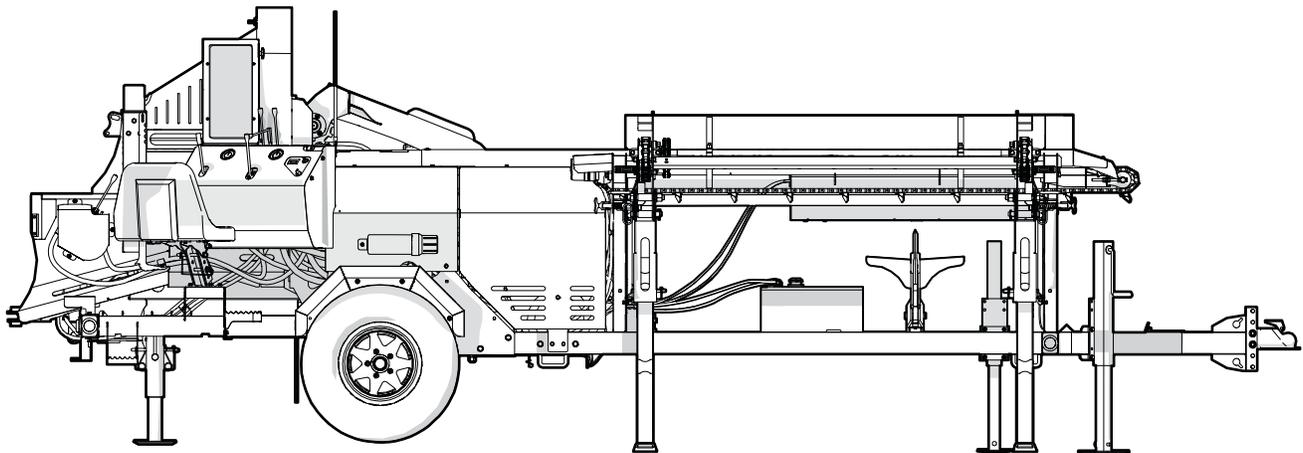


OPERATOR'S MANUAL

Serial number 1102664 and up

WP1624 Series Firewood Processor

P3 PULSE™ TECHNOLOGY



Rev Apr-2024

Part Number: Z97106_En

WALLENSTEIN

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1. Introduction

WARNING!

Do not start or operate the machine before you read this manual. Make sure that you fully understand all the safety, operation, and maintenance information before you operate the machine.

Keep this manual with the machine at all times and available for frequent reference.

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Congratulations on choosing a Wallenstein WP1624 Firewood processor!

This high-quality machine is designed and manufactured to meet the needs of a proficient timber or woodlot industry.

The following models are described in this manual:

Model	Features
WP1624	Firewood processor only
WP1624-12	Firewood processor with integrated 12 foot conveyor
WP1624-24	Firewood processor with self-contained 24 foot conveyor

The Wallenstein WP1624 Firewood processor improves firewood productivity, ergonomics and minimizes handling. The firewood processor saves time and money while reducing the risk of physical strain.

The WP1624 consists of a hydraulic power source, live deck, infeed conveyor, and wood splitter. A Vanguard® gas engine drives hydraulic pumps to power the system. P3 PULSE Electronic controller maximizes saw cutting performance. An optional 12 ft (3.6 m) integrated stacking conveyors is available, as well as trailer-type conveyors in 16 ft (4.8 m) and 24 ft (7.3 m) lengths.

Logs are set onto the live deck and deck chains carry them to the infeed conveyor. The conveyor moves the logs ahead into the saw. The saw cuts the blocks to length and they fall into the splitting cradle. The wedge then splits the logs and the pieces are pushed out onto a pile or conveyor (if equipped).

The WP1624 can split wood up to 24" (61 cm) in length. See page 79 for more product information.

Safe, efficient, and trouble-free operation of your Wallenstein firewood processor requires that you and anyone else who will be using or maintaining the firewood processor, read and understand the Safety, Operation, Maintenance and Trouble Shooting 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.

Cutting chain information courtesy of Oregon® Products. For more information on this and other products, visit OregonProducts.com.

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1.1 Delivery Inspection Report

Wallenstein WP1624 Firewood Processor

To activate warranty, register your product at WallensteinEquipment.com.

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

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

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

_____	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 | _____ Verify Function of Trailer Turn, Signal, and Stop Lights |
| _____ All Valve Controls Function | _____ Grease Machine |
| _____ All Cylinders and Motors Function | _____ Review Operating and Safety Instructions |
| _____ Wedge Height Adjuster Functions | |
| _____ Live Deck Chains Tight | Safety Checks |
| _____ Infeed Chains Tight | _____ All Safety Labels Installed |
| _____ All Fasteners Tight | _____ Guards and Shields Installed and Secured |
| _____ Saw Chain Tensioned Properly | _____ Retainer Installed through Hitch Points |
| _____ Hydraulic Connections Tight | _____ Tire Pressure Correct |
| _____ Bar Oil Reservoir Filled, or User Instructed to Fill. Flow Control Open | _____ All Jacks Function |
| _____ Verify Bar Oiler Motor Functions and Oils Saw Chain after Reservoir is Filled | _____ Wheel Lug Torque Checked |
| | _____ Operation of Running / Brake Lights Checked |

1.2 Serial Number Location

Always provide the model and serial number of your Wallenstein product when you order parts, or request service or other information. The product information plate location is shown in the following illustration.

Record the product information here	
Model	WP1624
Serial Number	

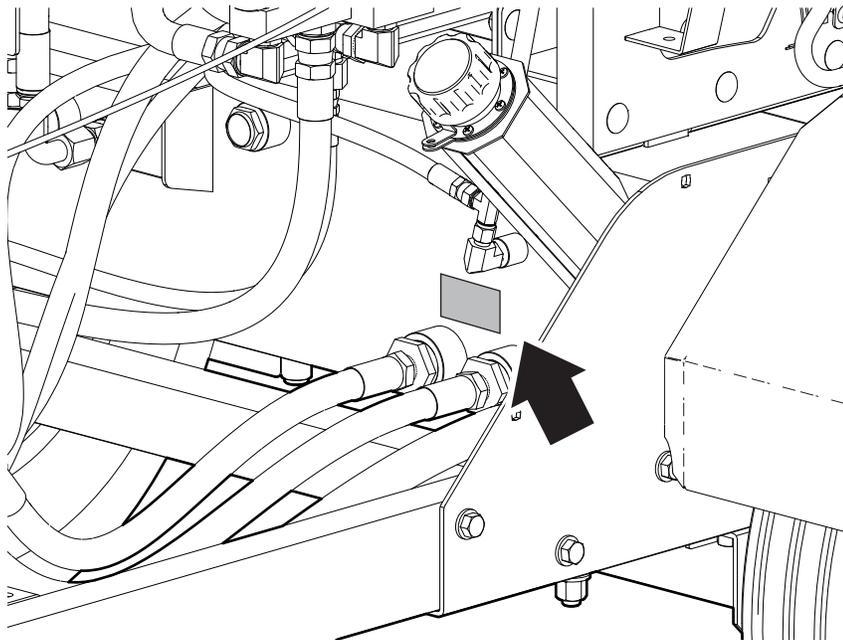


Fig. 1 – Serial Number Location

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1.3 Types of Labels on the Machine

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

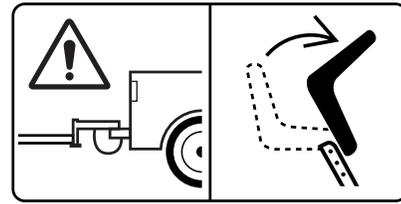
Safety Labels have a yellow background and are generally two panel. They can be either vertical or horizontal.



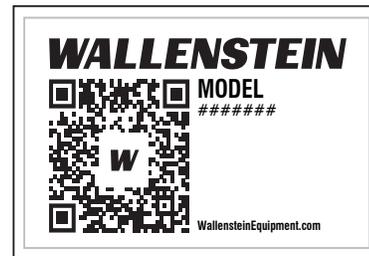
Safety Notice Labels have a blue background and are generally rectangular with single or multiple symbols. This label shows suggested PPE requirements for safe operation.



Informative Labels have a white background and can vary in the number of panels. These labels provide operating information on a feature of the machine.



Product information labels are associated with the product and show the model, serial number, and manufacturer.



Maintenance Labels have a green background. They can have various messages and vary in the number of panels. These labels indicate the maintenance type and can indicate the service interval. Maintenance labels are further explained in the Service and Maintenance section.



For complete illustrations of label locations on the machine, download the parts manual for this product model at WallensteinEquipment.com.

2. Safety

Read and understand all safety information before operating the machine.

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 machine and in the manual.

When you see this symbol, be aware of 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** identify the severity of a hazard to anyone who uses the machine. The applicable signal word for each message was selected using the following guidelines:

DANGER

Identifies a hazardous situation that, if not avoided, **will** result in serious injury or death. This signal word is used to tell anyone who uses the machine about the most hazardous situations and machine components that cannot be guarded against.

WARNING

Identifies a hazardous situation that, if not avoided, **could** result in serious injury or death. This signal word includes hazards that occur when guards are removed and can be used to tell anyone who uses the machine about unsafe practices.

CAUTION

Identifies a hazardous situation that, if not avoided, **could** result in minor or moderate injury. It can also be used to tell anyone who uses the machine about unsafe practices.

IMPORTANT – Identifies a situation that could result in damage to the machine or property, but is not a personal injury hazard.



Provides additional information that is helpful.

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 uses, maintains, or works around the machine is familiar with the operation and maintenance procedures and related **SAFETY** information contained in this manual. Obey the safety best practices included in this manual when you use your machine.

YOU are responsible for your own safety. Obey safety best practices to protect yourself and the people around you. Make these practices part of your safety program. Make sure that **EVERYONE** who uses this machine is familiar with the recommended operation and maintenance procedures, and obeys all the safety instructions. Most accidents can be prevented.

Do not risk injury or death by ignoring safety instructions and best practices.

2.4 Safety Rules

- It is the operator's responsibility to read, understand and follow ALL safety and operation instructions in this manual. If you do not understand any part of this manual and require assistance, contact your dealer, distributor, or Wallenstein Equipment.
- **Do not allow anyone to use this machine until they have read this manual. Operator's must have a thorough understanding of the safety precautions and of how the machine works.** Review the safety instructions with all users annually.
- The operator of this firewood processor must be a responsible, physically able person familiar with machinery and trained in this machine's operation.
- Provide instructions to anyone else who is going to operate the machine. This equipment is dangerous to anyone unfamiliar with its operation.
- Review safety related items annually with all personnel who will be operating or performing maintenance.
- Make sure that all safety labels on the machine are understood before operating, servicing, adjusting, or cleaning. Safety label explanations are on page 17. Being unfamiliar with a machine can lead to injuries.
- Replace any safety label or instruction label that is not readable or is missing. The location of all safety labels is indicated on page 17.
- Never exceed the limitations of the machine. If its ability to do the job, or to do it safely is in question—**STOP!**
- Inspect and secure all guards before starting.
- Set the chain saw bar oil flow rate before operating the saw.
- Check saw chain tension every three hours of operation. Sharpen chain daily.
- Do not modify the equipment in any way. Unauthorized modifications may affect the integrity of the machine or the ability of the machine to perform as designed. Modifications can impair safety or function. They can affect the life of the equipment and void warranty.
- Have a first-aid kit available for use should the need arise.
- Have a fire extinguisher available for use should the need arise and know how to use it.



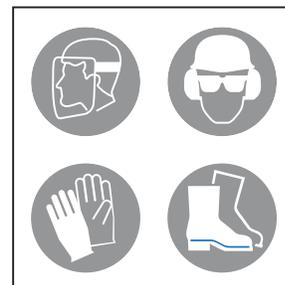
- Check the machine is clear of debris prior to starting the engine.
- Review safety related items annually with all personnel who will be operating or performing maintenance.
- Handle logs with respect and be aware of other operators in the area.
- Do not touch hot engine parts, muffler cover, hoses, engine body, or engine oil during operation and after the engine has been shut off. Contact may cause burns.

2.5 Operating Safety

It is important that you read and pay attention to the safety labels on the firewood processor. Clean or replace all safety labels if they cannot be clearly read and understood. They are there for your safety, as well as the safety of others. The safe use of this machine is strictly up to you, the operator.

All machines with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes potential hazards and follows reasonable safety practices.

- Always wear appropriate Personal Protective Equipment (PPE). This equipment includes but is not limited to the following:
 - A hard hat
 - Heavy gloves
 - Hearing protection
 - Protective shoes with slip resistant soles
 - Protective glasses, goggles, or face shield



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



- Train all operators to be familiar with equipment's operation. The operator should be a responsible, properly trained and physically able person familiar with machinery. If the elderly are assisting with work, their physical limitations need to be recognized and accommodated.
- Wear hearing protection on a full-time basis. Prolonged exposure to loud noise may cause permanent hearing loss!
- Noise over 85 dB on a long-term basis can cause severe hearing loss.
- Noise over 90 dB adjacent to the Operator over a long-term basis may cause permanent, total hearing loss.
- Keep bystanders away at a safe distance at least 10 ft (3 m) from stacking zone. Mark the zone with safety cones.
- Determine a safe work area / trailer location:
 - Ground should be firm and level.
 - Area must be clear of stones, branches or hidden obstacles that might cause a tripping, hooking, or snagging hazard.
 - There must be no overhead hazards such as branches, cables, electrical wires and so on.
- Determine a safe split stack location:
 - Stack split wood on level ground. Make sure it does not interfere with safe operation of the machine.
- Precut to length and de-limb logs so they are ready to load onto the live deck.
- Operate the machine in daylight or good artificial light only.
- Make sure machine is properly stationed, adjusted and in good operating condition.
- Store fuel well away from the material pile.
- Perform the **Pre-operation Checks** procedure before starting work (see page 43).
- Position machine so prevailing winds blow engine exhaust fumes away from operator's station.
- Do not operate on hillsides or when working area is cluttered, wet, muddy, or icy to prevent slipping and tripping. Keep working area clean and free of debris.
- Stop engine if leaving the machine unattended.
- Make sure all guards, deflectors and shields are installed before starting and operating the machine.
- Operate the machine only when physically fit and not under the influence of alcohol, drugs or medicines that can cause drowsiness.
- Avoid loose fitting clothing, loose or uncovered long hair, jewelry, and loose personal articles. These can get caught in moving parts.
- Do not allow anyone within the work or danger zone during operation.



- Place machine in a **Safe Condition** before servicing or repairing. See page 10.
- Do not try to process more than one log at a time. The extra log can move unexpectedly and cause injury.
- Use a peavey or the provided hookaroon to reposition cut logs in the splitting cradle. Handle logs using a peavey for positioning.
- Do not try to split logs across the grain. Some logs can burst or splinter and fly out of the machine causing injury.
- When loading the live deck, do not position logs farther left than the safety whip. Be aware of others in the area when operating heavy equipment.
- Do not attempt to saw a log that is not firmly clamped in position. Chain could break and fly into pieces. Stop and reposition the log so it is stable.

2.5.1 Safe Condition

Throughout this manual, we talk about a '*Safe Condition*'. What this means is parking the machine in a manner 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

1. Clear infeed conveyor and splitting cradle.
2. Release all controls and ensure all components have stopped moving.
3. Shut off the engine. Disconnect spark plug lead. Disconnect negative (-) battery cable from battery.
4. Relieve hydraulic system pressure by actuating controls.

2.6 Equipment Safety Guidelines

The safety of the operator and bystanders is one of the main concerns in designing and developing equipment. However, every year many accidents occur which could have been avoided by a few seconds of thought and a more careful approach to handling equipment.

- Replace any safety label or instruction label that is not readable or is missing. Location of such safety labels is indicated in this manual.
- Never allow young children to work with this equipment. Do not allow persons to use this unit until they have read this manual and have developed a thorough understanding of the safety precautions and of how it works. Review the safety instructions with all users annually.
- Never exceed the limitations of the machine. If its ability to do the job, or to do it safely is in question—**STOP!**

2.6.1 Maintenance Safety

Always place the machine in a safe service position before performing any service or maintenance work, storage preparation, or hooking / unhooking. See page

Follow good shop practices:

- Have at least two workers present when performing maintenance on this equipment. Never work alone in case an emergency should arise.
- Keep service area clean and dry.



- Never operate the engine in a closed building. Make sure there is plenty of ventilation. Exhaust fumes can cause asphyxiation.
- Never work under unsupported equipment.
- Use only genuine OEM replacement parts. The manufacturer is not responsible for injuries or damage resulting from non-approved parts or accessories.
- Make sure all safety shields and devices are re-installed when a maintenance or service procedure is finished.
- Do not use gasoline or diesel fuel when cleaning any parts. Use a regular cleanser.
- Use proper tools that are in good condition. Make sure the procedure is understood before performing any service work.

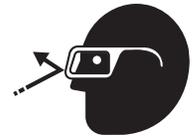
2.6.2 Hydraulic System Safety

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

- Do not use a hand to check for hydraulic fluid leaks. Hydraulic fluid escaping under pressure can penetrate the skin causing serious injury. Use a piece of cardboard.



- Wear proper hand and eye protection when searching for a high-pressure hydraulic leak.



- Seek medical attention immediately if injured by a concentrated high-pressure stream of hydraulic fluid. Serious infection or toxic reaction can develop from hydraulic fluid piercing the skin surface.
- Do not attempt any makeshift repairs to the hydraulic lines, fittings, or hoses by using tape, clamps, or cements. Doing so can cause sudden failure and create a hazardous and unsafe condition.
- Relieve pressure on the hydraulic system before working it. The hydraulic system operates under extremely high pressure.
- Replace any hydraulic hose immediately that shows signs of swelling, wear, leaks, or damage before it bursts.
- Do not bend or strike high-pressure lines, tubes, or hoses, or reinstall them in a bent or damaged condition.
- Check to make sure hydraulic hoses are not worn or damaged and are routed to avoid chafing.
- Never adjust a pressure relief valve or other pressure-limiting device to a higher pressure than specified.

2.6.3 Refueling Safety

- Fuel is highly flammable. Handle with care.
- Stop the engine and allow it to cool for five minutes before Refueling. Clean up spilled fuel before restarting engine.

- Do not add fuel to the tank while you are smoking or when the tank is near an open flame or sparks.



- Fill fuel tank outdoors.
- Prevent fires by keeping machine clean of accumulated trash, grease, and debris.

- Do not overfill the fuel tank. Fill until the fuel level is visible 1/2" (12 mm) below the filler neck to leave room for expansion.
- If fuel is spilled, wipe it away carefully and wait until it has dried before starting the engine.
- After you add fuel to the tank, make sure that the fuel cap is on securely to prevent spillage.

2.6.4 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.

2.6.5 Chain Saw Safety

A chain saw is inherently hazardous. Potential injuries can be minimized by using proper personal protective equipment and safe operating procedures.

Good cutting action results and chain life increases with correct chain tension. If too loose, a chain can derail; if too tight a chain can bind.

Proper chain lubrication prolongs the life of the saw and increases safety.

Sharpen the saw if:

- The chain tends to track sideways while cutting.
- The cut shows fine powder instead of chips.
- There is a burnt wood smell.

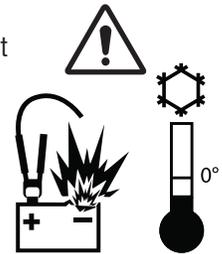
Never use a saw chain that:

- Has broken twice.
- Is severely damaged.
- Has excessive saw chain stretch.
- Has broken or cracked components.
- Has loose rivet joints. If you can rotate the rivets with your fingers, they are too loose.

2.6.6 Battery Safety

- 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 compounds, chemicals known to cause harm. Wash hands immediately after handling.
- Keep all sparks and flames away from batteries. Gases given off by electrolyte is explosive.
- To avoid injury from spark or short circuit, disconnect battery ground cable before servicing any part of the electrical system.
- Frozen batteries can explode and result in death or serious injury. Do not jump start or charge a frozen battery. Let battery thaw before charging.



2.6.7 Engine Safety

- **DO NOT** operate 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** choke carburetor to stop engine. Whenever possible, gradually reduce engine speed before stopping.
- **DO NOT** tamper with governor springs, governor links or other parts which may increase the governed speed. Engine speed is 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 or heat shield. Inspect periodically and replace if damaged.
- **DO NOT** operate engine with an accumulation of wood chips, dirt, or other combustible materials in the muffler area.
- **DO NOT** use this engine on any forest covered, brush covered, or grass covered unimproved land unless a spark arrester is installed on the muffler. The arrester must be maintained in effective working order by the operator. In the state of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal land.

- **DO NOT** touch hot muffler or cooling fins. Contact may cause burns.
- **DO NOT** run engine with air cleaner or air cleaner cover removed. Engine damage can result.

Be sure to:

- Remove the wire from the spark plug when servicing the engine or equipment to prevent accidental starting. Disconnect the negative wire from the battery terminal.
- 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. Old fuel can gum carburetor and cause poor performance.
- Check fuel lines and fittings frequently for cracks or leaks. Replace if necessary.

2.6.8 Electronic Fuel Injection System Operation Safety

The engine has an electronic fuel injection (EFI) system that monitors the engine speed, temperature, and battery voltage. The EFI system cannot be adjusted.

- Do not start the engine if the battery cables are loose.
- Turn the ignition switch to the **STOP** position or remove the starter switch before disconnecting, removing and/or installing the battery.
- Do not use a battery charger to start the engine.
- Do not disconnect the battery cables while the engine is running.
- When connecting the battery cables, first connect the positive (+) cable and then connect the negative (-) cable to the battery.
- When charging the battery, turn the ignition switch to the **STOP** position and disconnect the negative (-) battery cable from the battery.
- Do not spray water directly on the Electronic Control Unit.

2.6.9 Welding Safety

- If welding repairs are required, have them performed by a trained welder with proper service instructions. Know the material to be welded and select the correct welding procedure and materials (electrodes, rods, wire) that provide a weld metal strength equivalent to the parent material.
- Work with extra care when welding, grinding or torch cutting near flammable objects.

- Welding on painted surfaces releases dangerous fumes and results in a poor weld joint that can result in failure and potential accidents. Always remove paint from areas to be welded.
- Heated paint gives off poisonous gases. Therefore, paint must be removed from an area with a radius of at least 4" (10 cm) before carrying out welding, grinding or gas cutting. In addition to the health hazard, the weld is of inferior quality and strength if the paint is not removed.

Methods and precautionary measures when removing paint:

- Blasting—use respiratory protective equipment and protective goggles.
- Paint remover or other chemicals—use a portable air extractor, respiratory protective equipment, and protective gloves.
- Grinding—use a portable air extractor, respiratory protective equipment and protective gloves and goggles.

2.7 Make the Work Area Safe

Follow these important points to keep bystanders and workers safe from hazards.

- Establish a Safe Zone perimeter around the work area and mark with safety cones. The perimeter should be at least 10 ft (3 m) from any hazard within the work area.
- Never allow workers or bystanders to approach the processor while in operation without first signaling the operator.
- Keep all bystanders in the Safe Zone and never allow them in the Danger or Work zones.
- Always operate the processor controls from the Operator Zone located at the control panel.
- Only the operator can authorize entry into the Danger Zone. The operator must first ensure it is safe to enter.
- Always be aware of coworkers. Make eye contact and have a hand signal scheme worked out.
- Use extreme caution around the material stacks. Stacked logs could roll in unpredictable ways.
- Be aware of split wood stacks. Split wood can tumble off the pile.

When processing logs with this machine, create a safe work area around the entire operation. The work area should be split up into the following zones, based on the level of safety awareness:

1. **Safe Zone** – This is the area outside the work area perimeter for bystanders or anyone not directly involved with the work. The Safe Zone has minimal potential hazards.
2. **Work Zone** – Workers helping the operator wearing the appropriate PPE are allowed in this area. The Work Zone is outside of the Danger Zone with limited hazards.

3. **Danger Zone** – Only workers are allowed in the Danger Zone and must always make eye contact with the operator before entering. Unauthorized workers or bystanders are not allowed in the Danger Zone due to the hazards present.
4. **Operator Zone** – Only the operator should be in the Operator Zone.

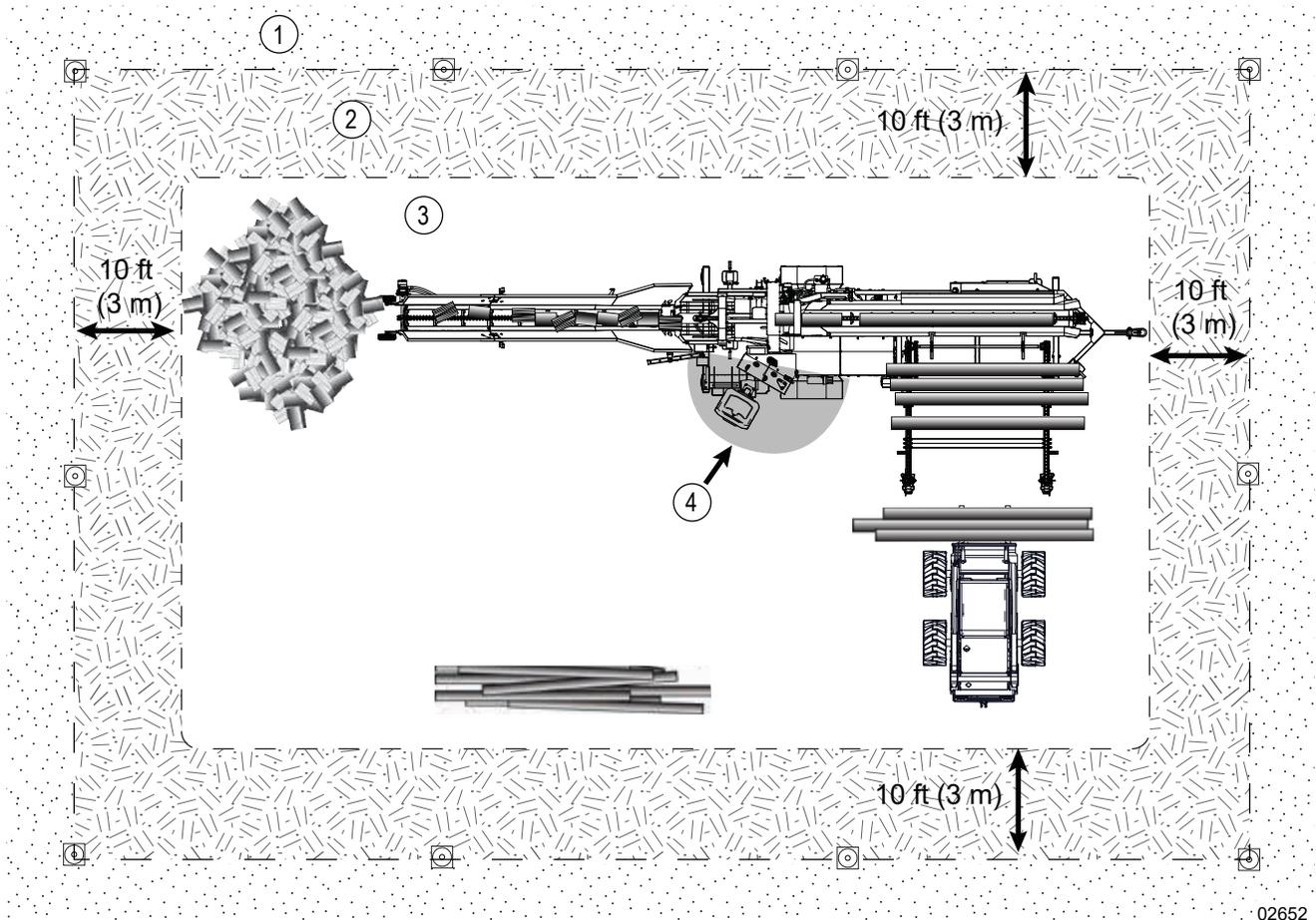


Fig. 2– Example Work Area Divided into Zones

02652

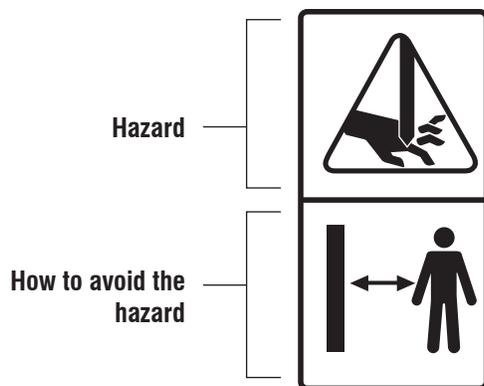
3. Safety Labels

⚠ WARNING!

Replace all safety labels that are missing, damaged, or illegible. If a component is replaced and it has a safety label on it, apply a safety label to the new component. Operating the machine with missing, damaged, or illegible safety labels puts the operator at risk of serious injury or death.

W100

Learn what the safety labels mean and know the safety hazards. A safety label can be vertical or horizontal. Vertical safety labels have a top panel and a bottom panel. Horizontal safety labels have a left side panel and a right side panel. The top or left side panel shows the safety alert (possible hazard), and the bottom or right side panel shows the action message (how to prevent illness, injury, or death).



Think SAFETY! Work SAFELY!

3.1 Replace a Safety Label

- Always replace safety labels that are missing or have become illegible. Replacement safety labels are available from your local Wallenstein Equipment dealer or distributor.
- Keep the safety labels clean and legible at all times.
- When a part that has a safety label on it is replaced, the correct safety label must be applied to the replacement part.

3.1.1 Conditions

- The installation area must be clean and dry.
- The application surface must be clean and free of grease or oil.
- The ambient temperature must be above 50 °F (10 °C).

3.1.2 Tool

Use a squeegee, plastic card, or similar tool to smooth out the label.

3.1.3 Procedure

1. Identify the label location.
2. Peel the label off the backing paper.
3. Hold the label above the location where you are going to apply it. Align the edges of the label with an edge of the machine.
4. Start at one edge and carefully press the center of the adhesive side of the label onto the machine.
5. Use an appropriate tool to smooth the label. Work from one side to the other.
6. If there are small air pockets:
 - a. Use a pin to pierce the air pocket.
 - b. Use a piece of the label backing paper to smooth the air pocket.

3.2 Safety Label Locations

Numbers correspond with the *Safety Label Explanations* on page 23.

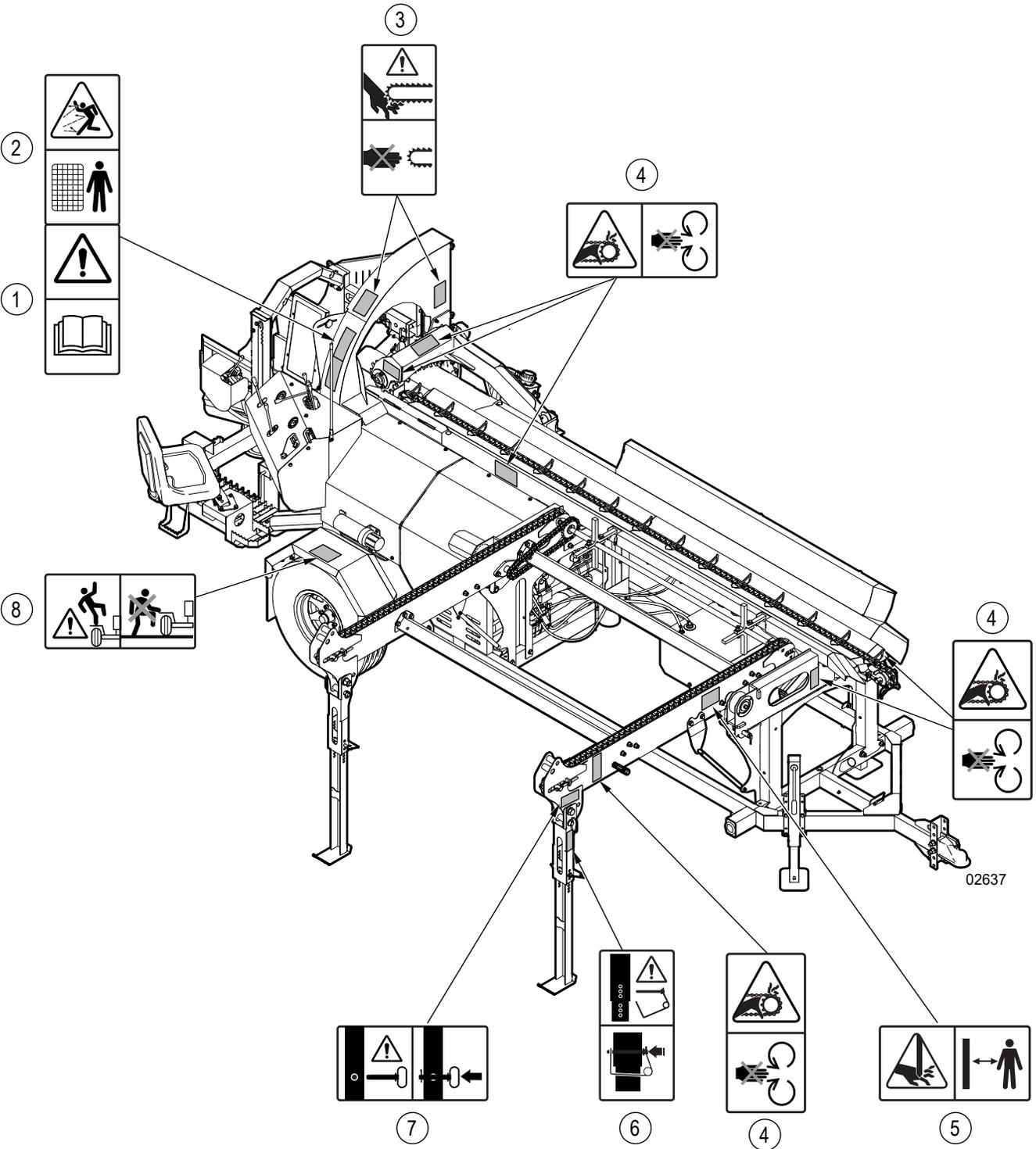
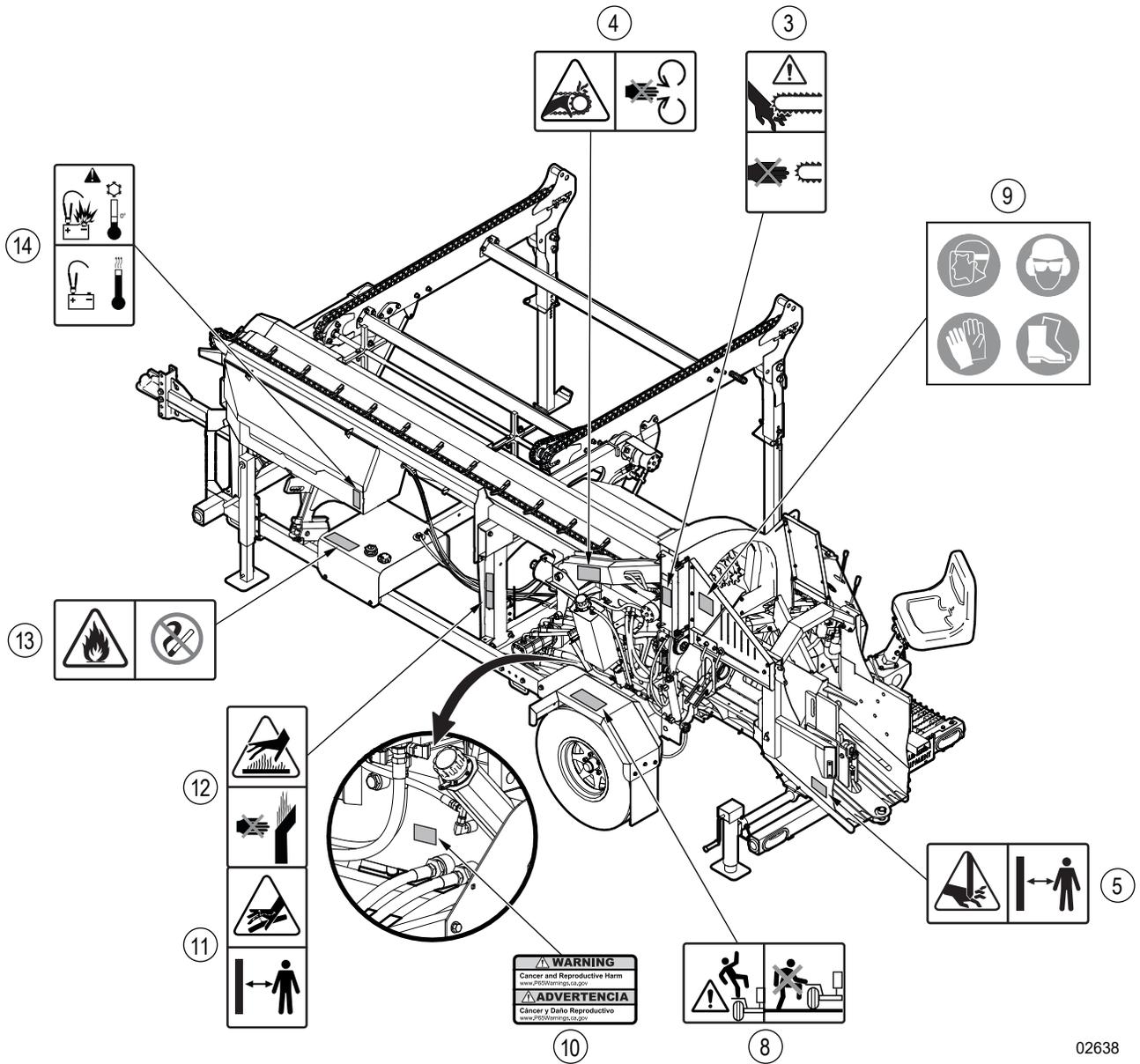


Fig. 3– Safety Label Locations - Front and Right Side



02638

Fig. 4 – Safety Label Locations - Rear and Left Side

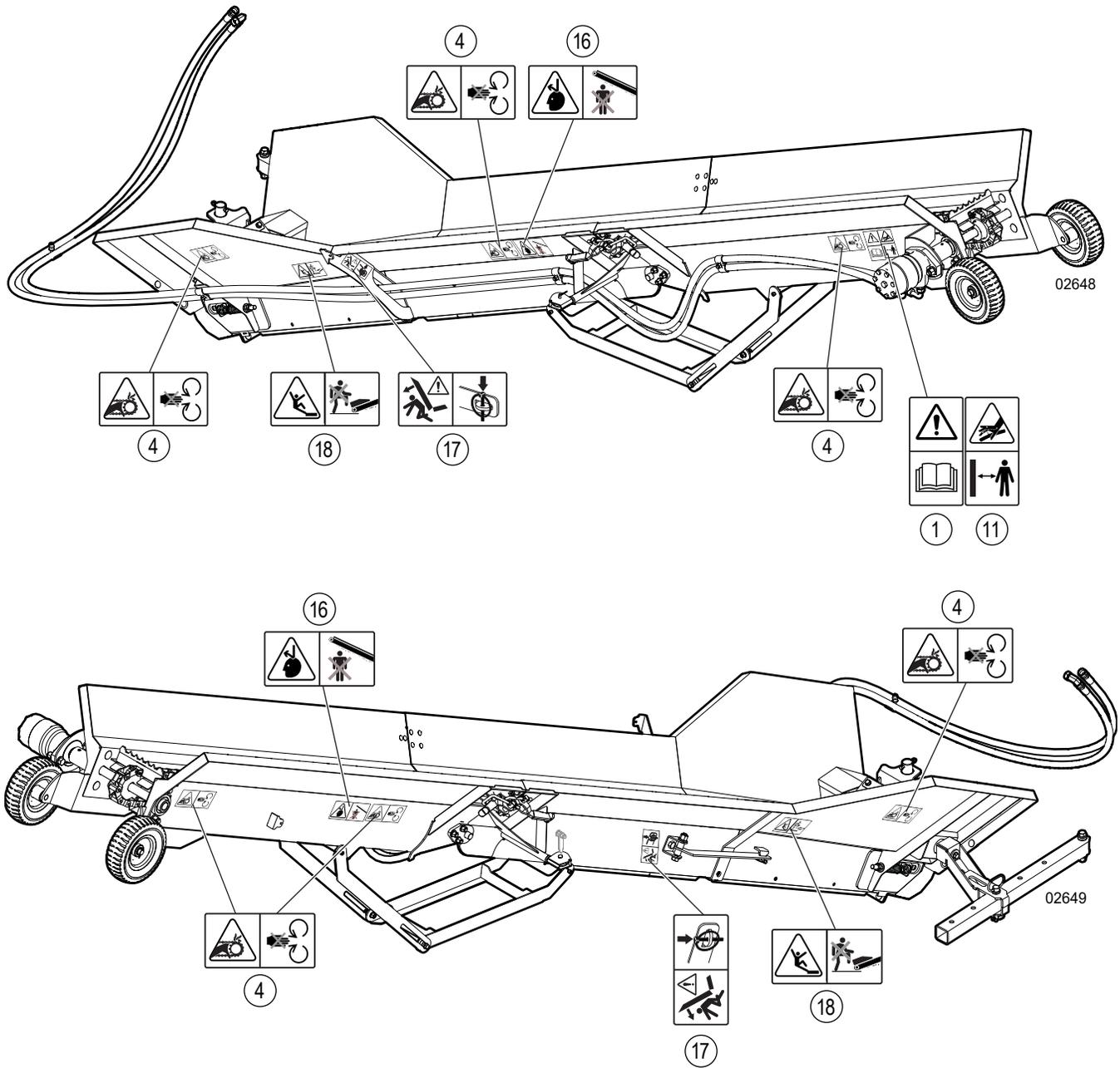


Fig. 6– 12 ft Conveyor Safety Label Locations

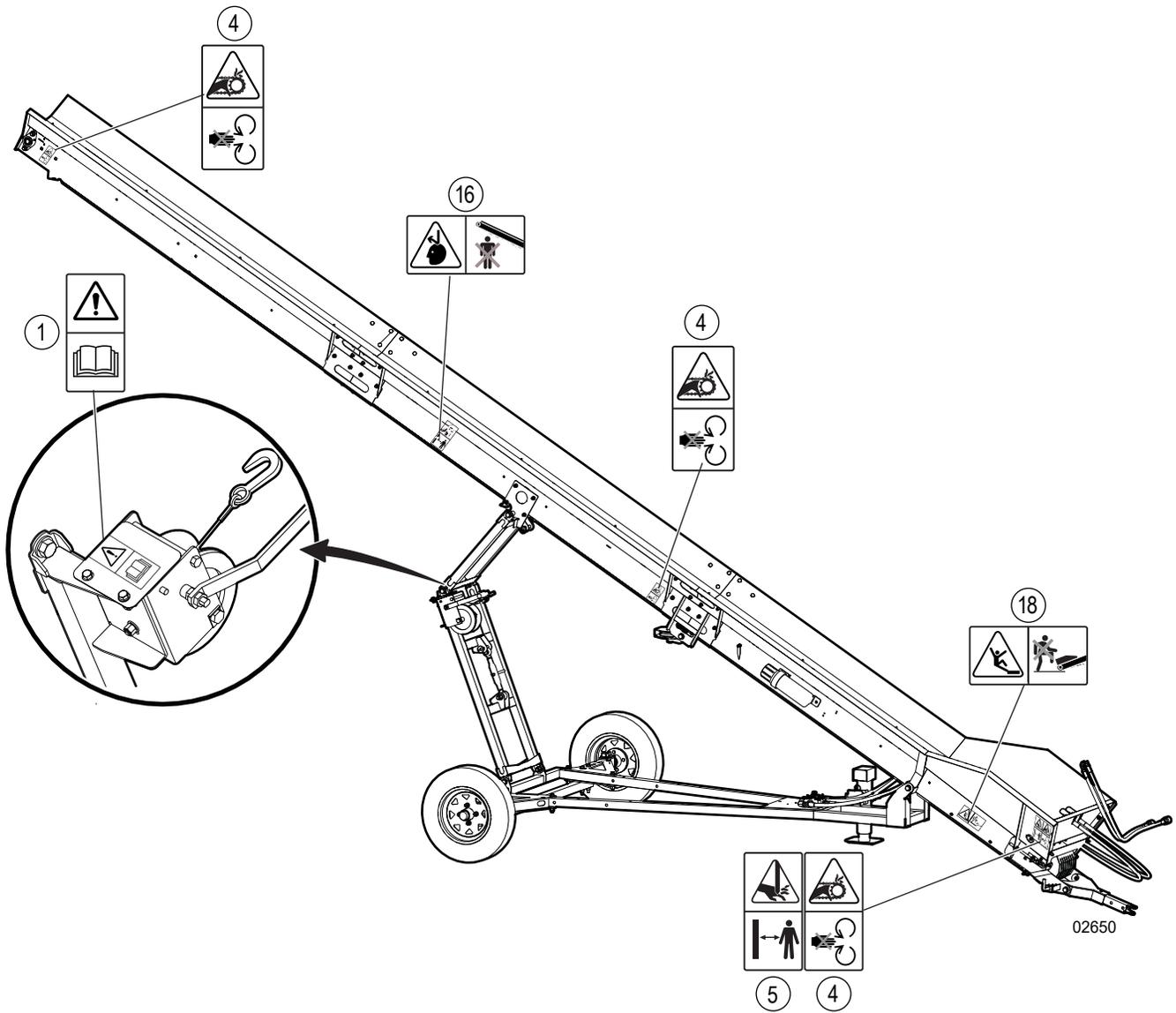


Fig. 7 – 24 ft Conveyor Safety Label Locations - Right Side

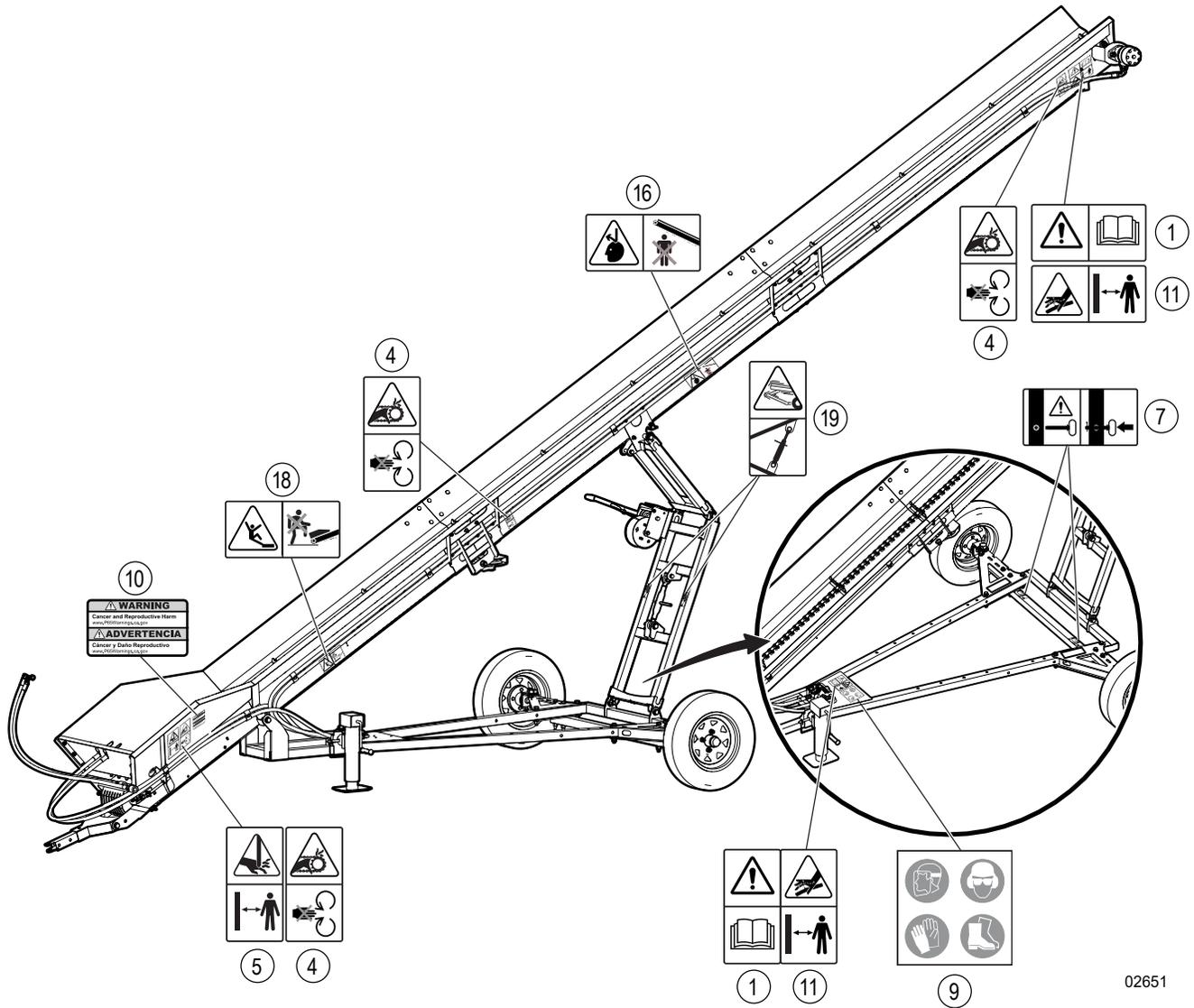


Fig. 8– 24 ft Conveyor Safety Label Locations - Left Side

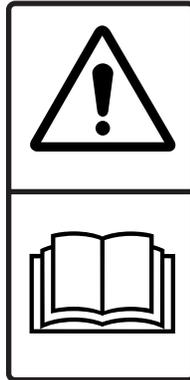
02651

3.3 Safety Label Explanations

1. Caution!

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

The best safety feature is an informed operator.



2. Warning!

Risk of wood chips or pieces flying out of this area causing personal injury.

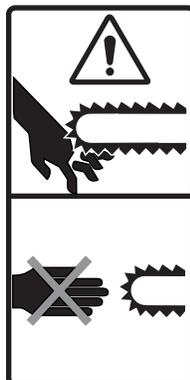
Stay behind protective screen.



3. Warning!

Risk of serious personal injury resulting from contact with chain saw.

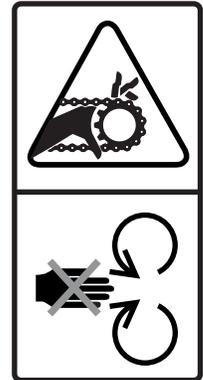
Keeps hands clear!



4. Warning!

Risk of hands being pinched or caught in drive chain resulting in serious injury.

Keeps hands clear of this area.



5. Warning!

Risk of hands being crushed in this area.

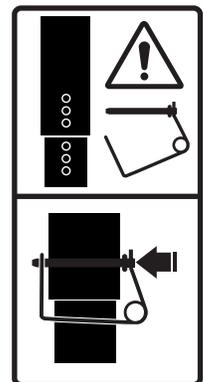
Keep hands clear of all moving parts.



6. Warning!

Risk of machine moving unexpectedly when support leg pin is removed. Personal injury could result.

Install pin and secure with safety latch.



7. Warning!

Risk of machine moving unexpectedly when support leg pin is removed. Personal injury could result.

Install pin and secure with pin keeper.



8. Warning!

Risk of falling off machine causing personal injury.

Do not step or stand on this surface. Use provided steps and hand holds.



9. Safety Notice

Always wear appropriate Personal Protective Equipment when using this machine. For example:

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



10. Warning!

Risk of cancer or reproductive harm.



The machine materials contain chemicals or machine operation may produce gases or dust that are identified by the state of California as causes of cancer, birth defects, or other reproductive harm.

This warning is required by the state of California, USA to comply with Proposition 65: the Safe Drinking Water and Toxic Enforcement Act of 1986.

11. Warning!

Risk of high-pressure hydraulic fluid piercing exposed skin.

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



12. Warning!

Risk of burns to exposed skin from hot surfaces.

Stay clear of hot exhaust system.



13. Warning!

Risk of explosion.

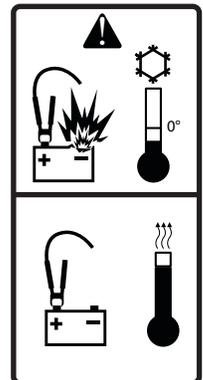
Do not add fuel to the tank while you are smoking or when the tank is near an open flame or sparks. An explosion can cause serious injury or death.



14. Warning!

Charging a frozen battery can cause it to explode.

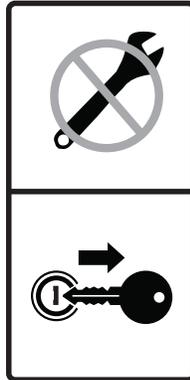
Warm the battery to 60 °F (16 °C) before charging.



15. Warning!

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

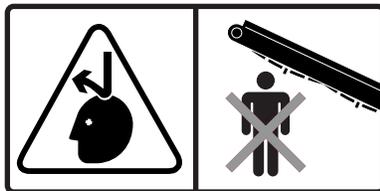
Shut off the engine and remove the key.



16. Warning!

Risk of injury from falling off equipment.

Do not climb or step on conveyor.



17. Warning!

Risk of injury from falling equipment.

Install latch during transport.



18. Warning!

Risk of injury from falling off equipment.

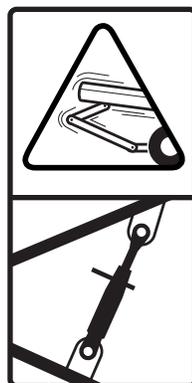
Do not climb or step on conveyor.



19. Caution!

Risk of conveyor frame moving or bouncing unexpectedly during operation or when transporting. Personal injury could result.

Install topline to lock top and bottom folding frames together.



4. Familiarization

The Wallenstein WP1624 Firewood processor is designed to process cut logs into split firewood. Logs are loaded onto the live deck and moved onto a conveyor where they are fed into the saw. The saw cuts the logs to length and the wood blocks fall into the splitting cradle. The split wood is moved away from the machine on a conveyor (if equipped).

Power to drive the machine is provided through the gas engine and hydraulic pump.

4.1 New Operator or Owner

It is the responsibility of the owner or operator to read this manual and to train all other operators before they start working with the machine. Follow all safety instructions. Untrained operators are not qualified to use the machine.

Many features incorporated into this machine are the result of suggestions made by Wallenstein customers. Read this manual carefully to learn how to use the firewood processor safely. Following the instructions in this manual along with a good maintenance program can provide many years of trouble-free service.

IMPORTANT! Make sure all operators understand how to put the machine in a safe service position before servicing or repairing. See page 10.

4.2 Job Site Familiarization

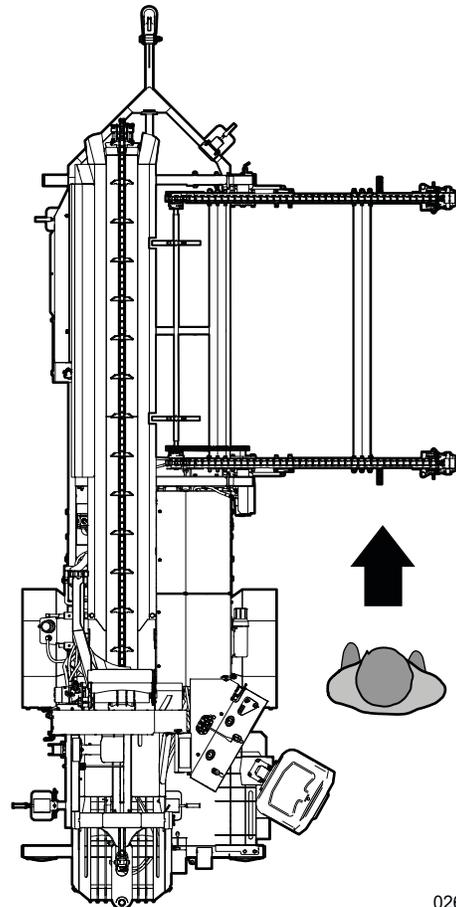
It is the responsibility of the operator to be thoroughly familiar with the work site prior to starting. Prevent the chance or possibility of problems or accidents by avoiding unsafe situations.

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

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

4.3 Operator Orientation

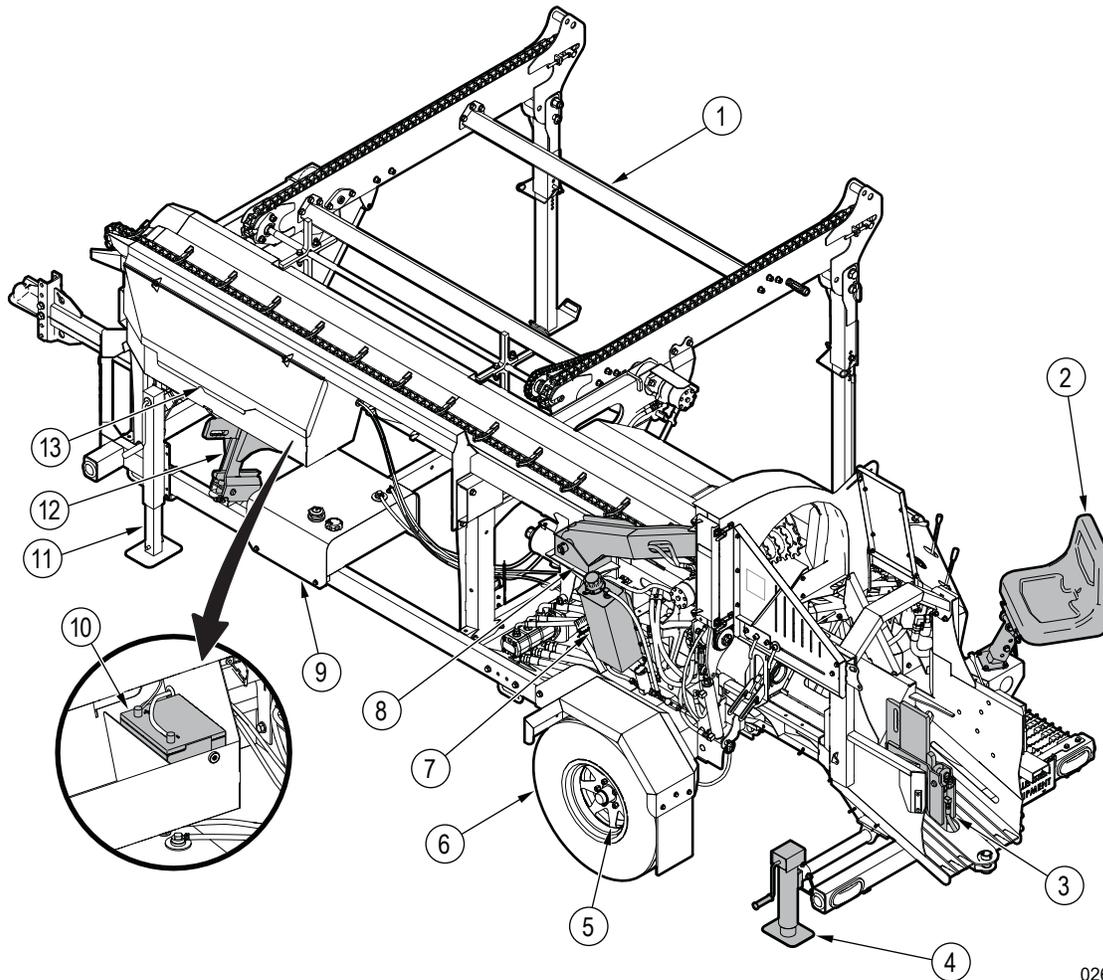
IMPORTANT! When describing controls throughout this manual, the directions for left hand, right hand, backward and forward are determined when standing at the operator controls facing the direction of forward machine travel.



02640

Fig. 9 – Direction of forward machine travel

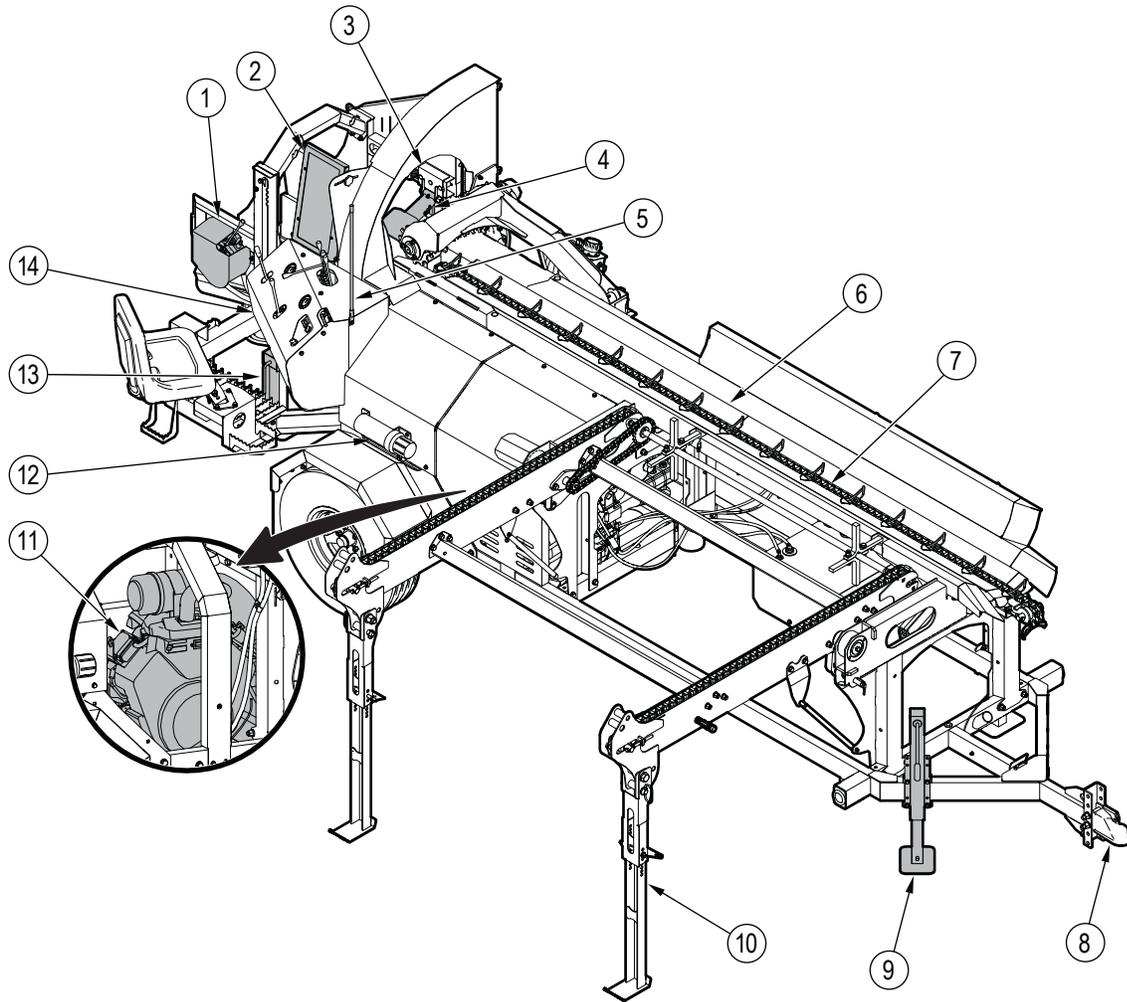
4.4 Machine Components



02641

Fig. 15—Machine Components - Rear Left Side

- | | |
|--------------------------------|---------------------------------------|
| 1. Live deck | 8. Top roller assembly |
| 2. Operator seat | 9. Fuel tank |
| 3. Wedge assembly | 10. Battery |
| 4. Hand jack (rear left side) | 11. Hand jack (front) |
| 5. Axle with electric brakes | 12. Wedge assembly (storage location) |
| 6. Tire (1 of 2) | 13. Toolbox |
| 7. Chain saw bar-oil reservoir | |



02642

Fig. 16– Machine Components - Front Right Side

- | | |
|-------------------------------------|---------------------------------|
| 1. 12 ft conveyor hydraulic control | 8. Trailer hitch |
| 2. Chain saw shield | 9. Trailer jack |
| 3. Log-stop guide | 10. Live deck support (1 of 2) |
| 4. Block dropper | 11. Engine |
| 5. Safety whip | 12. Document tube |
| 6. Infeed conveyor | 13. Hand jack (rear right side) |
| 7. Infeed-conveyor chain | 14. Operator control panel |

4.5 12 ft Conveyor Components

This section only applies to a WP1624-12.

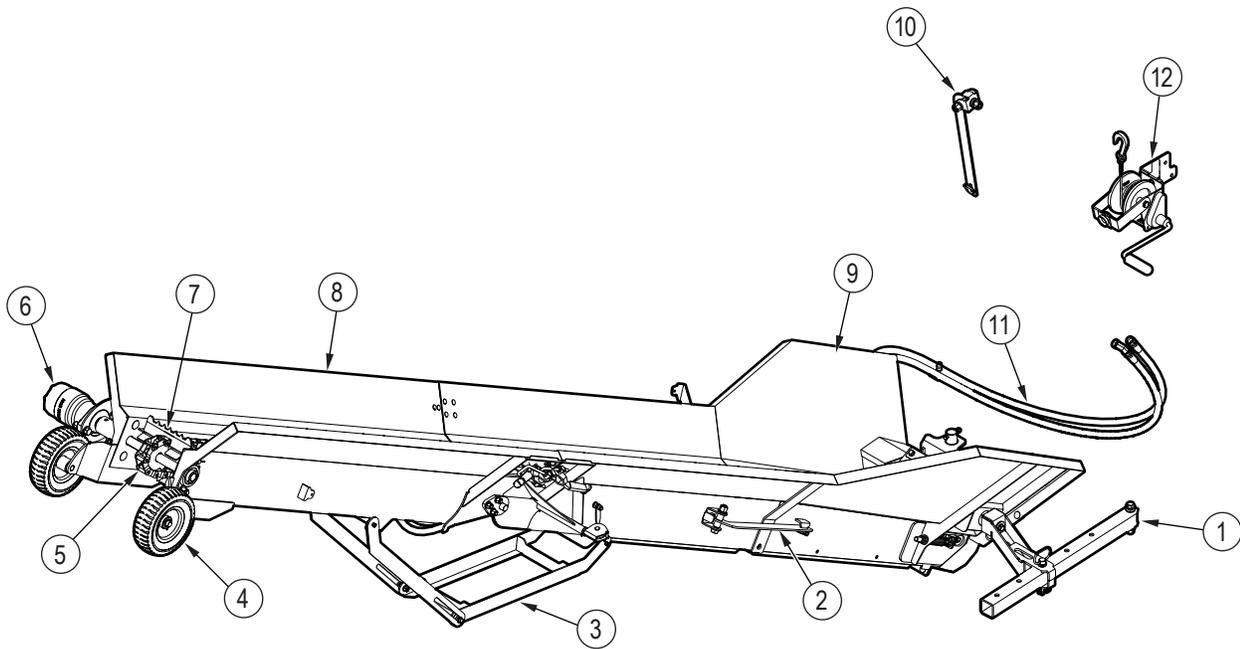


Fig. 17 – 12 ft Conveyor Components

- | | | |
|-------------------|------------------------|---------------------------------|
| 1. Conveyor pivot | 5. Conveyor chain | 9. Conveyor hopper |
| 2. Chute lock arm | 6. Hydraulic motor | 10. Chute lock arm (to machine) |
| 3. Folding frame | 7. Conveyor chain link | 11. Hydraulic hoses |
| 4. Wheels | 8. Conveyor trough | 12. Hand winch |

4.6 24 ft Conveyor Components

This section only applies to a WP1624-24.

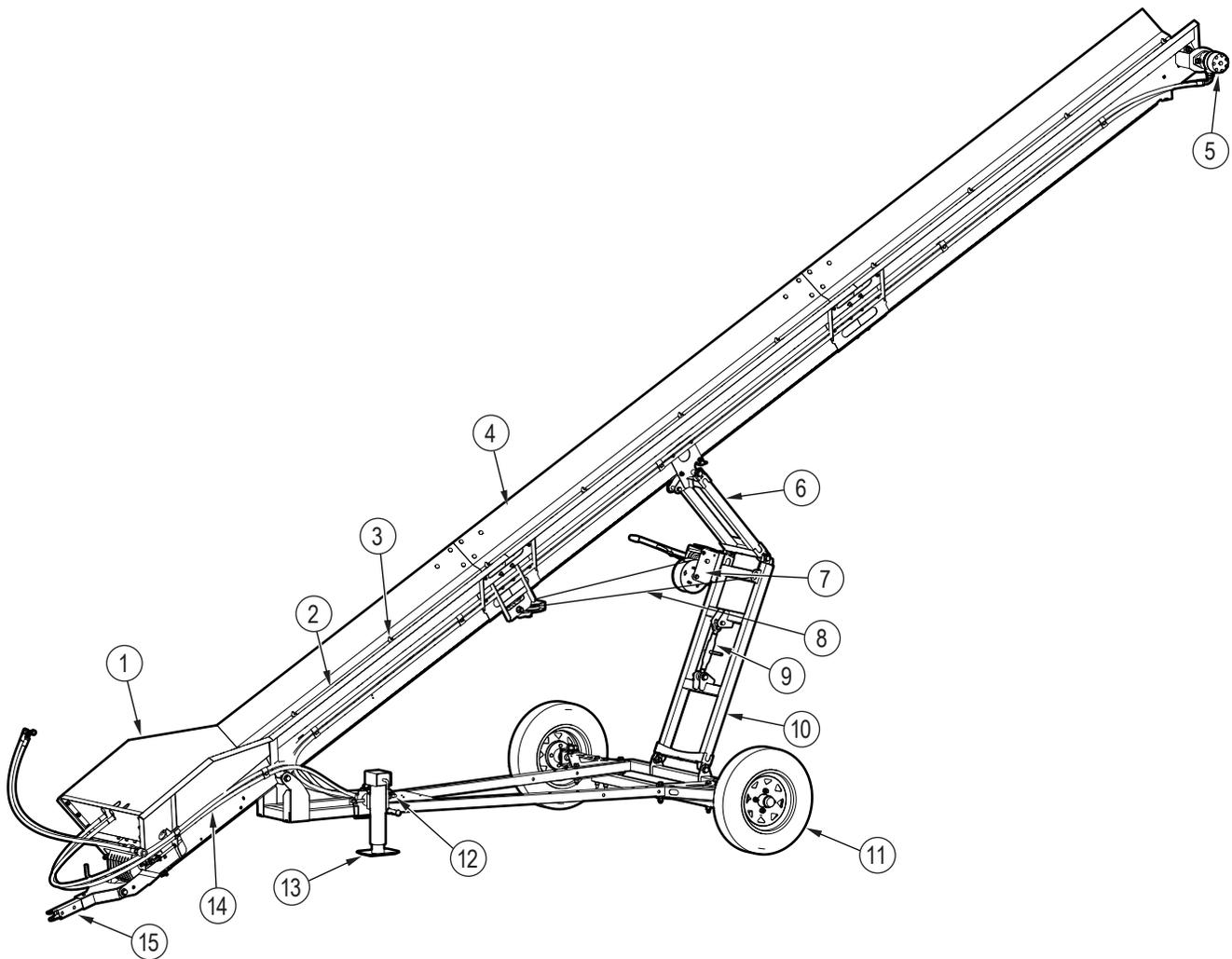


Fig. 18—24 ft Conveyor Components

- | | | |
|--------------------|-------------------------|------------------------|
| 1. Conveyor hopper | 6. Upper folding frame | 11. Wheels |
| 2. Conveyor chain | 7. Hand winch | 12. Flow control valve |
| 3. Chain cleats | 8. Winch cable | 13. Hand jack |
| 4. Conveyor trough | 9. Toplink | 14. Hydraulic hoses |
| 5. Hydraulic motor | 10. Lower folding frame | 15. Hitch |

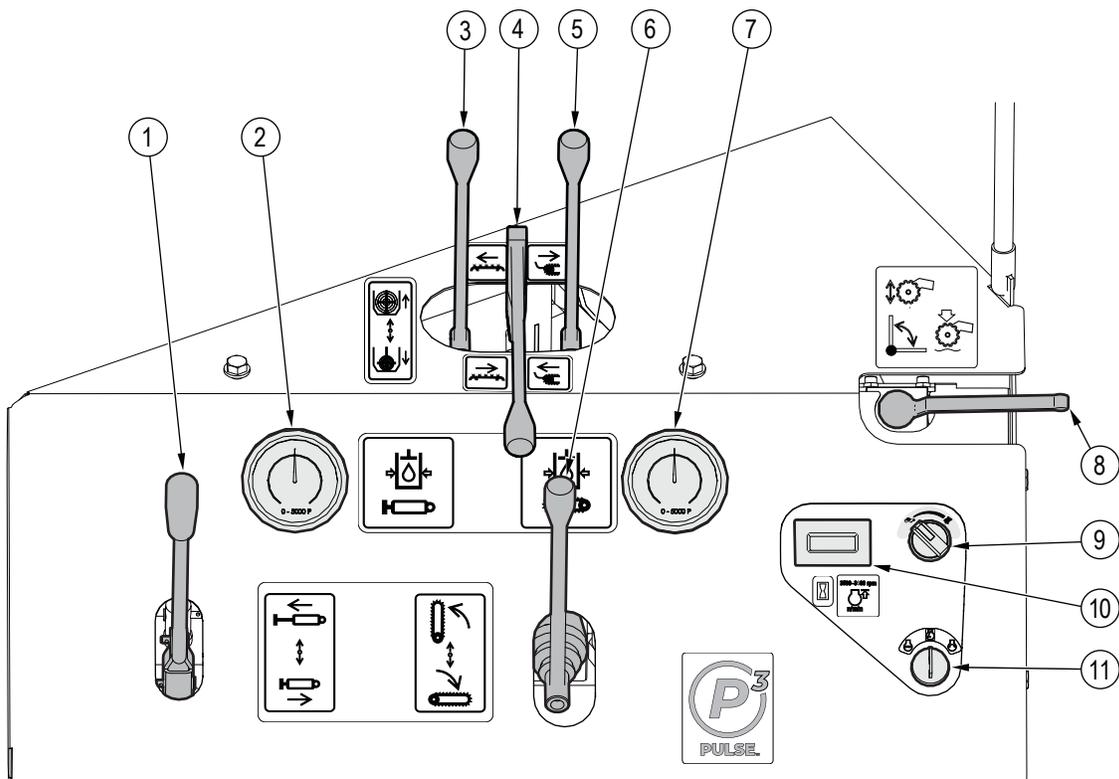
5. Controls

! 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

5.1 Operator Panel Controls

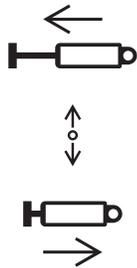


02624

Fig. 19—Hydraulic Controls

- | | |
|--|--|
| 1. Splitter Control Lever | 7. Chain-Saw Circuit Hydraulic Pressure Gauge |
| 2. Splitter Circuit Hydraulic Pressure Gauge | 8. Top Roller Clamp Handle |
| 3. Saw Control Lever | 9. Throttle Control Switch |
| 4. Wedge Height Control Lever | 10. Tachometer or Hour Meter, and Check Engine Light |
| 5. Infeed Conveyor Control Lever | 11. Engine Ignition Switch |
| 6. Live Deck Control Lever | |

5.1.1 Splitter Control Lever



This lever controls the splitter.

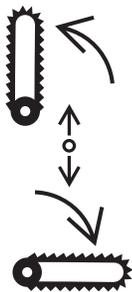
- Push the lever forward away from the operator to extend the splitter cylinder. Pull it back to retract.
- Pull the lever back fully to the detent to auto-retract. The lever kicks out to the neutral when the cylinder is fully retracted.

5.1.2 Splitter Circuit Hydraulic Pressure Gauge



This gauge indicates the splitter cylinder circuit operating pressure.

5.1.3 Saw Control Lever



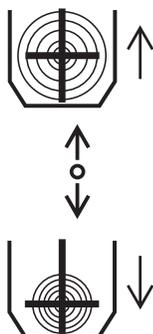
This lever controls the saw to cut logs.

- Push the lever forward away from the operator to raise/stop the saw.
- Pull the lever back to lower the saw and cut the log.

The Top Roller Clamp clamps down on the log to hold it as the cut is made.

Saw performance is maximized with P3 PULSE integrated electronic controller.

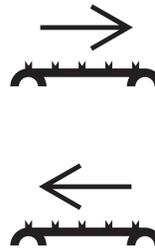
5.1.4 Wedge Height Control Lever



This lever controls the Splitting Wedge height. Adjust up or down to suit log size.

- Push the lever forward away from the operator to raise the wedge for larger logs.
- Pull the lever back to lower the wedge for smaller logs. The wedge can be used as a two-way splitter for very small logs.

5.1.5 Infeed Conveyor Control Lever



This lever controls the log infeed conveyor chain.

- Push the lever upward to reverse logs out.
- Push the lever down to advance logs into the saw.

5.1.6 Live Deck Control Lever



This lever controls the live deck that moves logs onto the infeed conveyor.

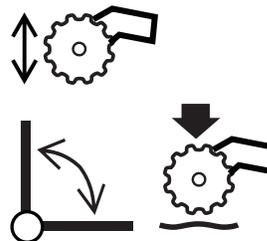
- Push the lever forward to feed logs onto the infeed conveyor.
- Pull the lever back to reverse the live deck.

5.1.7 Chain Saw Circuit Hydraulic Pressure Gauge



This gauge indicates the saw circuit operating pressure.

5.1.8 Top Roller Clamp Handle



This valve lever clamps / unclamps the Top Roller. The Top Roller can hold a log down and follow its contour as it is cut, then move up out of the way when starting the next log.

In the **Clamped** position, the roller maintains down force on the log as the saw is raised and lowered with each cut. The roller arm follows the contour of the log as it is moved forward on the Infeed Conveyor.

In the **Unclamped** position, the Top Roller raises up fully out of the way when the saw is raised (for example before starting on a larger diameter log). When the saw is lowered the arm lowers the roller down on the log.

- Pull the lever horizontal to clamp down on the log. Push the lever up vertical to unclamp.

5.1.9 Tachometer or 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.

5.1.10 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.

5.1.11 Throttle Control Switch

The throttle controls the engine speed. An operator can set the engine to the minimum speed (**Slow**) or the maximum speed (**Fast**).



Slow
Engine speed is slow.



Fast
Engine speed is fast.

5.1.12 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 safe location to prevent an unauthorized person from starting the engine.

W113

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

IMPORTANT! Use the ignition switch to stop the machine, except in an emergency. When the ignition switch is in the RUN position and the engine is stopped, it can damage the battery.

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.

5.2 Hydraulic-Fluid Filter Gauge

The hydraulic-fluid filter gauge shows the pressure of the hydraulic fluid when it enters the hydraulic-fluid filter. If the hydraulic fluid pressure is in the red area on the gauge, change the hydraulic-fluid filter.

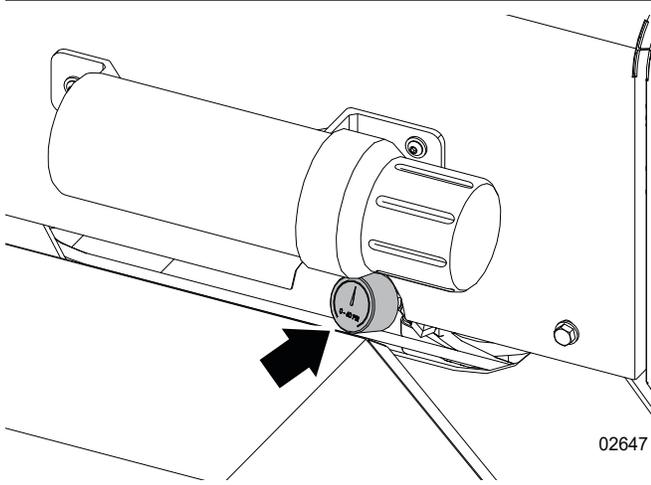


Fig. 10—Hydraulic-Fluid Filter Gauge

5.3 Operator Platform and Seat

IMPORTANT! Before you transport the firewood processor on a roadway or when the seat is not in use, pull the snap-lock pin, tilt the operator seat toward the machine, and then insert the snap-lock pin to keep the seat in position.

The operator seat can be adjusted.

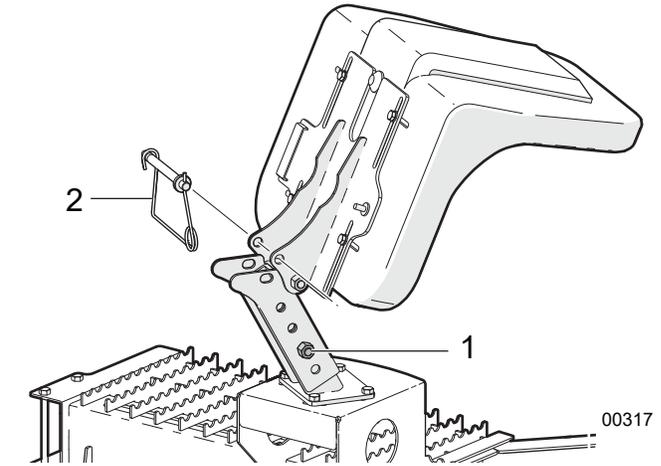
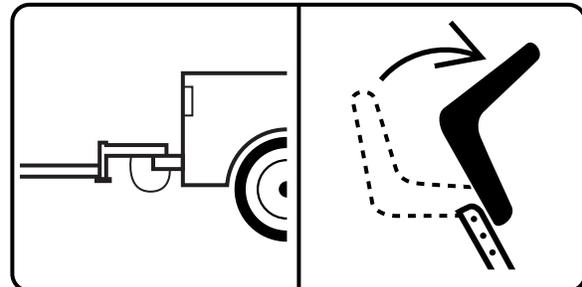


Fig. 11—Operator's Seat

1. Height Adjuster Bolt
2. Snap Lock Pin



Adjust the Seat Height

1. Remove the height-adjustment bolt.
2. Move the seat to the desired height.
3. Insert the height-adjustment bolt.

5.4 Conveyor Controls

This section describes the controls for conveyors that are optional equipment. An integrated 12 ft (3.6 m) is pinned to the rear of the machine. A self-contained hydraulic 24 ft (7.3 m) conveyor stands separately from the machine.

Conveyor controls are located on the machine and connected through the hydraulics system. To change the conveyor angle, pull the snap lock pin and push the conveyor to one side or the other.

5.4.1 Conveyor Hydraulic Control Valve

- **Forward-** Pull the lever away from the machine (into detent) to move the conveyor chain forward. The lever stays in this position until an operator moves it.
- **Backward-** Push the lever toward the machine and hold to move the conveyor chain backward. This may be repeated in intervals.

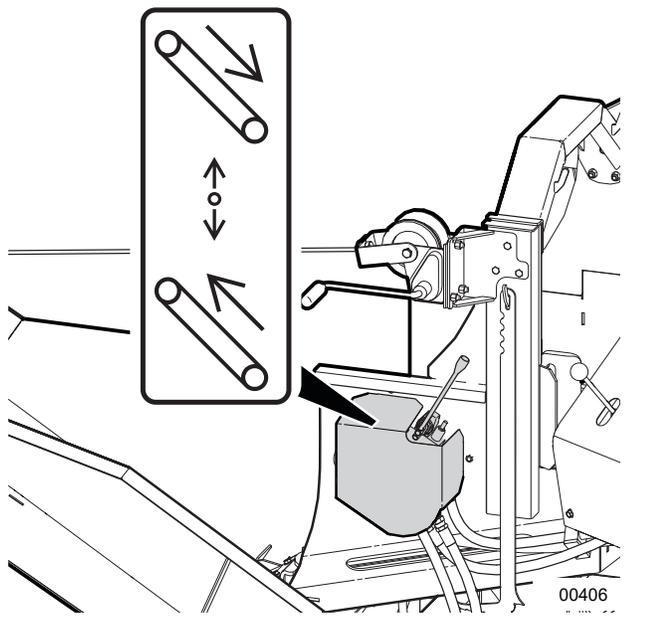


Fig. 12—Conveyor Control Lever

5.4.2 Conveyor Winch Handle

- **Raise-** Turn the hand winch clockwise to raise the conveyor.
- **Lower-** Turn the hand winch counterclockwise to lower the conveyor.

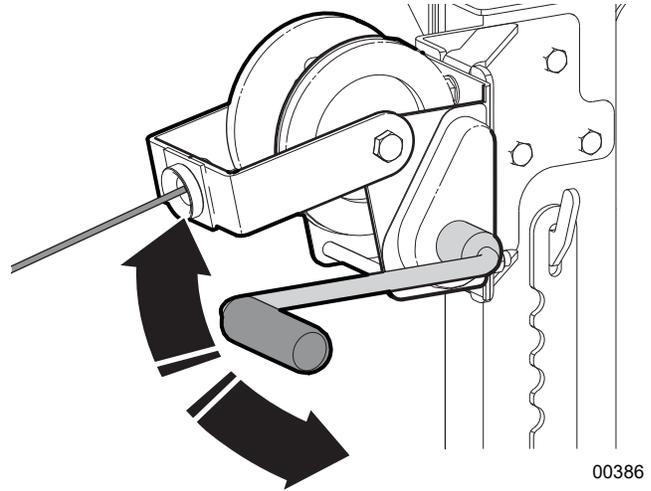


Fig. 13—Conveyor Hand Winch

5.4.3 Conveyor Angle Guide

Callout	Colour	Description
1	Green	The working angle is safe.
2	Yellow	The working angle is becoming unsafe.
3	Red	The working angle is unsafe.
4	White	The conveyor is in the travel position.

5.4.4 12 ft Conveyor Pivot

The 12 ft conveyor can pivot up to 50 degrees on both sides of the machine.

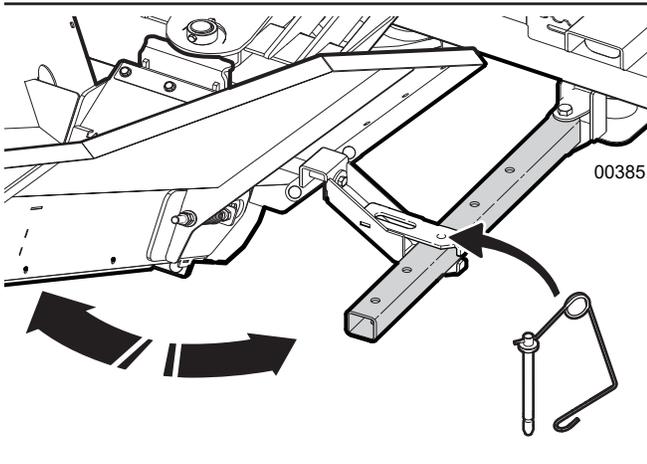
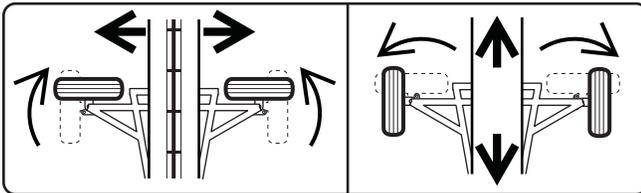


Fig. 14—Adjust the Conveyor Angle

5.4.5 24 ft Conveyor Wheel Adjustment

The 24 ft conveyor wheels can be adjusted to move the conveyor sideways. For instructions, see page

- **Perpendicular**- Rotate the wheels to a perpendicular position to move the conveyor to the side.
- **Parallel**- Rotate the wheels to a parallel position to move the conveyor forwards or backwards.



6. Machine Setup

6.1 Position the Machine at the Site

WARNING!

Always use the machine outdoors and park the machine in a position where the prevailing winds blow the engine exhaust away from the operator. Exhaust from the engine contains carbon monoxide (CO) that can accumulate to a dangerous level, even in an area with good air flow.

W006

Select a work site outside or in a well-ventilated area. Make sure the ground is firm and level.

IMPORTANT! Always park the firewood processor at the work site on solid, level ground. Use the jack legs to take weight off tires and keep machine stable.

- Park the firewood processor so log loading equipment has easy access to the live deck, and split wood can be carried from the conveyor.
- Plan for the cleanup and removal of wood chips and sawdust.

WARNING!

Never use the Trailer Breakaway Switch as a parking brake. The switch is there to safely stop the trailer in the event it becomes accidentally disconnected from the tow vehicle.

Using it as a parking brake when un-hooked drains the machine's battery and would then cause it to be ineffective in an emergency. Once the battery charge depletes, the brakes release and the trailer could move unexpectedly.

W042

- Use the bubble level on the front of the trailer frame as a guide to park the machine in a level area.

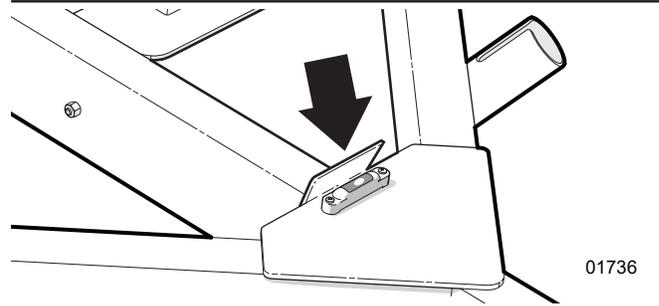


Fig. 20 – Bubble Level on Frame

Procedure

1. Block the wheels so the machine cannot roll.
2. Crank the front jack to raise the hitch coupler and unhook the tow vehicle from the firewood processor.

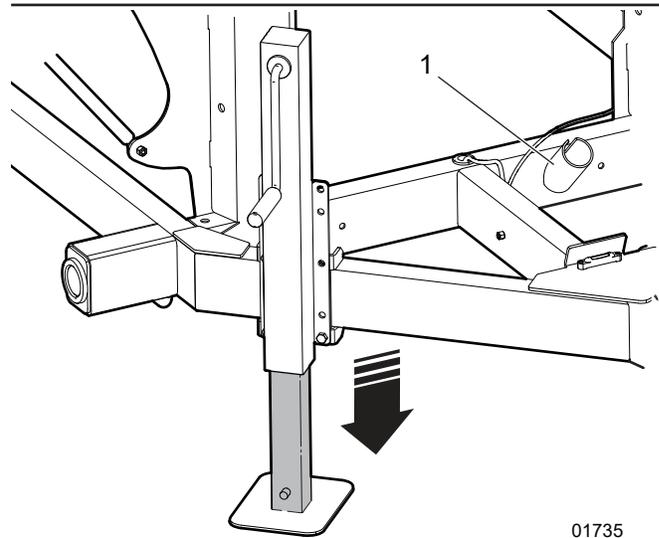
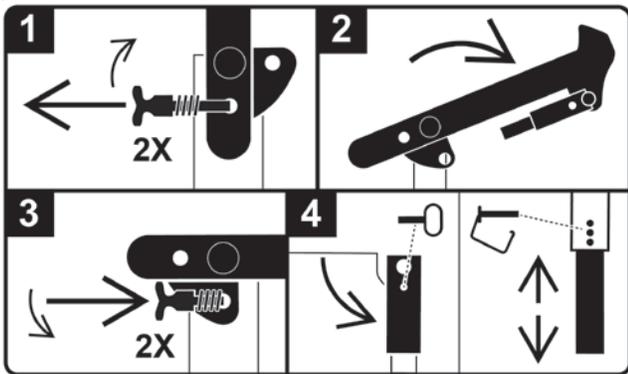


Fig. 21 – Trailer jack

1. Trailer Electrical Harness Plug Storage
3. Disconnect safety chains, breakaway device cable, and wire harness. Place the harness plug end in the storage socket.
4. Move the tow vehicle out of the way.
5. Crank all jacks until all jack feet are firmly into the ground so the weight of the machine is off the tires.
6. Adjust jacks at the front and back to level the firewood processor.

6.2 Lower the Live Deck



IMPORTANT! Live Deck Support Legs must be pinned in place under the deck during operation. Place blocking under legs if required to keep deck level and on a solid footing.

Live deck folding force is less than 50 lb (23 kg).

Procedure

1. Pull and lock out pins on both sides of the live deck.

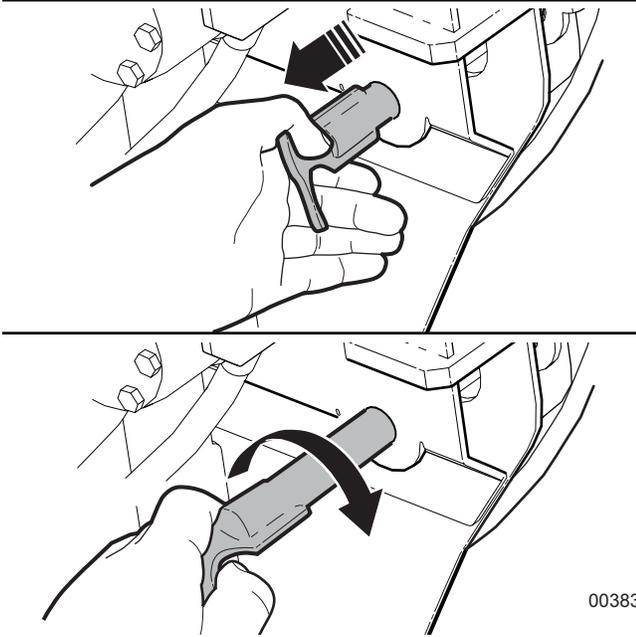


Fig. 22—Live Deck Locking Pins

2. Pull the live deck down using the handles on the sides.

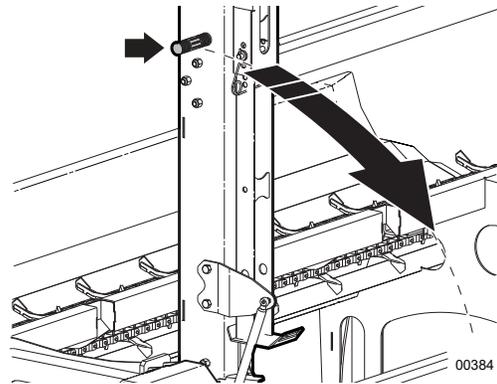


Fig. 23—Live Deck Handles

3. Pull, turn and reinsert the deck pins to lock it in position.

IMPORTANT! The live deck locking pins must be pinned in place to prevent the live deck from moving during operation.

Support Legs

4. Remove the hitch pins and swing both support legs under the live deck. Reinsert the hitch pins.

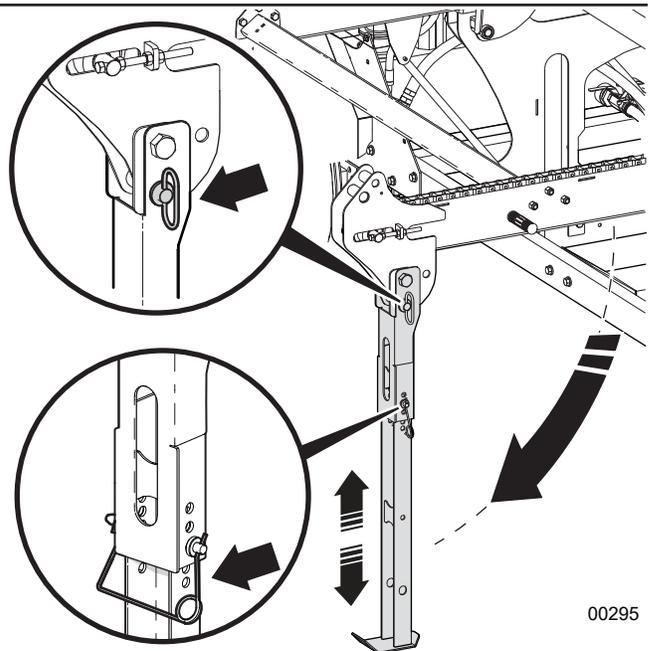


Fig. 24—Live Deck Support Legs

5. Remove the snap lock pins and adjust leg height so the deck is properly supported. Try to get the deck as level as possible. Reinsert the pin.

6.3 Block Dropper

- The block dropper is mounted on the back of the splitting cradle. When the saw cuts the end of the log off, the block dropper helps it fall squarely into the cradle, preventing jams.

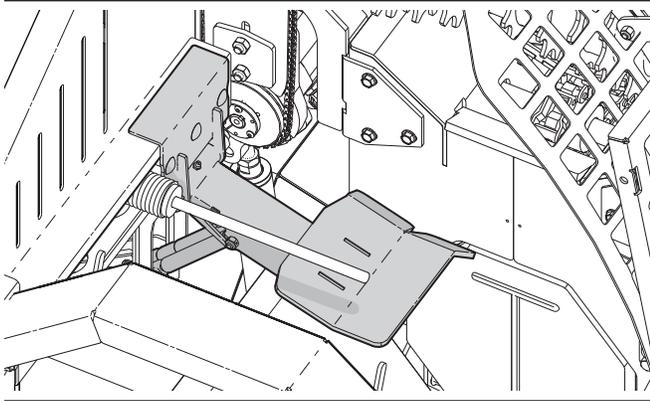
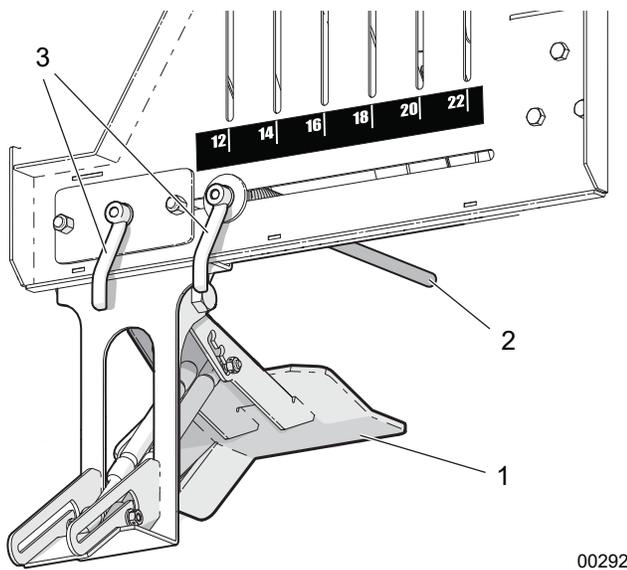


Fig. 25—Block Dropper

- The block dropper (1) works in conjunction with the Log Stop guide (2).



00292

Fig. 26—Block Dropper and Log Stop Guide

- Block dropper
- Log stop guide
- Lock Handles

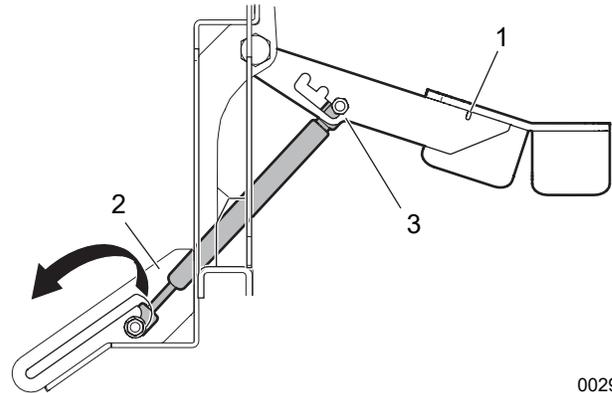
6.3.1 Adjust the Block Dropper

Set the block dropper for typical log size. The gas struts can be adjusted together or independent of each other.

If the log does not fall squarely into the splitting cradle, adjust as required:

- First try setting one strut as active. Lift the block dropper paddle (1) and slide the end of one strut down the slot (2) so it is inactive. No tools are required to do this.
- If one support is not adequate, try setting both struts as active.
- If further adjustment is required, use tools to adjust strut at position (3).

If the block dropper is not required altogether, retract it out of the way. Lift and slide both base ends of the gas struts down the slot (2).



00293

Fig. 27—Block Dropper Adjustment

- Block Dropper Arm
- Base Support
- Block Weight Adjustment Positions



Gas struts can be adjusted or moved independent of each other to match block weight.

6.4 Log-Stop Guide

Position the log-stop guide for desired firewood length and consistent saw cuts.

- Turn the lock handle counterclockwise to loosen the guide. Move it into position, then turn the handle back clockwise to tighten it.

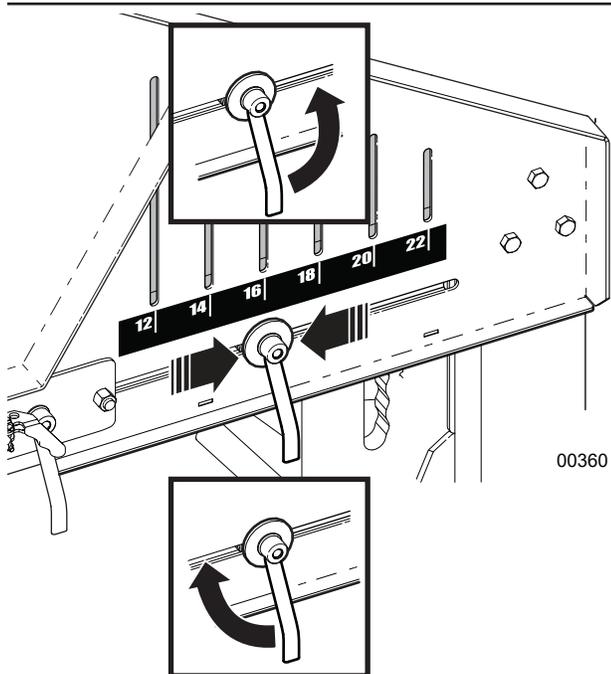


Fig. 28—Log-Stop Guide Lock Handle

- The spring-loaded indicator can be locked at any desired position along the slide. For reference, follow the label on the back of the splitting cradle, or use the vertical slotted holes in the back plate. Each hole is 2 inches (5 cm) apart.
- Advance the log up to the stop for each cut.

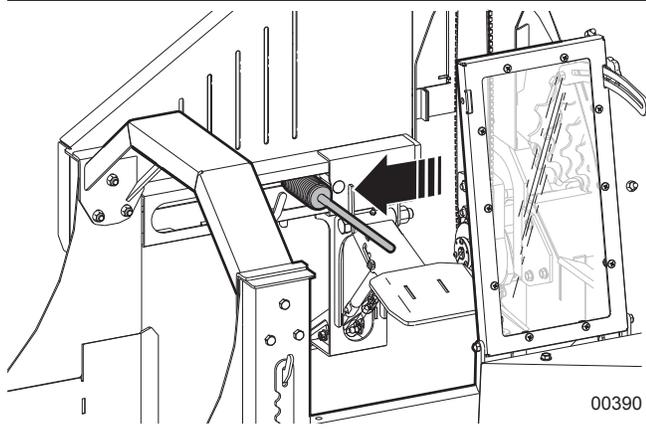


Fig. 29—Log-Stop Guide

6.5 Chain Saw Shield

- Adjust the position of the chain saw shield as required.
- Replace the impact-resistant glazing if any scratches or other damage cause glare from the sun or obstruct the operator's view.

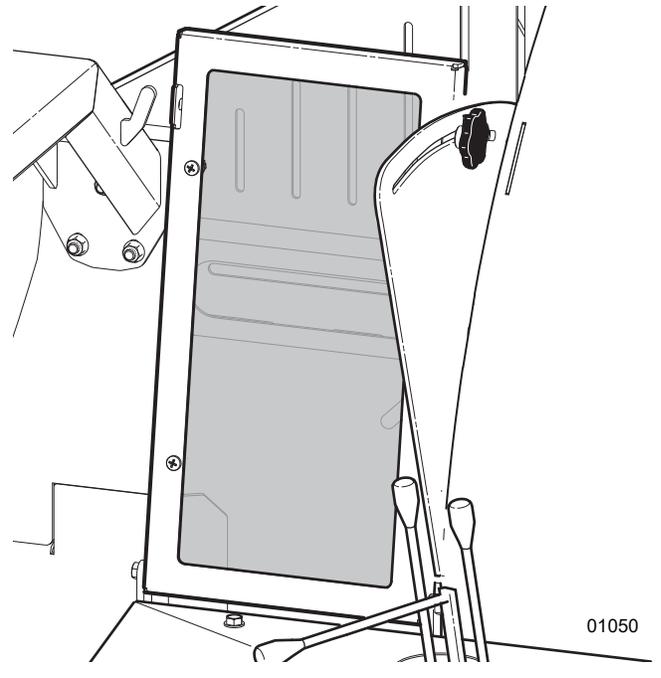


Fig. 30—Chain Saw Shield

7. Conveyor Setup

7.1 Set Up a 12 ft Conveyor

1. Disconnect the conveyor from the chute lock arms.
2. Lower the conveyor using the hand winch.
For instructions, see page 39.
3. Set the conveyor height as required.
For instructions, see page 41.

7.2 Set Up a 24 ft Conveyor

CAUTION!

Park conveyor where wheels are on firm, level ground. Never raise or move conveyor if wheels are on uneven ground.

IMPORTANT! Failure to unlock the hitch can cause damage when the conveyor is raised.

1. Position the conveyor below the machine discharge chute.
2. Block the conveyor wheels.
3. Remove the hitch lock pin from the conveyor hitch.
4. Disconnect the toplinek pin (if connected) and place it in the stored position.

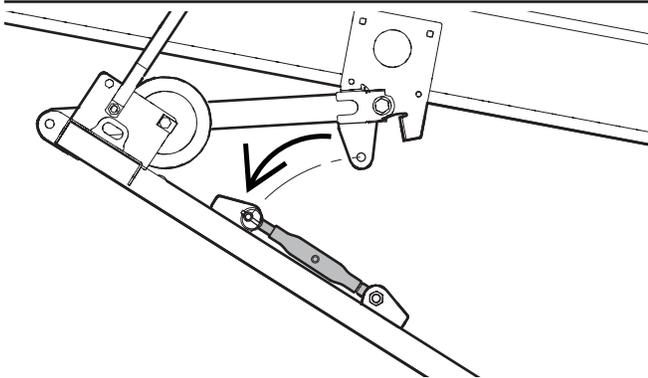
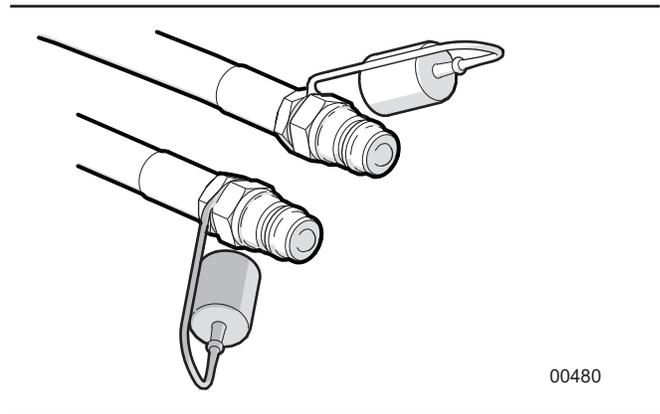


Fig. 31 – Toplink Pin

5. Set the conveyor height as required. For instructions, see page 41.
6. Connect the conveyor hydraulic hoses to the machine. Conveyor pressure and return hoses have 1/2" quick-disconnect fittings with protective caps. The red cap is the pressure hose and the black cap is return hose.



00480

Fig. 32 – Hose Connections

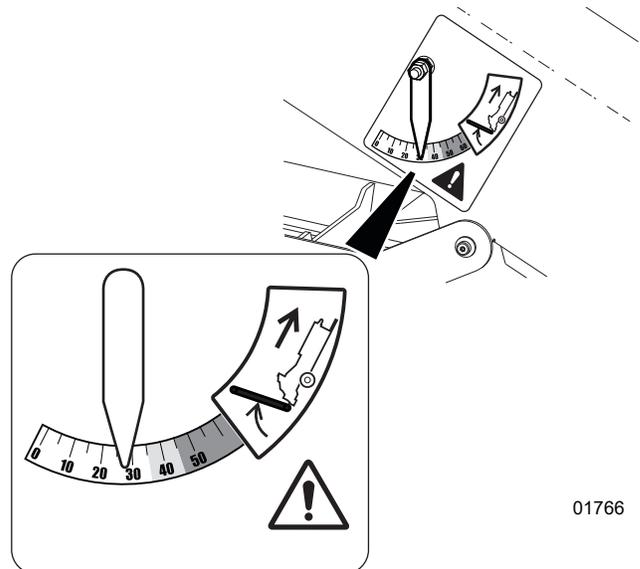
7.3 Set the Conveyor Height

This section applies to a 12 ft or a 24 ft conveyor.

The conveyor height is adjusted using the hand winch on the left-hand side. An internal brake holds the winch at the desired height.

Use the conveyor angle guide to set the conveyor to a safe height. Always keep the indicator in green zone.

For more information, see page 35.



01766

Fig. 33 – Conveyor Angle Indicator

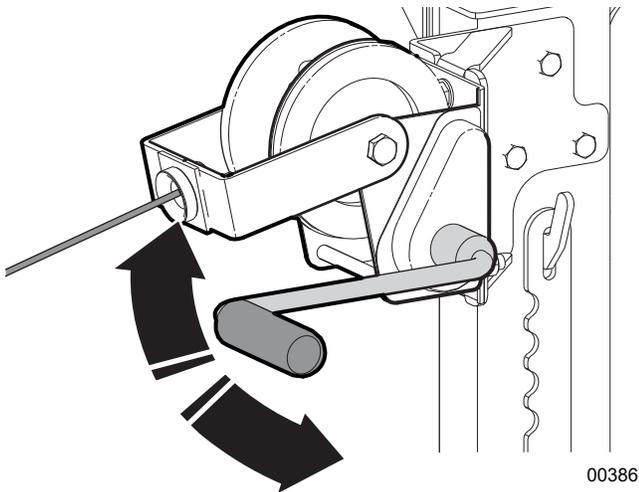


Fig. 34—Conveyor Hand Winch

7.3.1 Raise the Conveyor

Turn hand winch clockwise to raise the conveyor.

7.3.2 Lower the Conveyor

1. Turn the hand winch counterclockwise to lower the conveyor.
2. When the conveyor is at the required height, turn the hand winch clockwise until you hear two clicks. This engages the hand-winch brake.

7.4 Set the Conveyor Angle

This section applies to a 12 ft conveyor only.

1. Remove the snap lock pin.
2. Push the conveyor to the required angle.
3. Insert the snap lock pin to secure the conveyor.

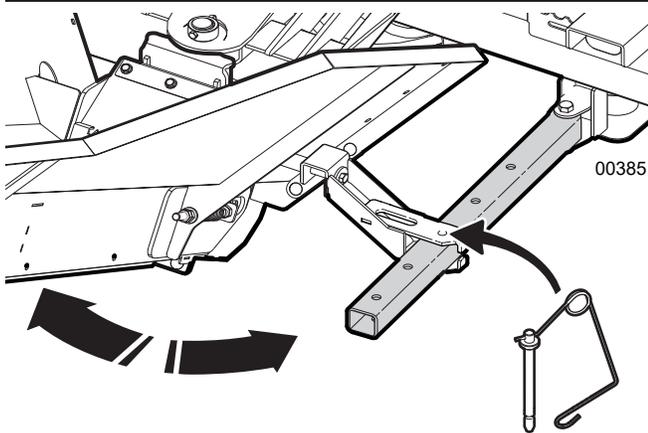


Fig. 35—Set the Conveyor Angle

7.5 Move the Conveyor Sideways

This section applies to a 24 ft conveyor only.

1. Unload the conveyor.
Wait until the machine processes all the firewood.
2. Stop the machine.
For instructions, see page 48.
3. For each wheel, remove the linchpin from the wheel frame, and then pull the pin and rotate the wheel to the perpendicular position.
4. Move the conveyor to the new position.
5. Block the wheels.

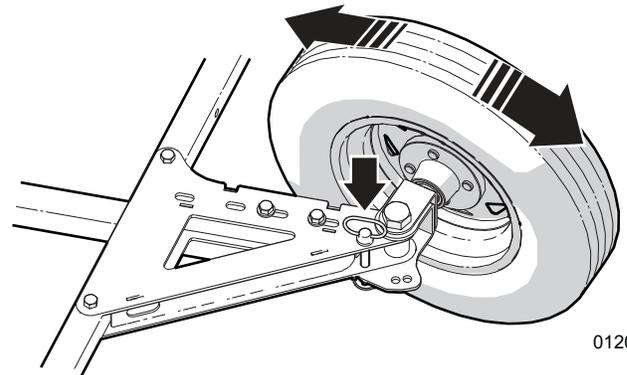
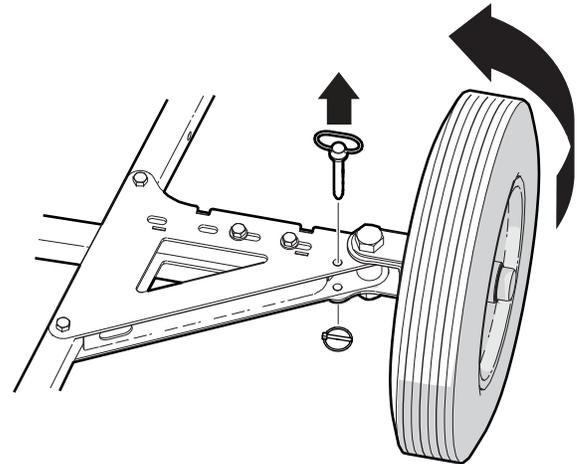


Fig. 36—Rotating the Conveyor Wheels

8. Pre-Start Checklist

Efficient and safe operation of the Wallenstein firewood processor requires understanding operation and safety precautions outlined in this section.

Follow the pre-operation checklist for personal safety and to keep the machine in good mechanical condition.

Before operating the firewood processor, check the following areas:

Area to check	✓
Check and lubricate the machine per the schedule outlined in the Maintenance Section. See page 63.	
Check the wedge and block dropper. Inspect for damaged or broken components and excessive wear. Lubricate, repair, or replace as required.	
Check the saw chain. Look for broken or worn parts. Check the bar guide and chain tightness.	
Inspect the conveyor, infeed conveyor and live deck chains. Tighten chains if necessary. Look for broken or worn parts.	
Check and ensure that all covers, guards and shields are in place, secured and functioning as designed.	
Check and tighten all fasteners. Make sure equipment is working and in good repair.	
Check for hydraulic leaks. Tighten fittings or replace components to stop leaks.	
Make sure there is bar oil in the reservoir.	

8.1 Before Starting the Engine

! WARNING!



Wear the necessary hearing protection when you operate this machine. Prolonged exposure to loud noise can cause permanent hearing loss.

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.

1. Make sure that the machine is set up correctly. See page 37.
2. Check the engine oil level. See page 44.
3. Check the hydraulic fluid level. See page 62.
4. Check the fuel level. See page 44.
5. Check the bar oil level. See page 46.
6. Review the Safety Rules on page 9. Make sure each operator is trained and familiar with the setup and operation of the machine. Review the Controls (see page 31).
7. Clear the area of bystanders.

8.2 Check the Fuel Level

Check the fuel level daily. A gauge on the top of the tank indicates fuel level. The fuel tank is located on the left-hand side of the machine below the tool box. Avoid running the tank dry.

Starting with a full tank helps to eliminate or reduce operating interruptions.

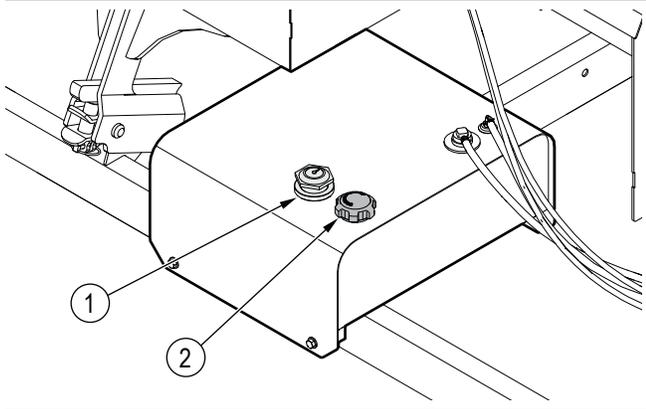


Fig. 37—Fuel Tank

1. Fuel Level Gauge
2. Fuel tank Cap

Fuel tank capacity: **10 US gal (37 L)**.

WARNING!



Do not smoke or vape when you handle fuel. Fuel vapours can explode causing serious injury or death. Keep sparks, flames, or hot components away from fuel.

W027

Refuel in a well-ventilated area with the engine stopped. If the engine has been running, allow it to cool first. Never add fuel to the tank inside a building where gasoline fumes can be exposed to flames or sparks.

For fuel specification, see page *Recommended Fluids and Lubricants* on page 62. Refer to the engine manual for additional information on fuels.

1. Clean the area around fuel tank cap. Fill the tank to 1/2" (12 mm) below bottom of filler neck to provide space for any fuel expansion. **Do not overfill.**
2. Install fuel fill cap securely and wipe up any spilled fuel.



To help prevent running low on bar oil, top up reservoir every time fuel is added.

8.3 Check the Engine Oil Level

IMPORTANT! For more information about engine oil, see the engine manufacturer's manual and *Engine Oil* on page 62.

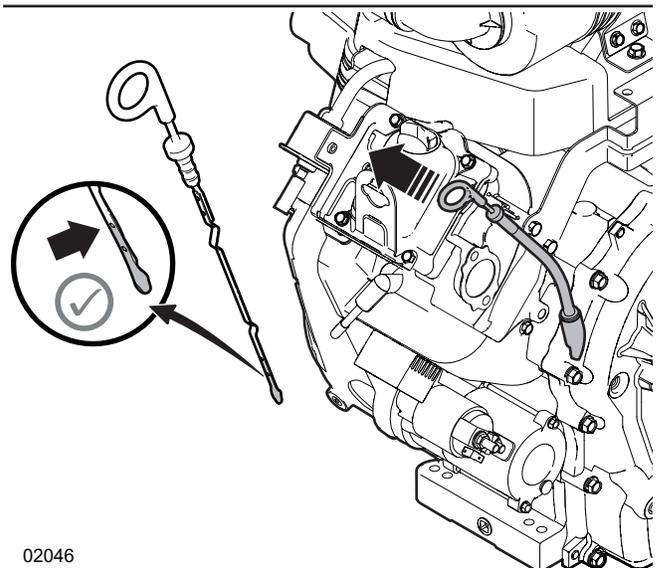
Operating the engine with a low oil level can cause engine damage that is not covered by the warranty.



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 48.
3. Remove the oil-level dipstick and clean it.
4. Fully insert the oil-level dipstick.
5. Remove the oil-level dipstick and check the oil level.
The oil level is correct when the 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* on page 45.
7. Install the oil-level dipstick and make sure that it is tight.



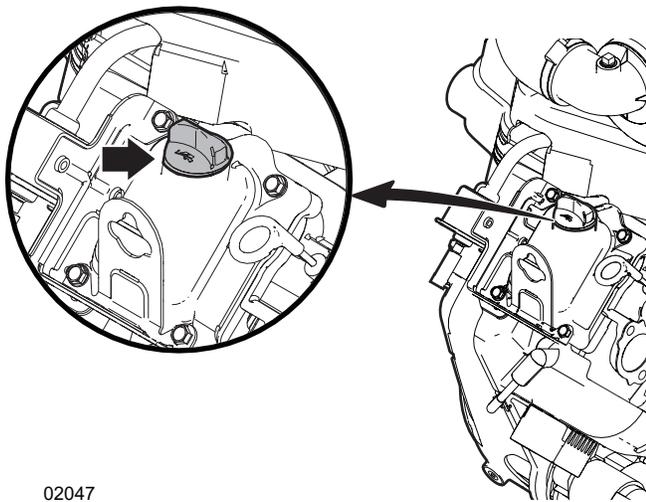
02046

Fig. 38—Check the Engine Oil Level

8.3.1 Add Oil to the Engine

IMPORTANT! For more information about engine oil, see the engine manufacturer's manual and *Engine Oil* on page 62.

1. Check the engine oil level to make sure that the oil level is low. For instructions, see *Check the Engine Oil Level* on page 44.
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 the oil-fill cap and make sure that it is tight.



02047

Fig. 39—Engine Oil-Fill Location

8.4 Check the Hydraulic Fluid Level

Check hydraulic fluid level daily. The hydraulic fluid reservoir sight glass is on the front of the reservoir. Check level with the engine stopped.

The proper level is when the fluid fills the glass window. If the level is not visible in the sight glass, add fluid.

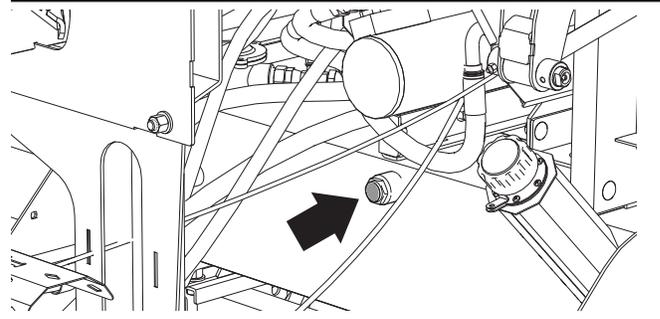


Fig. 40—Hydraulic Reservoir Fluid Level Check

1. Hydraulic Reservoir Filler Cap
2. Fluid Level Sight Glass

IMPORTANT! Do not operate machine if fluid level is not visible in the sight glass. Damage to the pump and other components can occur.

Do not overfill the reservoir past the sight glass window.

IMPORTANT! Hydraulic fluid quality should be inspected every 50 hours. If the fluid is dirty or smells burnt, it should be replaced.

IMPORTANT! Be aware of high fluid temperatures. Temperatures higher than 180 °F (82 °C) could cause seal damage and degrade fluid quality.

8.4.1 Add Fluid to the Reservoir

The hydraulic system uses **Dexron® III ATF**.

Procedure

1. Clean the area around filler cap and remove it.
2. Use a clean funnel and add fluid until the level just fills the sight glass window.
3. Install filler cap securely. Wipe up any spilled fluid.

Check levels after you change the filter or service the hydraulic components.

8.5 Check the Chain Saw Bar Oil Level

Check bar oil level regularly. The bar oil reservoir is located on the left-hand side of the processor. Oil level is visible in the tube on the side of the reservoir. Reservoir capacity is 6-1/2 quarts (6.2 L).

Your cutting system operates in a challenging environment and depends on sufficient lubrication to minimize wear and extend the life of operation. At start up, allow adequate time for the oil from the reservoir to reach the cutting system.

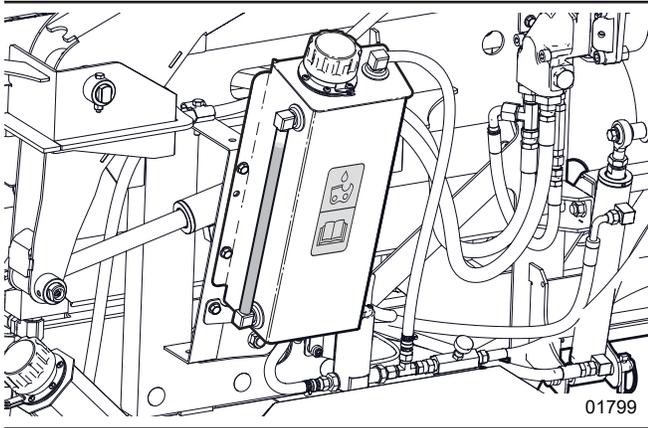


Fig. 41—Bar Oil Reservoir

Bar and chain oils provide adequate lubrication to the cutting system when used correctly.

IMPORTANT! The cutting system must use chain saw bar oil only. Hydraulic fluid or engine oil does not provide adequate lubrication. Unapproved lubricants can void the chain saw warranty.

8.6 Check the Saw Chain

Check saw chain tension regularly. To tension the saw chain, see page 70.

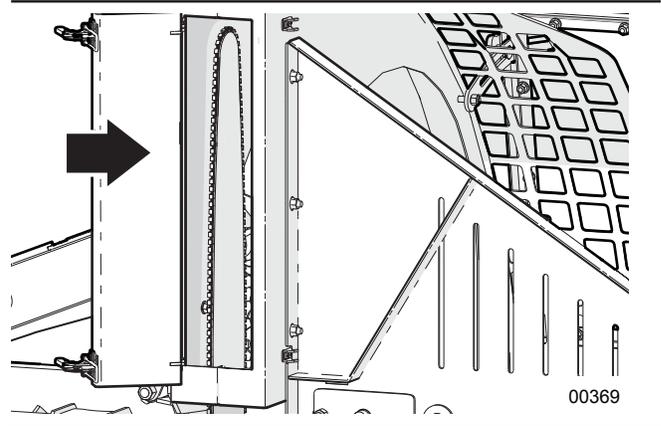


Fig. 42—Saw Access Door

Grasp the chain at the midpoint of the guide bar and pull the saw chain away from the bar rails. The drive link tangs should nearly come out of the bar groove.

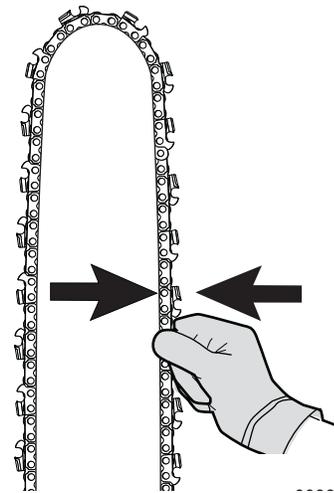


Fig. 43—Check Saw Chain Tension

- Inspect for broken, cracked, damaged, or missing saw chain components. Inspect loose rivets. If rivet can be turned by hand, it is too loose.
- Inspect for excessive stretch. Stretch is wear occurring to the flange of the rivet and the holes in drive links.
- Inspect the chain chassis for abnormal wear patterns, which are indicators of other cutting system issues with the guide bar and drive sprocket.



Refer to the **Oregon® Mechanical Timber Handbook** for additional information on the saw chain and bar. A copy of this manual can be found on the Wallenstein website under Technical Reference.

8.7 Machine Break-In

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

For new saw chain, check tension often during the first 10 minutes of use.

Consider transporting new and newly sharpened saw chain to and from the job site in a container with lubricant.

1. Lubricate your saw chain prior to use.
2. Increase saw speed gradually over the first 2–4 minutes of running time while cycling the guide bar, until bar oil is observed coming off the tip.
3. Check saw chain tension. Adjust if necessary.

After One to Five Hours of Operation

4. Check all nuts, bolts, and other fasteners. Tighten to their specified torque.
5. Check hydraulic system for leaks. Tighten all leaking fittings and replace any leaking components.
6. Check machine fluid levels: engine fuel, engine oil, and hydraulic fluid reservoir. Top up as required.
7. Check for entangled material. Remove all entangled material before resuming work.

After 20 Hours of Operation

8. Repeat Steps 4 through 7 listed above.
9. Check and adjust the tension on all drive chains. Chains may stretch slightly as they wear in. See page 72.
10. Continue with the maintenance schedule as defined in the Service and Maintenance section. See page 63.

After 50 Hours of Operation

- Adjust the infeed conveyor chain tension. See page 71.
- Adjust the Live Deck chain tension. See page 71.
- If applicable, adjust the 12 foot integrated conveyor chain tension. See page 83.
- If applicable, adjust the 24 foot self-contained hydraulic conveyor chain tension. See page 75.

9. Operating Instructions

For engine control information, see *Operator Panel Controls* on page 31.

Refer to the engine manufacturer owner's manual for further information.

9.1 Start the Machine



WARNING!

Do not operate the engine indoors. Park the machine outdoors in a position where the prevailing winds blow the exhaust away from you.

Engine exhaust contains carbon monoxide (CO) that can quickly accumulate to a dangerous level. Carbon monoxide can cause illness, unconsciousness, or death.

W072

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.

- The firewood processor should be set up to work, all pre-start checks completed and otherwise ready to operate.
- Check all hydraulic control levers are in neutral (out of detent).

Procedure

1. Move the throttle control switch to the **Fast** position.
2. 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 turns counterclockwise to the **RUN** position.
3. Do one of the following:
 - If the engine starts, continue with step 4.
 - If the engine does not start, wait a minimum of one minute, and then return to step 2.
4. Warm the hydraulic fluid to 20° C.
Push the splitter control forward (extend the push block) and hold it there for one minute.

9.2 Stop the Machine

1. Stop cutting and splitting logs. Clear all split wood out. Move hydraulic controls to the **Neutral** position.
2. Move the throttle control to the **SLOW** position.
3. Wait a minimum of one minute for the engine speed to decrease.
4. Turn the ignition switch to the **STOP** position.
5. Remove the key.
Keep the key away from unapproved users and children.

9.3 Stop in an Emergency

1. Turn the ignition switch to the **STOP** position.
2. Remove the key and keep it with you.
Do not let anyone start the machine until the emergency is resolved.
3. Move all the hydraulic controls to the **Neutral** position.
4. Correct the emergency situation before you start the machine.

9.4 Start the Machine in Cold Weather

In cold weather, use the following methods to start the machine.

Engine

- Use the correct oil for the expected outdoor temperature. See page 62.
- Use fresh winter grade fuel. Winter grade fuel has higher volatility to improve starting.
- Disengage all possible external loads.

Hydraulic System



If fluid in the hydraulic fluid and components are cold, the hydraulic functions can move slowly.

1. Warm the hydraulic fluid to 20° C.
Push the splitter control forward (extend the push block) and hold it there for three minutes.
2. Operate each hydraulic function through a full cycle.
This warms the fluid and circulates it through the cylinders, motors, lines, and valves in the hydraulic circuit.

3. Move each hydraulic cylinder through its full working range several times until the hydraulic function operates normally. If the functions are still slow, it may take more time to warm the hydraulic fluid.

Chain Saw Guide-Bar Lubrication

Use the correct grade of bar oil for the expected outdoor temperature.

Operate the chain saw fully until you see lubricant go off the tip of the guide bar. If necessary, adjust the bar-oil flow control.

9.5 Live Deck

WARNING!

Do not load logs longer than 16 ft (5 m) onto the live deck. They could fall off the deck and cause a crushing hazard.

W045

IMPORTANT! Set heavy logs onto the live deck carefully. Dropping them from a height could damage the deck and supports. Repeated pounding could also drive the support legs into the ground, resulting in an uneven deck.

Load logs onto the live deck so the deck chains can drop them into the infeed conveyor trough, one at a time.

Push the valve lever forward to feed the log onto the infeed conveyor. Pull the lever back to reverse live deck.

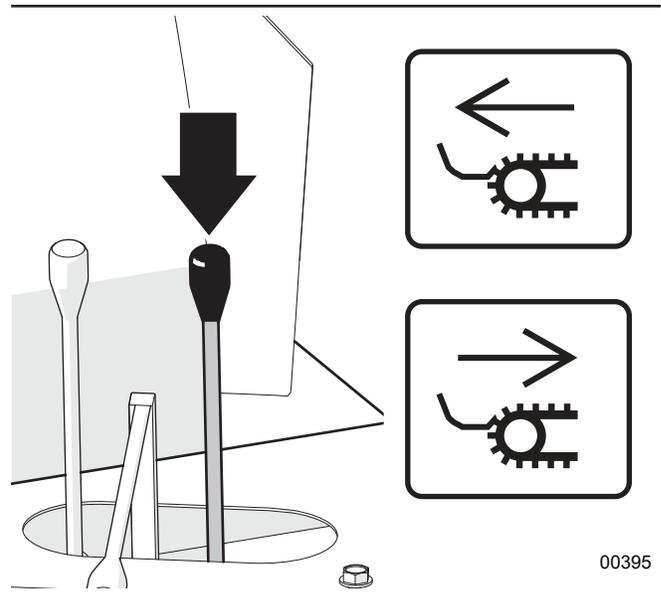
Maximum log length is 16 ft (5 m).

Minimum log length is 6 ft (1.8 m).



If logs are shorter than 6 ft (1.8 m), load them from the other side.

- Do not stack logs. Try to keep logs square with the deck rails.
- Always load logs with the bigger end of the log towards the saw.
- Place logs on the live deck so weight is evenly distributed. Try to keep logs parallel to infeed conveyor trough.
- Use the **Safety Whip** as a guide when setting logs onto the live deck to avoid interfering with the operator's station.
- If more than one log drops into the conveyor trough, shut down the machine to remove the second log. Sometimes reversing the live deck allows the separator tines to grab the log out of the infeed and back onto the live deck.



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Fig. 44 – Live Deck Control Valve

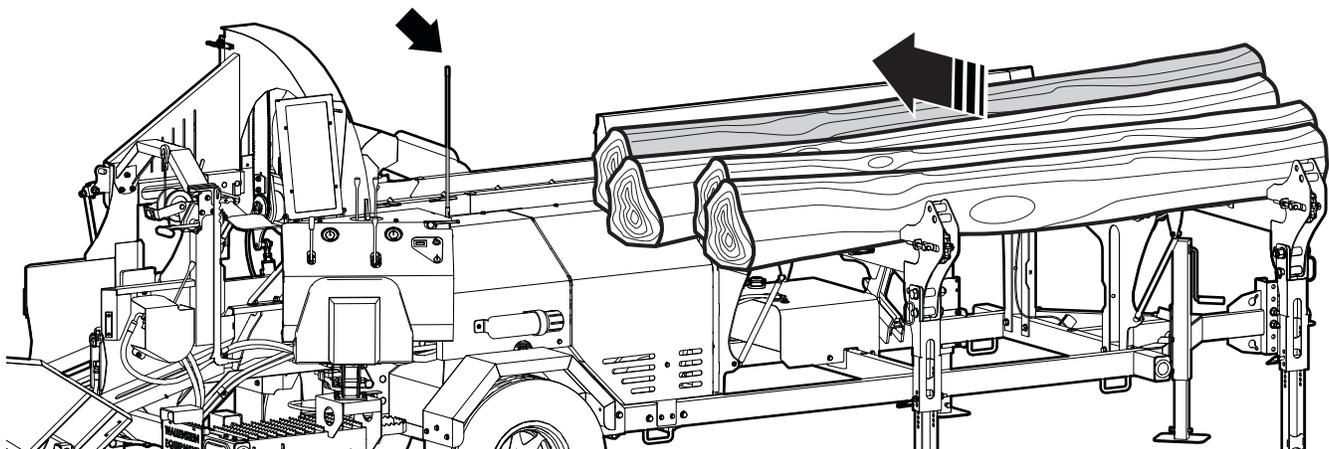


Fig. 67 – Safety Whip and Live Deck

9.6 Infeed Conveyor

The infeed conveyor moves the log to the saw.

IMPORTANT! Before advancing the log, always make sure saw is raised FULLY. Running the log into the saw can damage it.

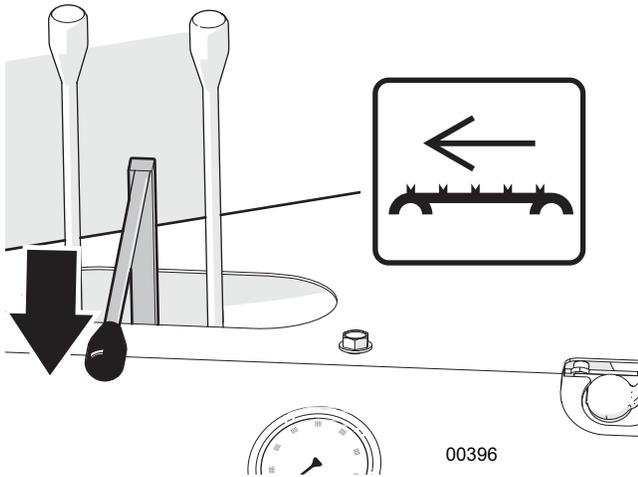


Fig. 45—Infeed Conveyor Control Valve

- Push the control valve handle down to advance the log up to the **Log Stop Guide**.
- If reversing the log is required, push the lever upward away from the operator.

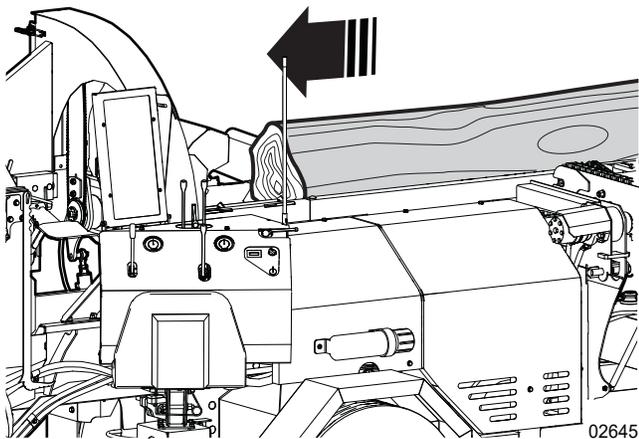


Fig. 46—Advance Log

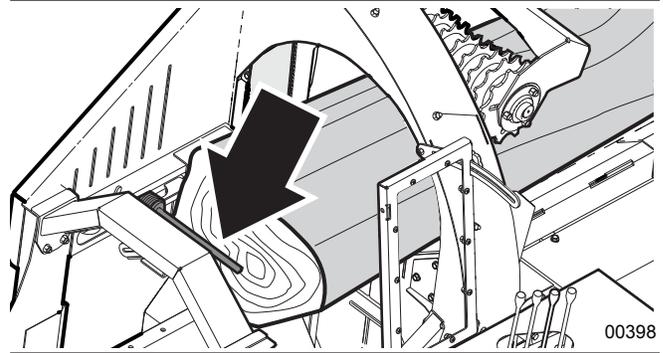


Fig. 47—Log Stop Guide

9.7 Top Roller

A hydraulic motor powers the top roller to work in series with the infeed conveyor. It assists feeding logs into the saw and starts and stops with the infeed conveyor.

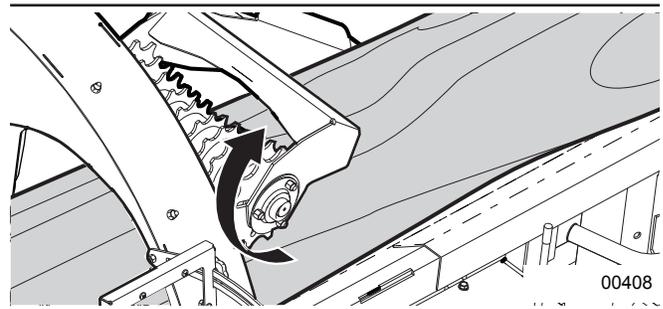


Fig. 48—Powered Top Roller

- Clamp the Top Roller down on the log by pulling the handle down to horizontal.

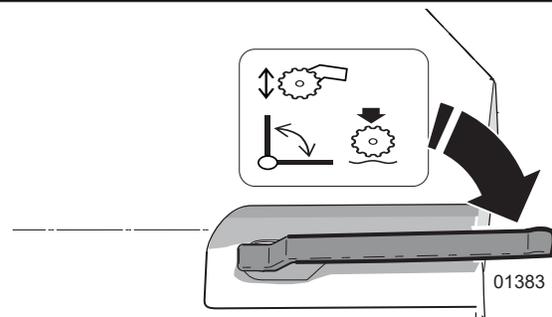


Fig. 49—Top Roller Clamped onto Log



The arm provides some down force on the roller to hold the log as saw cuts are made. The roller follows the contour of the log as it is advanced on the Infeed Conveyor.

- When starting a new log, push the lever back up vertical.



With the lever *vertical* (roller unclamped) the clamp arm holds its raised position unless the saw is moved. Pulling the saw down to cut, the roller clamps down on the log.

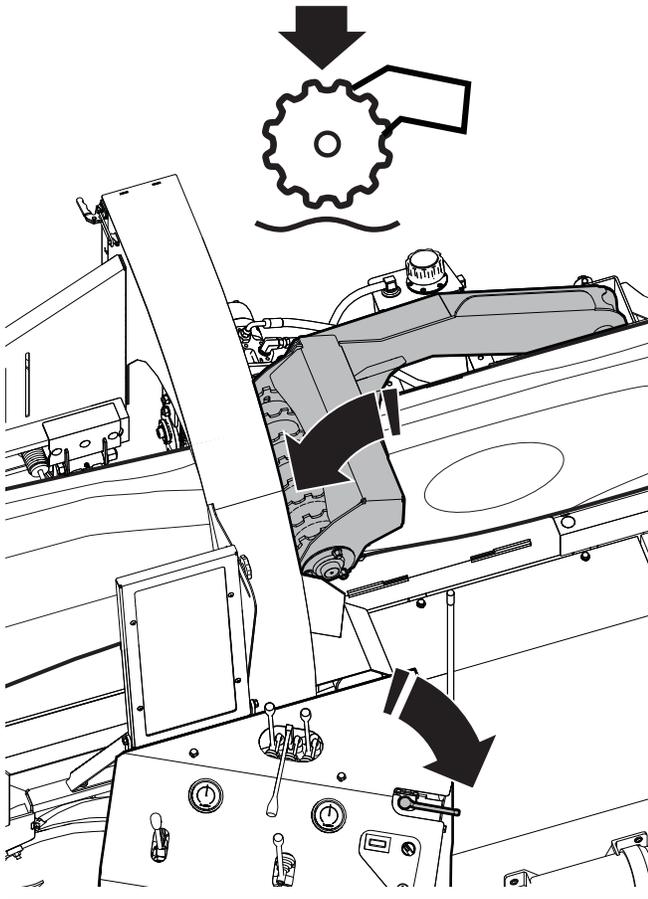


Fig. 50 – Top Roller Lift Arm Clamped Down on Log

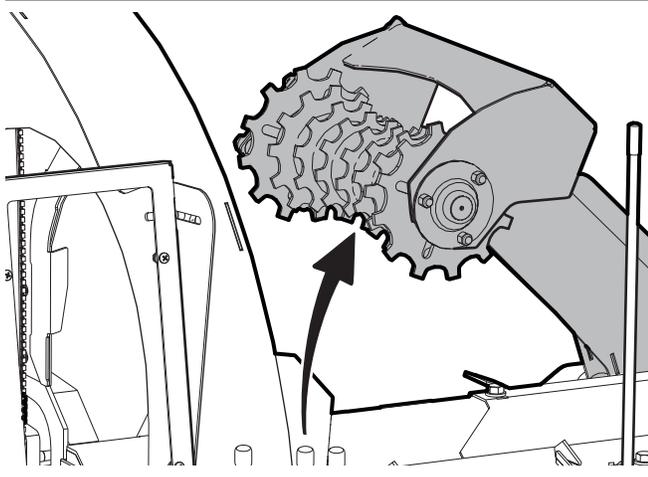


Fig. 51 – Top Roller Clear for Next Log

9.8 Cut Wood

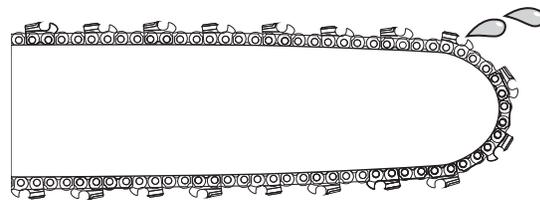
WARNING!



Risk of serious injury or death from flying debris or shot from broken saw chain. Stay behind protective shields when cutting. Keep ground personnel and bystanders outside perimeter of work area.

W044

IMPORTANT! Allow adequate time during start up for bar oil to reach the chain.



00388

Fig. 52 – Bar Oil

IMPORTANT! In cold weather run the saw slowly while cycling the guide bar until lubricant can be observed leaving the tip of the guide bar. Warm the saw circuit oil by holding the saw control valve lever forward in the RAISE position to cycle oil back to the reservoir.

- Pull the Saw Control lever back towards you to lower the saw and cut the log. The saw chain starts as the saw begins to move. The top roller holds the log in place. When the log is cut through, the block falls into the splitting cradle.
- Push the lever forward to raise the saw out of the way, ready for the next cut. The saw chain stops as the saw is raised. The top roller keeps a slight amount of down pressure on the log at all times unless the arm is unclamped when the saw is raised.

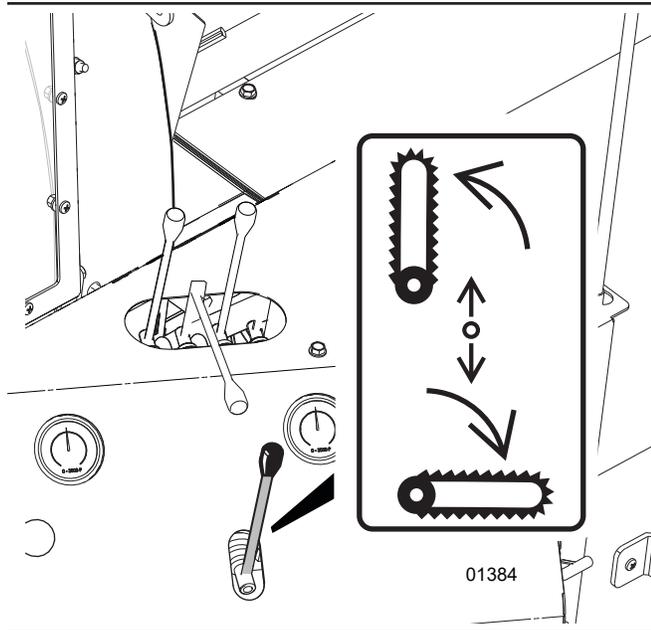


Fig. 53—Saw Control Lever

IMPORTANT! When cutting, make sure bar oil is visible coming off the tip of the saw. If not, adjust the bar oil flow rate. See page 43.

Always make sure the saw chain is sharp and in good working order.

IMPORTANT! At shut down or breaks, relieve saw chain tension to prevent damage to the cutting system (saw motor, bar tip, saw chain chassis) as the saw chain cools and contracts.

IMPORTANT! Check saw chain tension regularly. Only tension saw chain when it is cool. Steel expands when hot and contracts as it cools. As a result, it could cause damage to your guide bar or saw motor if tensioned when hot.

IMPORTANT! To check saw chain tension, grasp the chain at the midpoint of the guide bar and pull the saw chain away from the bar rails. The drive link tangs should nearly come out of the bar groove.

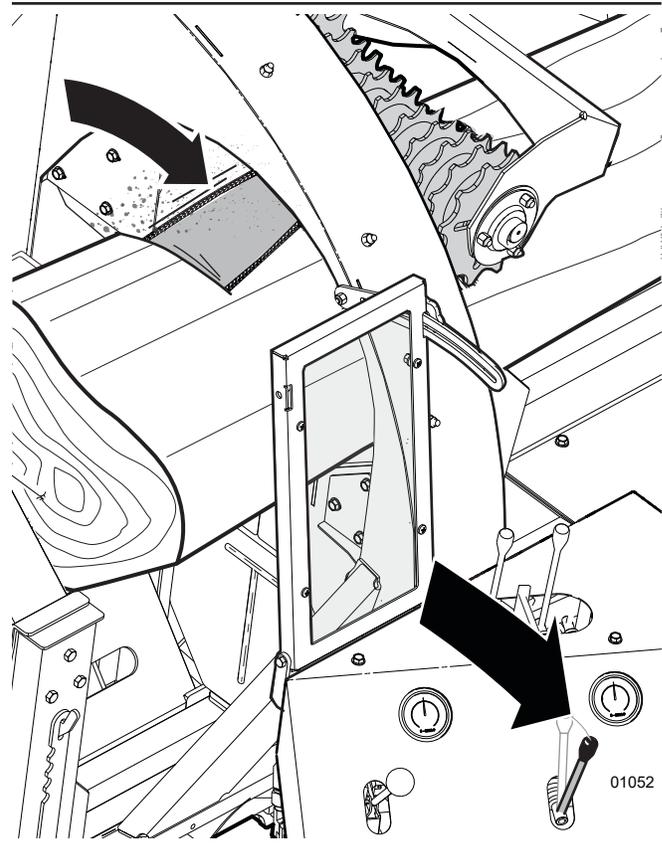


Fig. 54—Cutting the Log

9.8.1 Loosen the Saw Chain

IMPORTANT! At shut down or breaks, relieve saw chain tension to prevent damage to the cutting system (saw motor, bar tip, saw chain chassis) as the saw chain cools and contracts.



A tool is provided in the toolbox for the bar nuts and bar chain tensioner.

1. Open the saw access door.

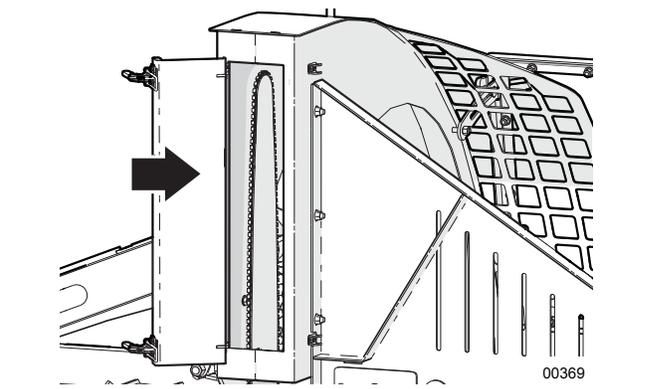


Fig. 55—Saw Access Door

2. Loosen the bar nuts.

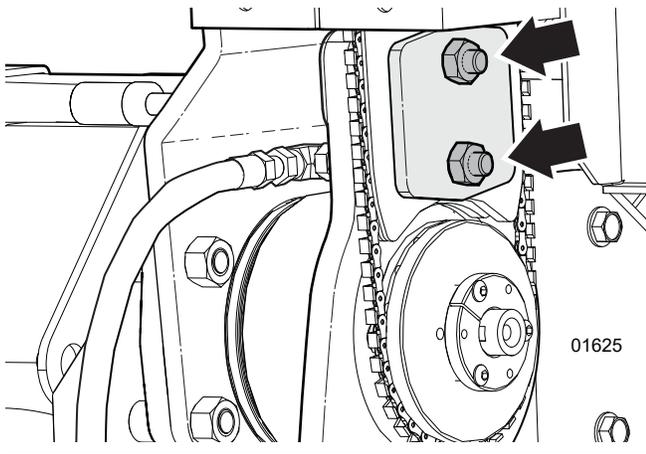


Fig. 56—Bar Nuts

3. Turn adjusting screw counterclockwise to loosen chain.

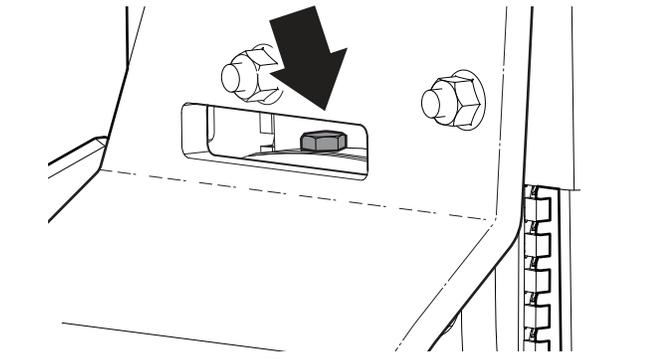


Fig. 57—Adjusting Screw

9.9 Adjust the Bar Oil Flow Rate

Adjust bar oil flow rate by opening or closing the flow control valve on the side of the bar oil reservoir. Ambient temperatures affect oil flow rate. Adjust as required.

Bar oil should be visible coming off the end of the saw chain during operation.

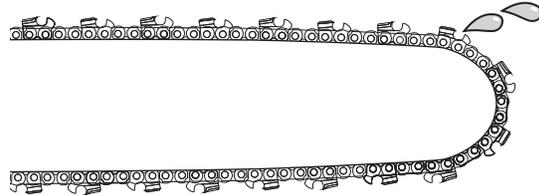


Fig. 58—Bar Oil

- Turn the knob out counterclockwise to increase oil flow to the saw.
- Turn it in clockwise to decrease the oil flow rate.

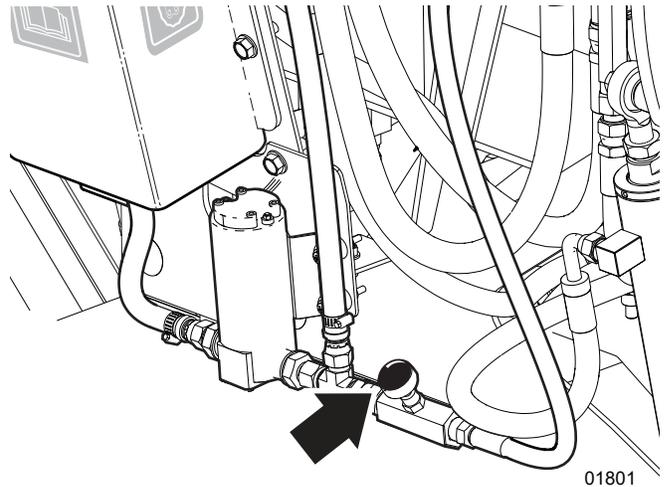


Fig. 59—Bar Oil Flow Control



Biodegradable bar oil is recommended.
Reservoir capacity is 6-1/2 US qt (6.2 L).

9.10 Split Wood

Adjust the Wedge Height

The control lever is on the upper part of the control panel, to the far left-hand end. Wedge height can be quickly adjusted while working.



A six-way wedge is available as an accessory. To change the wedge, see page 55.

- Center wedge height on the log. Raise or lower depending on log size.

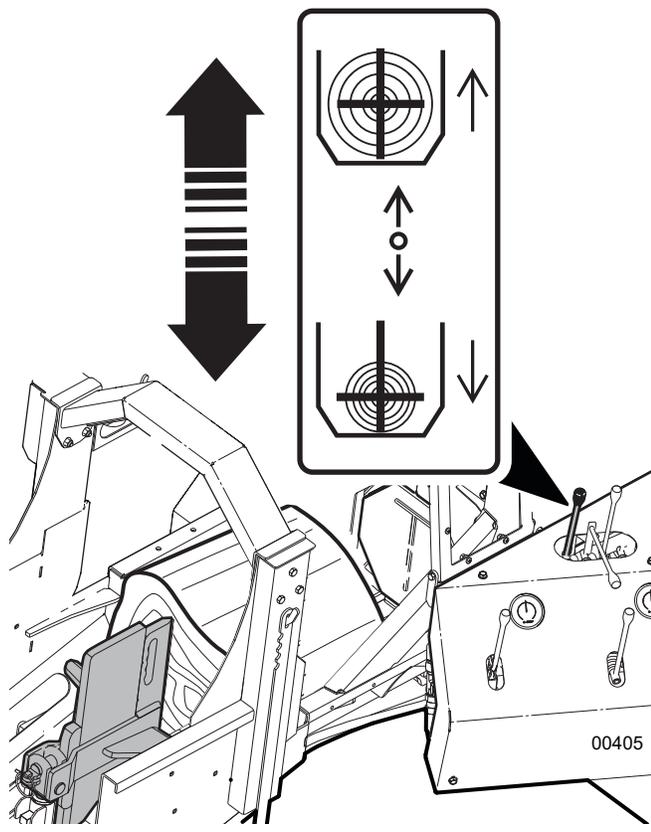


Fig. 60 – Adjust Wedge Height

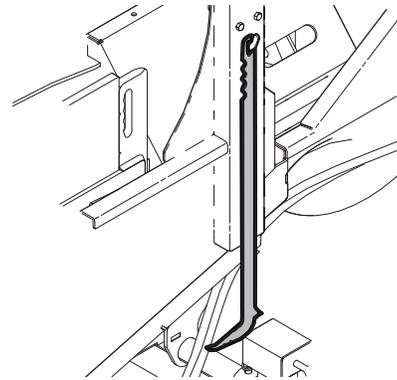
CAUTION!



Risk of pinching or crushing hazard! Never reach into the splitting cradle to reposition a log. Use a log peavey, hookaroon or another tool.

W043

Use the **Hookaroon** when repositioning logs. Use it to extend reach and keep hands away from machinery.



00294

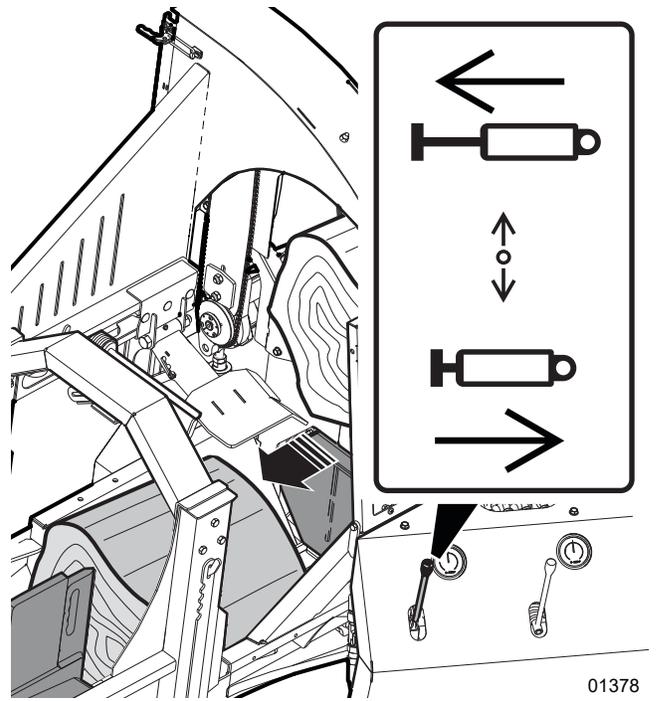
Fig. 61 – Hookaroon

Split the Log

1. Push the splitter control lever forward to split the log. Push the log most of the way through the wedge. When there is enough space in the splitting cradle for the next block, retract the cylinder.
2. Pull the lever fully back into the detent. (The lever resets to neutral once the cylinder is fully retracted.)

Advance the Log

3. Push the infed conveyor valve handle down to advance log up to stop guide, ready for the next cut.



01378

Fig. 62 – Splitter Control Lever



If the firewood is less than 24", it is not necessary to push the log completely through the wedge. Split the log partially, and then let the next log push it through. For the best efficiency, advance the log for the next cut while the pushblock is retracting.

End of the Log

4. Use the length guide on the side of the infeed conveyor as a reference for final log cuts. The guide indicates the length of log remaining, measured from the saw.

9.10.1 Change the Wedge

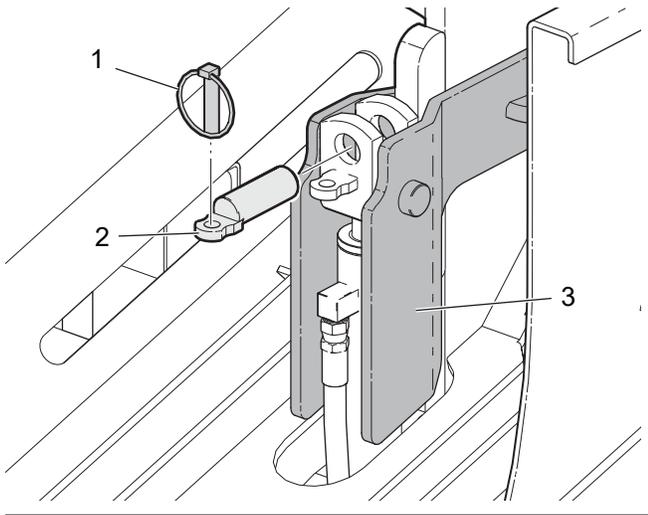


Fig. 63—Splitting Wedge

- | | |
|--------------|----------|
| 1. Linchpin | 3. Wedge |
| 2. Wedge Pin | |

Either a four-way or six-way wedge can be used. Wedge storage is located beside the fuel tank.

To change it, follow these steps:

1. Remove the linchpin (1).
2. Lift and support the wedge (3), then remove the wedge pin (2).
3. Lift the wedge up over the support to remove it.
4. Install the wedge in the reverse manner.
5. Push the next block through the wedge to finish the split of the first. The split wood is shoved out onto the conveyor as each additional log moves through the machine.
6. Continue advancing and cutting up to the end of the log.

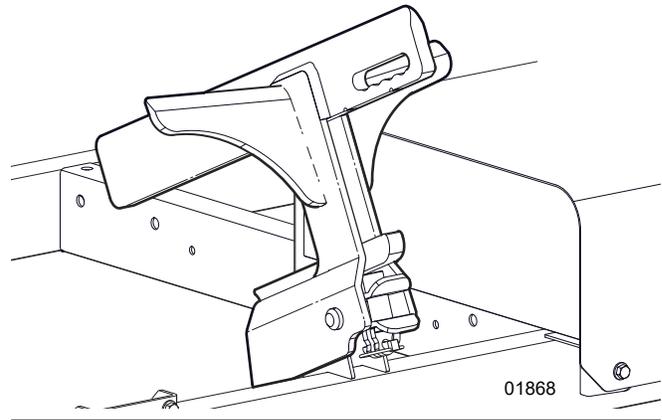


Fig. 64—Splitting Wedge Storage

9.11 Process Logs Quickly

1. Advance the log to the stop.
2. Cut the log off so it falls into the splitter cradle.
3. Split the block while advancing the log up to the stop again.

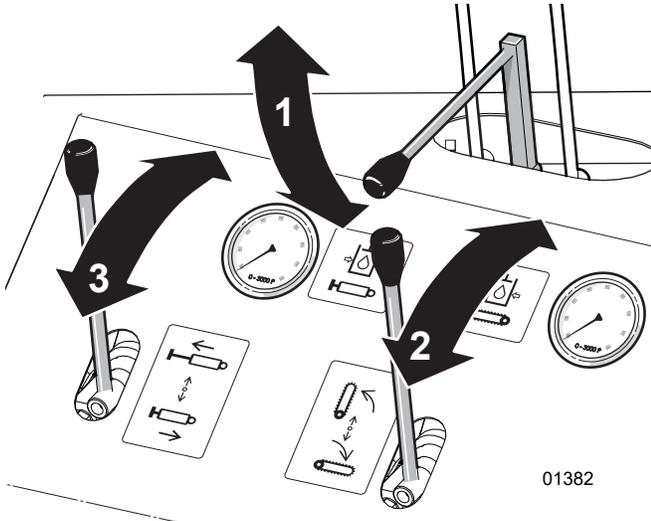


Fig. 65—Infeed Conveyor, Saw Cut, and Splitter Controls

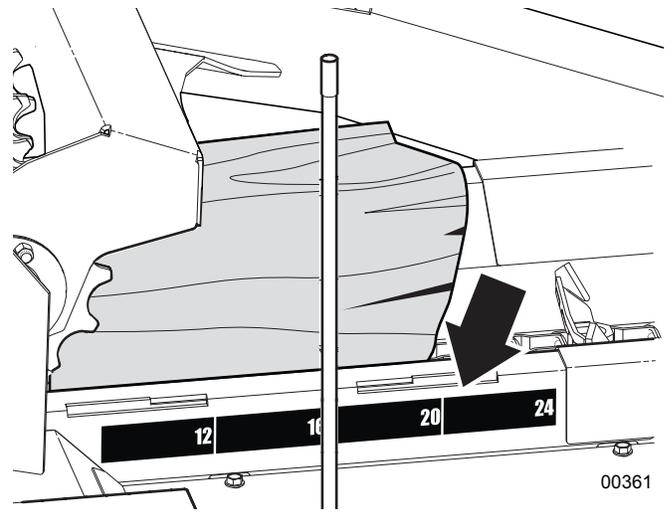


Fig. 66—Length Guide on Operator Side of Infeed Conveyor

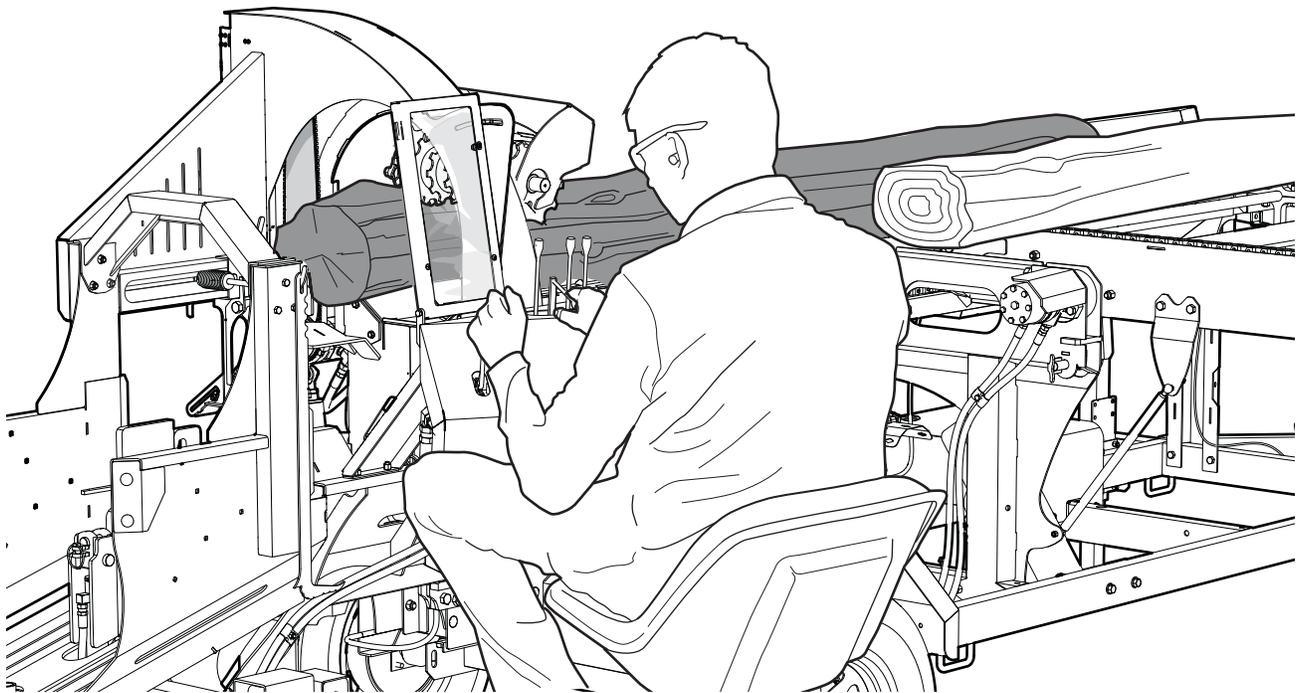


Fig. 68—Working Efficiently

10. Transport

IMPORTANT! Equipment that is transported on a public roadway must comply with the local laws that govern the safety and transport of machinery.

Before taking the machine on a public roadway, install the required lighting, reflectors, and markings, and make sure that they are in good working condition.

For specific requirements, contact your local transportation authority.

IMPORTANT! Before you transport the firewood processor on a roadway, pull the snap-lock pin, tilt the operator seat toward the machine, and then insert the snap-lock pin to keep the seat in position.

10.1 Transport Safety

- Make sure that the machine is securely attached to the tow vehicle with a retainer through the hitch.
- Always attach the safety chains between the machine and the tow vehicle.
- Never allow riders on the machine.
- Do not exceed a safe travel speed. Slow down for rough terrain and cornering.
- Plan your route to avoid heavy traffic.
- Do not transport or move the machine with the engine running.
- Inspect the wheel rims for dents or damage and tighten the wheel lug nuts to the specified torque. For more information, see page 85.
- Inspect the tires for cuts or damage.
- Make sure the tires are filled to the specified pressure. For correct tire pressure, see the tire sidewall.
- Make sure the tow vehicle is fitted with the correct size ball-mount hitch (2 inches).
- Secure all the machine guards, shields, and covers.
- Make sure that the fuel tank, engine oil tank, and hydraulic fluid reservoir caps are installed and tight (to prevent spills during transport).
- Remove all debris from the machine.
- After the machine is prepared for transport, complete a circle check to make sure everything is safe, secure, and functions correctly.
- Never exceed 50 mph (80 km/h). Slow down when cornering or encountering rough road conditions.

10.2 Prepare the Machine for Transport

1. Clear out all logs and clean all debris from the firewood processor.
2. Tilt the operator seat toward the machine. Make sure that the snap-lock pin is installed to keep it in position.
3. Raise the live deck to the vertical transport position.
4. Remove or secure any loose objects. Place tools in the toolbox.
5. Set the conveyor to the transport position.

10.3 Raise the Live Deck

1. Remove the hitch pins and swing the support legs up. Reinsert the hitch pins.
2. Pull out the lock pins and push the live deck up fully vertical. (Approximately 50 lb [23 kg] force required.)
3. Reinstall the pins to lock it.

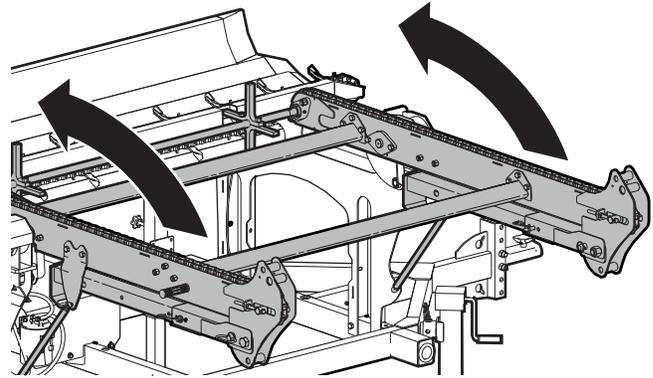


Fig. 69 – Raise Live Deck

10.4 Attach and Unhook

Make sure the area in front of the machine is clear of debris and other equipment.

1. Using the trailer jack, raise the firewood processor so that the coupler is higher than the ball hitch on the tow vehicle.

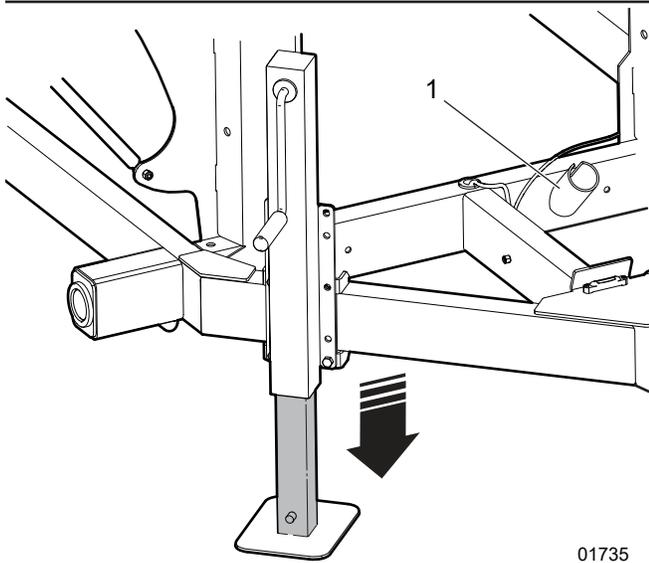


Fig. 70–Trailer jack

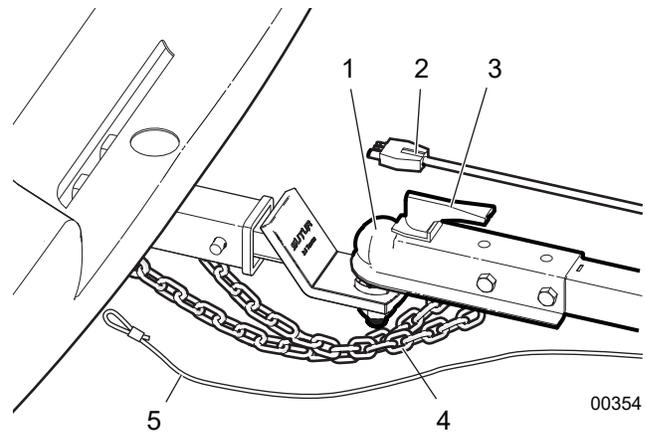


Fig. 71–Attach to a Tow Vehicle

2. Slowly back the tow vehicle until the hitch coupler and the ball are aligned.
3. Open the coupler latch.
4. Lower the crank jack so the hitch coupler slides over the ball.
5. Flip the coupler latch to lock the coupler around the ball.
6. Install the snapper pin through the coupler latch.
7. Attach the safety chains securely. Cross the chains under the hitch.
8. Connect the light harness and check the function of all lights.
9. Raise the front jack up all the way.
10. Reverse procedure when unhooking. Make sure there is enough space behind the machine to safely back up into position.

10.5 Trailer Breakaway System



Never use the Trailer Breakaway Switch as a parking brake. The switch is there to safely stop the trailer in the event it becomes accidentally disconnected from the tow vehicle.

Using it as a parking brake when un-hooked drains the machine's battery and would then cause it to be ineffective in an emergency. Once the battery charge depletes, the brakes release and the trailer could move unexpectedly.

W042

The Trailer Breakaway System is designed to bring the firewood processor trailer to a safe stop by activating the electric brakes should the trailer be accidentally disconnected from the tow vehicle while driving.

The switch is wired to the firewood processor battery. It contains a pin attached to a wire cable connected to the tow vehicle. In the event the trailer becomes disconnected, the pin is pulled out of the switch applying the brakes and stopping the trailer.

For the system to function properly, the electric brakes on the firewood processor trailer must be operational, the processor 12-volt battery must be charged, and the switch cable must be attached to the tow vehicle.

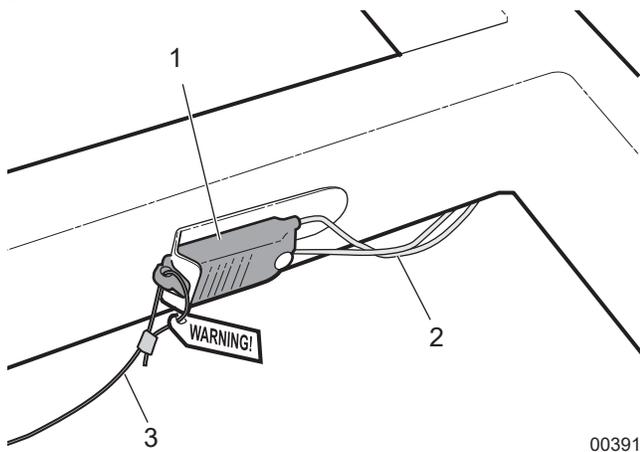


Fig. 72 – Trailer Breakaway Switch

1. Trailer breakaway switch on processor frame
2. Wires connecting switch to firewood processor battery
3. Wire cable connecting switch pin to tow vehicle

10.5.1 Attach a Breakaway Cable

- Connect the breakaway wire cable to the tow vehicle so it is independent of safety chains and wire harness. There should be a clear path for the cable from the switch to the tow vehicle. The cable must be able to pull the pin directly out of the switch in an emergency.
- Make sure the pin is installed in the switch.
- Never loop the cable through the safety chains or over the trailer tongue.

10.6 12 ft Conveyor Transport Position

IMPORTANT! When unfolding the conveyor for use, make sure that the chain engages over the sprocket as it tightens by the action of unfolding and clamping.

1. Lower it fully to the ground.
2. Disconnect the latch clamps at the hinge point.
3. Raise the conveyor with the hand winch, allowing the conveyor to fold and wheels to roll along the ground.
4. Raise the conveyor fully and connect both chute lock arms—one binds the folding section to the base section of the conveyor, and another locks the base conveyor section to the splitter.

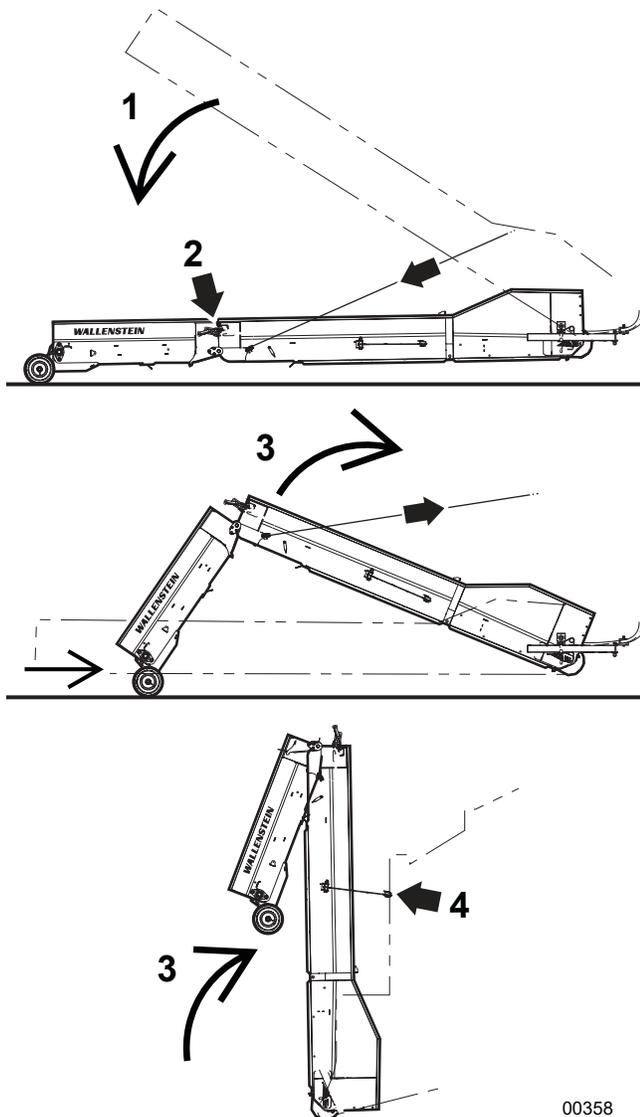


Fig. 73— 12 ft Conveyor in Transport Position

10.7 Transport a 24 ft Conveyor

IMPORTANT! Equipment that is transported on a public roadway must comply with the local laws that govern the safety and transport of machinery.

The conveyor is not intended for use or transport on public roadways. Therefore, it does not include the required lights, reflectors, and markings.

Before taking the conveyor on a public roadway, install the required lighting, reflectors, and markings, and make sure that they are in good working condition.

For specific requirements, contact your local transportation authority.

1. Remove all firewood from the conveyor.
2. Stop the conveyor.
For instructions, see page 35.
3. Stop the machine.
For instructions, see page 48.
4. Move the conveyor valve control lever to relieve hydraulic pressure.
5. Disconnect, and then cap each hydraulic hose.
Place the hose ends in the conveyor hopper storage holes.
6. Set the conveyor angle to the lowered position.
For instructions, see page 41.
7. Insert the hitch lock pin to secure the conveyor in position.
8. Remove all dirt, mud, and debris.
9. Use the conveyor jack to raise the hitch.
Align the hitch with the tow vehicle.
10. Adjust the conveyor tongue weight using the additional holes provided in the conveyor wheel base frame.
11. Connect the topline to secure the folding frame.

11. 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 firewood processor. Replace or repair any worn or damaged components to prevent any unnecessary down time at the beginning of the next season.

IMPORTANT! For information on engine storage, refer to the engine manufacturer's manual in the manual storage tube.

11.1 Storage Safety

WARNING!

Do not let children play on or around the stored machine. If children play on or around the machine it can result in serious injury or death.

W105

- Store the machine in a dry, level location away from human activity.
- Store the machine indoors, where possible.
- Support the frame with planks, if required.

11.2 Place the Machine in Storage

1. Clear out all wood material from the machine.
2. 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 page *Engine Fuel* on page 59.
3. Thoroughly wash the machine to remove all dirt, mud, and debris.
4. Inspect all moving parts and remove any entangled material.
5. Fold up the live deck. Park the machine out of the way.
6. Block the wheels.
7. For the WP1624-12 model, place the 12 ft conveyor in the transport position. For instructions, see page 60.
8. Cover the machine with a waterproof tarp, if storing it inside is not possible.

11.2.1 Replace the Engine Fuel

WARNING!

Before you replace the fuel, read and understand the information under Engine Safety on page 12.

1. Remove the current fuel from the tank.
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 tank.
For instructions, see page 44.
3. Start the machine.
For instructions, see page 48.
4. Wait five to 10 minutes for the fuel to flush the engine.
5. Stop the machine.
For instructions, see page 48.

11.3 Remove the Machine from Storage

When removing this machine from storage, follow the Pre-start checklist. See page 43.

11.4 Place a 24 ft Conveyor in Storage

1. Clean off all dirt, mud, and debris.
2. Make sure the hose ends are capped and stored.
3. Grease the conveyor drive bearings. Apply one grease gun shot for each bearing.
See page 73 for conveyor grease points.
4. Park the conveyor in an area that is dry, level, and free of debris.
5. Store the conveyor so it is out of the way.
Do not allow children to play on or around it.
6. Cover the machine with a waterproof tarp, if storing it inside is not possible.

11.5 Remove a 24 ft Conveyor from Storage

1. Check air pressure in each tire. See tire sidewall for rating.
2. Review and follow the Pre-Start Checklist on page 43.
3. Review safety information.

12. 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

12.1 Recommended Fluids and Lubricants

12.1.1 Grease

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

12.1.2 Engine Fuel

This engine is certified to operate on clean, unleaded gasoline with a pump octane rating of 87/87 AKI or higher, research Octane Number (RON) 91 octane minimum. Gasoline up to 10% ethyl alcohol, 90% unleaded is acceptable.

IMPORTANT! Do not use unapproved gasoline, such as E15 and E85. Do not mix oil in gasoline or modify the engine to run on alternate fuels. Use of unapproved fuels will damage the engine components, which are not covered under warranty.

12.1.3 Hydraulic Fluid

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

12.1.4 Bar Oil

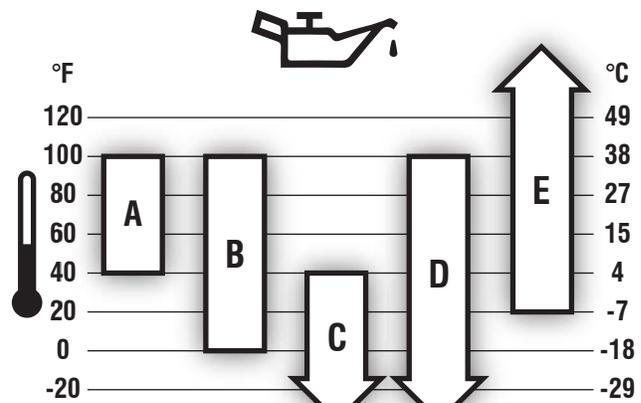
IMPORTANT! Never use hydraulic fluid in place of bar oil. Hydraulic fluid is not an adequate cutting system lubricant.

Use the correct grade of chain-saw bar oil for the expected outdoor temperature.

12.1.5 Engine Oil

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

Outdoor temperatures determine the correct oil viscosity for the engine. Use the chart below to select the best viscosity for the outdoor temperature range expected. Engines on most outdoor power equipment operate well with 5W-30 Synthetic oil. For equipment operated in hot temperatures, Vanguard® 15W-50 Synthetic oil gives the best protection.



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Fig. 74—Engine Oil Recommendations

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

12.1.6 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.

12.2 Machine Maintenance



WARNING!

Before you start service or maintenance:

- **Set the machine to a safe condition.**
- **Wait for the machine to cool. Engine components and fluids can cause burns.**
- **Read and understand all the service and maintenance safety information.**

W041

12.2.1 Machine Maintenance Schedule

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

In dusty conditions or when airborne debris is present, clean the engine air filter, clean the engine oil-cooler fins, and service the engine cooling system more often. Every third time you change the engine air filter, replace the air safety filter.

Every 8 Hours or Daily

Check the hydraulic hoses, fittings, and frame slide.	N/A
Check that all the fasteners are torqued to the correct specifications.	Page 79
Check the engine oil level and quality.	Page 44
Check the engine around the muffler and controls	N/A
Check the fuel level.	Page 44
Check the hydraulic fluid level.	Page 62
Do the pre-start checks.	Page 43

Every 50 Hours or Annually

Inspect the hydraulic fluid quality.	Page 62
Inspect the battery.	Page 68
Grease the machine.	Page 63
Check the drive chain tension.	Page 71
If applicable, check the 12 ft conveyor chain tension.	Page 73

Every 100 Hours or Annually

Clean the engine air filter.	Page 67
Change the engine oil and replace the filter.	See the engine manual.
Service the engine exhaust system.	See the engine manual.
Replace the engine spark plug.	See the engine manual.
Check the tire pressure.	See rating on tire sidewall.
Change the hydraulic fluid and filter.	Page 65
Clean the machine. Remove all debris and entangled material.	N/A

Every 250 Hours

Check the valve clearance.	See the engine manual.
----------------------------	------------------------

Every 400 Hours

Replace the engine fuel filter and air filter.	See the engine manual.
Service the engine cooling system.	See the engine manual.
Clean the engine oil cooler fins.	See the engine manual.

Every 600 Hours

Replace the air filter (inner) safety filter.	See the engine manual.
---	------------------------

12.2.2 Machine Grease Points

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



It is not necessary to grease the splitter slide. The slide rails are covered with a low friction plastic that is wear and abrasion resistant.

See the Lubrication Diagram on the following page.

Location	Grease Points – Every 50 hours or annually
1	Live deck drive and tilt – 4 points
2	Infeed conveyor drive – 2 points
3	Log dropper – 1 point
4	Saw rotate cylinder – 1 point
5	Saw drive pivot – 2 points
6	Top Roller Clamp pivot – 4 points

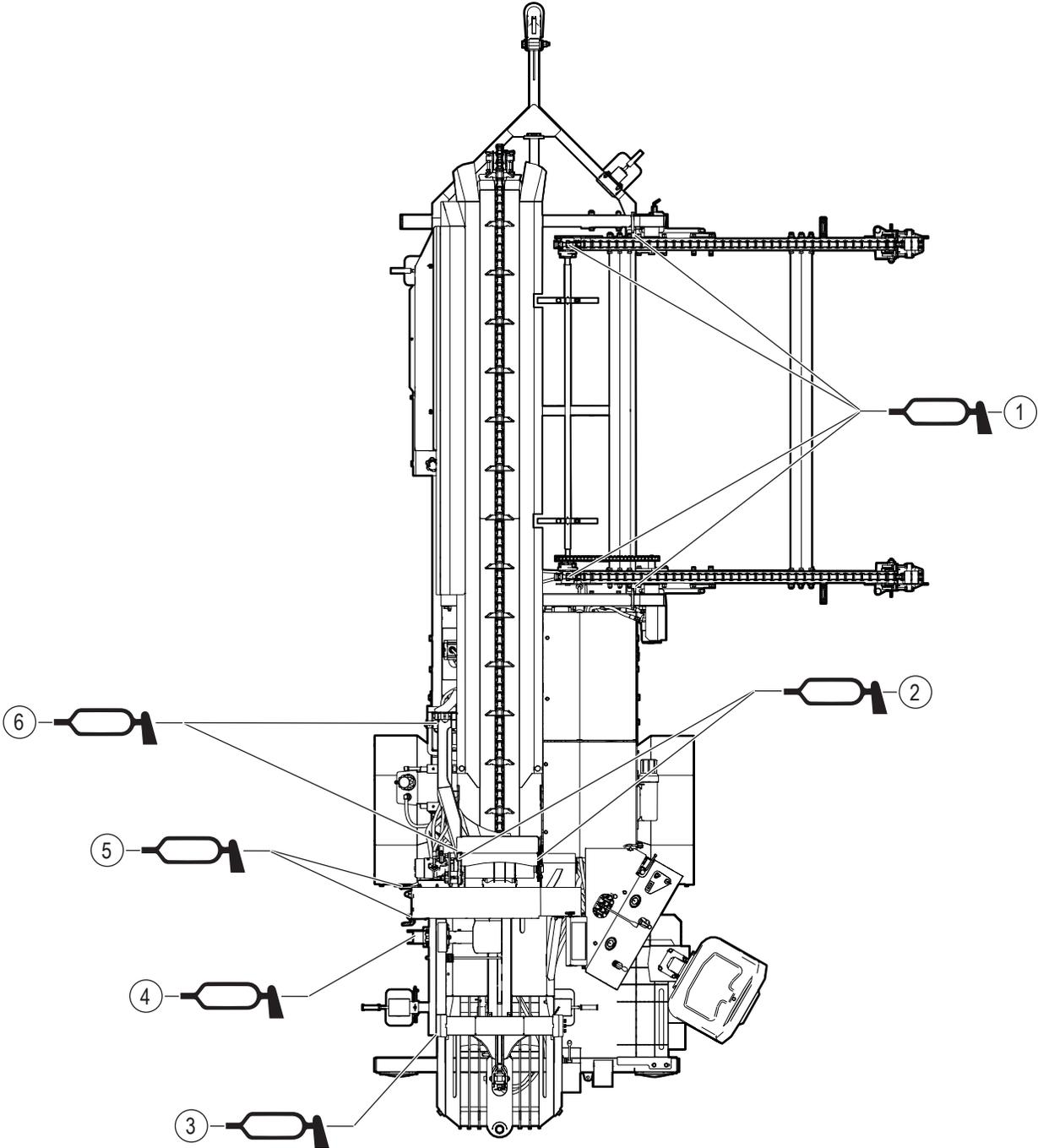


Fig. 75 – Grease Points

12.3 Change the Hydraulic Fluid

CAUTION!



Risk of burns to exposed skin. Hydraulic oil becomes hot during operation. Hoses, lines, and other parts become hot as well. Wait for the oil and components to cool before starting any maintenance or inspection work.

W028

Change the hydraulic fluid in the reservoir at **100 hours** of operation or annually.

- Hydraulic fluid type: **Dexron III ATF**.
- Hydraulic fluid reservoir capacity: **26 US gal (102 L)**

The hydraulic reservoir drain plug is located under the machine. A 3/8" Allen wrench is required to remove it.

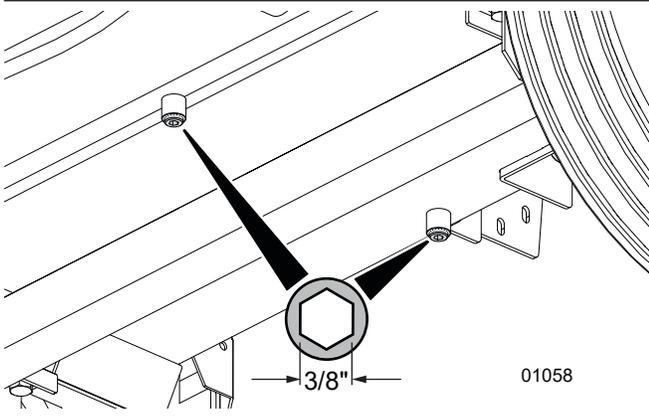


Fig. 76—Hydraulic Reservoir Drain Plug

Procedure

1. Have a drain pan ready of suitable capacity.
2. Clean the area around drain and remove the drain plug.
3. Allow the fluid to fully drain, then flush the reservoir. Dispose of used fluid in an environmentally acceptable fashion.
4. Install the drain plug.
5. Change the return fluid filter before filling the reservoir.

12.3.1 Change the Hydraulic Return Fluid Filter

The hydraulic return filter is located on top of the hydraulic fluid reservoir.

If the hydraulic-fluid filter gauge indicates the filter is bypassing, the filter is clogged and must be changed at the time the fluid is changed. The filter is bypassing when the needle is in the red area.

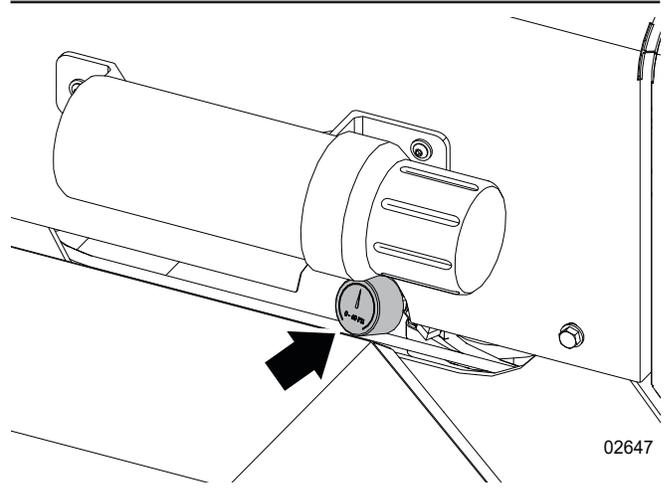


Fig. 77—Hydraulic-Fluid Filter Gauge

Procedure

1. Remove the hydraulic cover.

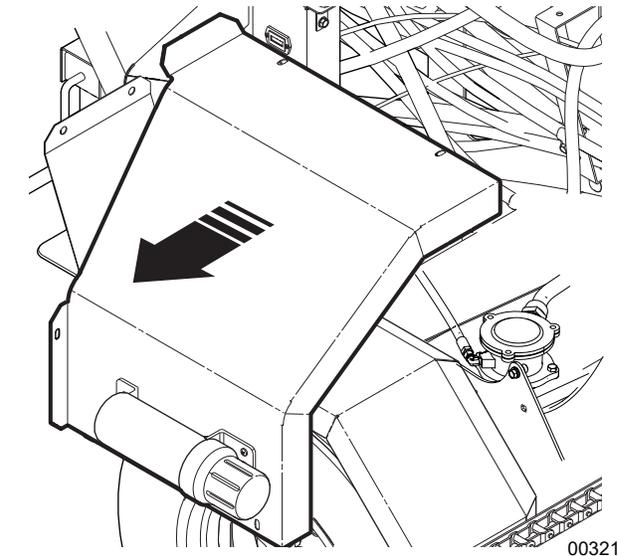
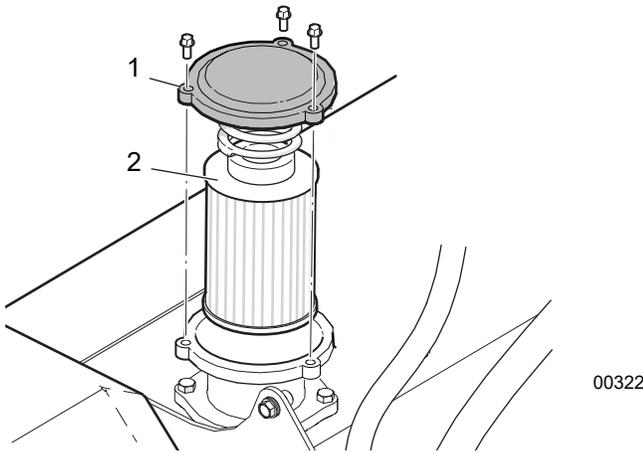


Fig. 78—Hydraulic Fluid Reservoir Cover

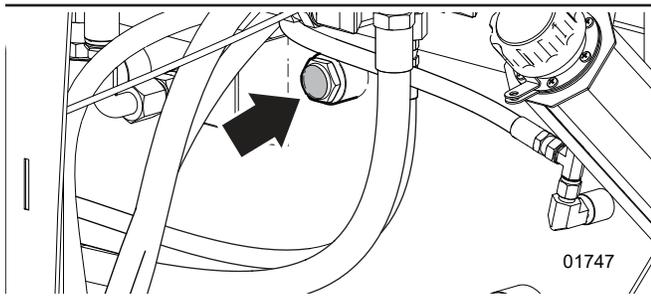
2. Have a drain pan ready to catch any dripping fluid.



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Fig. 79—Hydraulic Fluid Filter Element

1. Fluid Filter Cover
2. Hydraulic Fluid Return Filter Element
3. Remove the three screws on the filter cover and pull the cover off.
4. Remove the filter element and clean the bottom of the bowl.
5. Check the O-rings for damage. If damaged, replace them.
6. Install the new filter element.
7. Install the cover and tighten the screws to **44 lbf•in (5 N•m)**.
8. Fill the reservoir with clean fluid. The fluid is at the proper level is when it fills the top half of the glass window.



01747

Fig. 80—Fluid Level Sight Glass

9. Reinstall the reservoir filler cap.



Remove air from the hydraulic circuit by powering the machine up and holding the saw control valve lever forward in the *RAISE* position to cycle fluid back to the reservoir.

12.4 Engine Maintenance

For full engine maintenance information, see the engine manufacturer's manual.

12.4.1 Engine Maintenance Safety

! WARNING!

Do not operate the engine indoors. Park the machine outdoors in a position where the prevailing winds blow the exhaust away from you.

Engine exhaust contains carbon monoxide (CO) that can quickly accumulate to a dangerous level. Carbon monoxide can cause illness, unconsciousness, or death.

W072

! WARNING!

Keep the end of a disconnected battery cable away from the battery. Electricity can arc from the battery to the end of a battery cable and cause the battery to explode. An explosion can cause serious injury or death from heat, impact, and chemical hazards.

W115

For more information, see *Engine Safety* on page 12.

- Remove the wire from the spark plug before servicing the engine or equipment to prevent the engine from starting.
- Examine the muffler on a regular basis to make sure that it operates effectively. Repair or replace a muffler that is worn or leaks.
- Before storage, replace fuel that contains ethanol with an alkylate or appropriate engineered fuel to prevent the buildup of deposits.
- Check the fuel lines and fittings frequently for cracks or leaks. Replace fuel lines or fittings that are damaged.
- Store fuel away from all wood material.
- Do not check for a spark with the spark plug or spark plug wire removed.
- Do not hit the flywheel with a hard object or metal tool. This can cause the flywheel to shatter during operation. Use the correct tools to service the engine.
- Do not touch a hot muffler, cylinder, or fins. Contact can cause burns.

12.4.2 Electronic Fuel Injection System Maintenance Safety

The engine has an electronic fuel injection (EFI) system that monitors the engine speed, temperature, and battery voltage. The EFI system cannot be adjusted.

For more information, see *Electronic Fuel Injection System Operation Safety* on page 13.

- Do not start the engine if the battery cables are loose.
- Turn the key to the **STOP** position or remove the starter switch before disconnecting, removing, or installing the battery.
- Do not use a battery charger to start the engine.
- Do not disconnect the battery cables while the engine is running.
- When connecting the battery cables, first connect the positive (+) cable and then connect the negative (-) cable to the battery.
- When charging the battery, turn the ignition switch to the **STOP** position and disconnect the negative (-) battery cable from the battery.
- Do not spray water directly on the Electronic Control Unit.

12.4.3 Clean the Engine Air Filter

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

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

A dirty air filter can restrict air flow to the engine and decrease 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.

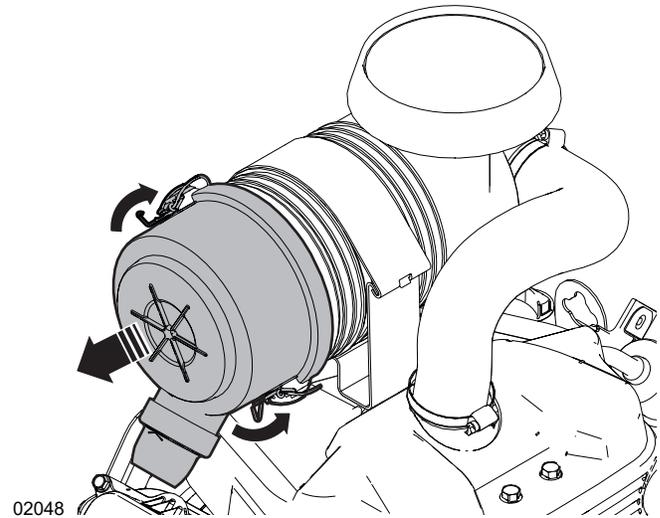


Fig. 81 – Remove the air-filter cover

12.5 Battery

Review the safety information on page 12.

WARNING!

Do not let metal objects touch the battery terminals. Cover the battery terminals when servicing the battery or the drive belt guard is removed. Electricity can arc from the battery terminal to the metal object and cause a fire or explosion. An explosion can cause serious injury or death from heat, impact, and chemical hazards.

W021

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.

W029

CAUTION!

Wash your hands thoroughly after handling a battery. Avoid contact with the battery posts, terminals, and related accessories. They contain lead and lead compounds that are known to cause cancer and birth defects or other reproductive harm.

W031

12.5.1 Remove

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

12.5.2 Install

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

12.5.3 Clean

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

12.5.4 Charge

Be familiar with procedures for charging and testing a battery. Read and follow the manufacturer's instructions for the battery charger.

WARNING!



Warm the battery to a minimum of 60 °F (16 °C) before charging it. Attempting to charge a frozen battery can cause it to explode. An explosion can cause serious injury or death from projectiles, extreme heat, chemicals, and loud noise.

W030

Remove the battery from the machine to recharge it.

1. Use a battery carrier to lift the battery or place hands at opposite corners to avoid spilling electrolyte.
2. Place battery in a well-ventilated area.
3. Connect positive (+) lead of charger to positive (+) terminal, and negative (–) lead to negative (–) terminal.
4. Charge battery according to the instructions from battery charger manufacturer and battery manufacturer.

12.6 Axles and Suspension

Except for periodic inspection of the fasteners used to attach the axle to the frame, no other suspension maintenance is required.

For further information on maintenance and inspection procedures regarding brakes, hubs, bearings and seals, refer to the Dexter® axle service manual at www.dexteraxle.com.

The Dexter Torflex® axle suspension system is a torsion arm type suspension completely self-contained within an axle tube.

The Torflex axle provides suspension through a steel torsion bar surrounded by four rubber cords, encased in the main structural member of the axle beam.

The wheel/hub spindle is attached to the torsion arm, fastened to the rubber encased bar. As load is applied, the bar rotates causing a rolling / compressive resistance in the rubber cords.

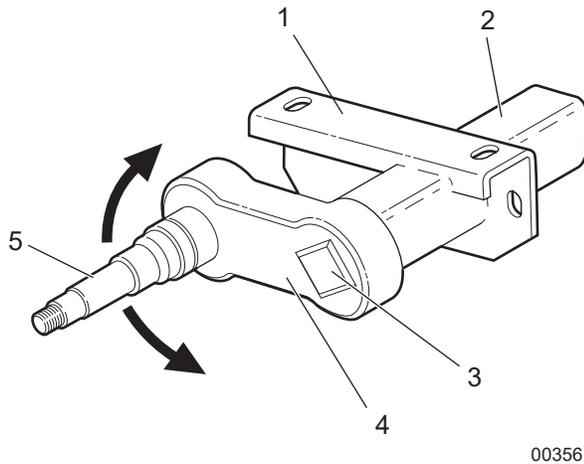


Fig. 82—Axle

- | | |
|---------------------|----------------|
| 1. Spindle | 4. Torsion Bar |
| 2. Mounting Bracket | 5. Torsion Arm |
| 3. Axle Tube | |

IMPORTANT! Do not weld on the axle beam. Heat generated from welding could damage the rubber suspension cords.

12.7 Saw Chain Maintenance

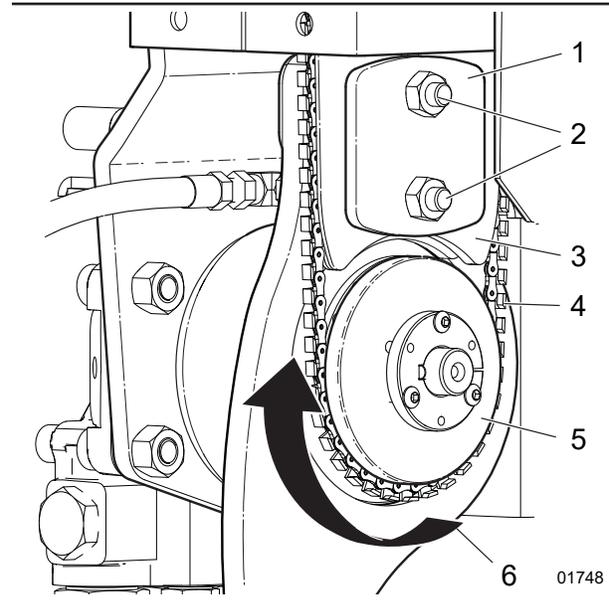


Fig. 83—Saw Parts

- | | |
|------------------------------|------------------|
| 1. Bar Nuts | 4. Clamp plate |
| 2. Drive Sprocket | 5. Cutting Chain |
| 3. Direction of Chain Travel | 6. Guide Bar |

12.7.1 Sharpen the Saw Chain

Use a saw chain and bar in sets to equalize the wear. Keep the saw chain sharp to make faster cuts and reduce the energy required to make the cuts.

IMPORTANT! Refer to the Oregon® Mechanical Timber Handbook for instructions to sharpen the saw chain. This manual is available on the Wallenstein website under Support > Manuals.

- Before you sharpen the saw chain, clean the saw chain to remove dirt, debris and bar oil.
- Inspect the saw chain for broken, cracked, damaged or missing parts.
- Look for signs of excessive chain stretch. Stretch indicates wear occurring to the flange of the rivet and holes in the drive links.
- Inspect the saw chain chassis for abnormal wear patterns, which are indicators of issues with the guide bar and drive socket.
- Discard the saw chain if it has broken, parts are missing, there is excessive stretch, or it has loose rivets.

12.7.2 Remove or Replace the Saw Chain



A tool is provided in the toolbox for the bar nuts and bar chain tensioner.

1. Open the chain saw access door.

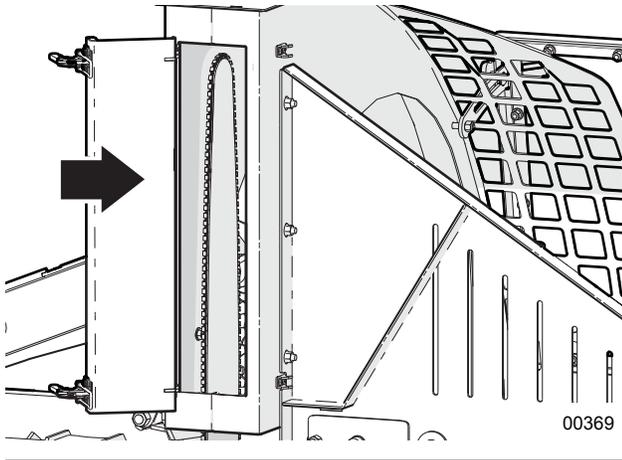


Fig. 84—Saw Access Door

2. Loosen the bar nuts.

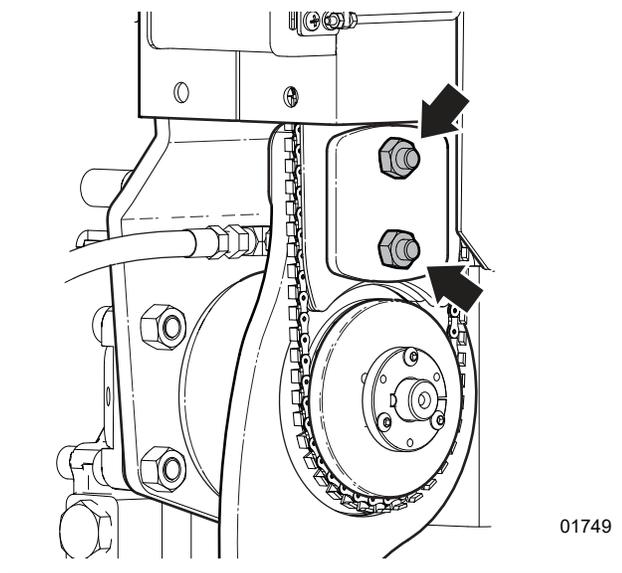


Fig. 85—Bar Nuts

3. Turn adjusting screw counterclockwise to loosen chain so it can then be removed.

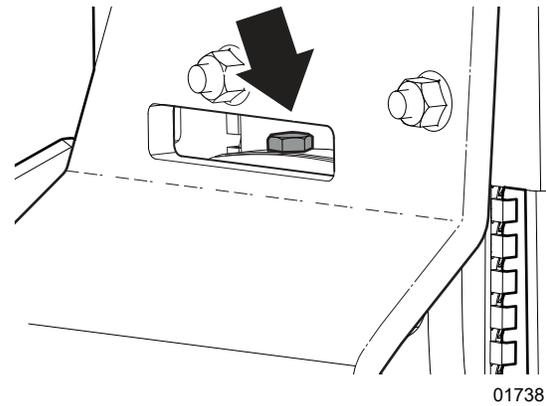


Fig. 86—Adjusting Screw

To reinstall the saw chain, reverse the procedure. Tension saw chain as described.

12.7.3 Adjust the Saw Chain Tension

1. Turn the adjusting screw clockwise to tighten the saw chain. Turn it counterclockwise to loosen.

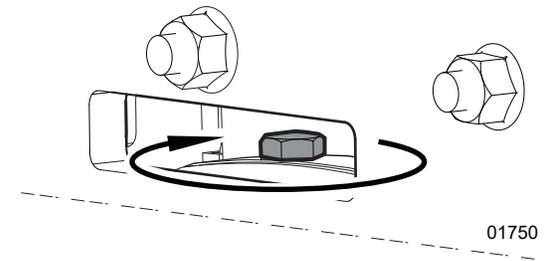


Fig. 87—Turn Adjusting Screw Clockwise to Increase Chain Tension

2. Grasp the saw chain at the midpoint of the guide bar and pull the saw chain away from the bar rails. For hard nose guide bars, the drive link tangs should nearly come out of the bar groove.

12.7.4 Chain Saw Lubrication

The chain saw (saw chain and guide bar) must receive sufficient lubrication to prevent excessive chassis wear. The chain saw is equipped with an automatic bar oiler that starts when the chain saw is activated.

As a guide, the minimum amount of lubrication recommended for a .404"-pitch cutting system is 1 oz (33 cc) for every minute of chain saw use.

IMPORTANT! Never use hydraulic fluid in place of bar oil. Hydraulic fluid is not an adequate cutting system lubricant.

At startup, adequate time must be allowed for lubrication to reach the cutting system. In cold weather, or with the addition of a new guide bar or saw chain, the system will require additional time. Run the chain saw until lubrication can be observed leaving the tip of the guide bar.

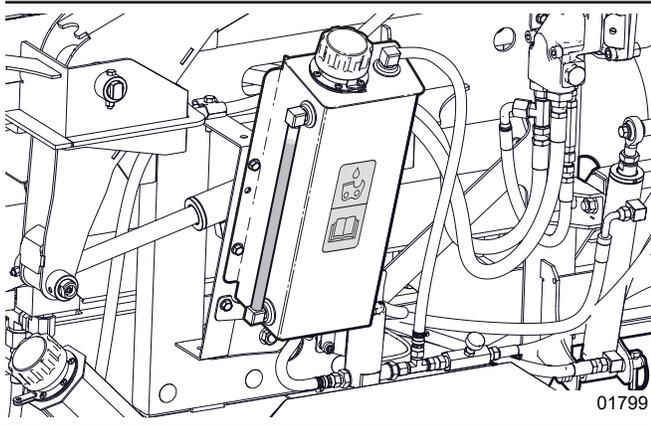


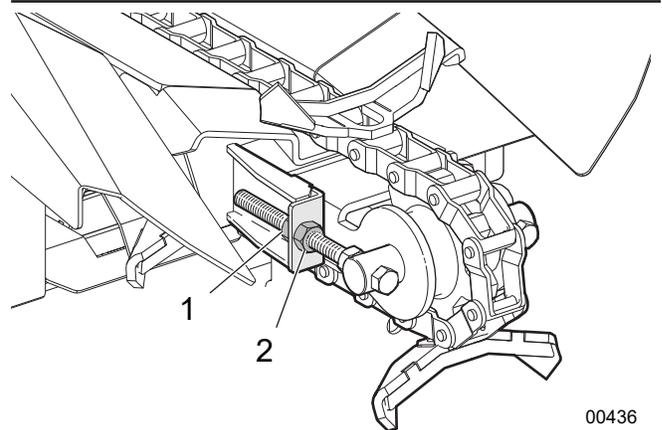
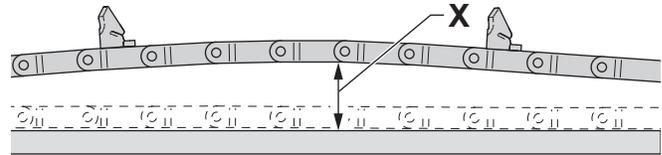
Fig. 88 – Bar Oil Reservoir

12.8 Adjust the Infeed Conveyor Chain Tension

Check conveyor chain tension after the first 50 hours of operation. Chains can stretch during this period. This is normal wear in.

IMPORTANT! The main requirement of chain adjustment is to remove slack from the chain (take up the clearances in each link). It is easy to over tighten the chain, so great care is needed!

Measure conveyor chain slack from the topside. Pull the chain up by hand at the middle and measure distance 'X'. Measurement should be 3" (7.6 cm). Adjust accordingly.



00436

Fig. 89 – Infeed Conveyor Chain

1. Jam Nuts
2. Tension Adjuster Nut

1. Loosen jam nuts (1) on both sides.
2. Turn the tension adjuster nuts (2) on both sides to tighten the chain.
3. Tighten the jam nuts.

IMPORTANT! Adjust both sides equally.

The infeed conveyor chain can stretch a slight amount and can require occasional adjustment. If excessive slack is observed, snug up the tension adjusters. Care must be taken the chain is not over adjusted, as this adds pretension into the chain and reduces chain life.

12.9 Adjust the Live Deck Chain Tension

Check conveyor chain tension after the first 50 hours of operation. Chains can stretch during this period. This is normal wear in.

IMPORTANT! The purpose of chain adjustment is to remove slack from the chain. It is easy to over tighten the chain, so great care is needed!

Measure conveyor chain slack from the topside. Pull the chain up by hand at the middle and measure distance 'X'. Measurement should be **1-1/2" (4 cm)**. Adjust accordingly.

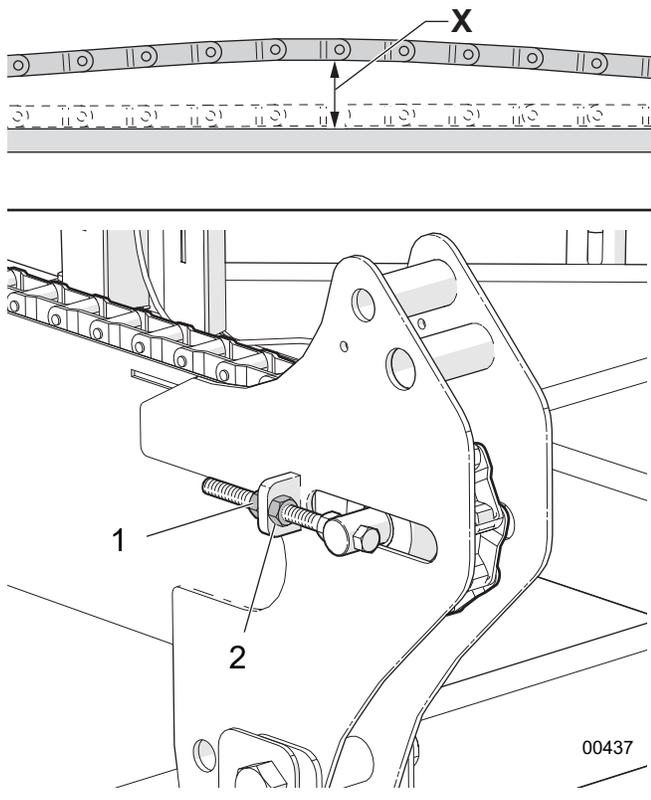


Fig. 90—Live Deck Chains

1. Jam Nut
2. Tension Adjuster Nut

IMPORTANT! Adjust both sides equally.

1. Loosen jam nuts (1) on both sides.
2. Turn the tension adjuster nuts (2) on *both sides* to tighten the chain.
3. Tighten the jam nuts once proper tension is achieved.

The live deck chain can stretch a slight amount and can require occasional adjustment. If excessive slack is observed, snug up the tension adjusters. Care must be taken the chain is not over adjusted, as this adds pretension into the chain and reduces chain life.

12.10 Adjust the Live Deck Drive Chain Tension

- Turn chain tension adjuster nut (1) clockwise to tighten the chain. Chain sag should be 3/4"-1" (20-30 mm) .

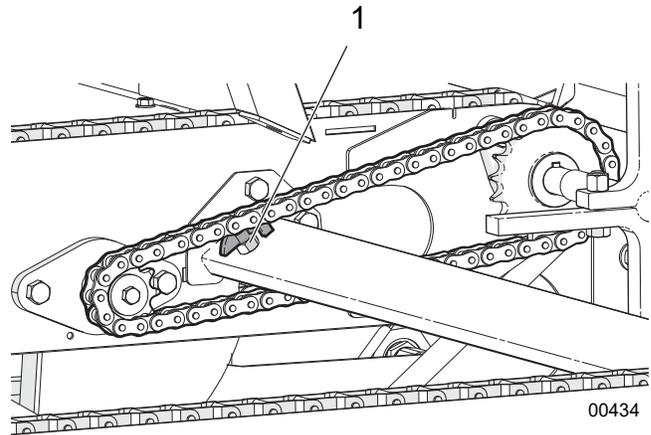


Fig. 91—Live Deck Drive Chain

12.10.1 Lubricate the Live Deck Drive Chain

The infeed conveyor drive chain requires periodic lubrication. Use a brush to apply SAE 20 oil to the slack side of the chain on the roller links.

Reapply oil every 50 hours of operation or as necessary to prevent the chain from becoming dry.

12.11 12 ft Conveyor Maintenance

Complete the following maintenance to keep the conveyor in good condition.

12.11.1 12 ft Conveyor Maintenance Schedule

As Required

Remove any entangled material from conveyor.

Check all fasteners are tight

Every 50 hours or Annually

Check chain tension

Page 73

12.11.2 12 ft Conveyor Grease Points

IMPORTANT! Do not over grease. Pumping more than one pump from a grease gun into the bearings can cause the seals to leak grease. This can damage the seals and reduce their effectiveness.

Use a hand-held grease gun for all greasing. Apply one pump of grease slowly into each fitting.

- Use an SAE multi-purpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multipurpose lithium-based grease.
- Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
- If fittings do not need grease, remove and clean them thoroughly. Replace grease fittings as necessary.

Location	Grease Points – Every 50 hours of operation or annually
1	Drive shaft bearings–1 per side
2	Cable guides- 1 per side

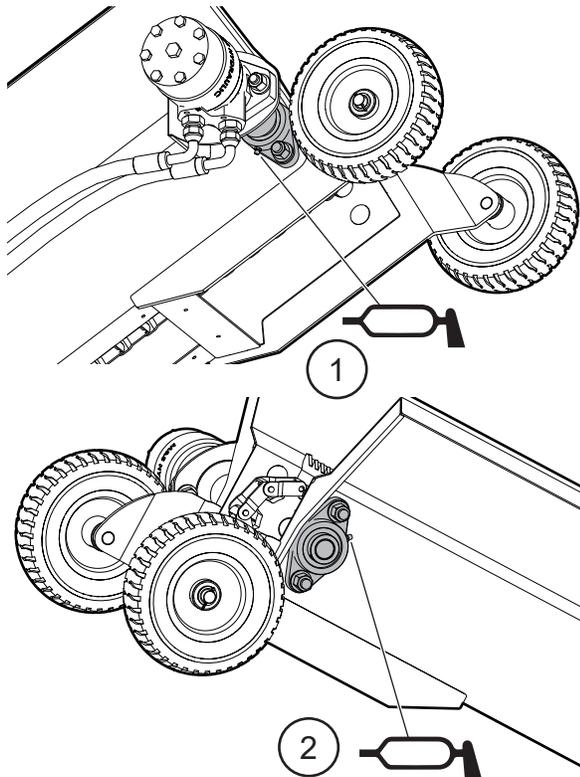


Fig. 92– 12 ft Conveyor Grease Points

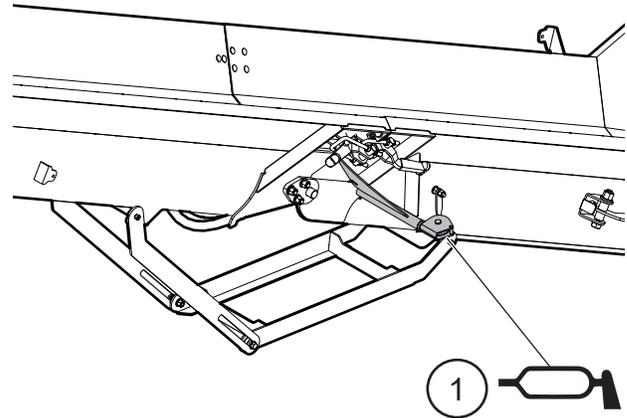


Fig. 93– 12 ft Conveyor Grease Points Continued

12.11.3 Adjust the 12 ft Conveyor Chain Tension

Check conveyor chain tension after the first 50 hours of operation. Chains can stretch during this period. This is normal wear in.

Recheck chain tension every 50 hours of operation. Adjust as required.

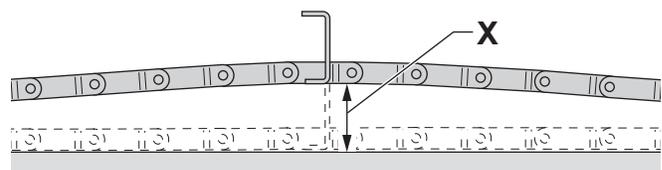
If excessive slack is observed, tighten the tension adjusters. Do not over-tighten the chain. Over-tightening adds pretension into the chain and reduces chain life.

IMPORTANT! The purpose of chain adjustment is to remove slack from the chain. It is easy to over tighten the chain, so great care is needed!

Measure conveyor chain slack from the topside, inside the conveyor trough. Conveyor must be unfolded with side latches secured.

Pull the chain up by hand at the middle and measure distance 'X'.

Ideal chain slack is 3 inches (7.6 cm).



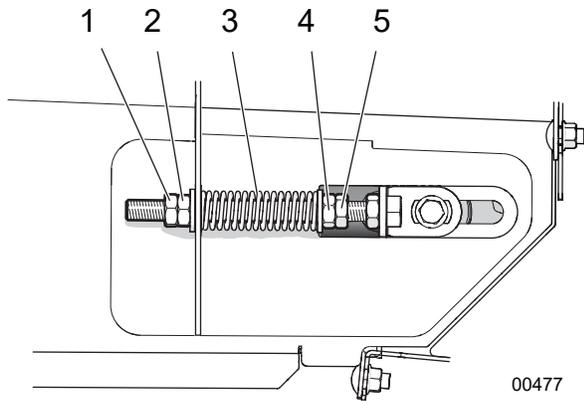


Fig. 94—Chain Tensioner

- | | |
|-------------------|-------------------------|
| 1. Jam Nut | 4. Spring Tensioner Nut |
| 2. Adjuster Nut | 5. Tensioner Jam Nut |
| 3. Tension Spring | |

IMPORTANT! The tension spring (3) must be kept at the same compressed length after adjustments are made. Adjust both sides equally.

- Loosen jam nuts (1 and 5). Loosen off adjuster nut (2).
- Turn spring tensioner nut (4) clockwise so the spring compresses enough to increase chain tension.
Make sure both sides of the conveyor are adjusted equally.



It may be necessary to tap the bolt lightly to get the spring to re-adjust the tension to the new setting.

- Tighten adjuster nut (2).
- Tighten jam nuts (1 and 5).

12.12 24 ft Conveyor Maintenance

Complete the following maintenance to keep your conveyor in good condition.

12.12.1 24 ft Conveyor Maintenance Schedule

As Required

Remove any entangled material from conveyor.

Check that all fasteners are tight.

Every 100 hours or Annually

Check tire pressure.	See rating on tire sidewall
Clean conveyor. Remove debris and entangled material.	—
Check chain tension.	See Fig. 95
Grease hand winch.	See Fig. 96

12.12.2 24 ft Conveyor Grease Points

IMPORTANT! Do not over grease. Pumping more than one pump from a grease gun into the bearings can cause the seals to leak grease. This can damage the seals and reduce their effectiveness.

Use a hand-held grease gun for all greasing. Apply one pump of grease slowly into each fitting.

- Use an SAE multi-purpose high temperature grease with extreme pressure (EP) performance. Also acceptable is an SAE multipurpose lithium-based grease.
- Wipe grease fitting with a clean cloth before greasing to avoid injecting dirt and grit.
- If fittings do not need grease, remove and clean them thoroughly. Replace grease fittings as necessary.

Location	Grease Points – Every 50 hours of operation or annually
1	Drive shaft bearings- 1 per side
2	Hand winch- inside bushing and ratchet pawl

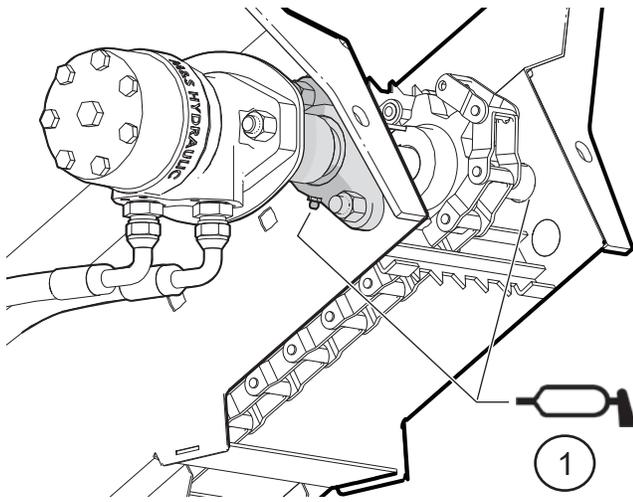


Fig. 95– 24 ft Conveyor Grease Points

IMPORTANT! Do not get oil or grease on the winch friction discs. The winch brake system cannot function properly if exposed to oil or grease.

Apply a drop of SAE 30 engine oil to each bushing inside diameter and to the ratchet pawl pivot points.

- Maintain a thin layer of marine grease on the gear teeth and shaft threads.

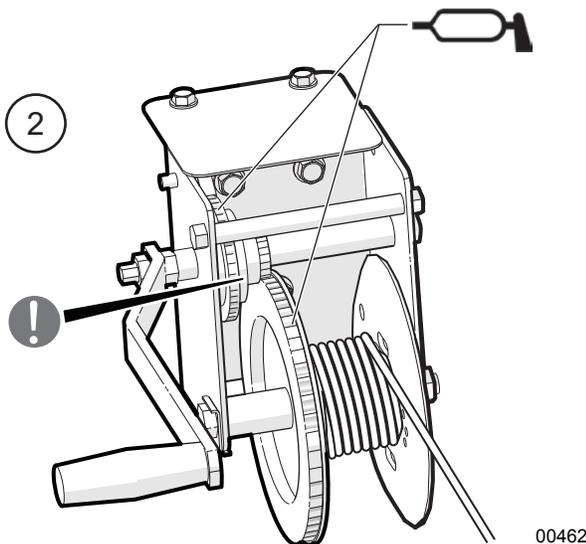


Fig. 96– Hand Winch

12.12.3 Adjust the 24 ft Conveyor Chain Tension

IMPORTANT! The purpose of chain adjustment is to remove slack from the chain. It is easy to over tighten the chain, so great care is needed!

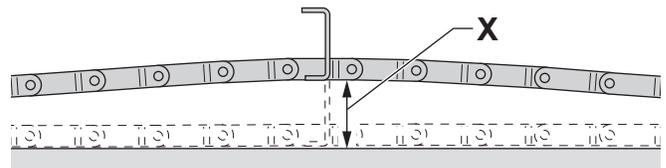
 It may be necessary to tap the bolt lightly to get the spring to re-adjust the tension to the new setting.

The conveyor chain can stretch a slight amount and can require occasional adjustment. Care must be taken the chain is not over adjusted, as this adds pretension into the chain and reduces chain life.

The ideal chain slack is 6 inches (15 cm).

Measure the chain slack:

1. Locate the conveyor chain on the top of the conveyor, inside the conveyor trough.
2. Pull the chain up in the middle and measure dimension X.
3. Complete one of the following:
 - If the chain slack is correct, no further action is required.
 - If the chain slack is not correct, adjust the chain tension.



Adjust the chain tension:

1. Loosen jam nuts (1).
2. Turn spring tensioner nut (2) clockwise to increase chain tension.
Make sure both sides of the conveyor are adjusted equally.
3. Tighten jam nuts (1).

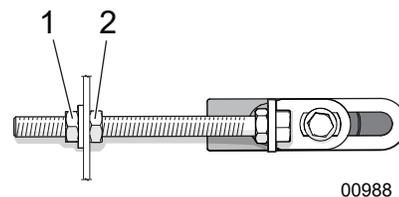


Fig. 97– Chain Tensioner

12.13 Electrical System

IMPORTANT! When assembling or replacing wire harnesses, apply a thin coating of silicone dielectric grease to the harness connectors.

Clean off any corrosion or loose particles, then apply a small amount to the surfaces of the connectors where they meet. The grease helps to stop any possibility of future corrosion.

Reassemble the connection. If grease squeezes out, wipe off.

12.14 Weld on the Machine

IMPORTANT! If it is necessary to weld on the machine becomes necessary, sensitive electronic components must be removed from the machine beforehand. Welding can produce stray voltage spikes that can damage these items.

- Disconnect and remove the P3 PULSE controller from the machine. Remove the cover over the hydraulic reservoir to access it.
- Disconnect/unhook the machine from the tow unit, tractor, or carrier machine.
- Disconnect the machine's battery. Disconnect the negative battery cable first before disconnecting the positive battery cable.
- Place the welder ground clamp as close to the work area as possible. Keep the welder cables away from the control system electrical harnesses.

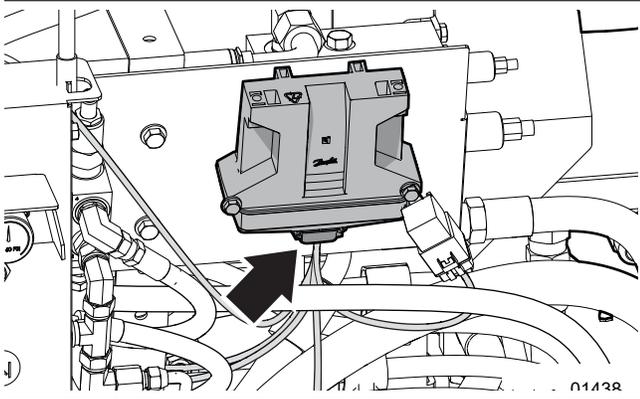


Fig. 98—P3 PULSE Controller

13. Troubleshooting



WARNING!

Before troubleshooting, read and understand the Safety on page 8. Set the machine to a safe condition.

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

The following table lists some of the problems that can occur and gives possible causes and solutions.

If you find a problem that is difficult to solve, even after reading this information, please contact your local dealer, the distributor, or Wallenstein Equipment. When you contact someone, please have the serial number of your product available. To find the serial number on your machine, see *Serial Number Location on page 6*.

13.1 Machine Troubleshooting

Problem	Cause	Solution
Pushblock moves slowly or does not move.	Wood jammed around wedge.	Stop the machine and safely remove wood.
	Low hydraulic fluid pressure.	Fluid filter plugged. Change filter.
	Low hydraulic fluid pressure.	Low hydraulic fluid level. Add fluid.
	Not enough pressure.	Call technician. System relief setting may be low.
	Low engine speed.	Check that choke is off. Check throttle is set to maximum.
Control handle does not go to neutral after pushblock is fully retracted.	Detent set too tight.	Call technician. Adjustment required to detent on valve.
	Hydraulic fluid too cold.	Allow machine to warm up.
	Hydraulic fluid is contaminated.	Change hydraulic fluid and filter.
Control handle goes to neutral before splitter rod is fully retracted.	Detent set too loose.	Call technician. Adjustment required to detent on valve.
Control handle does not go to neutral when released.	Valve may be damaged.	Valve may need to be serviced or replaced. Call technician.
Cylinder stops on contact with wood.	Hi-low valve not functioning.	Hi-low valve may need to be serviced or replaced. Call technician.
Wedge jumps.	Wood jammed sideways or at an angle.	Clear jammed wood.
Leaking hydraulic hose.	Hose worn or damaged.	Replace hose.
Leaking cylinder.	Seals worn.	Call technician. Seal replacement may be required.
Infeed conveyor or live deck does not operate.	Low hydraulic fluid pressure.	Fluid filter plugged. Change filter.
		Low hydraulic fluid level. Add fluid.
		Pump may need to be serviced or replaced. Call technician.
	Wood debris caught between the scrapers and conveyor trough.	Clear out debris.
	Scrapers frozen in the conveyor trough.	Free the infeed chain from the trough.
	Chain skipping, too loose	Tighten chain.
	Log is crooked or untrimmed branches are catching on the infeed conveyor.	Rotate log with peavey or trim branches off.
	Hydraulic conveyor is jammed resulting in no fluid flow available.	
Log falls lengthwise into splitting cradle too often.	Dull chain is finishing the cut too slowly.	Sharpen or replace chain.
	Log dropper set too light.	Set one or both gas struts to active on the log dropper.
	Log dropper not centered under block.	Move log dropper to halfway point between saw and log length indicator.
Wedge adjust cylinder does not lower.	Wood left under wedge prevents it from moving down.	Clear wood away from under wedge.

Problem	Cause	Solution	
Saw overheating; harder to cut.	Saw chain is dull.	Sharpen or replace chain.	
	Bar oil is low	Add oil.	
	Chain tension too loose.	Adjust chain tension.	
	Bar oiler not working.	Move oil reservoir to gravity feed mounting position on chain saw guard.	No power to pump because of pump failure, or pressure switch failure, harness issue. Call technician.
		Saw is cutting at an angle due wear on bar.	Flip bar or replace. Have bar surfaces reground.
Engine related issues.	See the engine manual for troubleshooting instructions.		

13.2 Conveyor Troubleshooting

Problem	Cause	Solution
The conveyor chain is winding on the sprocket.	Too much slack in the chain	Adjust the chain length or distance between axle sprockets.
	Excessively worn sprocket. The chain and sprocket do not match.	Replace the chain and/or sprocket with the correct-sized part.
Unusual noises coming from the conveyor.	Excessive wear in the chain or sprocket.	Replace the chain or sprocket.
Excessive wear at the inside of the conveyor chain's link plates or the teeth surfaces.	Improper centering of the sprocket.	Correct the centering of the drive and driven sprockets.
	The chain is being pushed to the side.	Remove the debris or reason the chain is being pressed to the side.
Conveyor chain does not move.	Chain is frozen to conveyor trough or trough is jammed with material.	Free up the chain. Clear jammed material.

14. Specifications

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

For available accessories, go to WallensteinEquipment.com.

14.1 Machine Specifications¹

Parameter	WP1624
Engine	Vanguard® 40 hp (993 cc) EFI
Hydraulic Pump	14 US gpm (53 Lpm) / Stage 1 7.75 US gpm (29.3 Lpm) / Stage 2 4.15 US gpm (15.7 Lpm) / Stage 3
Hydraulic Reservoir Capacity	26 US gal (102 L)
Fuel Tank Capacity and Type	10 US gal (38 L) gasoline
Cylinder Diameter / Stroke	4" / 26" (10 cm / 66 cm)
Splitter Control Valve	Single spool with auto return
Splitting Force	20 ton
Maximum Split Length	24" (60 cm)
Splitter Opening	26" (66 cm)
Maximum Log Diameter	18" (46 cm), 16" (41 cm) recommended
Maximum Log Length	16' (4.9 m)
Minimum Log Diameter	5" (12 cm)
Log Trough Length	12'-6" (3.8 m)
Wedge Configuration	four-way split or six-way split
Tire Size / Type	ST205/75R15 LRD / Radial Trail Highway tire
Ball Hitch Size	2" (ladder style) ball coupler and safety chains
Tongue Weight	480 lb (218 kg) estimated
Suspension	4000 lb (1814 kg) Torflex® Suspension axle with electric brakes
Trailer Light Package	LED lights
Weight	3,700 lb (1 450 kg) estimated
Dimensions — Live Deck Lowered (L x W x H)	19'-4" x 9'-6" x 6'-4" (5.89 m x 2.89 m x 1.93 m)
Dimensions — Live Deck Raised (L x W x H)	19'-4" x 5'-6" x 8'-9" (5.89 m x 1.67 m x 2.66 m)
Hydraulic Reservoir Capacity and Fluid Type	26 US gal (102 L) Dexron III ATF
Saw Bar Oil Reservoir Capacity	6-1/2 US qt (6.2 L) (Biodegradable recommended)
Tool Box – Fits a medium-sized chain saw (L x W x H)	38" x 10" x 15" (97 cm x 25 cm x 38 cm)
Infeed Trough	Heavy Duty 12 ft (3.6 m) Continuous chain drive Valve operated hydraulic motor
Live Deck	Folding Two-strand with Adjustable Height. Valve-operated hydraulic motor, continuous chain drive
Live Deck Height	4'-5" (135 cm)
Live Deck Length	5'-10" (178 cm)

¹ Specifications subject to change without notice.

Parameter	WP1624
Live Deck Width	6'-0" (182 cm)
Saw Bar and Chain	Oregon® 25" (64 cm) harvester bar 18HX 0.404 chain, electric bar oiler
Saw Drive	Hydraulic gear motor
Through-put	1 ½ – 2 ¾ cords an hour
Full Stroke Splitting Cycle Time	6½ seconds
Average Cycle Time (cut and split)	12 seconds

14.2 Conveyor Specifications²

Parameter	12 ft Conveyor	24 ft Conveyor
Trough Length	12' (3.7 m)	24' (7.3 m)
Trough Width	8" (20 cm) at bottom, 20" (51 cm) at top	8" (20 cm) at bottom, 20" (51 cm) at top
Trough Depth	7" (18 cm)	7" (18 cm)
Maximum Pile Height	6.75' (2.1 m)	13.5' (4.1 m)
Power Source	WP1624	WP1624
Chain Type	662 Pintle Heavy Conveyor Chain	662 Pintle Heavy Conveyor Chain
Chain Drive	Top Sprocket	Top Sprocket
Cleat	2" (5 cm) High Serrated	2" (5 cm) High Serrated
Tires	2.5-4	5.30-12 LRC
Hitch	None	Clevis
Total Weight	397 lb (180 kg)	990 lb (449 kg)
Dimension Raised (L x W x H)	143" x 35" x 83" (363 cm x 89 cm x 211 cm)	260" x 74" x 174" (780 cm x 188 cm x 211 cm)
Dimensions Lowered (L x W x H)	165" x 35" x 30" (419 cm x 89 cm x 76 cm)	307" x 74" x 83" (780 cm x 188 cm x 211 cm)

² Specifications subject to change without notice.

14.3 Machine Dimensions

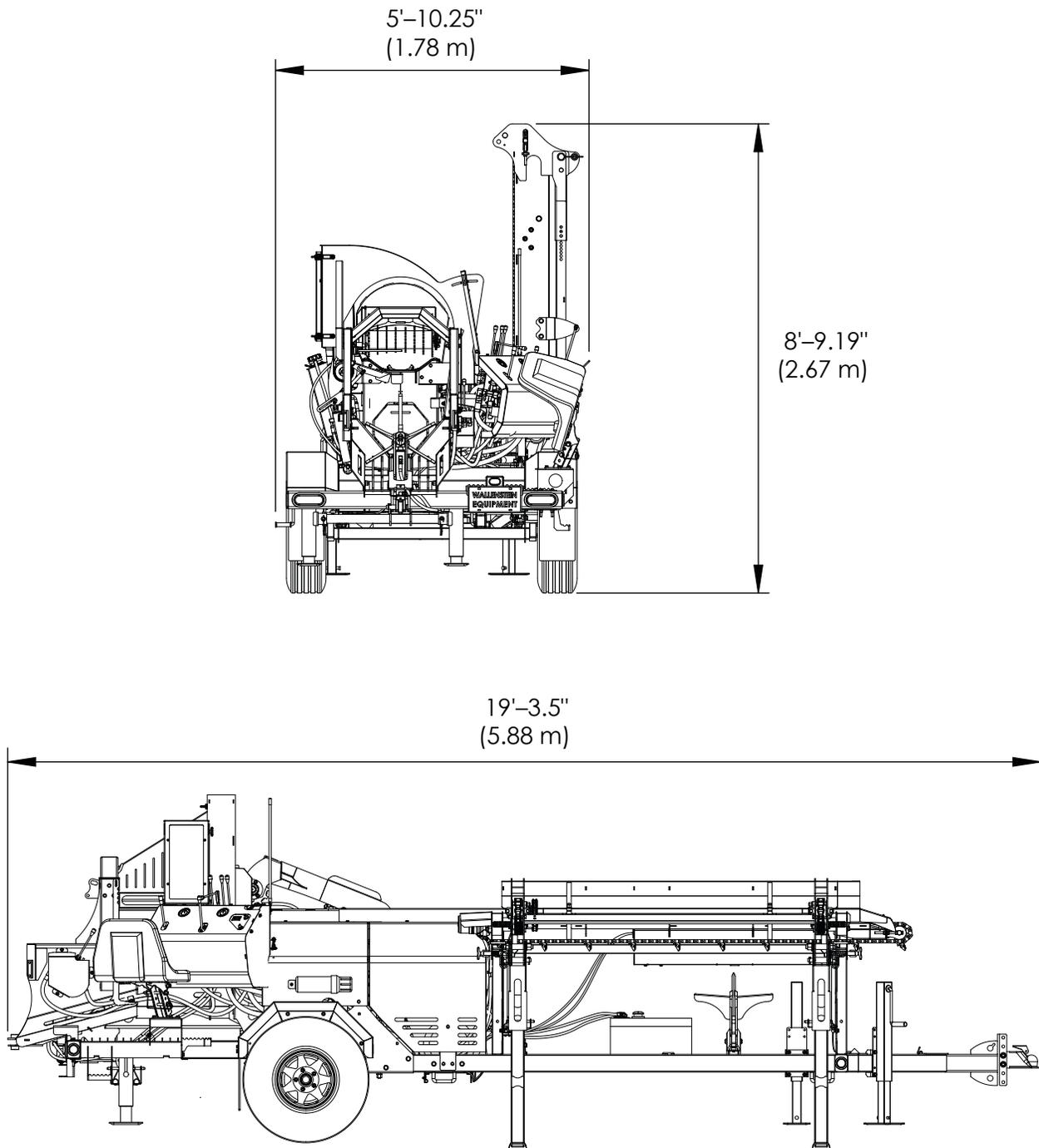


Fig. 99 – WP1624 Dimensions

14.4 12 ft Conveyor Dimensions

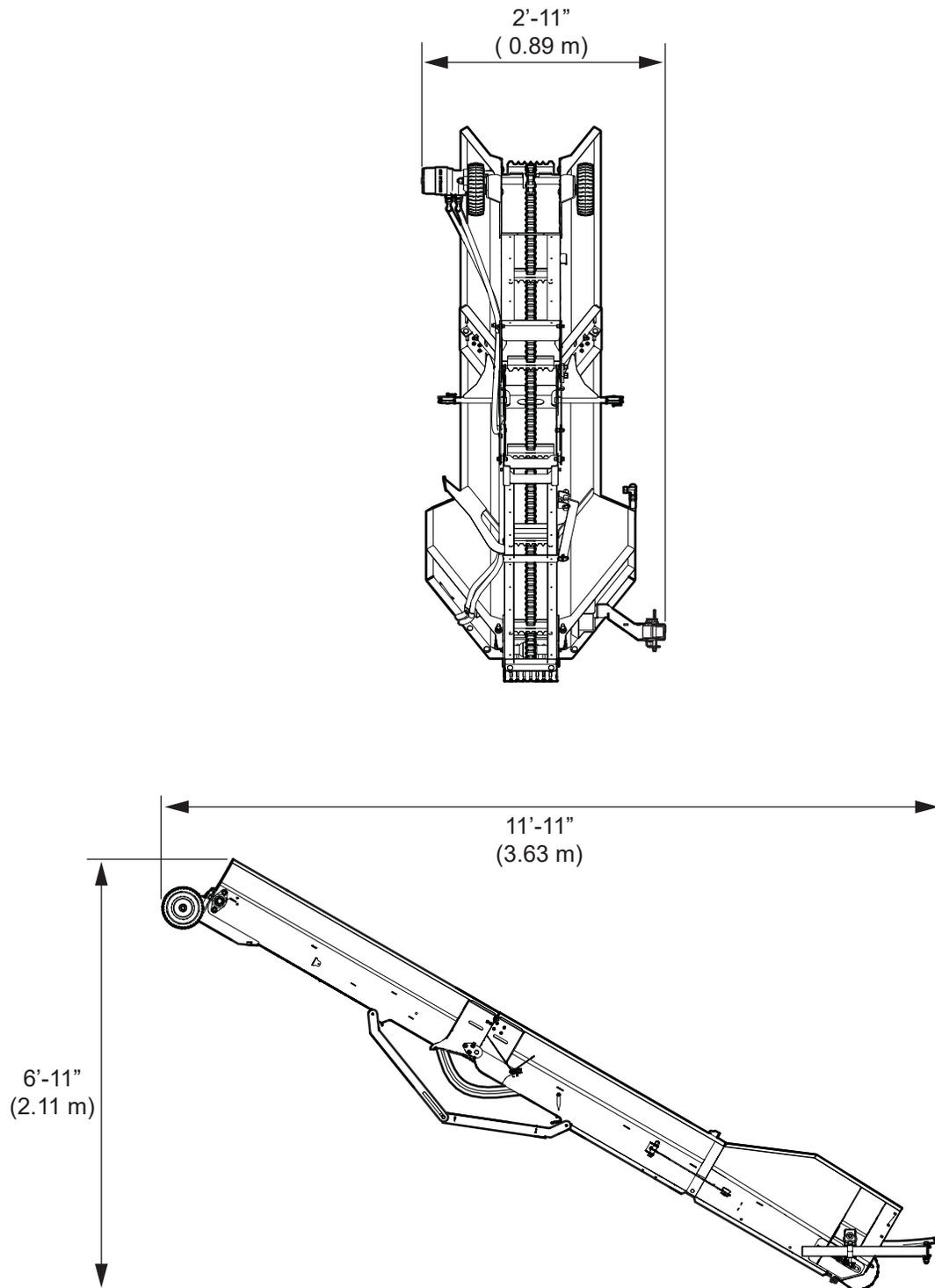


Fig. 100 – 12 ft Conveyor Dimensions

14.5 24 ft Conveyor Dimensions

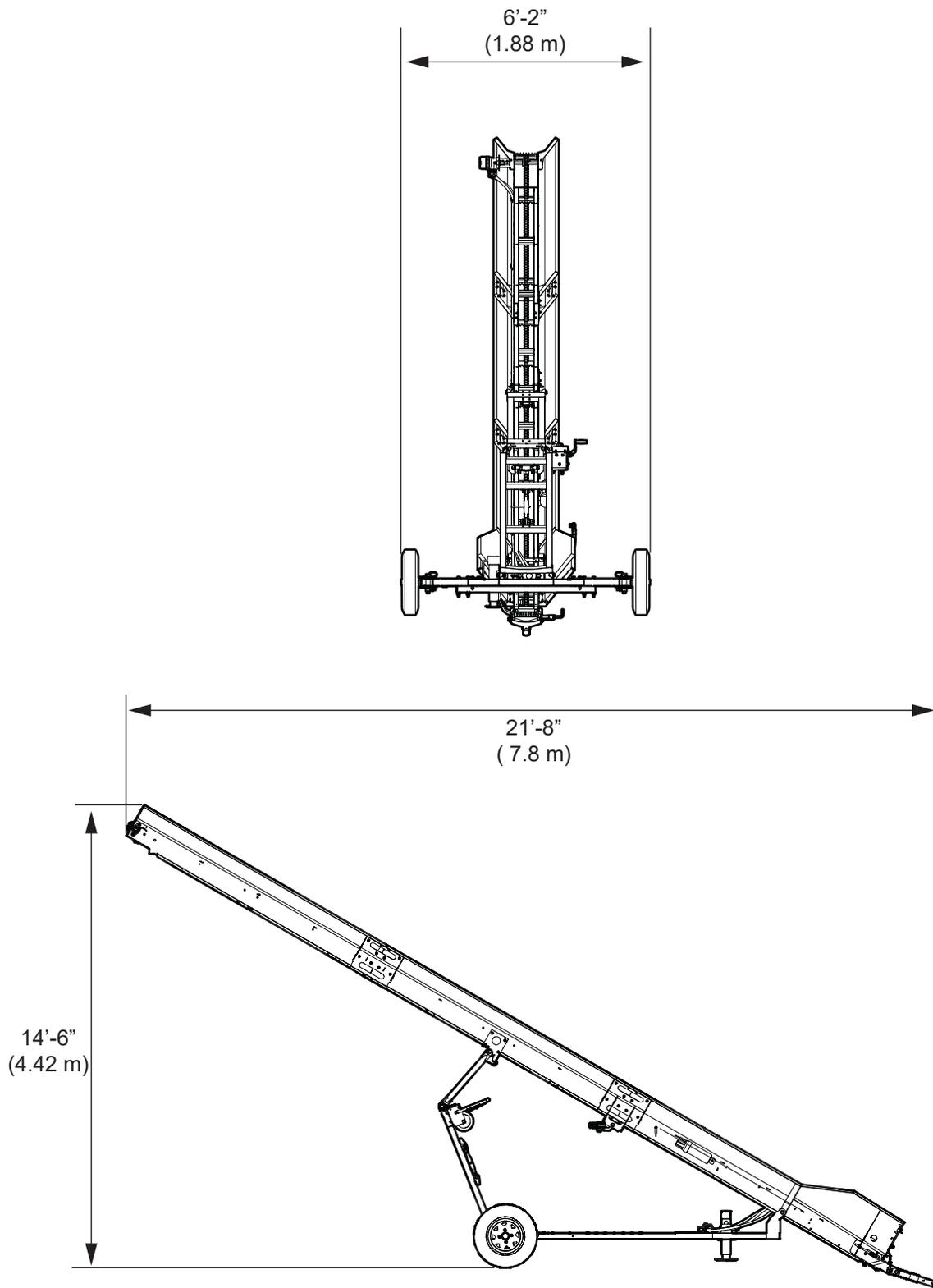


Fig. 101 – 24 ft Conveyor Dimensions

14.6 Bolt Torque

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

IMPORTANT! The torque specifications in these tables are for non-greased or non-oiled threads. Do not grease or oil fastener threads unless otherwise indicated. When using a thread lock, increase the specified torque 5%.



Bolt grades are identified by the marks on top of the bolt head.

These bolt torque specification tables give the correct torque settings for common bolts and capscrews. Tighten all bolts to the torque that is specified in the table, unless otherwise indicated. Check the bolt tightness periodically.

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

14.7 Hydraulic Fitting Torque

Tighten flare-type tube fittings:

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

If a torque wrench is not available, use the flats from finger tight (FFFT) method.

Hydraulic Fitting Torque Specifications					
Tube size OD	Hex size across flats	Torque		Flats from finger tight	
		lbf•ft	N•m	Flats	Turns
3/16	7/16	6	8	2	1/6
1/4	9/16	11–12	15–17	2	1/6
5/16	5/8	14–16	19–22	2	1/6
3/8	11/16	20–22	27–30	1-1/4	1/6
1/2	7/8	44–48	59–65	1	1/6
5/8	1	50–58	68–79	1	1/6
3/4	1-1/4	79–88	107–119	1	1/8
1	1-5/8	117–125	158–170	1	1/8

Specifications are for non-lubricated connections.

14.8 Lug Nut Torque



WARNING!

Wheel lug nuts must be installed and kept at the correct torque to prevent loose wheels, broken studs, or possible separation of a wheel from the axle.

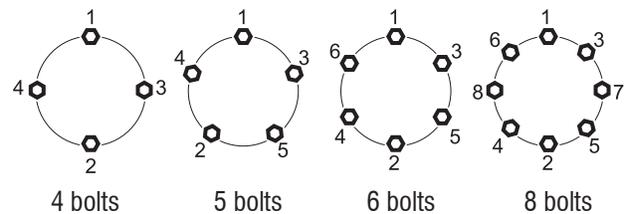
It is an extremely important safety procedure to apply and maintain the correct torque on lug nuts that secure the wheel to the trailer axle. A calibrated torque wrench is the best tool to make sure that the correct amount of torque is applied to a fastener.

Tighten wheel lug nuts to the correct torque before the first use and after each wheel removal. After a wheel is installed, check and torque the lug nuts after the first 10 miles (16 km), 25 miles (40 km), and 50 miles (80 km). Check the lug nut torque periodically thereafter.

- Start all lug nuts onto the threads by hand.
- Tighten lug nuts in stages, following the pattern shown below the Lug Nut Torque Specifications table.

Lug Nut Torque Specifications				
Wheel size	Units	First stage	Second stage	Third stage
8 inch	lbf•ft N•m	12–20 16–26	30–35 39–45.5	45–55 58.5–71.5
12 inch	lbf•ft N•m	20–25 26–32.5	35–40 45.5–52	50–60 65–78
13 inch	lbf•ft N•m	20–25 26–32.5	35–40 45.5–52	50–60 65–78
14 inch	lbf•ft N•m	20–25 26–32.5	50–60 65–78	90–120 117–156
15 inch	lbf•ft N•m	20–25 26–32.5	50–60 65–78	90–120 117–156
16 inch	lbf•ft N•m	20–25 26–32.5	50–60 65–78	90–120 117–156

Lug nut torque pattern:



15. Warranty



LIMITED WARRANTY

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

Five Years for Consumer Use

Two Years for Commercial/Rental Use

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

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

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

This warranty does not cover the following:

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

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