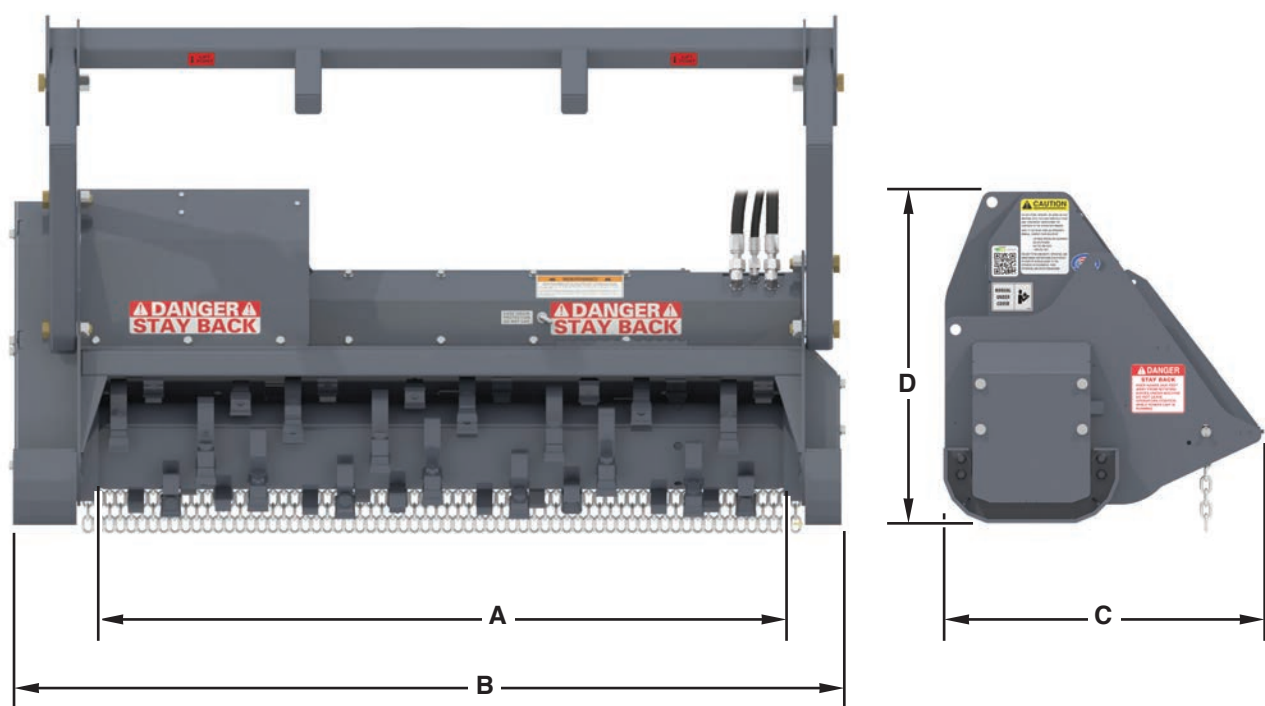


Appendix

Dimensions



DESCRIPTION	BATTLE AX LIGHT
Cutting Path (A)	61 in. (154.9 cm)
Overall Width (B)	76.0 in. (193.0 cm)
Overall Depth (C) (without pusher)	30.0 in. (76.2 cm)
Overall Height (D) (without pusher)	30.875 in. (78.4 cm)
Number Of Teeth	38
Crated Weight (with pusher)	~1,606 lbs. (728.5 kg)

Safety First



Safety Alert Symbol

This message alert symbol identifies important safety messages on the machine and in the owner's manual. When you see this symbol, be alert to the possibility of personal injury and carefully read the message that follows.

In the owner's manual and on decals used on the machine the words **DANGER, WARNING, CAUTION, IMPORTANT, and NOTE** are used to indicate the following:

DANGER: This word warns of immediate hazards which, if not avoided, will result in severe personal injury or death. The color associated with Danger is RED.



WARNING: This word refers to a potentially hazardous situation which, if not avoided, could result in severe personal injury or death. The color associated with Warning is ORANGE.

CAUTION: This word refers to a potentially hazardous or unsafe situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices. The color associated with Caution is YELLOW.

IMPORTANT: Highlights information that must be heeded.

NOTE: A reminder of other related information that needs to be considered.

If Safety Decals on this machine are ISO two panel pictorial, decals are defined as follows:

- The first panel indicates the nature of the hazard.
- The second panel indicates the appropriate avoidance of the hazard.
- Background color is YELLOW.
- Prohibition symbols such as  and  if used, are RED.

Be certain all machine operators are aware of the dangers indicated by safety decals applied to the machine, and be certain they follow all safety decal instructions. Contact Loftness for safety decal replacement.

Loftness cannot anticipate every possible circumstance that may involve a potential hazard. The warnings in this owner's manual are not all inclusive.

Owner's Responsibility

Due to the potential danger of flying debris, it is the owner's responsibility and is **"ABSOLUTELY MANDATORY"** that **IMPACT-RESISTANT SHIELDING** be installed on the machine to protect the operator.

It is **ABSOLUTELY MANDATORY** that all personnel read and follow all safety precautions before operating the machine and attachment.

Make sure that all personnel have read this owner's manual, and thoroughly understand safe and correct installation, operation, and maintenance procedures.

Operate and maintain this machine in a safe manner and in accordance with all applicable local, state, and federal codes, regulations and/or laws; and in compliance with on-product labeling and this owner's manual instructions.

Make sure that all personnel know how to stop the machine and attachment by disengaging all controls. See "Mandatory Shut-Down Procedure" on page 3.

Make sure the attachment is installed on the machine correctly before being placed into service. At regular intervals thereafter, the attachment should be serviced in accordance with procedures outlined in this owner's manual.

Mandatory Shut-Down Procedure

- Stop the machine and attachment on a level surface and lower the attachment to the ground.
- Move throttle to idle position.
- Disengage all power to the attachment.
- Shut off engine and remove the key.

Wait until the rotor has stopped completely before inspecting the attachment.

Safety Instructions

Safety Rules

These are general safety considerations. Additional precautions may be necessary to operate your machine in a safe manner. Be certain you are operating your machine in accordance with all safety codes, OSHA rules and regulations, insurance requirements and local, state, and federal laws.

- Read and observe all warnings decals on the machine before attempting to operate the attachment. Do not attempt to operate this attachment unless all factory devices and decals are in place. Keep safety decals clean of dirt and grime. Keep all guards, shields and decals in place.
- Remove from area of operation all foreign objects such as bottles, rocks, wire, etc., that might become tangled in the rotor, causing damage to the machine or be thrown striking other objects.
- Do not allow any people and animals within 300 feet of the machine and attachment during operation.
- Do not allow anyone to operate the attachment until he or she has read the owner's manual and is completely familiar with all safety precautions. Keep the work area clear of all unauthorized personnel.
- Do not allow persons under the influence of alcohol, medications, or other drugs that can impair judgment or cause drowsiness to operate or maintain the machine.
- Always use an approved roll bar and seat belt for safe operation. Overturning a machine without a roll bar and seat belt can result in injury or death.
- Use the handholds and step plates when getting on and off the machine to prevent falls. Keep steps and platform cleared of mud and debris.
- Always have an operator in the machine while the attachment is in operation. Never leave the machine and attachment running and unattended.
- Operate the attachment only from the operator's seat.
- Keep your feet on the pedals, (floor plates) seat belt fastened snugly and seat bar lowered, (if equipped), when operating the attachment.
- The adjustable push bar could contact the machine in some positions. Before starting the power unit, set the push bar in the most forward position, then slowly rotate the attachment back while an assistant checks for clearance. Repeat this process in the other settings to determine which positions are usable with your machine.
- Never attempt to make any adjustments while the attachment is running or the key is in the "ON" position in the machine. Before leaving the operator's position, disengage power to the attachment, shut off engine and remove ignition key.
- Disengage auxiliary hydraulics and place all machine controls in neutral and engage the parking brake before starting the engine.
- Become familiar with and know how to operate all safety devices and controls on the machine and attachment before attempting to operate. Know how to stop the machine and attachment before starting it.
- Repeated impact of the knives with hard objects can cause excessive wear and damage to the skid-loader or attachment. Be sure to maintain recommended ground clearance as specified in this manual.
- Should excessive vibration occur, disengage the auxiliary hydraulics immediately and shut off engine. Do not continue to operate the attachment until the problem has been determined and corrected.
- Do not start, operate, or work on this attachment until you have carefully read and thoroughly understand the contents of this manual and the operator's manual for your machine.
- Keep children, bystanders and other workers off and away from the machine and attachment during operation. No riders allowed.
- Before inspecting, cleaning, lubricating, adjusting or servicing any part of the attachment, always exercise the Mandatory Shut-Down Procedure. See "Mandatory Shut-Down Procedure" on page 3. After service has been performed, be sure to restore all guards, shields and covers to their original position.
- Make sure the operator's area is clear of any distracting objects. Keep work areas clean and free of grease and oil to avoid slipping or falling.

Safety Instructions

Safety Rules (Cont'd)

- Make sure all controls, (levers, pedals and switches), are in NEUTRAL position before starting the engine.
- Before leaving the operator's position for ANY reason or allowing anyone to approach the machine and attachment, always perform the mandatory shutdown procedure.
- Do not wear loose hanging clothes, neckties or jewelry around rotating parts. Long hair is to be placed under a cap or hat. These precautions will help prevent you from becoming caught in any moving parts on the machine and attachment.
- Before working under the attachment, be certain it is securely blocked!
- Do wear safety glasses, ear protection, respirators, gloves, hard hats, safety shoes and other protective clothing when required.
- Periodically check all guards, shields and structural members. Replace or repair anything that could cause a potential hazard.
- Do not replace components or parts with other than factory-recommended service parts. To do so may decrease the effectiveness of the machine.
- It is the operator's responsibility to be aware of machine and attachment operation and work area hazards at all times.
- Never operate the attachment without adequate light and visibility.
- Keep hands and feet clear! Never step over or climb over the attachment while the rotor is engaged or the engine is running; entanglement could occur.
- Operators are responsible to know the location and function of all guards and shields including but not limited to belt drives and rotor. Operators are responsible to make certain that all guards are in place when operating the machine and attachment.
- Operators are responsible to be aware of safety hazard areas and follow instructions on warning, caution, or danger decals applied to the machine.
- Know the area before operating the machine. Be aware of power lines or other equipment.

- Do not lubricate parts while the machine is running.
- Do not smoke while servicing the machine.

Hydraulic Safety

- The hydraulic system is under high pressure. Make sure all lines and fittings are tight and in good condition. These fluids escaping under high pressure can have sufficient force to penetrate skin and cause serious injury.
- Never check for leaks by using any part of your body to feel for escaping fluid.



WARNING: *Contact with high pressure fluids may cause fluid penetration and burn hazards. Fluid that is under pressure can penetrate body tissue. Fluid penetration can cause serious injury and possible death. If fluid is injected into the skin, seek medical attention immediately!*

California Proposition 65 Warning



WARNING: *This product can expose you to Mineral Oil, which is known to the State of California to cause cancer. For more information, go to www.p65warnings.ca.gov.*

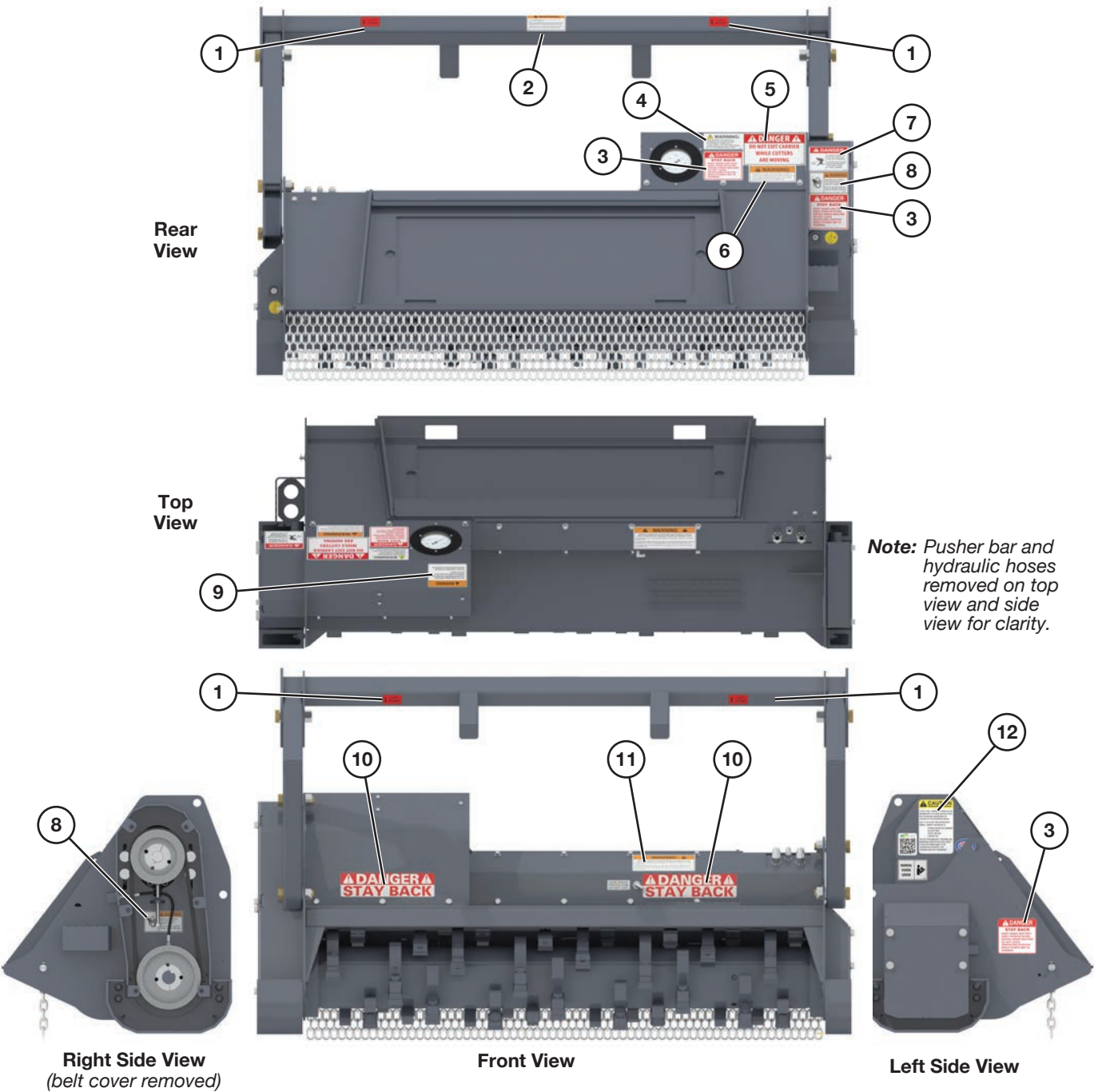
A decal with this warning statement is adhered to the machine. If the decal should become worn or missing, replace immediately.

Safety Instructions

Safety Decal Locations

Check and replace any worn, torn, hard to read, or missing safety decals on your machine.

NOTE: This section shows where safety-related decals are applied on the machine. For all machine decals see “Machine Decals and Signs” on page 41.

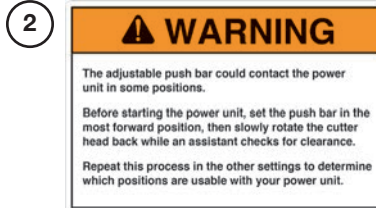


See the following page for detailed images of the safety decals called out above.

Safety Decal Locations (Cont'd)



Part No. N29769



Part No. N17014



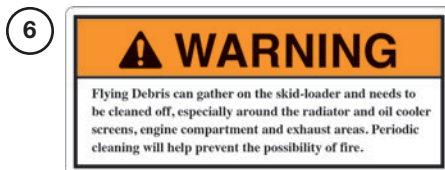
Part No. N28386



Part No. 203264



Part No. 200491



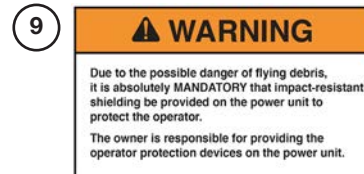
Part No. N20661



Part No. N68724



Part No. N68716



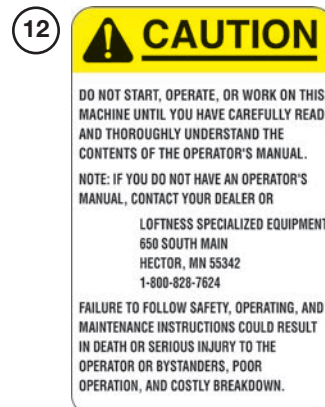
Part No. N17013



Part No. 4334



Part No. N28385



Part No. 4256

Safety Instructions

Battle Ax Light Identification



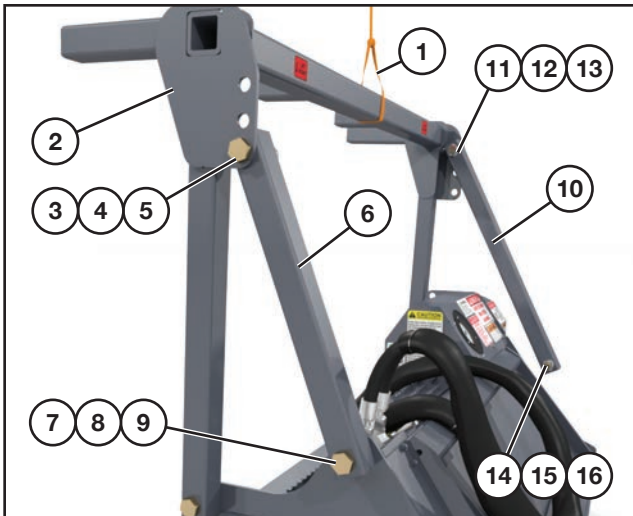
Set-up Instructions

Pusher Bar Assembly

The Battle Ax Light is shipped with the pusher bar in an upright position. For shipping purposes, the left side and right side pusher tubes are reversed and some reconfiguring is required. Follow the procedure below to get the mulcher into an operating position.



The pusher bar can be set into one of three different operating positions as shown above. Determine which of the three positions is desired before assembling.



NOTE: Assembling the pusher bar requires two people or the use of an approved lifting device (1) to support the push bar as it is being adjusted.

Ensure pusher bar (2) is being safely supported.

Remove the upper nut (3), lock washer (4), and bolt (5)

from the 25-7/8 in. pusher tube (6) attached to the left side of the machine.

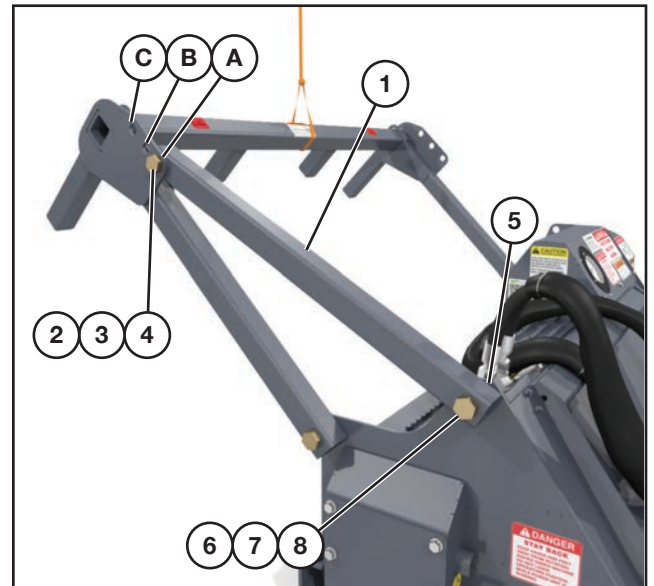
Remove the nut (7), lock washer (8), and bolt (9) securing the pusher tube to the machine frame.

NOTE: This 25-7/8 in. tube will be moved to the right side of the frame in a later step.

Remove the 37-1/2 in. pusher tube (10) from the right side of the machine by removing the upper nut (11), lock washer (12), and bolt (13).

Remove lower nut (14), lock washer (15), and bolt (16).

NOTE: This 37-1/2 in. tube will be moved to the left side of the frame.



Align the top end hole of the 37-1/2 in. pusher tube (1) into the desired position hole (A, B, or C) on the left side pusher bar side plate. (Position A is shown in the image above.)

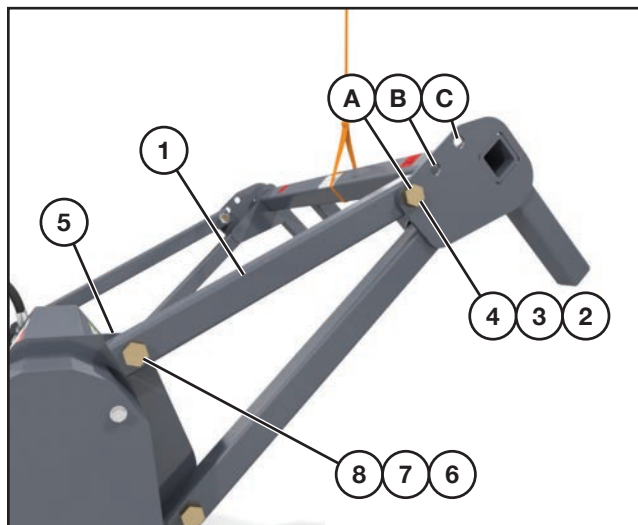
Insert the bolt (2) from the outside and install the lock washer (3) and nut (4) onto the bolt on the opposite side of the pusher tube. Do not tighten at this time.

Align the bottom end hole of the pusher tube with the hole (5) in the left side of the mulcher frame. Insert the bolt (6) from the outside and install the lock washer (7) and nut (8) onto the bolt on the opposite side of the pusher tube. Do not tighten at this time.

(Procedure continued on following page.)

Set-up Instructions

Pusher Bar Assembly (Cont'd)

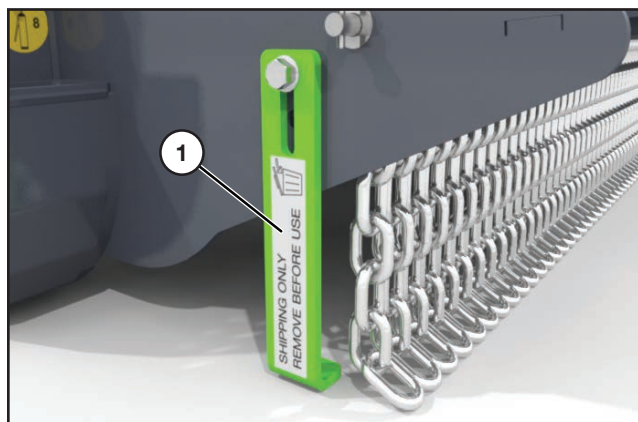


Align the top end hole of the 25-7/8 in. pusher tube (1) onto the right side pusher bar side plate, using the same position hole (A, B, or C) as the left side. Insert the bolt (2) from the outside. Install the lock washer (3) and nut (4) onto the bolt on the opposite side of the pusher tube.

Align the bottom end of the pusher tube with the hole (5) in the right side of the mulcher frame. Insert the bolt (6) from the outside and install lock washer (7), and nut (8) onto the bolt on the opposite side of the pusher tube.

Tighten all hardware on the both the left side and right side pusher tubes.

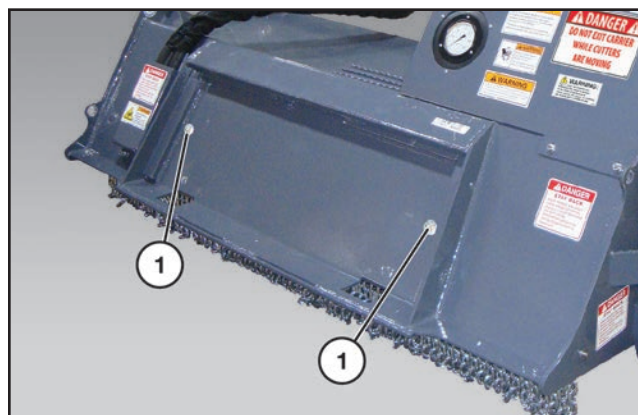
Remove Shipping Stand



A stand (1) is secured to the Battle Ax to keep it stable during shipping. This can be removed after the pusher bar has been moved to the operating position.

NOTE: Do not discard the shipping stand. It is used to stabilize the Battle Ax during storage. Keep in a secure location until ready to store.

Installing the Battle Ax Light to the Loader



Remove the two safety bolts (1).

Fully raise the attachment-locking levers on the loader mounting plate.



Tilt the loader mounting plate ahead. Drive forward with the loader and hook the top edge of the loader mounting plate under the top flange (1) on the Battle Ax Light mounting plate. Be careful not to damage the locking levers on the loader mounting plate.

Tilt the loader mounting plate back until the mulcher mounting plate is firmly against the loader mounting plate, but DO NOT lift the attachment off the ground.

(Procedure continued on following page.)

Set-up Instructions

Installing the Battle Ax Light to the Loader (Cont'd)



WARNING: Before you leave the operator's seat: Lower the lift arms, put the attachment on the ground. Stop engine and remove ignition key. Engage the parking brake.

Fully lower the attachment-locking levers on the loader mounting plate.



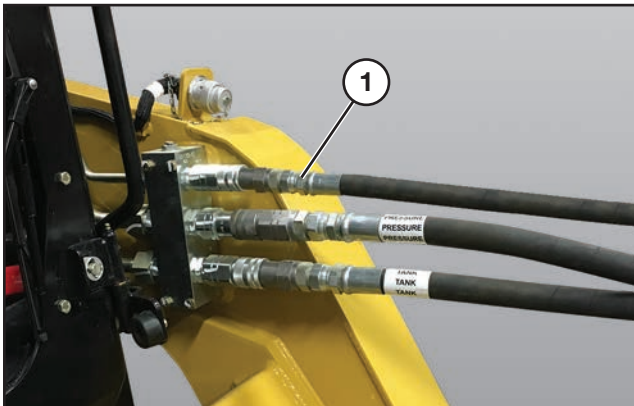
WARNING: Locking-wedge pins must extend through the holes in attachment-mounting plate. Levers must be fully down in the locked over-center position. Failure to secure wedge pins can allow attachment to come off, causing serious injury or death.

Install the two safety bolts through the loader mounting plate and into the Battle Ax Light mounting plate. Tighten the two safety bolts to the proper torque, see "Torque Specifications" on page 45.

Hydraulic Connections



WARNING: Hydraulic Lines. Protect hands and body from high pressure fluids. Pressurized fluids can penetrate the skin. Disconnect and lock out power source before disconnecting and/or connecting hydraulic hoses.



NOTE: The hydraulic hose quick couplers shown above are not supplied with the Battle Ax Light.

Install the Battle Ax Light quick couplers to the loader.

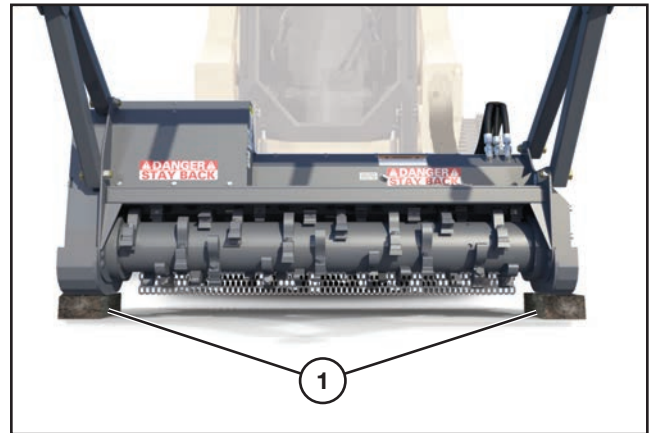
NOTE: The case drain quick coupler (1) of the Battle Ax Light must be connected to the loader's auxiliary hydraulic system for proper operation of the Battle Ax Light.

IMPORTANT: It is the owner's responsibility to assure that the hydraulic hoses from the power unit to the attachment are not caught in pinch points, or in any way damaged by moving parts.

Checking Rotor Rotation



DANGER: Keep hands, feet, and clothing clear of rotor and bearings while the loader is running.

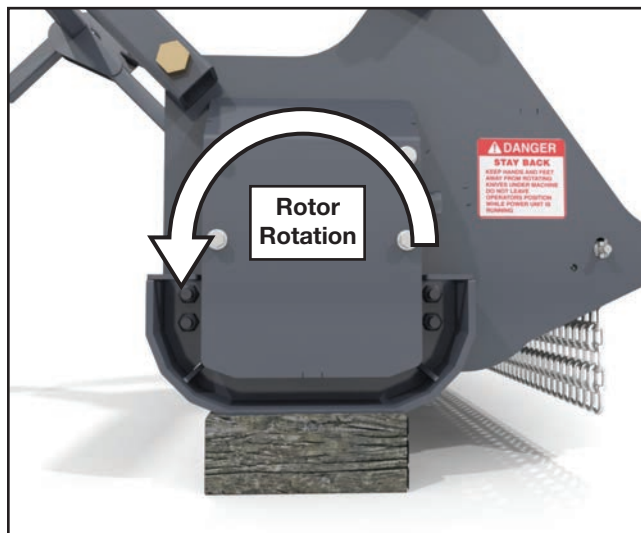


Raise the Battle Ax Light off the ground and place blocks (1) underneath the skids. Lower the Battle Ax Light down on the blocks.

(Procedure continued on following page.)

Set-up Instructions

Checking Rotor Rotation (Cont'd)



Engage the loader auxiliary hydraulics, the rotor should start rotating in a forward direction. The rotation should be counterclockwise as viewed from the left side of the Battle Ax Light.

NOTE: If the rotor is rotating backward, reverse the quick couplers (not supplied) on the Battle Ax Light hydraulic hoses. Re-install the couplers (not supplied) on the loader and test for correct rotor rotation.

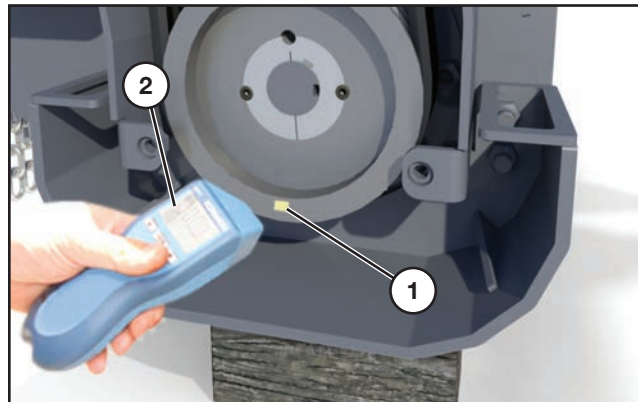


WARNING: The Battle Ax Light can be damaged if rotor is operated in reverse rotation.

Checking Rotor Speed



DANGER: Shut down power from the loader before removing the belt cover and applying reflective tape to the sheave. Keep the Battle Ax Light skids on blocks for this procedure.



Remove the belt cover. See “Removing Belt Cover” on page 19 for instructions.

Apply a small piece of reflective tape (1) to the outer edge of the lower sheave.

Start the loader and engage the auxiliary hydraulics.



DANGER: Keep hands, feet, and clothing clear of the rotor, belt, and sheaves while the loader is running.

Point an electronic (photo) tachometer (2) towards the edge of the sheave to check the rotor speed.

NOTE: The tachometer is not supplied with the Battle Ax Light.

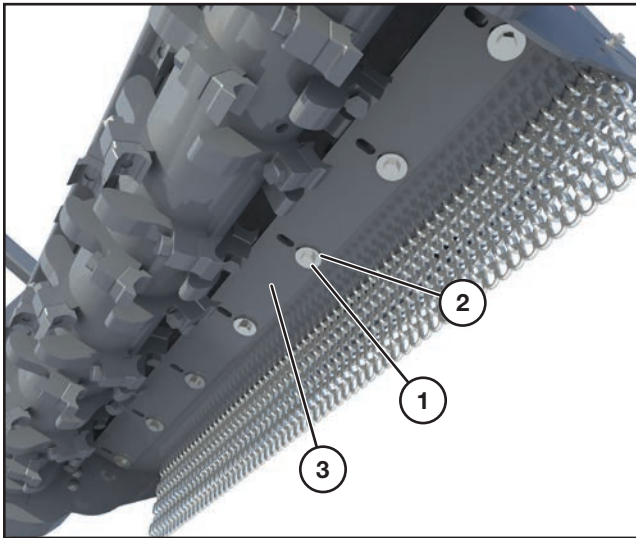
Test the rotor RPM with the loader engine at full throttle.

Shut down the loader when done.

If the RPM is outside this recommended range (1950-2050 RPM), it may be necessary to disconnect the Battle Ax Light and test the hydraulic output of the loader with a flow meter to see if it corresponds with the factory specifications.

Turn power off from loader and return the belt cover to position, securing with the eight bolts.

Cutter Bar Adjustment



NOTE: The cutter bar can be adjusted back or forward to increase or decrease the distance between the bar and the rotor.

Most operators find the best performance is achieved by adjusting the cutter bar as close as the slots will allow (approximately a 1/4" gap from knife to cutter bar). A wider gap generally increases finished particle size and horsepower requirements.



WARNING: Shut down and disconnect the hydraulic hoses from the loader before adjusting the cutter bar.

Loosen the seven bolts (1) with washers (2) securing the cutter bar (3) to the frame. Move the cutter bar either forward or back making sure the distance moved is consistent through the entire length of the cutter bar. Retighten bolts.

Over time, the cutter bar edge will become worn and rounded from use. There are a total of 4 wear edges available by removing and flipping the bar, side to side and front to back.



CAUTION: If adjusting the cutter bar after the machine has been used, the cutter bar should be completely removed to clear any debris away from contact surfaces before assembly and tightening. FAILURE TO DO SO COULD RESULT IN SEVERE DAMAGE TO THE MACHINE!.

Operating Instructions

Getting Started

Visually inspect the unit before starting the machine up. Check for loose or missing parts. Check all bolts for tightness.

For best results, the areas to be mowed should be free of debris such as bottles, metal objects, rocks, wire, etc. The teeth cut and pulverize the brush, grass and weeds.

For first-time users, start the machine in a clear, open area and become familiar with the controls. Run throttle at half speed and travel at a low speed. Raise the mulching head only slightly until comfortable the machine.



WARNING: Due to the potential danger of flying debris, it is the owner's responsibility and is "ABSOLUTELY MANDATORY that IMPACT-RESISTANT SHIELDING" be installed on the machine to protect the operator.



WARNING: Lifting or tilting the Battle Ax Light increases the risk of flying debris.



DANGER: Keep hands and feet out! Do not step on or climb over the unit while machine is in operation, or engine is running. Do not carry passengers.



WARNING: Do not operate the attachment above the rated RPM. Check with your Loftness dealer to be sure your attachment is set-up with the correct hydraulic motor to match the hydraulic flow GPM (Gallons Per Minute) of your machine.



WARNING: Flying debris can gather on the loader and needs to be cleaned off, especially around the radiator, oil cooler screens, engine compartment, and exhaust areas. Periodic cleaning will help prevent the possibility of fire.



DANGER: DO NOT allow ANY people or animals within 300 feet of the work area while operating this machine.

Operation



WARNING: Always stop engine and remove key before leaving operators seat.



Tilt attachment mounting frame back and raise the Battle Ax Light slightly above the ground when moving the machine.

Lower mulching head so skids are on ground.

Set engine speed to low idle and engage the mulching head.

Slowly increase engine speed to high idle.

Move the loader and Battle Ax Light forward and begin mowing.

NOTE: Various mowing conditions, and desired finished cut appearance, will determine proper ground speed.

Operating Tips

To reduce rotor jams, approach brush and trees at a slow speed.

When operating the mulching head near the ground, keep as low to the ground as possible without the teeth striking ground or other obstructions.

NOTE: Because of the high speed of the rotor, the life of the teeth will be reduced if it is operated in rocky terrain or in areas where many obstacles are present.