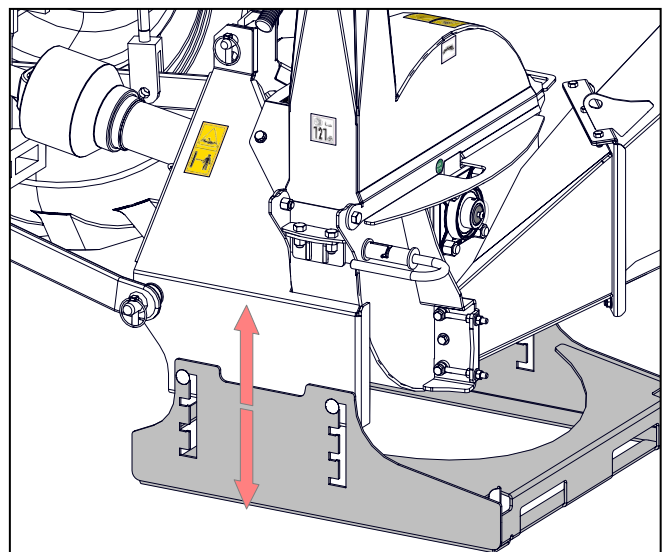
4.8.1 ADJUSTABLE SKI HEIGHT (BX52R/RI)

The ski can be adjusted up to 6.0" if required to help align the PTO when attaching your chipper to the tractor. The PTO should be as level as possible when the chipper is in the lowered (working) position.

1. Raise the chipper.
2. Loosen the 4 nuts and bolts.
3. Lower the ski to the best position for the PTO connection.
4. Tighten the nuts and bolts according to the Torque Chart.

IMPORTANT

Do not use the ski to adjust for user height, damage to the PTO may occur if the angle becomes too severe.



4.9 FIELD OPERATION



OPERATING SAFETY

- Please remember it is important that you read the operator's manual and heed the safety signs on the 3 Point Hitch 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 machine 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 from the tractor when it is unattended.

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

Although the BX 3 Point Hitch 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:

4.9.1 PREPARE

- Clear the area of bystanders, especially small children.
- Each operator must be trained and familiar with the set up and operation of the Wood Chipper and its components.
- Review the machine components (see Section 4.2)
- Review and follow the Pre-Operation Checklist (see Section 4.4).
- Review operation and function of the controls (see section 4.7)
- 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 4.8).
- Each person must wear appropriate **Personal Protective Equipment (PPE)** whenever operating the Wood Processor or working in the vicinity. This equipment is designed to prevent injury to any personnel in the area. This list includes but is not limited to:
 - Safety shoes with slip resistant soles.
 - Safety goggles or face shield.
 - Hearing protection.
 - Heavy or leather gloves

4.10 STARTING PROCEDURE

These procedures can be applied to all versions of the BX chipper.

After following operating safety and preparation procedure the chipper should be set up and ready to run (4.8). Tractor or Power Pack engine manual should also be reviewed.

4.10.1 TRACTOR

- a. Ensure the all the chipper access covers are secured
- b. Inspect hydraulic connectors for positive connection.
- c. Start tractor.
- d. Run the engine for a few minutes to allow it to warm.
- e. Engage the PTO, then increase engine speed to approximately half throttle.
- f. Ensure machine is stable, with no unusual vibration and proceed with work.

4.10.2 POWER PACK

BXR Series Accessories

The Power Pack for the BX Series is powered by the PTO of your tractor, and should be installed before attaching the tractor to the chipper.

- a. Follow the power pack installation instructions to install the power pack.
- b. Check hydraulic level in the reservoir, top up if required.
- c. Make hydraulic connections, and engage the PTO, run the roller system, check for leaks.

4.10.3 STOPPING:

- a. Stop feeding material into the hopper.
- b. Place the feed control bar in neutral position.
- c. Slow engine RPM.
- d. Place tractor hydraulic lever in its OFF position.
- e. Disengage PTO.
- f. Stop engine, remove ignition key and place in your pocket and wait for all moving parts to stop.

4.10.4 EMERGENCY STOPPING:

If an emergency occurs:

- **activate the emergency PTO shutoff on the tractor (if available) or**
- **disengage the PTO**
- **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 PTO has been disengaged. Wait for all parts to stop moving before attempting to access the machine in any way.

4.10.5 CHIPPING OPERATION

The BX Wood Chipper is a strong, rugged machine that is built to a straight-forward design which provides consistent chipping of logs.

Capacity:

10" (25cm) in diameter for the BX102 series.

7" (17cm) in diameter for the BX72 series.

5" (13cm) in diameter for the BX52 series.

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.

If opening up any guards for inspection, always put the machine in **Safe Condition**:

- disengage the PTO
- shut off the engine
- ensure all components have stopped moving
- remove and pocket the ignition key
- block & chock the wheels
- set rotor lock if required.

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

- Delimb 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.
- 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.
- Hold small diameter branches / limbs together in a bundle and feed in simultaneously.
- Place short branches on top of longer ones, to avoid reaching into the hopper.
- Before beginning to feed, ensure the motor is warmed up and the rotor is up to speed.
- Move the feed control bar into the feed position to start the feed rollers turning
- Stand to the side of the feed table, slowly slide material into the feed table and move it into the feed rollers.

- Do not force the material into the rollers, as the material engages the roller, the roller will draw the material in.
- Ensure your wood chip pile is contained and doesn't affect the immediate work area.

4.10.6 OPERATING HINTS:

- Delimb branches that are greater than 1" (2.5cm) before you feed them into the hopper. This will prevent the tree from jamming in the feed hopper and prevent feeding.
- When feeding large bushy branched material, have some one positioned at the roller control bar to keep branches from hitting the roller control bar and deactivating the rollers.
- Line up the chipper to the material to feed straight in to the feed table, loading will be easier and limit the amount of material handling time.
- Keep the working area clean and free of debris to prevent slipping or tripping. Operate only on level ground.



Caution: Do not reach or step 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.



4.11 UNPLUGGING PROCEDURE

These procedures can be applied to all versions of the BX chipper.

4.11.1 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:

1. Ensure the machine is in **Safe Condition** before beginning to unplug.

"Safe Condition" procedure:

- disengage the PTO
- shut off the engine
- ensure all components have stopped moving
- remove and pocket the ignition key
- block & chock the wheels
- **set rotor lock if required**

2. Clear the area of bystanders, especially small children.
3. Reverse the feed rollers to remove the material from the feed hopper. 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.
4. Pull any remaining material out of the feed hopper and discharge hood.
5. 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.
6. Check that everyone is clear of machine before restarting engine.
7. Start the engine and resume working.

4.11.2 SEVERE PLUG:

1. Ensure the machine is in **Safe Condition** before beginning to unplug (See 4.11.1).
2. Clear the area of bystanders, especially small children.
3. Open the upper rotor housing, and engage the rotor lock.
4. Remove jammed material from inside the rotor compartment.



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

5. Clean out the discharge chute.
6. Inspect the lower rotor housing and clean out any debris.
7. If required, rotate the rotor, disengage the rotor lock and **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 or unlocked.**
8. Engage the rotor lock.
9. Open the lower roller clean out tray located under the feed rollers and carefully remove any debris. Close and secure the tray.
10. Disengage the rotor lock, close the upper rotor housing. Tighten fasteners to their specified torque.
11. Check that everyone is clear of machine before restarting engine.
12. Start the engine and resume working.

4.11.3 SEVERE JAM:

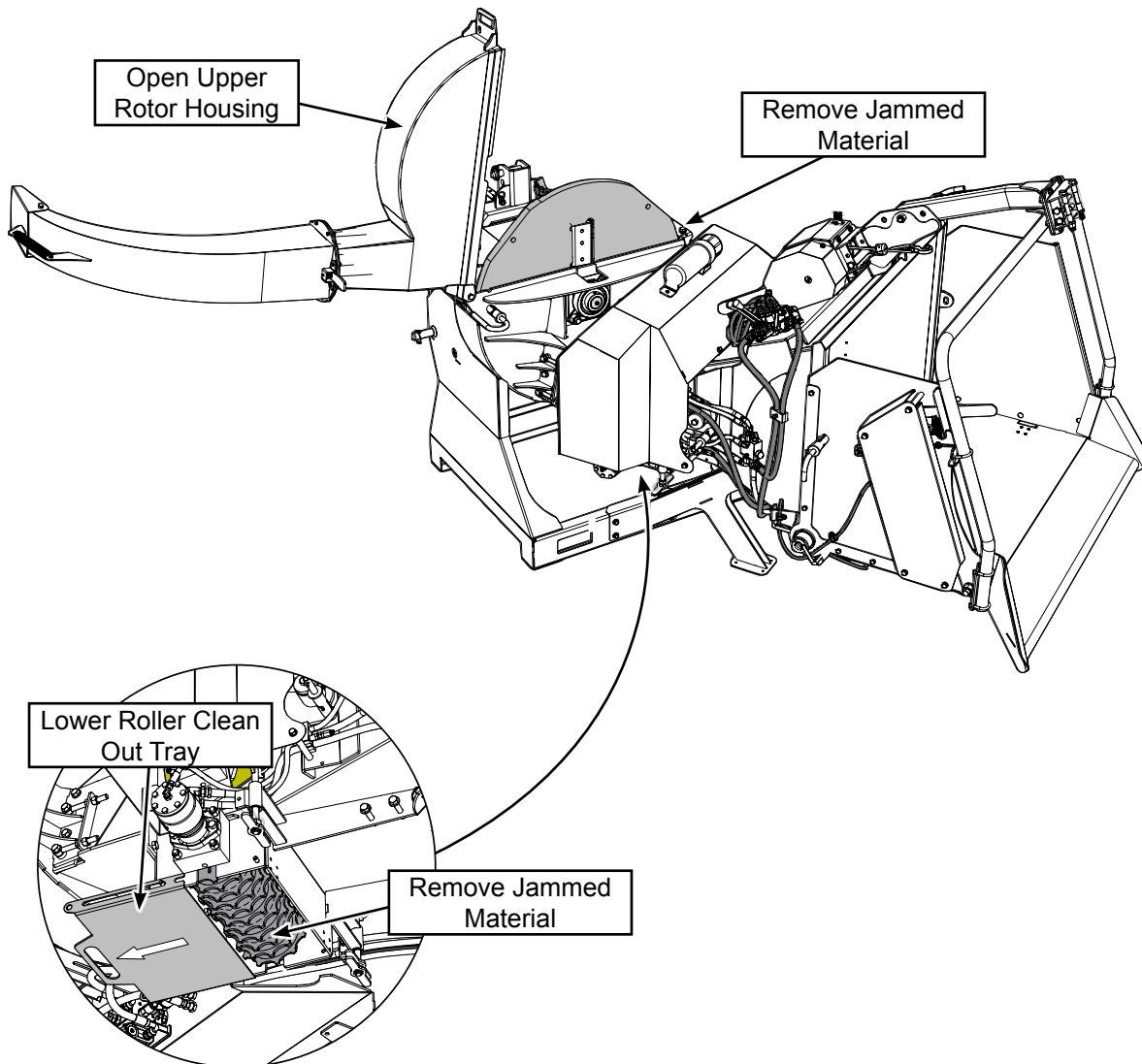
In some cases, material may become jammed between the rollers and the rotor enough to prevent the rotor from turning. The top roller will have to be lifted to relieve pressure and clear the jam.

1. Ensure the machine is in **Safe Condition** before beginning to unjam (see 4.1.1)
2. Follow the procedure under section **8.2.10 Roller Maintenance**, to lift the roller.
3. Clear out the jammed material
4. Free the rotor and clean out any remaining material.



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.



5 BX OPTIONAL EQUIPMENT

This section applies to BX chippers that have been ordered with factory installed options:

BX52RI - Intellifeed Control System

BX72RI - Intellifeed Control System

BX102RI - Intellifeed Control System

BX102RP - Hydraulic Winch & Hydraulic Feed Roller Lift

BX102RPI - Hydraulic Winch, Hydraulic Feed Roller Lift & Intellifeed Feed Control System

The **IntelliFeed Controller** is used to manage and oversee the efficiency of the BX chippers, and is particularly effective for lower HP tractors. Intellifeed controls the roller feed speed based on the rotor RPM, making best use of the available power to prevent stall-out.

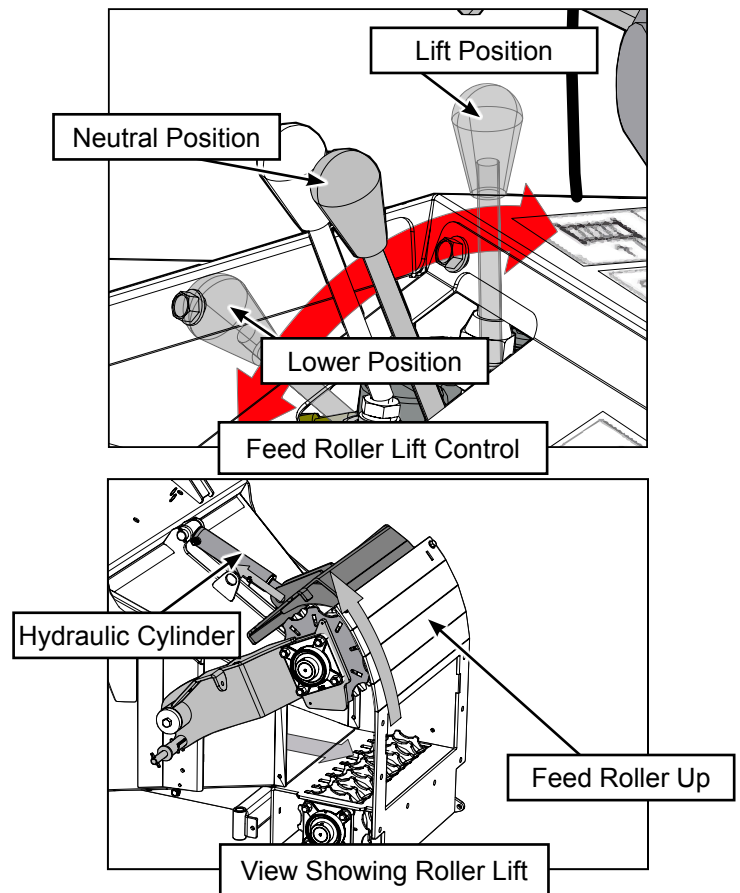
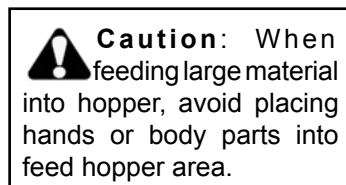
The **Hydraulic Winch** is used to pull in material that is too large to carry, and to assist in lifting heavy material onto the feed tray.

The **Hydraulic Feed Roller Lift** uses an hydraulic cylinder to lift or lower and apply pressure on the top feed roller. The lift feature can be useful when feeding large end cut material that the roller has difficulty climbing over: Lift the roller, start the material then release the roller to begin feeding. The lower feature is useful to apply crushing force when feeding extremely curved, gnarly or bushy material which the feed roller may have difficulty gripping.

5.1 HYDRAULIC FEED ROLLER LIFT

The feed roller lift features a 3-position control valve, spring-loaded-to-center neutral with lift position detent. The lift position detent holds the roller in the lift position while you feed in large material.

1. Pull the hydraulic control lever back and hold to lower and apply downward crushing force to the top roller.
2. Release the lever and it will return to its neutral position and stop applying pressure to the roller.
3. Push the lever forward to raise the roller, push it all the way into detent to keep the roller raised while you feed large material into the feed hopper.
4. Pull the lever out of detent, the lever will return to neutral, and stop applying upward force to the roller.

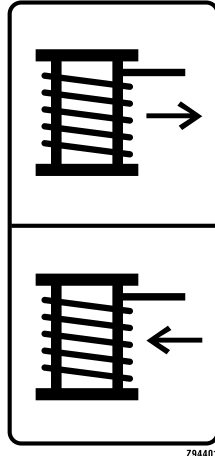


5.2 HYDRAULIC WINCH

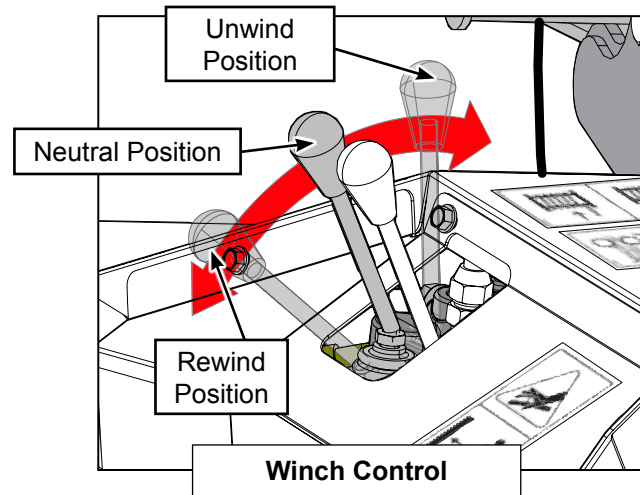
5.2.1 HYDRAULIC WINCH CONTROL

This 3-position "spring-loaded-to-center neutral" valve controls the flow of oil to the hydraulic motor powering the rope winch.

1. Pull the hydraulic control lever back and hold to start the winch and rewind the rope.
2. Release the lever and it will return to neutral and stop rewinding the rope.
3. Push the lever forward to allow the rope to unwind under power.
4. Release the lever and it will return to neutral and stop unwinding the rope.



Z94401

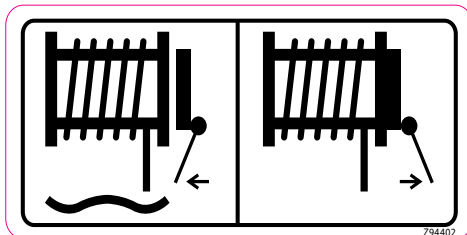


Caution: Always ensure the area is clear of bystanders when operating the winch, and never use the winch to hold or secure loads.

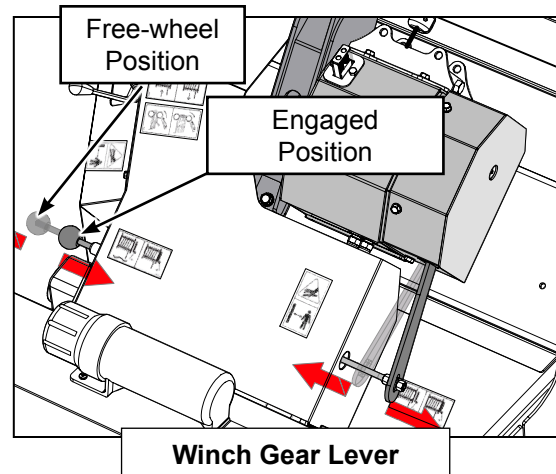
5.2.2 WINCH GEAR LEVER:

This two-position lever controls the gears on the winch drive system.

1. Pull the lever back to engage the winch gear to the hydraulic motor.
2. Push it forward to disengage the winch gear from the hydraulic motor, allowing the gear free-wheel. The rope can then be easily pulled out to attach to a log.



Z94402



Caution: Stay clear of the winch rope while winching, injury from entanglement or rope burn could occur!

5.3 INTELLIFEED

Models BX102RI, BX102RPI, BX72RI, BX52RI

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.

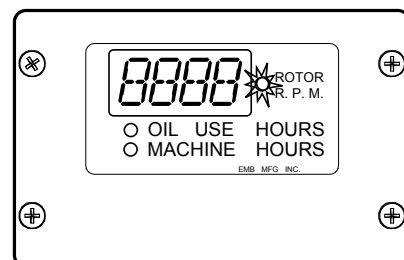
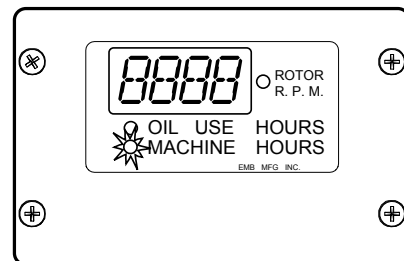
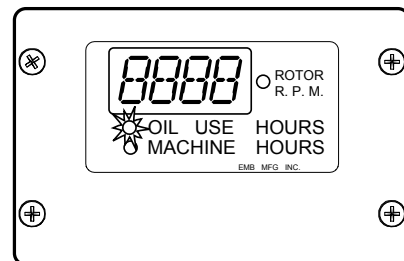
The combination of these two features keep your BX chipper running at maximum efficiency.

Note: IntelliFeed requires 12 VDC source @ 2 amp. For consistent and faultless operation connection must be to a charging battery (14.5V). **Note that the "RED" lead is the "HOT" connection, black is ground.**

5.3.1 OPERATION

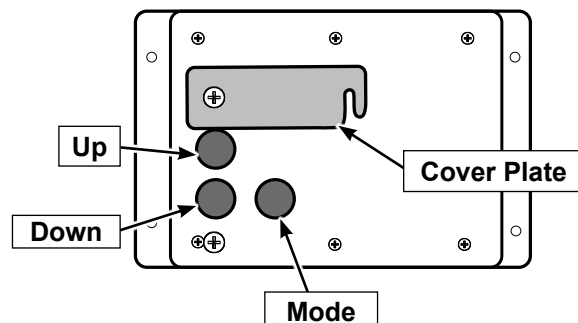
1. The front of the controller displays:

- **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 will:
 - ♦ the machine hours indicator lights up
 - ♦ the display shows total machine run time.
 - ♦ the meter is active only when the engine is running **and is not resetable.**
- **Rotor RPM:** when the rotor begins to rotate:
 - ♦ 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:

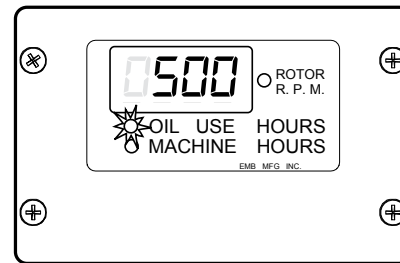
- Mode button: pages through the 5 readout displays
- Up Button - programming: increases value
- Down Button - programming: decreases value



5.3.2 PROGRAMMING:

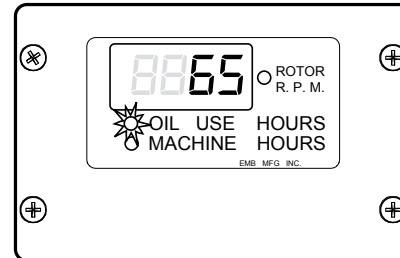
1. Programming Upper RPM Limit (Ceiling):

- 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 :
 - 500 RPM for 540 RPM operating speed
 - 950 RPM for 1000 RPM operating speed



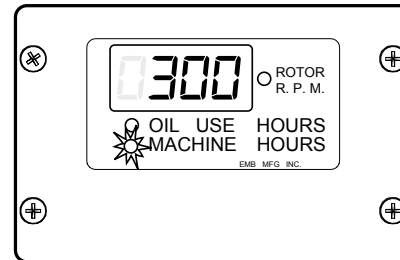
2. Programming Upper Flow Percentage:

- 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 65%)



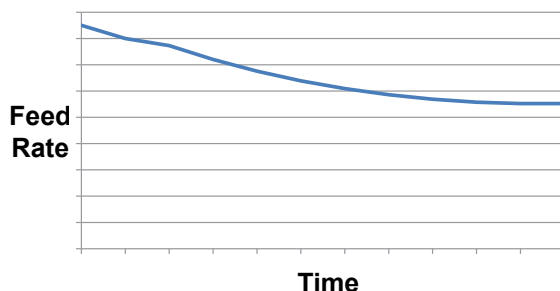
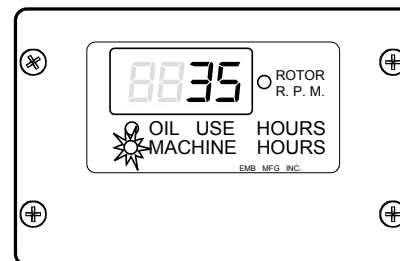
3. Programming Lower RPM Limit (Floor) :

- 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:
 - 300 RPM for 540 RPM operating speed
 - 650 RPM for 1000 RPM operating speed



4. 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%)



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

- Programming Hints:** The factory settings provide good overall performance for the BX chippers, 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.

6 TRANSPORTING



TRANSPORT SAFETY

- Do not exceed a safe travel speed.
- Always follow and obey applicable highway rules and regulations.
- Be sure all lights, markers and SMV sign required by the traffic regulations are in place, clean and working.
- Check 3 point hitch connections and ensure they are safely pinned with retainers.
- Never allow riders on the machine.
- Do not drink and drive.
- Avoid rough terrain. Slow down when encountering rough conditions or cornering.
- Stow and secure feed table before moving or transporting.

6.1 PREPARE FOR TRANSPORT:

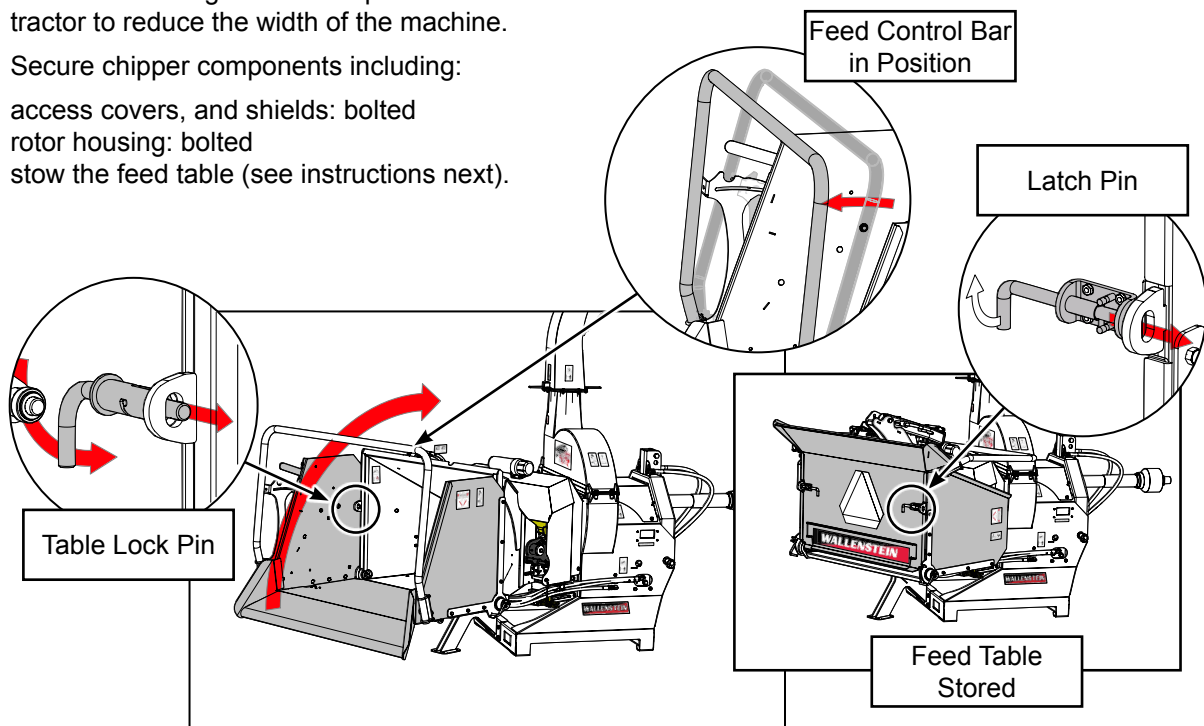
When transporting the machine, review and follow these instructions:

1. Clear the area of bystanders, especially small children.
2. Insure that the machine is securely attached to the tractor with a mechanical retainer through the 3 point hitch mechanism.
3. Check that the SMV sign is in place, and all the lights and reflectors required by the highway authorities are in place, clean and working.
4. Check that the tractor is in safe working order.
5. Plan your route, choose the most direct and safest path.
6. Turn the discharge hood and point toward the tractor to reduce the width of the machine.
7. Secure chipper components including:
 - access covers, and shields: bolted
 - rotor housing: bolted
 - stow the feed table (see instructions next).

6.2 STOW THE FEED TABLE:

The feed table folds up when not in use for transportation and storage.

1. Move the roller feed control bar to its forward "stop" position, so that it will clear the cowling when the feed table is folded up.
2. Release the table lock pin.
3. Carefully grasp the front edge of the feed table and fold it up to its vertical position.
4. Secure the feed table by engaging the 2 spring loaded latch pins into the pin tabs.



7 STORAGE



STORAGE SAFETY

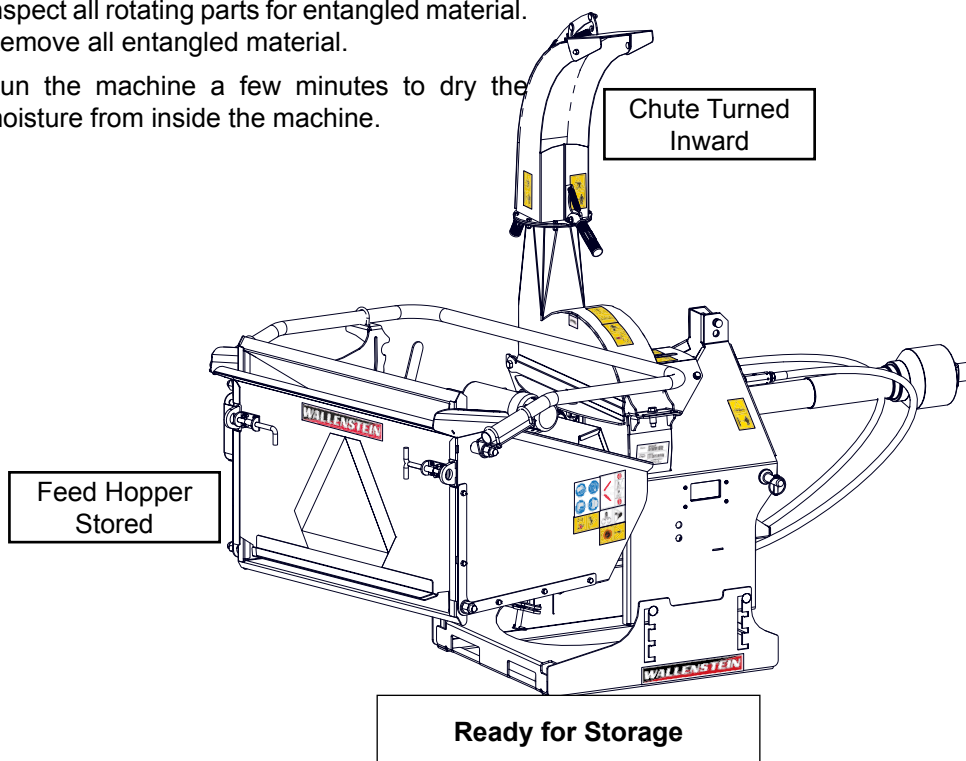
- Store the unit in an area away from human activity.
- Do not permit children to play on or around the stored machine.
- Store the unit in a dry, level area. Support the frame with planks if required.

7.1 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 3 Point Hitch 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. Power Pack Accessory: review the engine owners manual concerning storage and prepare the engine for storage.
2. Remove all material from the machine.
3. Thoroughly wash the machine with a pressure washer or water hose to remove all dirt, mud or debris.
4. Inspect all rotating parts for entangled material. Remove all entangled material.
5. Run the machine a few minutes to dry the moisture from inside the machine.



6. Move the roller feed control bar to its forward "stop" position, so that it will clear the cowling when the feed table is folded up.
7. Carefully grasp the front edge of the feed table and fold it up to its vertical position.
8. Secure the feed table by engaging the 2 spring loaded latch pins into the pin tabs.
9. Touch up all paint nicks and scratches to prevent rusting.
10. It is best to store the machine inside. If that is not possible, cover with a waterproof tarpaulin and tie down securely.
11. Store in an area away from human activity.
12. Do not allow children to play around the stored unit.

7.2 REMOVING FROM STORAGE

When removing this machine from storage, follow this procedure:

1. Remove the tarpaulin if covered.
2. Review and follow the pre-operation checklist. (See Section 4.4).

8 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.
- Put the machine in **Safe Condition**:
 - disengage the PTO.
 - shut off the engine.
 - ensure all components have stopped moving.
 - remove and pocket the ignition key
 - block & chock the wheels.
 - set rotor lock if required.
- Never work under equipment unless it is blocked securely.
- Always use personal protection devices such as eye, hand and hearing protectors, when performing any service or maintenance work. Use heavy gloves when handling sharp components.
- Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer will not be responsible for injuries or damages caused by use of unapproved parts and/or accessories.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
- Periodically tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure unit is in a **Safe Condition**.
- When completing a maintenance or service function, make sure all safety shields and devices are installed before placing unit in service.

8.1 SERVICE

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

8.1.1 FLUIDS AND LUBRICANTS

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

8.1.2 GREASING

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.

8.1.3 SERVICING INTERVALS

See service record and service illustration for service interval information. The period recommended is based on normal operating conditions. Severe or unusual conditions may require more frequent lubrication or oil changes.

IMPORTANT Do Not over grease.

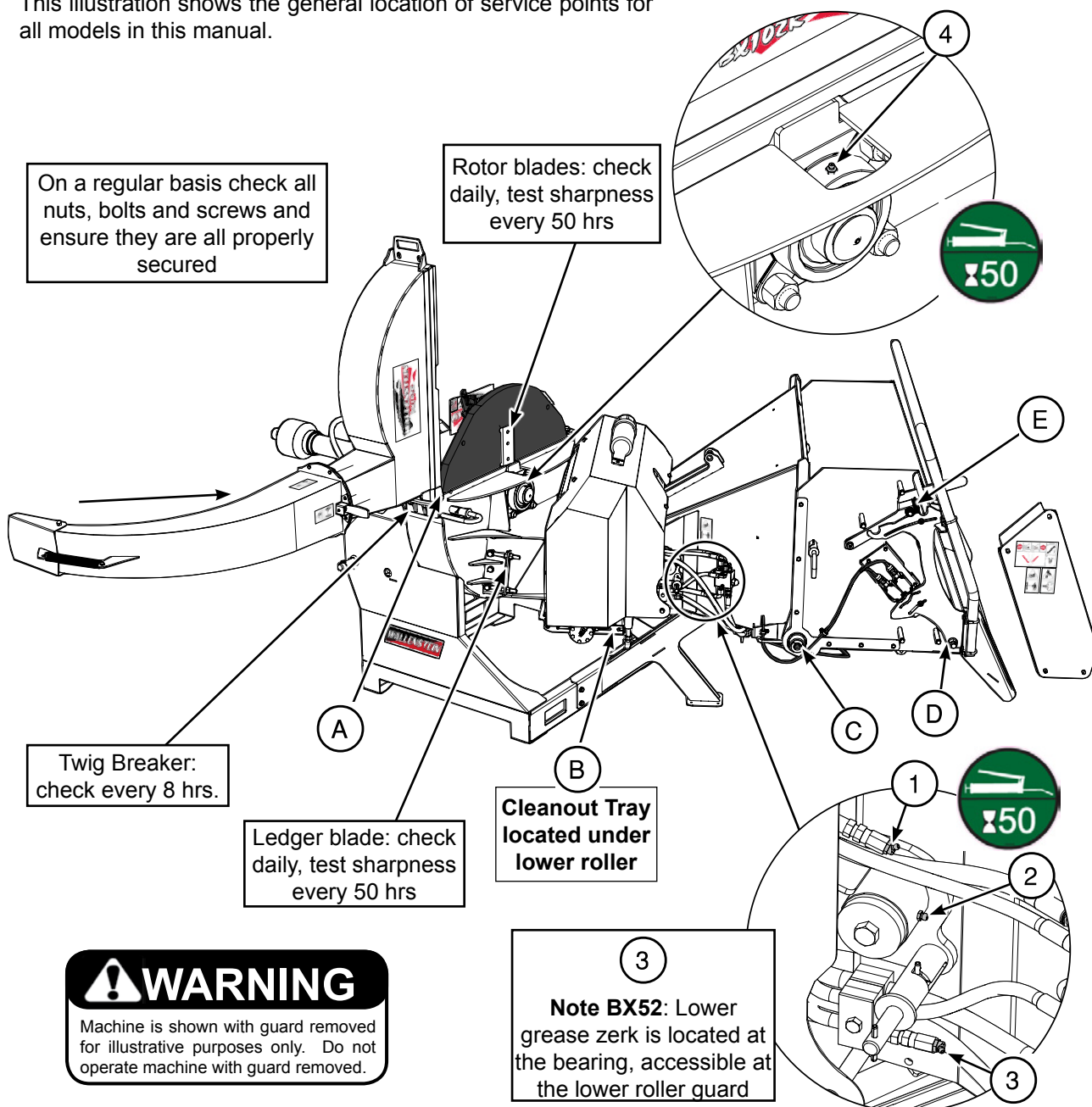


Look for this label on your machine, it indicates a grease point and the number of hours between greasing.

8.1.4 SERVICE ILLUSTRATION

See Service Record Chart (Section 8.1.6)

This illustration shows the general location of service points for all models in this manual.



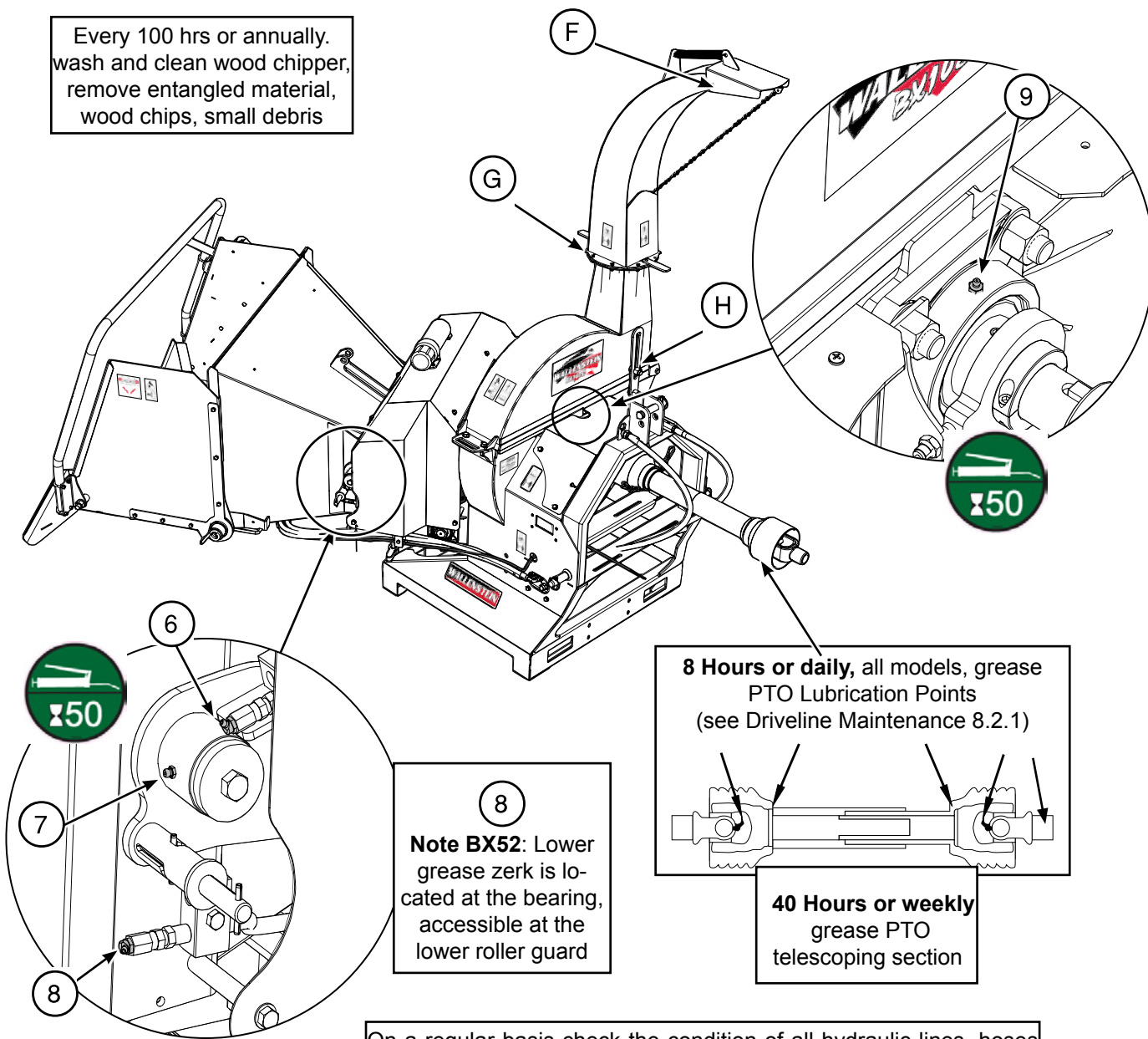
! WARNING
Machine is shown with guard removed for illustrative purposes only. Do not operate machine with guard removed.

| Location | Lubricate Hinges & Pivot Points | Location | Grease Points - 50 hrs or Annually |
|----------|---------------------------------|--------------------------------|--------------------------------------|
| (A) | Rotor Cover hinge (2 sides) | (1) | Upper Left Roller Bearing |
| (B) | Roller Clean Out Tray | (2) | Lower Left Roller Bearing |
| (C) | Feed Table Hinge (2 sides) | (3) | Left Roller Pivot Bushing |
| (D) | Feeder Control Bar (2 sides) | (4) | Rotor Main Shaft Front Roller Flange |
| (E) | Control Bar Roller Hinge | Grease with one shot of grease | |

8.1.5 SERVICE ILLUSTRATION

| Location | Lubricate Hinges & Pivot Points | Location | Grease Points - 50 hrs or Annually |
|--------------------------------|---------------------------------|----------|-------------------------------------|
| (F) | Hood Deflector | (6) | Upper Right Roller Bearing Housing |
| (G) | Discharge Chute Swivel | (7) | Right Roller Pivot Bushing |
| (H) | Rotor Cover Swing Bracket | (8) | Lower Right Roller Bearing Housing |
| | | (9) | Rotor Main Shaft Rear Roller Flange |
| Grease with one shot of grease | | | |

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



8.1.6 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 | | | |
|--|-------|-------|----------------------|-------|--------|-------|
| | Check | Check | Check | Check | Adjust | Clean |
| Twig Breaker, Rotor Blades, Ledger Blade | | | | | | |
| Secure fasteners | | | | | | |
| Lubricate Hinges & Pivot Points | | | | | | |
| Grease Points (see illustration) | | | | | | |
| Rotor & Ledger Blades | | | | | | |
| Clean Machine | | | | | | |

8.2 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,

- disengage the PTO
- shut off the engine
- ensure all components have stopped moving.
- remove and pocket the ignition key
- block & chock the wheels
- set rotor lock if required.

8.2.1 DRIVELINE MAINTENANCE

The PTO drive line is designed to telescope to allow for dimensional changes as the machine goes through its operational range.

A heavy duty plastic tubular guard encloses the driving components and is designed to turn relative to the driving components.

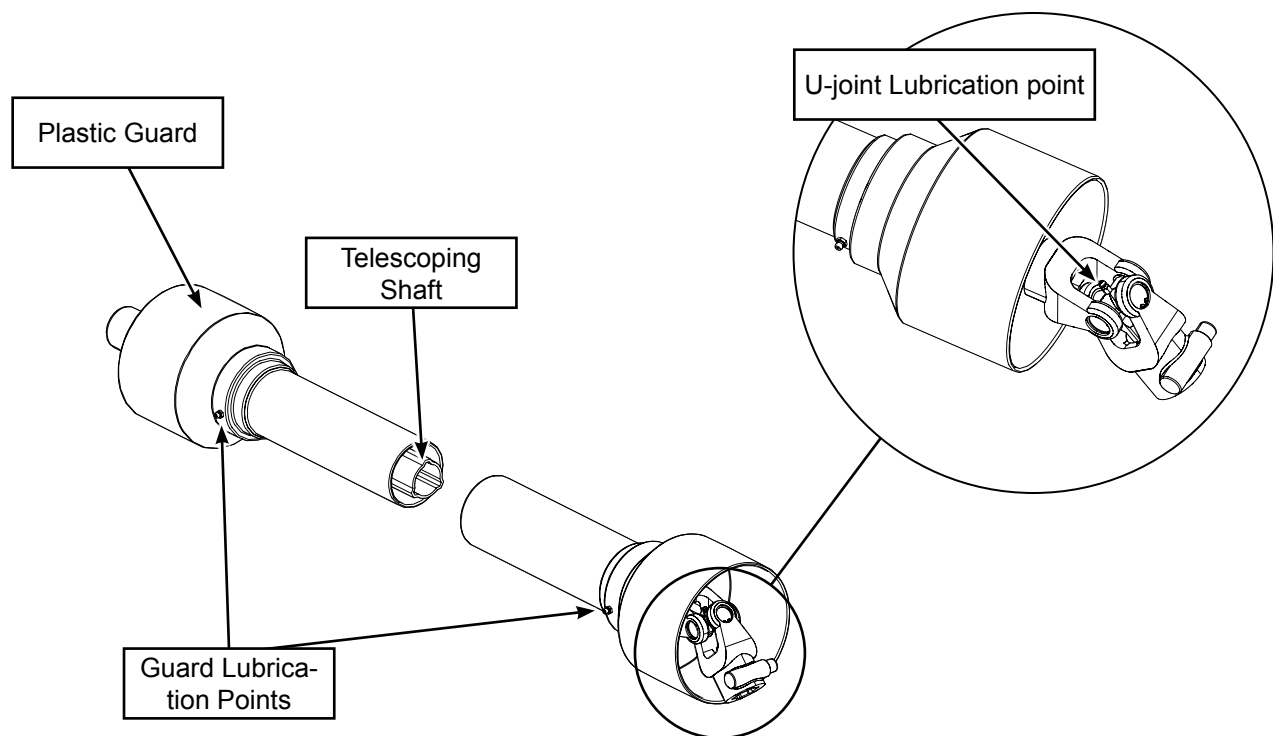
The drive line should telescope easily and the guard turn freely on the shaft at all times. Annual disassembly, cleaning and lubrication is recommended to insure that all components function as intended.

Ensure that the universal joints are lubricated, inspect and lubricate every 8 hrs.

When reassembling the driveline, ensure that the driveline is assembled "in phase", to avoid unnecessary vibration when the machine is running.

8.2.2 SHEAR PIN:

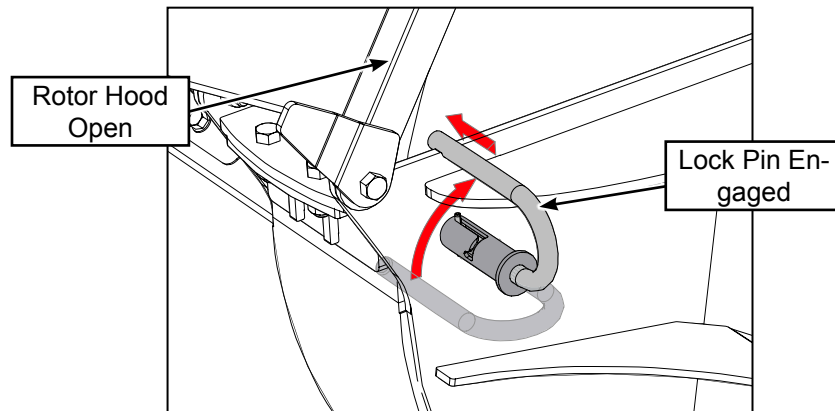
The PTO drive line is designed with a shear pin at the input yoke to prevent overloading the drive system. Remove the broken parts from the yoke when the pin shears and replace with genuine Wallenstein parts. The drive system is designed to function well without failing the shear pin. If it does fail, generally it is being fed too fast or something very hard has been jammed into the rotor or between the blades. Always unplug the system and determine the cause of the problem and correct it before resuming work. Shear pin replacements are available from your dealer



8.2.3 ROTOR LOCK PIN

Rotor Lock Pin works on a pull, twist and release principle and is a simple and reliable spring pin used to secure the rotor from moving while the upper rotor housing is open. It is designed to only be able to be engaged when the rotor housing is open, the spring pin cannot be engaged when the rotor housing is closed. This feature prevents unintended use while in operation.

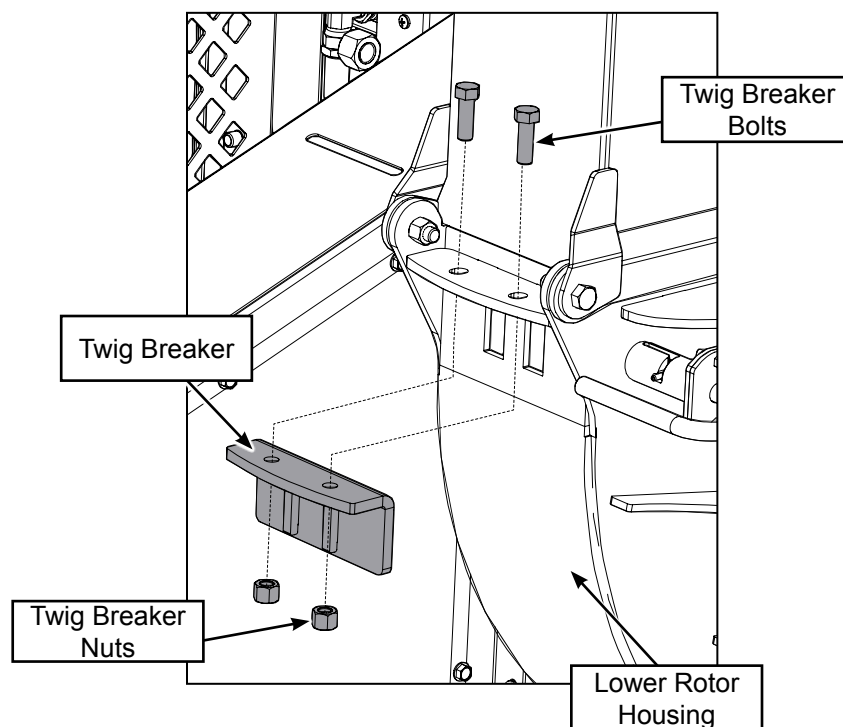
The rotor lock pin should be used anytime the rotor housing is open to prevent potential injury.



8.2.4 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 machine is set in **Safe Condition** (See Section 8.2).
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.



8.2.5 ROTOR BLADES:

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.

The rotor is equipped with 4 blades spaced evenly to keep the rotor in balance. If one needs to be changed, the one opposite should also be changed.

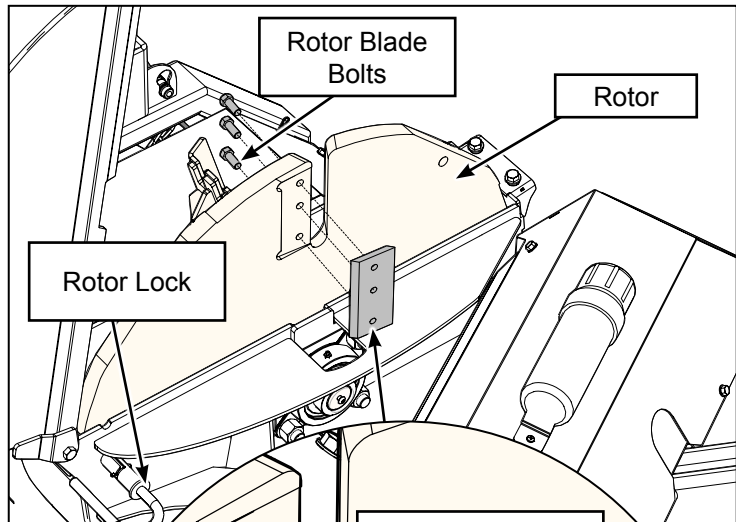
It is recommended that the rotor blades be removed from the rotor when sharpening. Always sharpen the blades at a 45° angle to provide the best cutting effect as it meets the stationary blade. Be sure to tighten the blade mounting bolts to their specified torque when re-installing the blades to the rotor.

1. Ensure the machine is set in **Safe Condition** (See Section 8.2).
2. Remove the bolt that secures the upper rotor housing, and carefully open the rotor housing.
3. With care, slowly rotate chipper rotor plate until the rotor lock lines up with lock hole in the rotor plate.
4. Engage the rotor lock, and ensure it snaps into the lock hole. Do not allow the rotor lock to snap into the chipper blade slot, damage to the blade may result.

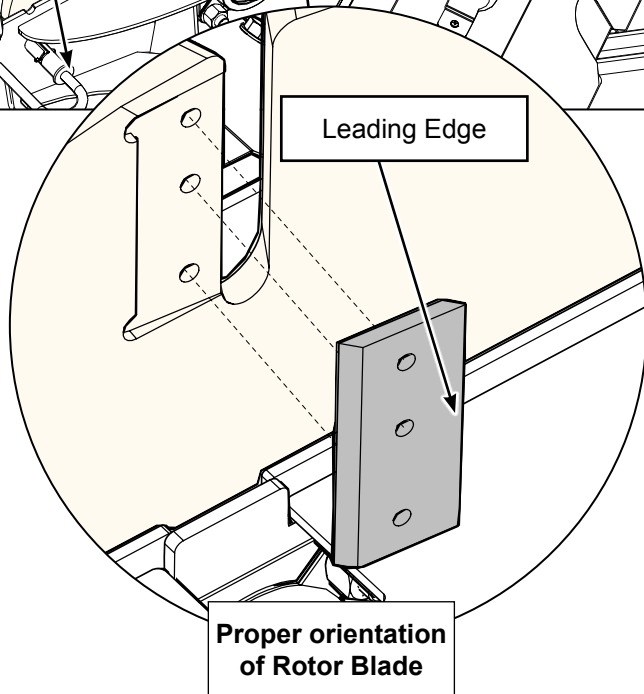


Caution: Avoid Serious Injury

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.



5. Remove the bolts that hold the rotor blade to the rotor, remove the blade.
6. Rotate the blade and reinstall or replace with new or re-sharpened blade.
7. 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.
8. Tighten down bolts as specified in the torque chart.
9. Repeat steps for remaining blades.



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.

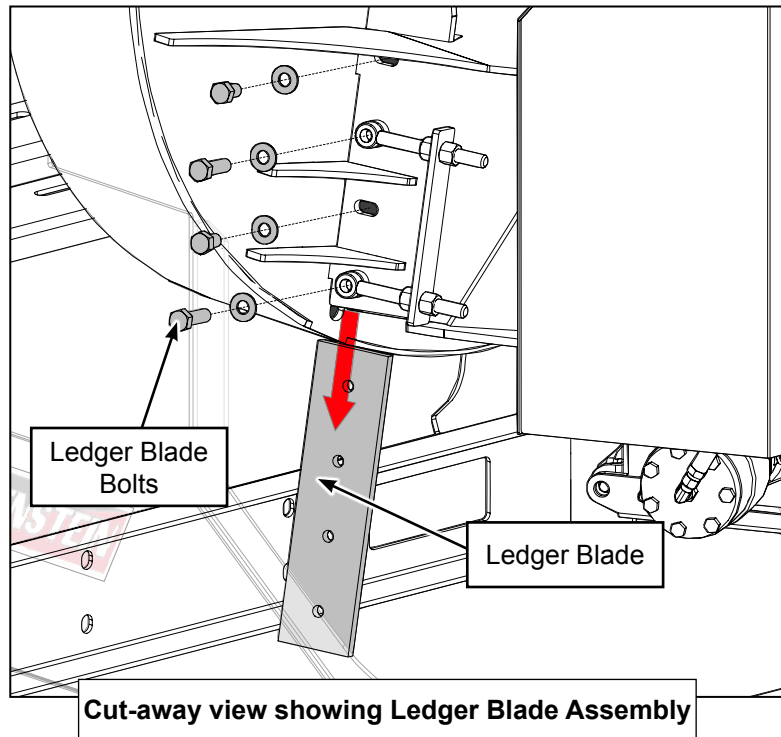
Rotor Blade: depending on your model the rotor blade may have 4 mounting holes. The removal replacement procedure is the same for both.

8.2.6 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 located on the lower rotor housing, mounted on slotted holes for adjustment. There are 4 usable corners on the blade, 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.

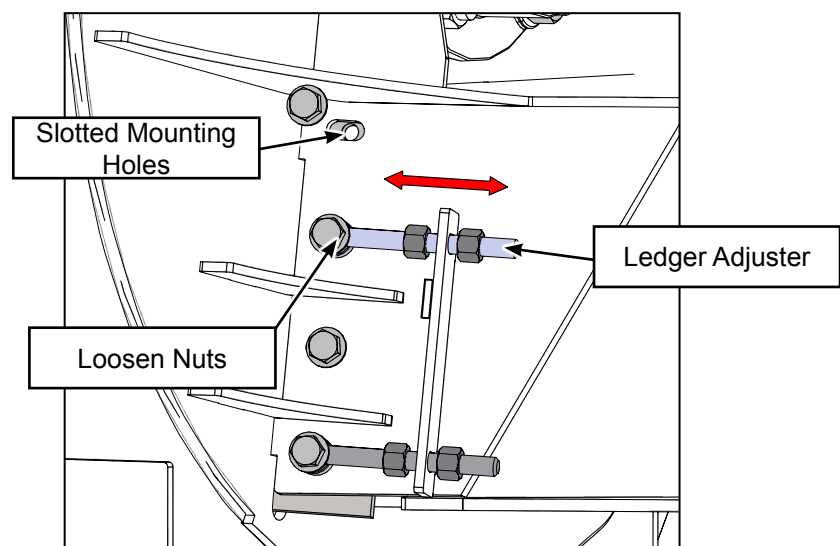
1. Ensure the machine is set in **Safe Condition** (See Section 8.2).
2. Remove the 4 bolts that hold the ledger blade to the ledger mount.
3. Carefully remove the blade, pull it down and slightly to the side to clear the axle.
4. Rotate the blade and replace or replace with new or re-sharpened blade.
5. Hand tighten the bolts.
6. Set the clearance between the ledger and rotor blades using the ledger adjuster: loosen the nuts on the adjuster and move the ledger to the correct clearance.
7. Clearance settings should be set at 1/32 - 1/16" (.76 - 1.52 mm).



For fast and easy setting, use our chipper clearance setting gauge, included with BX52R, also available from your dealer (see Section 11 Accessories).

8. Ensure you move both adjusters evenly.
9. Tighten adjuster nuts, then tighten ledger blade bolts. Tighten as specified in the torque chart.

Ledger Blade: depending on your model the ledger blade may have 3 mounting holes. The removal / replacement / adjustment procedure is the same for both.



8.2.7 LEDGER BLADE ADJUSTING TOOL:

The ledger blade is located on the lower rotor housing, mounted on slotted holes for adjustment. As the blade wears, it can be rotated or flipped to use a fresh corner. When the blade is moved, it must have its clearance settings adjusted to maintain its shearing efficiency.

The best way to ensure you have the correct clearance is to use the Wallenstein Ledger Adjusting Tool. It is the correct thickness to set the recommended clearance between the rotor and stationary blades which should be set and maintained at 1/32 to 1/16 " (.76 - 1.52 mm) to obtain the best performance.

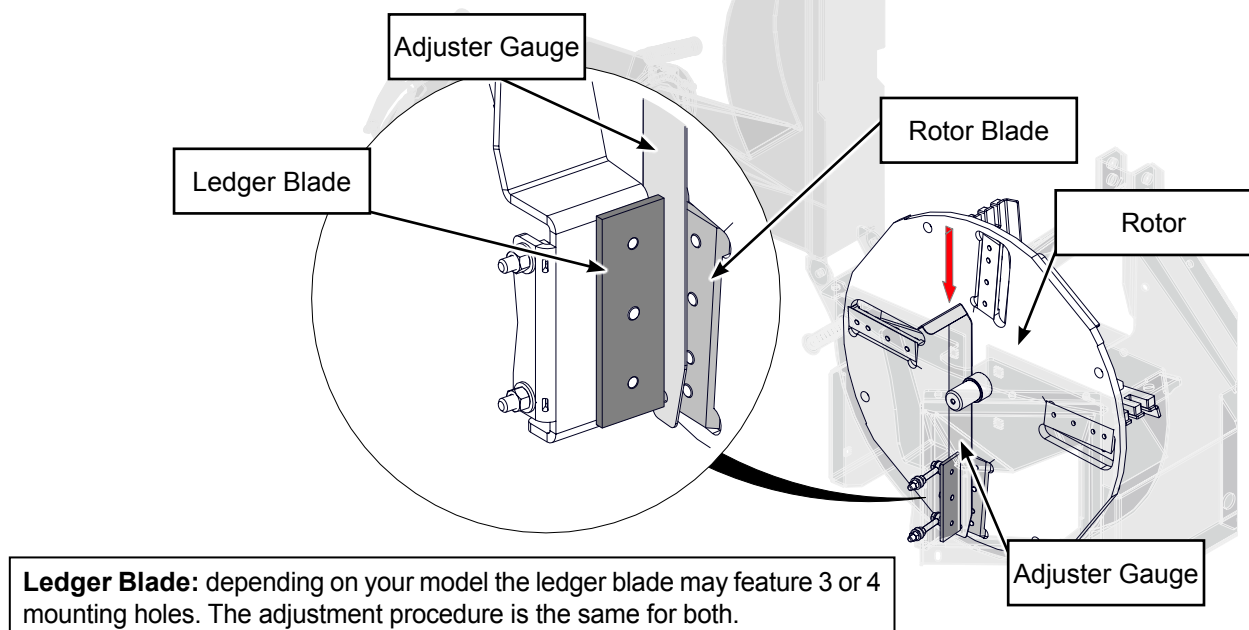
Depending on your chipper model, you may or may not have adjusting bolts along with mounting nuts and bolts to hold in your ledger blade. In either case use of the ledger adjusting tool will be the same.

Follow the directions in your owners manual for specific details for your machines ledger blade maintenance.

1. Ensure the machine is set in **Safe Condition** (See Section 8.2).
2. Perform the ledger blade maintenance as described in the owners manual.
3. Carefully move the rotor so the a rotor blade overlaps the ledger blade.
4. Loosen the fasteners and / or adjusters and move the ledger away from the rotor blade.
5. Insert the gauge between the ledger blade and rotor blade
6. Move the ledger blade in towards the rotor blade.
7. Ensure you move the ledger evenly, so the entire edge of the ledger is in contact with the gauge.
8. Hand tighten the fasteners, the gauge should drag slightly between the blades
9. With the gauge in place:
 - a. Tighten adjuster nuts first, (if your model has them)
 - b. Tighten ledger blade bolts.
 - c. Tighten all fasteners as specified in the torque chart.
10. Check that the gauge still drags slightly when you remove it.

Ledger blade is now correctly adjusted and is ready for service.

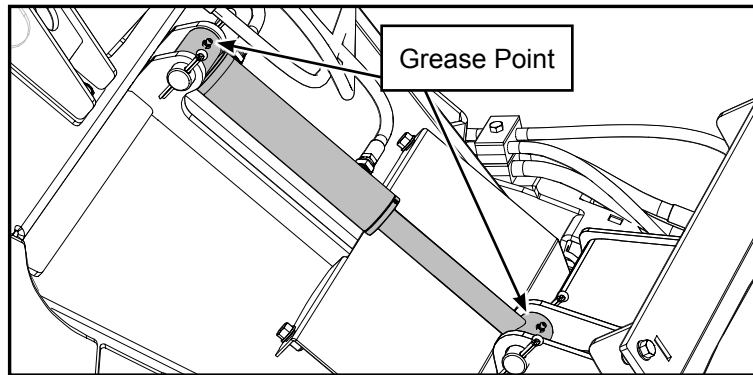
It is recommended to check the blade clearance per your chippers maintenance schedule.



8.2.8 HYDRAULIC FEED ROLLER LIFT - OPTION

The feed roller lift option consists of an hydraulic cylinder to lift or lower the top feed roller, and is located on top of the feed roller chute. The cylinder has 2 pivot points at each end of the cylinder that should be inspected daily and lubricated if required.

1. Ensure the machine is set in **Safe Condition** (see Section 8.2).
2. Find the cylinder on top of the roller feed chute.
3. Inspect both ends of the cylinder where it attaches to the machine and lubricate if required. The bridge guard may have to be removed in order to access the bottom end of the cylinder.

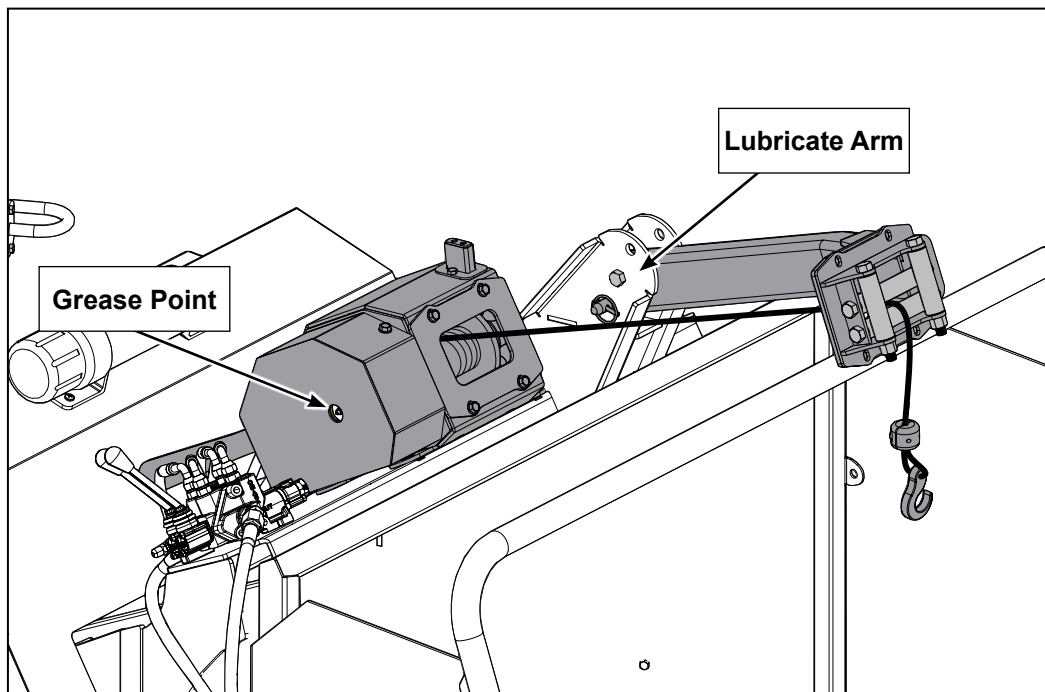


LIFT CYLINDER SHOWN WITH BRIDGE GUARD REMOVED

8.2.9 HYDRAULIC WINCH - OPTION

The winch option consists of the winch, the winch arm and fairlead. The winch has a grease point that needs to be greased every 50 hrs (per service record chart) The winch arm should be inspected daily and lubricated as required.

Ensure the machine is set in **Safe Condition** (see Section 8.2) before performing maintenance. See illustration below:



WINCH ASSEMBLY

8.2.10 ROLLER MAINTENANCE

The top and bottom rollers may occasionally require some maintenance (unjamming, cleaning, inspection, repair). In order to safely raise and gain access to the rollers, a turnbuckle has been included with the chipper. (BX102R series: turnbuckle is stored under the feed table with 2 link pins.)

1. Ensure the machine is set in **Safe Condition** (see Section 8.2).
2. Remove the 8 bolts that hold the bridge guard to the chipper.
3. Remove the bridge guard.
4. Next remove the 4 feed roller tension spring nut handles (2 from each side).
5. Loosen, then remove the turnbuckle and the 2 link pins.
6. Attach the turnbuckle to the attachment points on the hopper and roller bridge using the two link pins.
7. Unlatch the roller arm spring pins (1 each side).
8. Begin turning the turnbuckle in a clockwise motion to start raising the upper roller.
9. Continue raising the upper roller until the roller arm spring pins snap into the retaining hole. (BX102 & BX72 series only).
10. The top roller is now secured and is safe to begin maintenance.
11. Unpin the spring pins, and reverse the process to lower the upper roller into place.

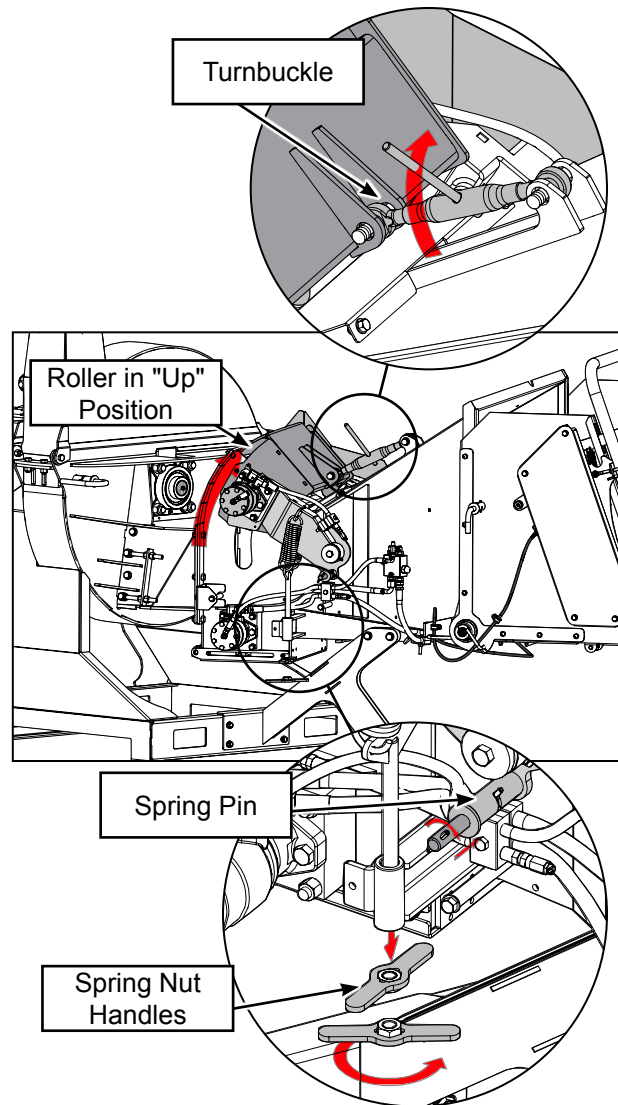
BX102RP & BX102RPI

1. Ensure the chipper rotor is locked and the PTO is disengaged.
2. Start the tractor or power pack to energize the hydraulics.
3. Unlatch the roller arm spring pins (1 each side).
4. Lift the roller using the hydraulics until the spring pins snap into the retaining hole.
5. Shut off the tractor or power pack.
6. The top roller is now secured and is safe to begin maintenance.
7. Unpin the spring pins, and reverse the process to lower the upper roller into place.



Caution: Avoid Serious Injury.

Always ensure the roller arm spring pin is in place before beginning any work, **do not** rely on the turnbuckle or hydraulics to hold up the roller!
















Note: see section 4.7 for spring nut handles factory settings

9 TROUBLE SHOOTING

The Wallenstein 3 Point Hitch Wood Chipper is designed with blades on a rotor to cut, shear and chip wooden material. It is a simple and reliable system that requires minimal maintenance.

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

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

| PROBLEM | CAUSE | SOLUTION | CAUTION | |
|---|--|---|---|---|
| Rotor does not turn | Obstructed discharge. | Clear debris from discharge chute. |  | Ensure machine is off |
| | Rotor plugged. | Inspect and clear chipper hopper lower rotor housing and rotor. |  | Ensure machine is off |
| | Broken shear pin | Replace shear pin. |  | Ensure machine is off |
| Slow feeding. | Low engine speed. | Throttle is set to specified speed (540 -1000) | | |
| | Blades and/or knives are dull. | Rotate, sharpen or replace blade and/or knives. |  | Ensure machine is off |
| | Rotor blade angle wrong, improper angle. | Re-sharpen knives to specified angle and check that blade is installed properly. |  | Ensure machine is off |
| | Obstructed discharge. | Clear debris from discharge chute . |  | Ensure machine is off |
| Unusual vibration while running. | Broken or missing blade . | Replace broken/missing blade. |  | Ensure machine is off. |
| | PTO driveline out of phase | Align driveline |  | Ensure machine is off. |
| | Rotor may be bent | Check rotor to see if it wobbles. Replace rotor |  | Ensure machine is off, call technician for repair |
| Machine requires excessive power or stalls. | Obstructed discharge. | Clear debris from discharge chute . |  | Ensure machine is off |
| | Feeding in too much material | Feed smaller amounts into chipper hopper. | | |
| | Feeding material too quickly | Feed larger material slowly into chipper hopper. | | |
| | Rotor plugged. | Inspect and clear chipper hopper lower rotor housing and rotor. |  | Ensure machine is off |
| | Green material will not discharge. | Allow material to dry or alternate dry/wet material. | | |
| | Chipper blade clearance too large. | Set clearance to 1/32 to 1/16 " (.76 - 1.52 mm). Use chipper clearance tool (see accessories) |  | Ensure machine is off. |
| | Dull blades. | Rotate, sharpen or replace blade |  | Ensure machine is off. |

10 SPECIFICATIONS

10.1 MECHANICAL

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

| Specifications | BX102R | BX72R | BX52R |
|-------------------------------------|--|---|--|
| Drive System | Direct drive, PTO w/ shearbolt | | |
| Power requirements for max. cap. | 90-120 hp 67-90 kW | 60-70 hp 45-52 kW | 40-45 hp 30-34 kW |
| HP Range | 65-150 hp 49-112kW | 40-100 hp 30-75 kW | 18-50 hp 14-37 kW |
| Recommended Hydraulic Flow | 4-8 gpm 15-30 lpm | 3-6 gpm 13-27 lpm | 3-6 gpm 12-23 lpm |
| Chipper Capacity | 10" Dia. (Max. 17" Slab) 25cm Dia. (Max. 43cm Slab) | 7" Dia. (Max. 12" Slab) 18cm Dia. (Max. 31cm Slab) | 5" Dia. (Max. 10" Slab) 13cm Dia. (Max. 26cm Slab) |
| Chipper Housing Opening | 10" x 17" 25cm x 43cm | 7" x 12" 18cm x 31cm | 5" x 10" 13cm x 26cm |
| Rotor Size | 36" 92cm | 28" 92cm | 24.75" 63cm |
| Number of Rotor Knives | 4 segmented knives | | |
| Knife Type | hardened / reversible | | |
| Rotor Weight | 425 lbs 193 kg | 185 lbs 84 kg | 125 lbs 56.7 kg |
| Feeding System Feed | Dual Horizontal Hydraulic motors | | |
| Mounting System | 3 Point Hitch Cat II | 3 Point Hitch Cat I (iMatch & Quick Hitch compatible) | 3 Point Hitch Cat I & II (iMatch & Quick Hitch compatible) |
| Weight (depending on configuration) | 1950 - 2100 lbs 885 - 953 kg | 1300 lbs 590 kg | 845 lbs 384 kg |
| Dimensions (LxWxH) | 109" x 71" x 90" Open 83" x 57" x 90" Closed 270cm x 219cm x 254cm Open 216cm x 186cm x 254cm Closed | 108" x 64" x 90" Open 83" x 56" x 90" Closed 275cm x 163cm x 228cm Open 211cm x 143cm x 228cm Closed | 80" x 67" x 74" Open 62" x 61" x 74" Feed Table Closed 204cm x 171cm x 188cm Open 158cm x 155cm x 188cm Feed Table Closed |
| Hopper Opening | 30" x 42" 76cm x 107cm | 26" x 35" 66cm x 89cm | 35" x 30" 89cm x 76cm |
| Discharge Hood Rotation | 360° | | 270° |
| Discharge Hood Height | 109" 277cm | 90" 228cm | 74" 188cm |
| Rated RPM | 540-1000 | | |
| Options | <div> <div> #C4550 Self Contained PTO Power Pack Hydraulic Winch: <ul style="list-style-type: none"> - 1200lb (545kg) pull force - 13" inches per second @ 8gpm- - (33 cm per second @ 31 lpm) - 50" x 1/4" dia winch rope - (15m x 6.3mm dia winch rope) Feed Roller Hydraulic Lift Cylinder <ul style="list-style-type: none"> - 1800 lbs crush force (816 kg) IntelliFeed <ul style="list-style-type: none"> - Electronic Feed Control & Rapid Recovery Auto Reverse Note: (IntelliFeed requires 12 VDC 2 amp electrical connection) </div> <div> #C3540 Self Contained PTO Power Pack IntelliFeed <ul style="list-style-type: none"> - Electronic Feed Control & Rapid Recovery Auto Reverse Note: IntelliFeed requires 12 VDC source @ 2 amps (connected to a charging battery 14.5v) </div> </div> | | |
| Standard Features | <div> Dual Hydraulic Feed Roller System Easy Start - no fuss large diameter feed start Forward/Reverse Emergency Stop Feed Roller Control Bar 360° Rotating Discharge chute Folding Spring Assist / Latching Feed Table Turnbuckle Lift Feed Roller (for maintenance) Feed Roller Flow Control (non IntelliFeed) Multi Position, Locking Discharge Chute Four-position Rotor Lock Reversible Rotor Blades Reversible Ledger Knife Ledge Knife Spacer Tool Bearing Protection Plates Positive Adjust Ledger Knife Dual Blade Twig Breaker </div> <div> Dual Hydraulic Feed Roller System Easy Start - no fuss large diameter feed start Forward/Reverse with Emergency Stop Control Bar 270° Dual Handle Exit Chute Rotation Folding Spring Assist / Latching Feed Table Turnbuckle Lift Feed Roller (for maintenance) Feed Roller Flow Control (non IntelliFeed) Multi Position, Locking Discharge Chute Four-position Rotor Lock Reversible Rotor Blades Reversible Ledger Knife Ledge Knife Spacer Tool Bearing Protection Plates Positive Adjust Ledger Knife Adjustable Ski Base Dual Blade Twig Breaker Single Handle Easy Change Discharge Deflector Three Position Select 3PH Lift Arm Width </div> | | |

10.2 BOLT TORQUE

CHECKING BOLT TORQUE

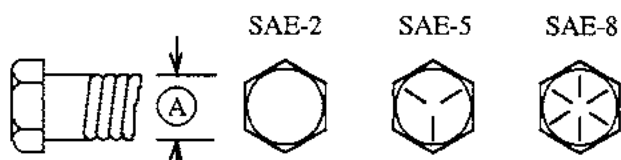
The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength bolt.

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.

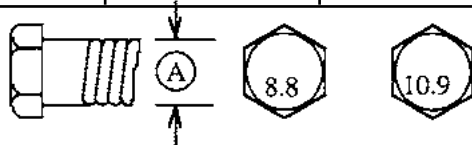
ENGLISH TORQUE SPECIFICATIONS

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

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

11 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 chipper, then call your dealer to order.

#1012L269

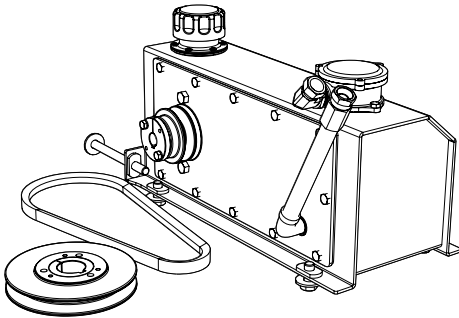


#1012L269 LEDGER CLEARANCE SETTING GAUGE

For all **BXR Series Woodchipper**

An easy and accurate way of setting the critical clearances between the ledger blade and the rotor chipper blade.

#C3540



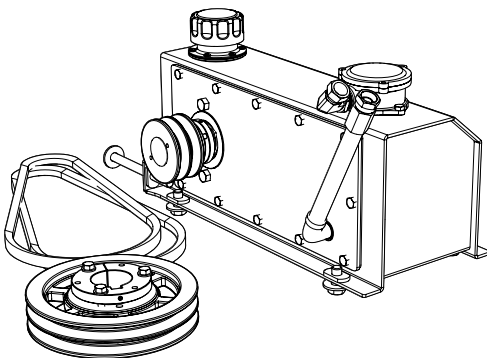
#C3540 SELF CONTAINED PTO POWER PACK

For model: **BX72 & BX52 series**

Easy to install

For tractors without available hydraulics, the optional power-pack mounts on the chipper just under the PTO shaft, and provides you with the means to operate the hydraulic feed hopper on model BX72.

#C4550



#C4550 SELF CONTAINED PTO POWER PACK

For model: **BX102 Series**

Easy to install

For tractors without available hydraulics, the optional power-pack mounts on the chipper just under the PTO shaft, and provides you with the means to operate the hydraulic feed hopper on model BX102R.

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