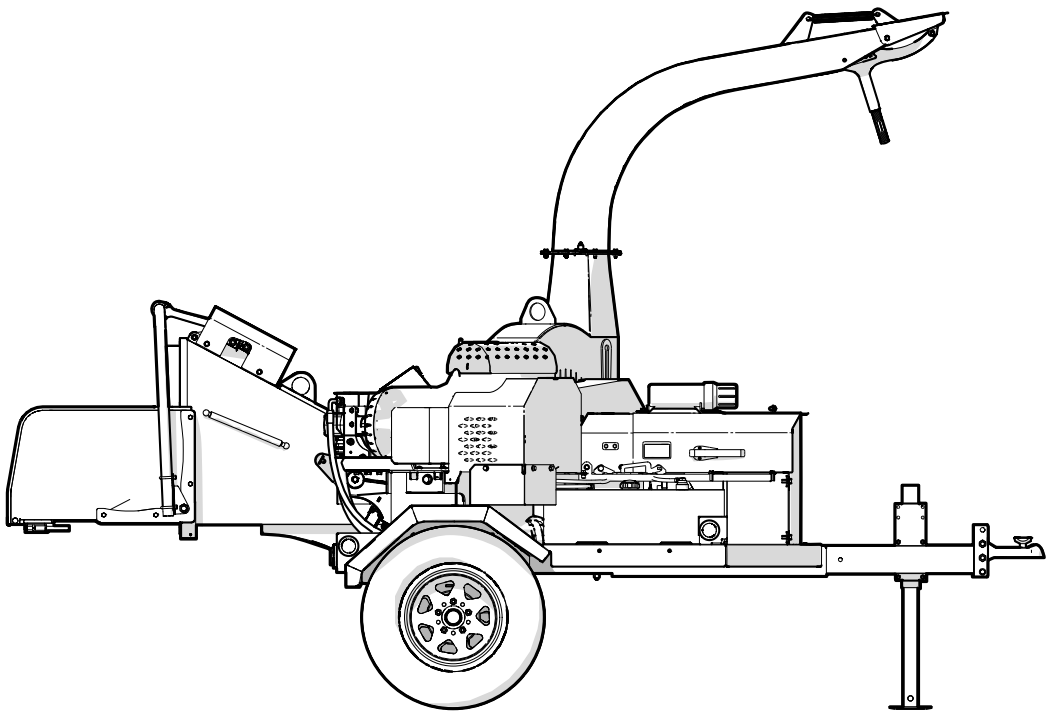
OPERATOR'S MANUAL

Serial number 2E9US1111KS091353 and up

BXTR6438F/P
Trailer Wood Chipper

P3 PULSE™ TECHNOLOGY



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WALLENSTEIN

1. Foreword

1.1 Introduction

Congratulations on choosing the Wallenstein **BXTR6438 Trailer Wood Chipper!**

This machine is designed and manufactured to meet the needs of the timber and landscaping industries, as well as township and municipal requirements.

Review all safety, operation and maintenance information contained in this manual.

Safe, efficient and trouble-free operation of this Wallenstein product requires that anyone using or maintaining the machine reads and understands the Safety, Operation, Maintenance information contained within the Operator's Manual.

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.

Units of measurement in Wallenstein Equipment technical manuals are written as:
US Customary (SI metric)

Keep this manual handy for reference. Pass it on to new operators or owners. Call your Wallenstein dealer or the Distributor if you need assistance, information or additional copies of this manual.

⚠ WARNING!

Do not attempt to start or operate the machine without thoroughly reviewing this manual for safe and proper operation.

Always keep this manual with the machine.

W034

⚠ WARNING

Cancer and Reproductive Harm
www.P65Warnings.ca.gov

⚠ ADVERTENCIA

Cáncer y Daño Reproductivo
www.P65Warnings.ca.gov

Table of Contents

1.2 Delivery Inspection Report

Wallenstein BXTR6438 Trailer Wood Chipper

To activate warranty, register your product at: www.wallensteinequipment.com

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

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

_____
Customer

_____
Address

_____
City, State/Province, ZIP/Postal Code

_____
( )
Phone Number

_____
Contact Name

_____
Model

_____
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

_____
Address

_____
City, State/Province, ZIP/Postal Code

_____
( )
Phone Number

1.2.1 Dealer Inspection Report

_____ Engine Oil Level Checked
_____ Engine Starts and Runs
_____ Check Blade Clearance
_____ Rotor Turns Freely
_____ Belt Tension Correct
_____ Engine / Rotor Sheaves Aligned
_____ Lubricate Grease Points
_____ All Fasteners Tight
_____ Pivot points lubricated.
_____ Tire Pressure Checked
_____ P3 PULSE Display Function

Safety Checks

_____ All Safety Decals Installed
_____ Guards and Shields Installed / Secured
_____ Retainer Installed through Hitch Points
_____ Safety Chain on Hitch
_____ Check Wheel Lug Torque
_____ Check Operation of Running / Brake / Turn Signal Lights

1.3 Serial Number Location

Always provide the serial number of your Wallenstein product when ordering parts or requesting service or other information. The Serial Number Plate location is shown in the illustration.

Record the product Serial Number in the space provided below for future reference.

Record Product Information Here	
Model:	**BXTR6438**
Serial Number:	

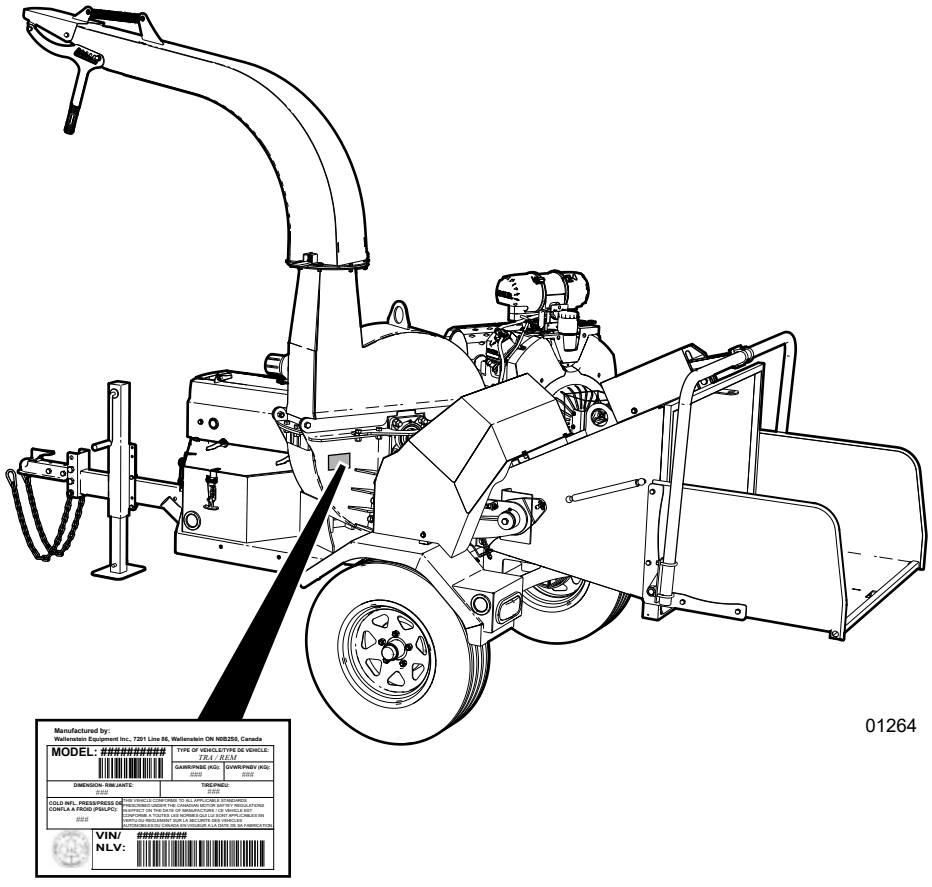

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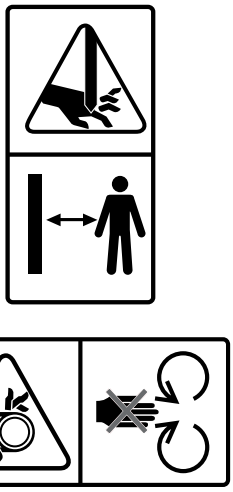
Fig. 1 – Serial Number Plate Location

1.4 Types of Decals on the Machine

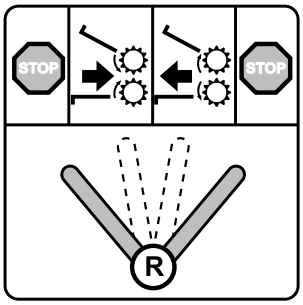
When getting familiar with the Wallenstein product, notice that there are numerous decals located on the machine. There are different types of decals for safety, information, and product identification. The following section explains what they are for and how to read them.

Safety Decals have a yellow background and are generally two panel. They can be either vertical or horizontal.

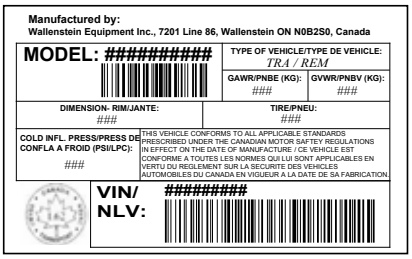


Safety Notice Decals are pictorial with a blue background and generally rectangular with single or multiple symbols. This decal informs what Personal Protective Equipment is required for safe operation.

Informative Decals are generally pictorial with a white background and can vary in the number of panels. This type of decal explains how a control works.



Product Decals indicate machine model and serial number, and other important information.



Maintenance Decals have a green background and can vary to the number of panels. This decal shows a type maintenance required and frequency interval.

See the section on safety signs for safety decal definitions. For a complete illustration of decals and decal locations, download the parts manual for your model product at [www.wallensteinequipment.com.](http://www.wallensteinequipment.com)

2. Safety

2.1 Safety Alert Symbol

This Safety Alert Symbol means:

ATTENTION! BE ALERT!

YOUR SAFETY IS INVOLVED!

The **Safety Alert Symbol** identifies important safety messages on the Wallenstein 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.

2.2 Signal Words

The signal words **DANGER**, **WARNING** and **CAUTION** determine the seriousness level of the warning messages in this manual. The appropriate signal word for each message in this manual has been selected using the following guidelines:

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.

IMPORTANT – To avoid confusing equipment protection with personal safety messages, a signal word IMPORTANT indicates a situation that if not avoided, could result in damage to the machine.

2.3 Why SAFETY is Important

Three Big Reasons:

- **Accidents Disable and Kill**
- **Accidents Cost**
- **Accidents Can Be Avoided**

The policy of Wallenstein Equipment Inc. is to produce products that are safe and reliable. However, even when using well-engineered equipment, there is always an element of risk. To minimize the risks and promote safety at all times, this section of the operator's manual details a number of safety rules that must always be followed and obeyed.

YOU are responsible for the SAFE operation and maintenance of your Wallenstein Trailer Wood Chipper. **YOU** must ensure that you and anyone else who is going to use, maintain or work around the wood chipper be familiar with the operating and maintenance procedures and related safety information contained in this manual. This manual provides good safety practices that should be followed while using the wood chipper.

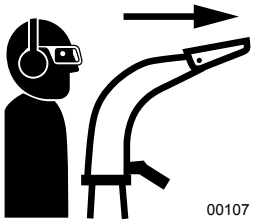
Remember, **YOU** are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that **EVERYONE** using this equipment is familiar with the recommended use and maintenance procedures and follows all the safety precautions.

Do not risk injury or death by ignoring good safety practices.

2.4 Safety Rules

- **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. The most important safety device on this equipment is a SAFE operator.

- **DO** review safety related items annually with all personnel who are operating the machine or performing maintenance.
- **DO** wear appropriate Personal Protective Equipment (PPE). The suggested equipment includes but is not limited to the following:
  - Hearing Protection
  - Protective glasses, goggles or face shield
  - Heavy work gloves



- **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 operating, servicing, adjusting, or cleaning.
- **DO** inspect and secure all guards before starting.
- **DO** check input and discharge chutes, engine intake and exhaust. Make sure they are clear of debris prior to starting the machine.
- **DO** inspect and secure all guards before starting.
- **DO** have a fire extinguisher available for use should the need arise. Know how to use it.
- **DO** think SAFETY! Work SAFELY!

- **DO NOT** touch hot engine parts, muffler cover, hydraulic hoses, engine body, engine oil, and so on during operation or if the engine was recently shut off. Contact may cause burns.
- **DO NOT** expect a person who has not read and understood all operation and safety instructions to use the machine. An untrained operator is not qualified and is exposed to possible serious injury or death. It is the owner's responsibility to make sure to the operator has familiarity and understanding of the machine.
- **DO NOT** modify, disable or change the roller feed safety / control bar in any way.
- **DO NOT** allow riders during transport.
- **DO NOT** risk injury or death by ignoring good safety practices.

2.5 Equipment Safety Guidelines

- Always place the machine in a safe service position before performing any service work, maintenance procedures, or storage preparation. The **Safe Condition** is as follows:

⚠ SAFE CONDITION

- Shut off engine. Remove ignition key.
- Make sure all moving parts have stopped.
- Disconnect battery ground (-) cable.
- Block or chock wheels.

- Never use equipment with safety shields removed. Keep all shields in place. If shield removal becomes necessary for repairs, reinstall the shield prior to use.
- Replace any safety sign or instruction sign that is not readable or is missing. Location of safety signs is indicated in this manual.
- Do not allow anyone other than a responsible, properly trained and physically able person to operate this machine. This equipment is dangerous to children and persons unfamiliar with its operation.
- 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.
- Never exceed the limits of the machine. If its ability to do the job or to do it safely is in question—
  STOP IMMEDIATELY!

2.6 Safety Training

- The best safety feature is an informed, careful operator—we ask you be that kind of operator. It is the operator's responsibility to read, understand and follow ALL safety and operation instructions in the manual.

- Train all new personnel and review instructions frequently with existing workers. Only properly trained and physically able operators should use this equipment. **A person who has not read and understood all operation and safety instructions is not qualified to use the machine.** Untrained operators expose themselves and bystanders to possible serious injury or death. If elderly people are assisting with the work, their physical limitations need to be recognized and accommodated.
- Learn the controls and how to stop the machine quickly in an emergency.
- If this machine is loaned or rented, it is the machine owner's responsibility to make certain that every operator:
  - reads and understands the owner's manual
  - is instructed in safe and proper use of the equipment
  - understands and knows how to perform the Safe Condition procedure

2.7 Being Prepared

- Wear appropriate personal protective equipment. Tie back long hair, remove jewelry, and avoid loose fitting clothing. Prolonged exposure to loud noise can cause permanent hearing loss! Wear hearing protection on a full-time basis when using this machine.
- Keep bystanders at safe distance at least 20 ft (6 m) from work zone. Mark the zone with safety cones.
- Determine where chips are piled and ensure the location does not interfere with safe operation of the machine.
- Determine a safe work area location:
  - area must be clear of stones, branches or hidden obstacles that might cause a tripping, hooking or snagging hazard
  - ground should be firm and level
- Be aware of overhead hazards such as branches, cables, or electrical wires.
- Operate only in daylight or good artificial light.
- Make sure machine is properly adjusted and in good operating condition.
- Store fuel well away from the material pile.
- Perform the **Pre-operation Checklist** procedure before starting work (see *page 31)*.

2.8 Operating Safety

Read and obey the safety signs on the machine. Clean or replace them if they are not legible.

There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices. This machine must be used with all its safety equipment properly installed to minimize the chance of accidents.

- When operating this equipment always have at least two workers present and trained in safe operation of the machine.
- The operator must be in control of the machine at all times. The spotter must remain out of the danger zone while the machine is in operation. Bystanders must remain in the safe zone.
- Do not overreach into the hopper. Keep proper balance and footing at all times.
- Feed rollers can cause serious injury or death. Keep hands, feet and clothing away from the feed roller.
- Never allow anyone to sit on the feed table.
- Do not put metal objects, bottles, cans, rocks, glass or other foreign material into wood chipper. If such items happen to get into the chipper, stop machine and turn engine off. Wait for all moving parts to stop before removing material. Inspect machine for damaged or loose parts before resuming work.
- Make sure all guards, deflectors and shields are in place before starting and operating.
- Read and understand owner's manual before starting. Review safety instructions annually.
- Personal protective equipment is recommended during assembly, installation, operation, adjustment, maintaining, repairing, removal, or moving. Do not allow long hair, loose-fitting clothing, or jewelry to be around moving parts.
- Do not allow anyone within the work or danger zone during operation. Ejected wood chips can cause injuries. Keep children away.
- Never place any part of your body where it would be in danger if machine movement should occur during assembly, installation, operation, maintenance, repairing, unplugging or moving.
- Inspect electrical harness, sensors and controller to make sure they are in good condition before operating.
- Before servicing or repairing the machine, place it in a **Safe Condition**. See *page 8.*
- Do not operate on hillsides or when working area is cluttered, wet, muddy or icy to prevent slipping and tripping. Operate only on level ground.
- Position machine so prevailing winds blow engine exhaust fumes away from operator's station.
- Never use engine-powered machinery indoors. Gas engine exhaust contains toxic carbon monoxide, which cannot be smelled or seen. Breathing carbon monoxide can be lethal.

- Stop engine when leaving the machine unattended.

2.9 Feed Roller Safety

- Do not overreach into the hopper. Keep proper balance and footing at all times.
- Feed rollers can cause serious injury or death. Keep hands, feet and clothing away.
- Never climb onto the feed table or hopper when the chipper is operating or running.
- Never allow anyone to sit on the feed table.

2.10 Transport Safety

- Comply with local laws governing safety and transporting of machinery on public roads.
- Do not exceed 50 mph (80 km/h) when towing this machine. Slow down for rough terrain and cornering.
- Do not transport or move the wood chipper with the engine running.
- Ensure all latch handles are secure.
- Be sure the trailer is hitched correctly to the towing vehicle and a retainer is used through the hitch mechanism.
- Always attach safety chains between the hitch and the towing vehicle. Cross the chains underneath the trailer tongue.
- Check wheel lugs and tighten if required. Inspect rims for damage.
- Inspect tires for cuts or damage. Check tire pressure and adjust if required.
- Ensure the stability jacks are raised and secured with the latch pin.
- Make sure tow vehicle is fitted with the correct size (2 in) towing ball.
- Inspect all access panels and guards to ensure they are secured.
- Make sure fuel and hydraulic tank caps are on tight to prevent spills while transporting.
- Clean all debris off the chipper. Remove any tools or other loose items.
- Check that all the lights, reflectors and other lighting requirements are installed and in good working condition.
- Never allow riders on the machine.
- Be a safe and courteous driver. Always yield to oncoming traffic in all situations, including narrow bridges, intersections, and so on.
- Watch for other traffic when near or crossing roadways.
- Do not drink and drive.
- Before transporting, perform a walk-around inspection to ensure everything is safe.

2.11 Refueling Safety

- Engine fuel is highly flammable. Handle with care.
- Fill fuel tank outdoors.
- Stop the engine before refueling. Allow engine to cool for five minutes. Clean up spilled fuel before restarting engine.
- Do not overfill the fuel tank.
- If fuel is spilled, wipe it away carefully and wait until the fuel has dried before starting the engine.
- Do not refuel the machine while smoking or when near open flame or sparks.

- After refueling, make sure that the fuel cap is secured to prevent spillage.
- Prevent fires by keeping machine clean of accumulated trash, grease, and debris.

2.12 Tire Safety

- Failure to follow proper procedures when mounting a tire on a wheel or rim can produce an explosion which may result in serious injury or death.
- Do not attempt to mount a tire unless you have the proper equipment and experience to do the job.
- Have a qualified tire dealer or repair service perform required tire maintenance.
- When replacing worn tires, make sure they meet the original tire specifications. Never install undersized tires.

2.13 Battery Safety

⚠ CAUTION!

Risk of burns! Battery electrolyte is extremely corrosive and poisonous. Contact with the eyes, skin, or clothing can result in severe burns or other serious personal injury. If contact occurs seek medical attention immediately. Handle batteries carefully.

W020

- Wear gloves and safety glasses or face shield when working on or near batteries.
- Use a battery carrier to lift the battery or place hands at opposite corners to avoid spilling acid through the vents.

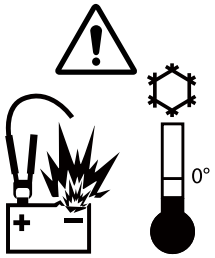
- Avoid contact with battery electrolyte:
  - **External Contact:** Flush immediately with water.
  - **Eye Contact:** Flush with water for 15 minutes. Get prompt medical attention. Clean up any spilled electrolyte immediately.
- Avoid contact with battery posts, terminals and related accessories, they contain lead and lead compound chemicals known to cause harm if ingested. Wash hands immediately after handling battery.
- Keep all sparks and flames away from batteries. Electrolyte fumes are explosive.
- To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of the electrical system.

⚠ CAUTION!

Risk of explosion or fire! Do not let metal objects come in contact with the battery terminals. Arcing can cause a fire or explosion. Cover terminals if working near batteries.

W021

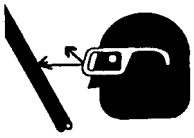
- Do not jump start or charge a frozen battery. Frozen batteries can explode and result in death or serious injury. Let battery thaw before charging.



2.14 Hydraulic Safety

- Make sure that all the components in the hydraulic system are kept in good condition and are clean.
- Before applying pressure to the system, make sure all components are tight, and that lines, hoses and couplings are not damaged.

- 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 can fail suddenly and create a hazardous and unsafe condition.
- Wear proper hand and eye protection when searching for a high pressure hydraulic leak. Use a piece of wood or cardboard as a backstop instead of hands to isolate and identify a leak.



- 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.
- Relieve pressure in the hydraulic system before working on it.

2.15 Gas Engine Safety

⚠ CAUTION!

Before starting engine, review the operating and maintenance instructions in the engine manual.

W019

- **DO NOT** operate engine in an enclosed area. Exhaust gases contain odorless and deadly carbon monoxide that can cause death by asphyxiation.
- **DO NOT** place hands or feet near moving or rotating parts.
- **DO NOT** store, spill, or use gasoline near an open flame, or devices such as a stove, furnace, or water heater which use a pilot light or devices which can create a spark.
- **DO NOT** refuel indoors where area is not well ventilated.
- **DO NOT** refuel while engine is running. Allow engine to cool for five minutes before refueling. Store fuel in approved safety containers.
- **DO NOT** remove fuel tank cap while engine is running.
- **DO NOT** operate engine if gasoline is spilled. Move machine away from the spill and avoid engine ignition until gasoline has evaporated.
- **DO NOT** smoke while filling fuel tank.
- **DO NOT** choke carburetor to stop engine. Whenever possible, gradually reduce engine speed before stopping.
- **DO NOT** run engine above rated speeds. This may result in injury.
- **DO NOT** tamper with governor springs, governor links or other parts which may increase the governed speed.
- **DO NOT** tamper with the engine as set by the original equipment manufacturer.
- **DO NOT** check for spark with spark plug or spark plug wire removed.
- **DO NOT** crank engine with spark plug removed. If engine is flooded, crank until engine starts.
- **DO NOT** strike flywheel with a hard object or metal tool as this may cause flywheel to shatter in operation. Use proper tools to service engine.
- **DO NOT** operate engine without a muffler. Inspect periodically and replace, if necessary.

- **DO NOT** operate engine with an accumulation of grass, leaves, dirt or other combustible materials in the muffler area.
- **DO NOT** use this engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed on the muffler. The arrester must be maintained in effective working order by the operator. In the state of California, the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal land.
- **DO NOT** touch hot muffler, engine body or cooling fins. Contact may cause burns.
- **DO NOT** run engine with air cleaner or air cleaner cover removed.

Be sure to:

- Remove the wire from the spark plug when servicing the engine or equipment to prevent accidental starting. Disconnect the ground (-) wire from the battery terminal.
- Keep engine cooling fins and governor parts free of grass and other debris that can affect engine speed.
- Examine muffler periodically to be sure it is functioning effectively. A worn or leaking muffler should be repaired or replaced as necessary.
- Use fresh gasoline. Old fuel can clog carburetor and cause leakage.
- Check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.

2.16 Sign-Off Form

Anyone using this machine must read and thoroughly understand all Safety, Operation and Maintenance information in this manual. An untrained operator should never use this machine.

To help document this training, the sign-off sheet provided below can be used.

Make periodic reviews of Safety and Operation a standard practice for all operators. Review again at the startup of every season.

The design and manufacture of this product conforms to relative provisions in the following standards:

ISO 4254-1 Agricultural machinery – Safety

ASABE S318 Safety for Agricultural Field Equipment

ISO 3600 Operator's Manual – Machinery for Agriculture, Forestry and Lawn Equipment

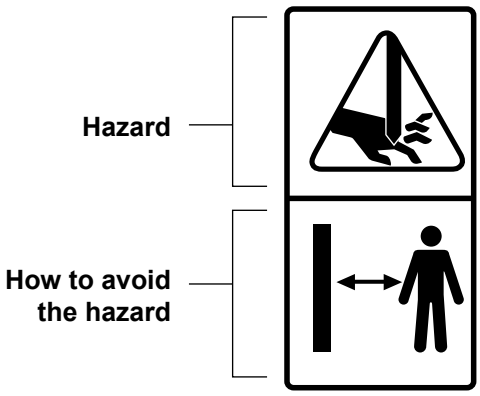
Sign-off Form		
Date	**Owner**	**Employee**

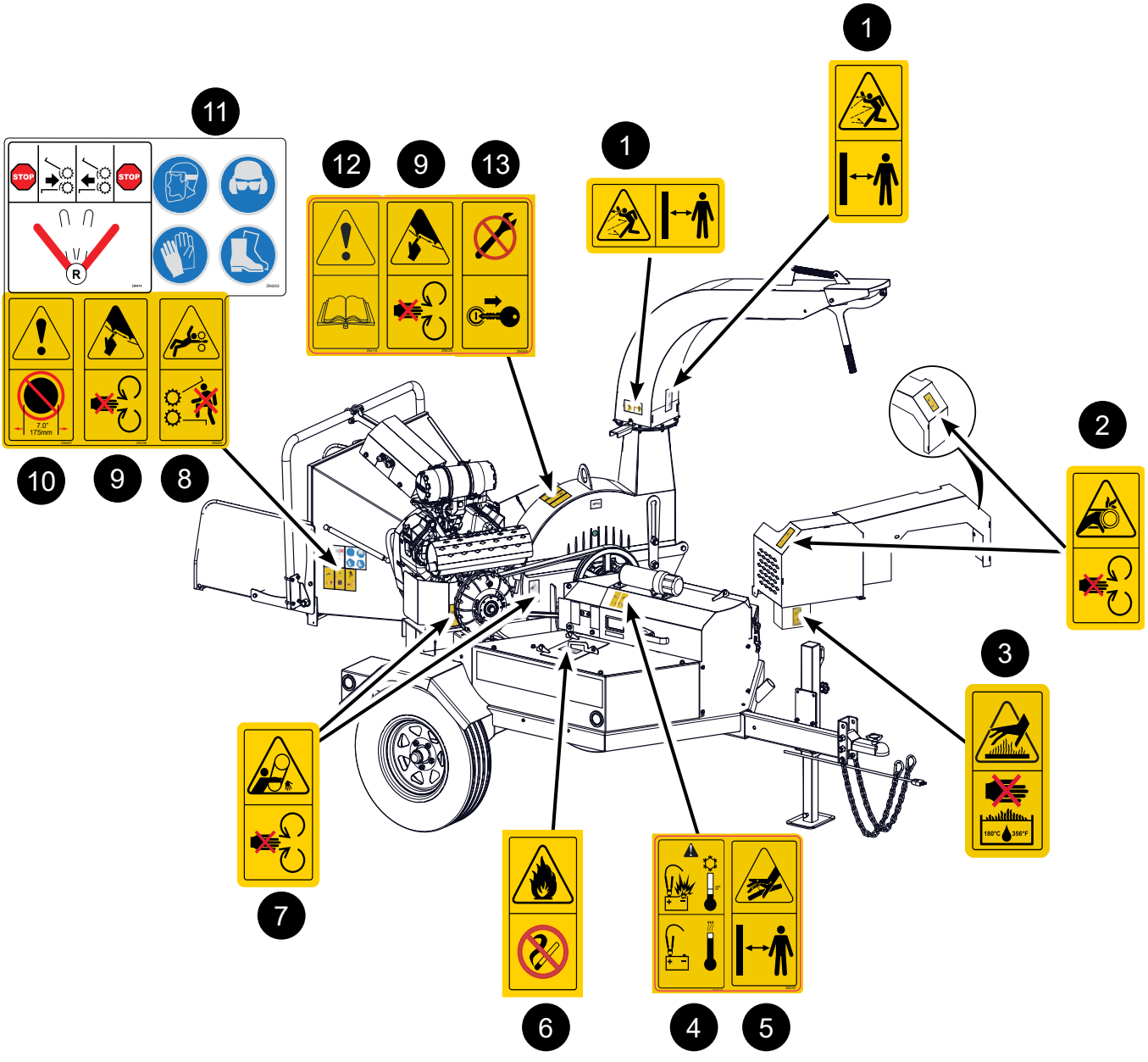
2.17 Safety Sign Explanations

The top (or left-hand) panel shows the safety alert (the potential hazard), and the bottom (or right-hand) panel shows the message (how to avoid the hazard).

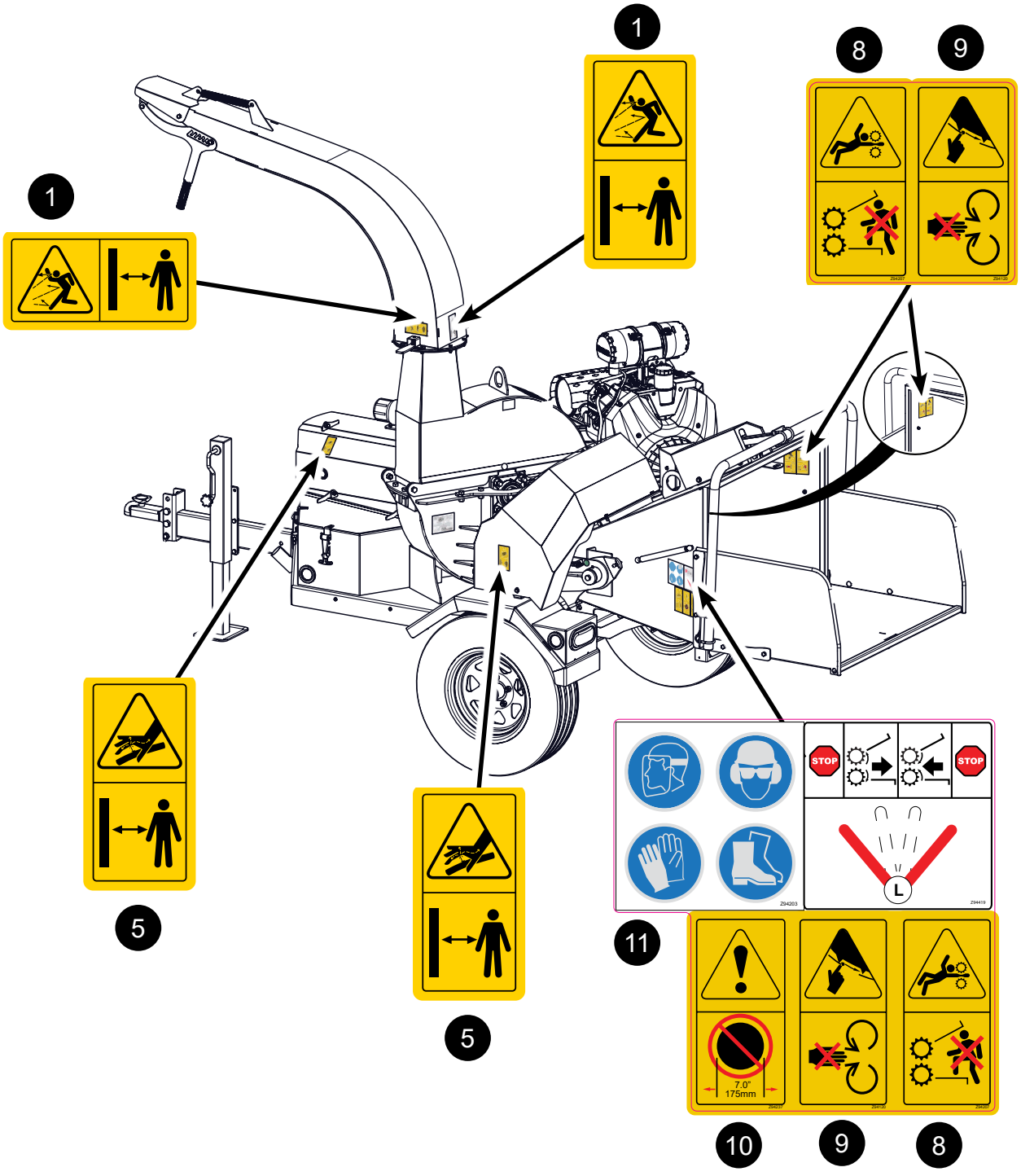
Practicing good safety means becoming familiar with safety signs and warnings and being aware of the situations that require alertness.

Think SAFETY! Work SAFELY!





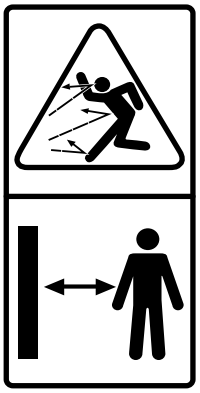
Safety Signs



1. Caution!

Risk of injury from flying objects. Stay clear of material discharge chute. Machine can expel wood chips fast enough to cause injury.

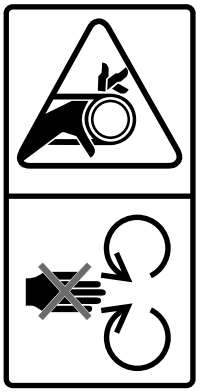
Do not point discharge at people, animals, or buildings.



2. Warning!

Rotating parts are exposed or under a guard. Do not attempt to reach in while parts are rotating.

Keep hands, loose clothing, and long hair away. Serious injury can result.



3. Warning!

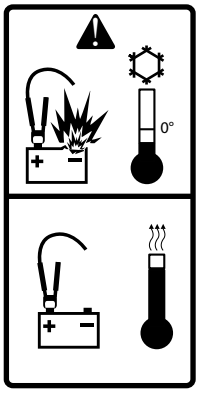
Hot oil and container. If there is a fluid release from the hydraulic coupler, the oil and container could reach temperatures of 180 °C (356 °F).

To prevent severe burns, wait for the oil and container to cool before attempting any maintenance.

4. Warning!

Risk of explosion.

Do not jump start / charge a frozen battery. Frozen batteries can explode and result in serious injury. Let battery thaw before charging.



5. Warning!

Risk of high pressure hydraulic fluid piercing exposed skin.

Do not check for leaks with hand or fingers. Serious injury can result.

6. Warning!

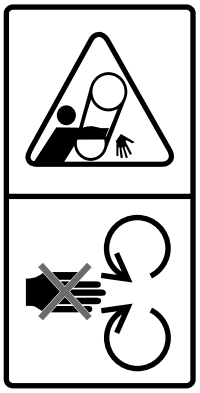
Risk of explosion.

Do not refuel the machine while smoking or near open flame or sparks. Serious injury can result.

7. Caution!

Risk of serious injury or death if hands or limbs are caught in rotating parts.

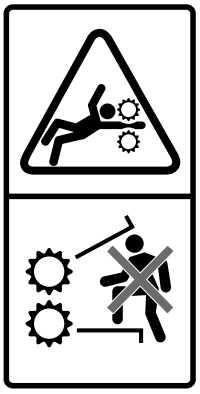
Do not operate machine without shields in place. If shield is removed, replace it before operating machine.



8. Warning!

Risk of serious injury or death if hands or limbs are caught in rotating parts.

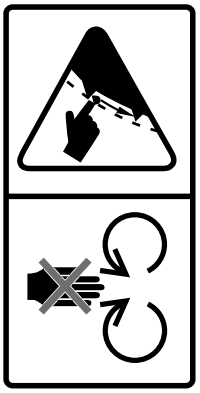
Do not attempt to reach in while parts are turning. Keep hands, loose clothing, and long hair away.



9. Warning!

Risk of serious injury. Keep hands and feet out of inlet and discharge openings while machine is operating.

Wait for all moving parts to come to a complete stop before clearing obstructions.



10. Caution!

Risk of personal injury or equipment damage.

Do not put material larger than 7.0" (175 mm) diameter into the chipper. Attempting to chip anything larger could stall the engine, damage the machine or cause personal injury.

11. Warning!

Personal Protective Equipment (PPE) is required when operating this machine.

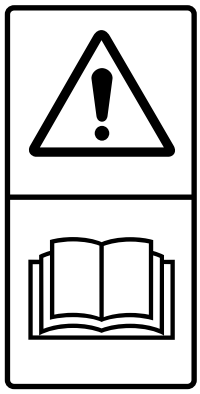
- A hard hat
- Hearing protection
- Protective glasses, goggles or face shield
- Protective shoes with slip resistant soles
- Heavy gloves

Failure to wear PPE can result in personal injury.

12. Caution!

Refer to the operator's manual. Read ALL operating instructions in the manual and learn the meaning of ALL safety signs on the machine.

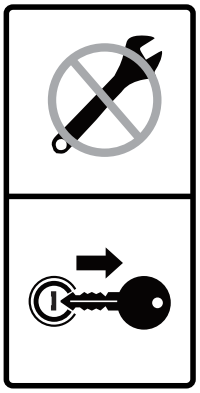
The best safety feature is an informed operator.



13. Caution!

Risk of serious injury or death if the engine is not shut off during maintenance procedures.

Shut off the engine and remove the key.



IMPORTANT! If parts are replaced that have safety signs on them, new signs must be applied. Safety signs must always be replaced if they become damaged, are removed, or become illegible.

Safety signs are included in the product decal kit available from your authorized dealer. Decals are not available separately.

2.18 Replacing Damaged Safety Signs

- Always keep safety signs clean and legible.
- Replace safety signs that are missing or have become illegible.
- Parts that were replaced with a safety decal on them must also have the safety sign replaced.
- Replacement safety signs are available from your authorized Distributor, Dealer Parts Department, or Wallenstein Equipment.

Procedure

1. Be sure that the installation area is clean and dry.
2. Be sure temperature is above 50 °F (10 °C).
3. Determine exact position before removing from the backing paper.
4. Pull the decal off the backing sheet, align the sign over the specified area, then carefully press the exposed sticky backing in place.
5. Use a piece of the backing paper to smooth the decal out, pressing from the center outwards.
6. Small air pockets can be pierced with a pin and smoothed out using the piece of sign backing paper.

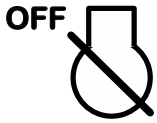
3. Controls

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

3.1 Kohler CH980 38HP Engine

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

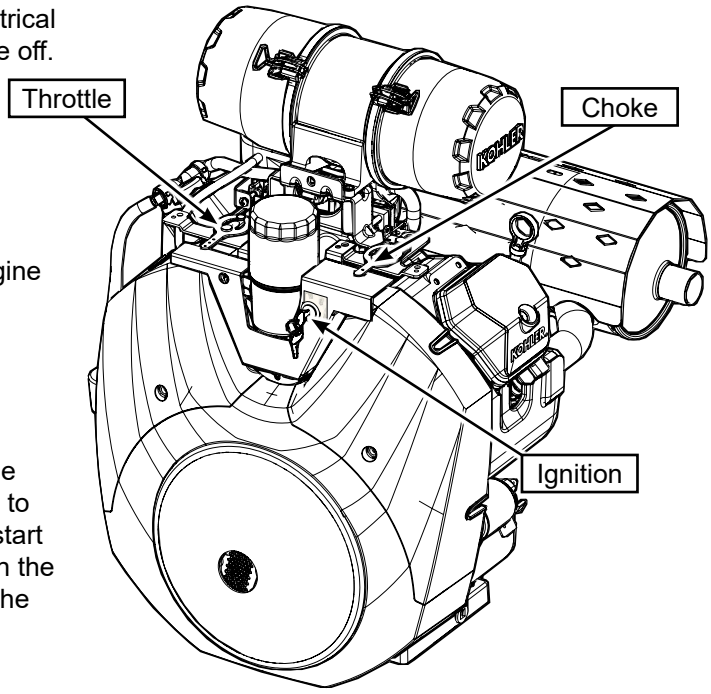
Ignition Switch: This key operated switch controls the electric power to the engine.

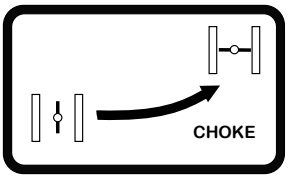


OFF Turn key fully counterclockwise to stop the electrical system power and turn the engine off.

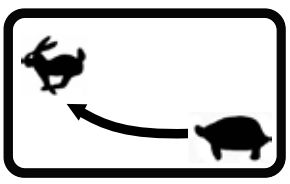
RUN / ON Turn clockwise to the centre detent for the run position. This is the position where the engine will continue to run.

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





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



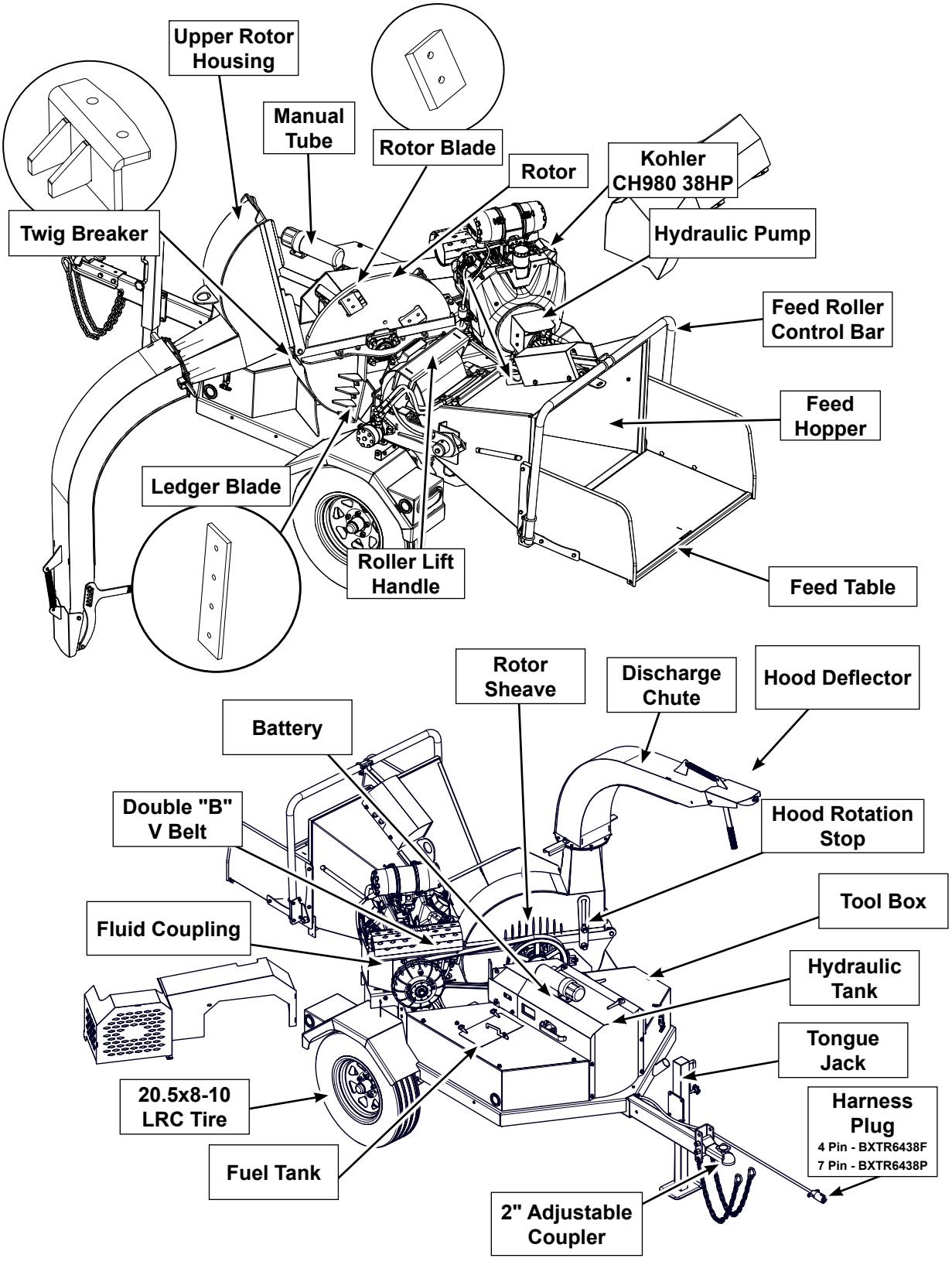
Throttle: This lever controls the engine RPM. Slide the lever to the left to increase engine speed and right to decrease.

3.2 Machine Components

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

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

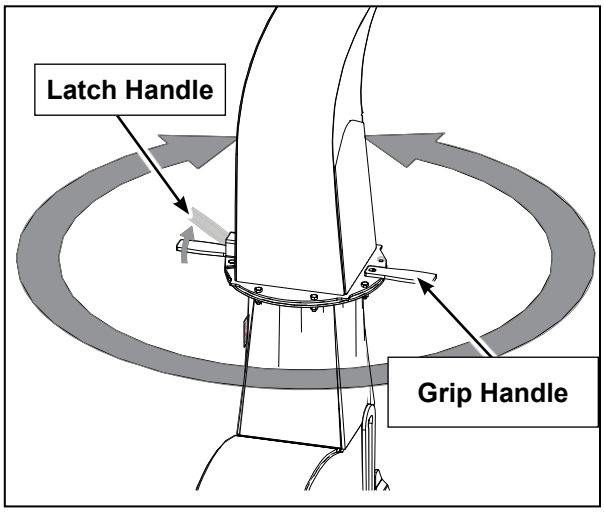
For a detailed parts breakdown, see your dealer or visit the Wallenstein website to download the ***BXTR6438 Parts Manual.***



3.4 Discharge Chute:

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

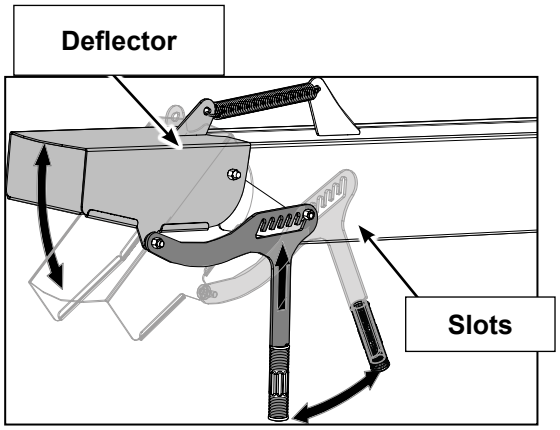
1. Lift the latch handle till the chute lock pin disengages.
2. Use the latch and grip handles to position the chute as required.
3. Release the latch handle and lock the chute into position at the next nearest lock point.



3.3 Hood Deflector:

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

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

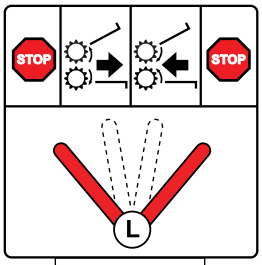


3.5 Roller Feed Control Bar

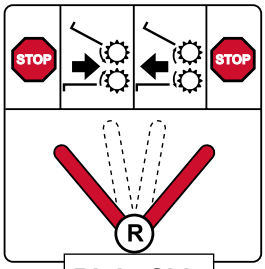
The feed roller control bar controls the forward, reverse and stop action of the feed rollers.

IMPORTANT

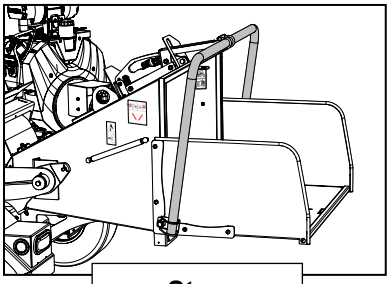
To quickly stop the feed rollers in an emergency situation, the bar can be rapidly pulled or pushed to its maximum position and will immediately stop the rollers. Rollers can be restarted by pulling the handle out of the stop position.



Left Side Label

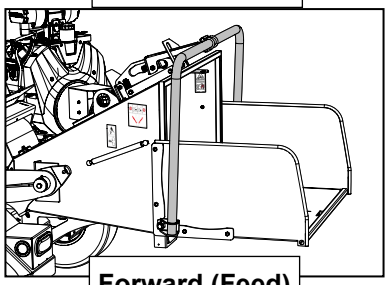


Right Side Label



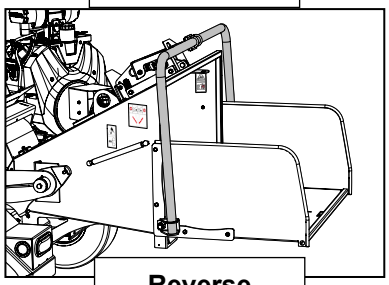
Stop

1. Pull the bar to its maximum detent position away from the feed table, into the forward stop position, and feed rollers stop turning.



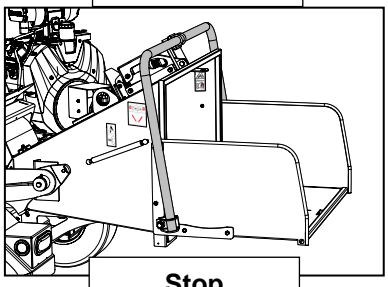
Forward (Feed)

2. Push the bar to the next detent position and the feed rollers begin to turn forward (feed). This is the normal operating position for the control bar and will stay in position until moved.



Reverse

3. Push the bar to its next position and the feed rollers will reverse. The control bar can be moved freely between forward and reverse without locking.

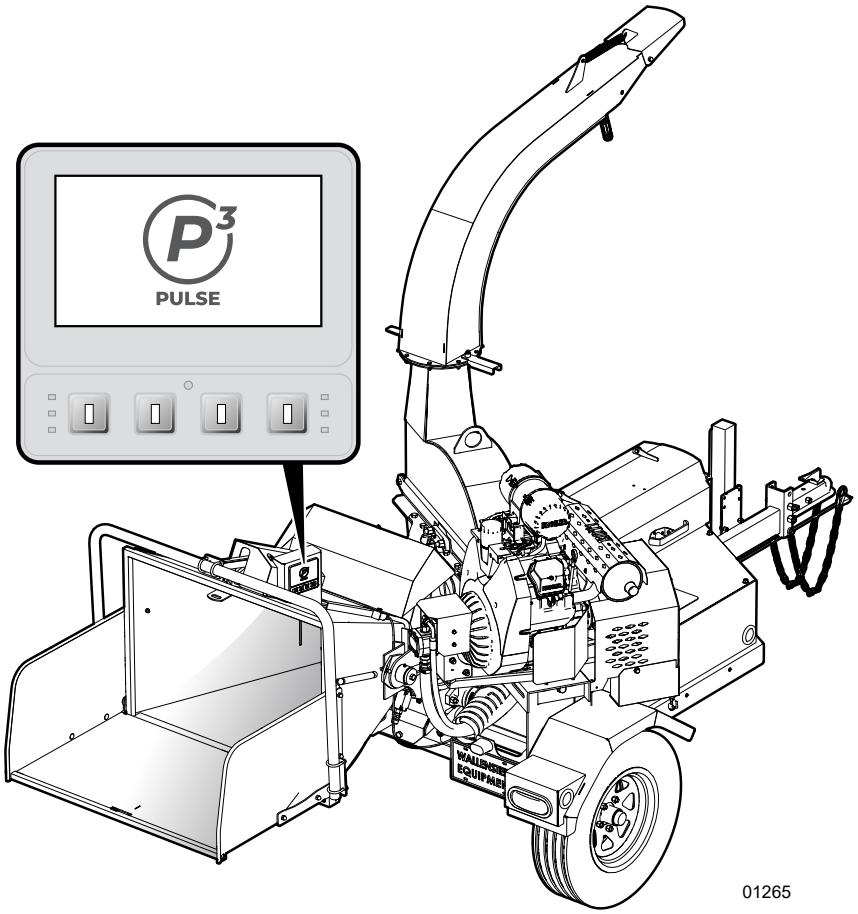


Stop

4. Push the bar to its maximum detent position, towards the feed table, into the back stop position, and feed rollers stop turning.

3.6 P3 PULSE Electronic Control System

Software version 2.0.0



3.6.1 Overview

The Wallenstein P3 PULSE Electronic Control System optimizes the capacity of the chipper. Operators can adjust feed settings to customize chip size when chipping any type of material. P3 tracks rotor hours of operation and provides system diagnostics. In the unlikely event the rotor becomes jammed with material, P3 quickly stops the engine to prevent clutch burn out.

P3 keeps the chipper working in the peak working range by matching feed rate with rotor speed. As material is put into the chipper, a sensor on the rotor sheave continually monitors rotor rpm. If the rotor slows down under load, P3 slows the feed roller speed allowing the rotor to recover. If it slows below the minimum rotor speed setting, P3 auto-reverses the feed rollers preventing a stall out. Wood material is then pulled away from the rotor giving it the opportunity to regain speed. Once back at operating rpm, the feed rollers start feeding material into the chipper again.

P3 PULSE consists of a rugged, user-friendly 4.3" (109 mm) display and electronic controller. From the display, the user can see all the important operating parameters. These parameters are set up depending on machine model.

Navigating through the menus is done with the four soft keys below the display screen. Icons in the display above the soft keys indicate menu selection options.

IMPORTANT! Graphical display and controller are not serviceable. Return to the factory in the event of failure.

3.7 Display

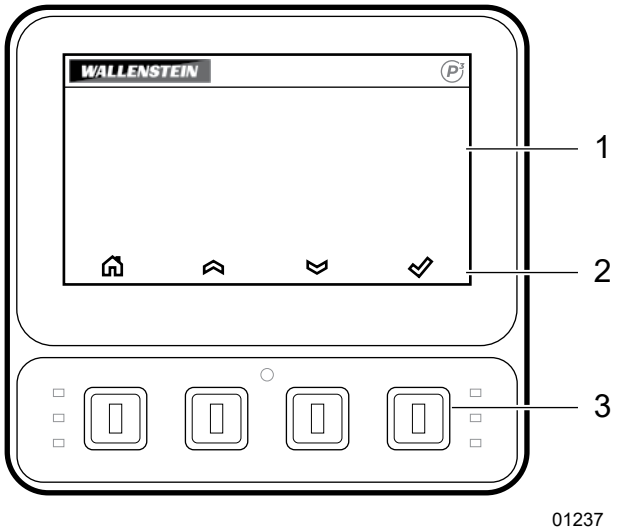


Fig. 2–P3 PULSE Display

1. Display Screen

The display screen is part of the P3 PULSE electronic control system display. The screen is an anti-glare coated, 4.3 in (109 mm) color display. The machine is controlled using the soft key navigation buttons.

2. Soft Key Icons

These icons are displayed directly above the soft key navigation buttons. They indicate the current selection options and are only shown when a selection is available.

- Settings
- Home
- Up arrow
- Down arrow
- Select (enter)
- Cancel

3. Soft Key Navigation Buttons

Use the four context-dependent soft keys located on the front of the display to navigate through the information and configuration screens.

3.8 Start-up Screen

The start-up screen briefly displays the P3 PULSE™ logo when the key is turned ON.

NOTE: Machine model is selected by the manufacturer or dealer to set the default P3 PULSE operating parameters.

3.9 Display Screens

Main screen

The Main screen is the default screen that is displayed when the ignition key is in the ON position. Pressing the soft key below *Home* on any screen opens the Main screen.

If the display is left unattended (approximately 60 seconds), the system returns to the Main screen.

The Main screen displays:

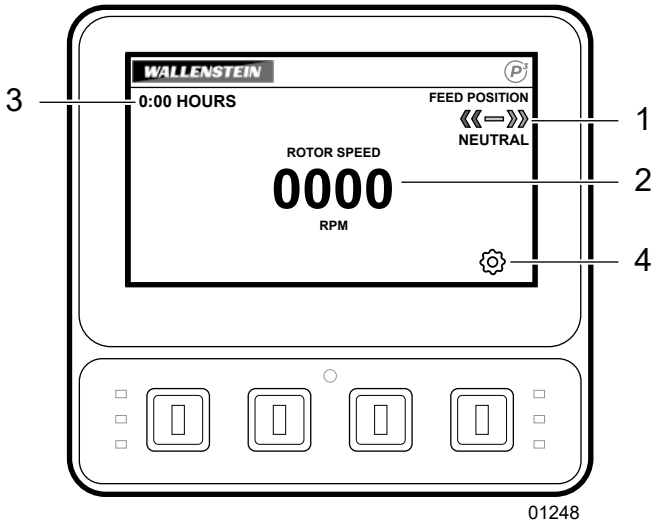


Fig. 3 – Main screen

1. Feed Position

Feed roller drive position is displayed with colored icons to indicate direction.

REVERSE — REVERSE (red arrows) – feed rollers are reversing. Material in the rollers is pulled back, away from the rotor.

NEUTRAL — NEUTRAL (amber) – feed rollers are stopped.

FORWARD — FORWARD (green arrows) – feed rollers are going forward. Material in the rollers is pushed into the rotor.

LOW RPM — LOW RPM (green arrows) – with the feed control bar in Forward, the feed rollers are not moving because rotor rpm is too low for chipping. When the engine speed increases above the minimum start speed and the feed rollers start to move, FORWARD is displayed.

2. Rotor Speed (rpm)

Displays the speed (revolutions per minute) the rotor is turning. A value of 0000 indicates the rotor is not turning.

3. Hours

Counts the total operating hours of the rotor. (Engine hours are displayed on the hour meter beside the ignition key. Use the engine hours as a service interval guide.)

4. Settings

Press the soft key below *Settings* to open the **Settings Menu** screen.

Settings Menu screen

On the **Main** screen, press the soft key below ⚙ *Settings* to open the **Settings Menu** screen. Use this screen to select a settings option. All settings are retained when the machine is shut down.

The Settings Menu screen includes:

- FEED SETTINGS – Opens the Feed Settings screen (see *page 26*) to set the maximum or minimum feed roller speed, feed roller start speed, or minimum feed rotor speed.
- RESET DEFAULTS – Opens the Reset Defaults screen (see *page 28*) to confirm that you want to return all settings to the factory default values.
- DIAGNOSTICS – Opens the Diagnostics screen (see *page 28*) to see an overview of the machine operating parameters (for example; feed roller position, rotor speed, solenoid valve current, or current feed settings).
- ENTER PASSWORD – This is for use by Wallenstein technicians and dealers.

Open a screen:

1. Use the soft key below the ⌃ *Up arrow* or ⌄ *Down arrow* to scroll through the menu options. The active selection is highlighted.
2. Press the soft key below ✓ *Select* to open the highlighted screen.

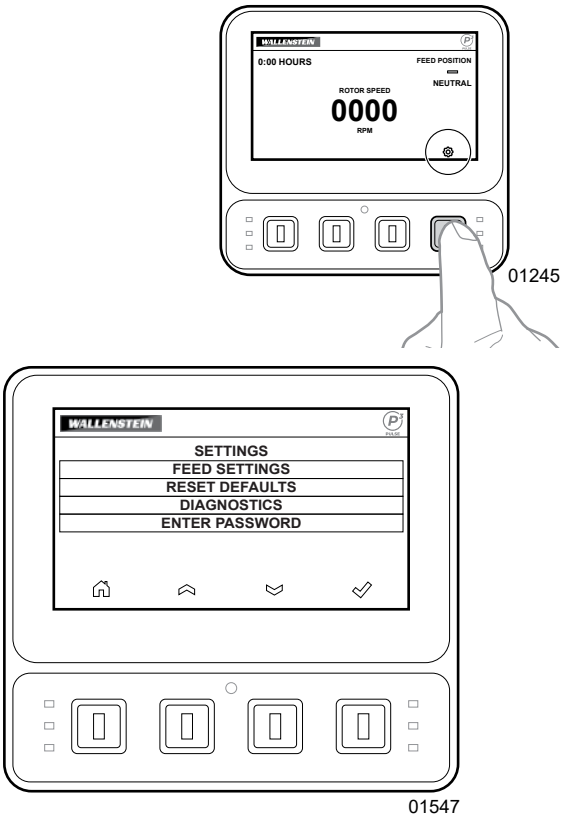


Fig. 5–Settings Menu screen

Feed Settings screen

The **Feed Settings** screen provides access to the four main P3 PULSE program settings. The active selection is highlighted.

The initial selection is MAX FEED SPEED.

Change settings:

1. If required, press the soft key below the ⌃ *Up arrow* or ⌄ *Down arrow* to change the setting number.
2. Press the soft key below ✓ *Select* to save the displayed number and select the setting to the right.
3. Repeat Steps 1 and 2 three times to change the settings, as required, and return to **Settings Menu** screen.

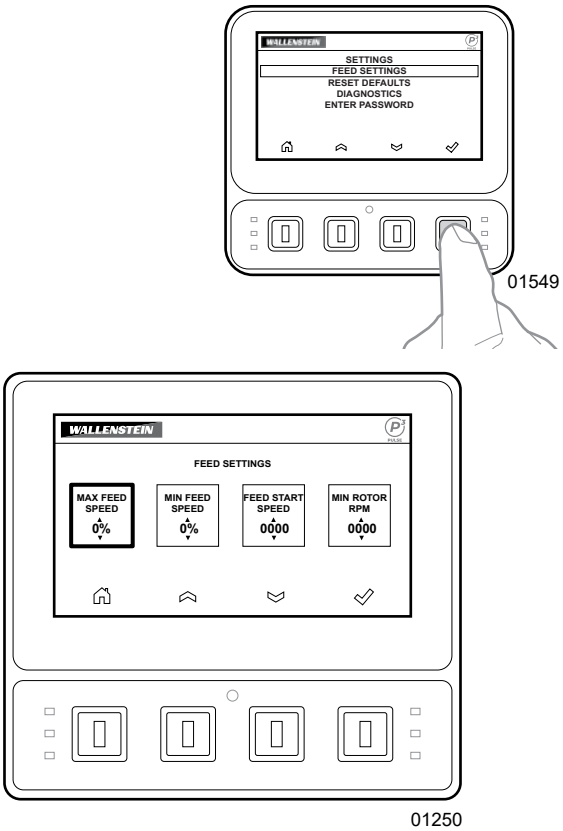


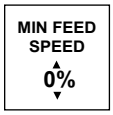
Fig. 4–Feed Settings Screen

Max Feed Speed

Sets the maximum (max) feed roller speed in 5% increments. The value is shown as a percentage of the maximum speed (100%).

- Set MAX FEED SPEED higher for larger chip size. It can be set and left at 100%.
- Set MAX FEED SPEED lower (close to the MIN FEED SPEED) for smaller consistent chip size.

Min Feed Speed



Sets the minimum (min) feed roller speed in 5% increments. The value is shown as a percentage of the maximum speed (100%). Setting the MIN FEED SPEED higher provides a larger chip size and prevents the chipper from slowing up as much when wood is put through.

The MIN FEED SPEED cannot be set higher than 5% below the MAX FEED SPEED.

Feed Start Speed

Sets the rpm point where the feed rollers start up.

Min Rotor rpm

Sets the low rpm point where the feed rollers auto-reverse. If the rotor speed slows down under load below this setting, the P3 PULSE auto-reverses the feed rollers. Once the rotor regains speed, forward feed resumes. If the engine stalls out, MIN ROTOR RPM is set too low.

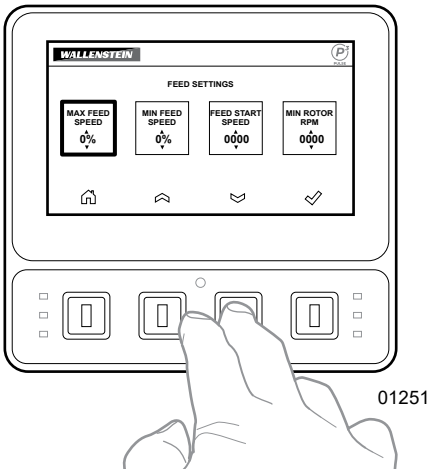


Fig. 6 – Select a setting

Performance Hints

The factory settings provide good overall performance for the machine; however, you may choose to customize performance.

Some helpful hints:

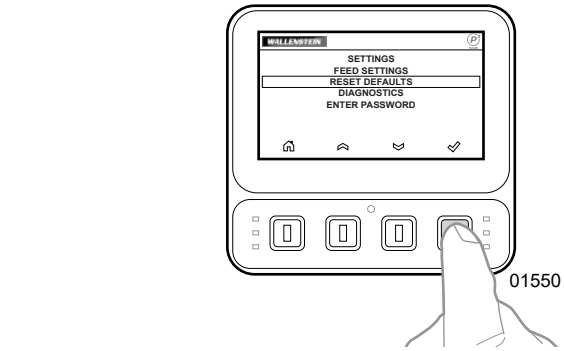
- For very heavy brush – decrease MAX FEED SPEED to slow the feed roller speed.
- For smaller, consistent chip size – decrease MAX FEED SPEED closer to MIN FEED SPEED.
- For larger chip sizes and more aggressive feeding – Leave MAX FEED SPEED at 100% and raise MIN FEED SPEED.

Reset Defaults screen

The Reset Defaults screen provides the option to return the P3 PULSE setup parameters to the factory settings or cancel and keep the current settings.

Complete one of the following:

- To cancel and return to the **Settings Menu** screen without changing the current settings, press the soft key below ✗ *Cancel*.
- To reboot the P3 PULSE and reset the system to the factory default settings, press the soft key below ✓ *Select*.



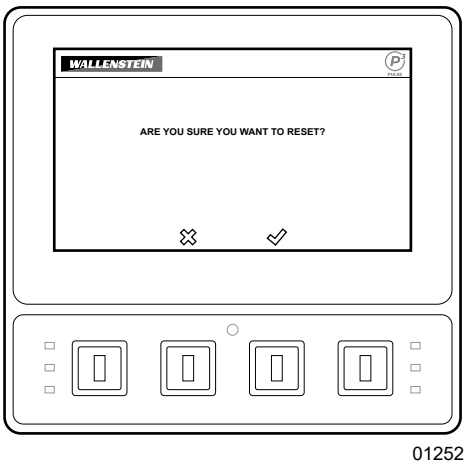


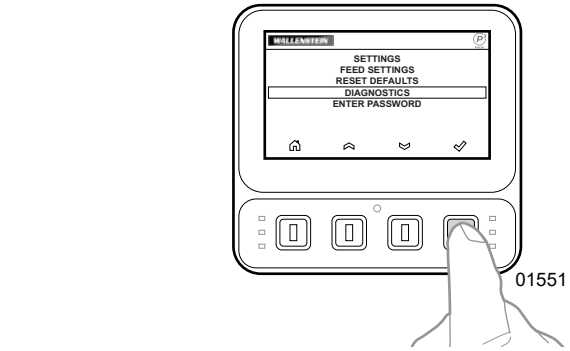
Fig. 7 – Reset Defaults screen

Diagnostics screen

The Diagnostics screen is typically used by technicians for debugging and testing purposes. However, during operation you can observe all the machine parameters on this screen.

The Diagnostics screen displays the following information:

- ENGINE RPM (for example; 3600).
- Machine model (for example; BXTR5224).
- Current state of the feed roller drive (for example; NEUTRAL).
- ROTOR SPEED – the speed (rpm) the rotor is turning. 0000 indicates that the rotor is not turning.
- VALVE CURRENT – the electrical current (amperes) supplied to the forward solenoid on the control valve. 0000 indicates that no electrical current is being received.
- Current feed settings that are available on the Feed Settings screen (see *page 26*).
- Controller software version (for example; CV:2.0.0).
- Display software version (for example; DV:2.0.0).



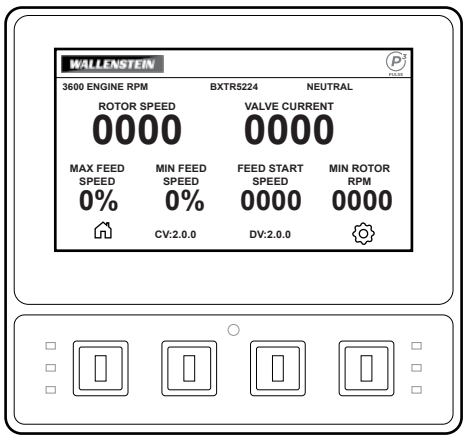


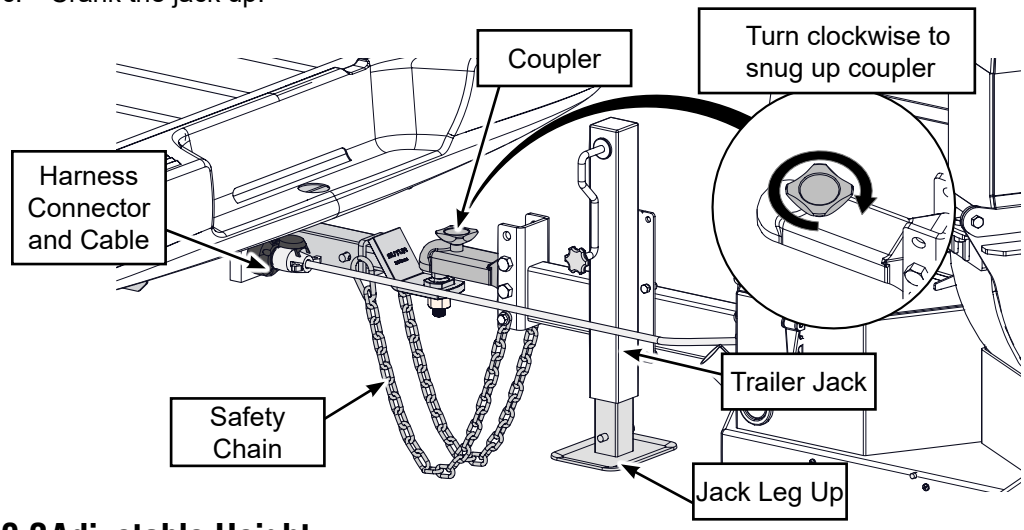
Fig. 8 – Diagnostics screen

3.10 Ball and Coupler

3.10.1 Coupling for transport

Review the transport safety section (2.7) before proceeding.
The Wood Chipper should always be located on a level, dry area that is free of debris and other foreign objects. When attaching the machine to a tow vehicle, follow this procedure:

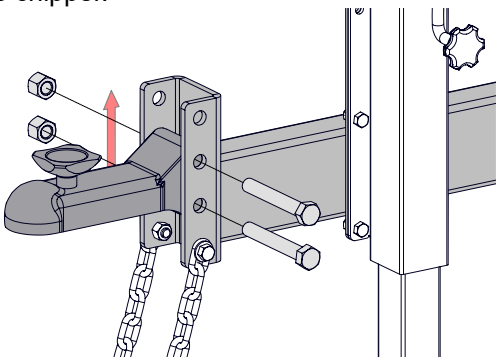
1. Make sure that all bystanders, especially small children, are clear of the working area.
2. Make sure there is enough room and clearance to safely back up to the machine.
3. Use the trailer jack to raise the tongue above the height of the tow vehicle ball hitch.
4. Slowly back the tow vehicle until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



3.10.2 Adjustable Height

An additional feature of the hitch coupler is adjustable height. Handy when using a different tow vehicle to haul the chipper.
Ensure the chipper is located on a level, dry area that is free of debris and other foreign objects, and chocks are applied to the wheels to prevent unexpected movement of the chipper.

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



4. Operating Instructions

4.1 Safety Rules

- Please remember it is important that you read the operator's manual and heed the safety signs on the Trailer Wood Chipper. They are there for your safety, as well as the safety of others. The safe use of this machine is strictly up to you, the operator.
- Personal protection equipment including hearing protection, hard hat, safety glasses, safety shoes, and gloves are recommended during assembly, installation, operation, adjustment, maintaining, or repairing. Do not allow long hair, loose-fitting clothing, or jewelry to be around moving parts.
- Turn machine off, stop and disable engine, remove ignition key and place in your pocket, set park brake and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
- Do not run machine inside a closed building to prevent asphyxiation from engine exhaust.
- Use care when feeding material into chipper. Do not send metal, bottles, cans, rocks, glass or other foreign material into wood chipper. If foreign material enters chipper, stop machine, turn engine off and place ignition key in your pocket and wait for all moving parts to stop before removing material and/or unplugging. Inspect machine for damaged or loose parts before resuming work.
- Never use alcoholic beverages or drugs which can hinder alertness or coordination while operating this equipment. Consult your doctor about operating this machine while taking prescription medications.
- Do not allow riders on this machine at any time. There is no safe place for any riders.
- Never allow children or unauthorized people to operate or be around this machine.
- Do not reach into feed rollers or feed hopper when the engine is running. Inspect and secure all access covers before starting engine.
- When operating this equipment always have at least 2 operators present and trained in safe operation of the machine. All operators must be completely familiar with all components of the machine and their function. **Never work alone!**
- 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.
-

4.2 To the New Operator or Owner

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

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

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

Important

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

⚠ SAFE CONDITION

- Shut off engine. Remove ignition key.
- Make sure all moving parts have stopped.
- Disconnect battery ground (-) cable.
- Block or chock wheels.

- Do not move or transport chipper when the rotor is turning.
- 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.
- Never stand, sit or climb onto any part of the chipper while it is running.
- Use the rotor lock to immobilize the rotor when attempting to clear a clog or changing chipper blades.
- Shut down the chipper and remove the ignition key when it is unattended.

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

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

4.2.1 Prepare

- 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 page 20)
- Review and follow the Pre-operation Checklist.
- Review operation and function of the controls page 19.
- 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.
- Each person must wear appropriate **Personal Protective Equipment (PPE)** whenever operating the chipper or working in the vicinity. This equipment is designed to prevent injury to any personnel in the area. This list includes but is not limited to:
  - Safety shoes with slip resistant soles.
  - Safety goggles or face shield.
  - Hearing protection.
  - Heavy or leather gloves.

4.3 Pre-start Checks

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

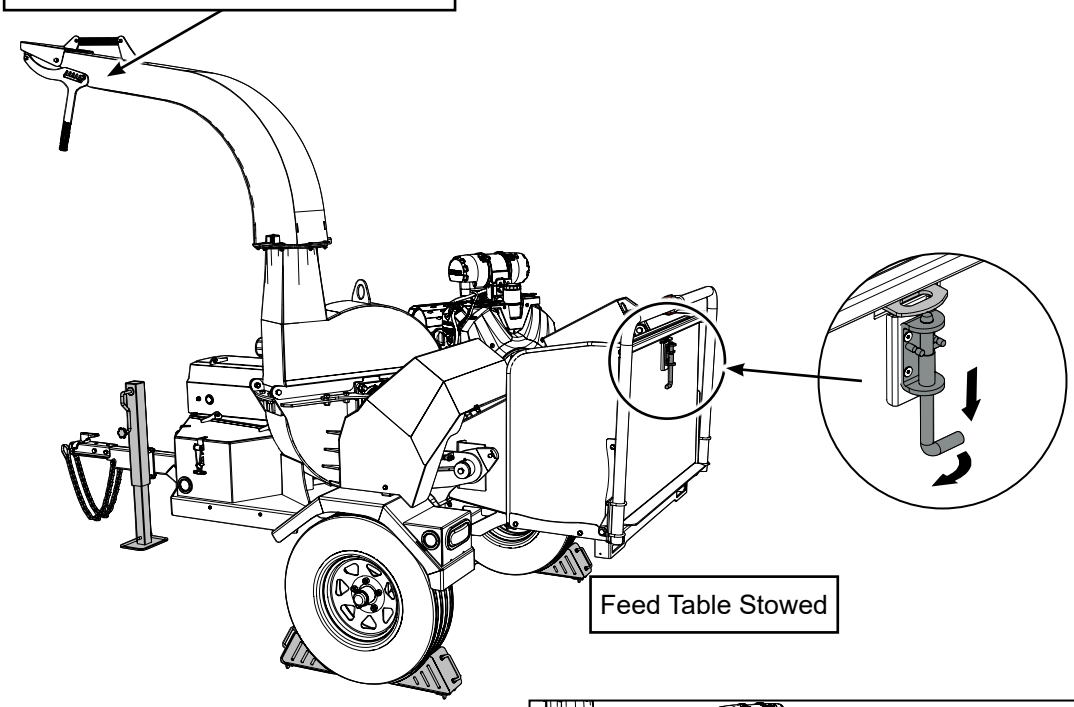
Pre-Operation Checklist	✓
Check and lubricate the machine per the schedule outline in the Maintenance Section.	
Check the tension and alignment of the belts. Adjust tension and align as required.	
Check the rotor housing and discharge chute,. Remove any blockages, twine, wire or other material that has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

4.4 Machine Set-up

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

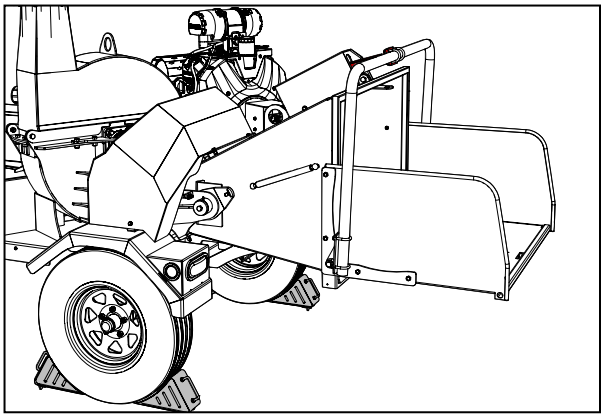
1. Use the tow vehicle to position the Wood Chipper at the work site.
2. For greater stability leave your chipper attached to the tow vehicle. The chipper can be used as a stand alone, but be sure to chock the wheels.
3. Lower the crank jack so that the machine is stable.
4. Open the latch on the feed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

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



Feed Table Stowed

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



Feed Table Down

4.5 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. Inspect the axle, tires, wheels, and hub maintenance.
2. Check alignment of pulleys. Align as required.
3. Check belt tension. Adjust as required.
4. Torque all fasteners and hardware.
5. Check condition of rotor bearings.
6. Check the condition and clearance of the twig-breaker, rotor and ledger blades. Adjust as required.
7. Check for entangled material. Remove all entangled material before resuming work.
8. Check tire pressure. Inflate as required.
9. Check condition of electrical and hydraulic components. Keep all components in good condition.
10. Check all fluid levels. Top up as required.

B. **After operating for 8 hours:**

1. Repeat steps 1 through 10.
2. Go to the normal servicing and maintenance schedule as defined in the Maintenance Section page 42.

C. **After operating for 20 hours:**

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

4.6 Engine Controls

Refer to the Kohler® engine manual for further explanation on engine controls.

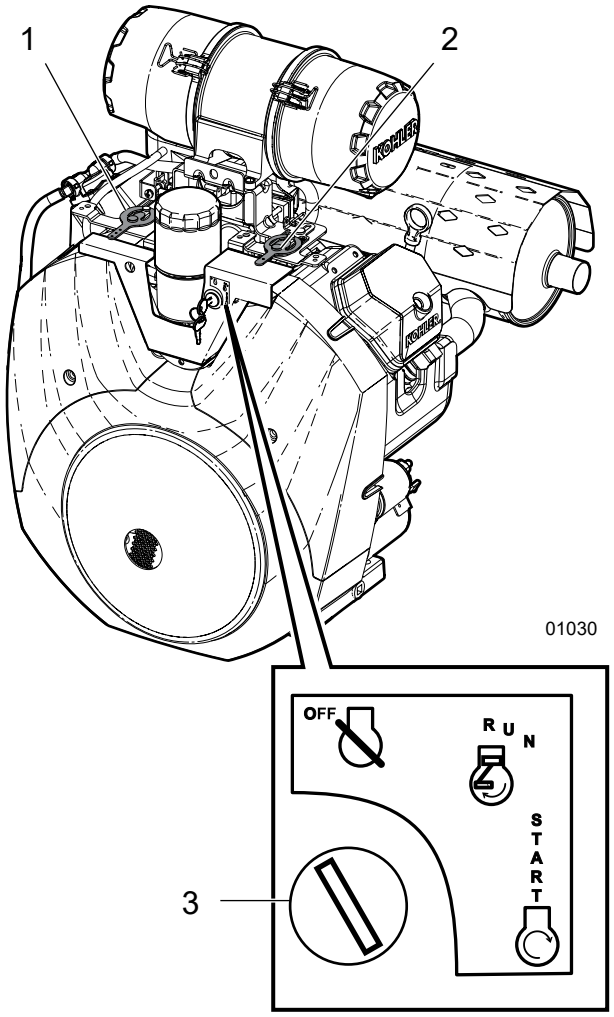
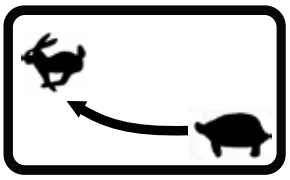


Fig. 9 – Engine Controls

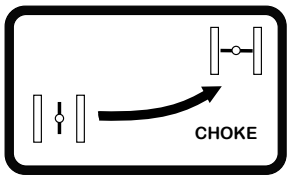
1. Throttle Lever
2. Choke Lever
3. Ignition Switch



Throttle

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

Choke



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

Ignition Switch

The ignition switch has three positions—OFF, RUN, and START.

OFF – The engine is off in the OFF position. Turn the switch counterclockwise to OFF to stop the engine.

RUN – In the RUN position, the fuel supply solenoid supplies fuel to the engine. The machine operates in this position.

START – In the START position, the starter engages. When released, the switch returns to RUN.

4.6.1 Starting Procedure

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

1. The Wood Chipper should be set up and ready to run.
2. Set park brake if connected to tow vehicle.
3. Lower the support leg stand.
4. Close the choke if the engine is cold.
5. Move the throttle to its 1/4 throttle position. (If the throttle is set any higher the centrifugal clutch could potentially engage and stall a cold engine.)
6. Use the ignition key and turn it to the "start" indicator to turn over the engine. Release the key when the engine has started and the key will return to the centre run position.
7. Run the engine for a few minutes to allow it to warm.
8. Gradually open the choke.
9. Turn the discharge head to its desired position.
10. Slowly increase the engine speed to engage the centrifugal clutch.
11. Increase throttle setting to maximum speed for operation.
12. Ensure that the rotor is up to speed, start feeding material into hopper.

4.6.2 Stopping:

1. Stop feeding material into the hopper.
2. Slow engine to idle.
3. Turn ignition switch off.

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

4.6.3 Emergency Stopping

If an emergency occurs:

- Shut off the engine.
- Correct emergency situation before restarting engine and resuming work.

4.7 Chipping Operation

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

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

Do not place metal, bottles, cans, rocks, glass or other solid material into the wood chipper. If something like this gets into the machine, stop the machine immediately for a detailed inspection.

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

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

- De-limb large branches and trees, the limbs on the branches may catch the roller feed control bar as they pass by them and shut the rollers off.
- 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.

Caution: Do not reach into the feed hopper at any time, use a stick or branch to push any piece of material into the rollers that does not move on its own. If the jam persists then stop the engine and wait for the rotor to stop and then clear the jam.
Do not chance getting your hand caught in the rollers.

4.8 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. Before shutting the engine off, reverse the feed rollers to remove the material from the feed hopper.
2. Place the machine in a **Safe Condition** before beginning.

⚠ SAFE CONDITION

- Shut off engine. Remove ignition key.
- Make sure all moving parts have stopped.
- Disconnect battery ground (-) cable.
- Block or chock wheels.

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

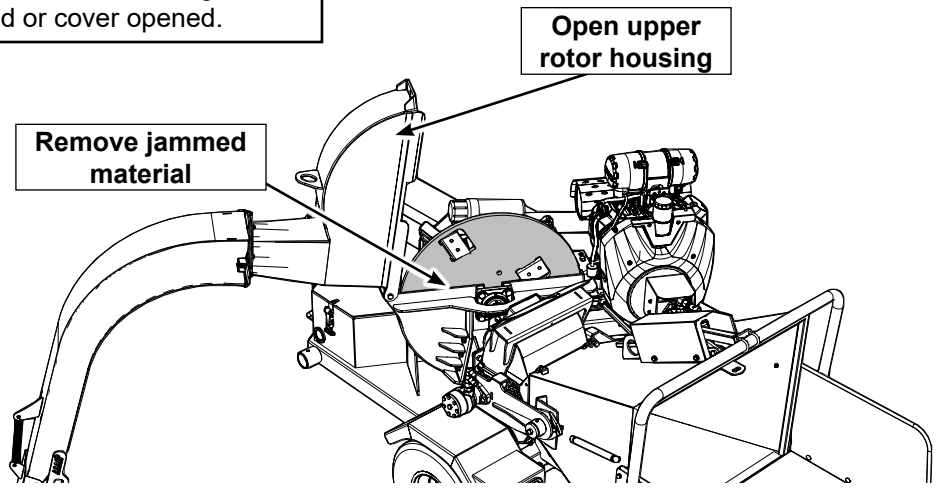
4.8.1 Severe plug:

1. Ensure the machine is in **safe condition** before beginning to unplug (see 4.8.5)
2. Clear the area of bystanders, especially small children.
3. Open the upper rotor housing.
4. Remove jammed material from inside the rotor compartment.
5. Clean out the discharge chute.
6. Inspect the lower rotor housing and clean out any debris.

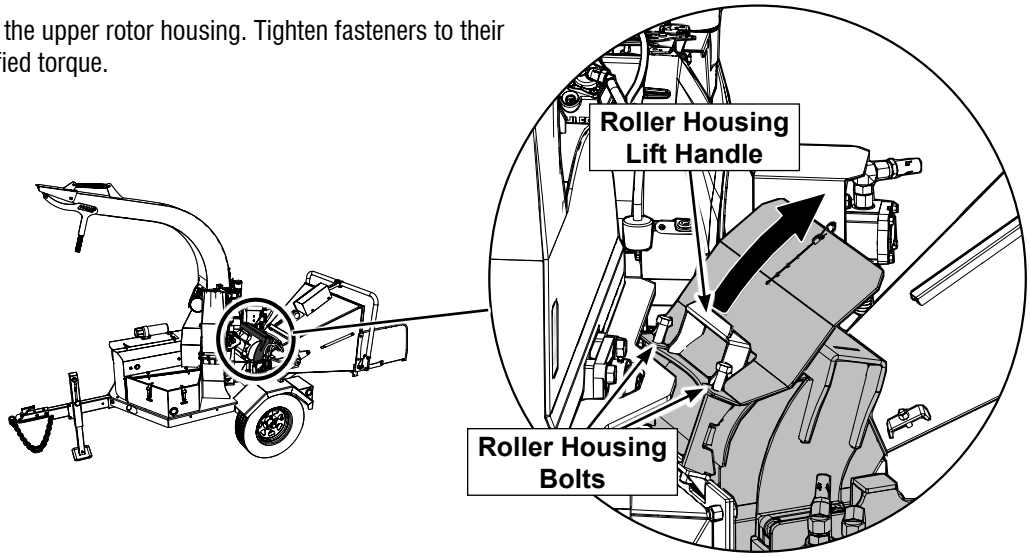
IMPORTANT! Be aware that the rotor has 4 chipper blades. Reaching into the rotor compartment to clear a plug must be done with great care.

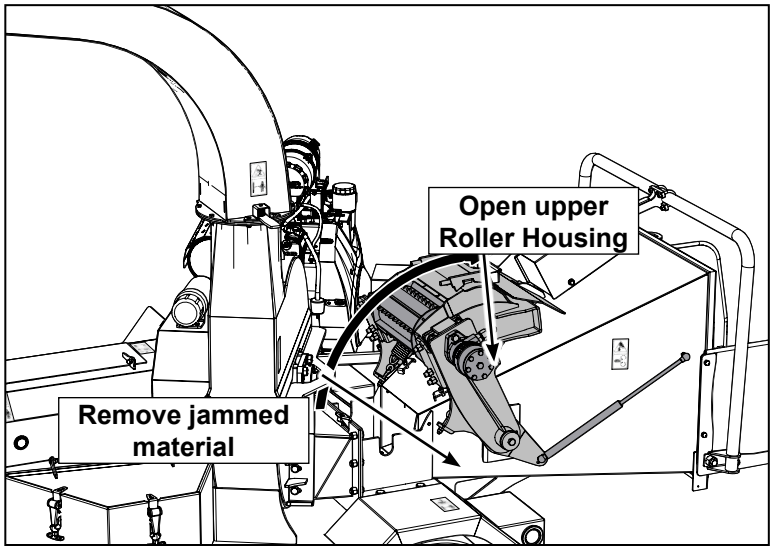
7. If required, rotate the rotor: **very carefully** and slowly turn the rotor by hand to be sure there is nothing jammed between the rotor and stationary blades. **Do not reach into the rotor housing while the rotor is moving.**
8. Unscrew the 2 bolts that secure the upper roller assembly.
9. Grasp the roller assembly lift handle, and pull the assembly up and back.

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



10. Once the roller assembly is up, the gas springs will keep the assembly up in position, and you will have access to the roller housing.
11. **Carefully** reach into the roller housing and remove any debris.
12. If required to dislodge material in or around the rotor: **very carefully** and slowly turn the rotor by hand, remove any jammed material. **Do not reach into the roller housing while the rotor is moving.**
13. When all debris has been removed, lower the upper roller housing back into position, and tighten up the housing bolts.
14. Close the upper rotor housing. Tighten fasteners to their specified torque.
15. Check that everyone is clear of machine before restarting engine.
16. Start the engine and resume working.

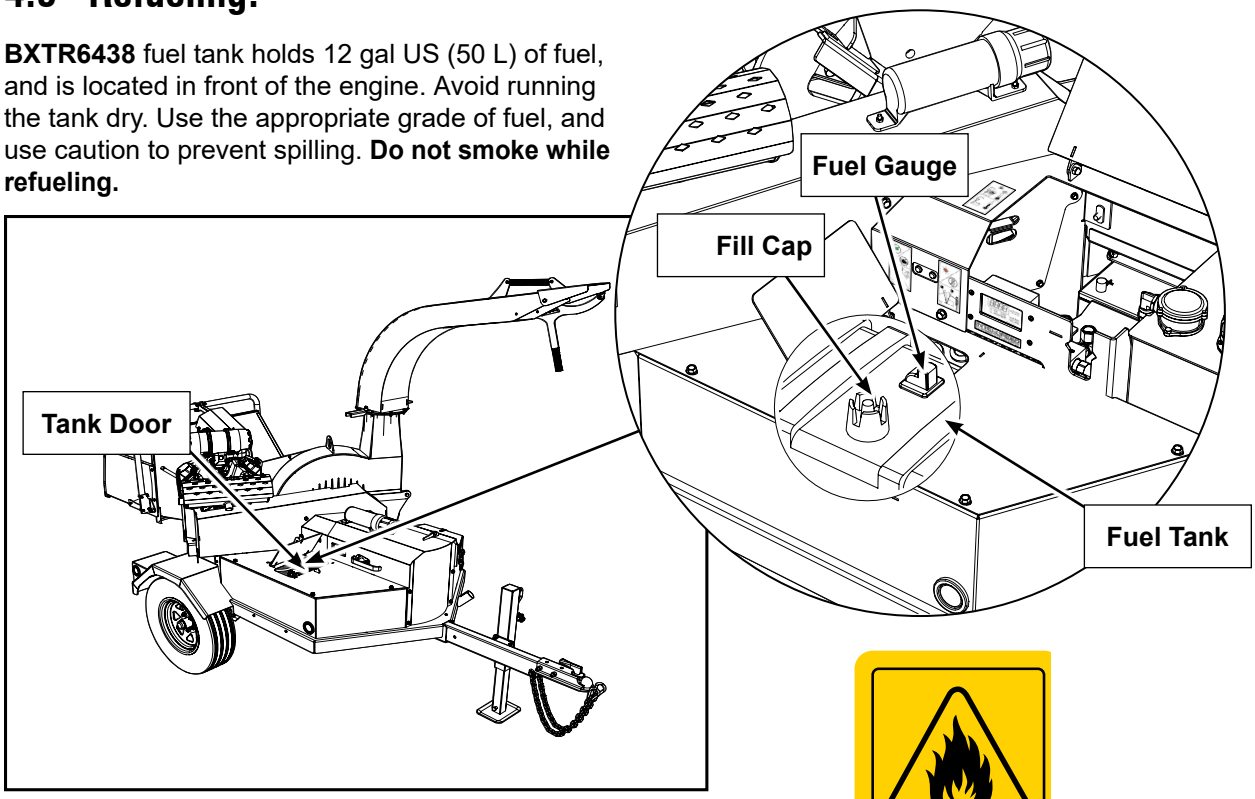




Caution: Machine is shown with guard removed or rotor cover opened for illustrative purposes only. Do not operate machine with guard removed or cover opened.

4.9 Refueling:

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



To add fuel:

1. Allow the engine and muffler to cool.
2. Clean area around fuel compartment lid, and open it.
3. Remove cap.
4. Using a clean funnel, fill fuel tank to 1/2" (13 mm) below bottom of filler neck to provide space for any fuel expansion. Do not overfill.
5. Install fuel fill cap securely and wipe up any spilled fuel.

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

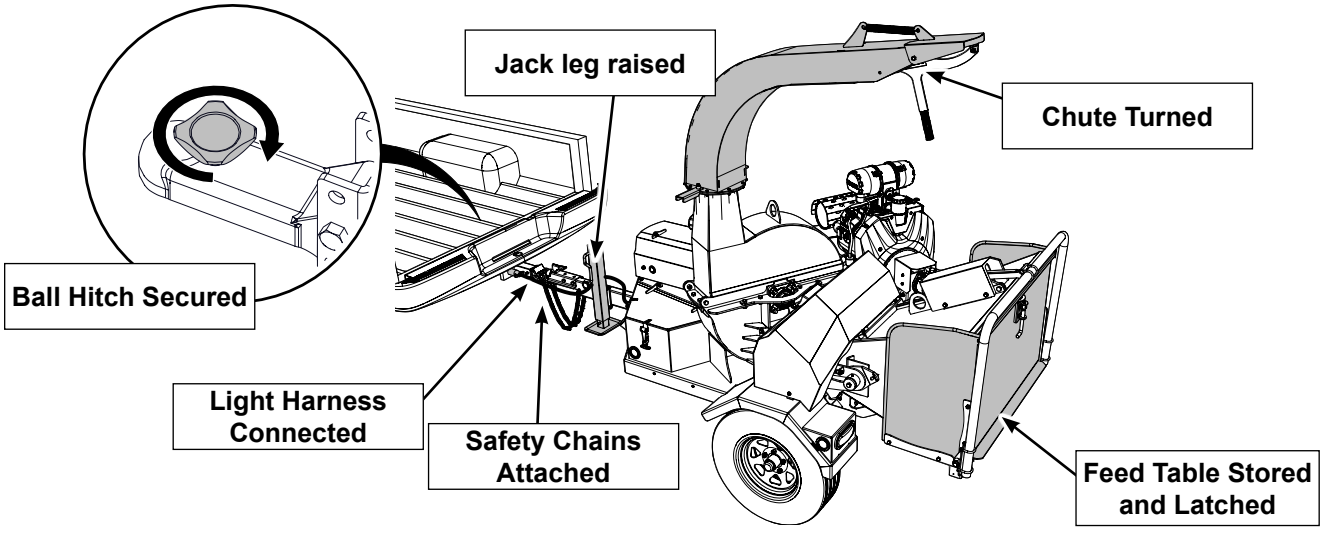
- Do not smoke while refueling
- Keep sparks, flames, and hot material away
- Ensure the engine is off and cooled
- Ensure muffler is cooled

4.10 Transporting

4.10.1 Prepare for Transport:

Follow these instructions:

1. Stow feed table and secure the latch.
2. Insure that the machine is securely attached to the tow vehicle and the ball coupler hand wheel is snug. Insert mechanical retainer through the ball hitch.
3. Always use safety chains crossed underneath the trailer tongue.
4. Raise jack stand and secure it to the transport socket on the side of the trailer.
5. Connect the light harness cable. Check that all the lights and reflectors required by the highway authorities are in place, clean and working.
6. Check tire air pressure. Check for cuts or damaged rims.
7. Check lug nuts and re torque if necessary. New chippers check after 20-25 mi (32-40 km) and regularly check weekly.
8. Inspect and replace any axle dust caps that are damaged or leaking.
9. Turn the discharge hood and point toward the feed table to reduce the width of the machine.
10. Check and secure chipper components including:
    - Tool and tank doors latched
    - Belt access covers, and shields secured
    - Rotor housing secured
    - Feed table latched.
11. Do not allow riders. Do not drink and drive.
12. Never exceed 50 mph (80 km/h). Slow down when encountering rough road conditions and cornering.



4.11 Storage

STORAGE SAFETY

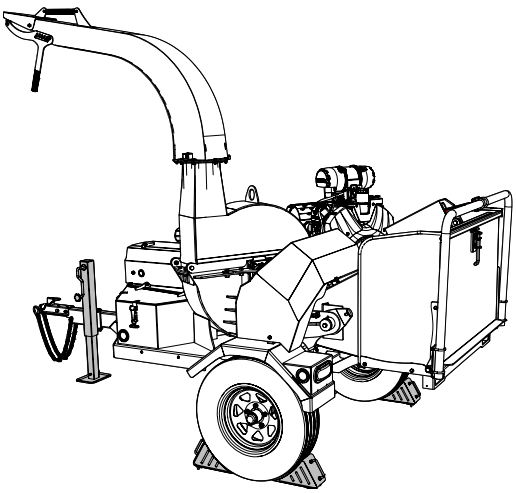
- Store the chipper in an area away from human activity.
- Do not permit children to play on or around the stored machine.
- Replace any missing or unreadable safety decals.
- Allow machine to cool before covering or storing in an enclosure.

4.11.1 Placing in Storage

After the season's use or when the machine will not be used for a period of time, completely inspect all major systems of the BXTR6438 Trailer Wood Chipper. Replace or repair any worn or damaged components to prevent any unnecessary down time at the beginning of the next season.

Follow this procedure before storing:

1. Review the engine owners manual concerning storage preparations.
2. Add fuel stabilizer to the fuel tank. Operate the engine for a few minutes to let fuel cycle through the system.
3. Remove ignition key and store in a secure place.
4. Remove the battery and store it in a cool, dry area that won't freeze. Connect a battery maintainer to keep it at full charge.



Prepared for Storage

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

4.11.2 Removing from Storage

When removing this machine from storage, follow this procedure:

1. Review and follow the pre-operation checklist.
2. Review safety and operation procedures.
3. Install and connect the battery.

5. Service and Maintenance

MAINTENANCE SAFETY

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

5.1 Fluids and Lubricants

1. **Grease**: Use an SAE multipurpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multipurpose lithium base grease.
2. **Engine Oil:** Refer to the engine manufacturer's manual for maintenance and service information.
3. **Engine Fuel:** Refer to the engine manufacturer's manual for fuel type information.
   Fuel Tank Capacity: 50 L (12 US Gal.)
4. **Hydraulic Oil:** Use Dexron III hydraulic oil for all operating conditions.
   Reservoir Capacity 30 L (7 US Gal.)
5. **Storing Lubricants:** Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture and other contaminants.

5.2 Greasing

Refer to section 7.1.1 for recommended grease.

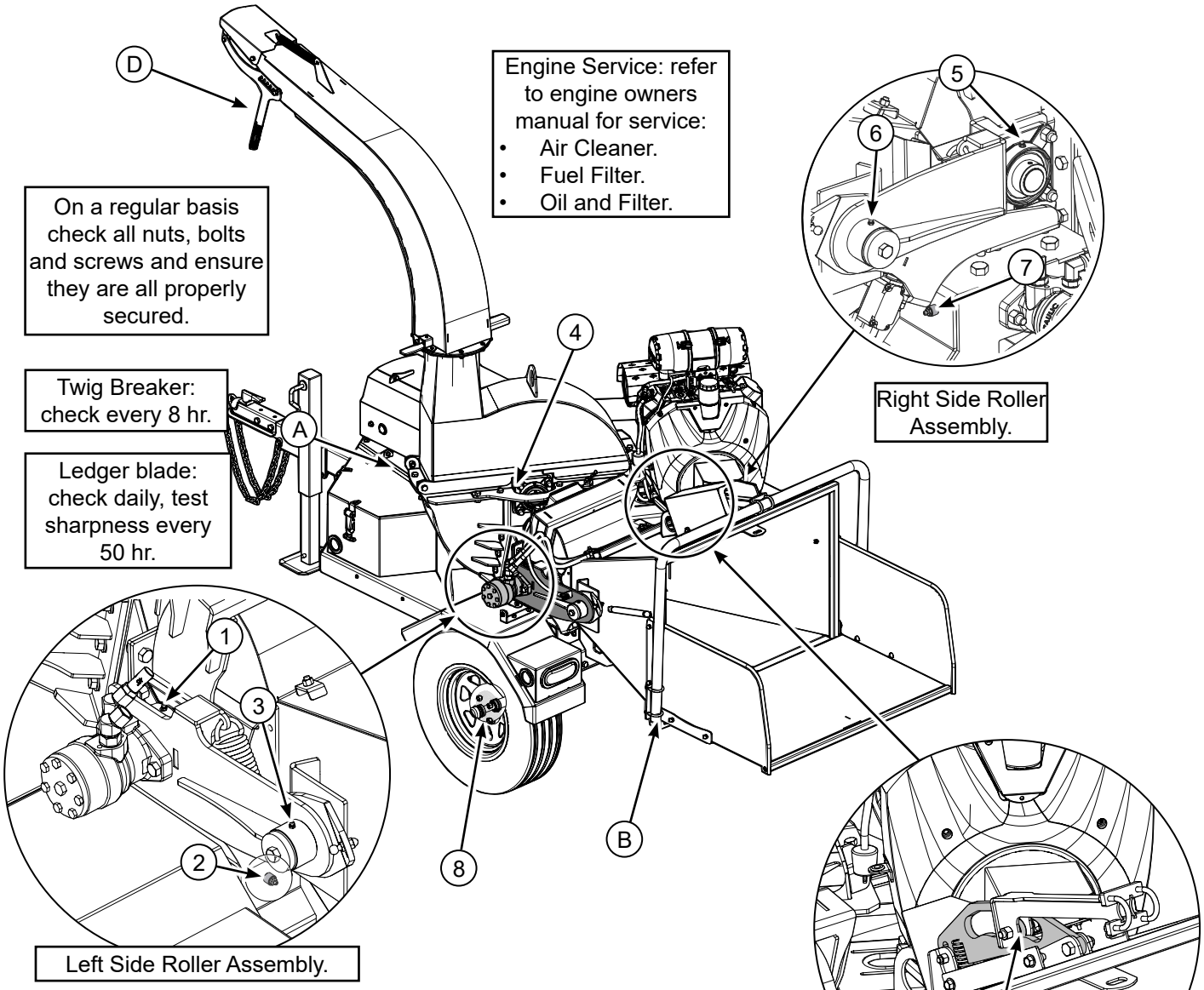
Use the Maintenance Checklist provided to keep a record of all scheduled maintenance.

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

5.3 Service Illustration

See Service Record Chart

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



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

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

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

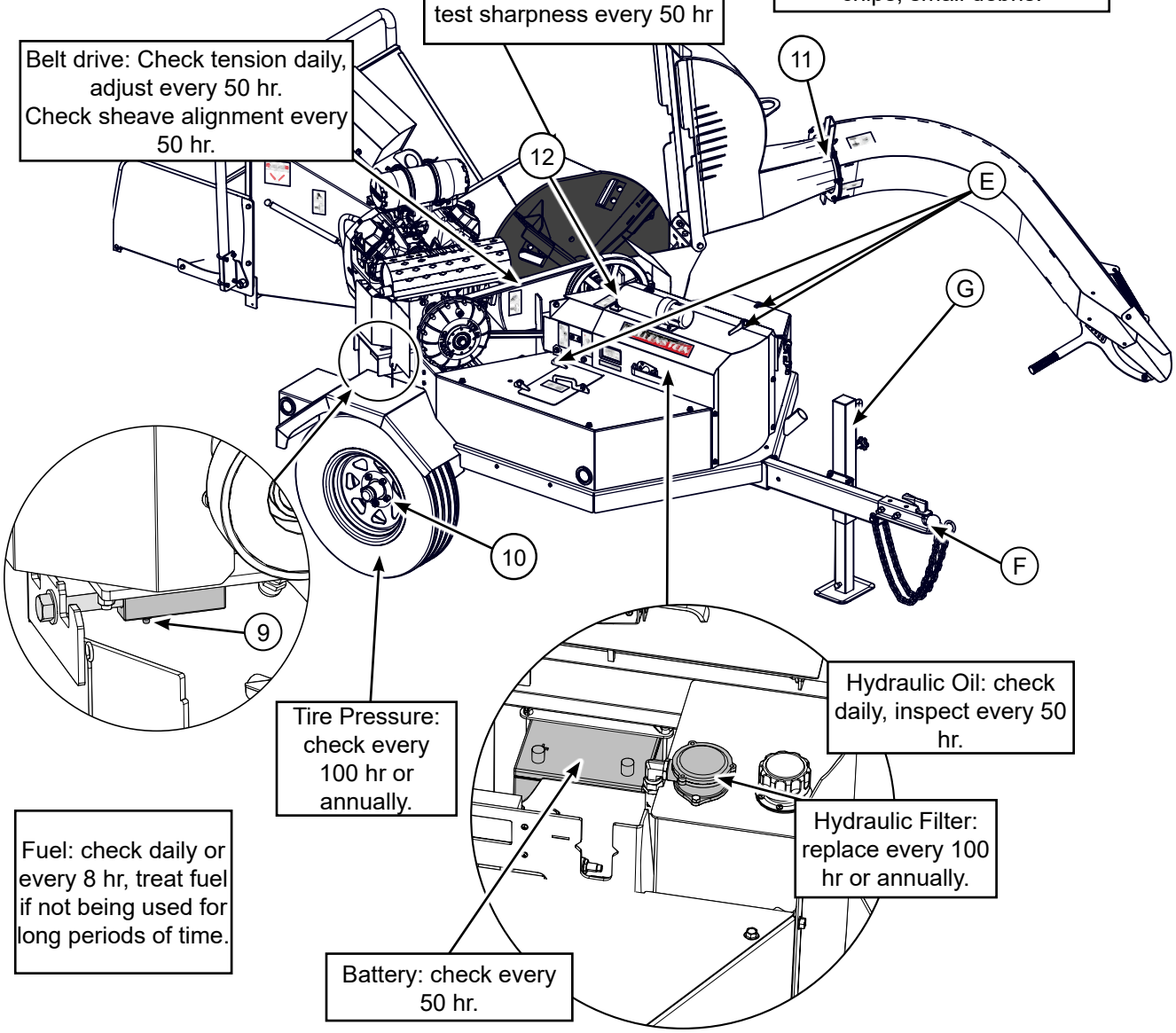
WARNING

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

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

Rotor blades: check daily, test sharpness every 50 hr

Belt drive: Check tension daily, adjust every 50 hr.
Check sheave alignment every 50 hr.



Tire Pressure: check every 100 hr or annually.

Hydraulic Oil: check daily, inspect every 50 hr.

Hydraulic Filter: replace every 100 hr or annually.

Fuel: check daily or every 8 hr, treat fuel if not being used for long periods of time.

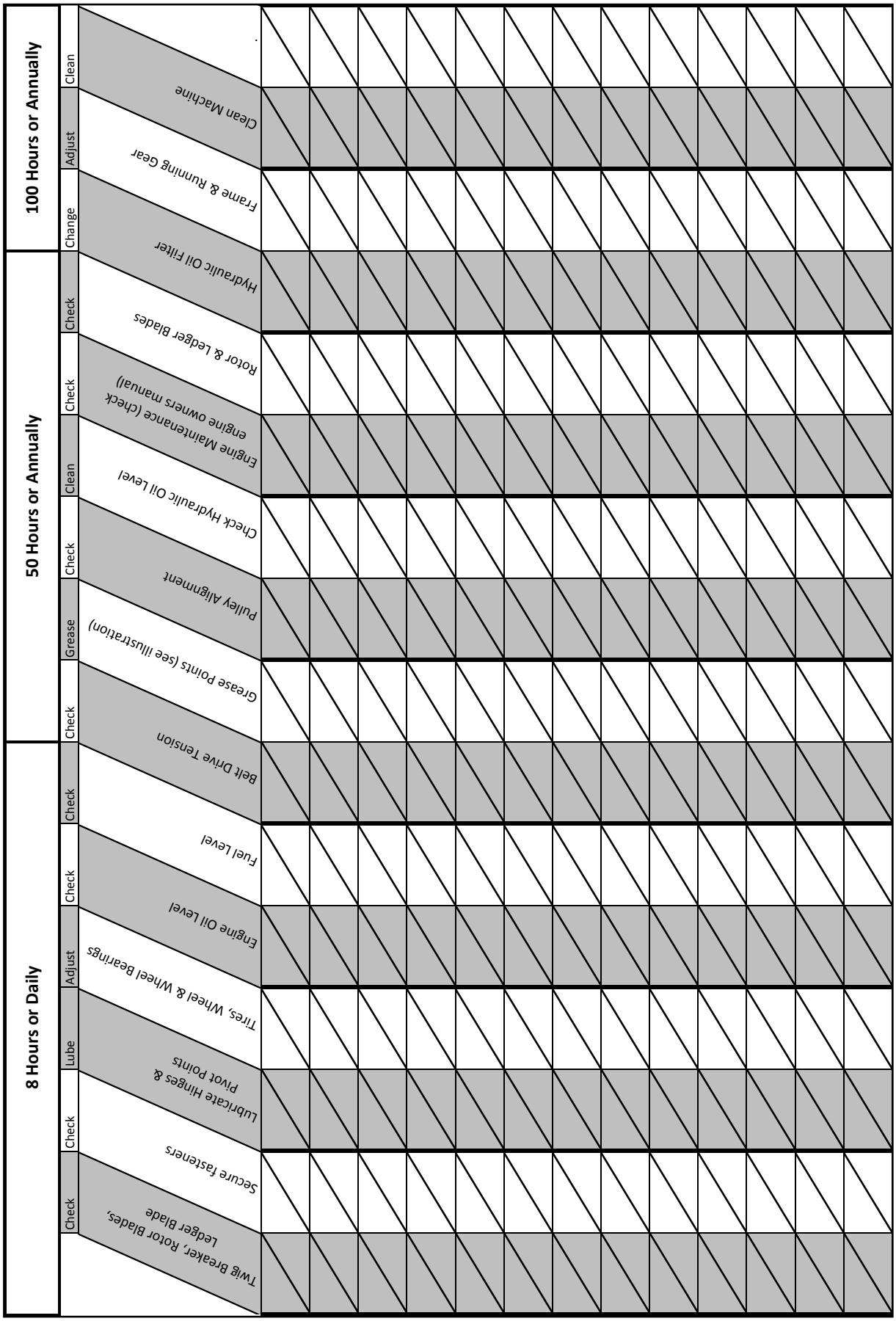
Battery: check every 50 hr.

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

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

5.4 Service Record

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



5.5 Maintenance

By following a careful service and maintenance program for your machine, you will enjoy many years of trouble-free operation.
Put the machine in **safe condition** before working on this machine,

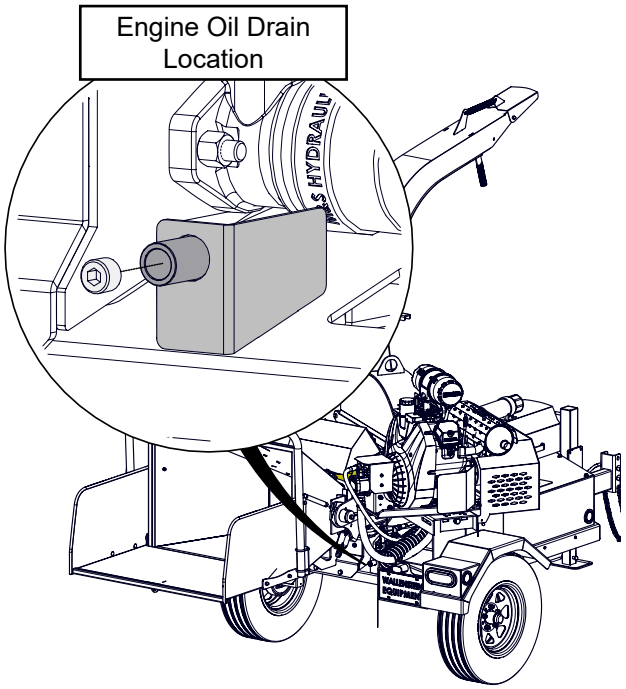
- shut off the engine.
- ensure all components have stopped moving.
- remove and pocket the ignition key.
- disconnect the battery.
- block and chock the wheels.

5.5.1 Kohler CH980 38HP Engine

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

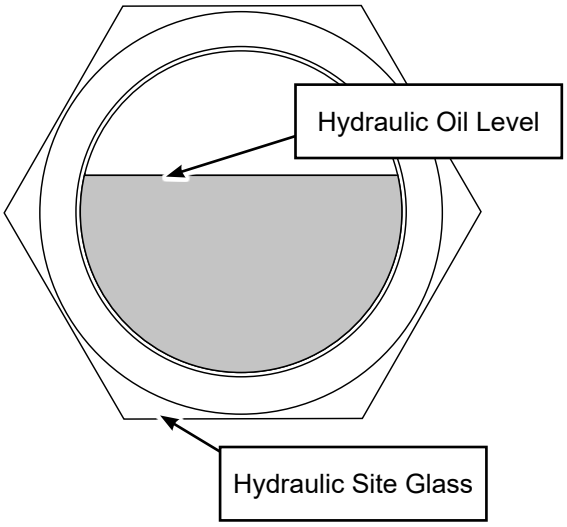
- Oil
- Oil filter
- Air cleaner
- Fuel filter
- Fuel lines

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



5.5.2 Hydraulic Oil Fill

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



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

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

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

Check levels after changing filters or servicing hydraulic components.

5.6 Hydraulic Oil Drain

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

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

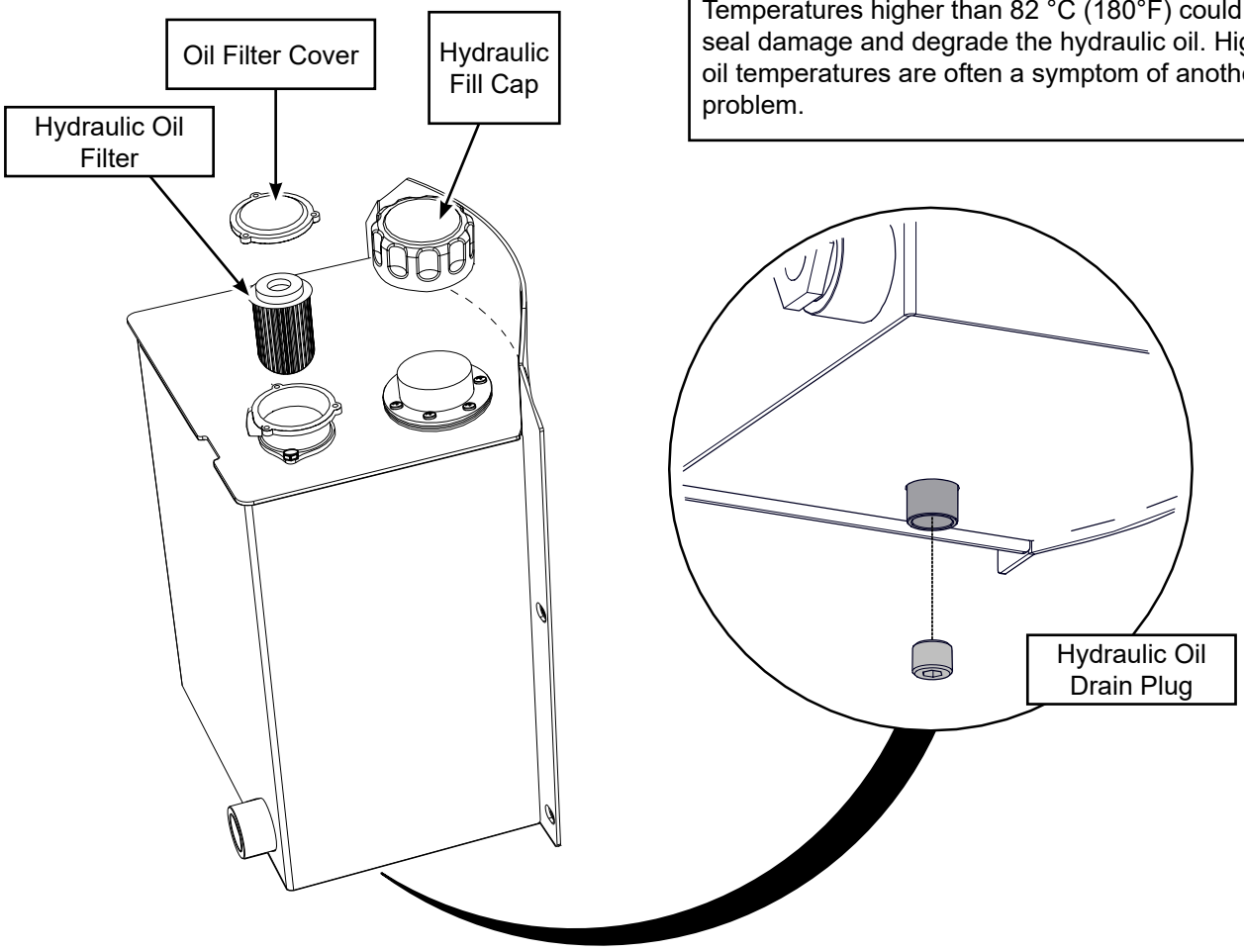
5.7 Hydraulic Oil Filter

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

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

IMPORTANT

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



5.8 Servicing the Battery

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

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

Remove

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

Install

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

Cleaning the Battery

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

Charging the Battery

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

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

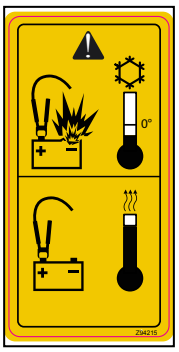
1. Remove battery from unit.
2. Use a battery carrier to lift the battery or place hands at opposite corners to avoid spilling acid through the vents
3. Place battery on bench or other well-ventilated area.
4. Connect positive (+) lead of charger to positive (+) terminal, and negative (–) lead to negative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

Jump Starting Battery

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

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

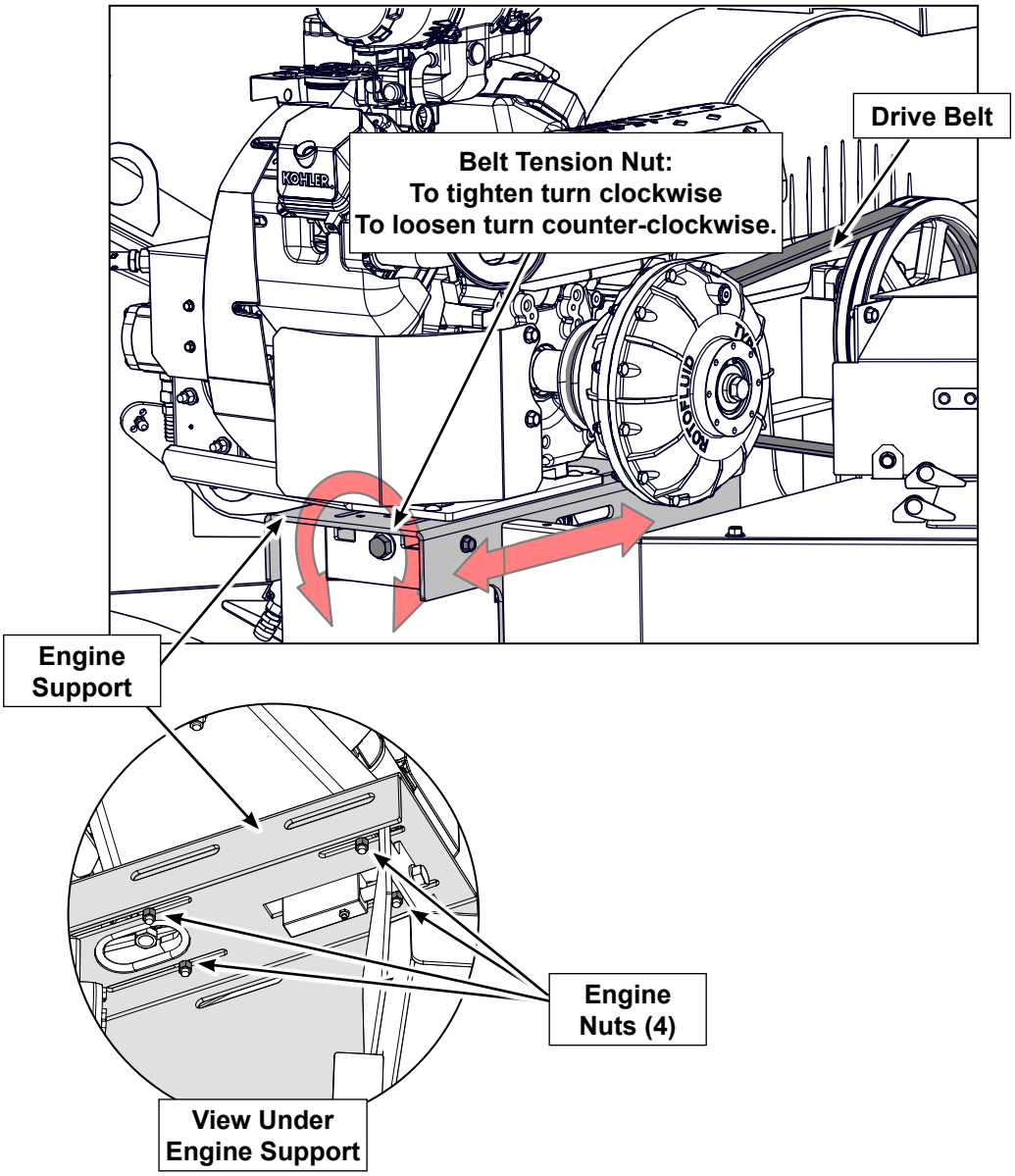
1. Connect positive (+) jumper cable to positive terminal of discharged battery.
2. Connect the other end of the same jumper cable to positive (+) terminal of booster battery.
3. Connect one end of the second jumper cable to negative (–) terminal of booster battery.
4. Make the final jumper cable connection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



5.9 Drive Belt Replacement

This procedure is for models BXTR6438 and BXTR6438P

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



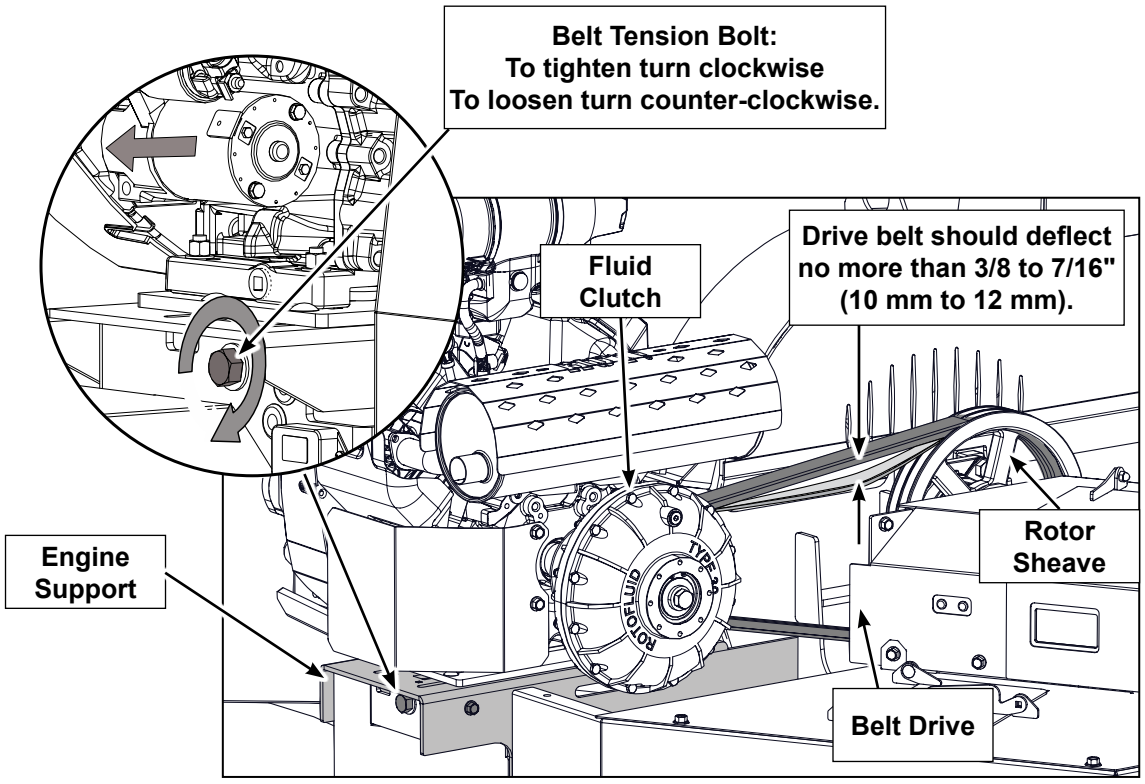
5.9.1 Belt Tension

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

When the belt is in disrepair or loose, the ability to efficiently drive rotor may be affected.
Therefore it is important to periodically check the condition as well as the tension of the belt.
Frayed, cracked or worn drive belts should be replaced. Drive belt should deflect no more than 3/8 to 7/16". (10 mm to 12 mm). For accurate measurement use a drive belt tension gauge. Contact your dealer for more information on belt tension.

Drive Belt Tension Check and Adjustment:

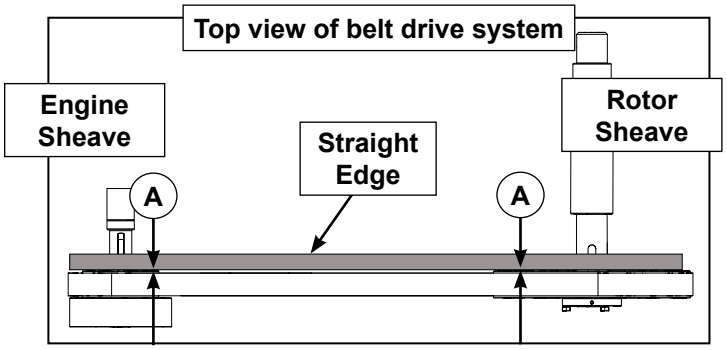
1. Ensure the engine is off (ignition switch is off and the fuel valve is closed).
2. Remove the bolts that hold the belt guard to the chipper, remove the belt guard.
3. Check the tension by pushing on the belt with your fore finger and measure its defection. Drive belt should deflect no more than 3/8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



5.10 Sheave Alignment

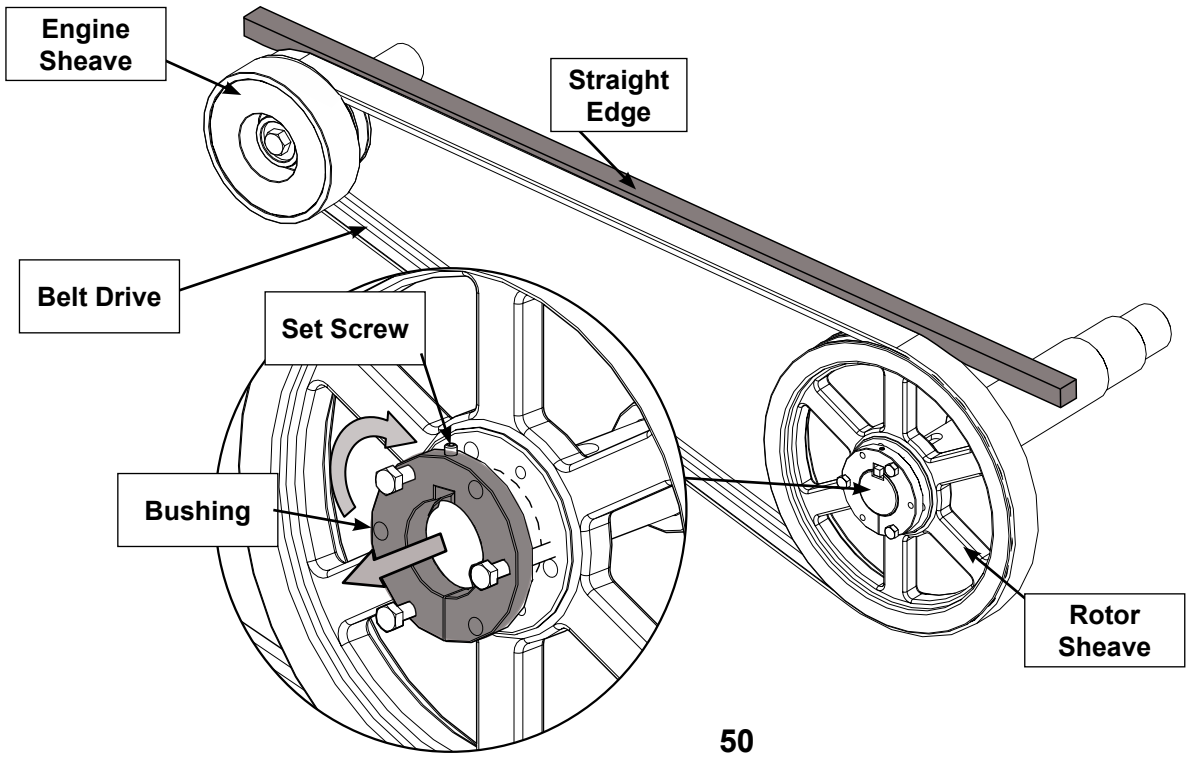
A set of V-belts transmits rotational power to the rotor. They must be kept properly tensioned and the sheaves aligned to obtain the expected performance and life. For maximum accuracy, have your sheaves aligned with a laser alignment tool. Contact your dealer for information on laser alignment.
Alignment may be carried out using a straight edge, to check the alignment, follow this procedure:

1. Clear the area of bystanders, especially small children.
2. Turn machine off, stop engine, remove ignition key and place in pocket and wait for all moving parts to stop.
3. Remove the belt guard and upper belt guard.
4. Have a straight edge at least 50" (127 cm) in length.
5. Place the straight edge along the face on the back of the clutch, and place the opposite end along the back face of the rotor sheave.
6. Check to see if there is a gap between the straight edge and the sheaves, measure the gap (A).
7. If there is more than 1/32" (.8 mm) offset then adjustment is required.
8. **To adjust alignment:**
   a. Loosen the set screw on the bushing attached to rotor sheave.
   b. Remove the 3 hex bolts on the bushing, and thread them into the tapped holes on the bushing.
   c. Tighten the hex bolts progressively with 1/4 turns until bushing is free from the sheave taper.
   d. Move the sheave to the required position to align the belt.
   e. If the offset is 1/32 (.8 mm) or less then no more adjustment is necessary.
   f. Align drilled holes with tapped holes on the sheave, replace and hand tighten the 3 hex bolts.
   g. Tighten the set screw and recheck alignment.



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

   h. Carefully tighten hex bolts progressively (1/4 turns) and uniformly until firmly seated.
   i. Recheck belt tension and assemble belt guards.

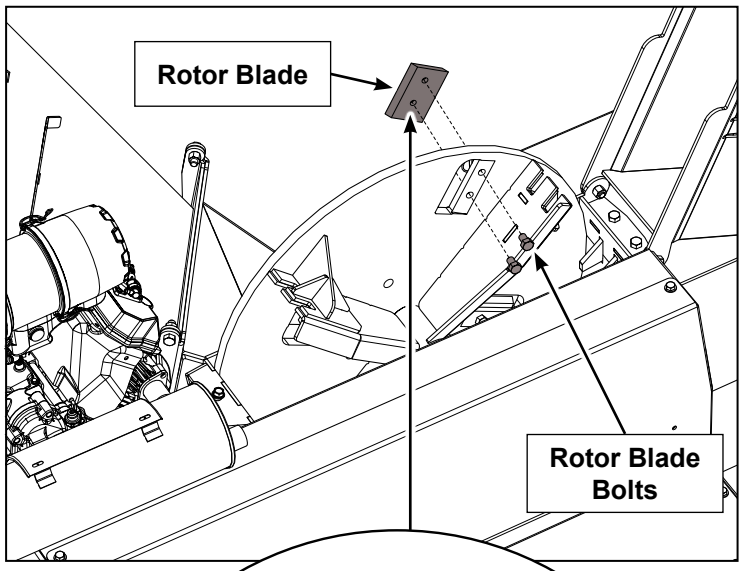


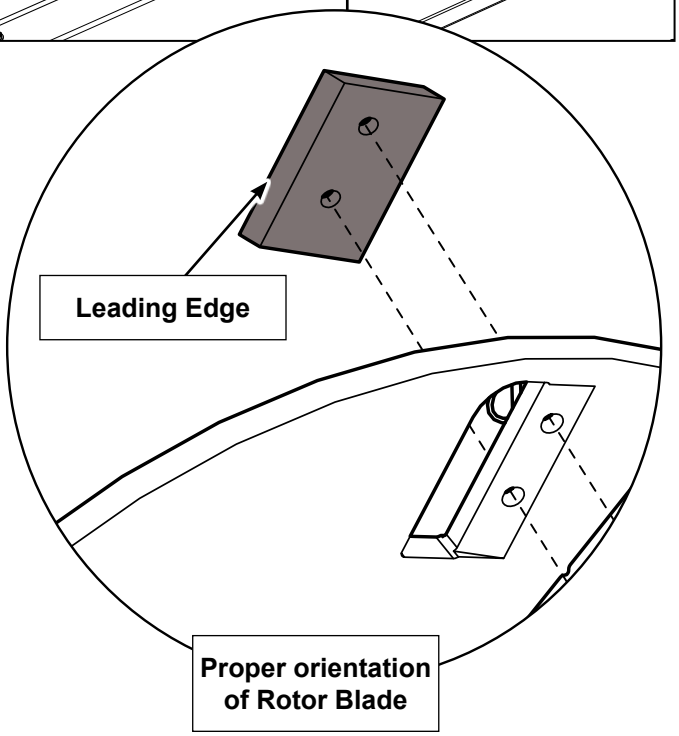
The rotor and ledger blades need to be sharp for the Chipper to perform as expected. Periodic inspection is recommended. Keep the blades sharp to reduce the amount of power required during operation. Watch the sharpness of the blades when processing material with a lot of sand, soil or dirt mixed with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

5.11 Rotor Blades

The rotor is equipped with 4 segmented (offset) blades spaced evenly to keep the rotor in balance. If one needs to be changed, the one opposite should also be changed.
It is recommended that the rotor blades be removed from the rotor when sharpening. Always sharpen the blades at a 45° angle to provide the best cutting effect as it meets the stationary blade. Be sure to tighten the blade mounting bolts to their specified torque when re-installing the blades to the rotor.

1. Ensure the engine is off (ignition switch is off and the fuel valve is closed).
2. Remove the bolt that secures the upper rotor housing, and carefully open the rotor housing.
3. Manually rotate chipper rotor plate so that the blade is fully exposed.
4. Remove the bolts that hold the rotor blade to the rotor, remove the blade.
5. Rotate the blade and reinstall or replace with new or re-sharpened blade.
6. Ensure the blade is properly oriented, with the leading edge out. The blade is designed to fit into the rotor one way only. See diagram for proper installation.
7. Tighten down bolts as specified in the torque chart.
8. Repeat steps for second blade.





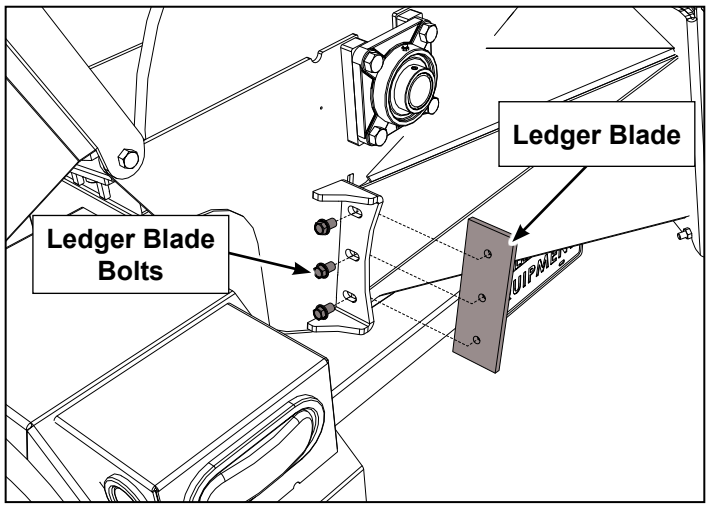
IMPORTANT
Avoid Serious Injury
The rotor is very heavy, turn rotor slowly and be aware of hand positioning: avoid getting pinched or wedged between the lower rotor housing and rotor.

5.12 Ledger Blades:

Each machine is equipped with a ledger (stationary) blade that acts as a shear for the moving rotor blades.

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

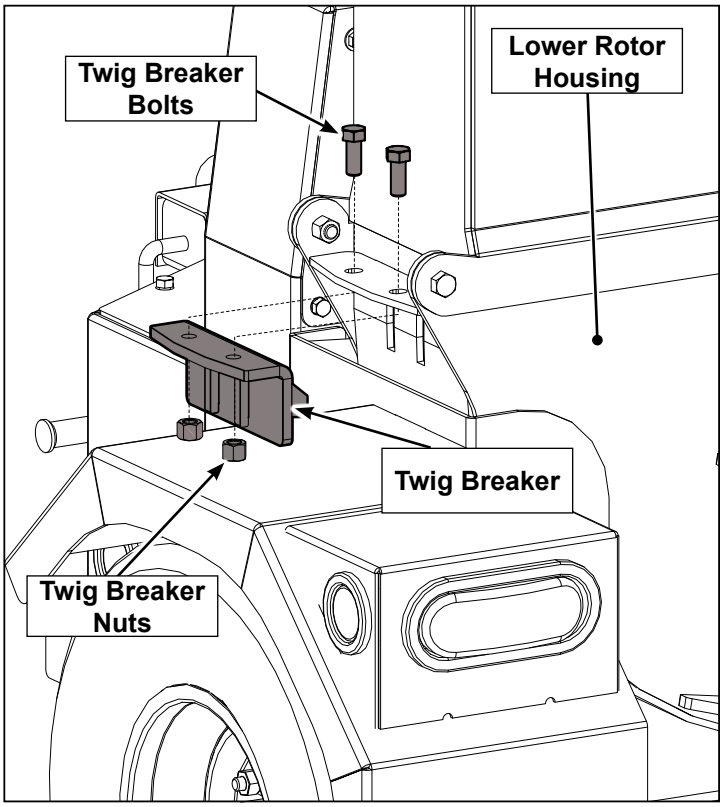
1. Ensure the engine is off (ignition switch is off and the fuel valve is closed).
2. Remove the 2 bolts that hold the ledger blade to the ledger mount, remove the blade.
3. Rotate the blade and replace, or swap with new or re-sharpened blade.
4. Hand tighten the bolts and set the clearance between the ledger and rotor blades at 1/32 - 1/16" (.76 - 1.52 mm). For fast and easy setting, use our chipper clearance setting gauge, available from your dealer. (see accessories)
5. Tighten down bolts as specified in the torque chart.



5.13 Twig Breaker:

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

1. Ensure the engine is off. (ignition switch is off and the fuel valve is closed)
2. Remove the 2 bolts and nuts that hold the twig breaker to the housing, remove the twig breaker.
3. Reverse the steps to install the new twig breaker.



5.14 Fluid Coupling

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

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

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

5.14.1 Safety Release:

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

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

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

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

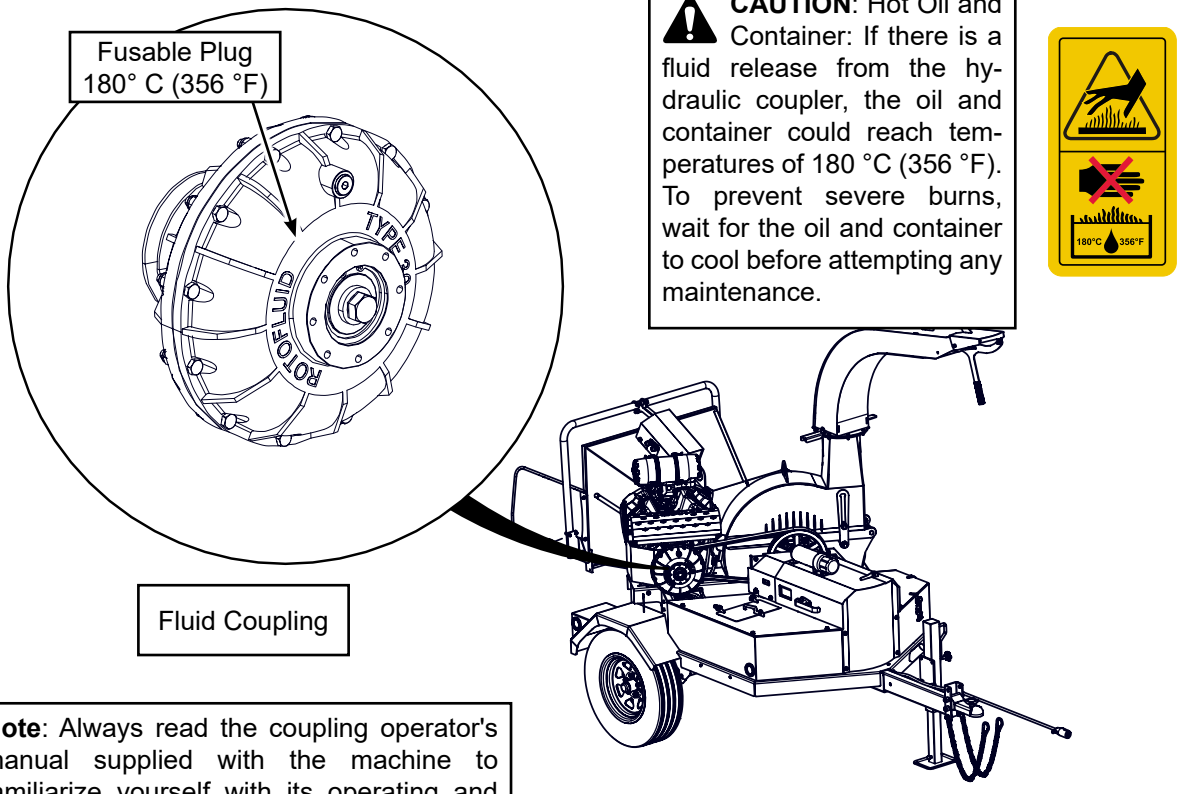
5.14.2 Reset the Safety:

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

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

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

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



Note: Always read the coupling operator's manual supplied with the machine to familiarize yourself with its operating and maintenance procedure details.

5.15 Spill basin:

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

The spill basin is designed to hold up to 4 litres (4.2 quarts) and will hold the contents of the fluid coupler.

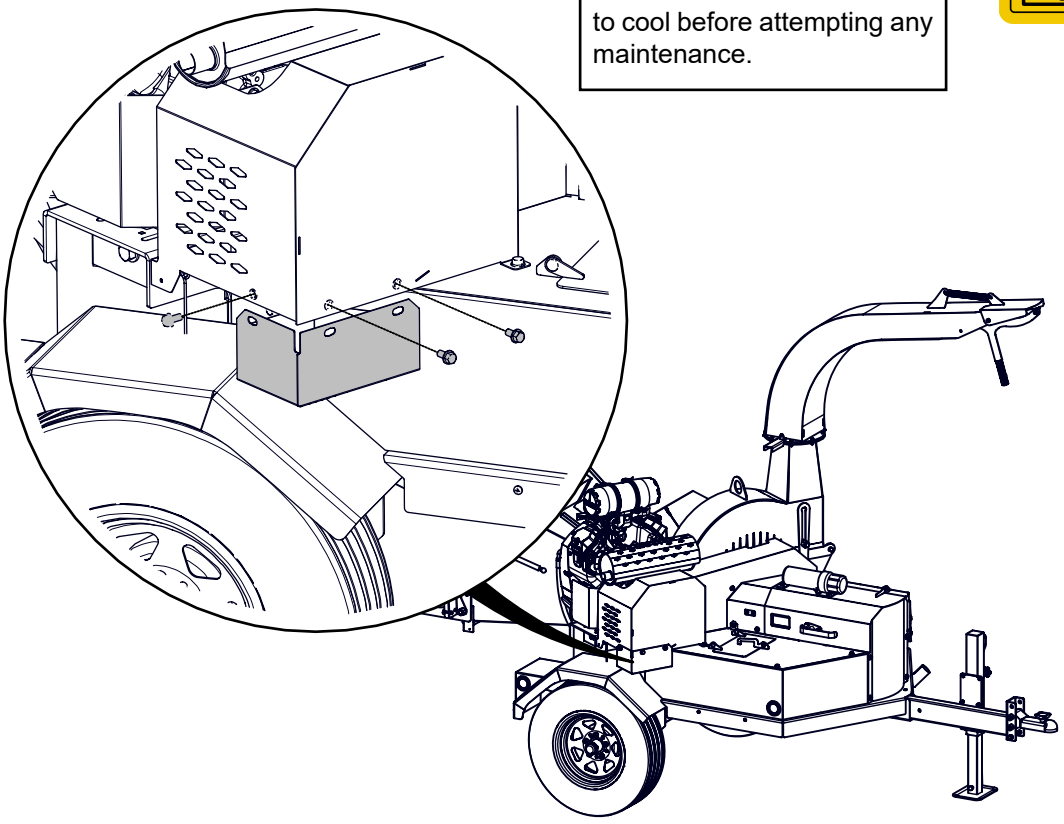
Before moving the chipper, the basin should be emptied to prevent further spillage during transportation.

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

Follow this procedure to empty the spill basin.

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

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



6. Troubleshooting

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

In the following 3 pages, we have listed many of the causes and solutions to the problems that you may encounter.

If you encounter a problem that is difficult to solve, even after having read through this troubleshooting section, please call your local distributor or dealer. Have your chipper serial number handy.

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

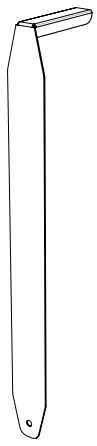
PROBLEM	CAUSE	SOLUTION	CAUTION	
Engine won't start	Upper rotor housing open	Inspect upper rotor housing that it is closed and secured & interlock cable is connected.		
	Interlock switch defective	Check interlock switch, replace if not working		Ensure machine is off
	Interlock wiring harness damaged	Inspect wiring harness, repair or replace.		Ensure machine is off
Machine requires excessive power or stalls.	Obstructed discharge.	Clear debris from discharge chute .		Ensure machine is off
	Feeding in too much material	IntelliFeed programing incorrect, adjust programming		
	Feeding material too quickly	IntelliFeed programing incorrect, adjust programming		
	Rotor plugged.	Inspect and clear chipper hopper lower rotor housing and rotor.		Ensure machine is off
	Green material will not discharge.	Allow material to dry or alternate dry/wet material.		
	Chipper blade clearance too large.	Set clearance to 1/32 to 1/16 " (.76 - 1.52 mm). Use chipper clearance tool. (see accessories)		Ensure machine is off
	Dull blades.	Check rotor and ledger blades, rotate, sharpen or replace.		Ensure machine is off
Squeeling Belt / premature belt wear.	Drive belts loose or worn.	Inspect drive belts, adjust tension or replace if needed.		Ensure machine is off.
	Wrong replacement belt	Inspect drive belts, replace with (2B-82) double banded 'B' 70" dia belts.		Ensure machine is off.
	Sheaves misaligned	Check sheave alignment and adjust.		
	Rotor plugged.	Inspect and clear chipper hopper, lower rotor housing and rotor.		Ensure machine is off
	Belt tension too high	Check belt tension and adjust		
	Sheaves worn	Inspect sheaves and bearings, replace if required.		Ensure machine is off, call technician for repair
	Oil or grease on drive system	Check for source of oil / grease and correct. Clean sheaves and belts, belts may require replacment.		Ensure machine is off

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

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

7. Accessories

Call your dealer for pricing and availability



LEDGER CLEARANCE SETTING GAUGE

For **BXTR6438 Trailer Wood chipper**
An easy and accurate way of setting the critical clearances between the ledger blade and the rotor chipper blade.

8. Product Warranty

LIMITED WARRANTY

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

Five Years for Consumer Use

Two Years for Commercial/Rental Use

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

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

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

This warranty does not cover the following:

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

rev. Nov-2018

9. Specifications

9.1 Machine Specifications

Specifications	BXTR6438F	BXTR6438P
Engine	Kohler® CH980 999 CC (38 hp)	
Drive System	Rotor: Dual Belt, Auto Engage Centrifugal Clutch	
Chipper Housing Opening	7" H x 11" W 18 cm x 28 cm	
Capacity	7" Dia. (Max. 11" Slab) 17 cm Dia. (Max. 28 cm Slab)	
Chipper Hopper Opening	25" x 34" 63.5 cm x 86.25 cm	
Chipper Rotor Diameter / Weight	30" @ 197 lbs 76 cm @ 89.3 kg	
Feed System	Hydraulic, roller feed with electronic control system	
Max Feed Rate	129 fpm 39 mpm	
Knife Type	Hardened tool steel	
Number of Rotor Knives	4 segmented knives	
Rollers	Dual Horizontal with Hydraulic Drive	
Discharge Hood Rotation	360 degrees	
Discharge Hood Hieght	100" 252 cm	
Hydraulic Tank	7 gal US 30 L	
EPA Fuel Tank	9 gal US 34 L	
Mounting System	Trailer: 2" Adjustable Ball Coupler	
Dry Weight	2,225 lb (1 009 kg)	
Dimensions (LxWxH)	148-1/2" x 64" x 100" (Open) 128" x 64" x 100" (Closed) 378 cm x 162.5 cm x 254.5 cm (Open) 326 cm x 162.5 cm x 254 cm (Closed)	
Distance of feed roller to edge of feed table to ground. (WorkSafe BC safety specification)	85"	
Axle	5 Bolt Hub Heavy Duty 2200 Lb Torsion Axle	5 Bolt Hub Heavy Duty 2200 Lb Torsion Axle with 7" Electric Brakes
Tire Size	ST205/75R14 Radial Trail	
Features	Electronic Feed Control Rapid Recovery Auto Reverse Height Adjustable 2" Ball Coupler Hydraulic Fluid Level Site Glass Fuel Level Gauge EPA Emission Compiant Stop / Forward / Reverse / Stop Feed Roller Control Bar 360° Rotating Discharge chute Tool Compartment Lockable Fuel / Hydraulic Compartment Extendable Two-position Tongue Highway Trailer Lights Electric Start, Heavy Duty Battery Latching Feed Table (closed position) Lift Assist for Feed Roller (for maintenance) Meets 2013 WorkSafe BC safety standards	

Specifications Subject To Change Without Notice

9.2 Common Bolt Torque values

Checking Bolt Torque

The tables shown give correct torque values for various bolts and capscrews. Tighten all bolts to the torque values specified in the table, unless indicated otherwise. Check tightness of bolts periodically.

IMPORTANT! If replacing hardware, use fasteners of the same grade.

IMPORTANT! Torque figures indicated in the table are for non-greased or non-oiled threads. Do not grease or oil threads unless indicated otherwise. When using a thread locker, increase torque values by 5%.

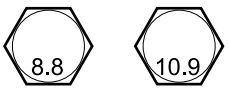
NOTE: Bolt grades are identified by their head markings.

Imperial Bolt Torque Specifications

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

Metric Bolt Torque Specifications

Bolt Diameter	Torque Value			
	Gr. 8.8		Gr. 10.9	
	lbf•ft	N•m	lbf•ft	N•m
M3	0.4	0.5	1.3	1.8
M4	2.2	3	3.3	4.5
M6	7	10	11	15
M8	18	25	26	35
M10	37	50	52	70
M12	66	90	92	125
M14	83	112	116	158
M16	166	225	229	310
M20	321	435	450	610
M30	1,103	1 495	1,550	2 100



9.3 Hydraulic Fitting Torque

Tightening Flare Type Tube Fittings

1. Check flare and flare seat for defects that might cause leakage.
2. Align tube with fitting before tightening.
3. Hand-tighten swivel nut until snug.
4. To prevent twisting the tube, use two wrenches. Place one wrench on the connector body and tighten the swivel nut with the second. Torque to values shown.

If a torque wrench is not available, use the FFFT (Flats From Finger Tight) method.

Hydraulic Fitting Torque					
Tube Size OD	Hex Size Across Flats	Torque value		Flats From Finger Tight	
Inches	Inches	lbf•ft	N•m	Flats	Turns
3/16	7/16	6	8	2	1/6
1/4	9/16	11–12	15–17	2	1/6
5/16	5/8	14–16	19–22	2	1/6
3/8	11/16	20–22	27–30	1-1/4	1/6
1/2	7/8	44–48	59–65	1	1/6
5/8	1	50–58	68–79	1	1/6
3/4	1-1/4	79–88	107–119	1	1/8
1	1-5/8	117–125	158–170	1	1/8

Values shown are for non-lubricated connections.

9.4 Wheel Lug Torque

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

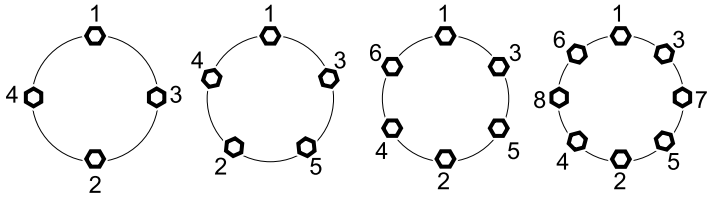
Wheel lugs should be torqued before first road use and after each wheel removal. Check and re torque after the first 10 miles (16 km), 25 miles (40 km), and again at 50 miles (80 km). Check periodically thereafter.

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

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

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

Wheel Lug Torque Pattern



4-Bolt 5-Bolt 6-Bolt 8-Bolt

10. Index

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