

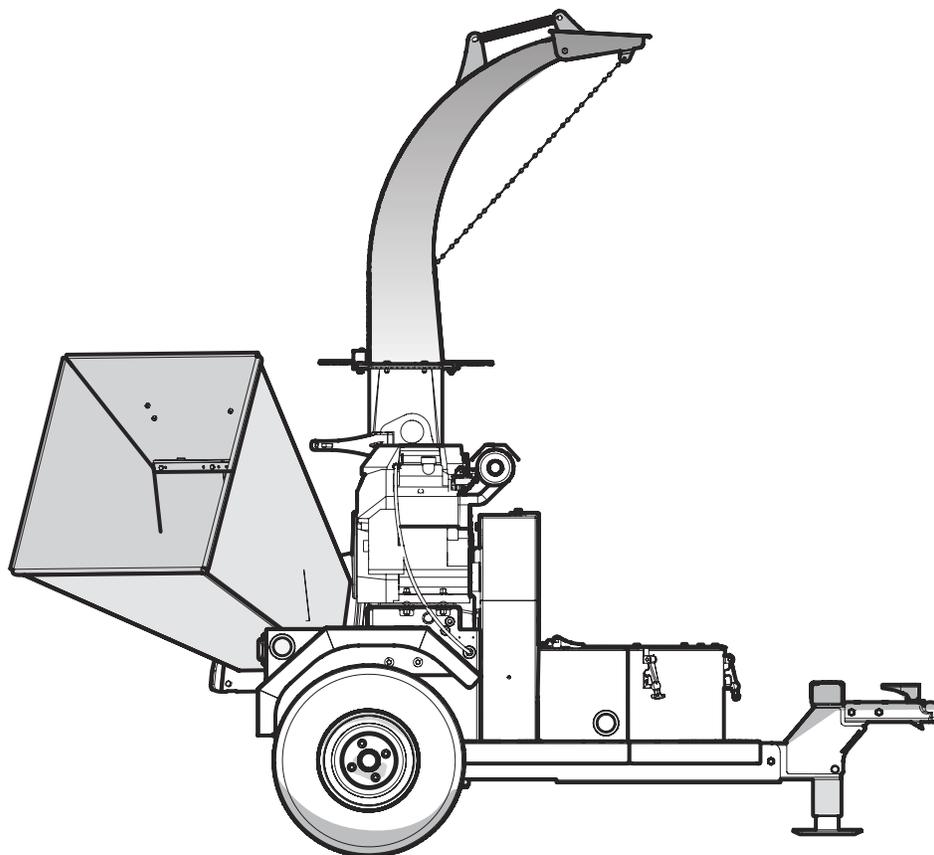
# OPERATOR'S MANUAL

---

BXT4224 – S/N 2E9US1116AS040088 to 2E9US1118PS040231

BXT6238 – S/N 2E9US1117NS060159 to 2E9US1114PS060171

## **BXT4224 / BXT6238** **Wood Chipper**



# Table of Contents

|   |           |   |           |
|---|-----------|---|-----------|
| <b>1. Foreword</b> .....                    | <b>3</b>  | <b>7. Service and Maintenance</b> ..... | <b>33</b> |
| 1.1 Introduction.....                       | 3         | 7.1 Maintenance Safety.....             | 33        |
| 1.2 Delivery Inspection Report.....         | 4         | 7.2 Fluids and Lubricants.....          | 33        |
| 1.3 Serial Number Location.....             | 5         | 7.3 Maintenance Schedule.....           | 34        |
| 1.4 Types of Decals on the Machine.....     | 6         | 7.4 Grease Points.....                  | 35        |
| <b>2. Safety</b> .....                      | <b>7</b>  | 7.5 Maintenance.....                    | 36        |
| 2.1 Safety Alert Symbol.....                | 7         | 7.6 Adjust the Drive Belt Tension.....  | 38        |
| 2.2 Signal Words.....                       | 7         | 7.7 Ledger Blades.....                  | 41        |
| 2.3 Why Safety is Important.....            | 7         | 7.8 Twig Breaker.....                   | 41        |
| 2.4 Safety Rules.....                       | 7         | <b>8. Troubleshooting</b> .....         | <b>42</b> |
| 2.5 Equipment Safety Guidelines.....        | 8         | <b>9. Specifications</b> .....          | <b>43</b> |
| 2.6 Safe Condition.....                     | 8         | 9.1 Mechanical.....                     | 43        |
| 2.7 Safety Training.....                    | 8         | 9.2 Common Bolt Torque Values.....      | 44        |
| 2.8 Being Prepared.....                     | 9         | 9.3 Wheel Lug Torque.....               | 45        |
| 2.9 Refueling Safety.....                   | 9         | <b>10. Product Warranty</b> .....       | <b>46</b> |
| 2.10 Tire Safety.....                       | 9         | <b>11. Index</b> .....                  | <b>47</b> |
| 2.11 Battery Safety.....                    | 9         |   |           |
| 2.12 Engine Safety.....                     | 10        |   |           |
| <b>3. Safety Signs on the Machine</b> ..... | <b>12</b> |   |           |
| 3.1 Locations.....                          | 12        |   |           |
| 3.2 Safety Sign Explanations.....           | 14        |   |           |
| <b>4. Machine Components</b> .....          | <b>18</b> |   |           |
| <b>5. Controls</b> .....                    | <b>19</b> |   |           |
| 5.1 Engine.....                             | 19        |   |           |
| 5.2 BXT4224 Engine Controls.....            | 19        |   |           |
| 5.3 BXT6238 Engine Controls.....            | 21        |   |           |
| 5.4 Hour Meter.....                         | 22        |   |           |
| 5.5 Ball Hitch.....                         | 22        |   |           |
| <b>6. Operating Instructions</b> .....      | <b>23</b> |   |           |
| 6.1 Operating Safety.....                   | 23        |   |           |
| 6.2 Before Initial Startup.....             | 24        |   |           |
| 6.3 Machine Break-In.....                   | 24        |   |           |
| 6.4 Machine Set-Up.....                     | 25        |   |           |
| 6.5 Start the Machine.....                  | 27        |   |           |
| 6.6 Stop the Machine.....                   | 27        |   |           |
| 6.7 Emergency Stop.....                     | 27        |   |           |
| 6.8 Chipping Operation.....                 | 28        |   |           |
| 6.9 Transporting.....                       | 31        |   |           |
| 6.10 Storage.....                           | 32        |   |           |

# 1. Foreword

## 1.1 Introduction

Congratulations on choosing a Wallenstein **BXT Series Wood Chipper!**

The BXT wood chippers are strong, rugged machines that can provide consistent chipping of material. These chippers have a gas engine with a centrifugal clutch that transmits power through a V-belt drive to power the rotor. The rotor blades turn the wood into chips as the blades pass a stationary blade. A twig breaker helps to generate wood chips as the rotor turns past it.

This manual covers the following Wallenstein models:

|                |                          |
|----------------|--------------------------|
| <b>BXT4224</b> | Honda®/ 22 hp/ 688 cc    |
| <b>BXT6238</b> | Vanguard®/ 40 hp/ 993 cc |

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

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

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



### WARNING!

**Do not attempt to start or operate the machine before you read this manual thoroughly. Make sure that you understand how to operate the machine correctly and safely before you use it.**

**Keep this manual with the machine at all times.**

W034

**Wallenstein Equipment Inc. • © 2023. All rights reserved.**

No part of this work may be copied, reproduced, replaced, distributed, published, displayed, modified, or transferred in any form or by any means except with the prior permission of Wallenstein Equipment Inc.



## 1.2 Delivery Inspection Report

### Wallenstein BXT4224 / BXT6238 Wood Chipper

To activate warranty, register your product at [WallensteinEquipment.com](http://WallensteinEquipment.com).

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

I received the product manuals and was thoroughly instructed about the care, adjustments, safe operation, and applicable warranty policy.

I thoroughly instructed the customer about the equipment care, adjustments, safe operation, and applicable warranty policy, and reviewed the manuals with them.

Customer

Dealer

Address

Address

City, State/Province, ZIP/Postal Code

City, State/Province, ZIP/Postal Code

( )

( )

Phone Number

Phone Number

Contact Name

Model

Serial Number

Delivery date

### Dealer Inspection Checklist

- \_\_\_\_\_ Engine starts and runs, and fluid levels are correct.
- \_\_\_\_\_ Rotor turns freely and the blade clearance is correct.
- \_\_\_\_\_ All cutting edges are sharp and in good condition.
- \_\_\_\_\_ Discharge chute and deflector move freely.
- \_\_\_\_\_ All belts are aligned and the tension is correct.
- \_\_\_\_\_ Drive lever functions correctly.
- \_\_\_\_\_ Engine and rotor sheaves align.
- \_\_\_\_\_ All fasteners are tightened to the correct torque.
- \_\_\_\_\_ All grease points are lubricated.
- \_\_\_\_\_ Operator's Manual is in the storage tube.
- \_\_\_\_\_ Tire pressure is correct (see the tire sidewall).

\_\_\_\_\_ Tires are in good condition.

\_\_\_\_\_ Purchased accessories are included, if applicable.

#### Safety Checks

- \_\_\_\_\_ All safety sign decals are applied and legible.
- \_\_\_\_\_ Operating and safety instructions were reviewed.
- \_\_\_\_\_ All guards, shields, and covers are installed and secure.
- \_\_\_\_\_ A retainer is installed through each hitch point.
- \_\_\_\_\_ Safety chains are on the ball-mount hitch.
- \_\_\_\_\_ Wheel lug nuts are tightened to the correct torque.
- \_\_\_\_\_ All lights operate correctly (for example; running, brake, turn signal, license plate).
- \_\_\_\_\_ Safety flap is present in the feed chute.

### 1.3 Serial Number Location

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

The serial number plate is located where indicated. Model BXT6238 is shown but the location of the plate is the same across all models covered in this manual. Please mark the numbers in the spaces provided for easy reference.

| Record Product Information Here |  |
|---------------------------------|--|
| Model:                          |  |
| Serial Number:                  |  |

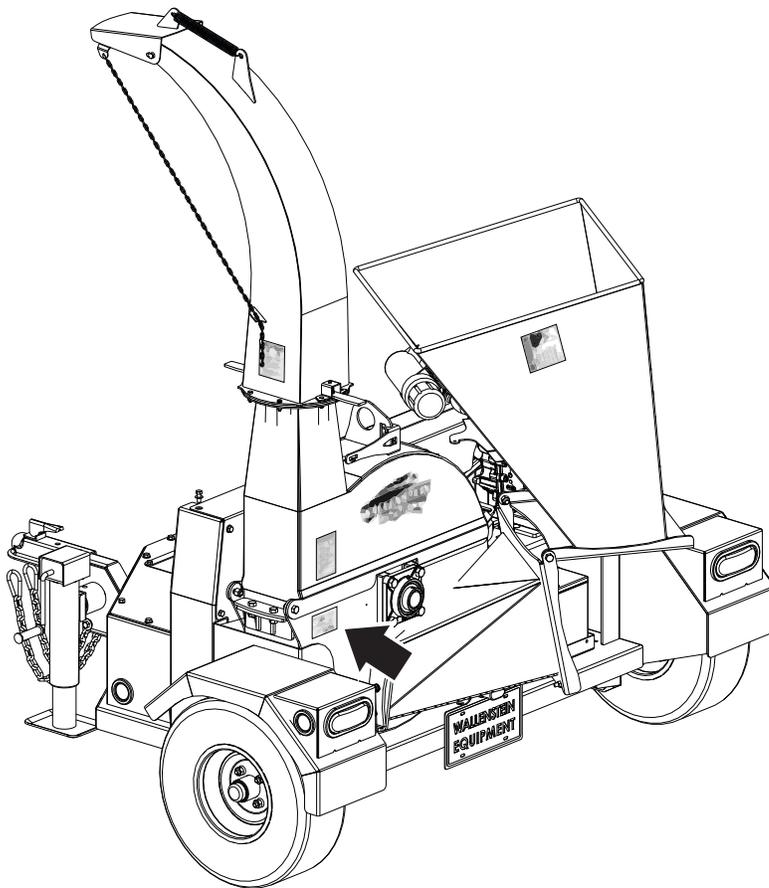


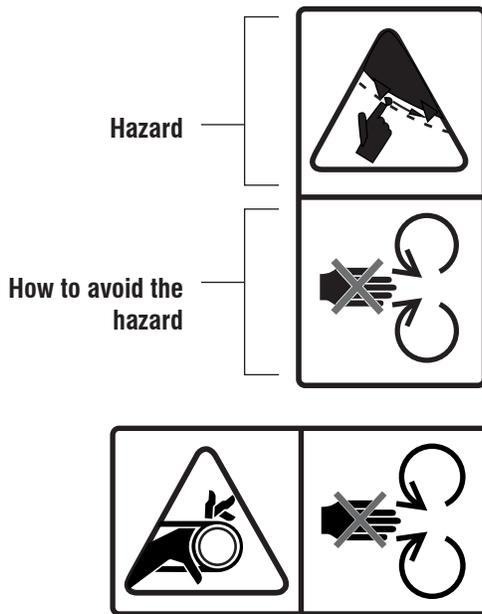
Figure 1 – Serial Number Location (typical)

## 1.4 Types of Decals on the Machine

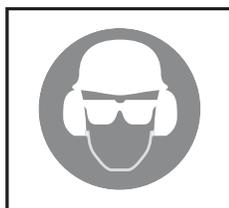
When getting familiar with the Wallenstein product, notice that there are numerous decals located on the machine. There are different types of decals for safety, information, and product identification. The following section explains what they are for and how to read them.

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

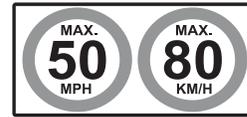
The top (or left-hand) panel shows the safety alert (the potential hazard), and the bottom (or right-hand) panel shows the message (how to avoid the hazard).



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



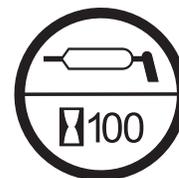
**Informative Decals** are generally pictorial with a white background and can vary in the number of panels. This type of decal provides additional information to the operator or explains the operation of a control.



**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.



For an illustration that shows all the decals and decal locations, go to [WallensteinEquipment.com](http://WallensteinEquipment.com) and download the Parts Manual for your Wallenstein product.

## 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 Processor 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

- **Accidents disable and kill people.**
- **Accidents cost money.**
- **Accidents are preventable**

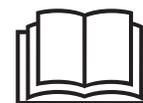
**YOU** are responsible for the SAFE operation and maintenance of your Wallenstein product. **YOU** must make sure that you and anyone else who is going to use, maintain, or work around the machine is familiar with the operating and maintenance procedures and related **SAFETY** information contained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

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. Make sure that **EVERYONE** who uses this machine is familiar with the recommended operating and maintenance procedures and complies with all the safety precautions. Most accidents can be prevented.

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

### 2.4 Safety Rules

- Provide operating instructions to all employees before allowing them to operate the machine.
- 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 will be operating or performing maintenance.



- Wear appropriate Personal Protective Equipment (PPE) when using this machine. This includes but is not limited to:
  - A hard hat
  - Heavy gloves
  - Hearing Protection
  - Protective shoes with slip resistant soles
  - Protective glasses, goggles or face shield
- Keep a first-aid kit available for use should the need arise and know how to use it.



- Inspect and secure all guards before starting.
- Keep a fire extinguisher available for use should the need arise and know how to use it.
- **DO** think SAFETY! Work SAFELY!
- **DO NOT** expect a person who has not read and understood all use and safety instructions to operate the machine. An untrained operator is not qualified and exposes himself and bystanders to possible serious injury or death. It is the owner's responsibility to the operator to ensure familiarity and understanding of the machine.
- **DO NOT** allow riders during transport.
- **DO NOT** risk injury or death by ignoring good safety practices.



## 2.5 Equipment Safety Guidelines

Operating machines safely is one of the main concerns in designing and developing Wallenstein equipment. However, accidents could occur that can be avoided by a few seconds of thought and a more careful approach to handling equipment.

- Keep all shields in place. If shield removal becomes necessary for repairs, replace the shield prior to use. In some cases, certain illustrations in this manual may show an assembly with a safety shield removed for clarity. However, equipment should never be used in this condition.
- Replace any safety sign or instruction sign that is not readable or is missing. Location and explanation of safety signs start on *page 14*.
- Never consume alcoholic beverages or drugs while using this equipment. These can hinder alertness or coordination. Consult your doctor about using this machine while taking prescription medications.

- 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. Unapproved modifications void warranty.
- Never exceed the limits of a piece of machinery. If its ability to do a job, or to do so safely is in question – **DO NOT TRY IT.**

## 2.6 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.

## 2.7 Safety Training

Safety is a primary concern in the design and manufacture of Wallenstein products. Unfortunately, efforts to provide safe equipment can be wiped out by a single careless act.

- It is the operator's responsibility to read, understand and follow ALL safety and operation instructions in this manual.
- Train all new personnel and review instructions frequently with existing workers. Be certain only a properly trained and physically able person will use the machinery. A person who has not read and understood all instructions is not qualified to use the machine. An untrained operator can cause possible serious injury or death.
- If this machine is used by any other person, loaned or rented, it is the owner's responsibility to make certain that prior to using, every operator:
  - reads and understands the owner's manual
  - is instructed in safe and proper use of the equipment
  - understands and knows how to perform the Safe Condition procedure



## 2.8 Being Prepared

- Never use the machine until the operators have been adequately trained in the safe operation of the machine and have read and completely understand:
  - safety, operation and feature sections of this manual
  - each of the safety messages found on the safety signs on the machine.
  - engine operator's manual

- PPE is recommended during assembly, installation, operation, adjustment, maintenance, repair, removal, cleaning, and transport. Do not allow long hair, loose fitting clothing or jewelry around equipment.

- Prolonged exposure to loud noise may cause permanent hearing loss! Power equipment with or without equipment attached can often be noisy enough to cause permanent, partial hearing loss.



- Always wear hearing protection if the noise in any area you work in exceeds 80 dB.
  - Noise over 85 dB on a long-term basis can cause severe hearing loss.
  - Exposure to noise over 90 dB over a long-term basis may cause permanent, total hearing loss.
  - Hearing loss from loud noise (from engines, chain saws, radios, and other such sources close to the ear) is cumulative over a lifetime, without hope of natural recovery.
- Clear working area of stones, branches or hidden obstacles that might be hooked or snagged, causing injury or damage.
- Determine where chips will be piled and ensure it does not interfere with safe operation of the machine
- Be aware of overhead hazards: branches, cables, electrical wires.
- Use this machine only in daylight or good artificial light.
- Be sure machine is properly mounted, adjusted and in good operating condition.
- Perform the **Pre-operation Checklist** procedure before starting work (see "*Pre-Operation Checklist*" on page 24).

## 2.9 Refueling Safety

- Handle fuel with care. It is highly flammable.
- Allow engine to cool for 5 minutes before refueling. Clean up spilled fuel before restarting engine.
- Do not refuel the machine while smoking or fuel up near open flame or sparks.



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

## 2.10 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 undersize.

## 2.11 Battery Safety

### CAUTION!

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

W020

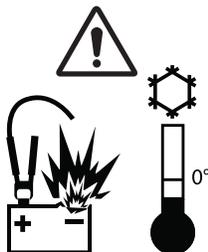
- Wear gloves and safety glasses or face shield when working on or near batteries.
- Use a battery carrier to lift the battery or place hands at opposite corners to avoid spilling acid through the vents.
- Avoid contact with battery electrolyte:
  - **External Contact:** Flush immediately with water.
  - **Eye Contact:** Flush with water for 15 minutes. Get prompt medical attention. Clean up any spilled electrolyte immediately.
- Avoid contact with battery posts, terminals and related accessories, they contain lead and lead compound chemicals known to cause harm if ingested. Wash hands immediately after handling battery.
- Keep all sparks and flames away from batteries. Electrolyte fumes are explosive.
- To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of the electrical system.

### CAUTION!

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

W021

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



## 2.12 Engine Safety

### CAUTION!

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

W020

**IMPORTANT! In some regions, when an engine is used on any forest covered, brush covered, or grass covered unimproved land it is required by law to have a spark arrester installed on the muffler. A spark arrester traps exhaust particles that are expelled from the engine. It is the responsibility of the operator to comply with the local laws and regulations. To purchase a spark arrester, contact your local Wallenstein dealer or distributor.**

- **DO NOT** run engine in an enclosed area. Exhaust gases contain carbon monoxide, which is an odorless and deadly gas.
- **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. Outdoor refueling is preferred.
- **DO NOT** refuel while engine is running. Allow engine to cool for 5 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 creating any 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 speed selected 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. If engine is equipped with a muffler deflector, inspect periodically and replace, if necessary, with correct deflector.
- **DO NOT** operate engine with an accumulation of grass, leaves, dirt or other combustible materials in the muffler area.
- **DO NOT** touch hot muffler, cylinder or fins because contact may cause burns.
- **DO NOT** run engine with air filter or air filter cover removed.

## Be sure to

- Put the machine in a safe condition when servicing. For instructions, see *Safe Condition on page 8*.
- Keep cylinder fins and governor parts free of grass and other debris which 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. Stale fuel can gum carburetor and cause leakage.
- Check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.

### 3. Safety Signs

#### 3.1 Safety Sign Locations

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

Safety sign explanations begin on *page 14*.

**Think SAFETY! Work SAFELY!**

**IMPORTANT!** If safety signs have been damaged, removed, become illegible or parts replaced without safety signs, new signs must be applied.

**New safety signs are available from your authorized dealer.**

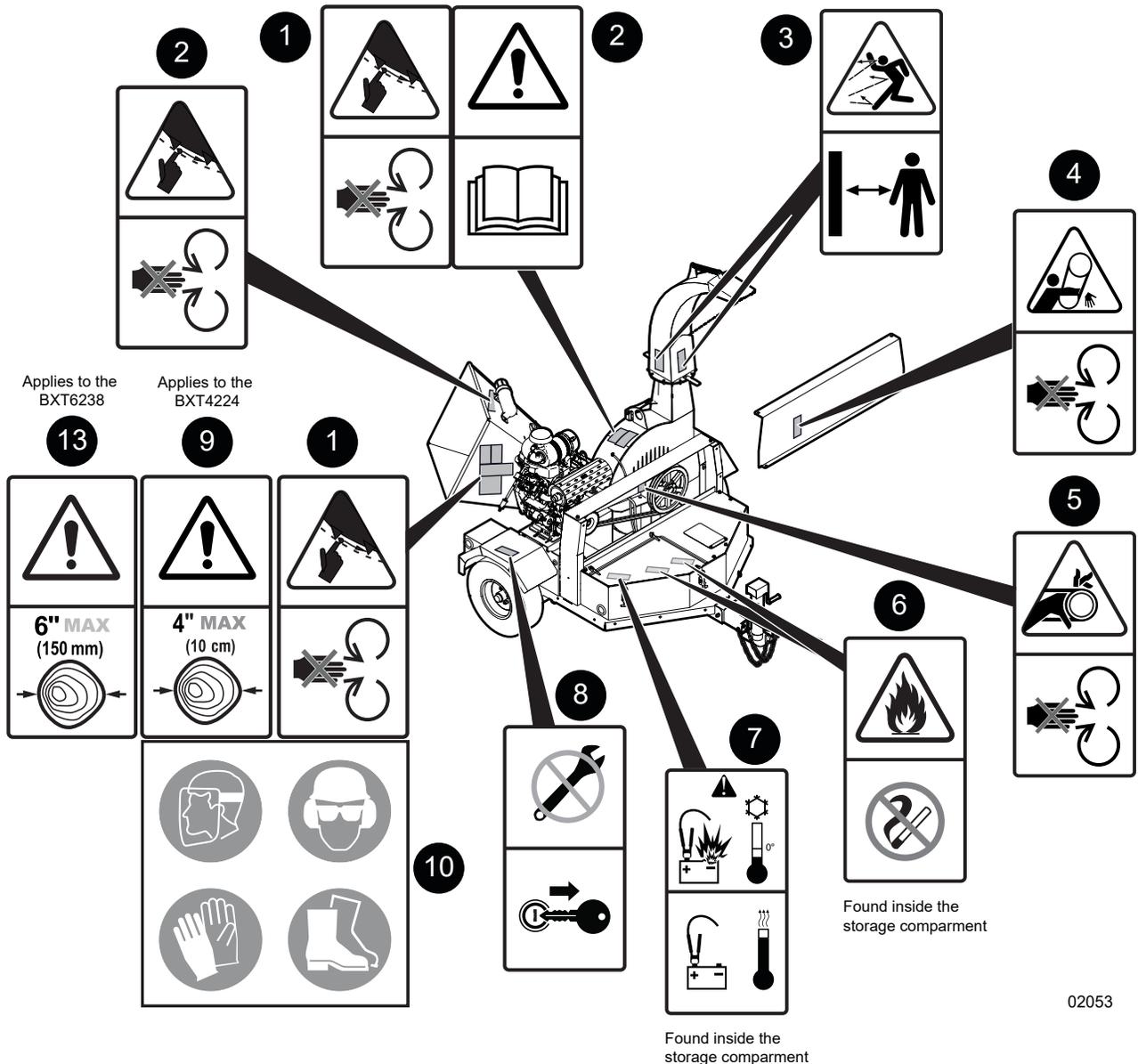


Figure 2—Safety signs on the machine

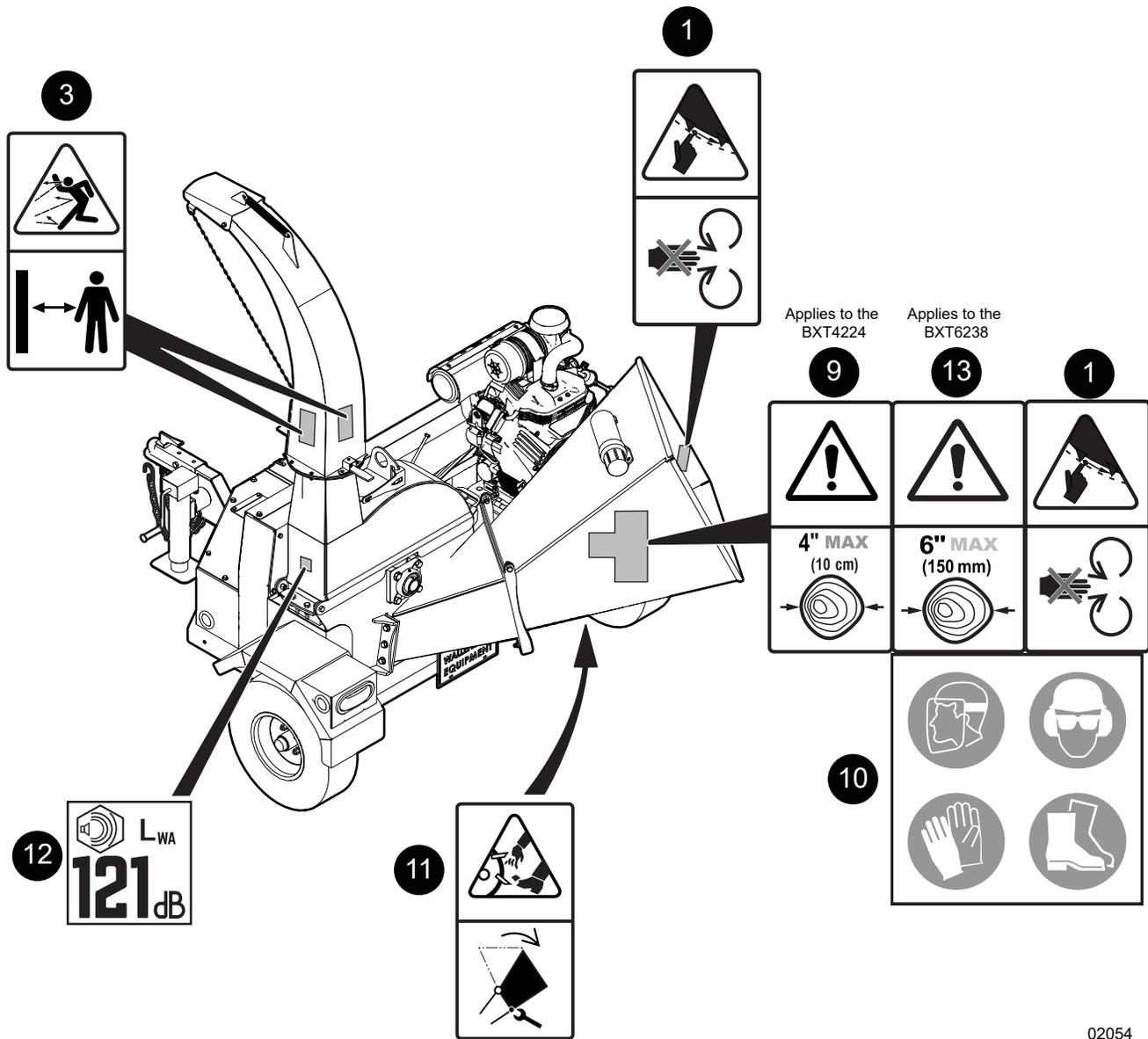


Figure 3 – Safety Signs on the machine

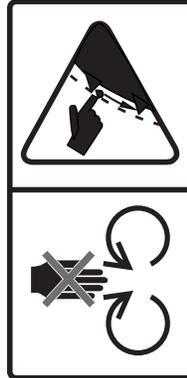
02054

## 3.2 Safety Sign Explanations

### 1. WARNING!

**Risk of fingers being severed or serious injury to hands in this area!**

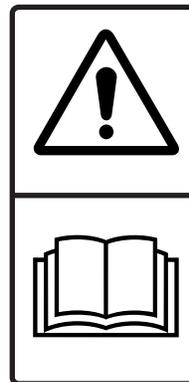
Keep hands and feet out of inlet and discharge openings while machine is operating.



### 2. WARNING!

**Refer to the operator's manual. Read ALL operating instructions in the manual. Learn the meaning of ALL safety signs on the machine before operating it!**

The best safety feature is an informed operator.



### 3. CAUTION!

**Risk of injury from flying debris!**

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. Point chipper discharge away from work area and bystanders. Keep a safe distance from discharge.



**4. WARNING!**

**Risk of serious injury if caught in drive belt!**

Never operate the machine with guard cover removed. Always keep guards and covers in place when machine is in operation. Keep hands clear of this area.



**5. WARNING!**

**Risk of serious injury if caught in drive belt!**

Never operate the machine with guard cover removed. Always keep guards and covers in place when machine is in operation. Keep hands clear of this area.



**6. WARNING!**

**Risk of explosion! Fuel vapors are extremely flammable.**

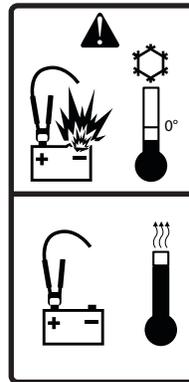
Do not refuel the machine while smoking or fuel up near open flame or sparks.



### 7. CAUTION!

#### Risk of Explosion!

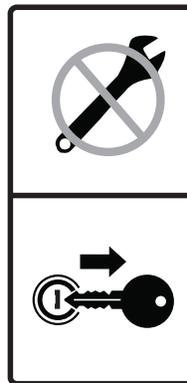
Do not jump start / charge a frozen battery. Frozen batteries can explode and result in serious injury. Let battery thaw before charging.



### 8. CAUTION!

#### Risk of personal injury!

Before servicing or repairing the machine, shut down the engine and remove the ignition key (as equipped). Disconnect the battery negative (-) cable so that the engine cannot be started unexpectedly.



### 9. CAUTION!

#### Risk of personal injury!

Do not overload the chipper by placing material into the feed hopper larger than the size stated on the decal, for example 4" (100 mm) in diameter.

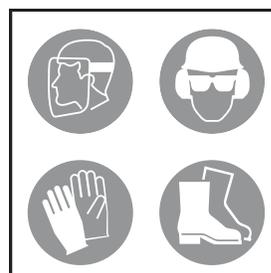
Machine damage could result.



### 10. CAUTION!

Always wear appropriate PPE around this machine when in operation.

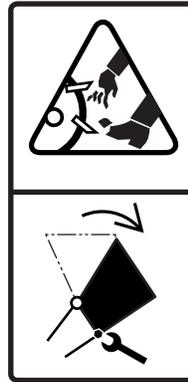
- A hard hat
- Hearing protection
- Protective glasses, goggles or face shield
- Protective shoes with slip resistant soles
- Heavy gloves



**11. WARNING!**

**Risk of hands or feet being severed or seriously injured in this area!**

Never operate the chipper with the feed hopper raised in the transport position. Chipper feed hopper must be lowered and bolted in place for operation.



**12. CAUTION!**

**A noise declaration decal indicates the sound power (LWA) emitted by the machine when operating. For this chipper, it can be up to 121 decibels at close distances.**

Always wear hearing protection when near the operating machine. Noise exposure over 85 dB on a long-term basis can cause severe hearing loss. Exposure over 90 dB over a long-term basis may cause permanent, total hearing loss.



**13. CAUTION!**

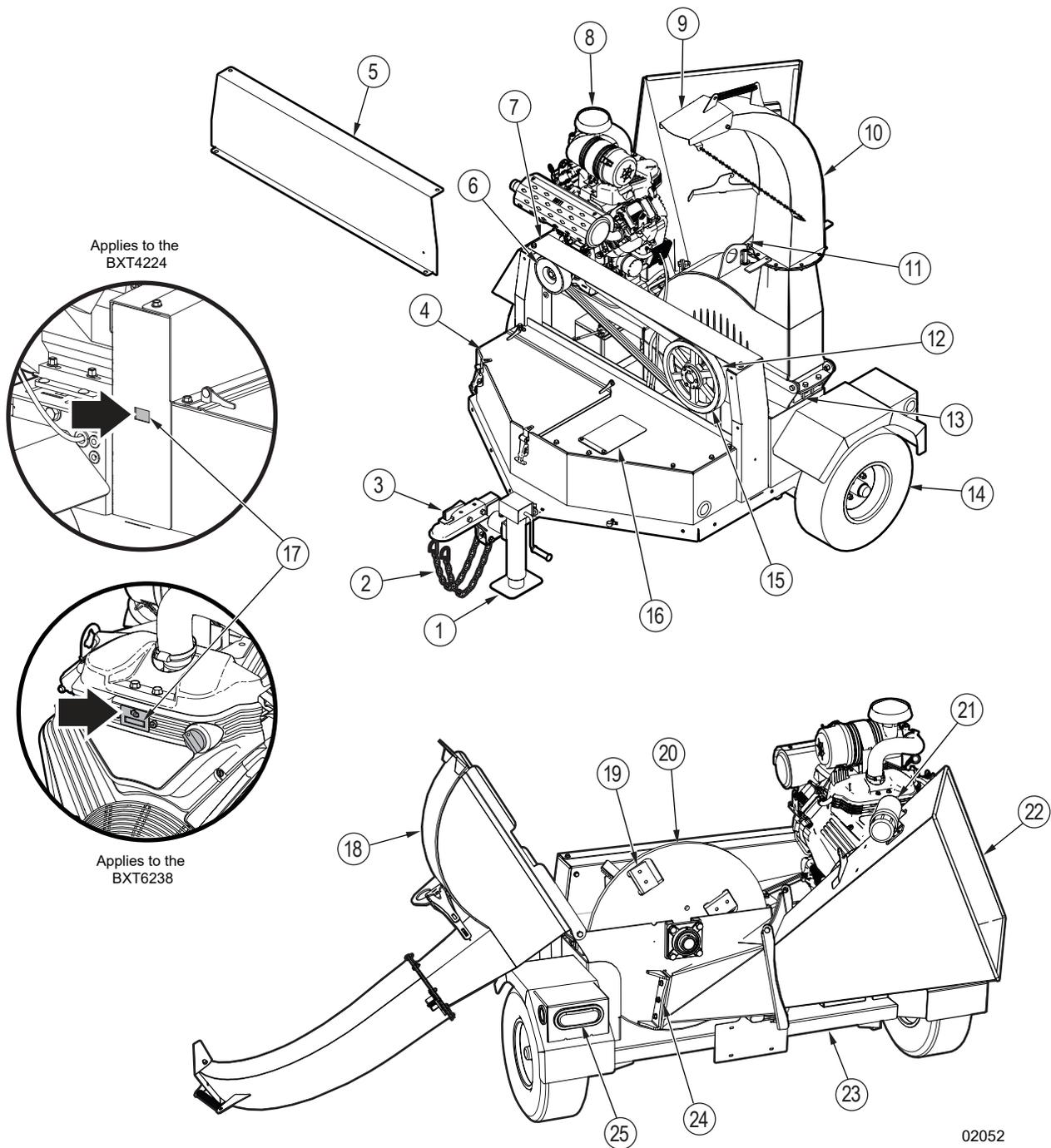
**Risk of personal injury!**

Do not overload the chipper by placing material into the feed hopper larger than the size stated on the decal, for example 6" (150 mm) in diameter.

Machine damage could result.



# 4. Machine Components



02052

**Figure 4—Machine components**

- |  |                                       |                            |
|--|---------------------------------------|----------------------------|
| 1. Jack stand—BXT4224<br>Swivel jack stand—BXT6238 | 10. Discharge chute                   | 20. Rotor                  |
| 2. Safety chains                                   | 11. Feed hopper transport latch       | 21. Operator's Manual tube |
| 3. Hitch coupler                                   | 12. Double v-belt                     | 22. Feed hopper            |
| 4. Storage compartment                             | 13. Twig breaker                      | 23. Full flex axle         |
| 5. Belt guard                                      | 14. Rotor sheave                      | 24. Ledger blade           |
| 6. Centrifugal clutch                              | 15. 4.80-8 LRB SportTrail 4on4" tires | 25. Lights                 |
| 7. Upper belt guard                                | 16. Fuel tank                         |                            |
| 8. Engine  | 17. Hour meter                        |                            |
| 9. Deflector hood                                  | 18. Upper rotor housing               |                            |
|  | 19. Rotor blades                      |                            |

## 5. Controls

### **! WARNING!**

Do not operate the machine until you are thoroughly familiar with the position and function of the various controls. Read the operator's manual thoroughly. Your safety is involved!

W065

Before starting to work, all operators should familiarize themselves with the location and function of all controls.

### 5.1 Engine

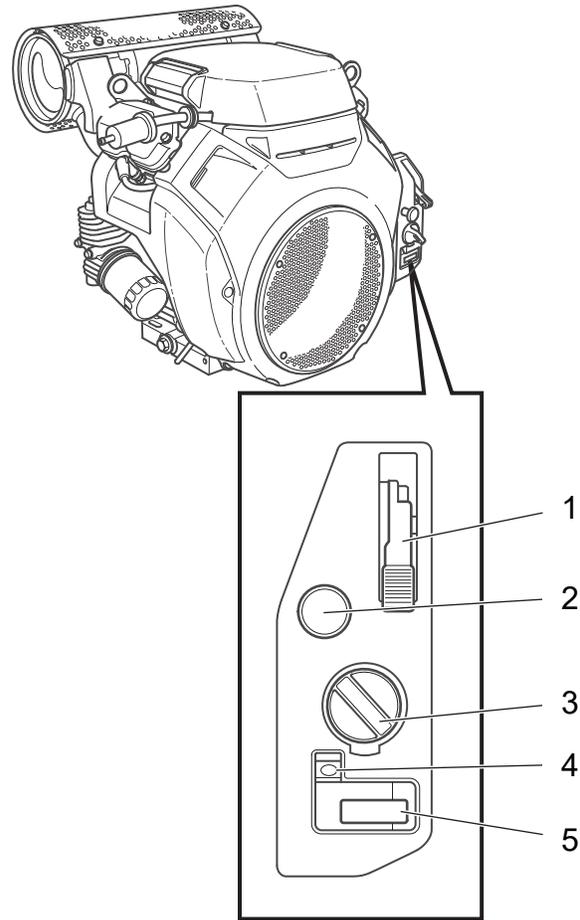
For further information other than what is provided to follow, refer to the engine manual that came with your machine.

### 5.2 BXT4224 Engine Controls

### **! WARNING!**

Before starting the engine, read and understand the safety and operating information under *Engine Safety on page 10*.

**IMPORTANT!** For complete information about the engine controls, see the engine manufacturer's manual.



00113

**Figure 5**—BXT4224 Engine Controls

1. Throttle Lever
2. Choke Knob
3. Engine Start Switch
4. Low Oil Level Alert Indicator
5. Engine Hour Meter

### 5.2.1 Throttle Lever

The Throttle Lever controls engine speed. Warm up the engine before putting the chipper to work. The throttle lever should be at the MAX position during chipper operation.

- Pull the lever up to increase engine speed.
- Push the lever down to decrease engine speed.

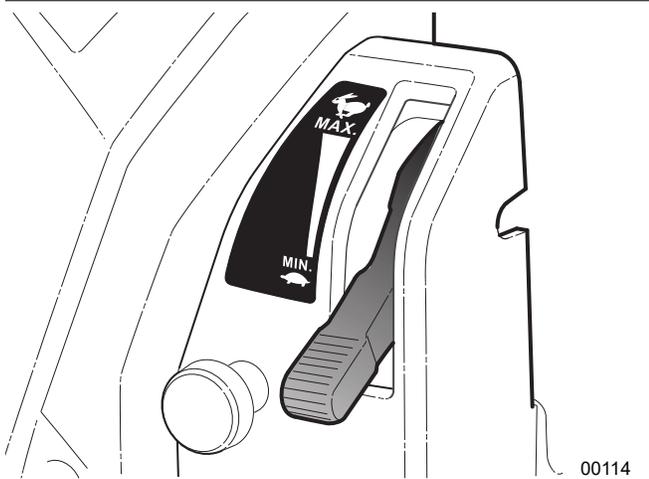


Figure 6—Throttle Lever

### 5.2.2 Choke Knob

The Choke Knob is used as a starting aid when the engine is cold. Pulling the knob out supplies a richer fuel mixture to aid the engine in starting.

- Pull the knob out to apply (close) the choke when starting a cold engine.
- Push the knob in gradually to turn off (open) the choke as the engine warms.

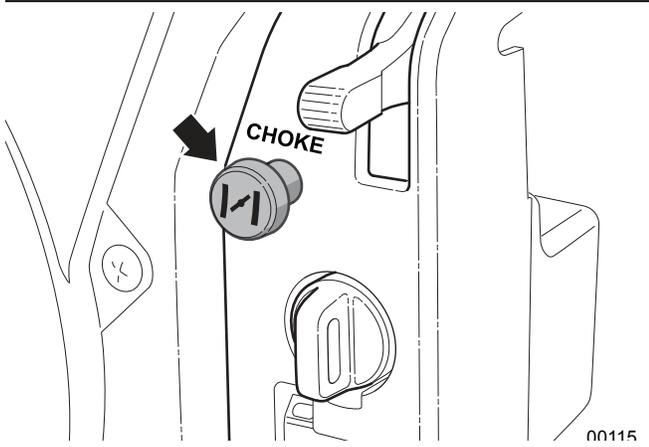


Figure 7—Choke Knob

### 5.2.3 Engine Start Switch

The Engine Start Switch has three positions—OFF, ON, and START.

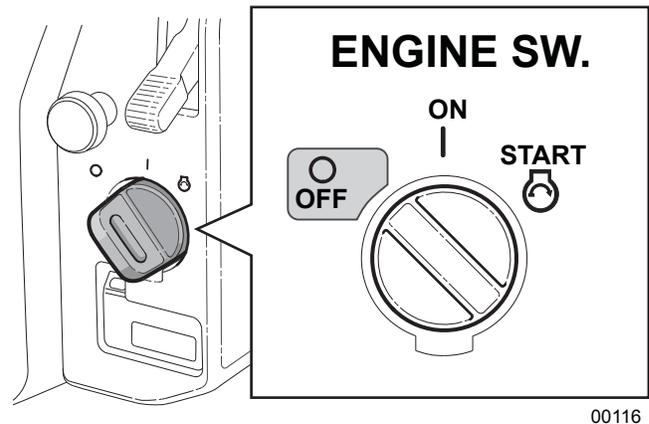


Figure 8—Engine Start Switch

- **OFF** – In the OFF position, there is no power to the engine and fuel supply is turned off. Turn the switch fully counterclockwise to shut the engine off.
- | **ON** – In the ON (run) position, the fuel supply solenoid supplies fuel to the engine. The machine operates in this position.
- Ⓚ **START** – In the START position, the engine electric starter is activated. When released, the switch spring-returns to ON.

### 5.2.4 Engine Hours and Oil Level Alert

Refer to the engine manual for further information.

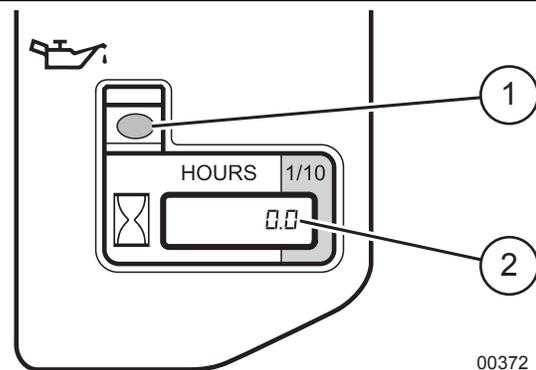


Figure 9—Engine Hours and Oil Level Alert

1. Engine Oil Level Alert Indicator Light (Red)
2. Engine Operating Hours

## 5.3 BXT6238 Engine Controls

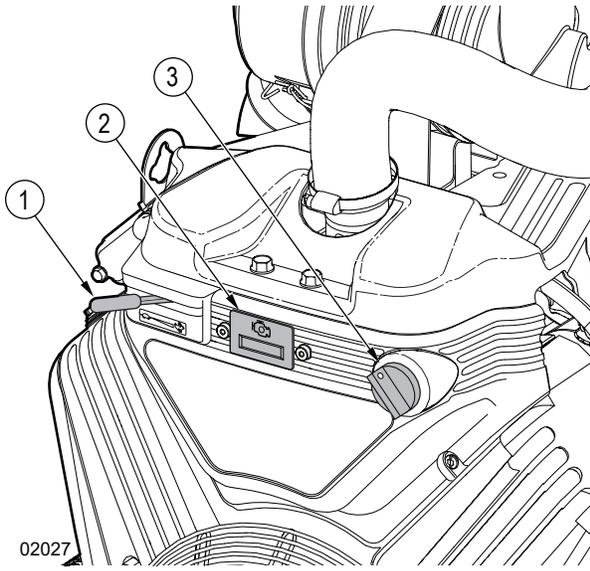


Figure 10—Engine controls

1. Throttle control
2. Tachometer, hour meter, and check engine light
3. Ignition switch

### 5.3.1 Throttle Control

The throttle controls the engine speed. An operator can set the engine to the minimum speed (**Slow**), the maximum speed (**Fast**), or to any speed that is between the minimum and maximum.



**Slow**  
Engine speed is slow.



**Fast**  
Engine speed is fast.

### 5.3.2 Tachometer and Hour Meter Display

**Tachometer** When the engine is on (the ignition switch is in the RUN position), the display shows the current engine revolutions per minute (RPM).

**Hour meter** While the engine is in the process of starting or stopping the display shows the total number of hours that the engine has been on since it was manufactured. This number cannot be reset.

### 5.3.3 Check Engine Light



The red check engine light communicates the following information:

| Light    | Engine Status  |
|----------|--|
| On       | The engine is in the process of starting or stopping.    |
| Flashing | There is an electronic fuel injection (EFI) malfunction. |
| Off      | The engine is off or on.                                 |

### 5.3.4 Ignition Switch



**WARNING!**  
The engine can cause serious bodily harm or death to a person who is not trained in the correct operation. Always remove the key and keep it in a secure location to prevent an unauthorized person from starting the engine.

**IMPORTANT!** Long start cycles may reduce the life of the starter. Use short start cycles (five seconds maximum) and wait one minute between cycles.

The key-operated ignition switch controls the electric power to the engine. The ignition switch has the following positions:



**STOP**  
The engine is off and the fuel shut-off valve is closed.



**RUN**  
The engine is on.

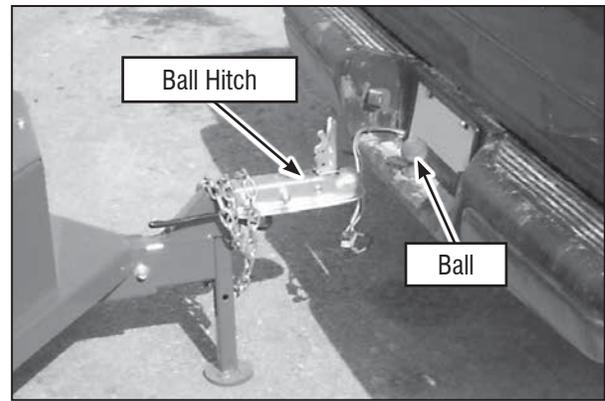


**START**  
Engine ignition.  
When the engine starts, the key turns to the RUN position.

## 5.4 Ball Hitch

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 unit, follow this procedure:

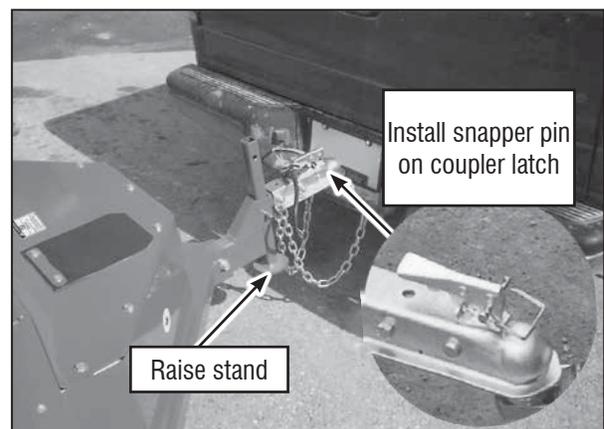
1. Make sure that all bystanders, especially children, are clear of the working area.
2. Make sure there is enough room and clearance to safely back up to the machine.
3. Slowly back the tow vehicle until the coupler on the hitch and ball are aligned.
4. Attach the ball hitch:
  - Lift the hitch and place the coupler over the ball on the hitch.
  - Flip the latch to lock the coupler around the ball and install .
  - Install the snapper pin to secure the latch
  - Crank the swivel jack up, pull out the snapper pin and swivel the stand into its stowed position. Replace snapper pin.
5. Attach the safety chain securely to the tow frame to prevent unexpected separation. Cross the chains when attaching to the tow vehicle
6. Ensure light wiring harness is connected to the tow vehicle.
7. Route the harness and cables across the hitch to prevent snagging. Be sure to provide slack for turning.
8. Reverse the above procedure when unhooking.



**ALIGNED**



**ATTACHED**



**Figure 11**—Attaching to a tow vehicle

## 6. Operating Instructions

### WARNING!

Always use the machine outdoors and park the machine in a position where the prevailing winds blow the engine exhaust away from the

### CAUTION!

Maintain a safe distance from the area where the machine expels the wood chips. Use the discharge chute and/or hood deflector to direct the expelled material away from the work area, all people, animals, and objects.

The machine can expel wood chips fast enough

### WARNING!

Never reach into the feed hopper. There are sharp knives that can trap, cut, and/or sever your fingers or hand. Use a stick or branch to push material that does not move into the machine.

If the machine is jammed, set the machine to a safe condition, and then clear the jam.

W004

### CAUTION!



Hearing loss hazard. Prolonged exposure to loud noise may cause permanent hearing loss. Use suitable protection while operating the machine.

W016

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

Although this machine is easy to use, each operator should review this section to get familiar with the detailed safety and operating procedures.

## 6.1 Operating Safety

- Do not reach into rotor or feed hopper openings when the machine is running. Install and secure access covers before starting engine.
- Do not move or transport chipper when the rotor is turning.
- Keep the working area clean and free of debris to prevent tripping. Operate only on level ground.
- Do not point discharge at people, animals, or buildings. Rotor can expel wood chips fast enough to cause injury.
- Be aware of the size and shape of the material being fed into the chipper. Crotchety branches can move in unpredictable ways and could cause injuries. Large curved pieces should be cut into smaller straighter sections.
- Do not work alone. It is safer to work in pairs in case an emergency arises.
- Never stand, sit or climb onto any part of the chipper while it is running.
- Place chipper in a Safe Condition before servicing, adjusting, repairing, or unplugging.
- Use care when feeding material into chipper. Do not put metal, bottles, cans, rocks, glass or other foreign material into wood chipper. If foreign material enters chipper, inspect machine for damaged or loose parts before resuming work.

### CAUTION!

Do not risk injury by working in an unsafe situation. Take steps to make the machine safe to work on before performing any maintenance or service procedure.

Follow steps listed to put the machine in a Safe Condition.

W049

### SAFE CONDITION

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

## 6.2 Before Initial Startup

1. Check the engine oil level. See *page 26*.
2. Open the fuel valve.
3. Check fuel level. See *page 30*.
4. Check the engine air filter. See *page 37*.
5. Review Operating Safety.
6. Clear the area of bystanders.
7. Make sure each operator is trained and familiar with the set up and operation of the wood chipper.
8. Perform the Pre-operation Checks.
9. Survey the work site and place the chipper in a clear, level work area. Park machine so that engine exhaust is not blowing towards the operator.
10. Leave the chipper attached to the tow vehicle if extra stability is required. Set park brake on tow vehicle.
11. Lower the front jack stand. Insert snap lock pin.
12. Direct discharge chute away from the operator.

### 6.2.1 Pre-Start Checklist

Check the following each time the wood chipper is used:

| Area to Check  | ✓ |
|--|---|
| Check the tension and alignment of the belt. Adjust as required.   |   |
| Check the rotor housing and discharge chute. Remove any blockages, twine, wire or other material that has become entangled.  |   |
| Check engine oil level.<br>Check fuel level.   |   |
| 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 and ensure that all covers, guards and shields are in place, secured, and can function as designed. Check the condition of the feed hopper safety curtain.                 |   |
| Check that rotor bearings turn freely. Replace any that do not turn smoothly or are seized.  |   |
| Check and inspect tires, wheels, and hubs.   |   |
| 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. |   |

## 6.3 Machine Break-In

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

### After One Hour of Operation

1. Check alignment of pulleys. Align as required.
2. Check belt tension. Adjust as required.
3. Torque all fasteners and hardware.
4. Check condition of rotor bearings.
5. Check the condition and clearance of the twig-breaker, rotor and stationary blades. Adjust or replace as required.
6. Check for entangled material. Remove all entangled material before resuming work.
7. Check tire pressure. Inflate as required.

### After 10 Hours of Operation

1. Repeat steps 1 through 7 listed above.
2. Change engine oil. (See engine owners manual.)
3. Go to the normal servicing and maintenance schedule as defined in the Maintenance Section.

## 6.4 Machine Setup

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

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

1. Use the tow unit to position the Wood Chipper at the work site.
2. The chipper can be used as a stand alone, or if you require more stability, leave your chipper attached to the tow vehicle.
3. Lower the feed hopper down into its working position:
  - Remove the nuts on the hopper anchor bolts,
  - Unpin and the feeder hopper latch
  - Carefully lower the hopper and secure it with the with the nuts on the anchor bolts.
4. Check the battery cable and if required connect the cable and tighten fastener securely to ensure a good connection.

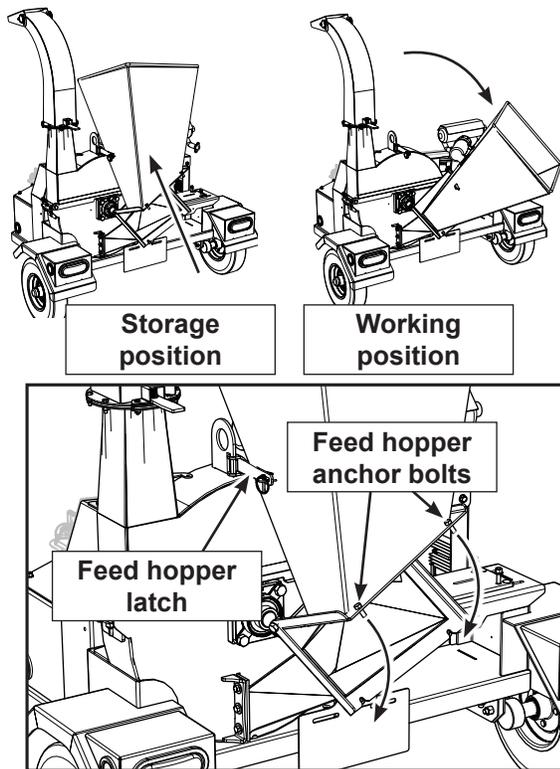


Figure 12—Feed hopper

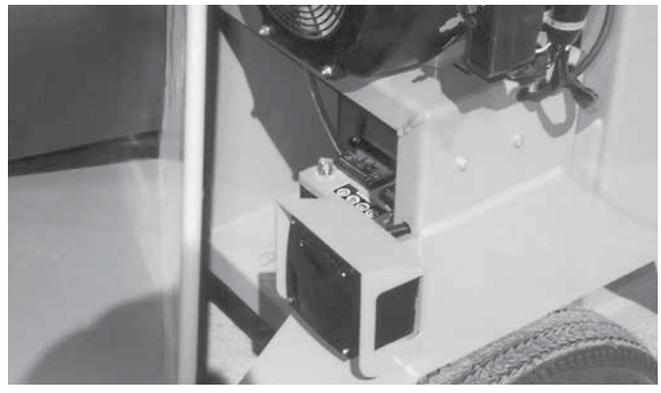


Figure 13—Battery cable (typical)

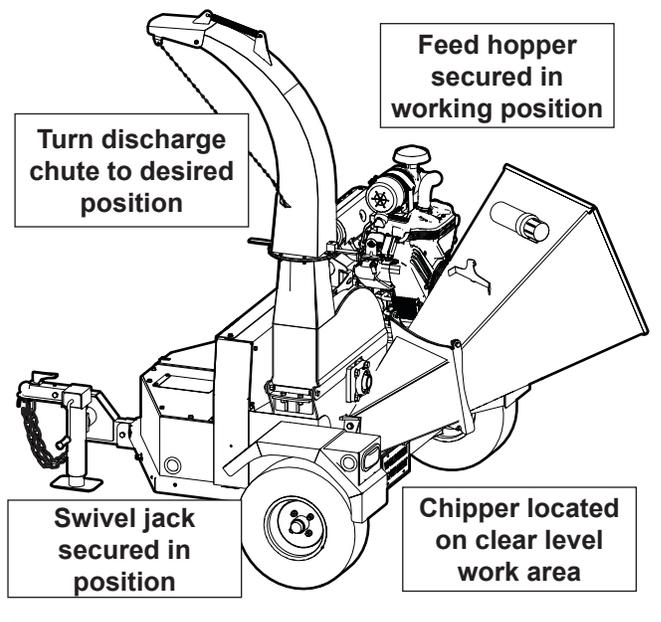


Figure 14—Machine setup

## 6.5 Engine Operation

Sections 6.5.1 *Check the Engine Oil Level* and 6.5.2 *Add Oil to the Engine* apply only to the BXT6238 Vanguard® engine. For information on the BXT4224 Honda® engine, see the engine manufacturer's manual.

### 6.5.1 Check the Engine Oil Level

**IMPORTANT!** For more information about engine oil, see the engine manufacturer's manual and *Engine Oil on page 34*.

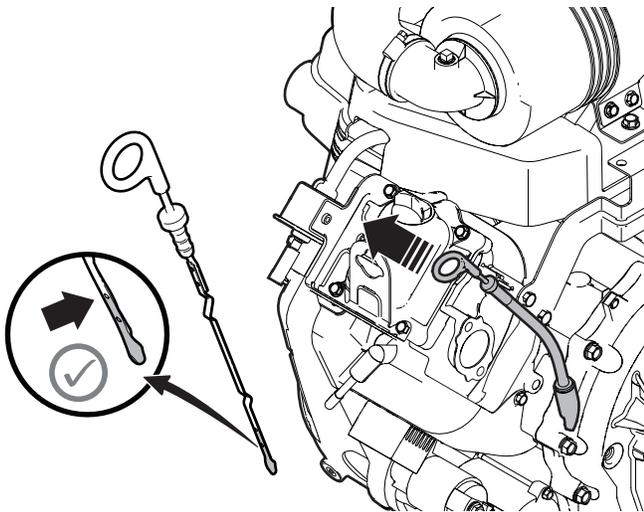
**Operating the engine with a low oil level can cause engine damage that is not covered by the warranty.**



The engine must be in a level position for the dipstick to show the oil level correctly.

**Check the engine oil level before each use.**

1. Park the machine on level ground.
2. Stop the machine.  
For instructions, see *Stop the Machine on page 27*.
3. Pull out the oil-level dipstick and wipe it clean.
4. Fully insert the oil-level dipstick.
5. Pull out the oil-level dipstick and check the oil level.  
The oil level is correct when oil is visible on the dipstick from the end to the full (upper) mark.
6. Do one of the following:
  - If the oil level is correct, continue with step 7.
  - If the oil level is low, add oil until the oil-level is at the full (upper) mark. For instructions, see *Add Oil to the Engine*.
7. Insert and secure the oil-level dipstick.



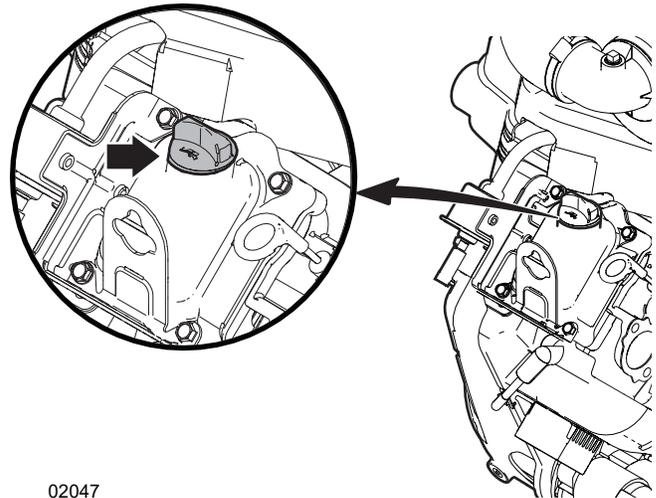
**Figure 15**–Check the engine oil level

### 6.5.2 Add Oil to the Engine

**IMPORTANT!** For more information about engine oil, see the engine manufacturer's manual and *Engine Oil on page 34*.

For the oil fill location, see the following image.

1. Check the engine oil level to make sure that the oil level is low. For instructions, see *Check the Engine Oil Level*.
2. Turn the oil-fill cap counterclockwise to remove it.
3. Use a clean funnel to slowly add the correct type and amount of oil. **Do not overfill.**
4. Wait a minimum of one minute.
5. Remove the funnel, and then check the engine oil level.
6. Install and secure the oil-fill cap to prevent spillage.



**Figure 16**–Engine oil-fill location

## 6.6 Start the Machine



### WARNING!

**Before you start the machine, read and understand all of the safety information in this manual and the engine manufacturer's manual.**

**IMPORTANT! Use short starting cycles (maximum five seconds) and wait one minute between cycles. If the engine does not start after repeated attempts, contact your local dealer or go to [VanguardPower.com](http://VanguardPower.com).**

Before you start the machine, see the information under *Controls* on page 19.

1. Complete the tasks described in the *Pre-Start Checklist* on page 24.
2. Make sure that the machine is set up correctly, and is in a level, stable position.
3. For a BXT4224 model, do the following:
  - a. Pull the choke control knob to the **Closed** position.
  - b. Move the throttle to 1/4 of the **FAST** position.
4. Insert the key, and then turn the ignition switch clockwise to the **START** position. When the engine starts or after five seconds, release the key.  
The ignition switch automatically rotates counterclockwise to the **ON** (BXT4224 model) or **RUN** (BXT6238 model) position.
5. Do one of the following:
  - If the engine started, continue with step 5.
  - If the engine did not start, wait a minimum of one minute, and then return to step 4.
6. Slowly move the throttle control to increase the engine speed to **FAST**.
7. Wait a minimum of three minutes for the rotor speed to increase.
8. For a BXT4224 model, when the engine warms up, push the choke control knob to the **Open** position.
9. Make sure that the rotor is up to speed, then feed material into hopper.

## 6.7 Stop the Machine

**IMPORTANT! Do not choke the carburetor to stop the engine.**

1. Stop loading material into the machine.
2. Move the throttle control to the **SLOW** position.
3. Wait a minimum of one minute for the engine to slow down the machine.
4. Turn the ignition switch to **STOP** position.
5. Remove the key.  
Keep the key away from unauthorized users and children.

## 6.8 Emergency Stop

**In the event of an emergency:**

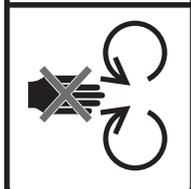
1. Stop loading material into the machine.
2. On the engine, turn the ignition switch to **STOP**.
3. Remove the key.  
Keep the key with you to prevent starting the machine.
4. Remove the cause of the emergency before starting the machine and resuming work.

## 6.9 Chipping Operation

### WARNING!



Never reach into the feed hopper when the chipper is operating. Doing so risks contacting knives on the rotor and causing serious injury.



Use a stick or branch to push any material in that does not move on its own. If the jam persists, stop the engine and clear the jam.

W039

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

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

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

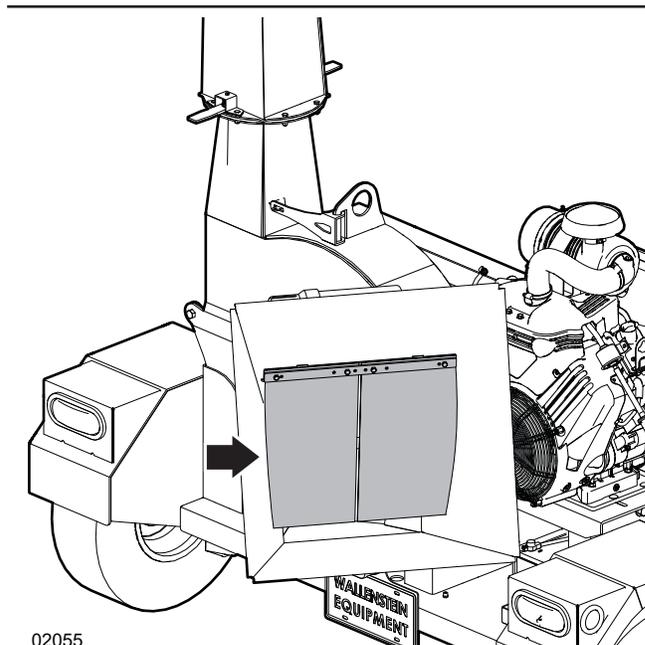


Figure 17 – Safety curtain

## 6.9.1 Clear a jam

### **! WARNING!**

Never operate a machine with any guards or shields removed. The machine is shown here with guards and/or shields removed for illustrative purposes only.

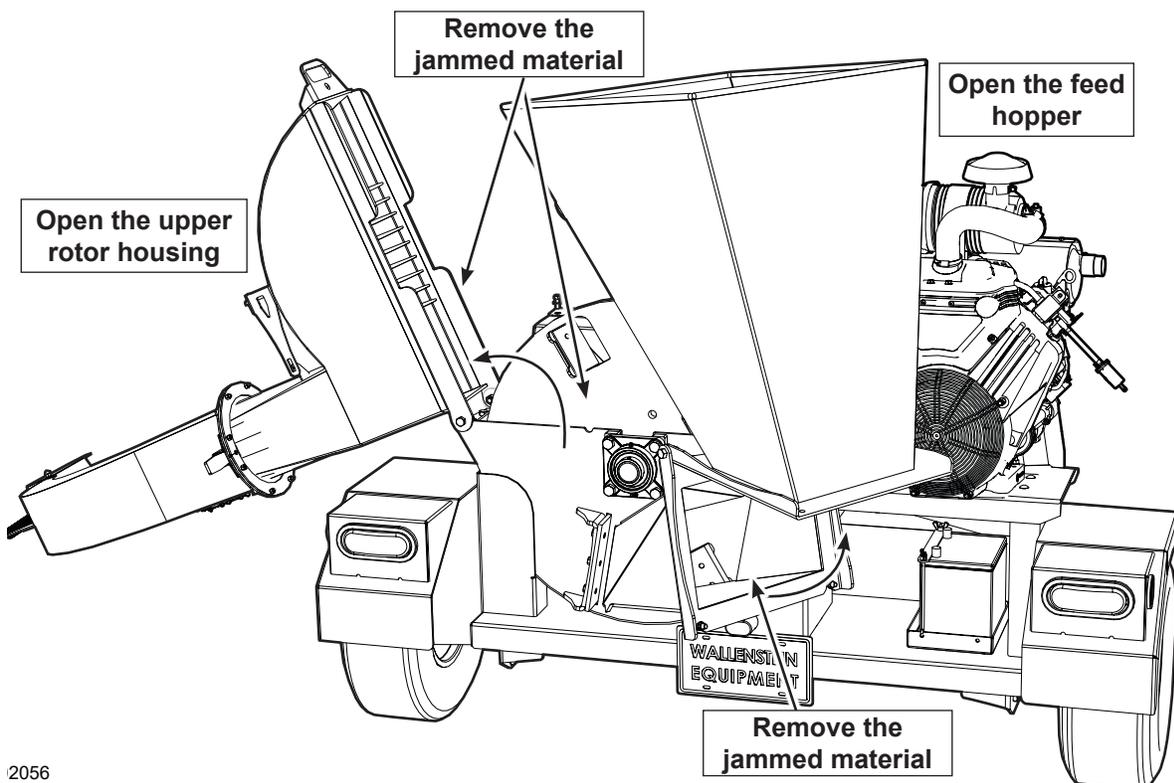
W001

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

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

## 6.9.2 Clear a severe jam

1. Clear the area of bystanders, especially small children.
2. Stop the engine, remove the ignition key and place it in your pocket or remove spark plug wire, and wait for all moving parts to stop before unplugging.
3. Loosen the feed hopper anchor nuts and raise the feed hopper.
4. Remove jammed material from inside the rotor compartment.
5. Clean out the discharge area/rotor.
6. Open the upper rotary housing and clean out the housing.
7. Carefully, quickly spin the rotor backward by hand. This will free the wood chips that jam the rotor.
8. Close, install and fold down all components opened to unplug. Tighten fasteners to their specified torque.
9. Check that everyone is clear of machine before restarting engine.
10. Start the engine and resume working.



2056

Figure 18—Clear a severe jam

### 6.9.3 Add Fuel to the Engine

- **BXT4224** models have the fuel tank located in the front frame and is accessed by lifting the tool box lid. Fuel tank capacity: **4.8 US gal (23 L)**.
- **BXT6238** models have the fuel tank located in the front frame and is accessed by lifting the rubber flap over the cap. Do not overfill. Fuel tank capacity: **25 US gal (25 L)**.

Fill the tank to 1/2" (12 mm) below bottom of filler neck to provide space for any fuel expansion. Do not overfill.

#### **WARNING!**



Never smoke or vape while working with fuel. Fuel vapors can explode causing injury or death. Keep sparks, flames, and hot components away.

W027

### 6.9.4 Safety Curtains

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

### 6.9.5 Operating Hints

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

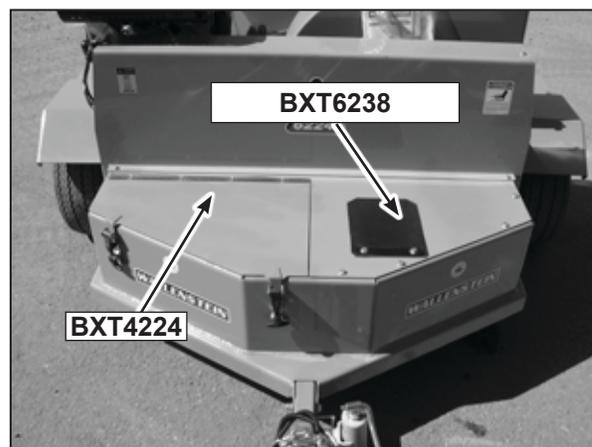


Figure 19—Fuel tank

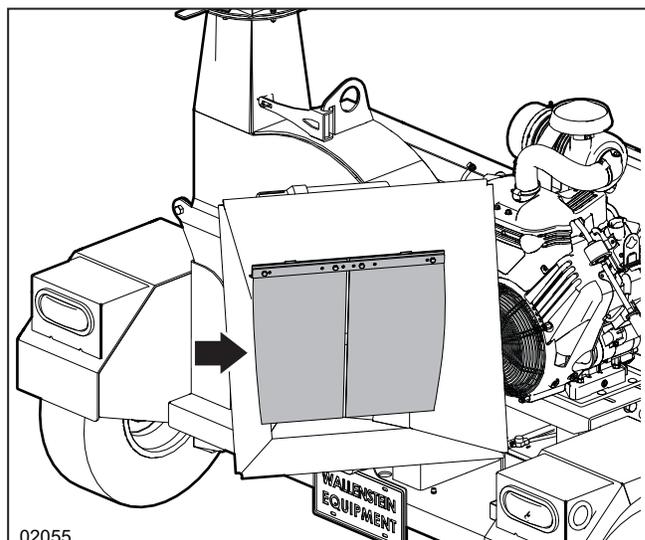


Figure 20—Safety curtain

## 7. Transport

### Transport Safety

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

When transporting the machine, review and follow these instructions:

1. Clear the area of bystanders, especially small children.
2. Check that all the lights and reflectors required by the highway authorities are in place, clean and working.
3. Insure that the machine is securely attached to the pick-up with a mechanical retainer through the ball hitch mechanism. Always use safety chains crossed between the truck and machine.
4. Do not allow riders.
5. Never exceed a safe travel speed. Slow down when encountering rough road conditions and cornering.
6. Do not drink and drive.
7. Raise the feed hopper, and attach the chute latch bar to the chute latch catch and secure it with the snapper pin before transporting.
8. Turn the discharge hood and point toward the rotor to reduce the width of the machine.
9. Ensure upper rotor housing is securely bolted.

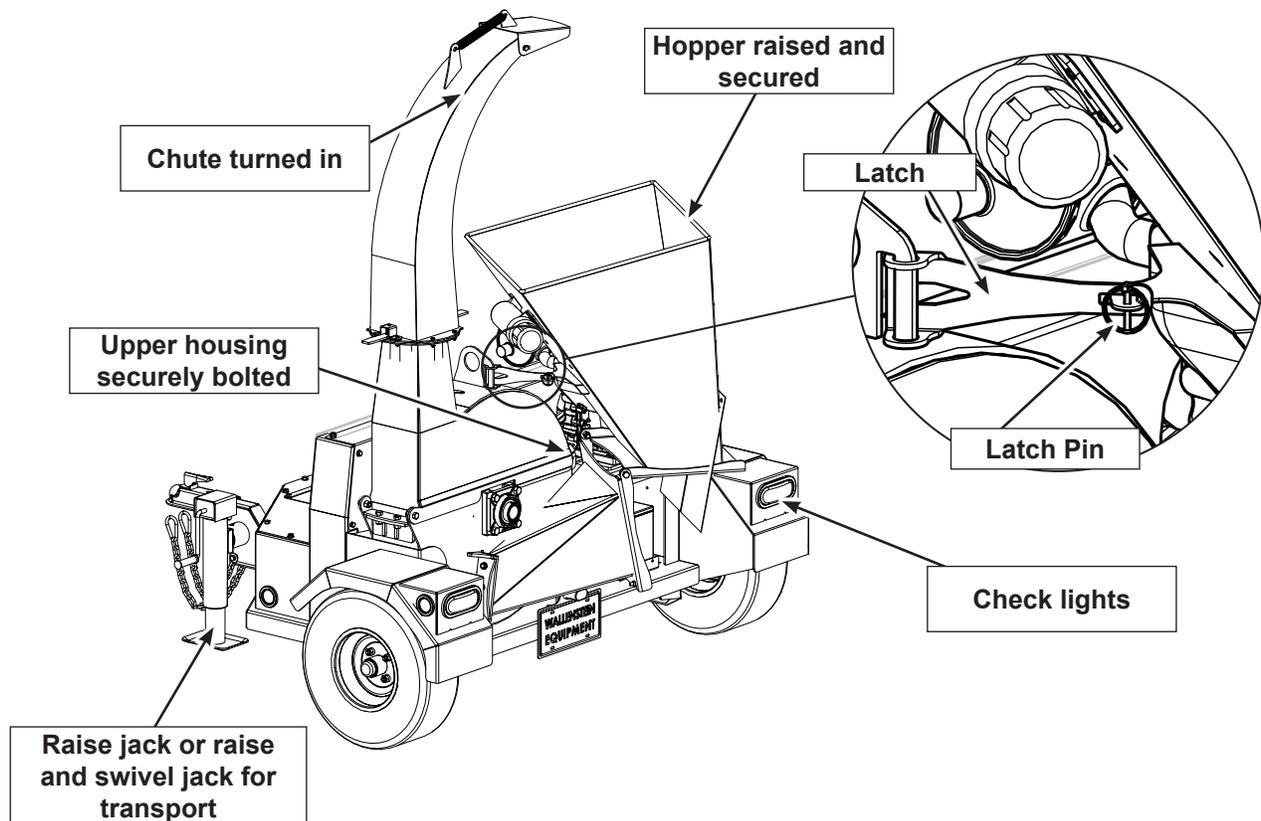


Figure 21 – Transport position

## 8. Storage

### Place the Machine in Storage

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

Refer to the engine manual for information on storage.

#### Follow this procedure before storing:

1. Remove all material from the machine.
2. Thoroughly wash the machine to remove all dirt, mud or debris.
3. Inspect all rotating parts for entangled material. Remove all entangled material.
4. Check the condition of the belts and pulleys. Replace or adjust as required.
5. Do one of the following:
  - If the machine will be in storage for one to three months, add stabilizer to the engine fuel and drain the carburetor.
  - If the machine will be in storage for longer than three months, replace the engine fuel with an alkylate or appropriate engineered fuel. These fuel types prevent the buildup of insoluble solids (deposits) in the engine. For more information, see *Engine Fuel on page 34*. For instructions, see *Replace the Engine Fuel*.
6. Run the machine a few minutes to dry the moisture from inside the machine.
7. Turn fuel valve off.
8. Move the feed hopper up and lock.
9. Touch up all paint nicks and scratches to prevent rusting.
10. Remove ignition key and store in a secure place.
11. Remove the battery and store it in a cool, dry area on wooden blocks or a wooden pallet. Charge it monthly to maintain an adequate charge.
12. It is best to store the machine inside. If that is not possible, cover with a waterproof tarp and tie down securely.
13. Store in an area away from human activity.
14. Do not allow children to play around the stored unit.

### Replace the Engine Fuel



#### WARNING!

**Before you replace the fuel, read and understand the information under *Engine Safety on page 10*.**

1. Remove the current fuel from the engine.  
Operate the machine until the fuel tank is empty or drain the fuel tank and properly dispose of the fuel.
2. Add new fuel to the engine.  
For instructions, see *Add Fuel to the Engine on page 30*.
3. Start the machine.  
For instructions, see *Start the Machine on page 27*.
4. Wait five to 10 minutes for the fuel to flush the carburetor.
5. Stop the machine.  
For instructions, see *Stop the Machine on page 27*.

### Remove the Machine from Storage

**IMPORTANT! If the machine has been stored for more than 6 months, warm the engine by running it for 2-3 minutes and drain the oil. Change the oil while the oil is warm to remove any condensation. Refer to the Maintenance section.**

**When removing this machine from storage, follow this procedure:**

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

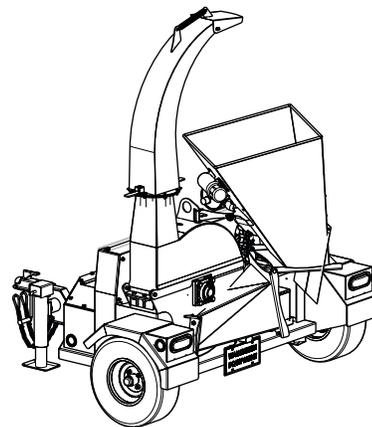


Figure 22—Storage position

## 9. Service and Maintenance

### 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!

Before you start service or maintenance work:

- Set the machine to a safe condition.
  - Wait for the machine to cool down. Engine components and fluids may be hot enough to cause burns.
  - Read and understand all of the service and maintenance safety information.
- Always use personal protection devices such as eye, hand and hearing protection when performing any service or maintenance work. Use heavy gloves when handling sharp components.
  - Where replacement parts are necessary for periodic maintenance and servicing, genuine factory replacement parts must be used to restore your equipment to original specifications. The manufacturer cannot be held 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.
  - Periodically tighten all bolts, nuts and screws and check that all electrical and fuel connections are properly secured to ensure unit is in a safe condition.
  - When completing service, make sure all safety shields and devices are installed before placing unit in service.

### 9.1 Maintenance Safety

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

#### SAFE CONDITION

- Shut off engine. Remove ignition key.
  - Make sure all moving parts have stopped.
  - Disconnect battery ground (-) cable.
  - Block or chock wheels.
- **Good maintenance is your responsibility. Poor maintenance is an invitation to trouble.**
  - **Follow good shop practices.**
    - Keep service area clean and dry.
    - Be sure electrical outlets and tools are properly grounded.
    - Use adequate light for the job at hand.
  - **Make sure there is plenty of ventilation. Never operate the engine or the towing vehicle in a closed building. The exhaust fumes may cause asphyxiation.**
  - **Never work under equipment unless it is blocked securely.**

## 9.2 Fluids and Lubricants

### 1. Engine Oil

#### BXT4224 models:

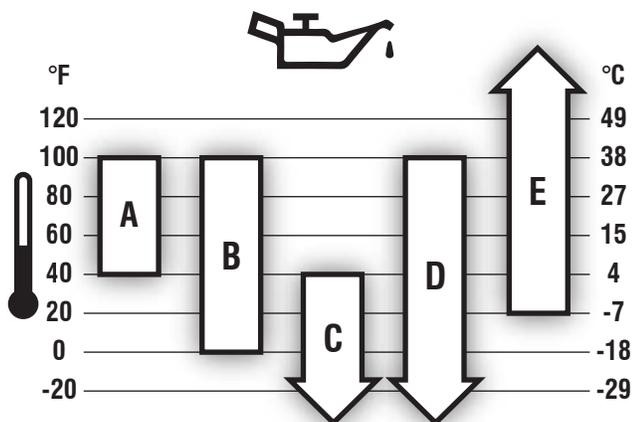
SAE 10W-30 or 5W-30 motor oil is recommended for general use. **Refer to the engine manufacturer's manual for maintenance and service information.**

#### BXT6238 models:

**For engine maintenance and service information, see the engine manufacturer's manual.**

Briggs & Stratton® Warranty Certified oils are recommended for the best engine performance. However, other high-quality detergent oils are permitted if they are classified for service SF, SG, SH, SJ, or higher. Do not use special additives.

Outdoor temperatures determine the required engine oil viscosity. Select the best oil viscosity for the expected outdoor temperature range. Use the following chart as a guide:



01802

- A SAE 30** – Below 40 °F (4 °C) the use of SAE 30 results in hard starting.
- B 10W-30** – Above 80 °F (27 °C) the use of 10W-30 may cause increased oil consumption. Check the oil level frequently.
- C 5W-30**
- D Synthetic 5W-30**
- E Vanguard® Synthetic 15W-50**

### 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

#### BXT4224 models:

This engine is certified to operate on unleaded gasoline with a pump octane rating of 86 or higher (a research octane rating of 91 or higher).

#### BXT6238 models:

**For complete fuel information and use at high altitudes, see the engine manufacturer's manual.**

Fuel must meet the following specifications:

- Clean, fresh, unleaded gasoline.
- Minimum of 87 octane / 87 AKI (91 RON).
- Gasoline with up to 10% ethanol (gasohol) is acceptable if the fuel is fresh (less than three months old).

If the machine will be in storage for longer than three months, replace the fuel with one of the following fuel types:

- An alkylate fuel
- An engineered fuel that is high octane, ethanol-free, and formulated with power detergent to prevent the buildup of insoluble solids (deposits).

For instructions, see *Replace the Engine Fuel* on page 32.

### 4. 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.

## 9.3 Maintenance Schedule

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

Refer to your engine manual for engine maintenance.

| 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.      | See engine manual |
| Perform pre-operation checks | See page 24       |

| Every 50 hours or Annually                    |                   |
|---|-------------------|
| Clean engine air filter                       | See engine manual |
| Check drive belt tension and sheave alignment | See page 39       |
| Check wheel lug nut torque                    | See page 46       |
| Check rotor blade sharpness.                  | See page 41       |
| Inspect battery                               | —                 |
| Check ledger knife sharpness                  | See page 42       |
| Check twig breaker                            | See page 42       |
| Grease machine                                | See page 36       |

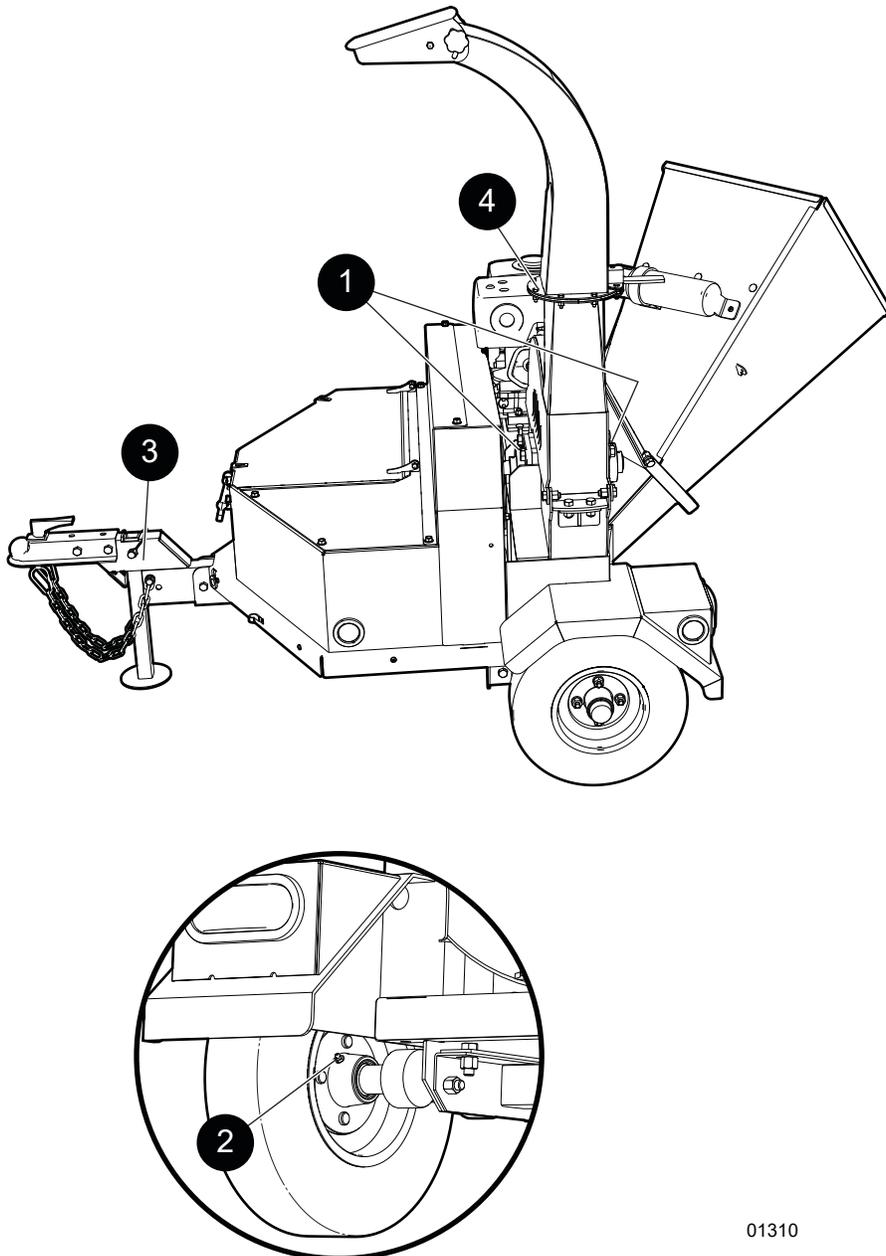
| Every 100 hours or Annually                          |                             |
|--|-----------------------------|
| Change engine oil                                    | See engine manual           |
| Check tire pressure                                  | See rating on tire sidewall |
| Change engine air filter                             | See engine manual           |
| Clean machine. Remove debris and entangled material. | —                           |
| Change fuel filter                                   | See engine manual           |

## 9.4 Grease Points

Use a hand-held grease gun for all greasing. Pump one shot of grease per fitting.

- Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
- If fittings do not take grease, remove and clean them thoroughly. Replace grease fittings as necessary.

| Location | Grease Points<br>– Every 50 hours of operation<br>or annually |
|----------|---|
| 1        | Rotor shaft bearings  |
| 2        | Wheel bearings  |
| 3        | Trailer jack  |
| 4        | Discharge chute rotation                                      |



01310

Figure 23–Grease points (typical)

## 9.5 Maintenance

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

**Review your engine manual for specific instructions / requirements.**

### 9.5.1 Clean the Engine Air Filter

**IMPORTANT!** Operating the engine without an air filter, or with a damaged air filter, can allow dirt to enter the engine, causing rapid engine wear. This type of damage is not covered by warranty.

This section applies only to the BXT6238 Vanguard® engine. For the BXT4224 Honda® engine, see the engine manufacturer's manual.

**Clean the air filter after every 100 hours of operation or annually.**

A dirty air filter can restrict air flow to the carburetor, reducing the engine performance. If the engine is operated in very dusty areas, clean the air filter more often than specified.

1. Open the two air-filter cover latches.
2. Remove the cover.
3. Remove the air filter.
4. Gently tap the air filter on a hard surface to loosen and remove dust and debris.
5. If the air filter is excessively dirty or damaged, replace it with a new air filter.
6. Install the air filter in the engine.
7. Install the cover.
8. Close the two air-filter cover latches.

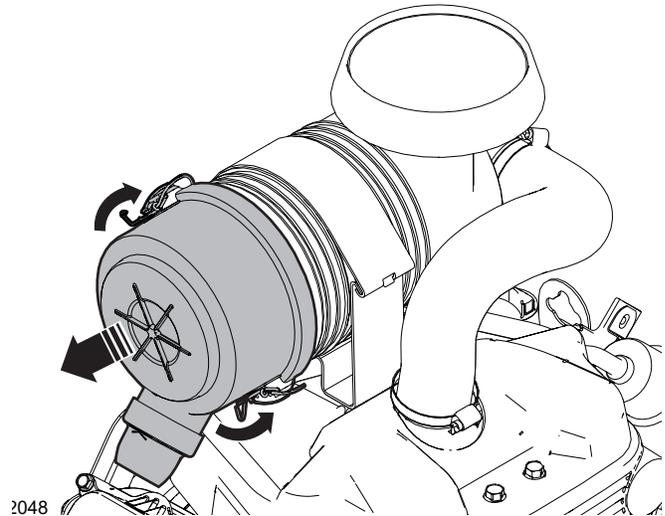


Figure 24—Remove the air-filter cover

## 9.5.2 Replace the Drive Belt

1. Ensure the engine is off (ignition switch is off and the fuel valve is closed).
2. Remove the four bolts that secure the belt guard, and the three bolts that secure the upper belt guard to the chipper. Remove the guards.
3. Loosen (do not remove) the 4 x bolts that hold the engine mount to the main frame (located at the bottom of the motor mount)
4. Turn the belt tensioning bolt counter clockwise, until belt is loose enough to remove, then remove the belt (see illustration).
5. Replace with the new belt
6. Turn the belt tensioning bolt clockwise, to pull the engine mount outwards to tighten the belt
7. Check the tension by pushing on the belt with your fore finger and measure its deflection. Drive belt should deflect no more than 1/2 to 5/8" (13 mm to 16 mm).
8. When tension is correct, check pulley alignment then tighten up all four engine mount bolts, and replace the belt shield and bolts.
9. Recheck tension after 10 hours of use.

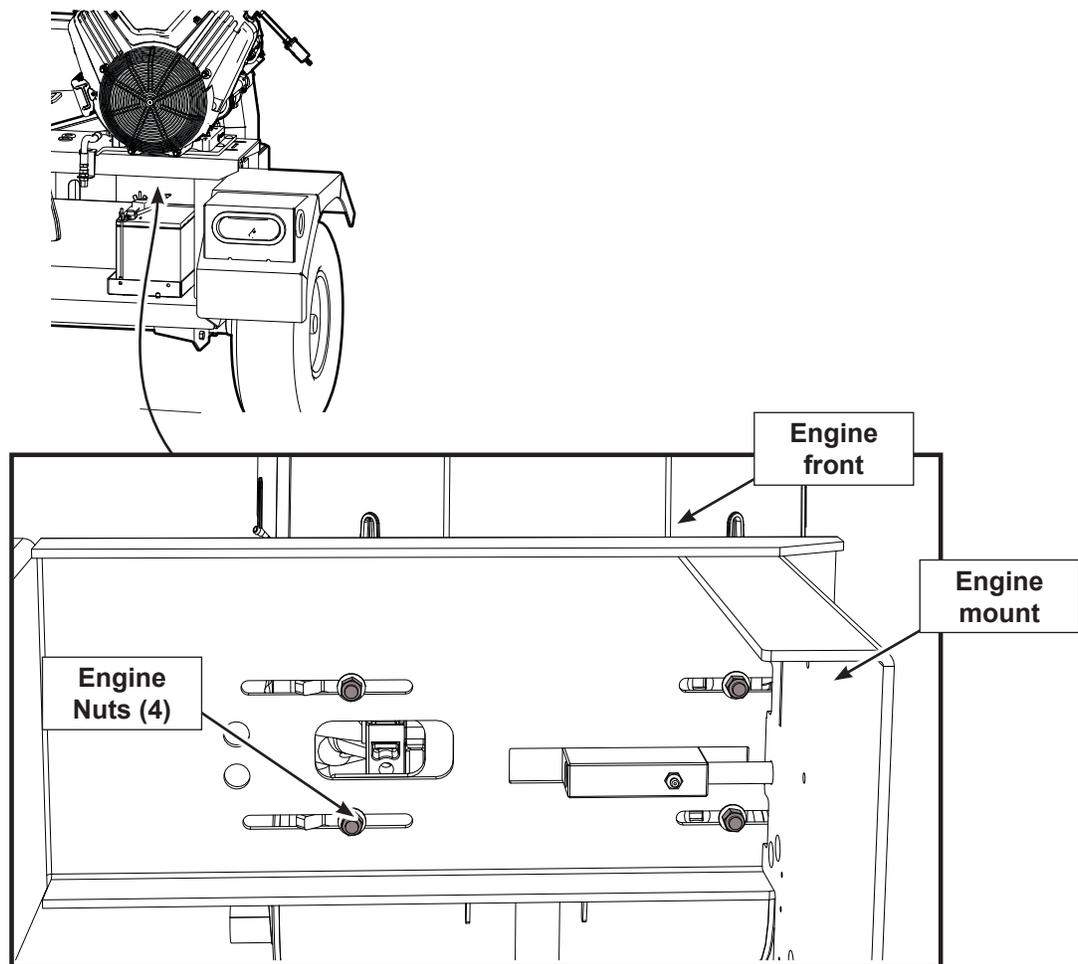


Figure 25—Bottom view of the engine mount

## 9.6 Adjust the Drive Belt Tension

A centrifugal engine clutch drives the rotor sheave. When the belt is in disrepair or loose, the ability to efficiently drive the rotor may be affected.

It is important to periodically check the condition, as well as the tension of the belt. Frayed, cracked, or worn drive belts should be replaced. Drive belt should deflect no more than 1/2 to 5/8" (13 mm to 16 mm). For accurate measurement use a drive belt tension gauge. Contact your dealer for more information on belt tension.

### WARNING!

Never operate a machine with any guards or shields removed. The machine is shown here with guards and/or shields removed for illustrative purposes only.

### Drive Belt Tension Check and Adjustment

1. Ensure the engine is off (ignition switch is off and the fuel valve is closed).
2. Remove the 4 bolts that hold the belt guard to the chipper, remove the belt guard.

3. Check the tension by pushing on the belt with your fore finger and measure its deflection. Drive belt should deflect no more than 1/2 to 5/8" (13 mm to 16 mm).
4. If the belt requires adjustment, lift and secure the hopper, loosen (do not remove) the 4 x bolts that hold the engine mount to the main frame, (access from the front of the motor, under the motor mount: see fig 23).
5. Turn the belt tensioning bolt clockwise, to pull the engine mount outwards to tighten the belt or turn the bolt clockwise, to loosen the belt.
6. Snug 1 bolt on each side of the engine mount.
7. Check the tension by pushing on the belt with your fore finger and measure its deflection. Drive belt should deflect no more than 1/2 to 5/8" (13 mm to 16 mm).
8. If the tension is incorrect, loosen the engine mount bolts and adjust the belt tension bolt as required.
9. When tension is correct, tighten up all four engine mount bolts and replace the belt shield and bolts.

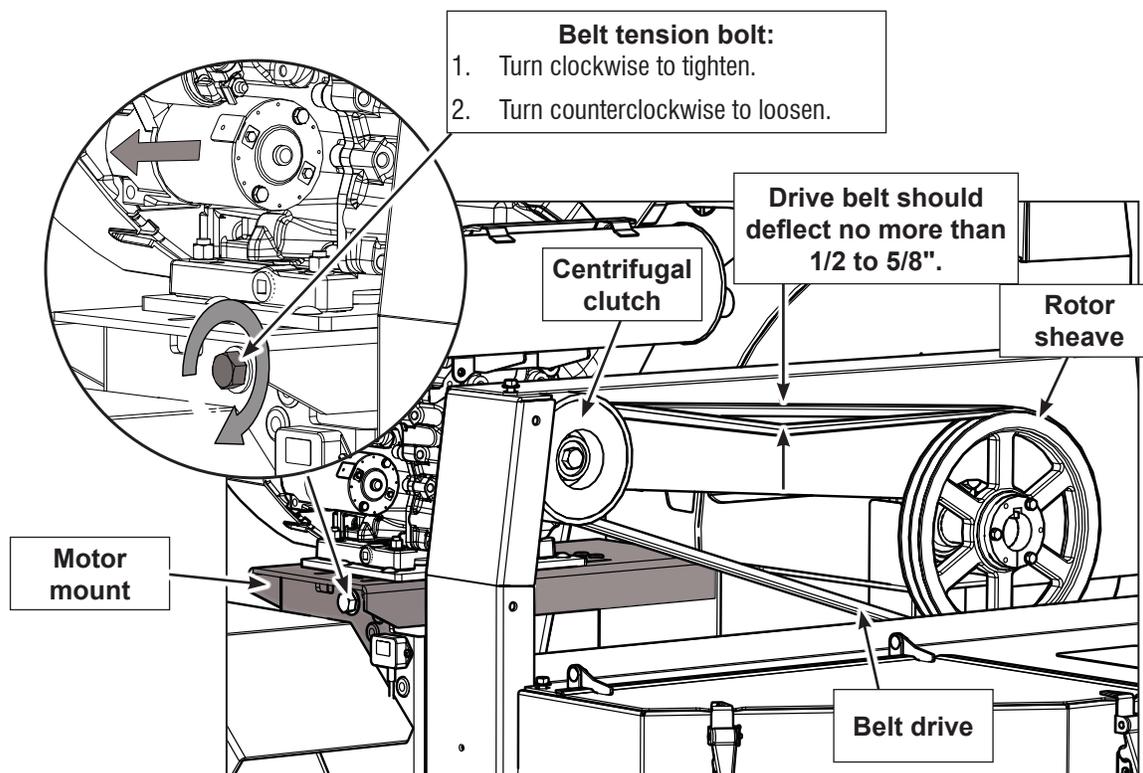


Figure 26—Check the drive belt tension

### 9.6.1 Align the Rotor Sheave

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

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

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

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

7. If there is more than 1/32" (.8 mm) offset, adjustment is required.

#### 8. To adjust alignment:

- Loosen the set screw on the bushing attached to rotor sheave.
- Remove the 3 hex bolts on the bushing, and thread them into the tapped holes on the bushing.
- Tighten the hex bolts progressively with 1/4 turns until bushing is free from the sheave taper.
- Move the sheave to the required position to align the belt.
- If the offset is 1/32 (.8 mm) or less, then no more adjustment is necessary.
- Align drilled holes with tapped holes on the sheave, replace and hand tighten the 3 hex bolts.
- Tighten the set screw and recheck alignment.
- Carefully tighten hex bolts progressively (1/4 turns) and uniformly until firmly seated.
- Recheck belt tension and assemble belt guards.

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

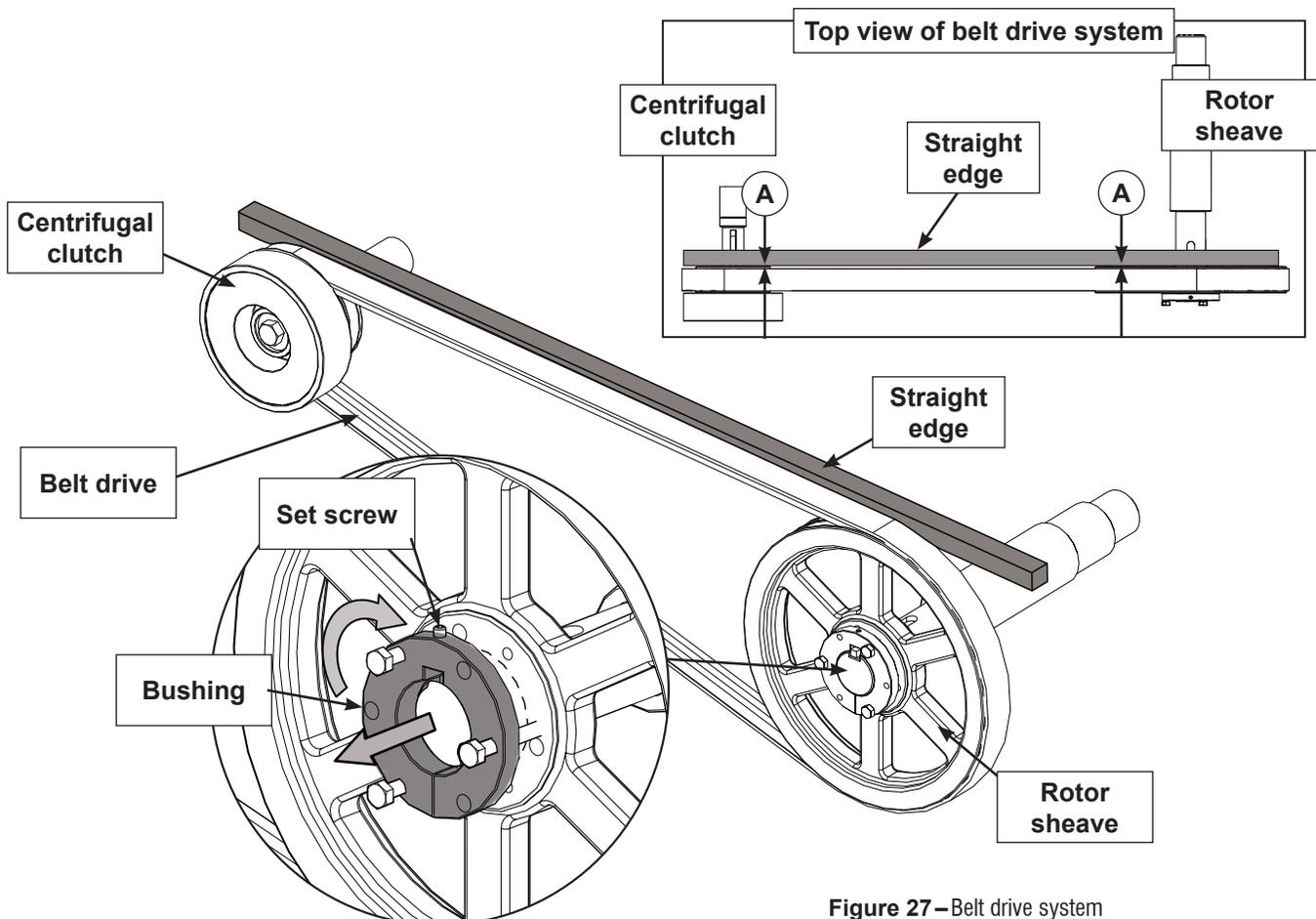


Figure 27 – Belt drive system

## 9.6.2 Rotor Blade Maintenance

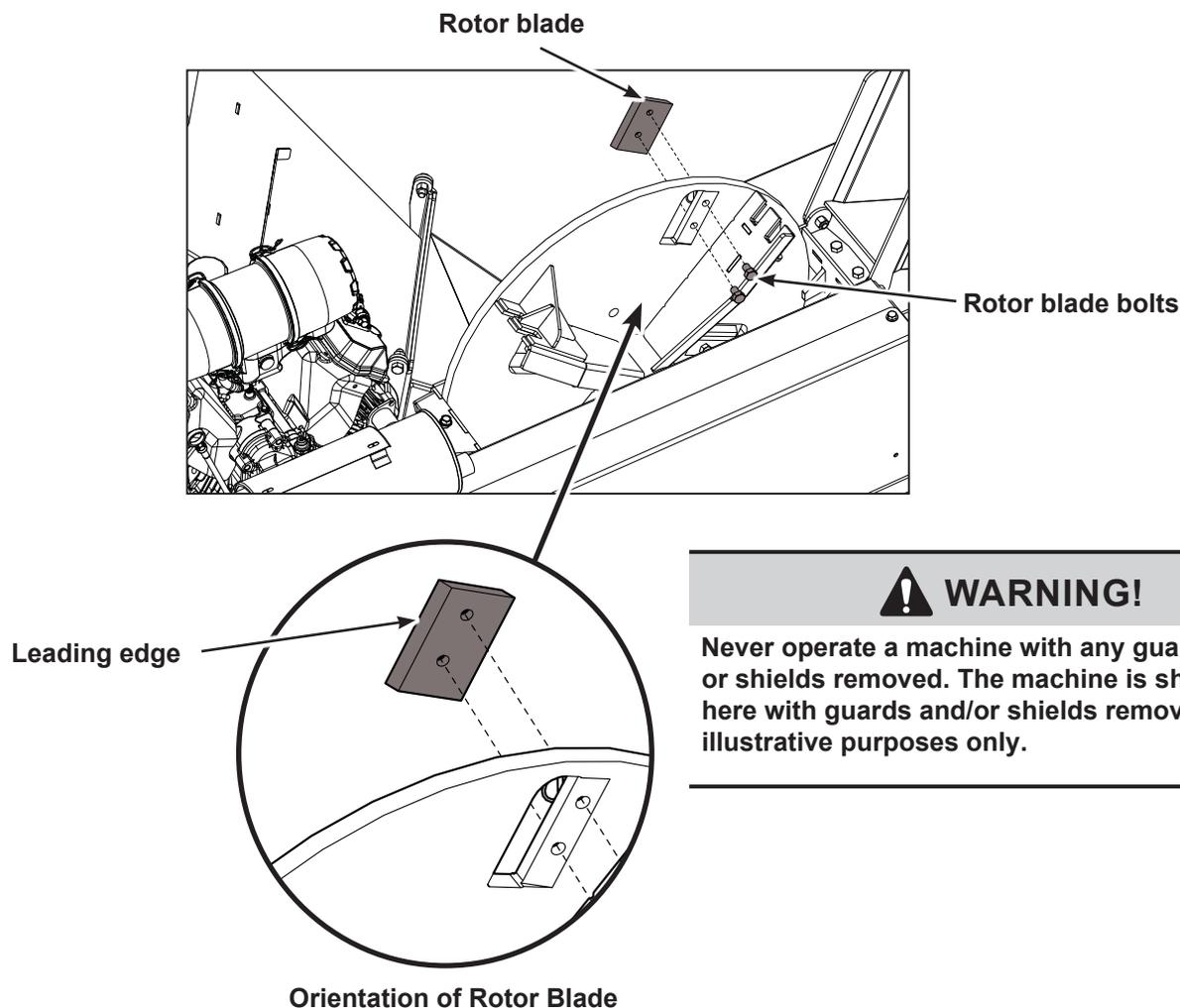
The rotor and ledger blades need to be sharp for the Chipper to perform as expected. Periodic inspection is recommended. Keep the blades sharp to reduce the amount of power required during operation. Watch the sharpness of the blades when processing material with a lot of sand, soil or dirt mixed with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

### Rotor Blades:

The rotor is equipped with 2 blades (**BXT4224**) or 4 blades (**BXT6238**) spaced evenly to keep the rotor in balance. If one needs to be changed, the one opposite should also be changed.

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

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



### **! WARNING!**

Never operate a machine with any guards or shields removed. The machine is shown here with guards and/or shields removed for illustrative purposes only.

W001

Figure 28—Rotor blade

## 9.7 Ledger Blades

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

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

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

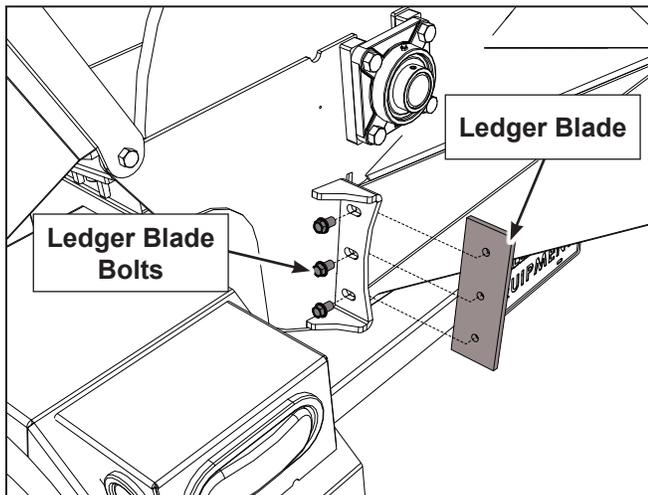


Figure 29—Ledger blade

### **WARNING!**

Never operate a machine with any guards or shields removed. The machine is shown here with guards and/or shields removed for illustrative purposes only.

W001

## 9.8 Twig Breaker

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

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

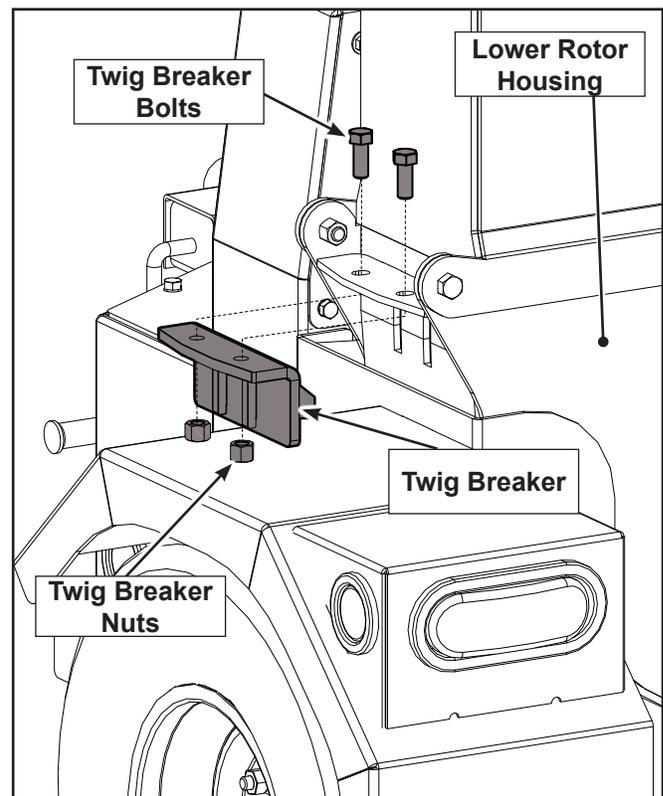


Figure 30—Twig breaker

# 10. Troubleshooting

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

having read through this trouble shooting section, please call your local distributor or dealer. Before you call, please have this Operator's Manual from your unit and serial number ready.

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

If you encounter a problem that is difficult to solve, even after

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

## 11. Specifications

For engine specifications, see the engine manufacturer's manual.

For available accessories, go to [WallensteinEquipment.com](http://WallensteinEquipment.com).

### 11.1 Mechanical<sup>1</sup>

| Parameter                                 | BXT4224                                      | BXT6238                                       |
|---|--|---|
| Engine make and horsepower (displacement) | Honda® 22 hp (688 cc)                        | Vanguard® 40 hp (993 cc)                      |
| Fuel tank capacity                        | 4.8 US g (23 L)                              | 5.5 US g (25 L)                               |
| Drive system                              | Belt drive, centrifugal clutch               |   |
| Chipper capacity                          | 4" Dia. (10.1 cm)<br>Max. 10" slab (25.4 cm) | 6" Dia. (15.2 cm)<br>Max. 12" slab (30.5 cm)  |
| Chipper housing opening                   | 4" x 10" (10.1 cm x 25.4 cm)                 | 6-½" x 12" (16.5 cm x 30.5 cm)                |
| Rotor diameter                            | 25" (63.5 cm)                                | 30" (76.2 cm)                                 |
| Number of rotor knives                    | Two  | Four, segmented                               |
| Knife type                                | Hardened tool steel                          |   |
| Rotor weight                              | 74 lb (33.6 kg)                              | 197 lb (89.4 kg)                              |
| Feed system                               | Self-feed                                    |   |
| Mounting system                           | Trailer                                      |   |
| Dimensions: folded (L x W x H)            | 92" x 59" x 71-½" (234 cm x 150 cm x 181 cm) | 102" x 74-½" x 90" (259 cm x 189 cm x 229 cm) |
| Tongue weight                             | 24 lb (19 kg)                                | 80 lb (36 kg)                                 |
| Hopper opening (L x W)                    | 20" x 20" (51 cm x 51 cm)                    | 25" x 25" (64 cm x 64 cm)                     |
| Discharge hood rotation                   | 360 degrees                                  |   |
| Discharge hood height                     | 71-½" (181 cm)                               | 90" (229 cm)                                  |
| Rated speed                               | 1280 rpm                                     |   |
| Weight                                    | 825 lb (374 kg)                              | 1385 lb (629 kg)                              |
| Tire size                                 | 4.8 x 8                                      | 20.5 x 8-10                                   |

<sup>1</sup> Specifications are subject to change without notice.

## 11.2 Common Bolt Torque Values

### Checking Bolt Torque

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

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

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



**NOTE:** Bolt grades are identified by their head markings.

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



SAE Gr. 2



SAE Gr. 5



SAE Gr. 8

| Metric Bolt Torque Specifications |         |       |          |       |
|-----------------------------------|---------|-------|----------|-------|
| Bolt Diameter                     | Torque  |       |          |       |
|                                   | 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 |



8.8



10.9

## 11.3 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.

- 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.

### Hydraulic Fitting Torque Specifications

| Tube size<br>OD | Hex size<br>across<br>flats | Torque  |         | Flats from finger<br>tight |       |
|-----------------|-----------------------------|---------|---------|----------------------------|-------|
|                 |                             | lbf•ft  | N•m     | Flats                      | Turns |
| Inches          | Inches                      |         |         |                            |       |
| 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   |

Specifications are for non-lubricated connections.

## 12. Product Warranty



**WALLENSTEIN**  
**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](http://www.wallensteinequipment.com)

**13. Index**

|                                    |    |  |           |
|------------------------------------|----|--|-----------|
| <b>B</b>                           |    | <b>M</b>                                 |           |
| Ball hitch.....                    | 22 | Machine Break-In .....                   | 24        |
| Belt Tension.....                  | 38 | Machine Set-Up .....                     | 25        |
| Bolt torque.....                   | 44 | Maintenance Schedule.....                | 34        |
| BXT4224 Engine Controls.....       | 19 | <b>O</b>                                 |           |
| BXT6238 Engine Controls.....       | 21 | Oil, engine                              |           |
| <b>C</b>                           |    | Add .....                                | 26        |
| Checking Bolt Torque .....         | 44 | Oil Level Alert.....                     | 20        |
| Chipping Operation .....           | 28 | Operating Instructions .....             | 23        |
| Choke Knob .....                   | 20 | Before Startup.....                      | 24        |
| Common Bolt Torque Values.....     | 44 | Chipping Operation.....                  | 28        |
| Controls                           |    | Safety Rules .....                       | 23        |
| BXT4224 Engine Controls .....      | 19 | <b>P</b>                                 |           |
| BXT6238 Engine Controls .....      | 21 | Personal Protective Equipment (PPE)..... | 8         |
| Engine.....                        | 19 | Pre-Operation Checklist.....             | 24        |
| Ignition switch.....               | 21 | Product Warranty .....                   | 46        |
| Engine Controls                    |    | <b>R</b>                                 |           |
| Choke Knob.....                    | 20 | Rotor Blade .....                        | 40        |
| Engine Start Switch.....           | 20 | Rotor Blade Maintenance.....             | 40        |
| Throttle Lever .....               | 20 | Rotor jam.....                           | 29        |
| Hour Meter.....                    | 22 | <b>S</b>                                 |           |
| <b>D</b>                           |    | Safe Condition.....                      | 8, 23, 33 |
| Drive Belt Replacement .....       | 37 | Safety .....                             | 7         |
| <b>E</b>                           |    | Battery Safety .....                     | 9         |
| Engine .....                       | 33 | Being Prepared.....                      | 9         |
| Air filter, clean .....            | 36 | Gas Motor Safety.....                    | 10        |
| Ignition switch .....              | 21 | Refueling Safety .....                   | 9         |
| Oil                                |    | Safe Condition .....                     | 8         |
| Add .....                          | 26 | Safety Alert Symbol .....                | 7         |
| Engine Controls.....               | 19 | Safety Rules .....                       | 7         |
| Engine Fuel .....                  | 33 | Signal Words .....                       | 7         |
| Engine Hours .....                 | 20 | Tire Safety .....                        | 9         |
| Engine Oil.....                    | 33 | Why Safety is Important.....             | 7         |
| Engine Start Switch.....           | 20 | Safety Alert Symbol.....                 | 7         |
| Equipment Safety Guidelines.....   | 8  | Safety Rules.....                        | 7, 23     |
| <b>F</b>                           |    | Safety Sign Explanations .....           | 14        |
| Fuel tank .....                    | 30 | Safety Sign Locations .....              | 12        |
| <b>G</b>                           |    | Safety Signs .....                       | 12        |
| Grease .....                       | 33 | Safety Sign Explanations.....            | 14        |
| Grease Points .....                | 35 | Safety Sign Locations .....              | 12        |
| <b>H</b>                           |    | Safety Training .....                    | 8         |
| Hopper latch.....                  | 25 | Service and Maintenance                  |           |
| Hour Meter .....                   | 22 | Maintenance Safety.....                  | 33        |
| <b>I</b>                           |    | Specifications.....                      | 43        |
| Ignition switch.....               | 21 | Swivel jack .....                        | 31        |
| Inspection checklist, dealer ..... | 4  | <b>T</b>                                 |           |
| <b>L</b>                           |    | Throttle Lever .....                     | 20        |
| Latch .....                        | 31 | Troubleshooting guide.....               | 42        |
| Ledger Blades.....                 | 41 | Twig Breaker .....                       | 41        |
| Lubricants.....                    | 33 | <b>W</b>                                 |           |
|                                    |    | Wheel Lug Torque .....                   | 45        |









**MAKING WORK FEEL MORE LIKE PLAY™**

[WallensteinEquipment.com](http://WallensteinEquipment.com)

