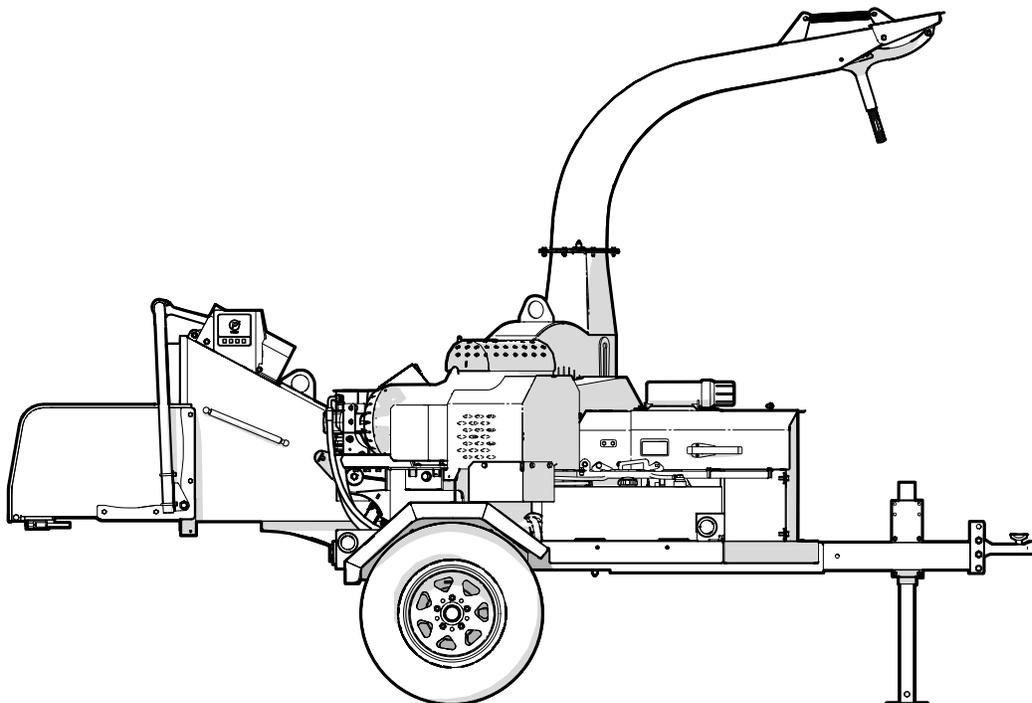


OPERATOR'S MANUAL

Serial numbers 2E9US1117LS091375 to 2E9US1119MS091393

BXTR6438 **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 manual covers both the BXTR6438 and BXTR6438B (electric brakes) models.

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 this 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)

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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.

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Model Configuration

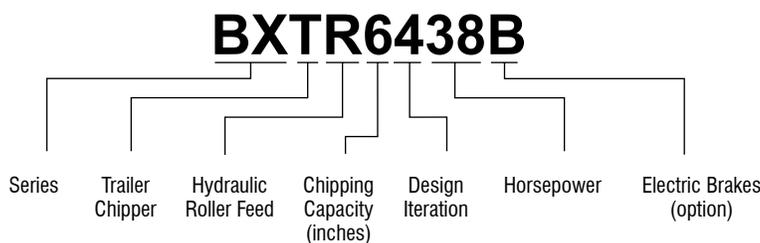


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1.2 Delivery Inspection Report

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.

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

Customer

Address

City, State/Province, ZIP/Postal Code

()

Phone Number

Contact Name

Model

Serial Number

Delivery date

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

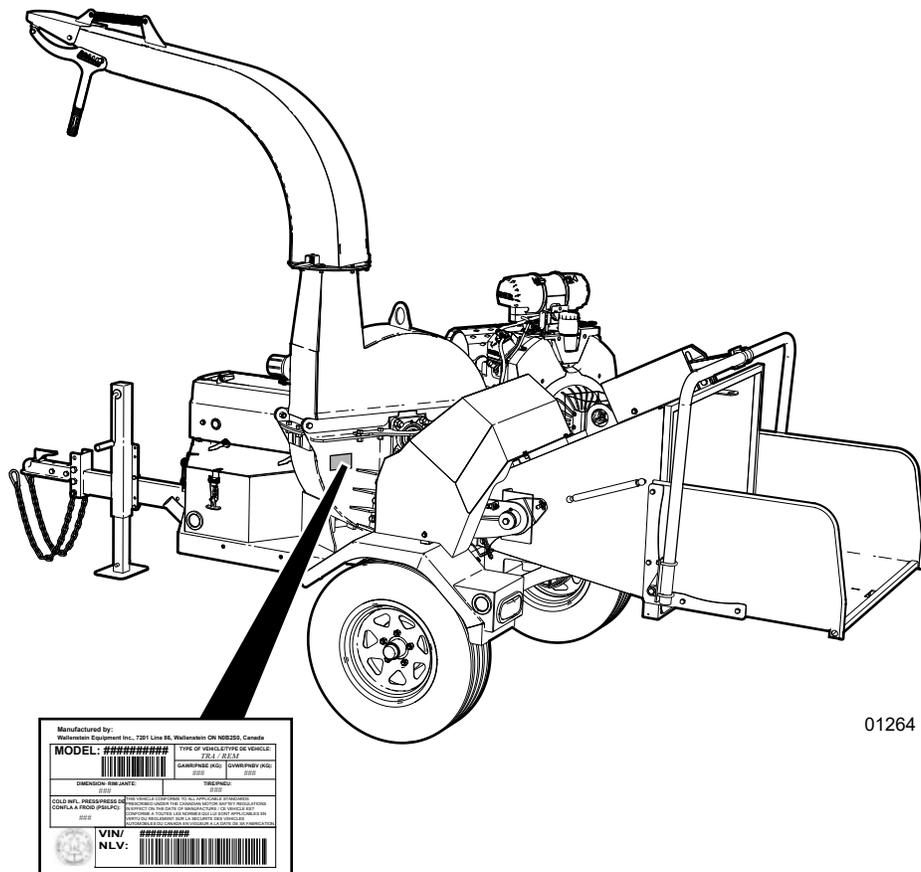
- _____ All Safety Decals Installed
- _____ Guards and Shields Installed / Secured
- _____ Safety Chain on Hitch
- _____ Check Wheel Lug Torque
- _____ Check Operation of Running / Brake / Turn Signal Lights

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:	



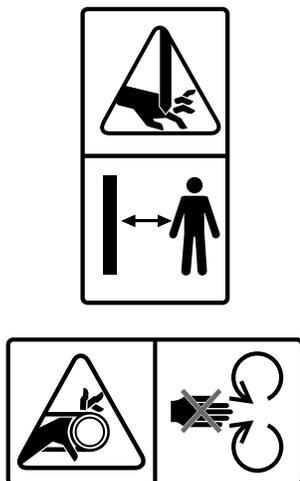
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Fig. 1 – Serial Number Plate Location

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.

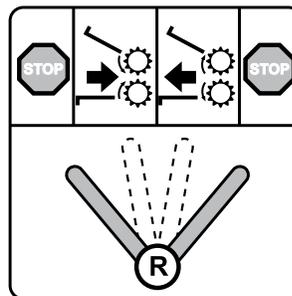
Safety Decals have a yellow background and are generally two panel. They can be either vertical or horizontal.



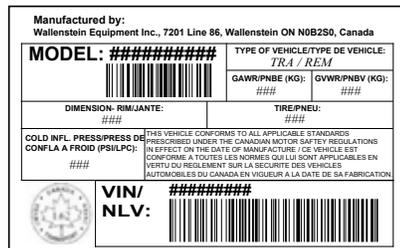
Safety Notice Decals are pictorial with a blue background and generally rectangular with single or multiple symbols. This decal informs what Personal Protective Equipment is required for safe operation.



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.

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 always promote safety, this section of the operator's manual details several 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.

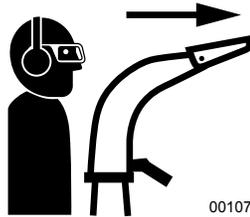
Do not risk injury or death by ignoring good safety practices.

2.4 Safety Rules

- Provide operating instructions to operators or employees before allowing them to operate the machine, and REVIEW annually thereafter.
- 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.



- Review safety related items annually with all personnel who are operating the machine or performing maintenance.
- 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



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



- Read and understand all safety signs located on the machine before operating, servicing, adjusting, or cleaning. Replace any safety sign that is damaged or missing.
- Inspect and secure all guards before starting.
- Check input and discharge chutes, engine intake and exhaust. Make sure they are clear of debris prior to starting the machine.
- Inspect and secure all guards before starting.
- Have a fire extinguisher available for use should the need arise. Know how to use it.



- 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.
- Never 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.
- Think SAFETY! Work SAFELY!

2.4.1 Safe Condition

Throughout this manual, we talk about a 'Safe Condition'. What this means is setting the machine in a state that makes it safe to service or repair.

Place the machine in a Safe Condition before performing any service, maintenance work or storage preparation by performing the following:

SAFE CONDITION

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

2.4.2 Safety Training

- The best safety feature is an informed, careful operator—we ask you to 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

2.4.3 Be 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.

2.4.4 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 always be in control of the machine. 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. Always keep proper balance and footing.
- 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.
- 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.
- 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.

2.5 Equipment Safety Guidelines

- 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.
- 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!

2.5.1 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 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.

2.5.2 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.

2.5.3 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.

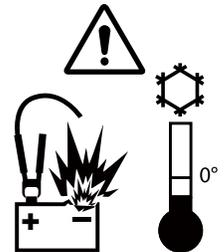
- Use a battery carrier to lift the battery or place hands at opposite corners to avoid spilling acid through the vents.
- Avoid contact with battery electrolyte:
 - **External Contact:** Flush immediately with water.
 - **Eye Contact:** Flush with water for 15 minutes. Get prompt medical attention. 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.

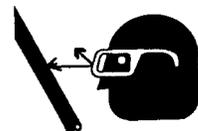
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- Do not jump start or charge a frozen battery. Frozen batteries can explode and result in death or serious injury. Let battery thaw before charging.



2.5.4 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.

2.5.5 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:

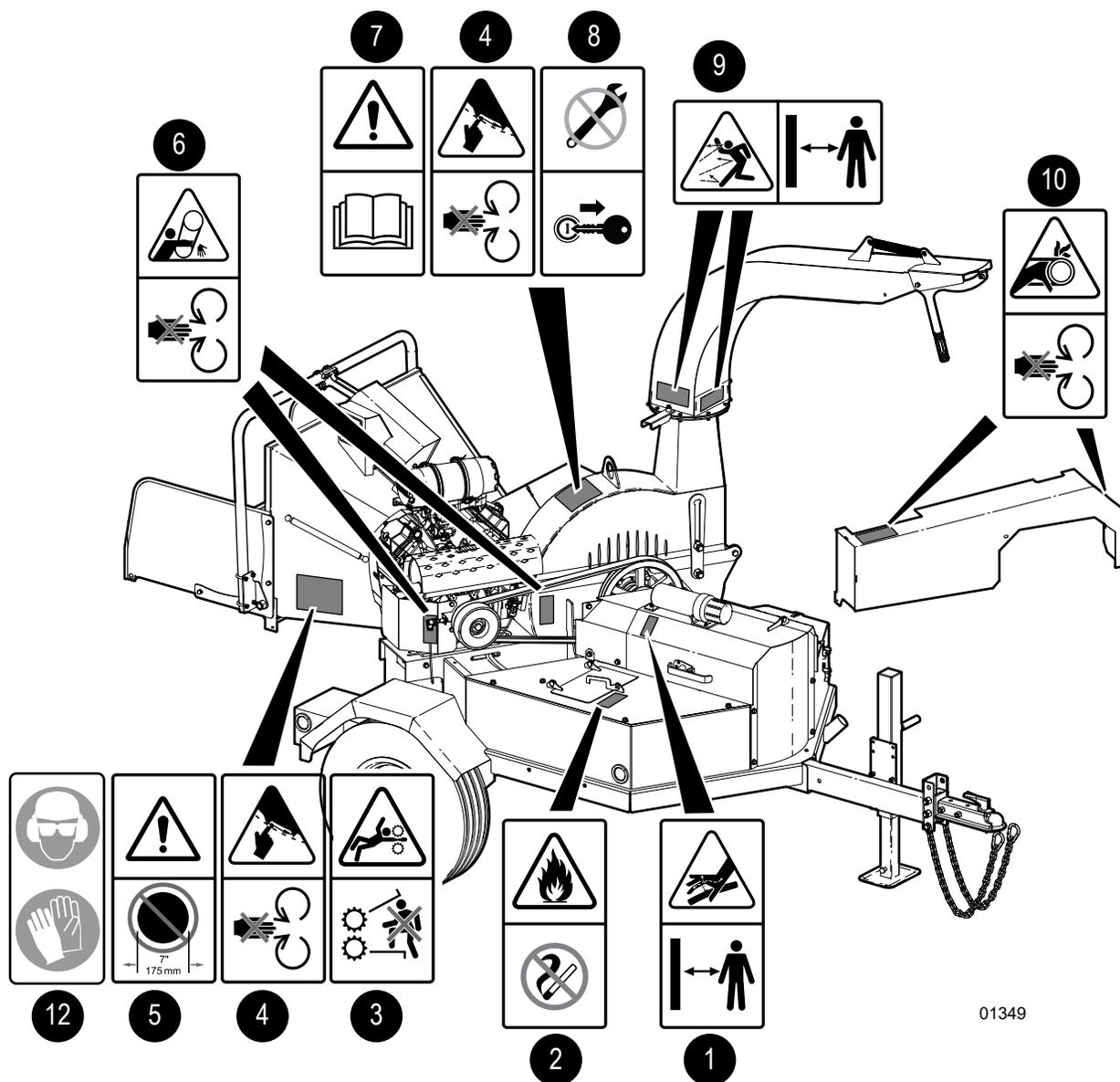
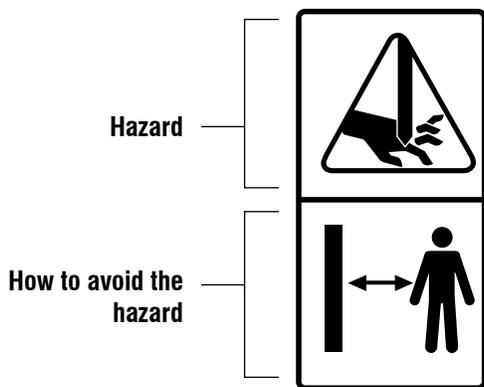
- Remove the wire from the spark plug when servicing the engine or equipment to prevent accidental starting. Disconnect the ground (-) wire from the battery terminal.
- Keep engine cooling fins and governor parts free of grass and other debris that can affect engine speed.
- Examine muffler periodically 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.

2.7 Safety Sign Explanations

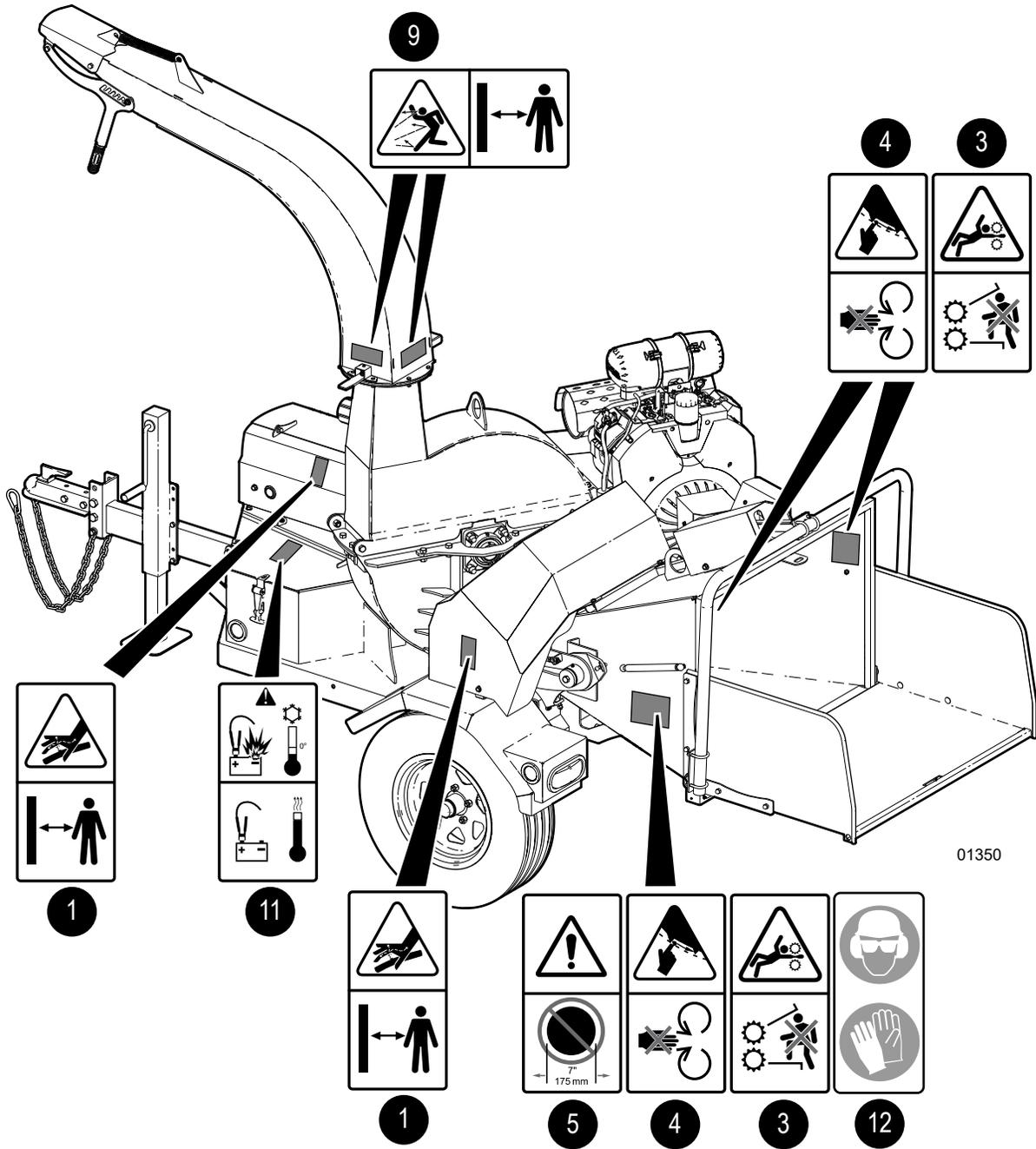
The top (or left-hand) panel on the safety decal shows the safety alert (the potential hazard), and the bottom (or right-hand) panel shows the message (how to avoid the hazard).

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

Think SAFETY! Work SAFELY!



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1. Warning!

Risk of high-pressure hydraulic fluid piercing exposed skin.

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



2. Warning!

Risk of explosion.

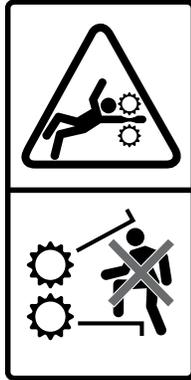
Do not refuel the machine while smoking or near open flame or sparks. Serious injury can result.



3. Warning!

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

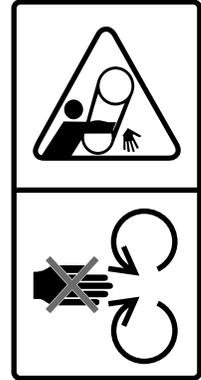
Do not attempt to reach in while parts are turning. Keep hands, loose clothing, and long hair away.



6. Caution!

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

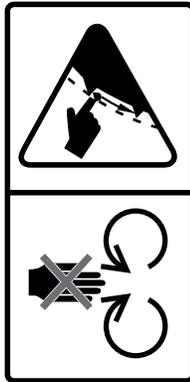
Do not operate machine without shields in place. If shield is removed, replace it before operating machine.



4. Warning!

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

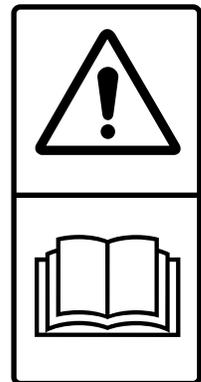
Wait for all moving parts to come to a complete stop before clearing obstructions.



7. 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.



5. Caution!

Risk of personal injury or equipment damage.

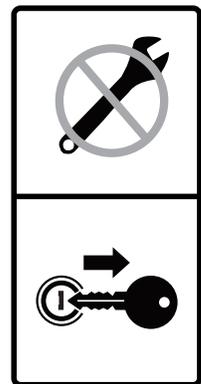
Do not put material larger than 7" (18 cm) diameter into the chipper. Attempting to chip anything larger could stall the engine, damage the machine or cause personal injury.



8. 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.



9. Caution!

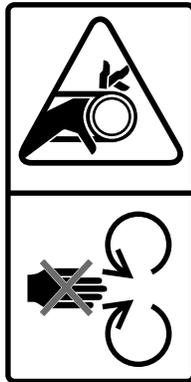
Risk of injury from flying objects. Stay clear of material discharge chute. Machine can expel wood chips fast enough to cause injury.

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

**10. Warning!**

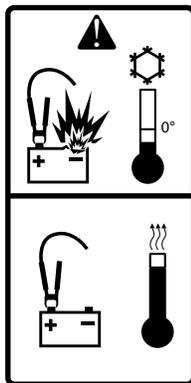
Rotating parts are exposed or under a guard. Do not attempt to reach in while parts are rotating.

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

**11. 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.

**12. Warning!**

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.



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 available from your authorized dealer.

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. Familiarization

3.1 To the New Operator or Owner

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. Untrained operators are not qualified to use the machine.

1. Review control location, function and movement directions.
2. Move the unit to a large open area to allow the operator to become familiar with control function and machine response. When a new operator is familiar and comfortable with the machine, they can proceed with the work.
3. Do not allow untrained operators to use the machine. They can endanger themselves and others or damage property and the machine.

IMPORTANT! Make sure all operators understand how to put the machine in a safe service position before servicing or repairing. See page 8.

3.2 Job Site Familiarization

It is the responsibility of the operator to be thoroughly familiar with the work site prior to starting. Prevent the chance or possibility of problems or accidents by avoiding unsafe situations.

Some items operators should check include, but are not limited to:

1. Avoid close or cramped work spaces. Be sure there is enough space and clearance for the machine.
2. Position the machine so prevailing winds blow engine exhaust fumes and chain saw chips away from operator's station.
3. Choose flat and level ground and make sure the machine is level before operating.
4. Avoid muddy or soft ground as the jacks will sink in. If unavoidable, use boards or plates to increase the surface area of the jack feet.

3.3 Operator Orientation

IMPORTANT! When describing controls throughout this manual, the directions for left-hand, right-hand, backward and forward are determined when standing at the operator controls facing the direction of forward machine travel.

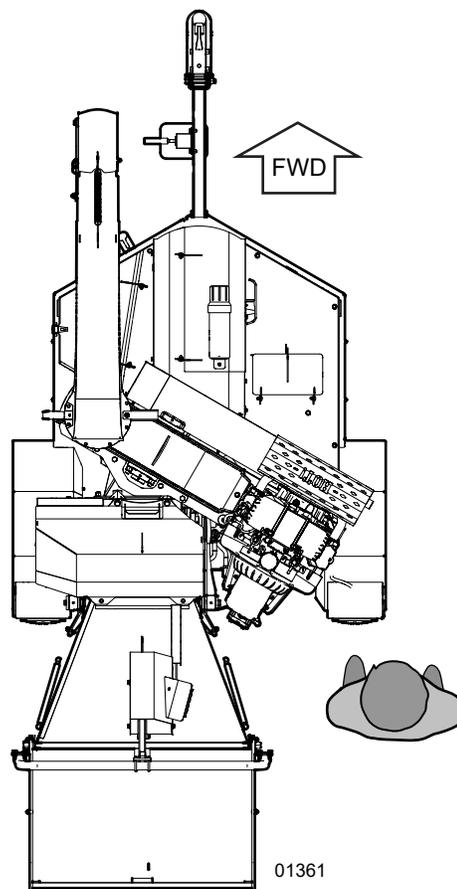
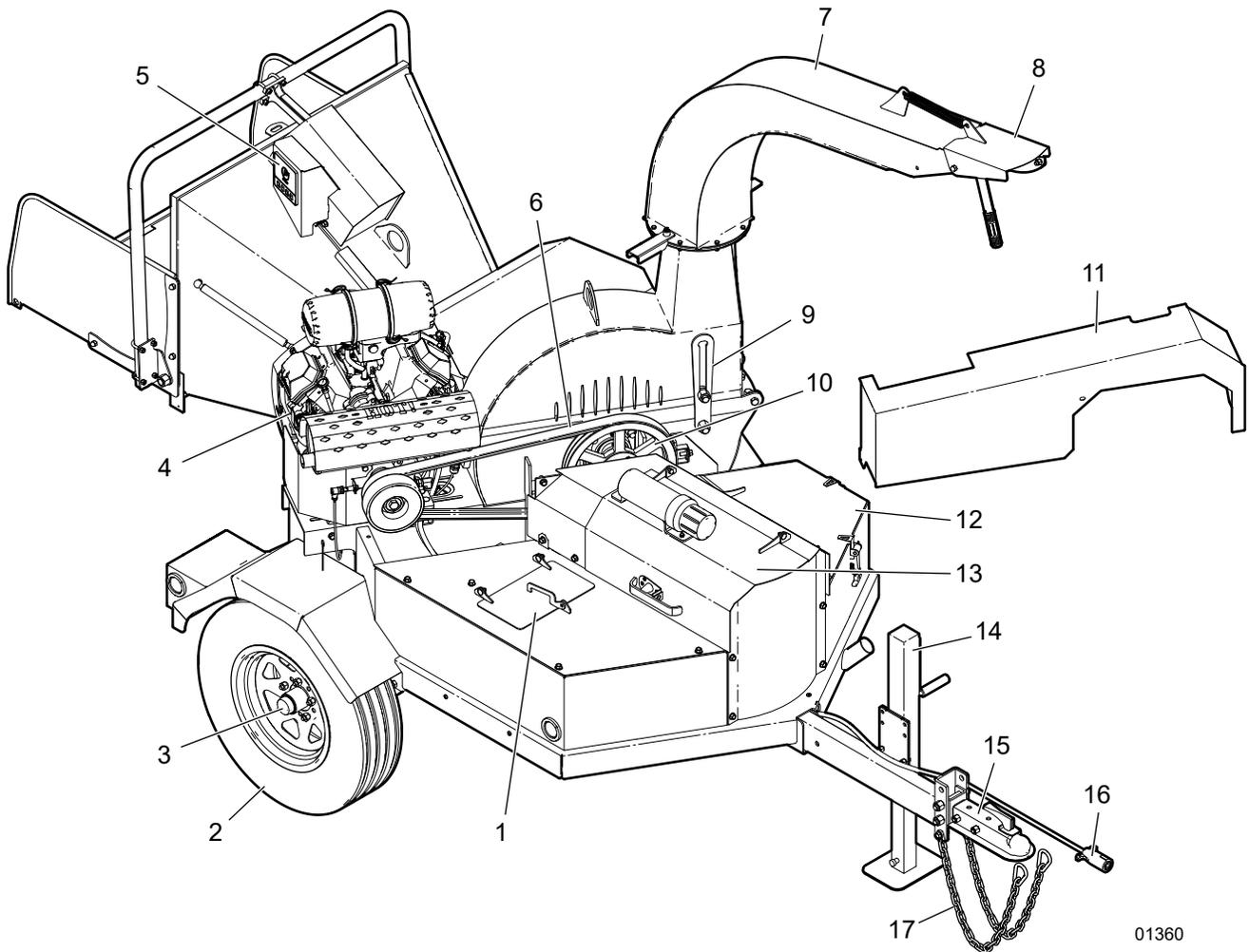


Fig. 2—Direction of Forward Machine Travel

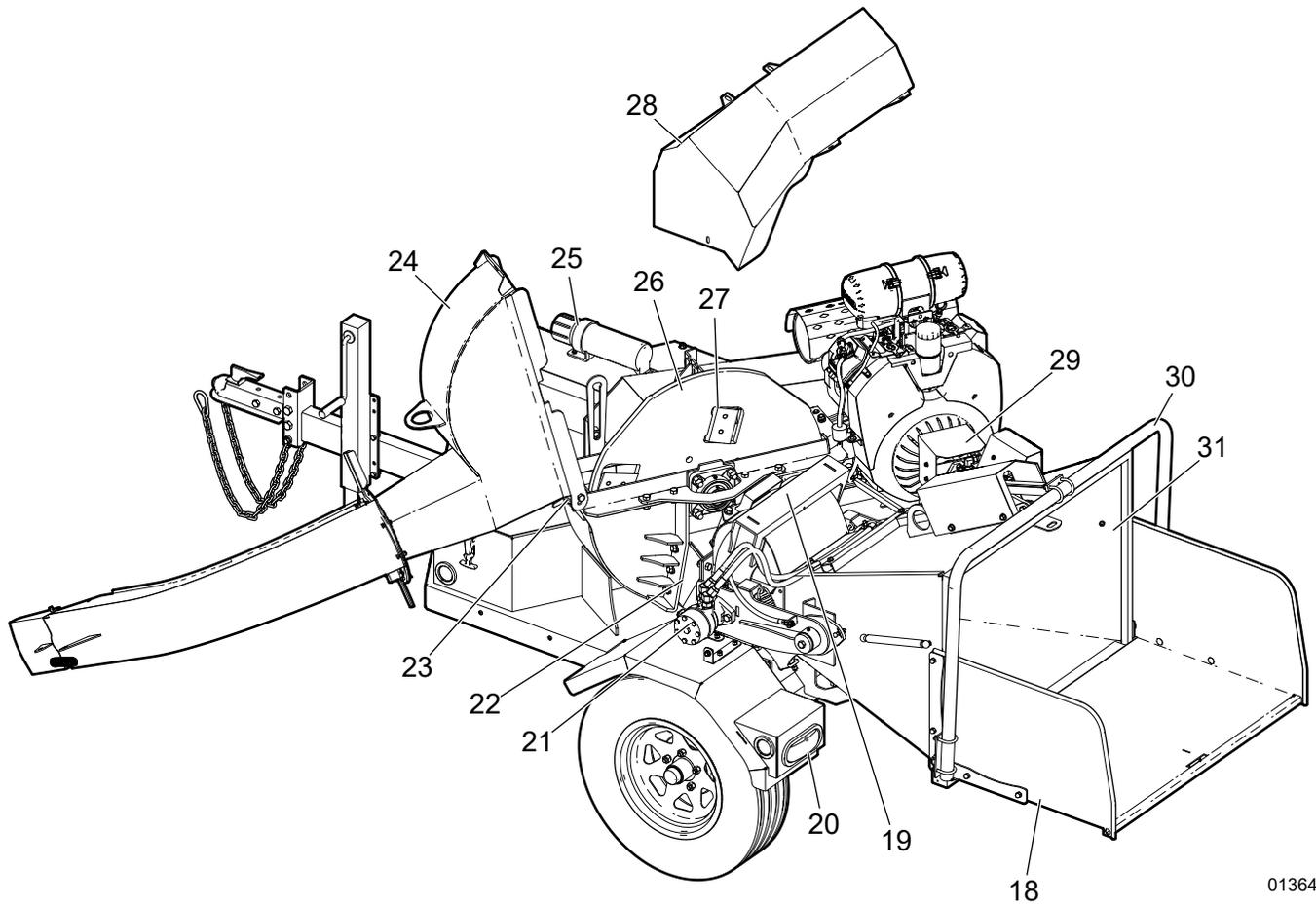
3.4 Main Parts of the Chipper



01360

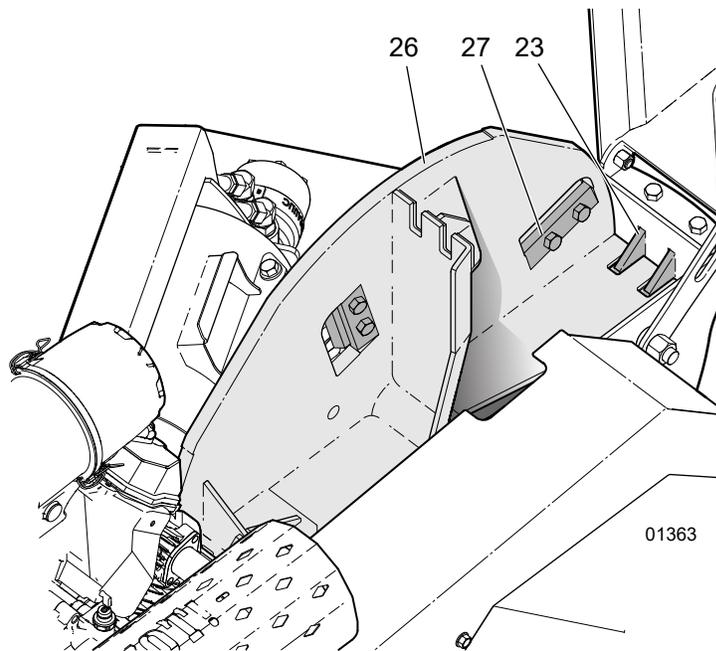
Fig. 3–BXTR6438

1. Fuel tank
2. ST205/75R14 LRC Radial Tires
3. Electric Brakes (Option)
4. Kohler® CH980 Engine
5. P3 Electronic Control System Display
6. Drive Belt
7. Discharge Chute
8. Hood Deflector
9. Hood Rotation Stop
10. Rotor Sheave
11. Belt guard
12. Tool Box
13. Hydraulic Tank
14. Tongue Jack
15. 2" Coupler
16. Wire Harness Plug
17. Safety Chains



01364

- 18. Feed Table
- 19. Roller Lift Handle
- 20. Stop / Tail / Turn Signal Light
- 21. Hydraulic Motor
- 22. Ledger Blade
- 23. Twig Breaker
- 24. Upper Rotor Housing
- 25. Operators Manual
- 26. Rotor
- 27. Rotor Blade
- 28. Bridge Guard
- 29. Hydraulic Pump
- 30. Feed roller Control Bar
- 31. Feed Hopper



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4. Controls

Review this section to become familiar with the location and function of each control before starting.

Kohler® CH980 38 hp 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.



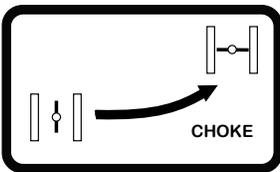
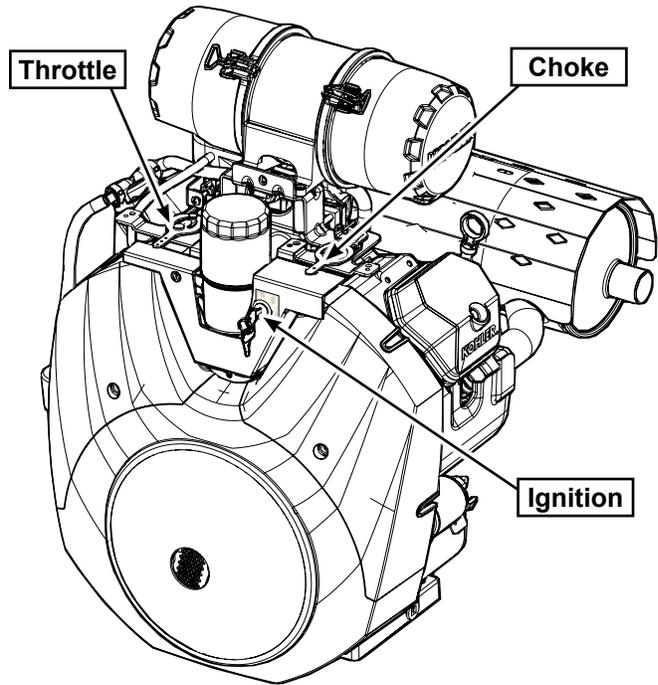
OFF – Turn key fully counterclockwise to stop the electrical system power and turn the engine off.



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

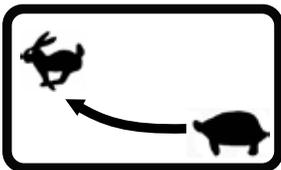


S T A R T
START – Turn fully clockwise to the last spring-loaded detent position to engage the starter solenoid and start the engine. Release the key when the engine starts. It then returns to the RUN position.



Choke – This lever opens and closes the choke on the carburetor.

- Slide the lever to the right to close the choke when starting a cold engine.
- Slide it to the left gradually to open the choke as the engine warms. Always slide the choke fully to the left when operating the machine.



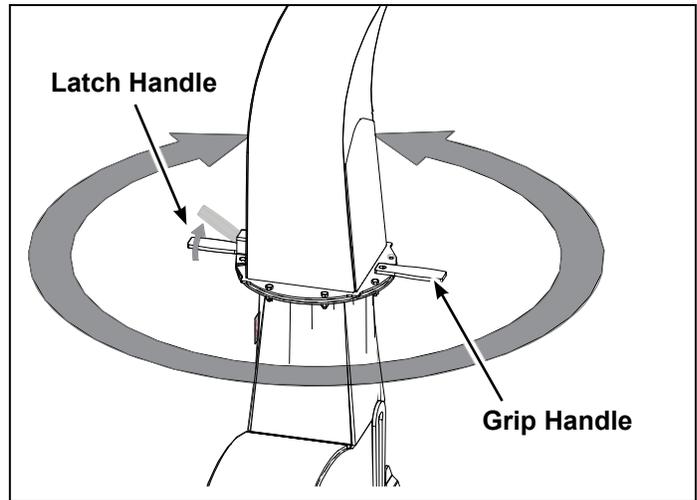
Throttle – This lever controls engine speed.

- Slide the lever to the left to increase engine speed and right to decrease. Always operate the chipper at full engine speed.

4.1 Discharge Chute:

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

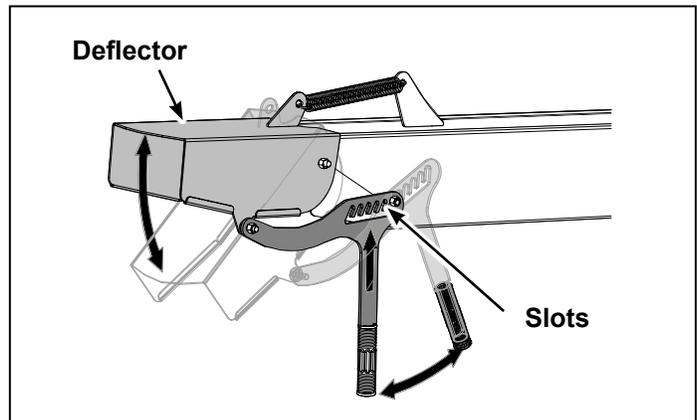
1. Lift the latch handle till the chute lock pin disengages.
2. Use the latch and grip handles to position the chute as required.
3. Release the latch handle and lock the chute into position at the next nearest lock point.



4.2 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.

4. Grasp the handle and lift slightly to clear the handle cogs.
5. Move the deflector with the handle as required.
6. Lock the deflector into position by lowering the handle into one of the slots.

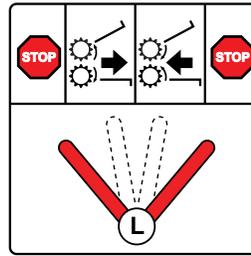


4.3 Roller Feed Control Bar

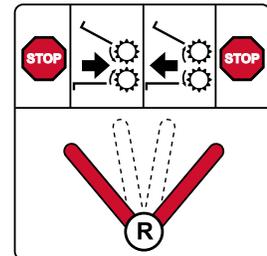
Use the feed roller control bar for Forward, Reverse, and Stop actions.

IMPORTANT!

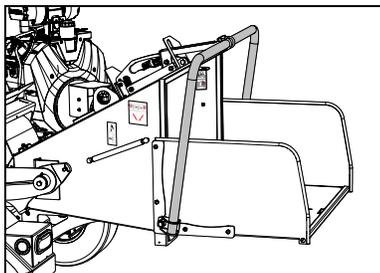
To quickly stop the feed rollers in an emergency, the bar can be rapidly pulled or pushed to its maximum position and will immediately stop the rollers. Rollers can be restarted by pulling the handle out of the stop position.



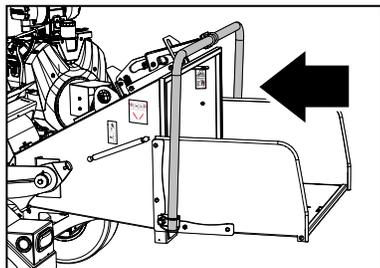
Left Side Control Decal



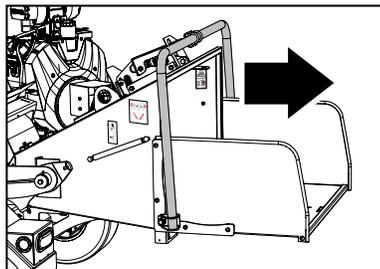
Right Side Control Decal



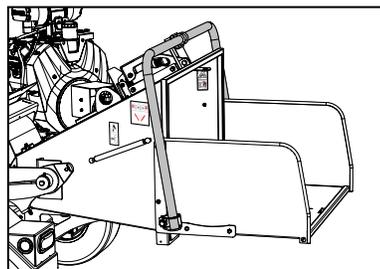
Stop



Forward (Feed)



Reverse

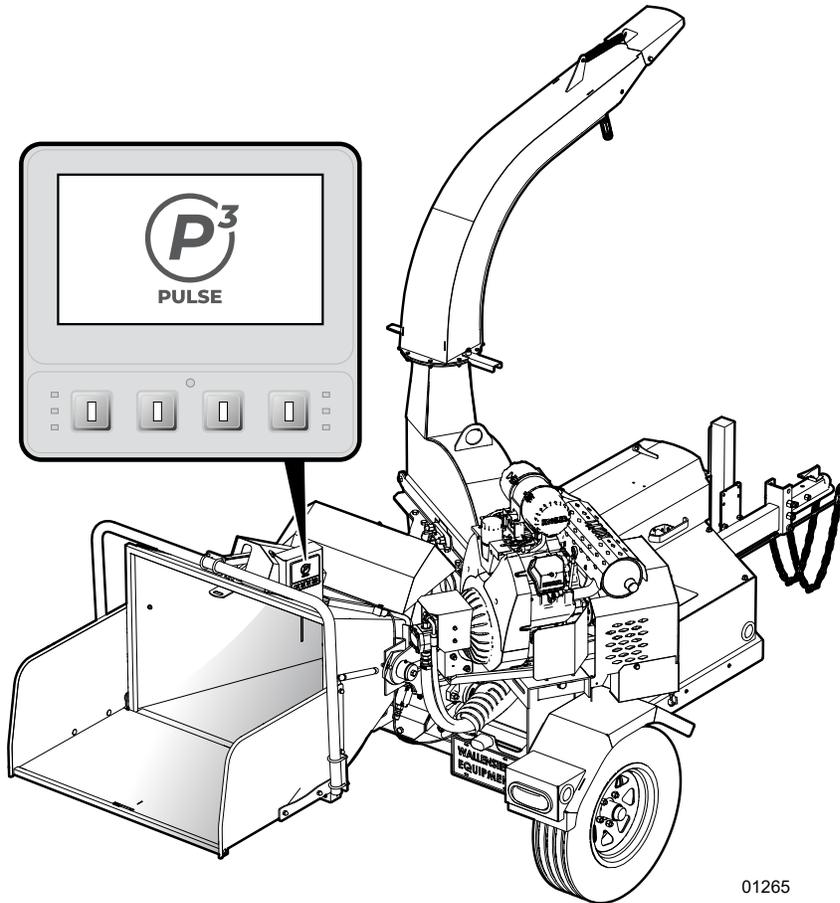


Stop

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

4.4 P3 PULSE Electronic Control System

Software version 1.0.0



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4.4.1 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.

4.4.2 Start-up Screen

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



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4.4.3 User Interface

1. Display Screen

The Display Screen is the user interface for the P3 PULSE Electronic Control System. The screen is an anti-glare coated, 4.3 in (109 mm) color display. The system is controlled by navigating through the soft key buttons.

2. Soft Key Indicator Icons

These icons are displayed directly above the Soft Key Navigation Buttons. They indicate your current selection options and are only shown when that selection is available.

-  Settings
-  Home
-  Up Arrow
-  Down Arrow
-  Select a value (enter)
-  Cancel

3. Navigation Soft Keys

Navigate through information and configuration screens using the four context-dependent soft keys located on the front of the display.

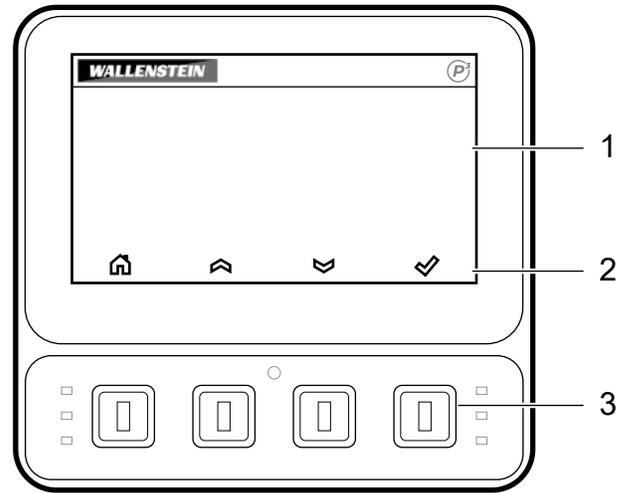
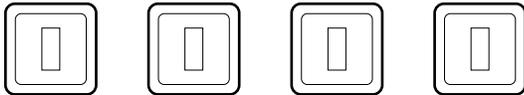


Fig. 4–P3 Display Front Panel

01237

4.4.4 Menus

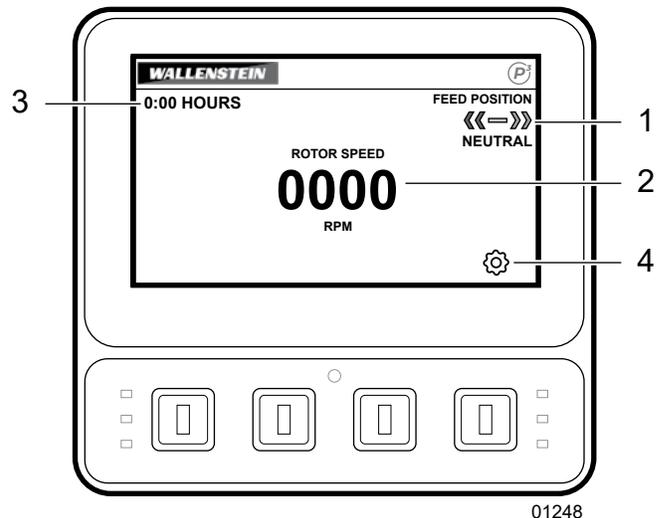
Main screen

The **Main** screen is the default screen with the ignition key in the ON position. Pressing the key below  *Home* icon in any sub menu takes you back to the Main screen.

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

The **Main** screen displays:

- Feed Position (feed roller rotation direction)
- Rotor Speed (rpm)
- Hours (rotor hours of operation)
- Settings Icon



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Fig. 5–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 being 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, feed rollers are not moving because rotor RPM is too low for chipping. Once engine speed is increased above the minimum start speed, 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. This value is not resettable. (Engine hours are displayed on the hour meter beside the ignition key. Use Engine Hours as a service interval guide.)

4. Settings

Press the soft key button below  *Settings* icon to navigate to the **Settings** screen.

Settings screen

Press the soft key button below the  icon to access **Settings**. This is the main screen to set up all your machine parameters. All settings are retained when the machine is shut down.

The **Settings** screen menu contains:

- Feed Settings – Set the maximum and minimum feed roller speed settings, feed roller start rpm, minimum feed roller speed.
- Reset Defaults – Returns all settings to the factory default values.
- Diagnostics – Provides an overview of operating parameters, rotor speed, solenoid valve current, feed roller position. Used for debugging and testing purposes.
- Select Machine – Chose machine model to set the default operating parameters for your machine.
- Enter Password – This password protected menu provides access to factory settings.

Use the Up  and Down  arrows to cycle through the menus. The active selection is highlighted.

Press the soft key below  icon to select that menu.

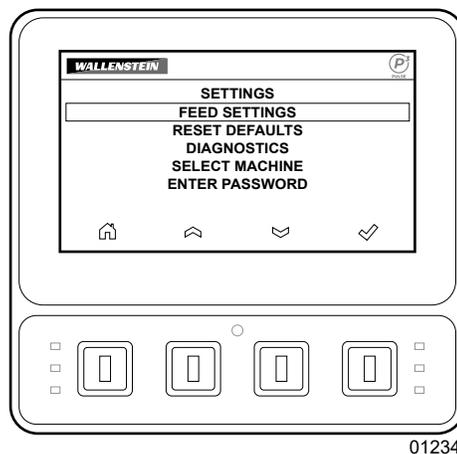
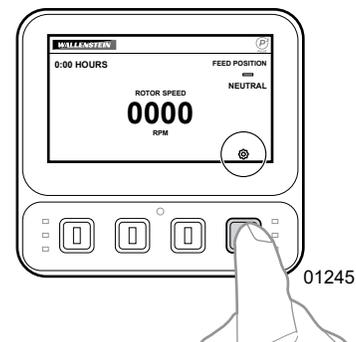


Fig. 6–Settings Screen

Feed Settings screen

Feed Settings screen provides access to the four main P3 PULSE program settings.

The active selection is highlighted. Pressing  advances to the next setting. **Max Feed Speed** is the first menu accessed.

- To make adjustments within any menu, press  to advance to that menu, then use Up  and Down  arrows to make any changes.
- Pressing  saves your new setting and advances to the next menu to the right. Press  as required to exit back to **Settings** screen.

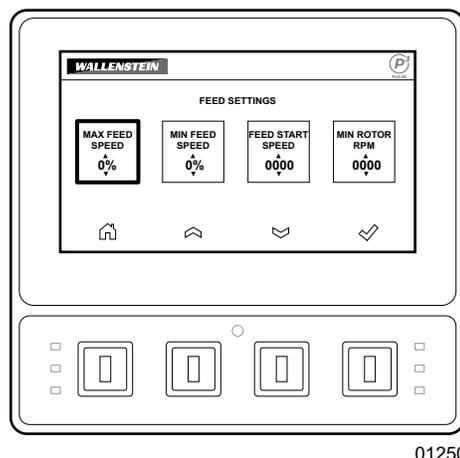
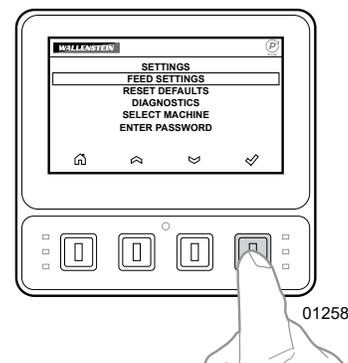


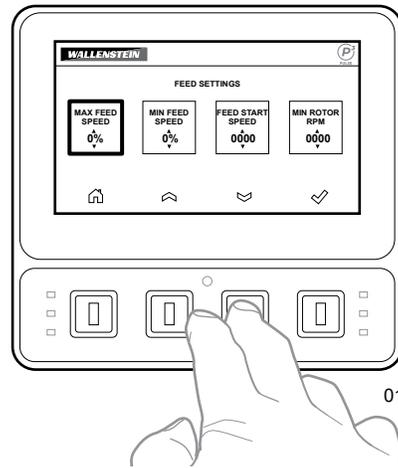
Fig. 7–Feed Settings Screen

Max Feed Speed



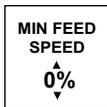
Sets the maximum feed roller speed in 5% increments. The value is shown as a percentage of the maximum speed (100%).

- Set **Max Feed Speed** higher for larger chip size. It can be set and left at 100%.
- Set it lower close to **Min Feed Speed** for smaller consistent chip size.



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Min Feed Speed



Sets the minimum feed roller speed in 5% increments. The value is shown as a percentage of the maximum speed (100%). Setting **Min Feed Speed** higher allows larger chip size and prevents the chipper from slowing up as much when wood is put through.

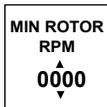
(Min Feed Setting cannot be set any higher than 5% below Max Feed Setting.)

Feed Start Speed



Sets the rpm point where 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, P3 auto-reverses the feed rollers. Once the rotor regains speed, Forward feed resumes. If the engine stalls out, the **Minimum Rotor rpm** is set too low.

Programming Hints

The factory settings provide good overall performance for the machine selected; however, you may choose to customize performance. Here are some helpful hints:

- For very heavy brush – decrease **Max Feed Speed** to slow feed roller speed.
- To get smaller, consistent chip size – decrease **Max Feed Speed** closer to **Min Feed Speed**.
- Larger chip sizes and more aggressive feeding – Leave **Max Feed Speed** at 100% and raise **Min Feed Speed**.

Reset Defaults screen

P3 PULSE setup parameters can be returned to the factory settings if desired.

- From the **Settings** screen, use the Up  or Down  arrows to navigate to **Reset Defaults**.
- Press  to reset all P3 settings back to factory default values.
- The next screen asks you to confirm the reset. Press the key below  to reject and  to accept.
- If you press  to cancel, the menu returns back to the **Settings** screen without changing your setup.
- If you press  to accept, P3 reboots and resets all settings to factory default values.

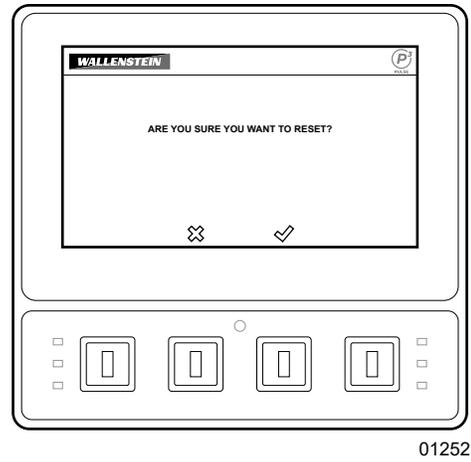
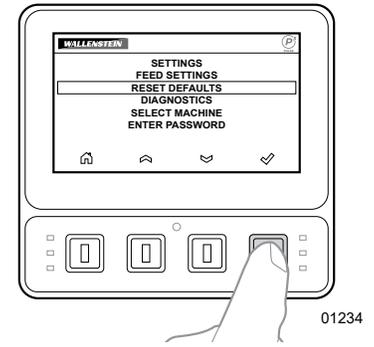


Fig. 8–Reset Defaults Screen

Diagnostics screen

The **Diagnostics** screen displays default settings, feed roller direction, and electrical current supplied to the Forward solenoid on the control valve.

Diagnostics is typically used for debugging and testing purposes by technicians. During operation, observe all machine settings from this screen.

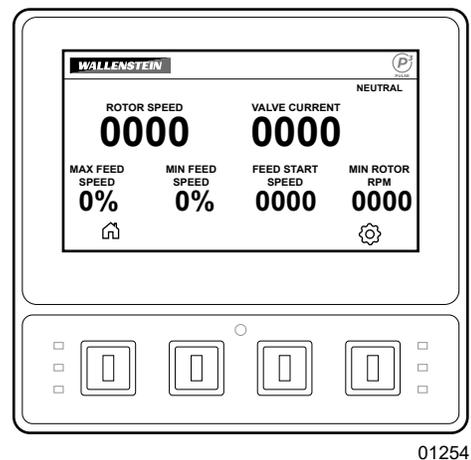
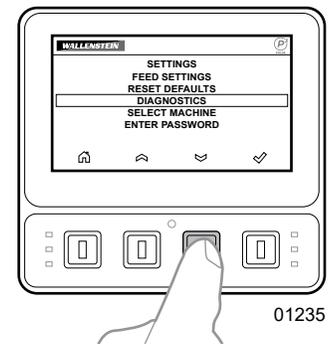


Fig. 9–Diagnostics Screen

Machine Select screen

IMPORTANT! Machine model must be selected during initial setup before operating the machine.

Machine Select must be done when the P3 PULSE is set up for the first time. Once you have selected your machine, P3 sets up the default settings for that model.

- From the **Settings** screen, use the Up  or Down  arrows to navigate to **Select Machine**, then press .
- Press the Up  or Down  arrows to find your machine model.
- Press  to save your selection and P3 returns to **Settings** menu.
- Pressing  Home icon exits to the **Settings** screen without saving your selection or changing any settings.

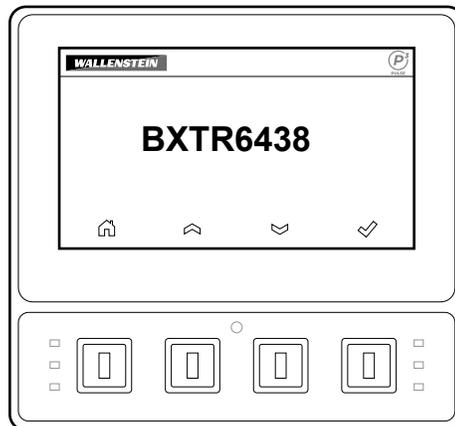
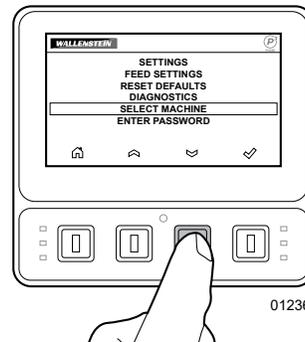
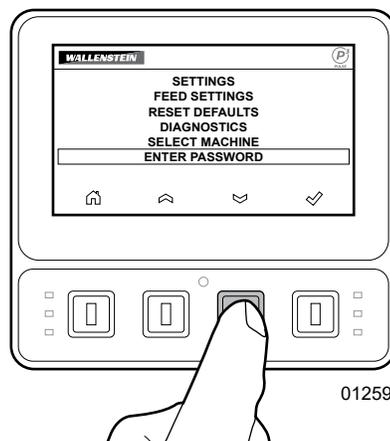


Fig. 10–Select Machine Screen

Enter Password

This password protected menu provides access to P3 program settings. This menu is only used by the factory for initial P3 machine setup parameters.



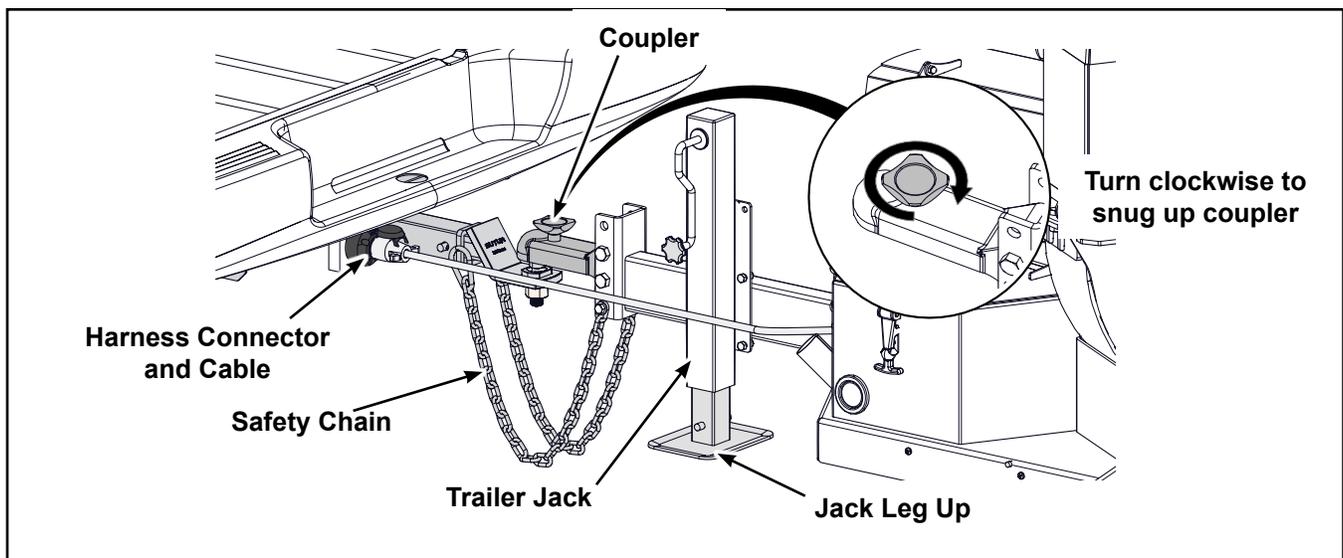
4.5 2-5/16" Ball Hitch

(As equipped)

4.5.1 Coupling for transport

The Wood Chipper should always be parked 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:
 - Place the coupler over the ball on the hitch.
 - Turn the hand wheel clockwise until it is snug and the hitch ball is secure.
 - Crank the jack up.
6. Attach the safety chain securely to the tow vehicle to prevent unexpected separation. Cross the chains when attaching to the tow vehicle.
7. Ensure light harness cable is firmly connected to the tow vehicle, and the signal lights are working.
8. Route the harness and cables across the hitch to prevent snagging. Be sure to provide slack for turning.
9. Reverse the above procedure when unhooking.

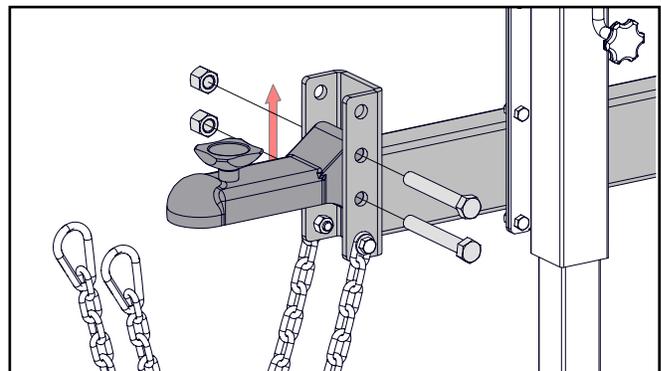


4.5.2 Adjustable Height

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 to 160 ft•lb (215 N•m).



5. Operating Instructions

Although the Trailer Wood Chipper is easy to use, each operator should review this section to become familiar with safety and operating procedures.

5.1 Before Operation

- 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 18)
- Review the Pre-operation Checks.
- Review operation and function of the controls page 20.
- 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 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.
- 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.

5.1.1 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.

5.1.2 Pre-operation 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:

Area to Check	✓
Check the machine has been lubricated following the schedule outlined in the Maintenance section.	
Check the tension and alignment of the belts. Adjust 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 for hydraulic leaks. Tighten connections or replace components to stop leaks.	
Check and ensure that all covers, guards and shields are in place, secured, and can function as designed.	
Check that all bearings are properly greased. Replace if they do not turn freely.	
Check and inspect tires, wheels, and hubs.	
Check hydraulic fluid level. Top level up as required.	
Check and tighten all fasteners. Make sure the equipment is in good condition.	
Check that appropriate equipment for personal protection is available and being used.	
Check that jewelry, loose-fitting clothing are not worn. Make sure long hair is tied back.	

5.2 Machine Set-up

! CAUTION!

Park the machine so prevailing winds blow exhaust gases / fumes away from the operator.

W006

! CAUTION!

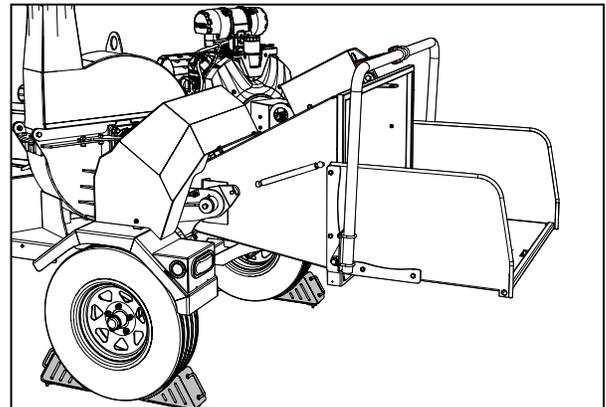
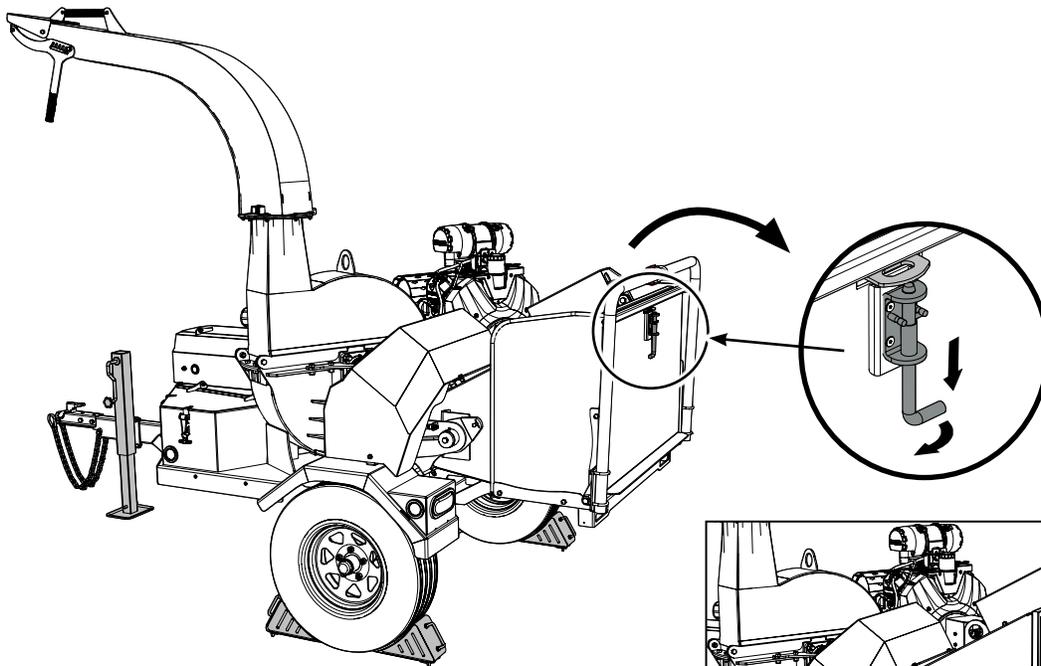
Risk of injury from ejected wood chips. Chipper rotor can expel wood chips fast enough to cause injury or damage.

Direct chute discharge away from work area, people, animals, and objects.

W024

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

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



Feed Table Down

5.3 Starting Procedure

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 starts.
7. Operate at low idle for a few minutes to allow the engine 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 rotor drive.
11. Increase throttle setting to maximum speed for operation.
12. Ensure that the rotor is up to speed, start feeding material into hopper.

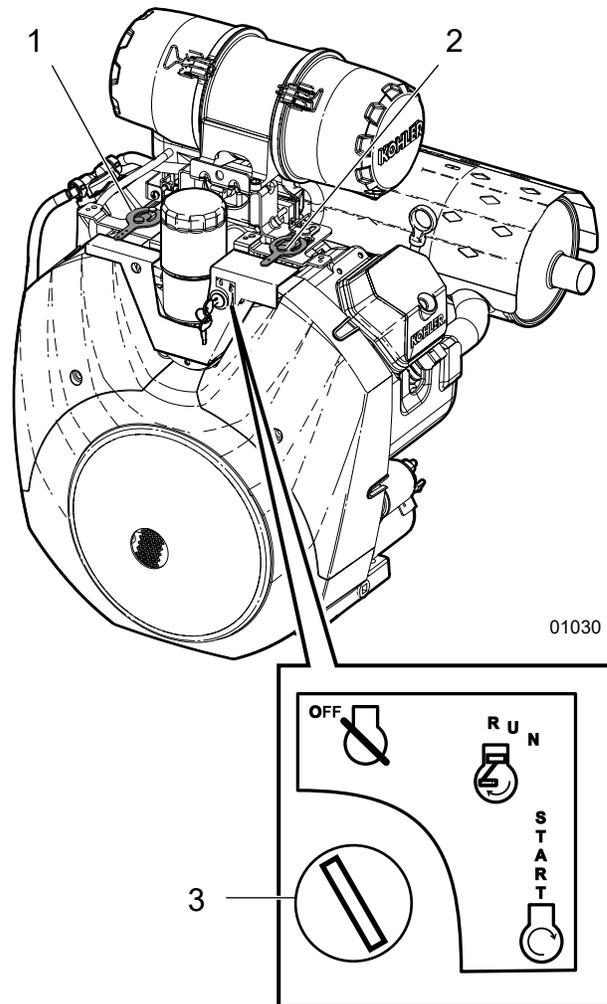
5.3.1 Stopping:

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

5.3.2 Emergency Stopping

If an emergency occurs:

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



01030

Fig. 11 – Engine Controls

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

5.4 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:

After operating for 1 hour:

1. Inspect the axle, tires, wheels.
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 condition of electrical and hydraulic components. Keep all components in good condition.
9. Check all fluid levels. Top up as required.

After operating for 8 hours:

10. Repeat steps 1 through 9.
11. Go to the normal servicing and maintenance schedule as defined in the Maintenance Section page 44.

5.5 Chipping Operation

The BXTR6438 Wood Chipper is a strong, rugged machine that is built to a straight-forward design which provides consistent chipping of logs up to 7" (18 cm) in diameter.

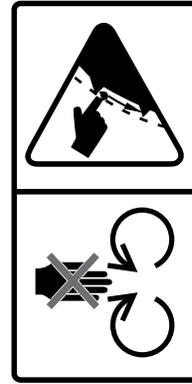
Always wear proper PPE whenever operating the machine. This includes but is not limited to a hard hat, protective shoes with slip resistant soles, protective goggles or face shield, heavy gloves, hearing protection and protective clothing.

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.



WARNING!

Never reach into the feed hopper. Doing so risks hands getting caught. Use a stick or branch to push in any material that does not move on its own.

If jammed, stop the engine, wait for the rotor to stop, then clear the jam.

W004

5.6 Unplugging

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

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.
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 any material loose jammed into the discharge hood. Be sure all the material is cleared 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.

5.6.1 Severe plug:

1. Ensure the machine is in **safe condition** before beginning.
2. Open the upper rotor housing.
3. Remove jammed material from inside the rotor compartment.
4. Clean out the discharge chute.
5. Inspect the lower rotor housing and clean out any debris.

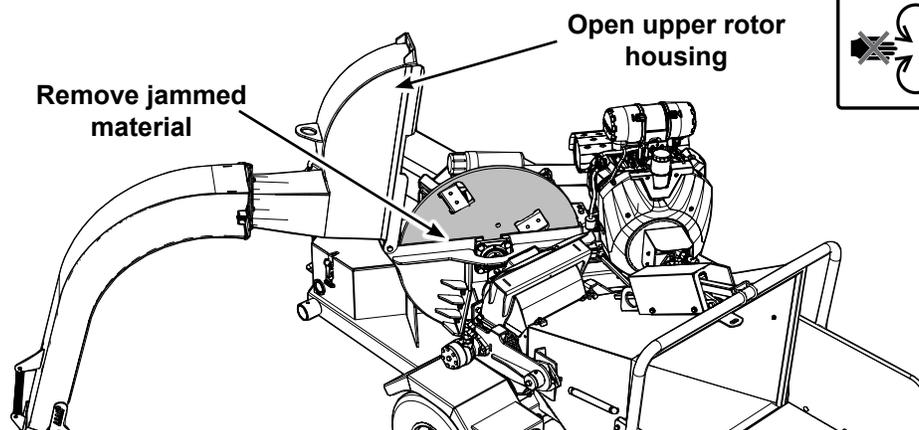
IMPORTANT! Be aware that the rotor has 4 chipper blades. Reaching into the rotor compartment to clear a plug must be done with great care.

6. 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.**
7. Unscrew the 2 bolts that secure the upper roller assembly.
8. Grasp the roller assembly lift handle and pull the assembly up and back.
9. 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.

WARNING!

Machine shown with shields removed for illustrative purposes only. Never operate machine with shields removed.

W001

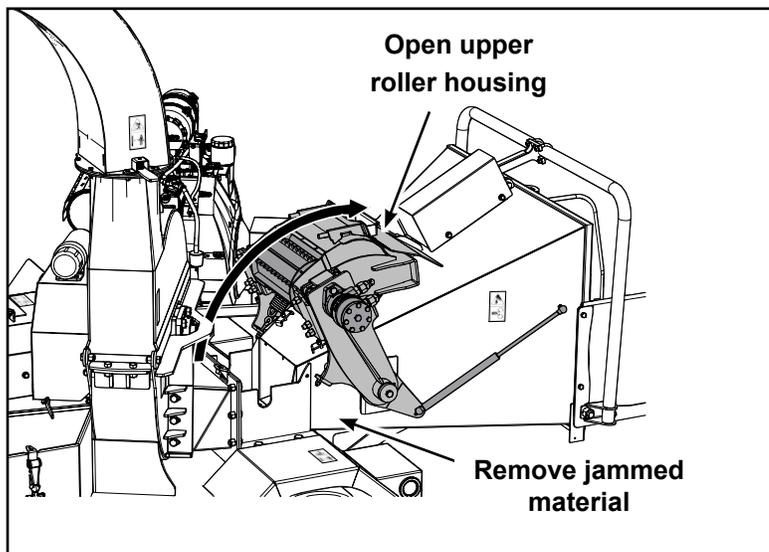
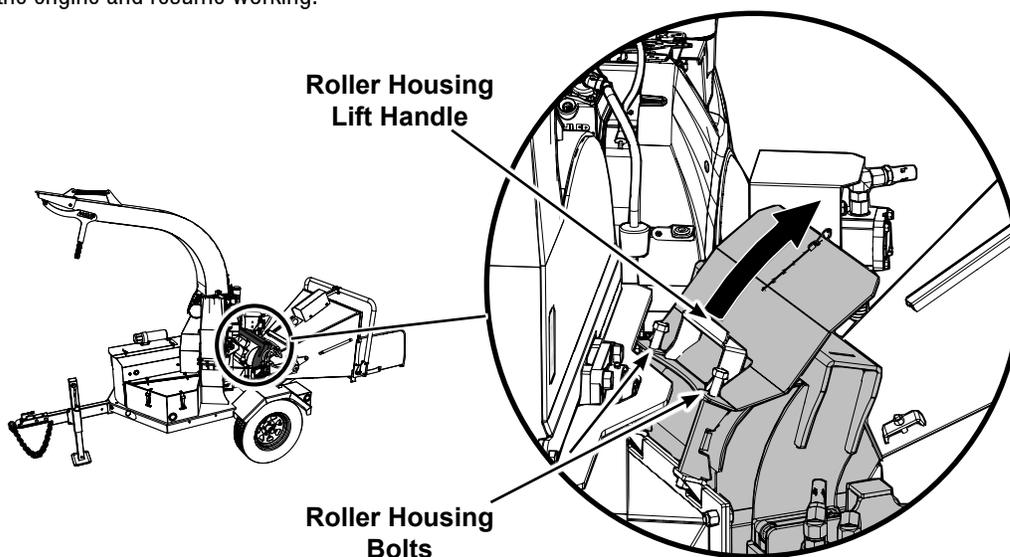


10. **Carefully** reach into the roller housing and remove any debris.
11. If required to dislodge material in or around the rotor: **very carefully** and slowly turn the rotor by hand, remove any jammed material. **Do not reach into the roller housing while the rotor is moving.**
12. When all debris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

! WARNING!

Machine shown with shields removed for illustrative purposes only. Never operate machine with shields removed.

W001



5.7 Refueling

The fuel tank is in front of the engine. Volume is 12 gal US (50 L).

Avoid running the tank dry. Use the appropriate grade of fuel, and use caution to prevent spilling. **Do not smoke while refueling.**

5.7.1 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.

WARNING!



Fuel vapors can explode causing injury or death. Do not smoke while refueling. Keep sparks, flames, and hot components away.

W027

- 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.

IMPORTANT! Refer to engine manual supplied with this machine for fuel specification.

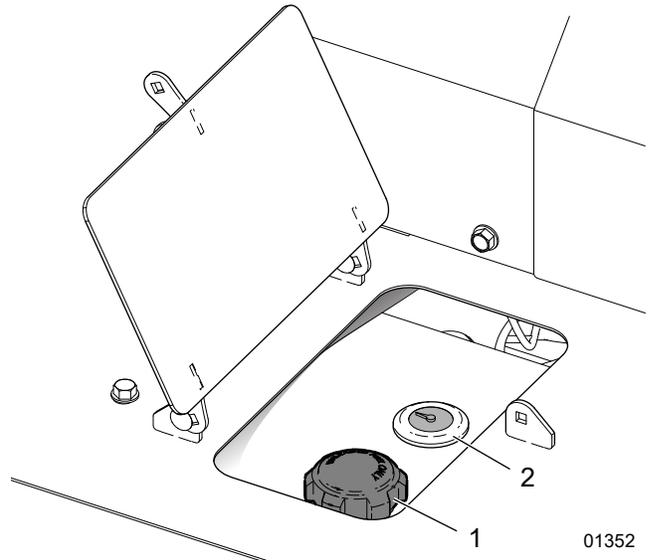


Fig. 12–Fuel Tank

1. Fuel tank cap
2. Fuel gauge

To add fuel:

1. Allow the engine and muffler to cool.
2. Clean area around fuel compartment lid. Open it and remove cap.
3. 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.
4. Install fuel fill cap securely and wipe up any spilled fuel.



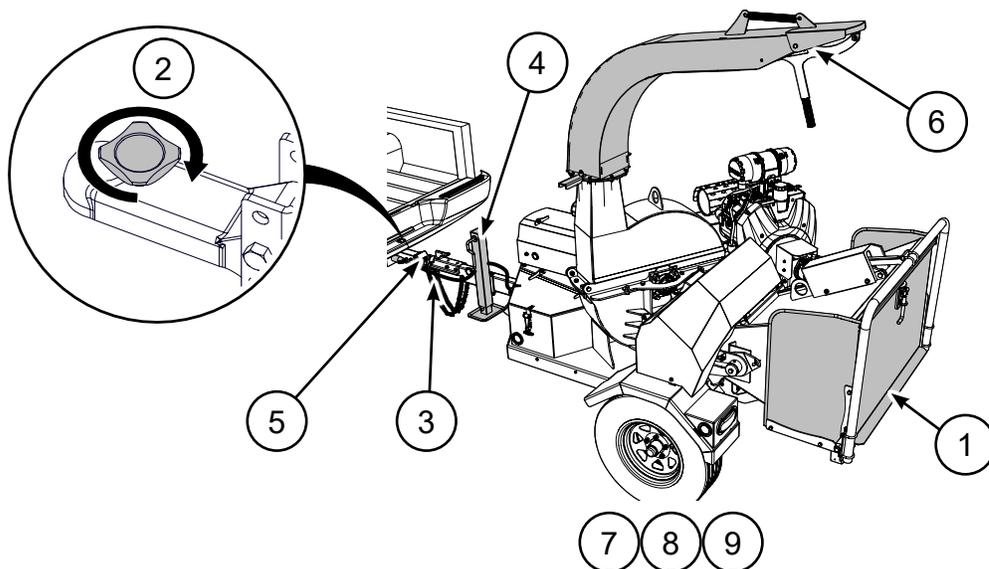
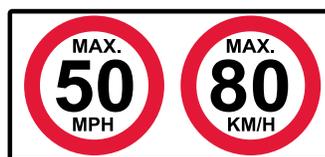
5.8 Transporting

5.8.1 Prepare for Transport:

Follow these instructions:

1. Stow feed table and secure the latch.
2. Ensure 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. Turn the discharge hood and point toward the feed table to reduce the width of the machine.
7. Check tire air pressure. Check for cuts or damaged rims.
8. Check lug nuts and re-torque if necessary. New chippers check after 20–25 miles (32–40 kilometres) and regularly check weekly.

9. Inspect and replace any axle dust caps that are damaged or leaking.
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.



5.9 Storage

- If the machine is not going to be used for a period of time, put the chipper away in storage.
- Store the unit in an area away from human activity.
- Do not let children play on or around the stored machine.
- Store the unit in a dry, level area.
- Perform the following measures to ensure a smooth start-up before putting the chipper back to work. Completely inspect all major systems. Replace or repair any worn or damaged components.

IMPORTANT! Review the engine owner's manual to prepare the engine for storage.

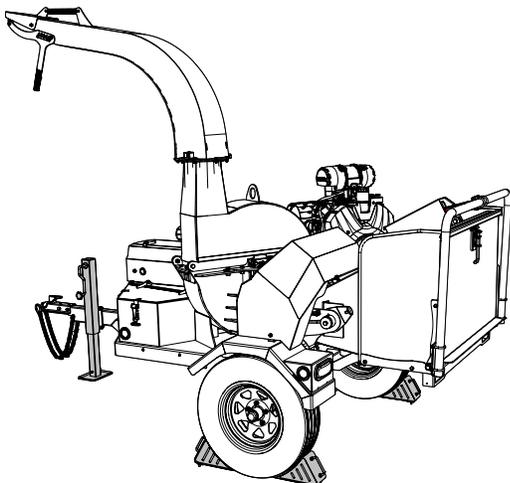
1. Fill the fuel tank and add fuel stabilizer. Operate the engine for a few minutes to let fuel cycle through the system.
2. Remove ignition key and store in a secure place.
3. Remove the battery and store it in a cool, dry area where it cannot freeze. See page 48. Connect a battery maintainer to keep it at full charge.
4. Inspect all rotating parts for entangled material. Remove all entangled material.
5. Remove all remaining material and debris from the machine.
6. Clean the machine to remove all dirt, mud or debris.
7. Check the condition of the drive belt and sheaves. Replace or adjust as required.
8. Fold up the feed table up and secure. Turn the discharge chute towards the engine.

9. Make sure tool and tank doors are latched, belt access covers, and shields are bolted.
10. Touch up paint nicks and scratches to prevent rusting.
11. Cover with a waterproof tarp if storing the machine inside is not possible.

5.9.1 Removing from Storage

When removing this machine from storage, follow this procedure:

1. Review and follow the Pre-operation Checks on page 32.
2. Review safety and operation procedures.
3. Install and connect the battery. See page 48.



Prepared for Storage

6. Service and Maintenance

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.
- Never operate the machine or the towing vehicle inside of a closed building. Make sure there is plenty of ventilation. Exhaust fumes may cause asphyxiation.
- Before servicing or repairing this machine, make sure it is in a Safe Condition to work on.



SAFE CONDITION

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

- Allow engine and components to cool before performing maintenance. Hot components can cause burns to exposed skin.
- Never work underneath equipment unless it is securely blocked or supported.
- When performing any service or maintenance work, always use appropriate personal protection equipment.
- Where replacement parts are necessary, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer is not responsible for injuries or damages caused by use of unapproved parts or accessories.
- A fire extinguisher and first aid kit should be kept readily accessible while performing maintenance on this equipment.
- Inspect and tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure chipper is in a safe working condition.
- After completing a service procedure, make sure all safety shields and devices are reinstalled.
- When performing maintenance on this equipment always have at least two workers present. Do not work alone in case an emergency should arise.

- When cleaning any parts, do not use gasoline. Use a regular cleanser.
- Always use proper tools in good condition.



WARNING!

Risk of serious personal injury. Stop engine before performing ANY service or maintenance procedure. Reinstall all covers and shields removed before putting machine back into service.

W033



WARNING!

Shut down the machine and allow it to cool before performing any service, maintenance, or inspection procedure. Engine components and oil may be hot enough to cause injury.

Make sure the machine is in a Safe Condition to work on. Review Maintenance Safety beforehand.

W041

IMPORTANT! Refer to the engine manufacturer's manual for maintenance and service information.

6.1 Fluids and Lubricants

1. Engine Oil

SAE 10W-30 motor oil with API service class SJ or higher is recommended for general use. **Refer to the engine manufacturer's manual for further information.**

2. Grease

Use an SAE multi-purpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multipurpose lithium-based grease.

3. Engine Fuel

This engine requires clean, unleaded gasoline with a pump octane rating of 87 or higher. Gasoline up to 10% ethyl alcohol, 90% unleaded is acceptable. **Refer to the engine manufacturer's manual for further information.**

4. Hydraulic Oil

Use Dexron® III ATF for all operating conditions. Dexron VI or Mercon® are acceptable substitutes.

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.

6.2 Maintenance Schedule

Perform maintenance procedures at time shown or hour interval, whichever comes first.

As Required

Visually check drive belt tension.

Remove entangled material from chipper.

Check that all fasteners are tight.

Every 8 hours or Daily

Check engine oil level.

Check fuel level.

Perform Pre-operation check.

See page 32

Periodically inspect rotor blades, ledger knife, and twig breaker.

—

Every 50 hours or Annually

Clean engine air filter.

See engine manual

Check drive belt tension and sheave alignment.

See page 49

Check rotor blade sharpness.

See page 35

Check ledger knife sharpness.

See page 36

Check twig breaker.

See page 43

Every 100 hours or Annually

Change engine oil.

See engine manual

Change engine air filter.

See engine manual

Clean machine. Remove debris and entangled material.

—

Change fuel filter.

See engine manual

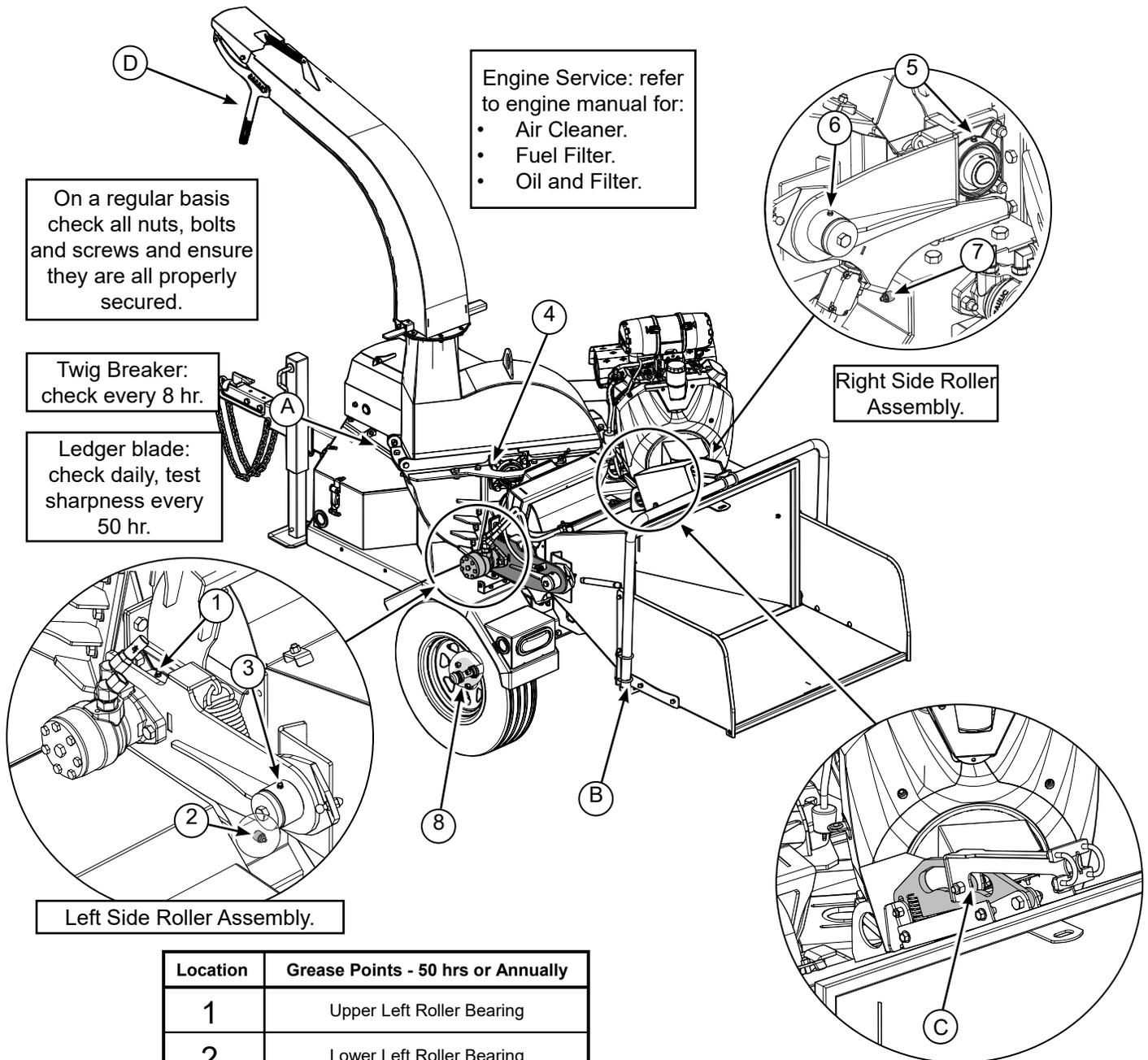
Grease rotor bearings.

See page 31

6.3 Service Illustration

See Service Record Chart

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



Left Side Roller Assembly.

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	

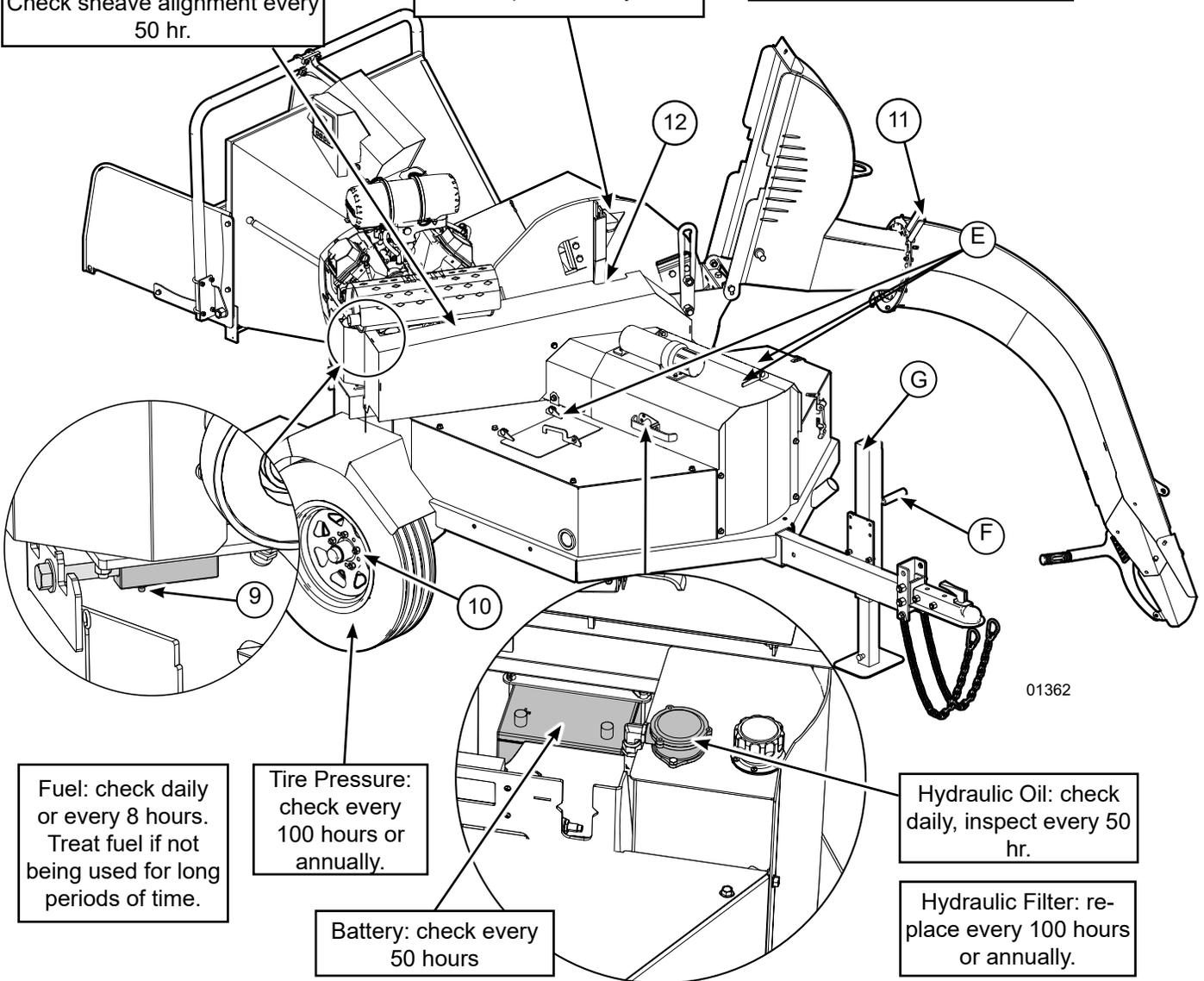
Location	Lubricate Hinges & Pivot Points
A	Rotor Cover hinge (2 sides)
B	Feed Table / Control Hinge (2 sides)
C	Feeder Control Linkage / Bearing
D	Hood Deflector
Inspect daily, lubricate every 40 hours or weekly	

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.

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

Rotor blades: check daily, test sharpness every 50 hr

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



Fuel: check daily or every 8 hours. Treat fuel if not being used for long periods of time.

Tire Pressure: check every 100 hours or annually.

Battery: check every 50 hours

Hydraulic Oil: check daily, inspect every 50 hr.

Hydraulic Filter: replace every 100 hours or annually.

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.	

6.4 Maintenance

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

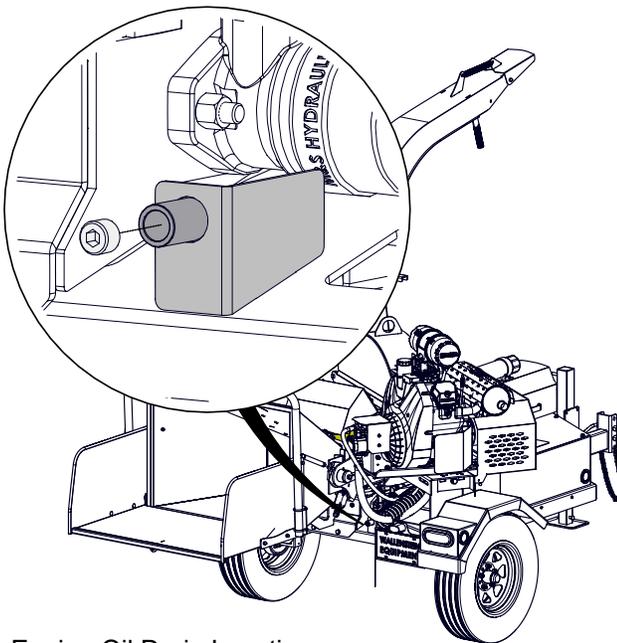
Put the machine in **safe condition** before working on this machine,

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

6.4.1 Kohler CH980 38 hp Engine

Review engine instruction manual for specific instructions / requirements on:

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



Engine Oil Drain Location

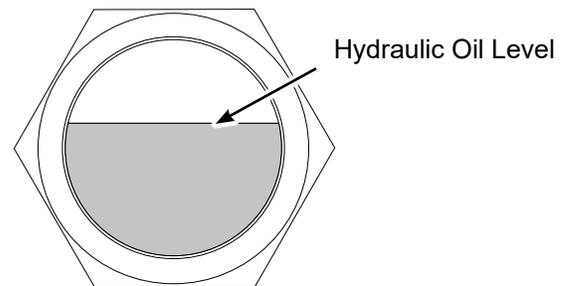
To make the process of changing oil easier, an oil drain extension has been added and is located at the rear of the machine.

6.4.2 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 hours. If the oil is dirty or smells burnt, it should be replaced.

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



Hydraulic Site Glass

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 7 gal US (30 L).
 - 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.

6.5 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:

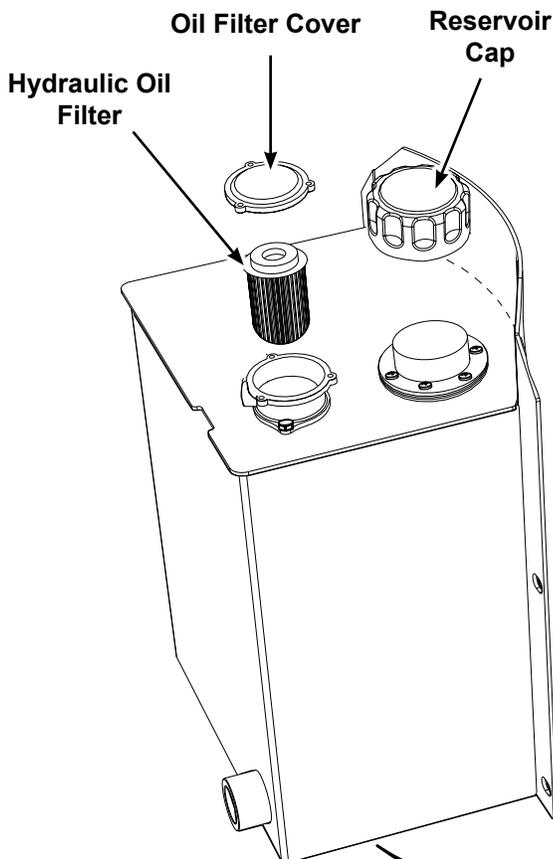
1. Allow the machine to cool before changing the oil. Hot oil can cause burns if it contacts exposed skin. It is best to change oil while the machine is warm to keep the contaminants in suspension.
2. Have a drain pan ready with capacity to hold the drained oil from the tank and lines. Reservoir capacity is 7 US gal (30 L).
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 Dexron III oil.

Dispose of used oil in an environmentally acceptable fashion.

6.6 Hydraulic Oil Filter

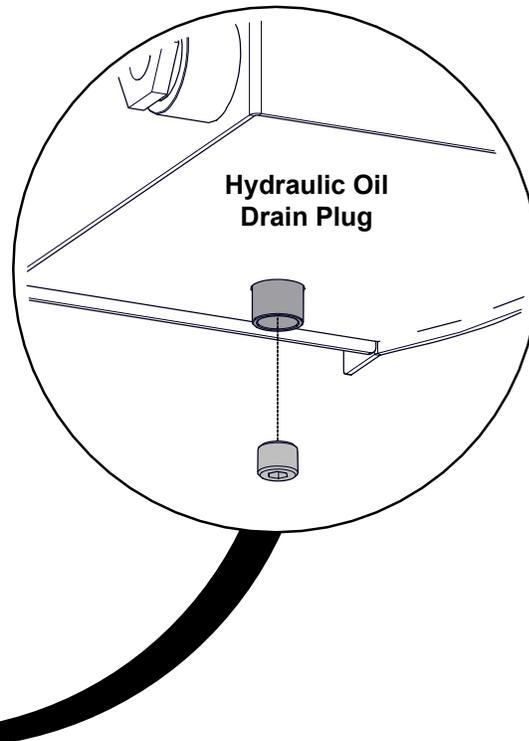
The hydraulic filter needs to be cleaned at least every 100 hours or annually. The filter is located on top of the hydraulic oil tank. Follow this procedure to clean the filter:

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. The oil return is on the top of the reservoir. Remove the three screws on the filter cover.
4. Remove the cover and pull out the hydraulic oil filter.
5. Wash the screen out with diesel fuel or Varsol®.
6. Once cleaned, inspect the filter mesh for any holes, perforations, rust or tears.
7. Place 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 temperatures. Optimum temperatures are 120–140 °F (50–60 °C). Temperatures higher than 180 °F (82 °C) could cause seal damage and degrade the hydraulic oil. High oil temperatures are often a symptom of another problem.



6.7 Servicing the Battery

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

CAUTION!

Battery posts, terminals and related accessories contain lead and lead compounds. These chemicals are known to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

W031

Remove

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

Install

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

Cleaning the Battery

6. Disconnect negative (–) cable first, then positive (+) cable.
7. Clean battery cable ends and terminals with wire brush. Rinse with a weak baking soda solution.
8. Connect positive (+) cable first, then negative (–) cable.
9. 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.

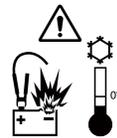
6.8 Jump Starting

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

WARNING!



Charging a frozen battery can cause it to explode. Warm the battery to 60 °F (16 °C) before charging.

W030

Boosting machine must have a 12-volt battery and be 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.

6.9 Drive Belt Replacement

If the drive belt is in disrepair or loose, the ability to drive the rotor may be affected. It is important to periodically check belt tension and condition. **Frayed, cracked, or worn drive belts should be replaced.**

IMPORTANT! If changing or removing drive belt, always set correct belt tension. Make sure engine and rotor sheaves align properly.

Check drive belt tension every 100 hours of operation.

Make sure the engine is off and components are cool to touch beforehand.

1. Remove the drive belt guard.

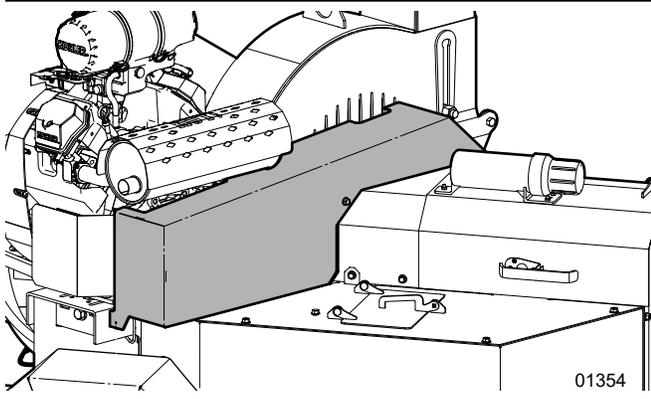


Fig. 13—Drive Belt Guard

2. Loosen the four bolts that hold the engine mount to the main frame.

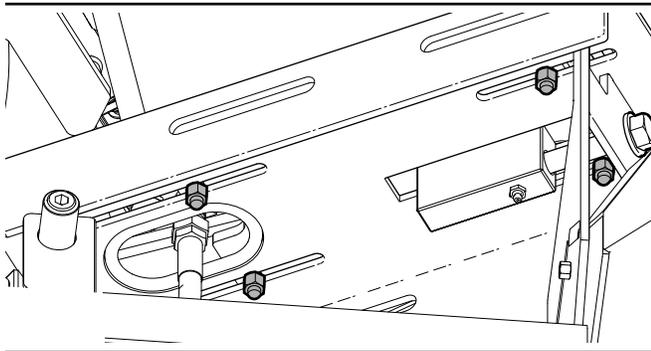


Fig. 14—Engine Mount Bolts

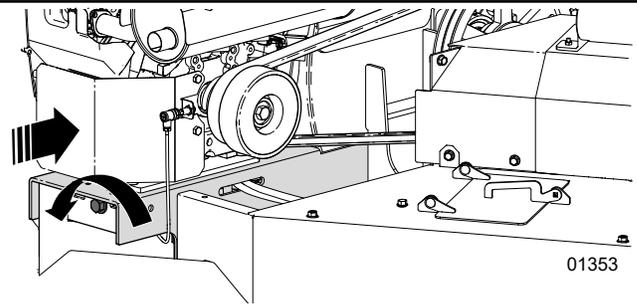


Fig. 15—Belt Tensioning Bolt

3. Turn the belt tensioning bolt counterclockwise to loosen the belt. Slide the engine back and remove the belt.
4. Install the new belt, slide the engine forward, and set correct drive belt tension. See *Drive Belt, Tensioning* to follow.

IMPORTANT! Check sheave alignment after changing the drive belt.

6.9.1 Drive Belt, Tensioning

Drive belt deflection should be no more than 3/8"–7/16" (10 mm–12 mm).

For accurate measurement use a drive belt tension gauge. If one is not available, the following method can be used.

1. Push on the drive belt by hand to check its deflection.

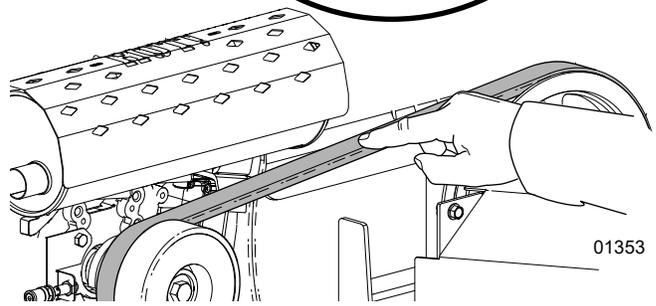
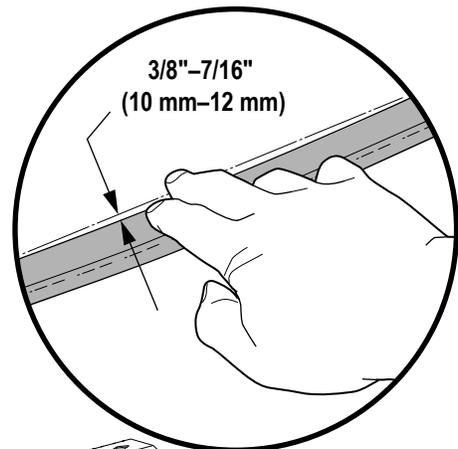


Fig. 16—Checking Drive Belt Deflection

- If the belt requires adjustment, loosen (do not remove) the four bolts that hold the engine mount to the main frame.
- Pull the engine back to snug up the belt, then tighten the bolts on the opposite side from the belt.
- Turn the belt tension adjuster bolt clockwise to tighten the belt. Turn it counterclockwise to loosen the belt. Check and adjust belt tension accordingly. Be aware of belt alignment when adjusting belt tension. See *Drive Belt Alignment* to follow.

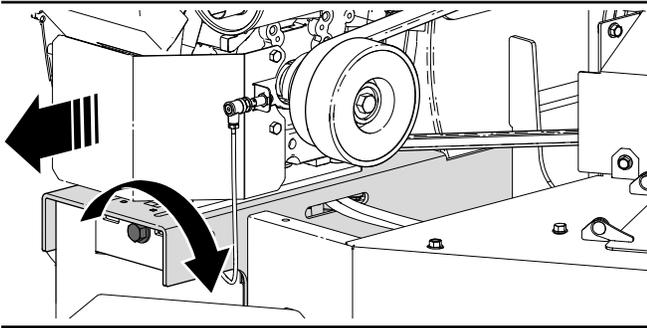


Fig. 17—Drive Belt Tension Adjustment

- Recheck belt tension. Once set correctly, tighten up all four engine mount bolts. Re-install the belt shield.
- Recheck belt tension after 10 hours of operation.

6.9.2 Drive Belt Alignment

Observe drive belt alignment every 8 hours of operation.

For accurate measurement use a laser alignment tool. If one is not available, the following method can be used.

NOTE: A straight edge at least 50" (127 cm) in length is required.

The maximum misalignment is 1/32" (1 mm).

Place the straight edge along the back face of the rotor sheave and engine clutch. Compare the gap between the belt along the length of the straight edge. The gap between must be equal along its length. Adjust accordingly.

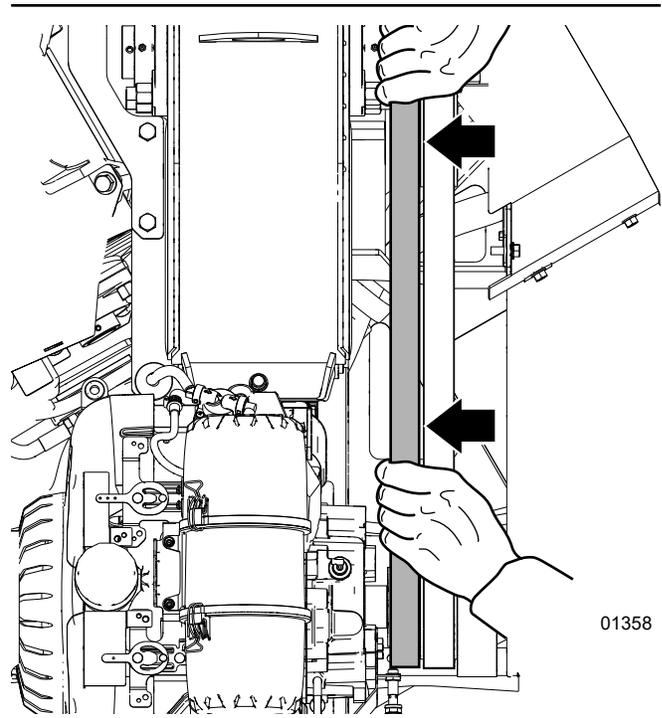


Fig. 18—Sheave Alignment

If the gap is not even along the length of the belt, determine whether the engine is square to the chipper frame. It may also be that the rotor sheave has moved in or out on the shaft. Belt misalignment can be corrected two different ways:

- Engine mount alignment
- Rotor sheave alignment

Engine Mount Alignment

After changing the drive belt, the angle of the engine mount could shift resulting in poor belt alignment.

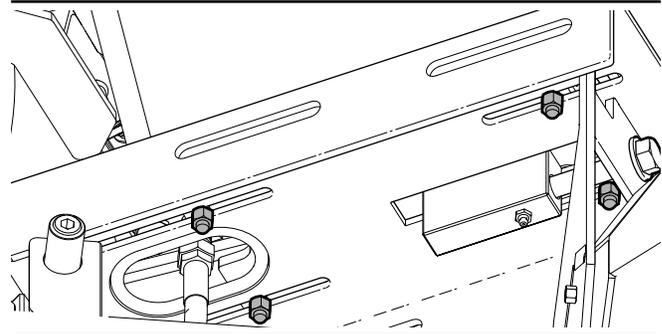


Fig. 19—Engine Mount Bolts

- Twist the engine to one side or the other on the base to adjust engine position. Recheck belt/sheave alignment. Repeat as necessary for the best result.
- Recheck belt tension and adjust if required. Tighten the engine mount bolts.

Rotor Sheave Alignment

If the rotor sheave loosens on the shaft, it can become misaligned with the engine clutch, resulting in poor belt alignment.

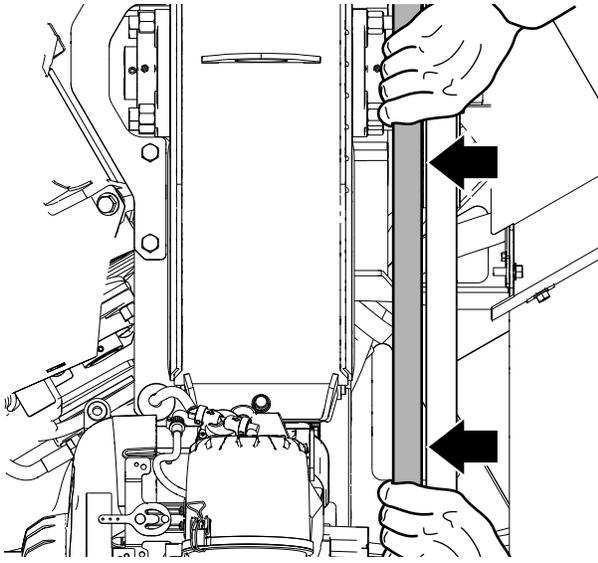


Fig. 20—Rotor Sheave Misalignment

1. Remove the drive belt.
2. Remove the set screw from the sheave (1).
3. Remove the sheave bolts (5) and the RPM Indicator Plate (4). Thread the bolts into the puller holes on the sheave hub.

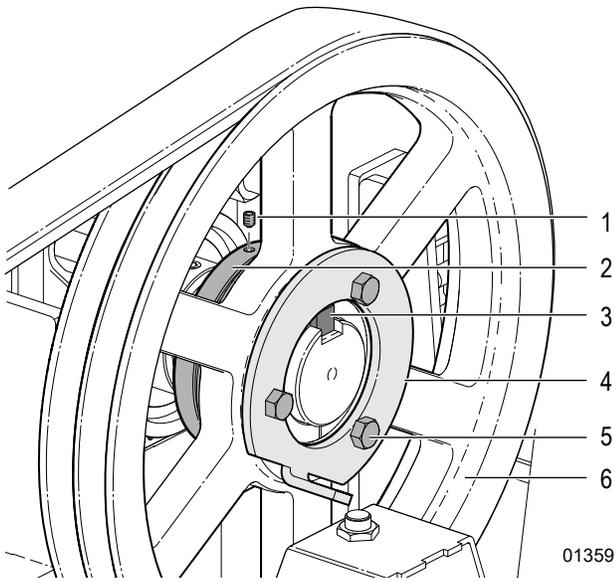


Fig. 21—Rotor Sheave

- | | |
|---------------|------------------------|
| 1. Set Screw | 4. RPM Indicator Plate |
| 2. Sheave Hub | 5. Sheave Bolts |
| 3. Shaft key | 6. Sheave |

4. Turn in the bolts evenly in 1/4-turn increments to pull the hub and the sheave slightly apart so they can move on the shaft.
5. Lightly tap the sheave hub with a block of wood to move it in or out on the shaft so it is re-aligned with engine clutch sheave. Confirm with the straight edge along the face of the engine clutch and rotor sheave.
6. Once aligned, insert the hub bolts and snug them up to the sheave. Recheck alignment.
7. Tighten hub bolts evenly in 1/4-turn increments until firmly seated. Install and tighten the set screw.
8. Re-check the alignment again with the straight edge once the bolts are tight. Re-check belt tension.
9. Reinstall the belt guard.

6.10 Rotor Blades

The rotor is equipped with four offset, evenly-spaced blades. If a blade needs to be changed, the one opposite should also be changed to keep the rotor balanced.

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. 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).
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.

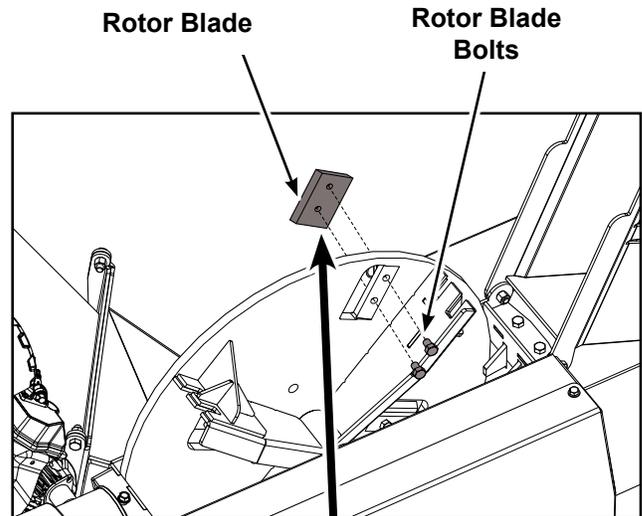


CAUTION!

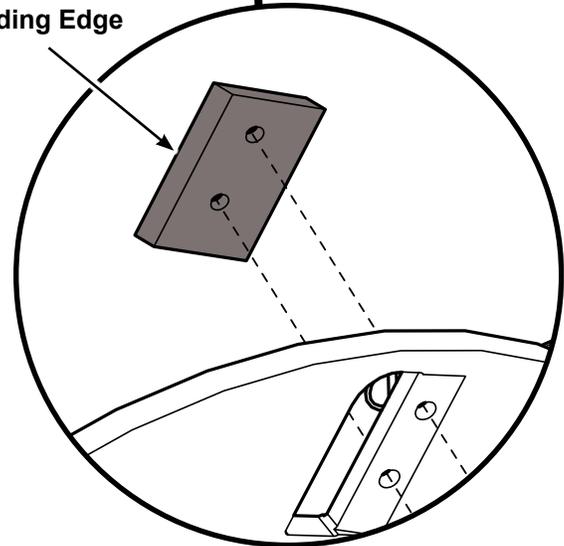
Avoid reaching into rotor compartment. Rotor chipper blades are very sharp. If reaching inside is necessary, use extreme care.

W003

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.



Leading Edge



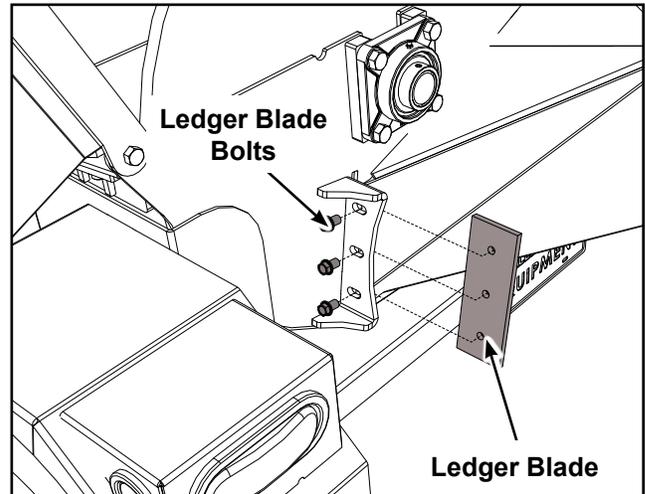
Proper orientation of Rotor Blade

6.11 Ledger Blade

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

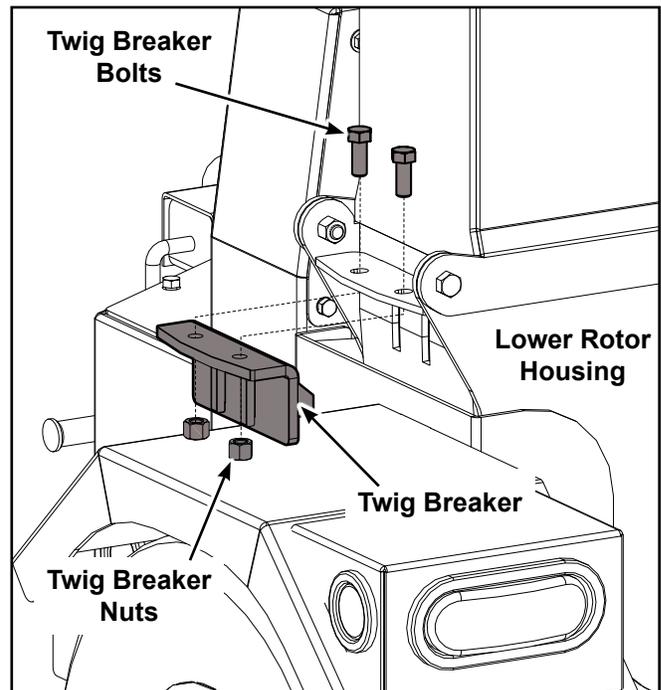
The ledger blade is designed with four usable corners. When the corner facing the rotor blade rounds over, remove the blade and re-install with a different corner facing the rotor blade. It is recommended that the clearance between the rotor and stationary blades be set and maintained at 1/32–1/16" (3/4 – 1-1/2 mm) to obtain the best performance.

1. Ensure the engine is off (ignition switch is off).
2. Remove the two 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" (3/4 – 1-1/2 mm). For fast and easy setting, use the chipper Clearance Setting Gauge, available from your dealer.
5. Tighten down bolts.



6.12 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.



7. Troubleshooting Guide

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

The following table lists causes and solutions to problems that could be encountered. If a problem encountered that is difficult to solve, contact a Wallenstein distributor or dealer. Have the chipper serial number handy.

Engine Related Issues—refer to the engine manual included with the manual set.

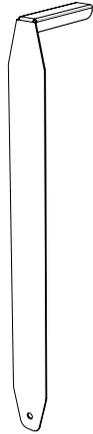
Brakes/Wheel Bearing Issues—refer to the Dexter Axle manual included with the manual set.

Problem	Cause	Solution
Rotor does not turn.	Obstructed discharge.	Clear debris from discharge chute.
	Rotor plugged.	Inspect and clear chipper hopper lower rotor housing and rotor.
	Clutch seized.	Replace.
Material feeding in too slow.	Engine or rotor speed too low.	Set throttle to increase rotor rpm.
	Blades or knives are dull or clearance incorrect.	Check rotor and ledger blades. Rotate, sharpen, or replace.
	Rotor blade knife edge angle incorrect.	Re-sharpen rotor knives to specified 45° angle and check that blade is installed properly.
	P3 programming incorrect.	Adjust programming. See <i>page 23</i> .
	Slow hydraulic flow.	Dirty or plugged hydraulic filter. Change filter. See <i>page 47</i> .
		Hydraulic oil is contaminated. Inspect oil condition for dirt or foaming. Replace oil. See <i>page 43</i> .
Obstructed discharge.	Clear debris from discharge chute.	
Unusual machine vibration while operating.	Broken or missing rotor blade.	Replace.
	Rotor may be bent.	Check for rotor wobble. Replace rotor.
	Rotor bearings failed.	Replace.
	Loose fasteners.	Tighten. See torque tables <i>page 59</i> .
Engine does not start.	Upper rotor housing open.	Close upper rotor housing. Make sure interlock cable is connected.
	Interlock switch defective.	Check interlock switch. Replace.
	Interlock wiring harness damaged.	Inspect wiring harness. Repair or replace.
	Engine problem.	Refer to engine manufacturer's manual.
	Clutch seized.	Replace.
Machine requires excessive power or stalls.	Obstructed discharge.	Clear debris from discharge chute.
	Feeding in too much material.	P3 PULSE programming incorrect. Adjust programming. See <i>page 23</i> .
	Feeding material too quickly.	P3 PULSE programming incorrect. Adjust programming. See <i>page 23</i> .
	Rotor plugged.	Inspect and clear chipper hopper lower rotor housing and rotor.
	Green material does not discharge.	Allow material to dry or alternate between dry and wet material.
	Space between rotor blade and ledger knife too large.	Use ledger gauge tool to check clearance. See <i>page 53</i> .
	Dull blades.	Check rotor and ledger blades. Rotate, sharpen, or replace. See <i>page 53</i> .
	Engine problem.	Refer to engine manufacturer's manual.

Problem	Cause	Solution
Noisy drive belt, premature wear.	Drive belts loose or worn.	Inspect drive belts. Adjust tension or replace if needed. See <i>page 49</i> .
	Wrong replacement belt.	Inspect drive belts. Replace. See <i>page 49</i> .
	Sheaves misaligned.	Check sheave alignment and adjust. See <i>page 50</i> .
	Rotor plugged.	Inspect and clear chipper hopper, lower rotor housing, and rotor.
	Belt tension too high.	Check belt tension and adjust.
	Sheaves worn.	Inspect sheaves and bearings. Replace if required.
	Oil or grease on drive system.	Check source of oil or grease and correct. Clean sheaves and belts. Belts may require replacement.
	Rotor bearings.	Check and replace if required.
Poor Chip Quality.	Dull blades.	Check rotor and ledger blades. Rotate, sharpen, or replace. See <i>page 53</i> .
	Drive belts loose or worn.	Inspect drive belts. Adjust or replace if needed. See <i>page 49</i> .
	Poor quality material.	Material is small or rotting. Mix with higher quality material.
	Knife clearance incorrect.	Check and adjust as required. See <i>page 53</i> .
Feed rollers intermittent or not turning	Feed roll control bar set to stop.	Move to Forward or Reverse position.
	Engine speed not at or above minimum setting.	Set engine throttle for maximum rpm. Make sure engine is properly tuned. Adjust P3 programming. See <i>page 23</i> .
	P3 programming incorrect.	Check that P3 settings are at factory specifications. Reset if required. See <i>page 23</i> .
	P3 not receiving signal.	Inspect rotor sensor for damage. Replace unit if required.
		Inspect rotor sensor mount or sheave mounted indicator plate for damage or misalignment. Repair or replace.
		Check P3 controller for output signal. Replace unit if required.
		Check harness for bad ground connection.
	Inspect wiring harness for damage. Repair or replace if damaged.	
	P3 hydraulic control valve malfunction.	Inspect hydraulic control valve for damage. Check functionality.
	Feed control bar malfunction.	Check feed control bar switches. Replace, reposition pickup trigger.
	Slow hydraulic flow.	Filter is dirty. Change filter.
		Hydraulic oil is contaminated. Inspect oil condition for dirt, foaming. Replace oil.
	No electrical power.	Check battery, engine charging system for power.
	Hydraulic motor slow.	Check hydraulic circuit, oil, and motor condition. Replace if required.
Roller drive key sheared.	Check and replace.	
Hydraulic pump fault.	Repair or replace.	
Hydraulic oil overheating. Noisy hydraulic pump.	Reservoir oil level is too low.	Fill reservoir until fluid is visible in sight glass.
	Dirty filter.	Change filter.
	Hydraulic oil contaminated.	Inspect oil condition. Check for dirt or foaming. Replace oil.
	Feed rollers binding.	Inspect bearings. Lubricate or replace.
	Lines crimped or pinched.	Inspect, repair, or replace lines.
	Worn pump.	Check and replace.
	Line leak.	Inspect hydraulic lines and connections for leaks. Repair or replace.
	Pump leak.	Pump seals are worn. Replace.
	Pump noisy at startup.	Oil temperature too low. Allow machine to warm up before putting to work.

8. 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.

9. 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

10. Specifications

Specifications Subject to Change Without Notice

Model	BXTR6438 Trailer Wood Chipper	BXTR6438B Trailer Wood Chipper
Engine	Kohler® 999 cc, 35 hp (26 kW)	
Drive System	Rotor: Dual Belt, Auto Engage P3-protected Centrifugal Clutch	
Chipper Housing Opening (Height x Width)	7" x 11" (18 cm x 28 cm)	
Capacity	7" (17 cm) diameter /11" (28 cm) slab	
Chipper Hopper Opening (Height x Width)	25" x 34" (64 cm x 88 cm)	
Chipper Rotor Diameter / Weight	30" (76 cm) diameter @ 197 lb (90 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°	
Discharge Hood Height	100" (252 cm)	
Hydraulic Tank	7 US gal (30 L)	
Fuel Tank	9 US gal (34 L)	
Mounting System	Trailer 2" (50.8 mm) ball and coupler	
Dry Weight	2,225 lb (1 009 kg)	
Dimensions (Length x Height x Width)	Feed Table Open—148-1/2" x 64" x 100" (378 cm x 163 cm x 255 cm) Closed—128" x 64" x 100" (326 cm x 163 cm x 254 cm)	
Distance of feed roller to edge of feed table to ground.	85" (216 cm)	
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 Tires	
Features	<ul style="list-style-type: none"> - P3 PULSE – Electronic feed control and rapid recovery auto-reverse and auto-stop clutch protection - Height-adjustable 2" Ball Coupler - EPA Emission Compliant - Hydraulic fluid level site glass - Fuel level gauge - STOP—FORWARD—REVERSE—STOP – Feed roller control bar - Lockable Fuel / Hydraulic Compartments - Tool compartment - Extendable two-position Trailer Tongue - Highway trailer lights - Electric Start, Heavy Duty Battery - Latching Feed Table (closed position) - Lift Assist for Feed Roller Maintenance - Meets 2013 Worksafe BC Safety Standards 	

10.1 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



10.2 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	
		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.

10.3 Wheel Lug Torque

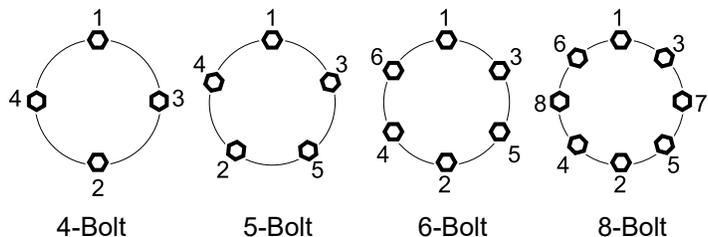
It is extremely important safety procedure to apply and maintain proper wheel mounting torque on your trailer axle. Torque wrenches are the best method to assure the proper amount of torque is being applied to a fastener.

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.*

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



- 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.

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