LOFTNESS

Hydraulic Flail Mower

72HM · 90HM

Owner's Manual and Parts Book
(Originating w/Serial Number 115-101)

Model Number: _____
Serial Number: _____
Date of Purchase: _____

214600 Rev. A

02.24.25


LOFTNESS

LOFTNESS SPECIALIZED EQUIPMENT, INC.
LIMITED WARRANTY POLICY

The limited warranty policy begins upon delivery of the unit to the original customers.

The following Loftness products have a two (2) year limited warranty;

XLB10 Grain Bag Loader, Battle Ax L-series Skid Steer, Battle Ax S-series Skid Steer, Battle Ax H-series Skid Steer, Battle Ax Excavator 20-series, Battle Ax Excavator 30-series, Battle Ax Excavator 40-series, Battle Ax Excavator 50-series, Battle Ax Extreme, Bad Ax Skid Steer, Timber Ax Skid Steer, Stump Ax, BT20, Kwik Cut.

All other Loftness products have a one (1) year limited warranty.

If any Loftness product is used as rental or leased equipment the limited warranty period is for only 30 days from the delivery date to the original customers.

Loftness Specialized Equipment, hereinafter referred to as LOFTNESS, a manufacturer of quality machinery since 1956, warrants new LOFTNESS machinery and/or attachments at the time of delivery to the original purchaser, to be free from defects in material and workmanship when properly set up and operated in accordance with the recommendations set forth in the LOFTNESS Operator's Manual.

LOFTNESS' liability for any defect with respect to accepted goods shall be limited to repairing the goods at an authorized dealer or other LOFTNESS designated location, or replacing them as LOFTNESS shall elect. The above shall be in accordance with LOFTNESS warranty adjustment policies.

WARRANTY REQUIREMENTS

Warranty registration form must be filled out and returned to Loftness Specialized Equipment to validate all warranty claims. To receive a warranty claim, a return authorization from LOFTNESS must be obtained. The failed part may then be returned in an untampered status. This warranty does not include freight or delivery charges incurred when returning machinery for servicing. Dealer mileage, service calls and pick-up/delivery charges are the customer's responsibility.

LIMITATIONS OF WARRANTY

LOFTNESS products are designed to provide years of dependable service when proper use and maintenance is adhered to. The potential for misuse in many applications exists; therefore, a limited warranty is provided as follows.

This warranty shall not apply to any machine or attachment which shall have been repaired or altered outside the LOFTNESS factory or authorized LOFTNESS dealership or in any way so as in LOFTNESS' judgment, to affect its stability or reliability, nor which has been subject to misuse, negligence or accident, nor to any machine or attachment which shall not have been operated in accordance with LOFTNESS' printed instructions or beyond the company recommended machine rated capacity. LOFTNESS may elect to have an area representative evaluate the condition of the machine before warranty is considered.

In addition, this limited warranty provides no coverage for general wear or maintenance items, misuse, environmental conditions and/or contamination for which they were not designed or not intended, including but not limited to the following items;

Use of machine beyond its rated capacity, Conveyors, Improper knife replacement, Auger wear, Missing knives, Saw blades, Striking foreign objects, Brakes and brake pads, Lack of lubrication, Tires, Failures caused by running in an "out-of-balance" condition, Hydraulic hoses damaged by being caught in "pinch points" or by moving parts, and Damage caused by excessive force from the power unit.

EXCLUSIONS OF WARRANTY

Except as otherwise expressly stated herein, LOFTNESS makes no representation or warranty of any kind, expressed or implied. **The implied warranty of merchantability and fitness for a particular purpose are excluded from this limited warranty.** The remedies set forth in this warranty are the only remedies available to any person under this warranty. LOFTNESS shall have no liability to any person for incidental, consequential or special damages of any description, whether arising out of express or implied warranty or any other contract, negligence, or other tort or otherwise. This exclusion of consequential, incidental and special damages is independent from and shall survive any finding that the exclusive remedy failed of its essential purpose. Upon purchase, the buyer assumes all liability, all personal injury and property damage resulting from the handling, possession or use of the goods by the buyer.

No agent, employee or representative of LOFTNESS has any authority to bind LOFTNESS to any affirmation, representation or warranty concerning its machinery and/or attachments except as specifically set forth herein. (August 2023)


LOFTNESS

To the Dealer:

In order to ensure compatibility / performance of the Loftness attachment and the customer's power unit, it is IMPERATIVE that this Pre-Delivery Inspection ("PDI") be completed using the customer's actual power unit.

PRE-DELIVERY INSPECTION

Dealer: By initialing each line I understand and promise that I have completed the following:

____ Verified the attachment is set up properly for customers power unit. (check model code with manual)

____ Greased all grease zerks till grease purges out of bearing.

____ Removed all shipping brackets.

_____Adjusted push bar out of shipping position. (if equipped) (full forward position recommended)

____ Installed head on customer's unit that will be running the attachment and set hydraulic flow per power unit manufacturer owner's manual for preferred flow.

____ Recorded the Serial Number / Make / Model of the power unit.

Power unit. S/N _____ Make _____ Model _____

____ Recorded the Serial Number and Model of the Loftness attachment. S/N _____ Model_____

____ Verified power unit manufacturer outlined Auxiliary coupler orientation for pressure, return & case drain line.

____ Verified/recorded rotor RPM at full throttle per model & chart in Loftness owner's manual. RPM _____

____ Performed an Auxiliary system pressure stall check on the power unit only and verified that max pressure rating is achieved per power unit manufacturer specifications. Recorded pressure observed _____ PSI

PDI completed by: _____ Print

_____ Signed/Date

Contact Loftness factory if any of the tests are not within power unit or Loftness specifications.

DELIVERY

____ Showed customer all grease zerks.

____ Showed customer adjustable push bar options. (if equipped)

____ Showed customer how to properly engage hydraulics to operate attachment.

____ Reviewed owner's manual, all on-product warnings and instructions, and safe operation with customer.

____ Assisted customer with completing / submitting Warranty Registration Form to Loftness by one of the below options.
Dealer also needs to submit a copy of this completed PDI to Loftness and maintain the copy in owner's manual for unit.

Mail to:
Loftness Specialized Equipment
PO Box 337
Hector, MN 55342

Delivered to Customer by: _____Print

_____Signed/Date

Email to: registration@loftness.com

LOFTNESS COPY

To the Dealer:

In order to ensure compatibility / performance of the Loftness attachment and the customer's power unit, it is IMPERATIVE that this Pre-Delivery Inspection ("PDI") be completed using the customer's actual power unit.

PRE-DELIVERY INSPECTION

Dealer: By initialing each line I understand and promise that I have completed the following:

____ Verified the attachment is set up properly for customers power unit. (check model code with manual)

____ Greased all grease zerks till grease purges out of bearing.

____ Removed all shipping brackets.

_____Adjusted push bar out of shipping position. (if equipped) (full forward position recommended)

____ Installed head on customer's unit that will be running the attachment and set hydraulic flow per power unit manufacturer owner's manual for preferred flow.

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CUSTOMER COPY


LOFTNESS

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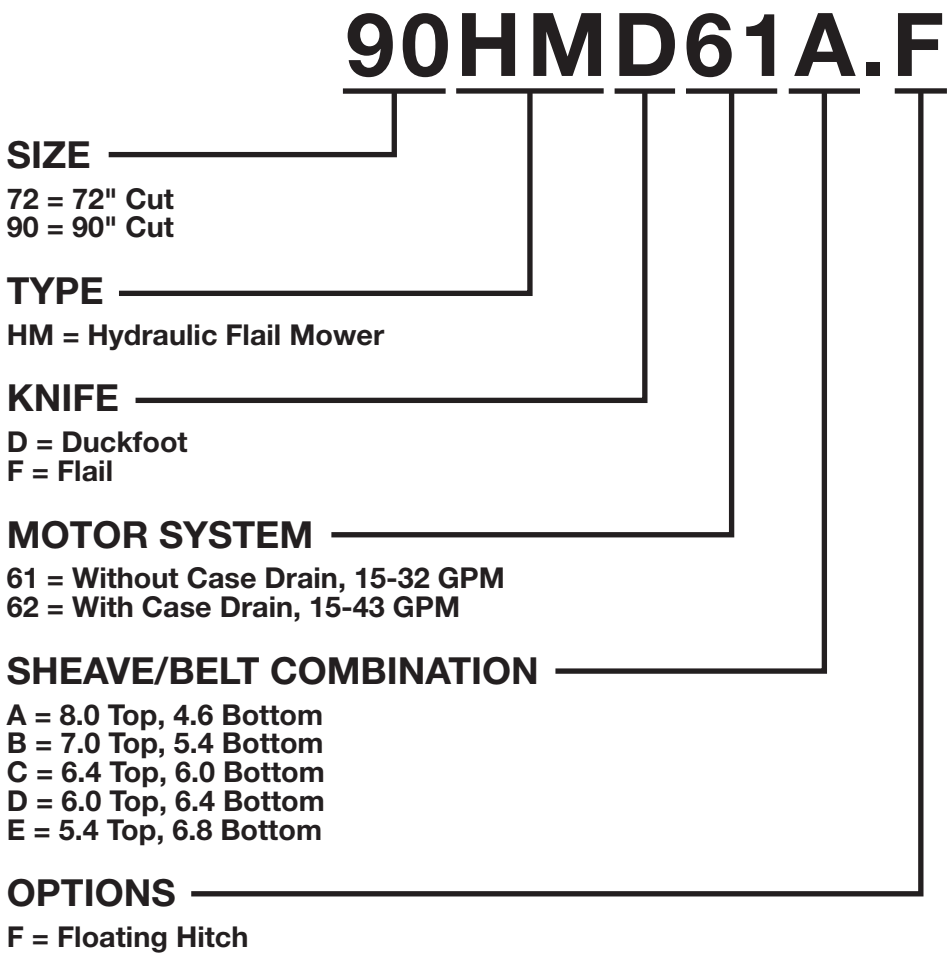
Ordering Code

Hydraulic Flail Mower (Example)

The ordering code will consist of two numbers (machine size), two letters (machine type), one letter (knife type), two numbers (motor system), one letter (sheave/belt combination), and one letter (options). An example of a Hydraulic Flail Mower of this type would be as shown below.




LOFTNESS

Owner Information

Thank you for your decision to purchase a Hydraulic Flail Mower from Loftness. To ensure maximum performance of your machine, it is mandatory that you thoroughly study the owner's manual and follow its recommendations. Proper operation and maintenance are essential to prevent injury or damage and to maximize machine life.

The Loftness Hydraulic Flail Mower is an effective, reliable machine used for maintaining grass and controlling weeds. 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 these instructions.

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

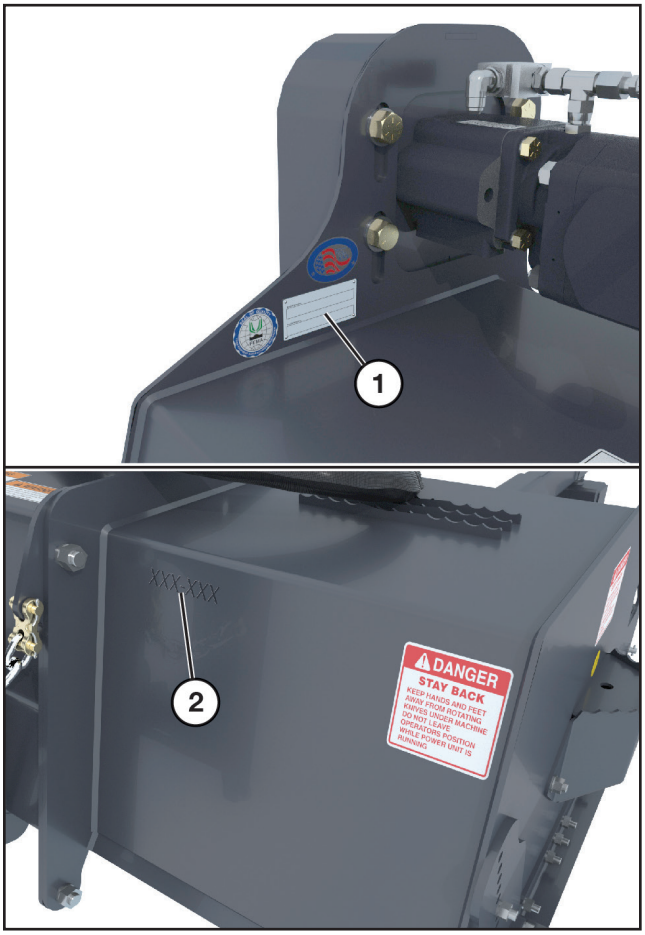
NOTE: *The instructions and information provided in this manual cover all Flail Mower sizes and models. Some images or drawings in the manual may show one model but they can apply to all models. In some instances, a note may be placed within an image to clarify which specific mower model is being addressed.*

Continuous improvement and advancement of Loftness products may result in changes to your equipment that may not be reflected in this publication. Loftness reserves the right to make product improvements to the machine at any time. Although great care has been taken to ensure the accuracy of this publication, Loftness does not assume any liability for errors or omissions.

Warranty Policy

Be sure to read and understand the Warranty Policy at the beginning of this manual. It is also important that you fill out the Warranty Registration form(s) completely with your dealer so as not to void the warranty.

Serial Number Location

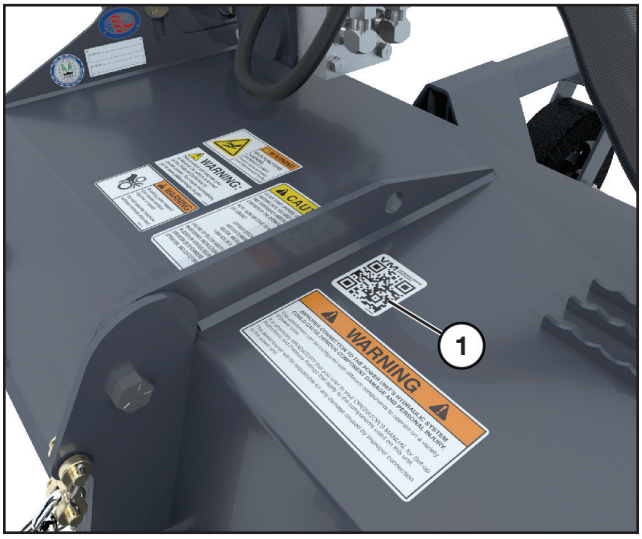


The machine serial number is shown in the tag (1), and is also stamped into the machine frame (2).

Always use your model and serial number when requesting information or when ordering parts.

Introduction

Owner's Manual Access



The flail mower is shipped with a printed owner's manual. The manual must be available for all operators. Keep in a safe, dry location.

To access a digital owner's manual, use a smart phone to scan the QR Code (1) located on top of the unit. This code will link to the flail mower owner's manual on the Loftness website.

Hydraulic Flail Mower Features

- High Pressure Gear-Type Motor (with or without Case Drain)
- 15-43 GPM up to 4200 PSI (with Case Drain)
- 15-32 GPM up to 3500 PSI (without Case Drain)
- Two Knife Designs - Flail or Duckfoot
- Toolless Knife Change
- Heavy-Duty Bearing Block
- 3-Groove Banded Belt
- 1-7" Cutting Height
- 1/4" End Plates
- 5-1/2" OD x 3/8" Wall Roller Tube
- 1-1/2" Bearing on Gauge Roller
- Added Gauge Roller Bearing Protection
- 1500-2050 RPM Rotor Speed
- Premium Strength Steel Housing
- Full-Width Gauge Roller with Roller Scraper
- 1-3/4" Rotor Bearings
- Anti-Wrap Bearing Protection
- Hoses Are Included (couplers are not)
- Optional Floating Hitch

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

Because of the potential safety hazard to eyes from hydraulic leaks and/or flying debris, "**USE OF PROTECTIVE EYEWEAR IS ABSOLUTELY MANDATORY"** for operator and others in the work area.

Due to the possible danger of flying debris, it is **"ABSOLUTELY MANDATORY** that **IMPACT-RESISTANT SHIELDING"** be provided on the power unit to protect the operator. The owner is responsible for providing the operator protection devices on the power unit.

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

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 6.

Make sure the attachment is installed on the machine correctly before being placed in 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 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.

- Failure to follow safety, operating, and maintenance instructions could result in death or serious injury to the operator or bystanders, poor operation, or costly breakdown.
- Observe all warning and caution decals on the machine before attempting to operate the flail mower.
- Do not start, operate, or work on this machine until you have carefully read and thoroughly understand all safety and operation instructions within this manual, and all safety and operation instructions provided in your loader manufacturer's manual(s).
- 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.
- Become familiar with and know how to use all safety devices and controls on the mower before attempting to operate the unit. Know how to stop the unit before starting it.
- Before using a flail mower on a new job site, check the rules and regulations at the location. The rules may include an employer's work safety requirements.
- Never allow children to operate equipment.
- Keep spectators and other workers away from the machine while it is operating or engine is running. Keep the area of operation clear of all unauthorized persons. Do not carry passengers.
- DO NOT operate the flail mower while under the influence of drugs or alcohol. An operator who is taking prescription drugs must get medical advice to determine if they can safely operate a machine.
- Remove from area of operation all foreign objects such as sticks, wire, rocks, etc., that might become tangled in the rotor, causing damage to the mower or thrown from the mower striking other objects.
- Use the handholds and step plates when getting on and off the loader to prevent falls. Keep steps and platform cleared of mud and debris.
- Make sure all controls, (levers, pedals and switches), are in **NEUTRAL** position before starting the loader engine.
- Do not wear loose or baggy clothing around rotating machinery. Machine must be clear of people, tools, and other objects before engaging hydraulic valve.
- Due to the possible danger of flying debris, impact-resistant shielding must be provided for the operator. The owner is responsible for providing the operator protection devices on the power unit.
- Keep your feet on the pedals, (floor plates) seat belt fastened snuggly and seat bar lowered, (if equipped), when operating the flail mower.
- Stay alert for hidden hazards or traffic.
- Never operate the flail mower without good light and visibility.
- Engage the hydraulic valve slowly at idle speed to prevent unnecessary stress to driveline.
- Disengage hydraulic valve and place controls in neutral or park before starting engine.
- Do not operate the mower above the rated RPM.
- **ALWAYS** operate shredder level with the ground (front to rear).
  NEVER operate shredder over 2 feet above the ground.
- Always cut in an up and down direction on slopes. To avoid loss of control and to prevent overturn, never cut across the slope.

Safety Rules (Cont'd)

- Reduce speed when turning.
- Do not operate on extremely steep slopes.
- \• **DANGER:** Before leaving the operator's position for **ANY** reason or allowing anyone near the flail mower, always exercise the following the "Mandatory Shut-Down Procedure" on page 6.
- After striking a foreign object, be sure to exercise mandatory shut-down procedure. Thoroughly inspect mower for any damage before restarting and operating the mower.
- Repeated impact of knives with ground or hard objects can cause excessive wear and damage to the loader or mower. Be sure to maintain recommended ground clearance as specified in this manual.
- Always repair or replace any front flipper shields that are damaged or missing.
- Never attempt to make any adjustments while the engine is running or the key is in the "ON" position of the loader. Before leaving the operator's position, disengage power to the mower and remove ignition key.
- Should excessive vibration occur, disengage hydraulic valve immediately. Do not continue operation of mower until the problem has been detected and corrected. Be sure to exercise the mandatory shut-down procedure.
- Never get off loader while it is in motion!
- Keep hands, feet and clothing away from moving components! Do not step on or climb over the unit while it is running, wether during operation or while it is being serviced.
- Be especially careful not to touch attachment parts which might be hot from operation. Allow such parts to cool before attempting to maintain, adjust, or service.
- Before inspecting, cleaning, lubricating, adjusting or servicing any part of the flail mower, always exercise the "Mandatory Shut-Down Procedure" on page 6. After service has been performed, be sure to restore all guards, shields and covers to their original position.
- Before servicing or adjusting the mower, or removing material from it, be sure to exercise the mandatory shut-down procedure.
- Be sure the rotor has stopped completely before checking knives.
- Before working under any hydraulically controlled implement, be certain it is securely blocked!
- Do not leave equipment in raised position.
- Never park on a steep incline.
- Disengage power to mower when transporting or not in use.
- When transporting the mower on the road at day or night, provide adequate warning to the operators of other vehicles.

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.
- To prevent serious personal injury from escaping high pressure fluid, never attempt to inspect, service or disassemble any part of the hydraulic system until all pressure has been relieved from the system.
- 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.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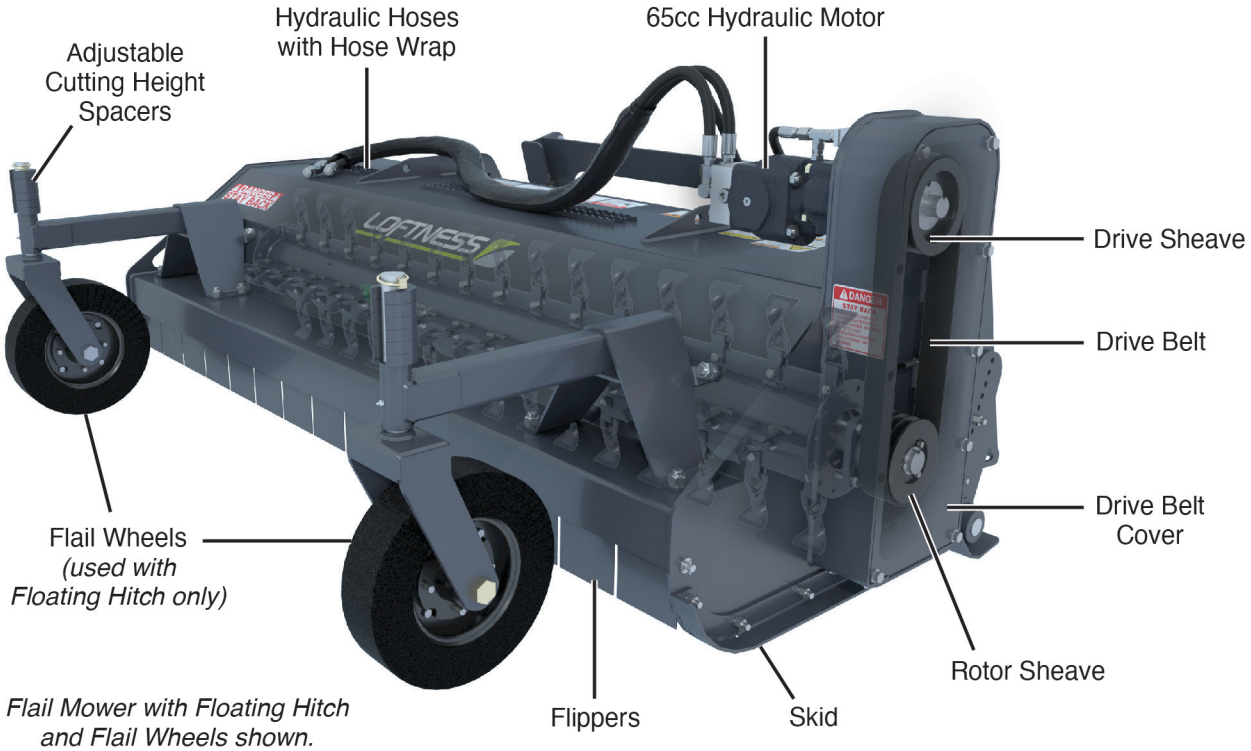
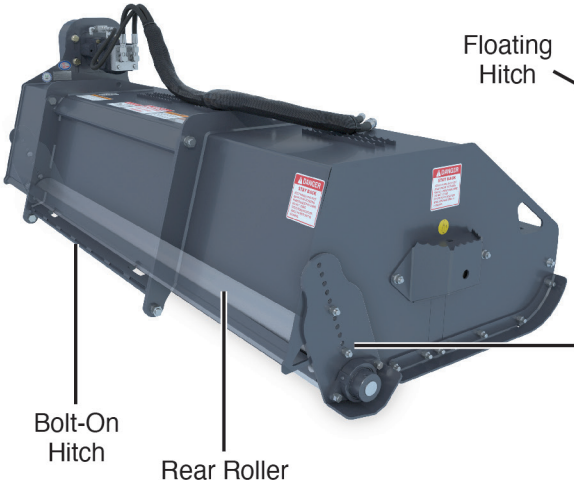
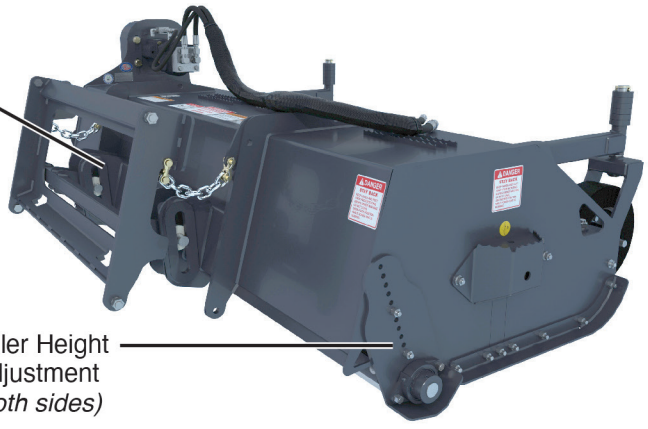
Flail Mower Component Identification



Flail Mower with Floating Hitch and Flail Wheels shown.



Rear of the Flail Mower with the Bolt-On Hitch option

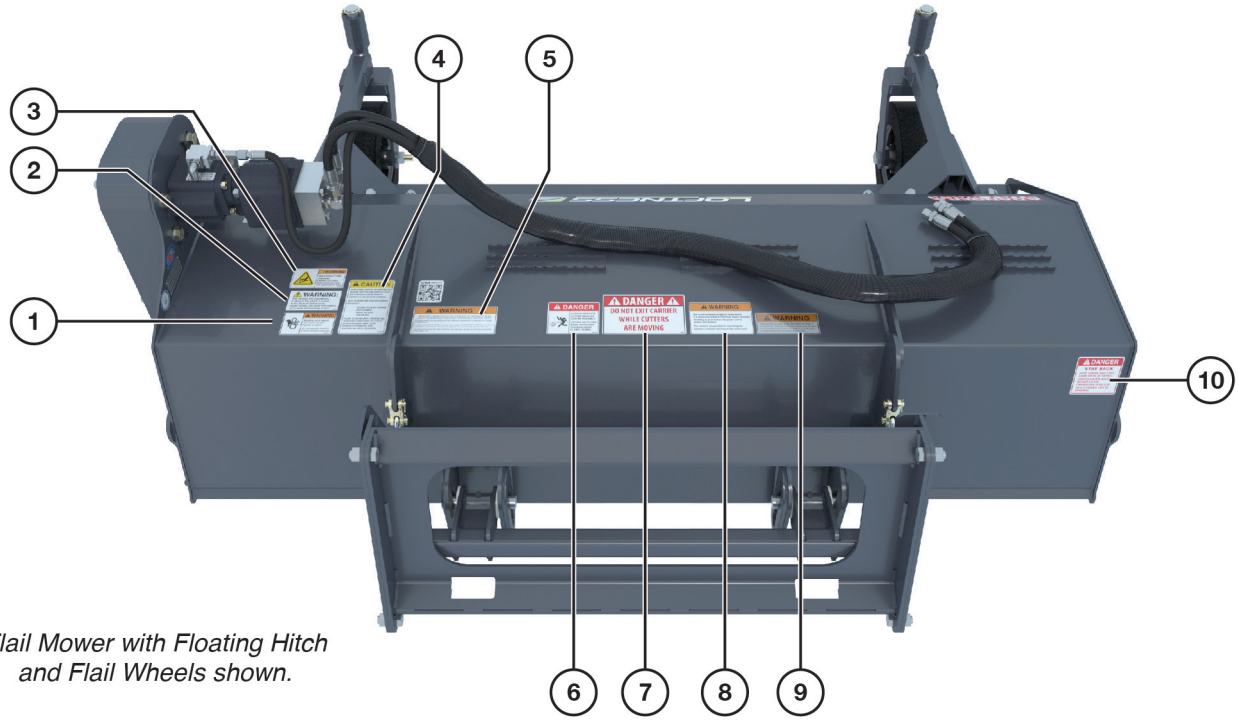


Rear of the Flail Mower with the Floating Hitch option

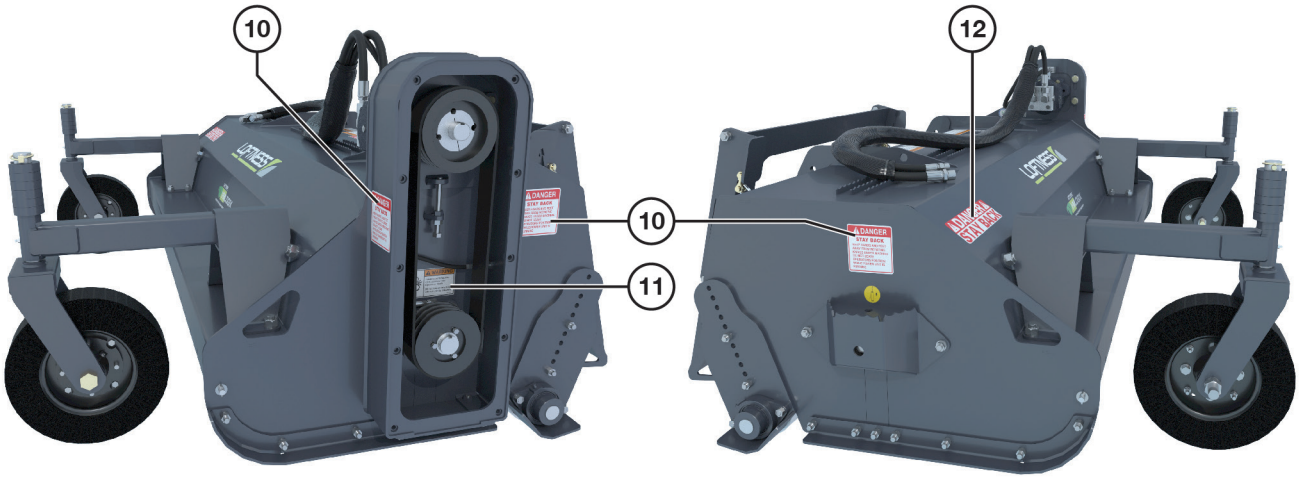
Safety Decal Locations

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 52.*



Flail Mower with Floating Hitch and Flail Wheels shown.

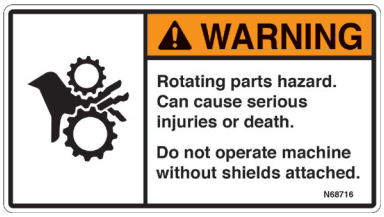


Belt cover removed to show decal.

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

Safety Decal Locations (Cont'd)

1



Part No. N68716

2

Part No. 203264

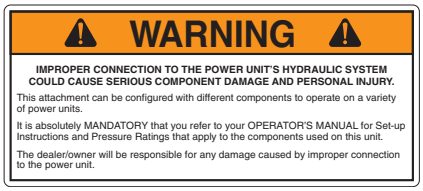
3

Part No. N23506

4

Part No. 208824

5



Part No. N28385

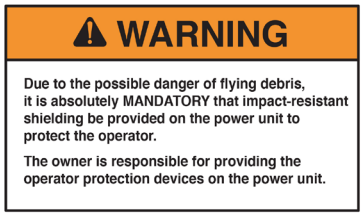
6

Part No. N68724

7

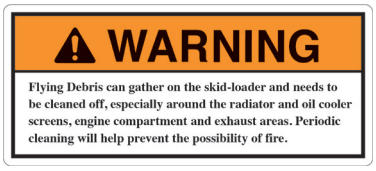
Part No. 200491

8



Part No. N17013

9

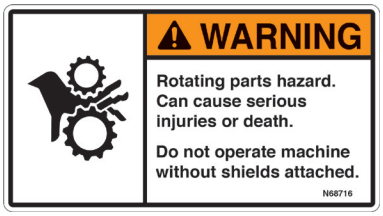


Part No. N20661

10

Part No. N28386

11



Part No. N68716

12

Part No. 4334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Attaching to Loader

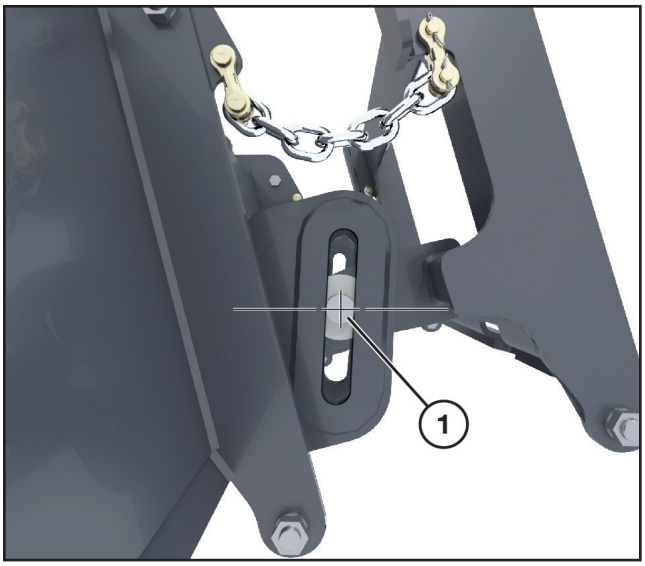
The Loftness Hydraulic Flail Mower can be attached to any skid loader with an auxiliary hydraulic system of 13-43 GPM, which has a standard universal skid loader hitch.

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

Flail Mower shown with Bolt-On Hitch option

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 flail mower mounting plate. Be careful not to damage the locking levers on the loader mounting plate.

Tilt the loader mounting plate back until the flail mower mounting plate is firmly against the loader mounting plate, but Do Not lift the attachment off the ground.



NOTE: *When connecting the loader to flail mower models equipped with the floating hitch, make sure the guide pins (1) rest in the center of the slotted brackets on both sides of the hitch mount. This allows the mower an equal amount of vertical movement.*

NOTE: *If desired, chain links can be removed to limit the movement of the mower during operation. When removing links, make sure to remove the equal number of links on the opposite side.*

⚠	**WARNING:** *Before you leave the operator's seat, lower the lift arms and 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.

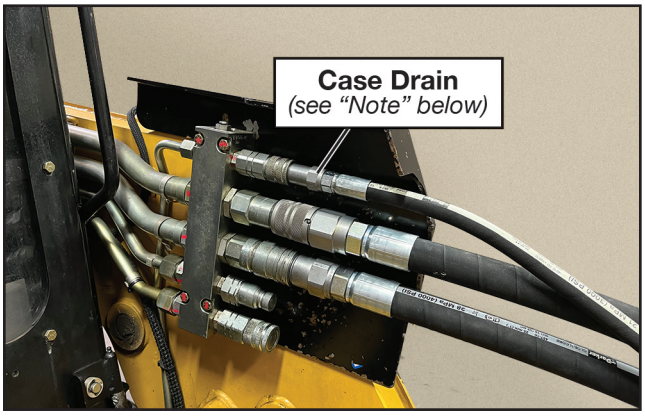
⚠	**WARNING:** *Locking-wedge pins must extend through the holes in attachment-mounting plate. Levers must be fully down in the locked over-center position. Failure to secure wedge pins can allow attachment to come off, causing serious injury or death.*

Attaching to Loader (Cont'd)

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.*

IMPORTANT: *For loaders that have a hydraulic flow rate above 32 gallons per minute (GPM), the Loftness Flail Mower must be equipped with the 65cc motor with the case drain. If you have any questions regarding your flail mower's motor or hydraulic system, please contact your Loftness dealer.*



Install the flail mower quick couplers to the loader.

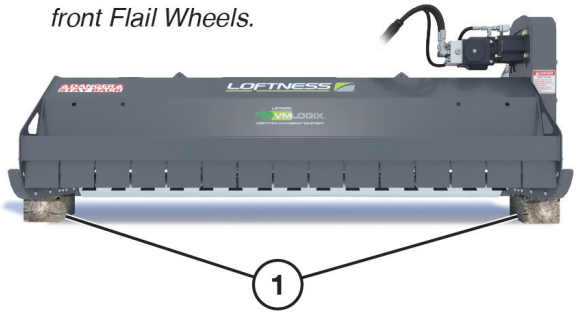
NOTE: *If the flail mower's motor is equipped with the a case drain, the case drain quick coupler must be connected to the loader's auxiliary hydraulic system for proper operation of the flail mower.*

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*

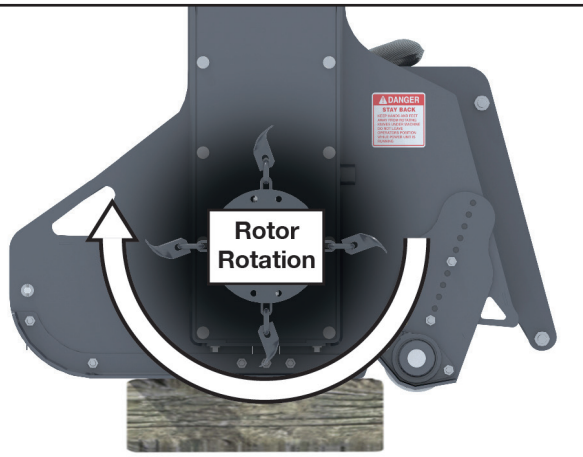
Checking Rotor Rotation

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

Note: Flail Mower shown without front Flail Wheels.



Raise the flail mower off the ground and place blocks (1) underneath the skids. Lower the mower down onto the blocks.



Engage the loader's auxiliary hydraulics, the rotor should start rotating in the direction as shown above.

NOTE: *If the rotor is rotating opposite as shown, shut down the loader. Switch the TANK and PRESSURE connections. Once connected, restart the loader, engage the auxiliary hydraulics and test for correct rotor rotation.*

Checking Rotor Speed

⚠	**DANGER:** *Shut down power from the loader before removing the bearing cover and applying reflective tape to rotor shaft end. Keep the flail mower skids on blocks for this procedure.*

Remove the belt cover. See “Removing Belt Cover” on page 23 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 and bearings 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 shown is not supplied with the flail mower.*

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

Shut down the loader when done.

See “Motor & Sheave Selection Chart” on page 27 for rotor RPM. If it is outside this recommended range, it may be necessary to disconnect the flail mower and test the hydraulic output of the loader with a flow meter to see if it corresponds with the factory specifications.

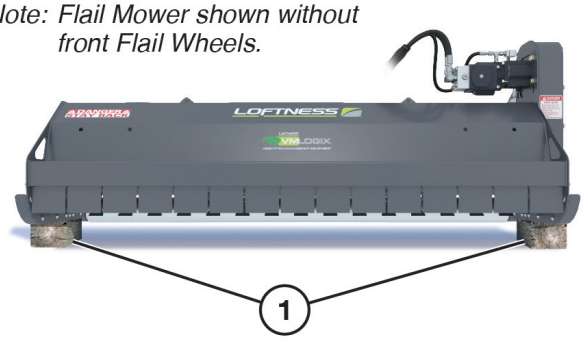
Cutting Height Adjustment

This procedure should be performed on a level surface with mower mounted on loader.

The flail mower uses multiple adjustment holes on the rear roller and front flail wheels if equipped to allow a cutting height adjustment from 1 to 7 in.

Rear Roller Adjustment

Note: Flail Mower shown without front Flail Wheels.



Raise the flail mower off the ground and place blocks (1) underneath the skids. Lower the mower down onto the blocks.

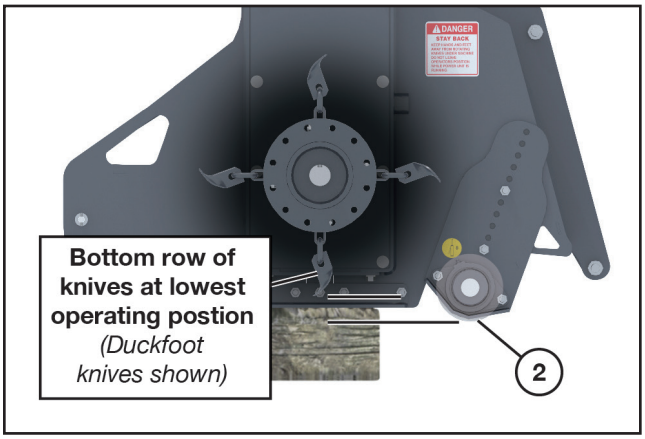
Turn off all power to the flail mower and remove all hydraulic hose connections.

⚠	**DANGER:** *Failure to cut off power to the flail mower before adjusting the cutting height could result in serious injury or death.*

(Procedure continued on following page.)

Cutting Height Adjustment (Cont'd)

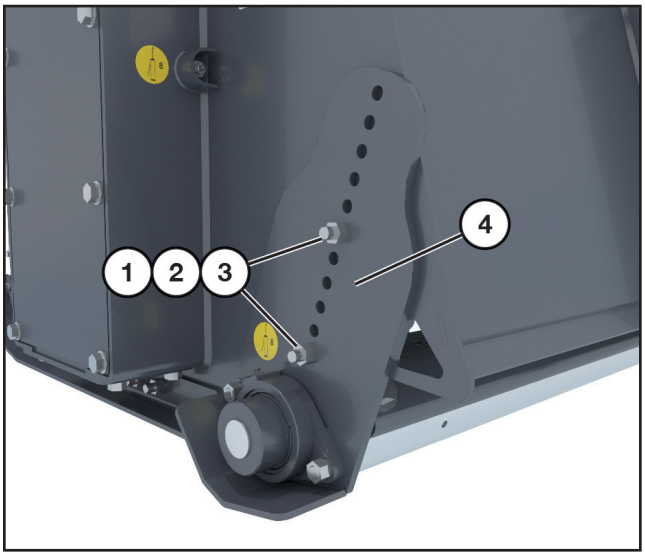
Rear Roller Adjustment (Cont'd)



Manually rotate/reposition the rotor until the bottom row of knives is at the lowest operating position. This will help determine the cutting height in relation to the rear roller assembly (2)

Support the weight of the rear roller assembly.

CAUTION: *The rear roller assembly is heavy. Use a lifting device to support the weight of the roller before removing the attaching hardware.*



Loosen and remove the nuts (1) and washers (2). Then remove the carriage bolts (3) from the inside of the mower frame.

Repeat the procedure on the opposite side of the mower.

Raise or lower the rear roller assembly to realign the holes on the roller mount (4) to the desired cutting height. Make sure the hole alignment on each side of the flail mower corresponds with one another.

Reinstall the carriage bolts, washers, and nuts. Tighten all hardware. Refer to the charts on pages 57 and 58 for torque specification.

For flail mower models equipped with the bolt-on hitch the adjustment is complete.

For flail mower models equipped with the floating hitch and front flail wheels, continue with the following procedure.

Front Flail Wheel Adjustment

Connect the flail mower to the loader and make all hydraulic hose connections.

NOTE: *During this procedure, the flail mower may need to be raised and/or lowered slightly to relieve pressure on the wheel spacers and pin allowing them to be easily removed and repositioned. Hydraulic hose connections to the loader should be made at this time.*

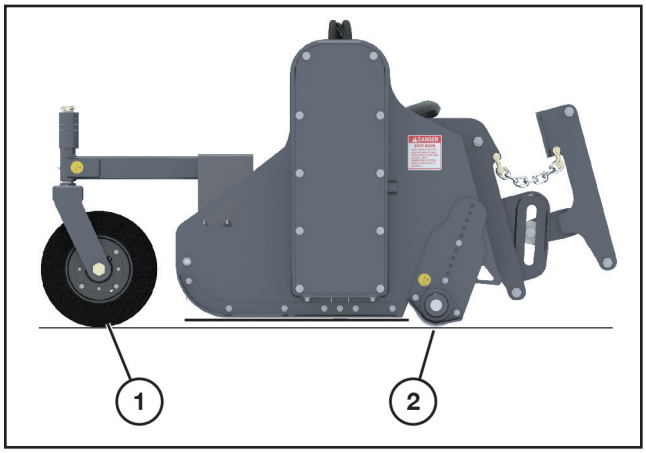
DANGER: *Turn the loader off when making adjustments to the front wheels. Failure to do so could result in serious injury or death.*

Choose a level location for this procedure.

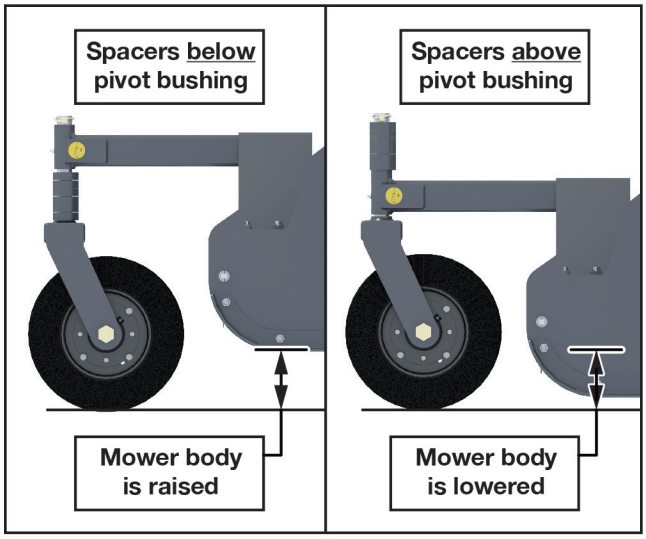
(Procedure continued on following page.)

Cutting Height Adjustment (Cont'd)

Front Flail Wheel Adjustment (Cont'd)



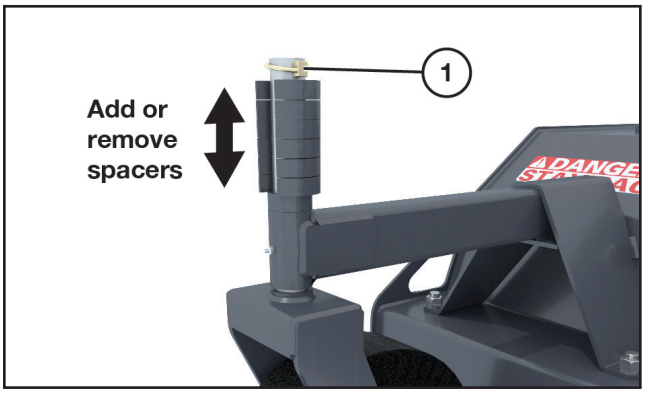
The position of the flail wheels (1) should correspond with the position of rear roller assembly (2). When both wheels and the rear roller are in contact with level ground, the mower body should sit level.



Having more spacers above the pivot bushing will lower the mower body, resulting in a shorter cut.

Having more spacers below the pivot bushing will raise the mower body, resulting in a longer cut.

IMPORTANT: *Both flail wheels should have an equal number of spacers above and/or below the pivot bushing for operation. When adjusting the spacers on one flail wheel, be sure to repeat the procedure on the opposite wheel.*

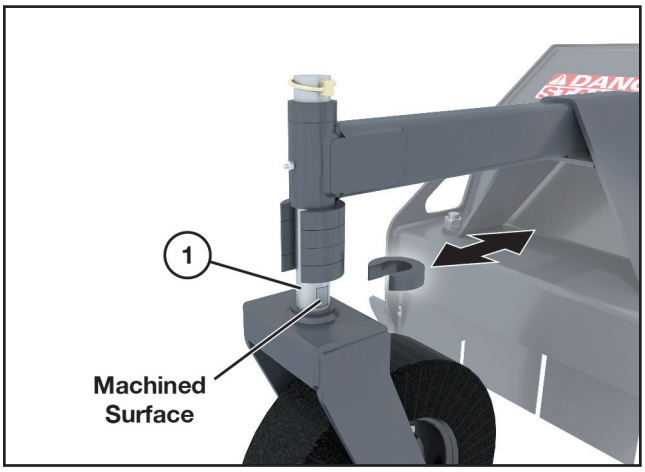


To add or move spacers located above the pivot bushing:

Set the mower on the ground. The weight of the machine forces the spindles of the pivot wheels up, allowing the pins (1) to be easily removed.

Pull the pin. Remove or add the desired number of spacers from the top of the spindle.

Return the pin into position when done.



To add or move spacers located below the pivot bushing:

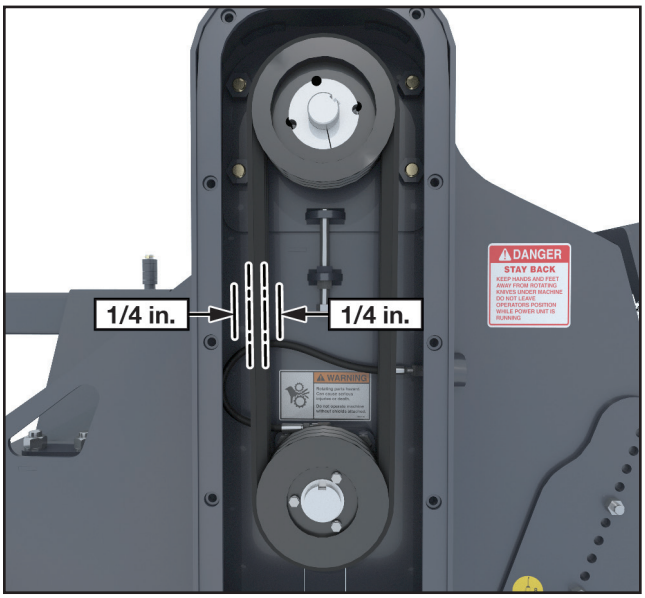
Raise the mower.

Spacers are added or removed by aligning them with the machined section of the spindle (1) and either sliding them on or pulling them out.

Any stack of spacers will need to be slightly lifted to expose the machined surface of the spindle allowing individual spacers to be added or removed.

Checking Belt Tension

⚠	**WARNING:** *Shut down and lock out power from the loader before checking the belt tension. Failure to do so could result in serious injury or death.*



The belt should move no more than 1/4 in. (6.35 mm) to the left, and no more than 1/4 in. (6.35 mm) to the right when pressure applied at the midpoint.

If the deflection is outside of this range, see “Belt Adjustment” on page 23 for instructions on adjusting belt tension.

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.

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 with 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 flail mower 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 belt assembly 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 and 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.*

When cutting short, or at a low height, do not let the knives hit the ground or obstacles. Because of the high speed of the rotor, the life of the knives will be reduced if it is operated in rocky terrain or in areas where many obstacles are present. Areas to be mowed should be free of debris such as rocks, bottles, large branches etc. The knives cut and pulverize the grass and weeds, making the mower suitable for mulching of lawns and golf courses. The mower deposits cut material over the entire width-of-cut, which eliminates bunching or windrowing behind the machine.

The adjustable steel roller is positioned near the point of cut. It runs the full width-of-cut and is used to determine the height-of-cut. See "Cutting Height Adjustment" on page 15 to make cutting height adjustments.

The mower rotor is equipped with four rows of pivoting cutting knives. If an obstruction is encountered, the knives will fold or pivot to absorb shock, thereby reducing impact damage to mower. The rotor and knives turn in reverse rotation (opposite of the loader wheels forward operating direction).

Operating Speed

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

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

Clearing Jams

⚠	**WARNING:** *Do not attempt to dislodge jams by hand while the loader is running. Shut down and lock out power from the loader before attempting to remove debris by hand.*

If the rotor stalls, or gets jammed with debris, stop and turn the loader off.

Remove debris.

Maintaining Rotor Balance

The rotor on the flail mower is factory balanced and must remain in balance during the life of the machine. Should any knives on the machine need replacing, be sure to also replace the knives directly opposite to avoid vibration and maintain rotor balance. See “Knife Replacement” on page 26 for instructions on replacing the knives.

⚠	**CAUTION:** *Should excessive vibration occur, stop the loader immediately and shut off power. Do not continue operation until the problem has been determined and corrected.*

⚠	**CAUTION:** *Be sure the rotor has stopped completely before checking the knives.*

The knives will pivot on the D-ring to avoid damage when striking stones or other obstructions. They will swing back to clear obstacles, and they will return to working position automatically.

⚠	**CAUTION:** *Repeated impact to the knives from frozen ground or other hard objects can cause excessive wear and damage to the mower and/or the loader. Repeated impact to hard objects can cause the D-rings to fail and possibly release the knife from the rotor. Be sure to maintain recommended ground clearance as specified in this manual.*

Detaching the Flail Mower

Lower the mower onto a dry level surface.

Disconnect hydraulic hoses.

Detach loader from the mounting bracket.

IMPORTANT: *Make sure the couplers on the hydraulic hoses are not resting on the ground. Secure hose ends on top of the frame.*

General Maintenance

To ensure efficient operation, you should inspect, lubricate, and make necessary adjustments and repairs at regular intervals. Parts that are starting to show wear should be ordered ahead of time, before a costly breakdown occurs and you have to wait for replacement parts. Keep good maintenance records, and adequately clean your flail mower after each use.

When reassembling components, always use new lock nuts and a thread-locking compound to insure against vibration loosening. Use an anti-seize compound on all bearing/shaft contacts.

Maintenance Schedule

HOURS	SERVICE POINTS	SERVICE REQUIRED					
		CHECK	CLEAN	CHANGE	GREASE	ADJUST	OIL
Every 8	Machine		X				
	Loose Bolts					X	
	Hoses and Wiring	X					
	Oil Leaks	X					
	Rotor Bearing				X		
	Roller Bearing				X		
	Knives	X					
	Flail Wheels	X			X		
Every 100	Safety Labels	X					
	Floating Hitch - Plastic Spacers and Pin	X					
Every 500	Hydraulic Motor	X					X

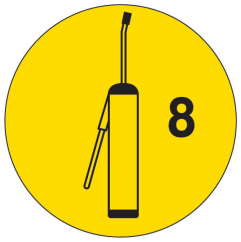
Lubrication

Grease Points Location

The operation and component lifetimes of this machine are very dependent on regular and proper lubrication. The frequency of lubrication recommended is based on normal conditions. Severe or unusual conditions may determine actual service requirements.

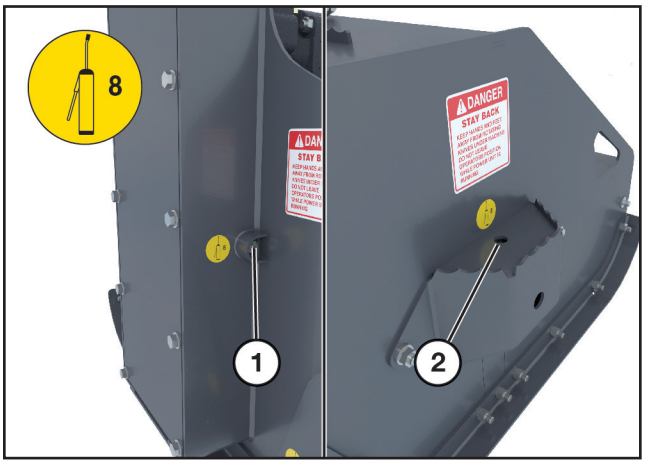
Use a #2 general purpose lithium based grease unless noted otherwise.

NOTE: *Replace any broken or missing grease fittings. Be sure to clean fittings before greasing.*



NOTE: *Lubricate the grease point every "X" hours indicated on the decal adjacent to the grease point.*

See "Flail Mower Component Identification" on page 9 to aid in component location and identification.



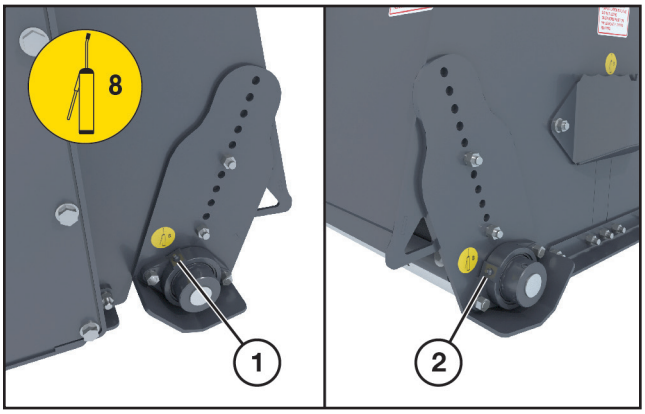
Location: Rotor bearings - left side (1), right side (2).
Interval: Every 8 hours of operation.

NOTE: *Rotor bearings cannot be damaged by over-greasing. Grease bearings until a small amount of grease is purged from the bearing.*

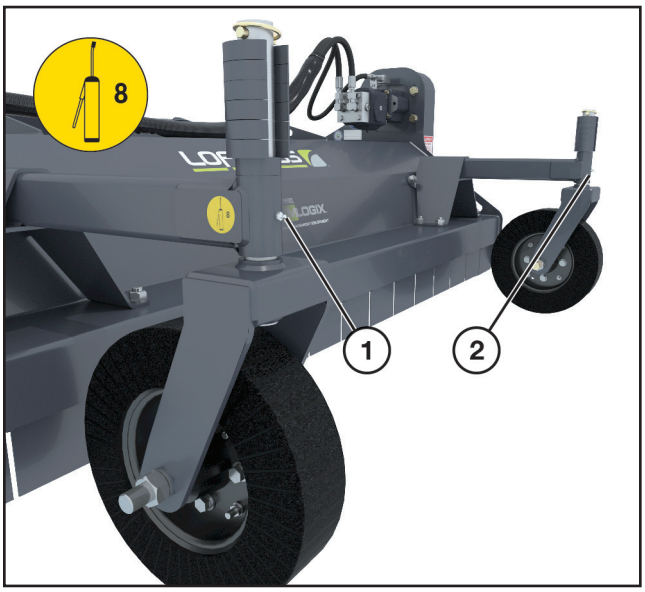
(Procedure continued on following page.)

Lubrication (Cont'd)

Grease Points Location (Cont'd)

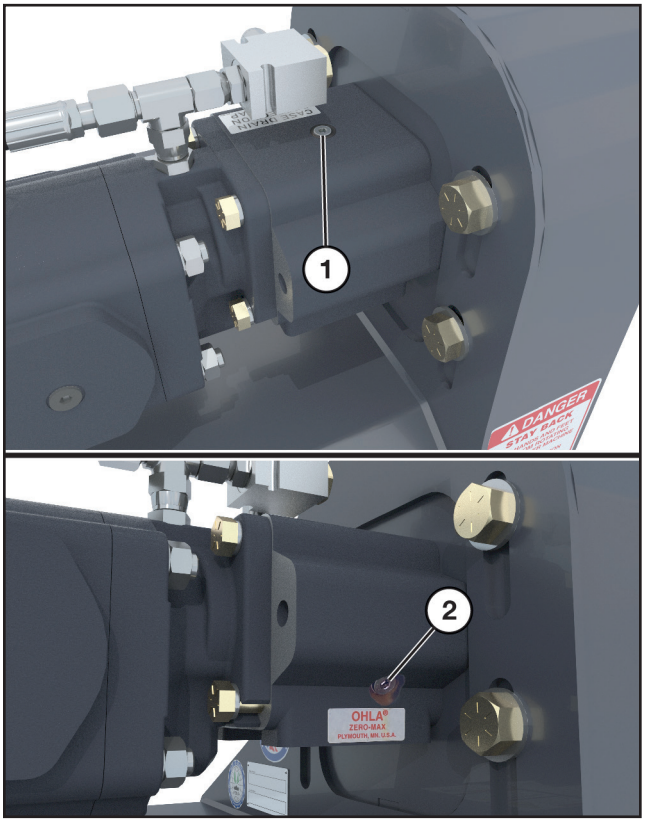


Location: Roller bearings - left side (1), right side (2).
Interval: Every 8 hours of operation.



Location: Flail wheel bushings - right side (1), left side (2).
Interval: Every 8 hours of operation.

Overhung Load Adapter



Remove the plug from the port (1) located on the top of the overhung load adapter.

Place a container underneath the overhung load adapter to catch the oil, then remove the plug from the lower port (2) located on the bottom.

Reinsert the lower plug and tighten.

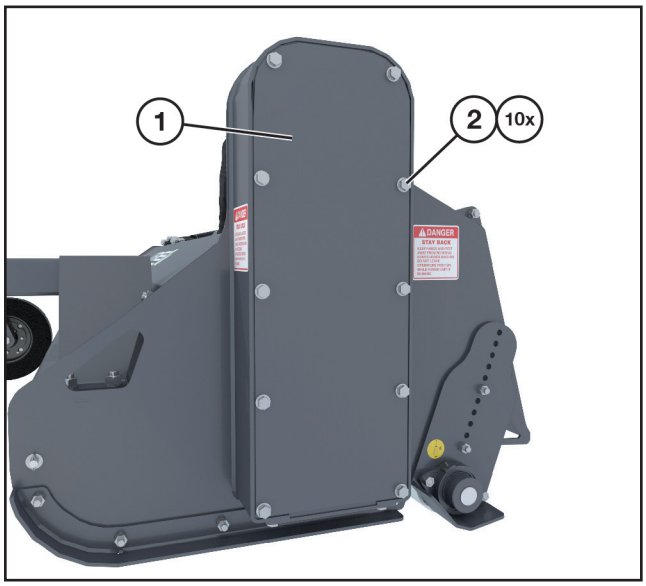
Using a funnel placed into the top port of the overhung load adapter, add 4 oz. of universal hydraulic fluid.

Return the plug back into the top port and tighten.

NOTE: *If replacing bearings or seals in the overhung load adapter, be certain to refill with hydraulic fluid after reassembly.*

Removing Belt Cover

⚠	**DANGER:** *Shut down and lock out power from the loader before removing the belt cover. Failure to do so could result in serious injury or death.*



To remove the belt cover (1), unscrew the ten bolts (2) and lift the cover off of the frame.

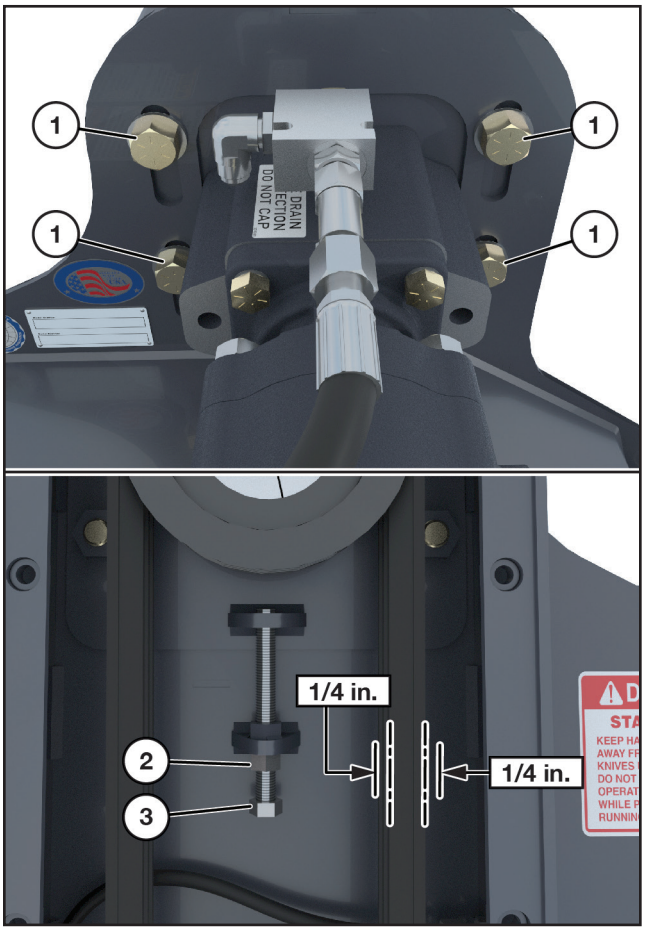
⚠	**CAUTION:** *The belt cover is heavy. Support the cover when removing.*

When maintenance/repairs are complete, return the covers back into position and tighten and secure all bolts.

Belt Adjustment

⚠	**WARNING:** *Shut down and lock out power from the loader before adjusting the drive belt. Failure to do so could result in serious injury or death.*

Remove the belt cover. Refer to “Removing Belt Cover” on page 23 for instructions.



Loosen the four overhung load adapter support bolts (1) on the motor mount bracket.

Loosen the jam nut (2). Then turn the hex bolt (3) to either increase or decrease belt tension. The belt should move no more than 1/4 in. (6.35 mm) to the left, and no more than 1/4 in. (6.35 mm) to the right when pressure applied at the midpoint.

Retighten the jam nut (2).

Retighten overhung load adapter support bolts (1).

Return the belt cover back into position.

Replacing Belt

To replace the belt, follow the procedures for “Belt Adjustment” preceding this subsection and decrease the belt tension additionally to allow the belt to slide over the top sheave.

NOTE: *When replacing or installing a new belt, align the grooves in the belt with the upper and lower pulleys.*

Install the belt and adjust the tension accordingly. Refer again to the “Belt Adjustment” procedure and follow the instructions completely.

Sheave Removal

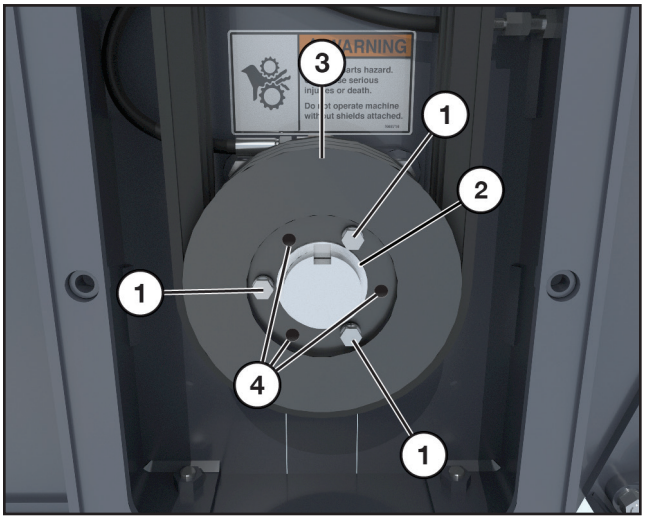
NOTE: *See pages 47 through 51 for an exploded view and parts listing for all belt/sheave combinations.*

Disconnect or turn off all power to the flail mower.

⚠	**DANGER:** *Shut down and lock out power from the loader before removing the sheaves. Failure to do so could result in serious injury or death.*

Remove the drive belt by following the instructions in “Belt Adjustment” and “Replacing Belt”.

Bottom Sheave (QD Design)



1. Loosen the set screw over the keyway. The set screw and keyway will be located behind the sheave.
2. Remove the three bolts (1) from the bushing (2) of the sheave (3).
3. Insert three screws into the threaded holes (4).
4. Tighten the screws until bushing grip is released. (If excessively tight, lightly hammer face of sheave using drift pin or sleeve).

NOTE: *Never hit sheave directly with hammer.*

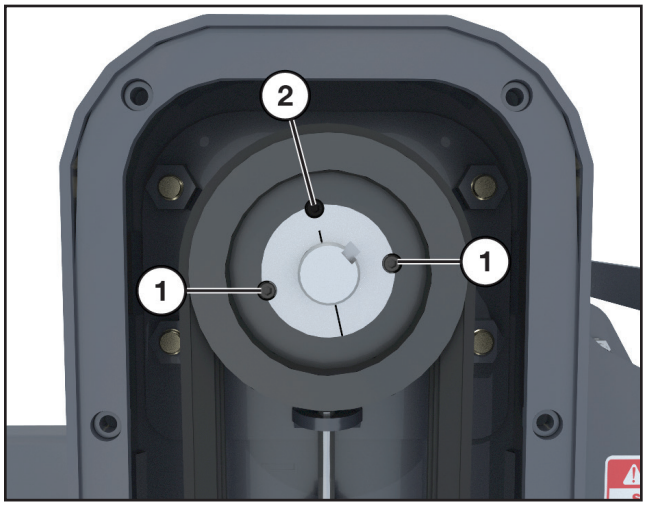
5. Replace the sheave by cleaning the shaft, bore of bushing, outside of bushing and hub bore of all oil, paint and dirt. File away any burrs.
6. Insert bushing into hub. Match the hole pattern.
7. Apply low-strength thread-locking compound to screws and thread into the three opposing holes.
8. Position assembly on shaft and align with lower pulley using a straight edge. Alternately torque bolts to 87 in.-lbs.
9. To increase gripping force, hammer face of bushing using drift or sleeve.

NOTE: *Do not hit bushing directly with hammer.*

10. Re-torque screws after hammering.
11. Tighten the set screw that was loosened in step 1.
12. Recheck screw torque after initial run-in, and periodically thereafter.
13. Check alignment of the sheave. Repeat sheave removal and assembly procedures if necessary.

Sheave Removal (Cont'd)

Top Sheave (Taperlock Design)



1. Remove the two screws (1) from the taper lock bushing of the drive sheave .
2. Insert one screw into the threaded hole (2).
3. Tighten screw until bushing grip is released. (If excessively tight, lightly hammer face of sheave using drift pin or sleeve).

NOTE: *Never hit sheave directly with hammer.*

4. Replace the sheave by cleaning the shaft, bore of bushing, outside of bushing and hub bore of all oil, paint and dirt. File away any burrs.
5. Insert bushing into hub. Match the hole pattern, not threaded holes (each complete hole will be threaded on one side only).
6. Apply a thread-locking compound to setscrews and thread into the two opposing holes.
7. Position assembly on shaft and alternately torque setscrews to 35 ft.-lbs.
8. To increase gripping force, hammer face of bushing using drift or sleeve.

NOTE: *Do not hit bushing directly with hammer.*

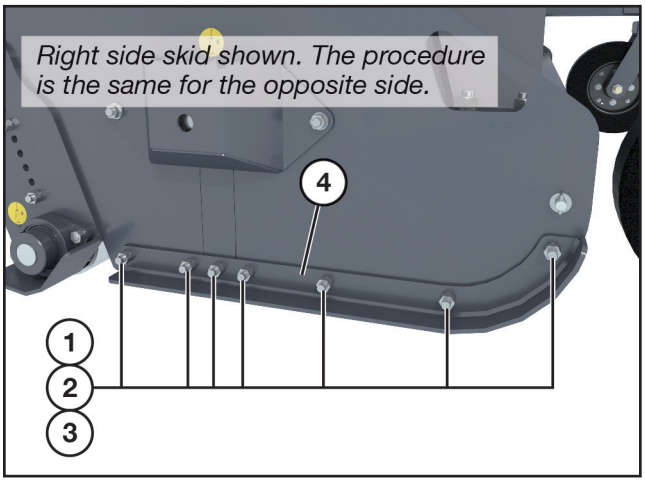
9. Re-torque screws after hammering.
10. Recheck screw torque after initial run-in, and periodically thereafter.
11. Check alignment of the sheaves. Repeat sheave removal and assembly procedures if necessary.

Skid Removal/Replacement

⚠	**WARNING:** *Shut down and lock out power from the loader before removing skids.*

Lift the flail mower off of the ground about 6 inches. Place blocks under the rotor (not under knives) to support the mower when lowered. DO NOT place blocks under the skids.

NOTE: *The skid design is the same on both sides of the flail mower. The right side skid shoe is shown below although the procedure is identical for both sides.*



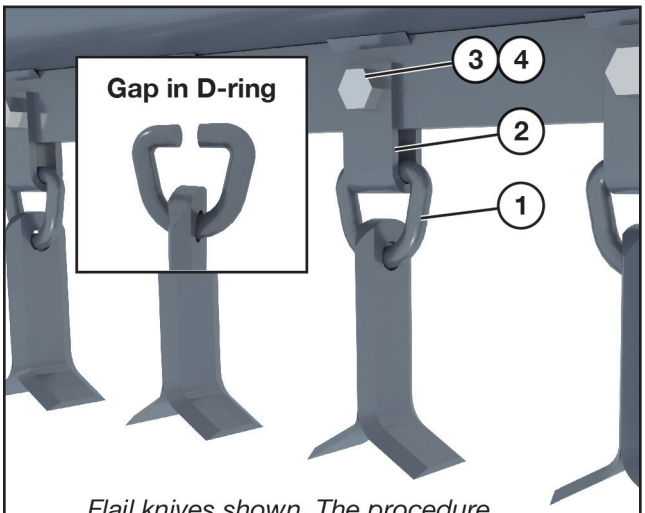
Remove the seven nuts (1) and washers (2) and slide the carriage bolts (3) out. Lower the skid (4) and remove.

To install the new or repaired skid shoe, align the holes in the skid shoe with the holes on frame. Re-install the bolts and install the washers and nuts.

Tighten all hardware securely. See "Torque Specifications" on page 57.

Knife Replacement

DANGER: *Shut down and lock out power from the loader before removing and replacing knives. Failure to do so could result in serious injury or death.*



Flail knives shown. The procedure is the same for Duckfoot knives.

The knives are designed so they can be removed and installed without tools.

To remove a knife, slide the D-ring (1) to one side and turn as needed until the gap allows it to slip off of the clip (2).

Attach a new knife to the D-ring and reinstall onto the clip using the same process.

NOTE: *Flail knives can be turned 180° to use the cutting edge on the opposite side of the knife.*

IMPORTANT: *DO NOT turn or rotate duckfoot knives! They are designed to cut in one direction only.*

IMPORTANT: *When a damaged knife is replaced, the knife directly opposite (180 degrees) must be replaced at the same time to retain balance.*

To remove the entire knife assembly if needed, remove the bolt (3) and nut (4) securing the clip to the rotor.

Use copper based anti-seize when reinstalling the bolts. Torque to 200 ft.-lbs.

Storage

End of Season

- Clean entire flail mower thoroughly.
- Lubricate all parts of the machine. See “Lubrication” on page 21.
- Make a list of all worn or damaged parts and replace them.
- Paint all parts that are worn or rusted.
- Store flail mower in a clean, dry area.
- Review the flail mower operator’s manual.

Beginning of the Season

- Review the flail mower operator’s manual.
- Lubricate all parts of the machine. See “Lubrication” on page 21.
- Tighten all bolts, nuts, and set screws. See “Torque Specifications” on page 57.
- Replace all damaged, worn or missing decals.
- Install the flail mower on a loader and test for proper operation.

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

Motor & Sheave Selection Chart

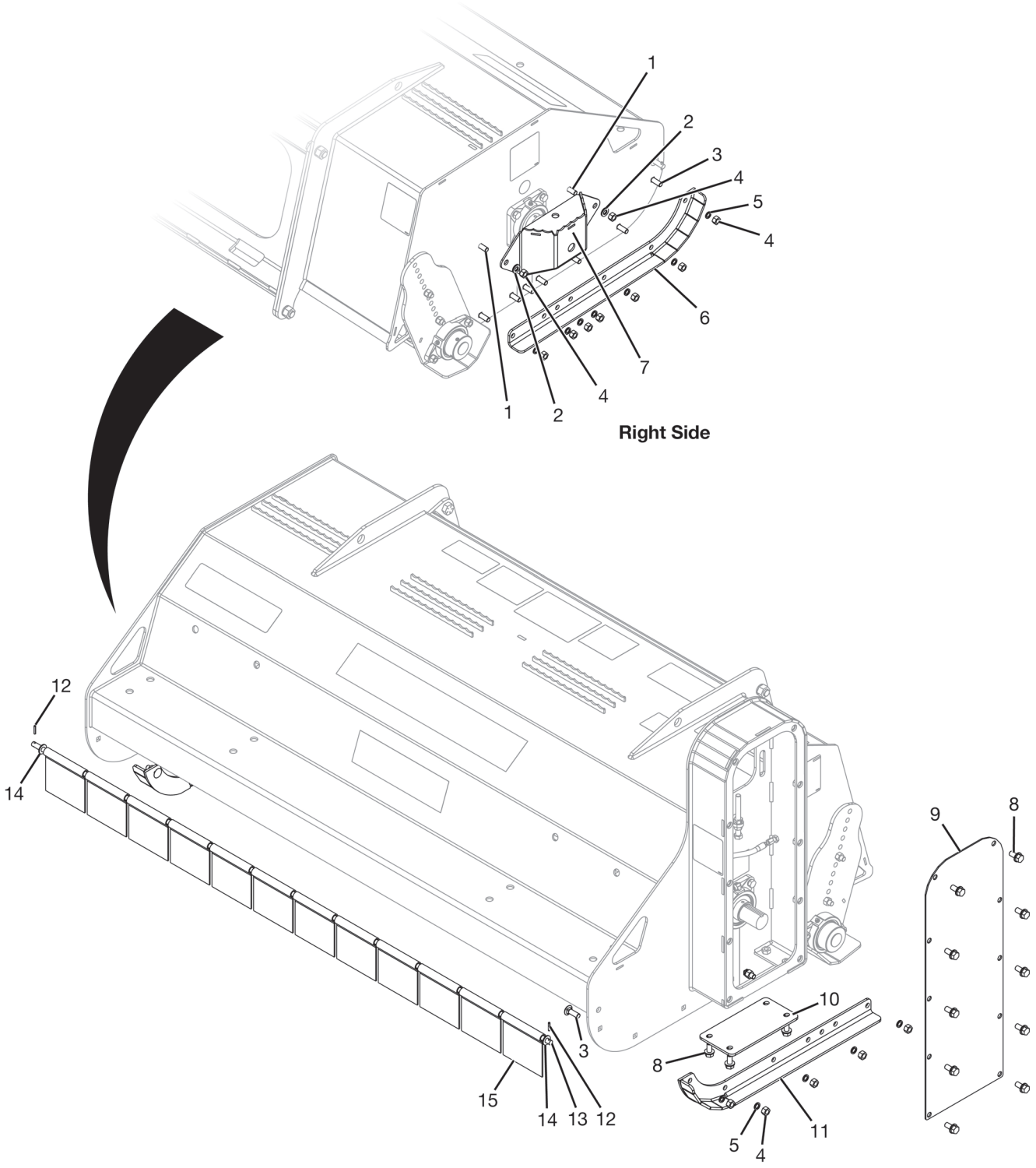
GPM	Displacement	Loftness Part Number	Rotor RPM	Belt Sheave Assembly - Loftness Part Number Top Sheave (Loftness Number) Top Bushing (Loftness Number) Bottom Sheave (Loftness Number) Bottom Bushing (Loftness Number) Belt Length (Loftness Number) Model Code
15	65cc (3.97ci)	208496 & 214668	1519	208987 Top Sheave 8.0" N17045 1.5" Taperlock Bushing 8126 Bottom Sheave 4.6" 208992 1.75" QD Bushing 8414 Belt 54" 211679 Model Code “A”
16			1621	
17			1722	
18			1823	
19			1924	
20			2026	
21			1585	208988 Top Sheave 7.0" N21850 1.5" Taperlock Bushing 8126 Bottom Sheave 5.4" N34050 1.75" QD Bushing 8414 Belt 54" 211679 Model Code “B”
22			1661	
23			1736	
24			1812	
25			1887	
26			1963	
27			2038	
28			1739	208989 Top Sheave 6.4" N34056 1.5" Taperlock Bushing 8126 Bottom Sheave 6.0" N34052 1.75" QD Bushing 8414 Belt 54" 211679 Model Code “C”
29			1801	
30			1864	
31			1926	
32			1988	
33	65cc (3.97ci)	208496	1802	208990 Top Sheave 6.0" N34042 1.5" Taperlock Bushing 8126 Bottom Sheave 6.4" N34074 1.75" QD Bushing 8414 Belt 54" 211679 Model Code “D”
34			1856	
35			1911	
36			1965	
37			1711	208991 Top Sheave 5.4" N34073 1.5" Taperlock Bushing 8126 Bottom Sheave 6.8" N34074 1.75" QD Bushing 8414 Belt 54" 211679 Model Code “E”
38			1757	
39			1804	
40			1850	
41			1896	
42			1942	
43			1989	

Troubleshooting

PROBLEM	CAUSE	SOLUTION
Excessive Vibration	Broken or missing knife.	Replace knife.
	Mud and/or debris wrapped around the rotor.	Clean the machine.
	Bearing malfunction.	Check and replace faulty rotor and drive line bearings.
	Damage to rotor, includes bent end shafts of missing balance weights, or actual rotor deformity from striking rocks, etc.	Return to factory for repair.
Uneven Cut	Knives dull or worn excessively.	Reverse or replace knives.
	Engine RPM too slow.	Operate at full throttle.
	Ground speed too fast.	Reduce ground speed and increase rotor speed.
	Roller not properly adjusted.	Re-adjust roller.
Rotor will not turn, or turns slowly.	Low oil.	Check oil level in loader. Add if necessary.
	Low oil flow.	Check flow control on loader.
	Oil filter plugged.	Replace loader oil filter.
	Faulty rotor bearing.	Replace bearing(s).
	Rotor jammed.	Remove material from rotor. See “Clearing Jams” on page 20

PARTS IDENTIFICATION

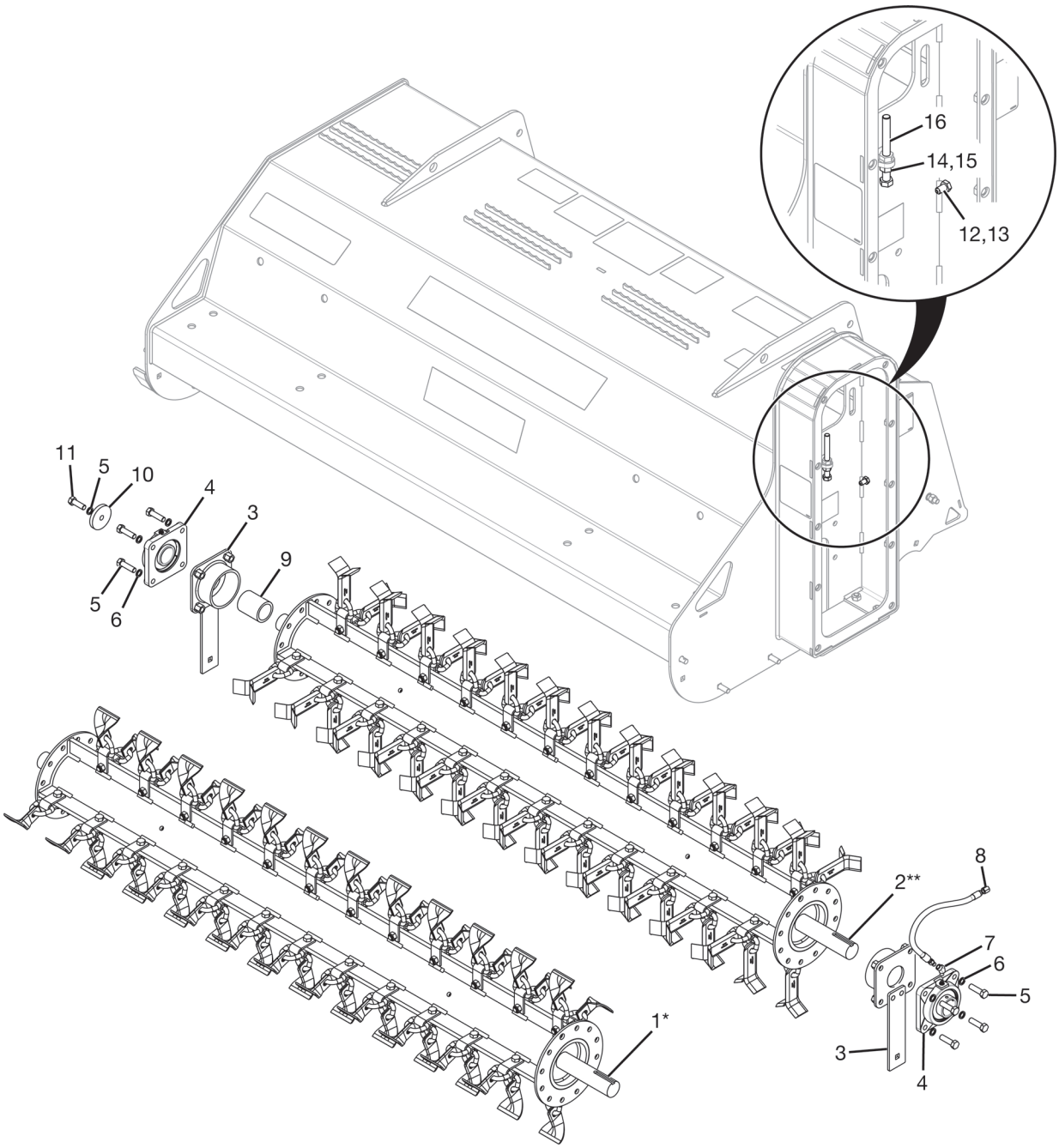
Covers, Skids, and Flippers



Covers, Skids, and Flippers

#	QTY.	PART #	DESCRIPTION
1	2	4012	BOLT, 1/2" X 1-1/4" GRADE 5
2	2	N37780	WASHER, NORD-LOCK 1/2" SP
3	14	4039	BOLT, CARRIAGE 1/2" X 1-1/2"
4	16	4250	NUT, STANDARD 1/2
5	14	N16472	WASHER, 1/2 NORDLOCK
6	1	211097	SKID. RIGHT
7	1	211007	COVER, BEARING
8	14	N26748	BOLT, 1/2" X 1" SER FLG
9	1	211017	COVER, BELT
10	1	211086	COVER, BOTTOM
11	1	208712	SKID. LEFT
12	2	4375	PIN, ROLL 3/16" X 1"
13	1	214605	ROD, 72" FLAIL FLIPPER
	1	214606	ROD, 90" FLAIL FLIPPER
14	2	4068	WASHER, 1/2" SAE FLAT
15	12	N10958	FLIPPER, FLAIL FRONT - 72"
	15		FLIPPER, FLAIL FRONT - 90"

Rotor, Rotor Lubrication, and Belt Adjustment Hardware

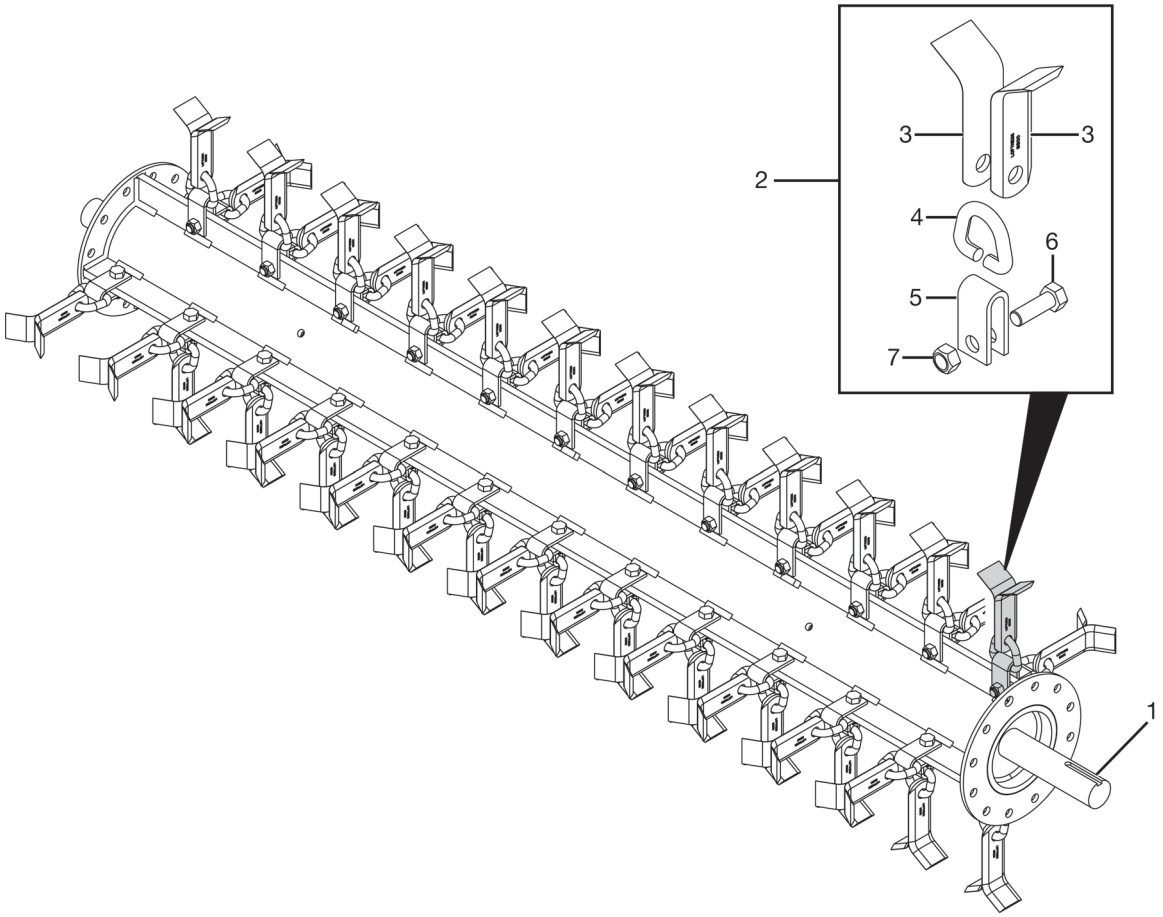


*** For parts breakdown of item 1 - Rotor with Duckfoot Knives (72" - 214095) (90" - 208661), see page 35.**
**** For parts breakdown of item 2 - Rotor with Flail Knives (72" - 214103) (90" - 208662), see page 34.**

Rotor, Rotor Lubrication, and Belt Adjustment Hardware

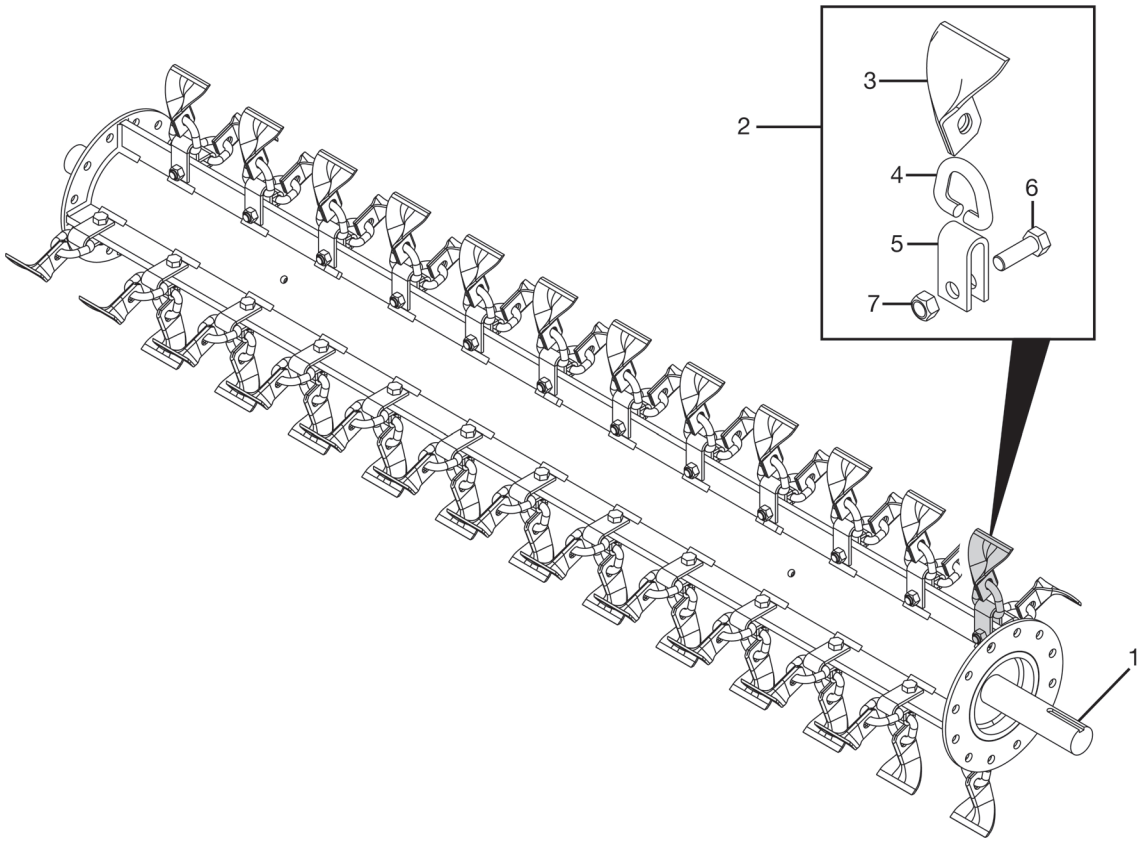
#	QTY.	PART #	DESCRIPTION
1	1	214095	ROTOR, 72" DUCKFOOT
	1	208661	ROTOR, 90" Duckfoot
2	1	214103	ROTOR, 72" FLAIL
	1	208662	ROTOR, 90" FLAIL
3	2	208605	PLATE, 90" FLAIL ANTIWRAP
4	2	N30233	BEARING, 1-3/4" DODGE 4-BLT FL
5	8	4245	BOLT, 1/2" X 1-3/4" FN TD GRADE 8
6	9	N16472	WASHER, 1/2 NORDLOCK
7	1	4471	ELBOW, 1/8 45
8	1	4304	HOSE, GREASE 1/8 X 15
9	1	N31927	SPACER, FLAIL ROTOR SHORT
10	1	209547	PLATE, BEARING RET. 2.625 OD
11	1	4435	BOLT, 1/2" X 1-1/2" FN TD GRADE 8
12	1	4304-10	BULKHEAD, FITTING-GREASE HOSE
13	1	N17007	GREASEZERK, 1/8" NPT
14	1	4250	NUT, STANDARD 1/2
15	1	4068	WASHER, 1/2 SAE
16	1	N27483	BOLT, 1/2" X 5" GR 5 FL TH

Rotor, with Flail Knives (72" - 214103) (90" - 208662)



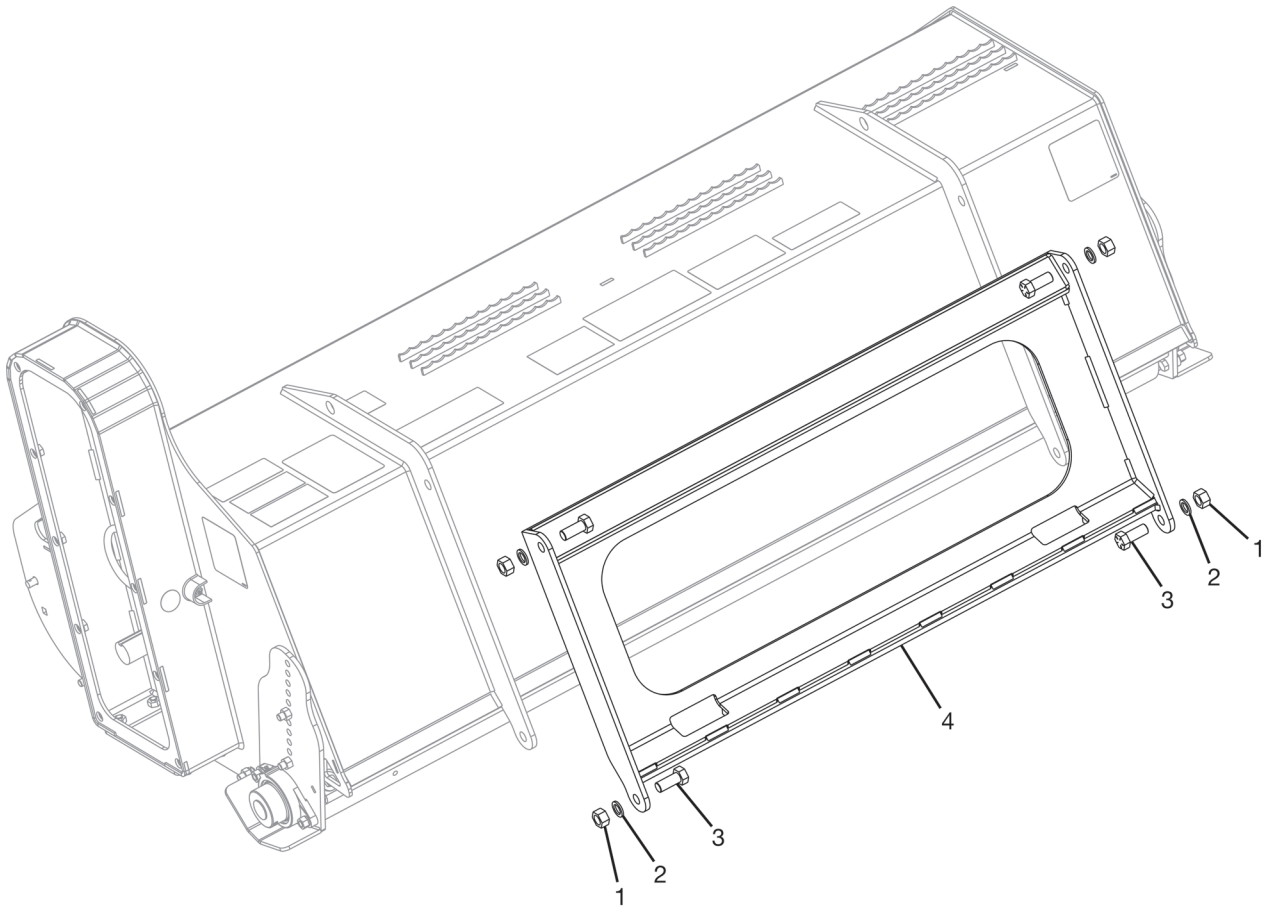
#	QTY.	PART #	DESCRIPTION
1	1	214096	ROTOR (without knives), FLAIL 72"
	1	208583	ROTOR (without knives), FLAIL 90"
2	48	208659	KIT, FLAIL
	60	208659	KIT, FLAIL
3	2	8600	KNIFE, 60 DEG.HEAVY DUTY FLAIL
4	1	208601	D-RING, FLAIL 7/16
5	1	208591	U-BAR, 1.25 X 2.25
6	1	4435	BOLT, 1/2" X 1-1/2" FN TD GRADE 8
7	1	4436	NUT, 1/2" LOCK FN TD GRADE 8

Rotor, with Duckfoot Knives (72" - 214095) (90" - 208661)



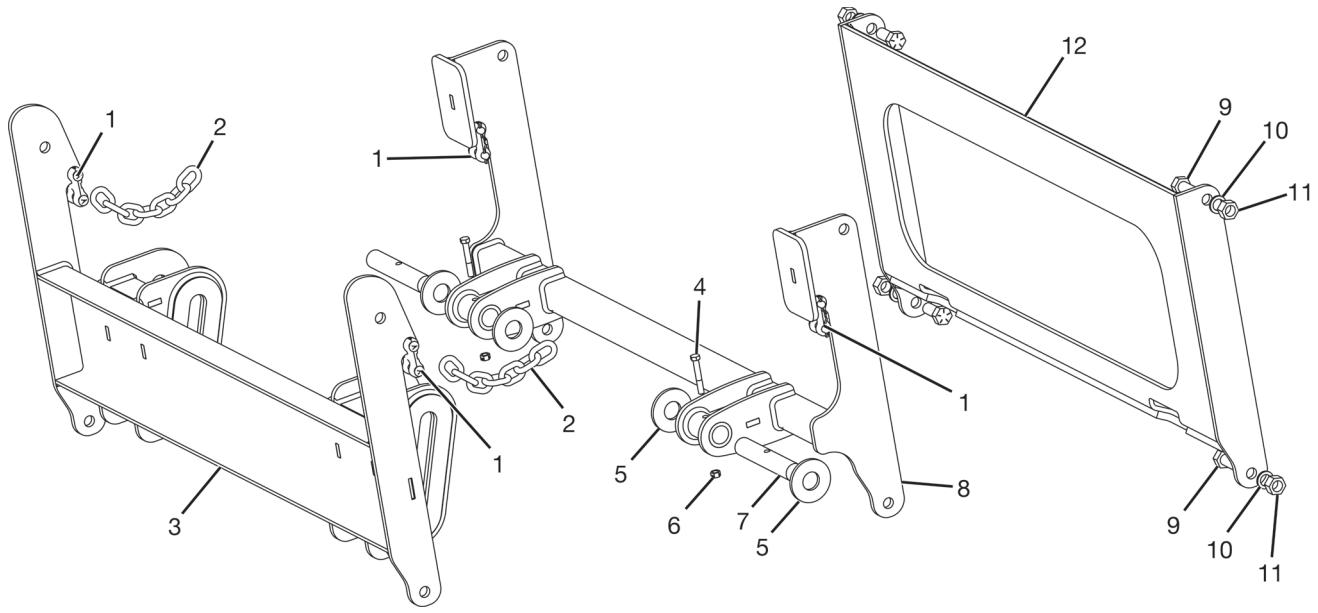
#	QTY.	PART #	DESCRIPTION
1	1	214096	ROTOR (without knives), FLAIL 72"
	1	208583	ROTOR (without knives), FLAIL 90"
2	48	208619	KIT, DUCKFOOT
	60	208619	KIT, DUCKFOOT
3	1	208622	BLADE, DUCKFOOT
4	1	208601	D-RING, FLAIL 7/16
5	1	208591	U-BAR, 1.25 X 2.25
6	1	4435	BOLT, 1/2" X 1-1/2" FN TD GRADE 8
7	1	4436	NUT, 1/2" LOCK FN TD GRADE 8

Hitch, Bolt-On



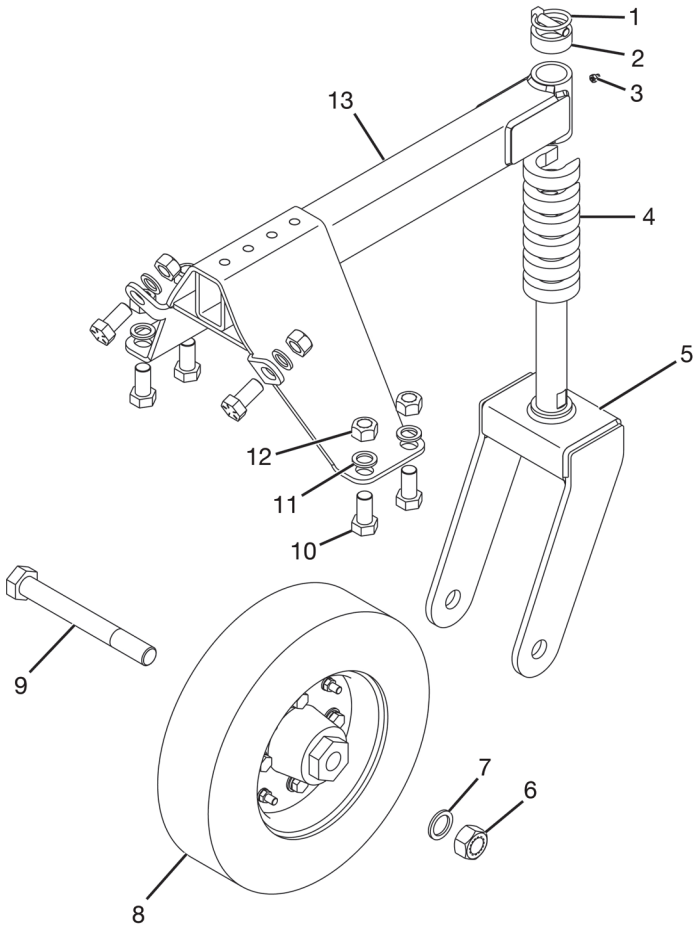
#	QTY.	PART #	DESCRIPTION
1	4	4341	NUT, 3/4" FINE THREAD GRADE 8
2	4	N16474	WASHER, 3/4 NORDLOCK
3	4	N16753	BOLT, 3/4" X 1-3/4" FN THD GR 8
4	1	208674	HITCH, BOLT-ON

Hitch, Floating (211048)



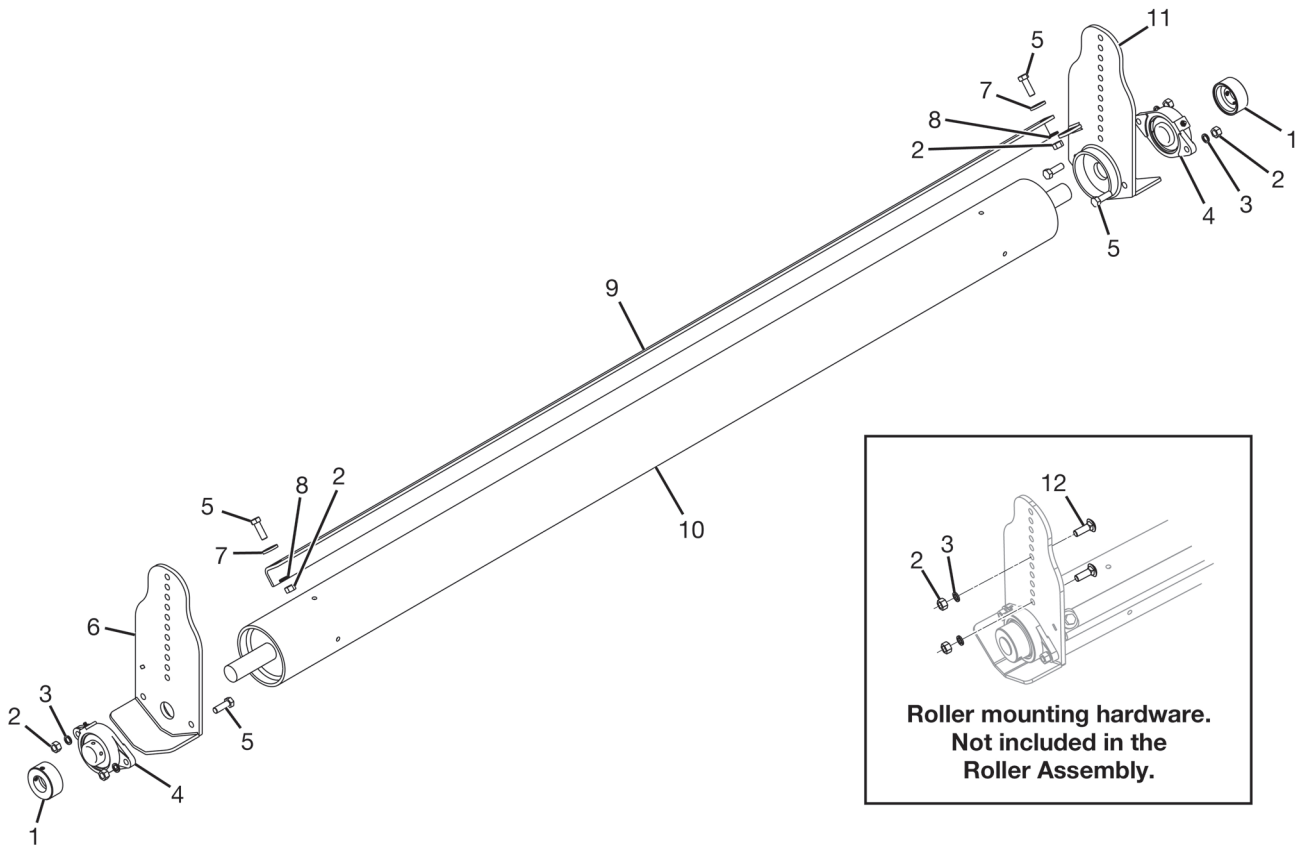
#	QTY.	PART #	DESCRIPTION
1	4	214104	CLEVIS, DOUBLE 3/8
2	2	214078	CHAIN, LONG LINK 7
3	1	211050	HITCH, FLOATING
4	2	4313	BOLT, 3/8" X 2-1/2" GRADE 5
5	4	211063	WASHER, UHMW
6	2	4052	NUT, LOCK 3/8"
7	2	211060	PIN, HITCH
8	1	211049	HITCH, FLOATING
9	4	N16753	BOLT, 3/4" X 1-3/4" FN THD GR 8
10	4	N16474	WASHER, 3/4 NORDLOCK
11	4	4341	NUT, 3/4" FINE THREAD GRADE 8
12	1	208674	HITCH, BOLT-ON

Wheel, Front Flail (208700)



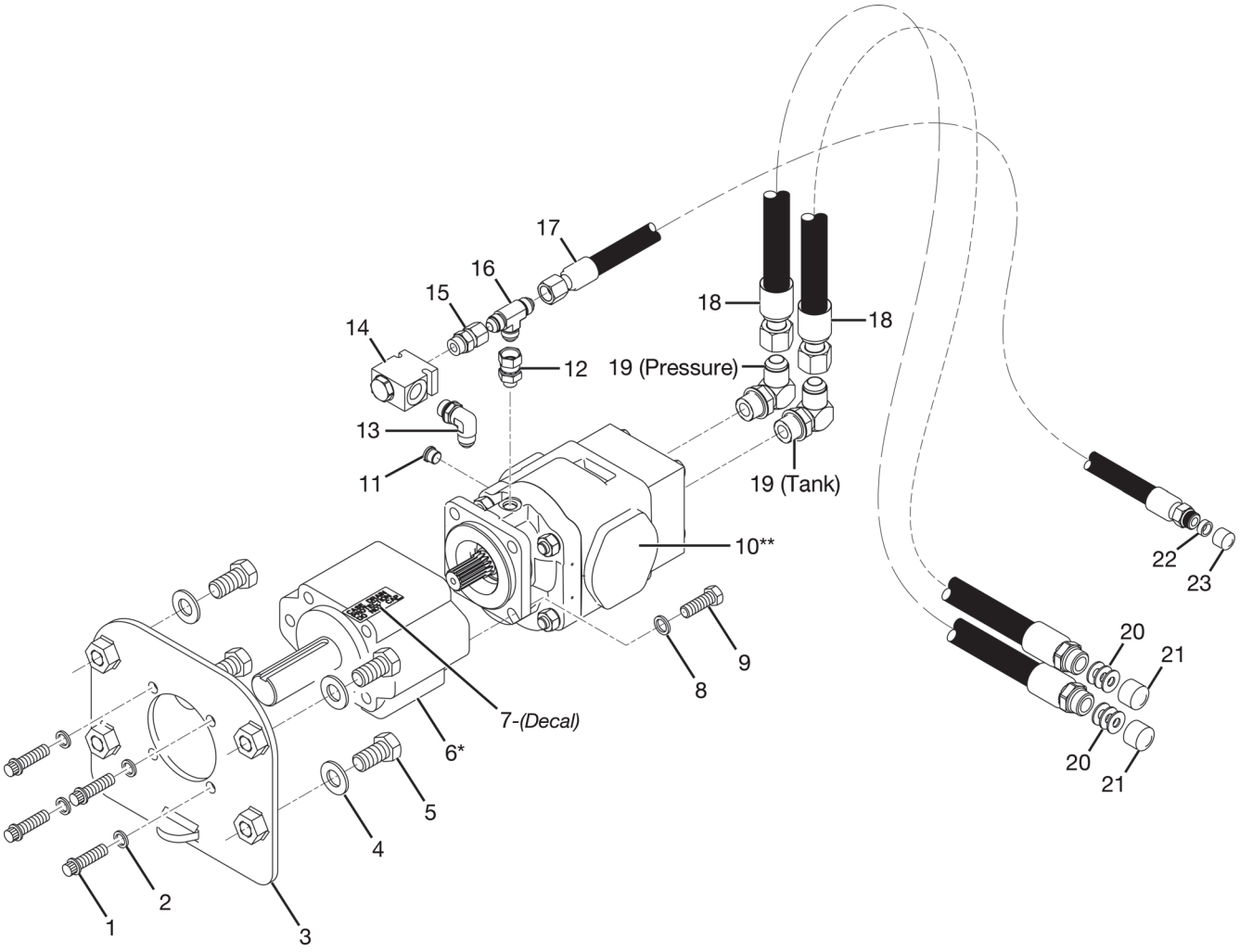
#	QTY.	PART #	DESCRIPTION
1	1	206498	PIN, LINCH 7/16 X 1-3/4
2	1	211015	SPACER, WHEEL
3	1	4105	GREASE-ZERK, 1/4" SCREW-IN
4	6	208974	SPACER, WHEEL
5	1	208702	PIVOT, WHEEL
6	1	4059	NUT, 1" STANDARD
7	1	203587	WASHER, NORD-LOCK 1
8	1	211075	TIRE, LAMINATED W/HUB
9	1	N16413	BOLT, 1"-8UNC X 7-1/2" GRADE 8
10	6	N16350	BOLT, 3/4" X 1-1/2" FN TH GR 8
11	6	N28567	WASHER, 3/4 NORDLOCK SP
12	6	N16352	NUT, LOCK 3/4" GRADE 8 FINE
13	1	208701	STRUT, WHEEL FLAIL

Roller Assembly (72" - 214091) (90" - 208613)



#	QTY.	PART #	DESCRIPTION
1	2	N12137	PROTECTOR, 1-1/2" BEARING
2	10	4250	NUT, STANDARD 1/2
3	8	N16472	WASHER, 1/2 NORDLOCK
4	2	N30230	BEARING, 1-1/2" DODGE 2BLT FLG
5	6	4013	BOLT, 1/2" X 1-1/2" GRADE 5
6	1	208692	MOUNT, ROLLER BEARING
7	2	211087	WASHER, 1/2 3/16 THK AR
8	2	N37780	WASHER, NORD-LOCK 1/2" SP
9	1	214094	SCRAPER - 72"
	1	208721	SCRAPER - 90"
10	1	214092	ROLLER, 72" FLAIL REAR
	1	208688	ROLLER, 90" FLAIL REAR
11	1	211070	MOUNT, ROLLER BEARING
12	4	4039	BOLT, CARRIAGE 1/2" X 1-1/2"

Motor Assembly, #62 65cc with Check, Case Drain (208599)

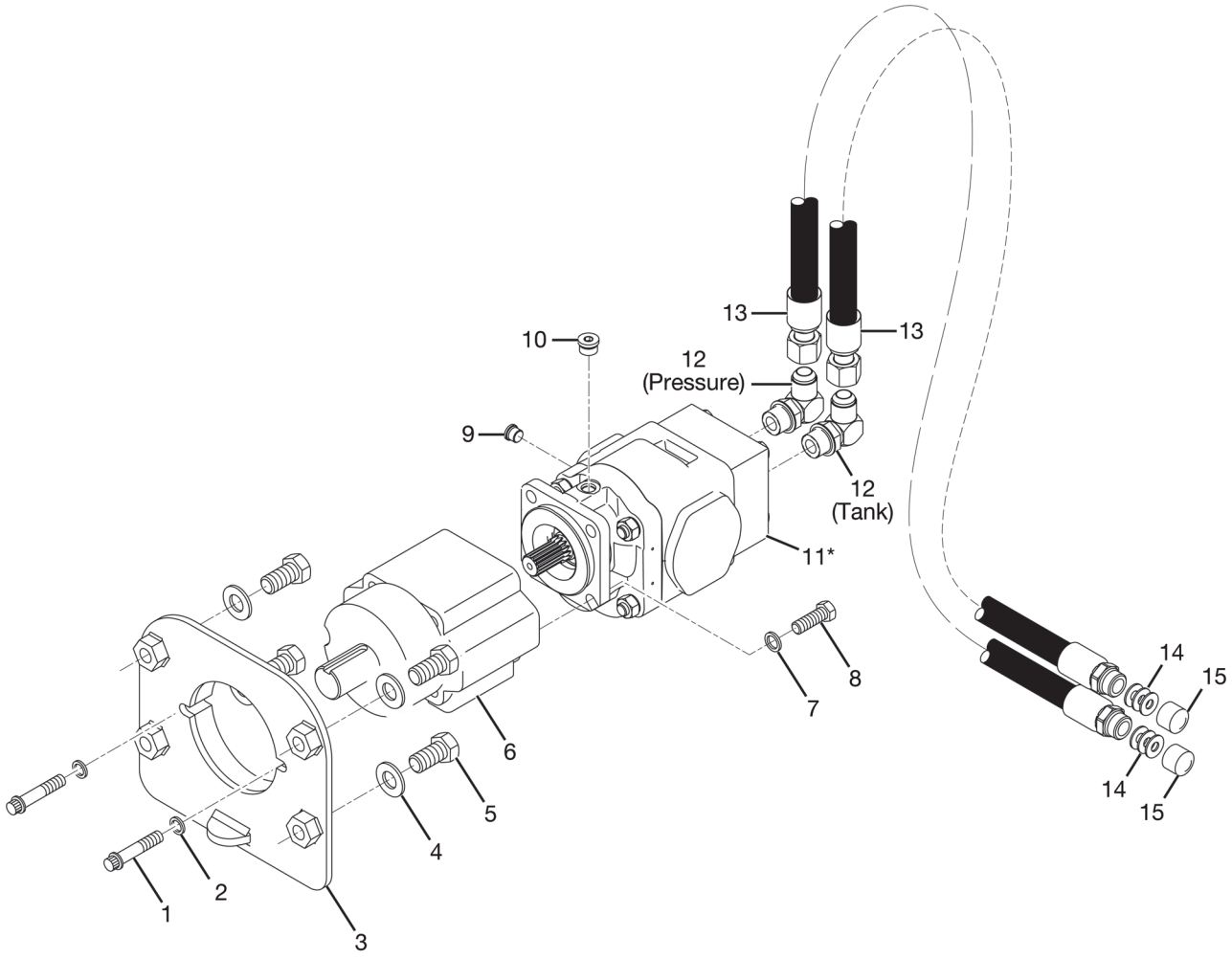


*** For parts breakdown of item 6, Overhung Load Adapter (205079), see page 44.**
**** For partial parts breakdown of item 10, Motor (208496), see page 45.**

Motor Assembly, #62 65cc with Check, Case Drain (208599)

#	QTY.	PART #	DESCRIPTION
1	4	N31536	BOLT, 1/2 X 1-3/4 12 PT GRD8
2	4	N16472	WASHER, 1/2 NORDLOCK
3	1	208607	MOUNT, MOTOR
4	4	N28567	WASHER, 3/4 NORDLOCK SP
5	4	202814	BOLT, 3/4IN X 1-1/2IN GR 8
6	1	205079	ADAPTER, OVERHUNG LOAD MOTOR #2
7	1	214428	DECAL, VENT REQUIRED DO NOT CAP
8	4	N37780	WASHER, 1/2 NORDLOCK SP
9	4	4513	BOLT, 1/2" X 1-1/4" GRADE 8
10	1	208496	MOTOR, 65CC W/280BAR RELIEF/ANTI
11	1	N16578	PLUG, 4MOR HEX
12	1	214075	ADAPTER, 6MOR -8FJIC
13	1	N11952	ELBOW, 90 DEG - 08MJIC - 08MOR
14	1	214076	VALVE, RELIEF 200PSI
15	1	N24835	ADAPTER, 8MOR - 8FJIC
16	1	N17001	TEE, 8MJIC-8MJIC-8MJIC
17	1	203569	HOSE, 1/2IN X 74IN 8FJIC - 8MOR
18	2	203419	HOSE, 3/4" X 73" -12FJIC -12MOR
19	2	N11945	ELBOW, 90 DEG 12MOR - 12MJIC
20	6	4064	WASHER, FLAT 3/8"
21	2	N15893	CAP, 3/4 ALUMINUM HOSE
22	1	N32002	PLUG, 3/8 SCH 40 X .25
23	1	N15895	CAP, 1/2 ALUMINUM HOSE

Motor Assembly, #61 65cc with Check and High Pressure Seal (without Case Drain) - (211088)

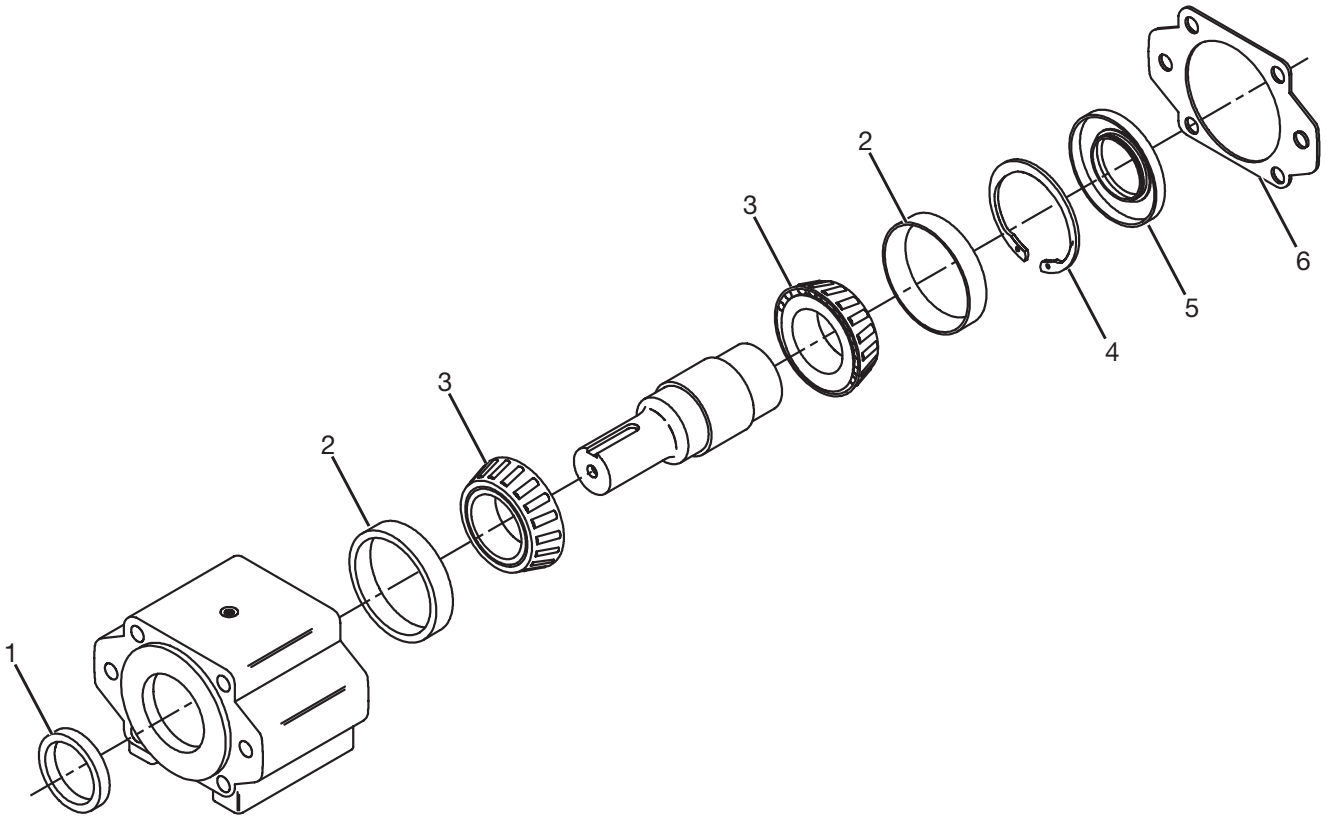


*** For partial parts breakdown of item 11, Motor (214668), see page 46.**

Motor Assembly, #61 65cc with Check and High Pressure Seal (without Case Drain) - (211088)

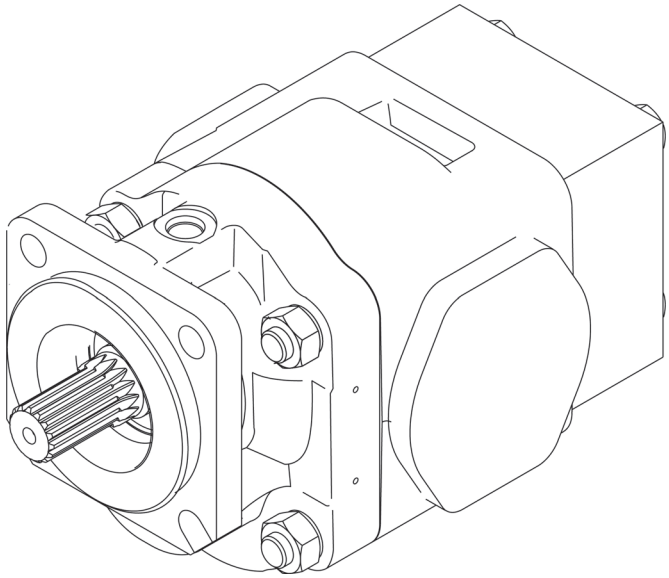
#	QTY.	PART #	DESCRIPTION
1	2	211092	BOLT, 1/2 X 2-1/2 GR 8 12 PT
2	2	N16472	WASHER, 1/2 NORDLOCK
3	1	211089	MOUNT, MOTOR
4	4	N28567	WASHER, 3/4 NORDLOCK SP
5	4	202814	BOLT, 3/4IN X 1-1/2IN GR 8
6	1	N10533	ADAPTER, OVERHUNG LOAD MOTOR
7	4	N37780	WASHER, 1/2 NORDLOCK SP
8	4	4513	BOLT, 1/2" X 1-1/4" GRADE 8
9	1	N16758	PLUG, 4MOR HEX
10	1	N28280	PLUG, 8MOR HOLLOW HEX
11	1	214668	MOTOR, 65CC SHAFT SEAL REMOVED
12	2	N11945	ELBOW, 90 DEG 12MOR - 12MJIC
13	2	203419	HOSE, 3/4" X 73" -12FJIC -12MOR
14	6	4064	WASHER, FLAT 3/8"
15	2	N15893	CAP, 3/4 ALUMINUM HOSE

Overhung Load Adapter (205079)



#	QTY.	PART #	DESCRIPTION
1	1	N14151	SEAL, FRONT (1.50" I.D. X 2.13" O.D. X .312" THK)
2	2	N14152	CUP, BEARING
3	2	N14153	CONE, BEARING
4	1	N14156	RING, RETAINING
5	1	N14157	SEAL, REAR (55MM X 90MM X 10MM)
6	1	N14158	GASKET

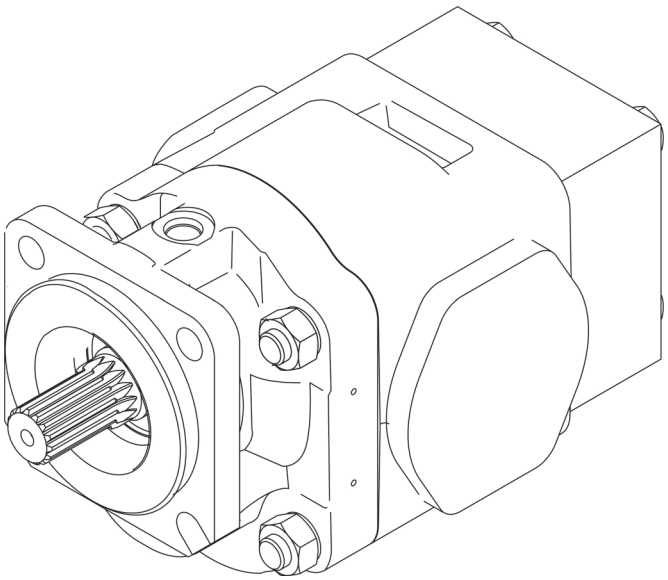
Motor, 65cc with 280 Bar Relief (208496)



NOTE: *Seal kit available (not shown). See parts list for part number.*

#	QTY.	PART #	DESCRIPTION
*	1	208390	KIT, 640 MOTOR 300 PSI
*	1	208393	RELIEF, CHECK VALVE
*	1	208389	RING, RETAINER
	1	208388	SEAL, SHAFT 640 300 PSI

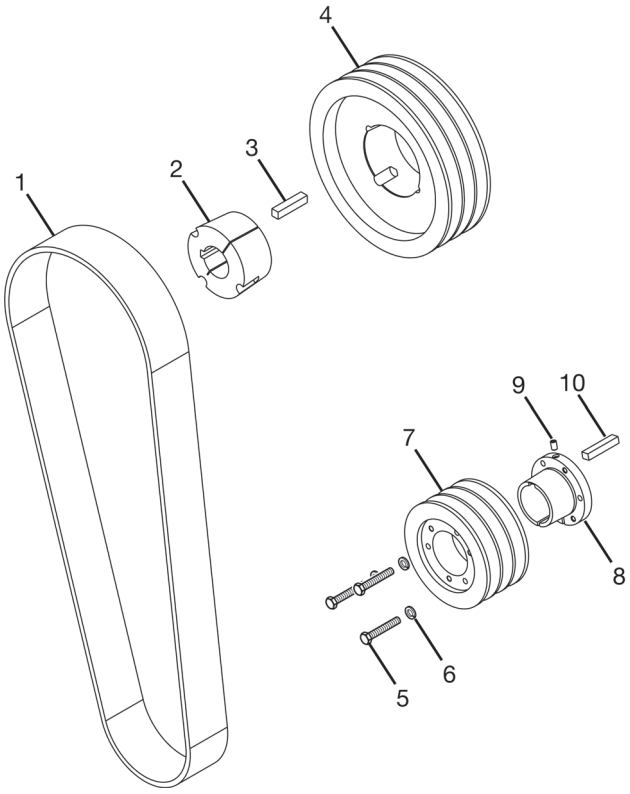
Motor, 65cc with 280 Bar Relief (Shaft Seal Removed) (214668)



NOTE: *Seal kit available (not shown). See parts list for part number.*

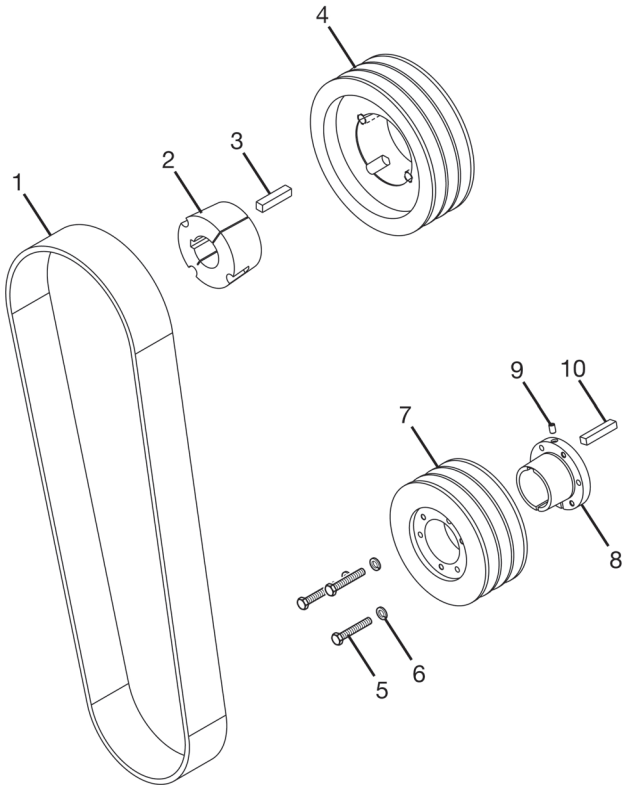
#	QTY.	PART #	DESCRIPTION
*	1	208390	KIT, 640 MOTOR 300 PSI
*	1	208393	RELIEF, CHECK VALVE
*	1	208389	RING, RETAINER

Belt Assembly, 3 Band “A” (8.0" Top, 4.6" Bottom) - (208987)



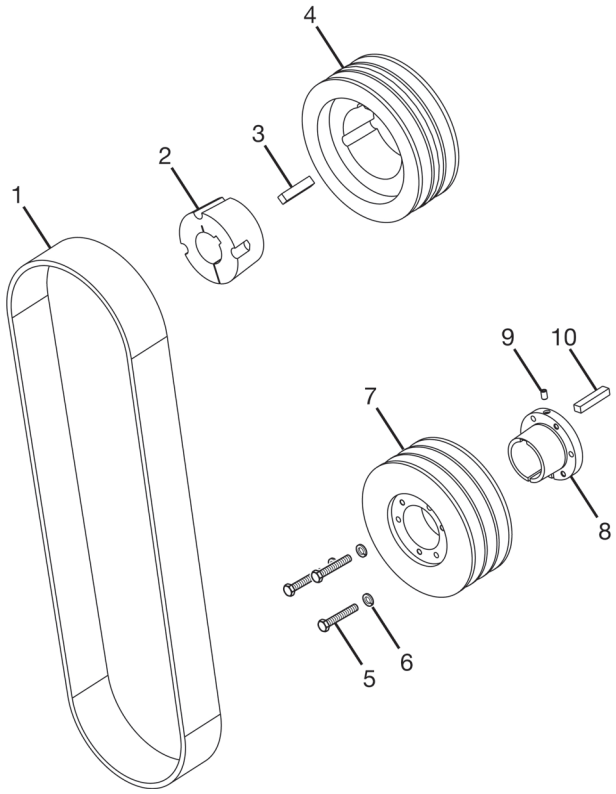
#	QTY.	PART #	DESCRIPTION
1	1	211679	BELT, 3/B 54
2	1	8126	BUSHING, 1-1/2" TAPERLOCK KEYED
3	1	7121-02	KEY, 3/8" X 1-3/4"
4	1	N17045	SHEAVE, 3B X 8.0 TPL 2517
5	3	211083	BOLT, 1/4 x 1-7/8 FULL THREAD
6	3	4231	WASHER, LOCK 1/4
7	1	208992	SHEAVE, 3B X 4.6 QD SD
8	1	8414	BUSHING, 1-3/4IN KW QD SD
9	1	4083	SCREW, SET 1/4-20 UNC X 3/8
10	1	211084	KEY, 3/8 x 5/16 x 1-13/16

Belt Assembly, 3 Band “B” (7.0" Top, 5.4" Bottom) - (208988)



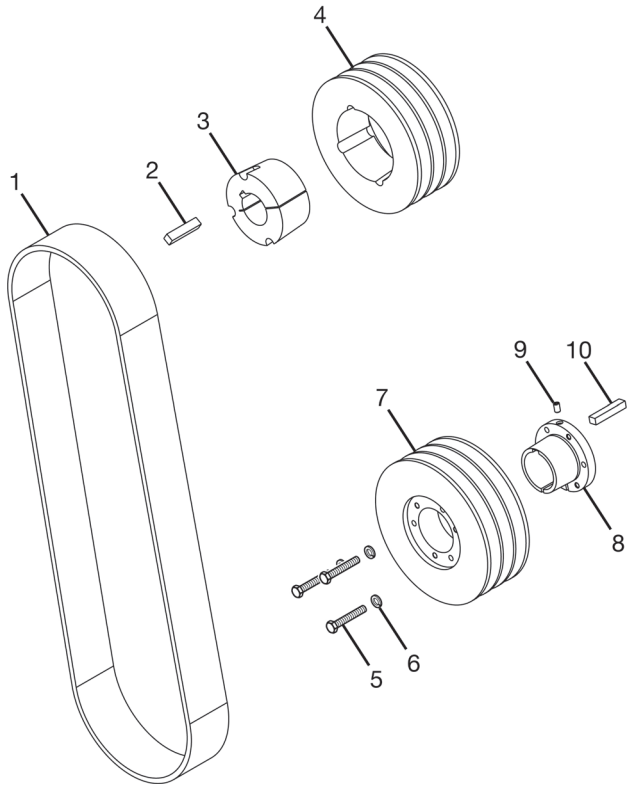
#	QTY.	PART #	DESCRIPTION
1	1	211679	BELT, 3/B 54
2	1	8126	BUSHING, 1-1/2" TAPERLOCK KEYED
3	1	7121-02	KEY, 3/8" X 1-3/4"
4	1	N21850	SHEAVE, 3B 7 TPL 2517
5	3	211083	BOLT, 1/4 x 1-7/8 FULL THREAD
6	3	4231	WASHER, LOCK 1/4
7	1	N34050	SHEAVE, 3B 5.4 QD SD
8	1	8414	BUSHING, 1-3/4IN KW QD SD
9	1	4083	SCREW, SET 1/4-20 UNC X 3/8
10	1	211084	KEY, 3/8 x 5/16 x 1-13/16

Belt Assembly, 3 Band “C” (6.4" Top, 6.0" Bottom) - (208989)



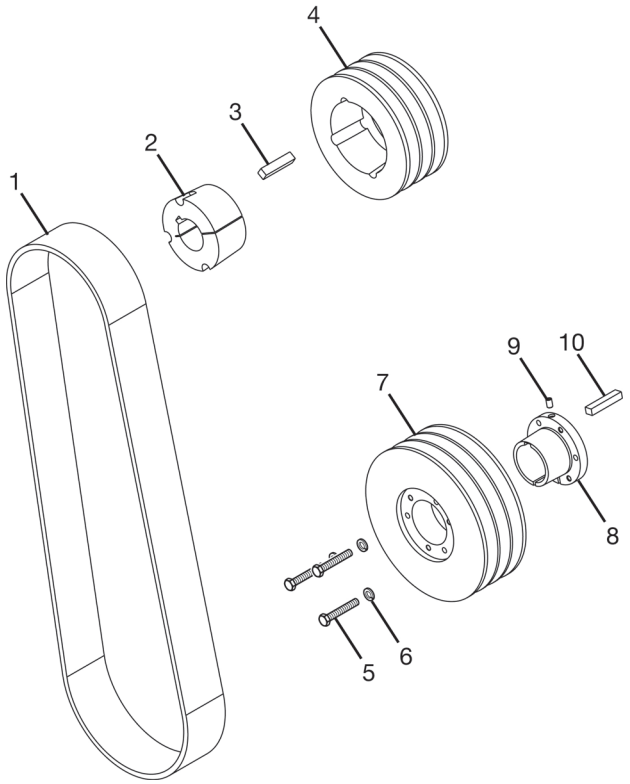
#	QTY.	PART #	DESCRIPTION
1	1	211679	BELT, 3/B 54
2	1	8126	BUSHING, 1-1/2" TAPERLOCK KEYED
3	1	7121-02	KEY, 3/8" X 1-3/4"
4	1	N34056	SHEAVE, 3B X 6.4 TPL 2517
5	3	211083	BOLT, 1/4 x 1-7/8 FULL THREAD
6	3	4231	WASHER, LOCK 1/4
7	1	N34052	SHEAVE, 3B 6.0 QD SD
8	1	8414	BUSHING, 1-3/4IN KW QD SD
9	1	4083	SCREW, SET 1/4-20 UNC X 3/8
10	1	211084	KEY, 3/8 x 5/16 x 1-13/16

Belt Assembly, 3 Band “D” (6.0" Top, 6.4" Bottom) - (208990)



#	QTY.	PART #	DESCRIPTION
1	1	211679	BELT, 3/B 54
2	1	7121-02	KEY, 3/8" X 1-3/4"
3	1	8126	BUSHING, 1-1/2" TAPERLOCK KEYED
4	1	N34042	SHEAVE, TAPERLOCK 6.0 PD 3-BAND
5	3	211083	BOLT, 1/4 x 1-7/8 FULL THREAD
6	3	4231	WASHER, LOCK 1/4
7	1	N34074	SHEAVE, 3B 6.4 QD SD
8	1	8414	BUSHING, 1-3/4IN KW QD SD
9	1	4083	SCREW, SET 1/4-20 UNC X 3/8
10	1	211084	KEY, 3/8 x 5/16 x 1-13/16

Belt Assembly, 3 Band “E” (5.4" Top, 6.8" Bottom) - (208991)



#	QTY.	PART #	DESCRIPTION
1	1	211679	BELT, 3/B 54
2	1	8126	BUSHING, 1-1/2" TAPERLOCK KEYED
3	1	7121-02	KEY, 3/8" X 1-3/4"
4	1	N34073	SHEAVE, 3B X 5.4 TPL 2517
5	3	211083	BOLT, 1/4 x 1-7/8 FULL THREAD
6	3	4231	WASHER, LOCK 1/4
7	1	8404	SHEAVE, 3B 6.8 QD SD
8	1	8414	BUSHING, 1-3/4IN KW QD SD
9	1	4083	SCREW, SET 1/4-20 UNC X 3/8
10	1	211084	KEY, 3/8 x 5/16 x 1-13/16

Machine Decals and Signs

NOTE: *All safety related decals are also shown in the Safety Instructions Section along with their location on the machine. See "Safety Decal Locations" on page 10.*

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

Part No. 208824

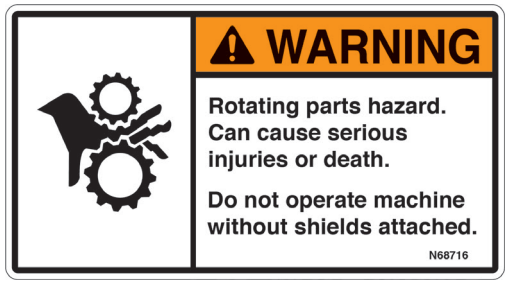
Part No. 200491

Part No. 4334

Part No. N28386

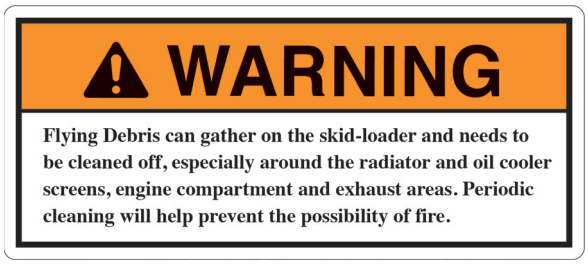
Part No. N68724

Part No. N68716



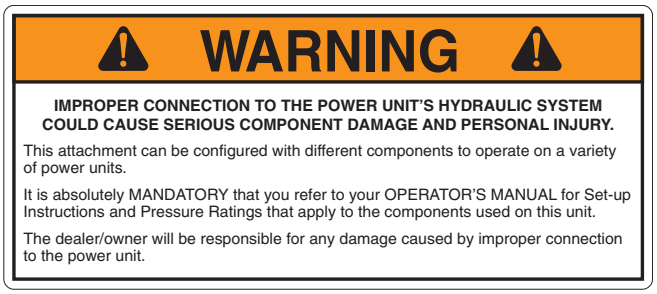
Machine Decals and Signs (Cont'd)

Part No. N20661



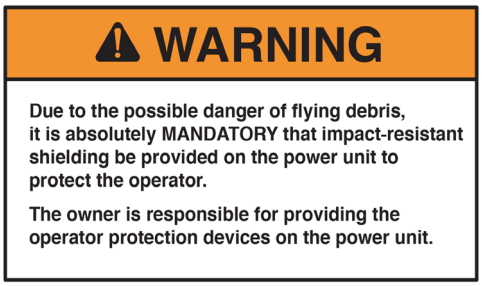
Part No. 203264

Part No. N28385

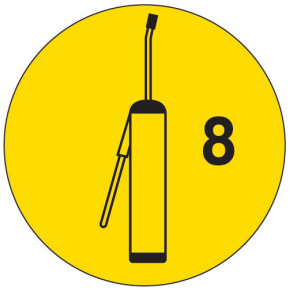


Part No. 214428

Part No. N17013



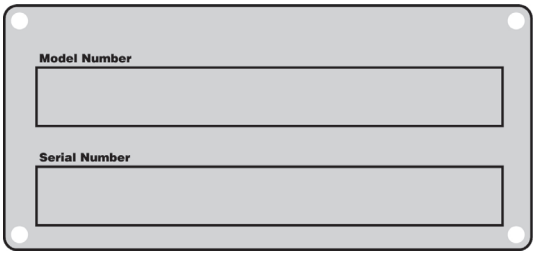
Part No. N28010



Part No. N23506

Machine Decals and Signs (Cont'd)

Part No. N13721



Part No. 209449

Part No. N13517

Part No. 4138

Part No. N28576 - *(Large)*

LOFTNESS™

VMLOGIX™

VEGETATION MANAGEMENT EQUIPMENT

Part No. N26973 - *(Medium)*

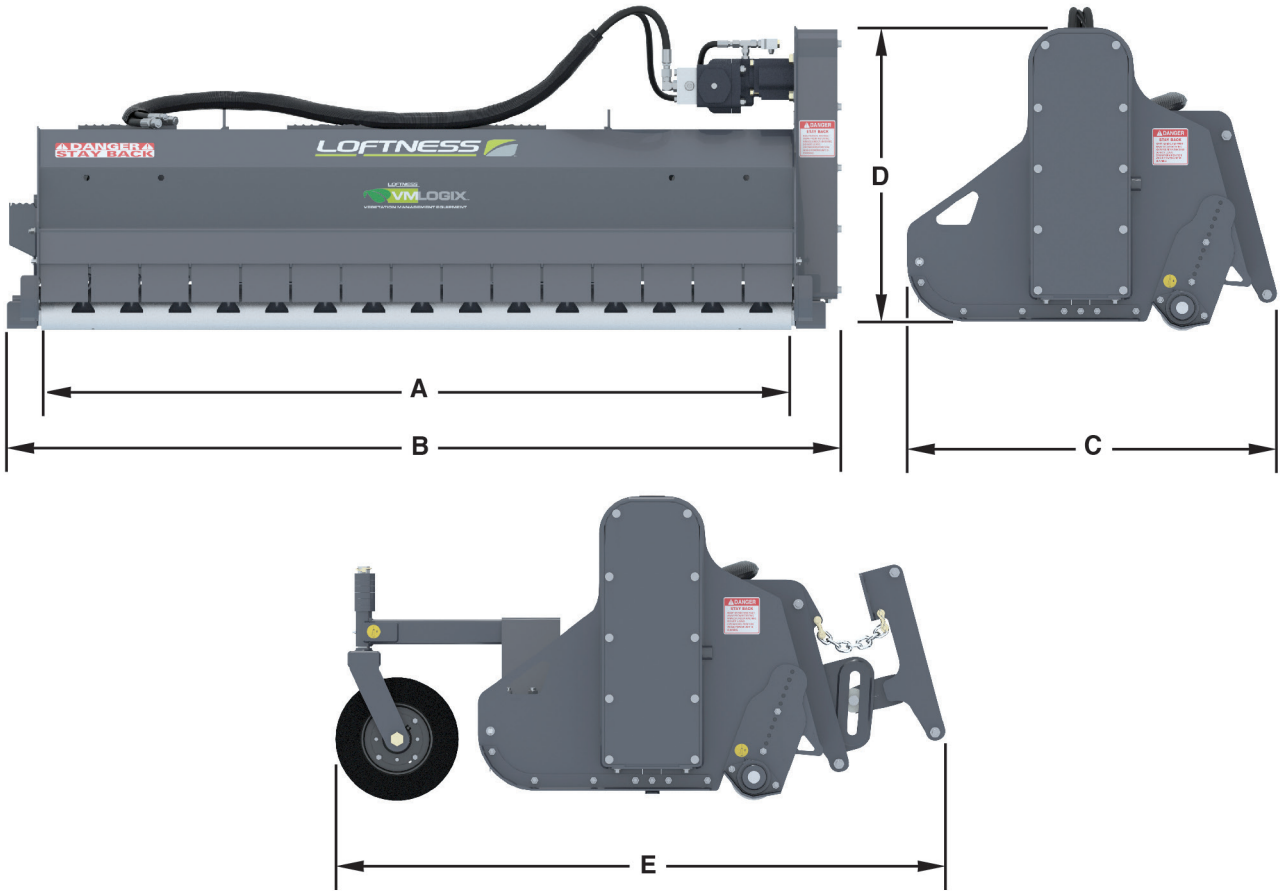
LOFTNESS™

Specifications

DESCRIPTION	FLAIL MOWER	
	72HM	90HM
Cutting Width	72.0 in. (182.9 cm)	90.0 in. (228.6 cm)
Cutting Height	1 in. to 7 in. Roller Adjustment, or Roller Adjustment with Front Flail Wheels	
Operating Capacity	1 in. (2.54 cm) Continuous - Flail Knives; Grass only - Duckfoot Knives	
Motor	65cc	
Rotor Bearings	Heavy Duty 1-3/4 in. Bearings	
Roller Bearing	Heavy Duty 1-1/2 in. Bearings	
Mount	Universal Skid Loader - Bolt-On Hitch or Floating Hitch	
Knives	60° Heavy Duty, Heat Treated, Reversible, Flail Knives; or Duckfoot	
Skid Shoes	Stationary	
Anti-Wrap Protection	Bearing	

Appendix

Dimensions



Model with Floating Hitch and Flail Wheels

DESCRIPTION	FLAIL MOWER	
	72HM	90HM
Cutting Width (A)	72.0 in. (182.9 cm)	90.0 in. (228.6 cm)
Overall Width (B)	82.88 in. (210.52 cm)	100.88 in. (256.24 cm)
Overall Depth (C)	45.0 in. (114.3 cm)	
Height (D)	35.75 in. (90.805 cm)	
Overall Depth (E) - *with Floating Hitch and Flail Wheels*	74.08 in. (188.16 cm)	
Number of Knives	96 Flail, 48 Duckfoot	120 Flail, 60 Duckfoot
Weight - *without Floating Hitch and Flail Wheels*	~1,360 lbs. (616.89 kg)	~1,570 lbs. (712.14 kg)
Weight - *with Floating Hitch and Flail Wheels*	~1,750 lbs. (793.78 kg)	~1,950 lbs. (884.50 kg)
Crated Weight	~2,017 lbs. (914.89 kg)	~2,217 lbs. (1,005.61))

Torque Specifications

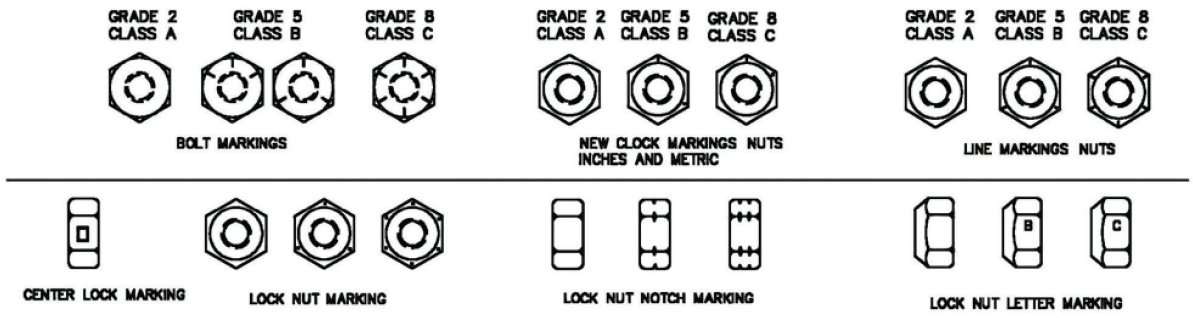
Inches Hardware and Lock Nuts

TORQUE CHARTS

Minimum Hardware Tightening Torques

Normal Assembly Applications
(Standard Hardware and Lock Nuts)

SAE Gr. 2	SAE Grade 5		SAE Grade 8		LOCK NUTS			
Nominal Size	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Unplated or Plated Silver	Plated W / ZnCr Gold	Grade W / Gr. 5 Bolt	Grade W / Gr. 8 Bolt
1/4	55 in.-lb. (6.2 N•m)	72 in.-lb. (8.1 N•m)	86 in.-lb. (9.7 N•m)	112 in.-lb. (12.6 N•m)	121 in.-lb. (13.6 N•m)	157 in.-lb. (17.7 N•m)	61 in.-lb. (6.9 N•m)	86 in.-lb. (9.8 N•m)
5/16	115 in.-lb. (13 N•m)	149 in.-lb. (17 N•m)	178 in.-lb. (20 N•m)	229 in.-lb. (26 N•m)	250 in.-lb. (28 N•m)	324 in.-lb. (37 N•m)	125 in.-lb. (14 N•m)	176 in.-lb. (20 N•m)
3/8	17 ft.-lb. (23 N•m)	22 ft.-lb. (30 N•m)	26 ft.-lb. (35 N•m)	34 ft.-lb. (46 N•m)	37 ft.-lb. (50 N•m)	48 ft.-lb. (65 N•m)	19 ft.-lb. (26 N•m)	26 ft.-lb. (35 N•m)
7/16	27 ft.-lb. (37 N•m)	35 ft.-lb. (47 N•m)	42 ft.-lb. (57 N•m)	54 ft.-lb. (73 N•m)	59 ft.-lb. (80 N•m)	77 ft.-lb. (104 N•m)	30 ft.-lb. (41 N•m)	42 ft.-lb. (57 N•m)
1/2	42 ft.-lb. (57 N•m)	54 ft.-lb. (73 N•m)	64 ft.-lb. (87 N•m)	83 ft.-lb. (113 N•m)	91 ft.-lb. (123 N•m)	117 ft.-lb. (159 N•m)	45 ft.-lb. (61 N•m)	64 ft.-lb. (88 N•m)
9/16	60 ft.-lb. (81 N•m)	77 ft.-lb. (104 N•m)	92 ft.-lb. (125 N•m)	120 ft.-lb. (163 N•m)	130 ft.-lb. (176) N•m	169 ft.-lb. (229 N•m)	65 ft.-lb. (88 N•m)	92 ft.-lb. (125 N•m)
5/8	83 ft.-lb. (112 N•m)	107 ft.-lb. (145 N•m)	128 ft.-lb. (174 N•m)	165 ft.-lb. (224 N•m)	180 ft.-lb. (244) N•m	233 ft.-lb. (316 N•m)	90 ft.-lb. (122 N•m)	127 ft.-lb. (172 N•m)
3/4	146 ft.-lb. (198 N•m)	189 ft.-lb. (256 N•m)	226 ft.-lb. (306 N•m)	293 ft.-lb. (397 N•m)	319 ft.-lb. (432 N•m)	413 ft.-lb. (560 N•m)	160 ft.-lb. (217 N•m)	226 ft.-lb. (306 N•m)
7/8	142 ft.-lb. (193 N•m)	183 ft.-lb. (248 N•m)	365 ft.-lb. (495 N•m)	473 ft.-lb. (641 N•m)	515 ft.-lb. (698 N•m)	667 ft.-lb. (904 N•m)	258 ft.-lb. (350 N•m)	364 ft.-lb. (494 N•m)
1	213 ft.-lb. (289 N•m)	275 ft.-lb. (373 N•m)	547 ft.-lb. (742 N•m)	708 ft.-lb. (960 N•m)	773 ft.-lb. (1048 N•m)	1000 ft.-lb. (1356 N•m)	386 ft.-lb. (523 N•m)	545 ft.-lb. (739 N•m)



Torque Specifications (Cont'd)

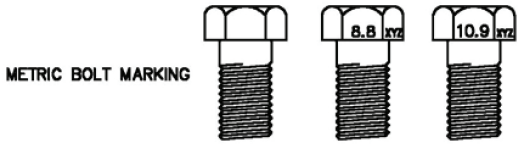
Metric Hardware and Lock Nuts

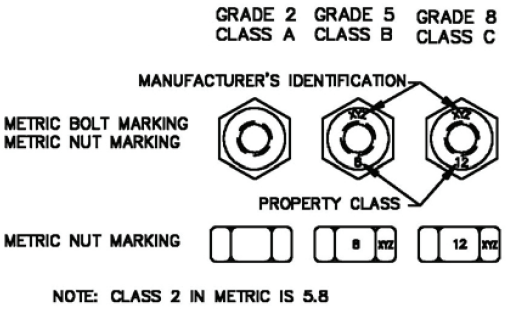
TORQUE CHARTS

Minimum Hardware Tightening Torques

Normal Assembly Applications
(Metric Hardware and Lock Nuts)

	Class 5,8		Class 8,8		Class 10,9		Lock nuts
Nominal Size	**Unplated or Plated Silver**	**Plated W / ZnCr Gold**	**Unplated or Plated Silver**	**Plated W / ZnCr Gold**	**Unplated or Plated Silver**	**Plated W / ZnCr Gold**	**Class 8 W / CL. 8,8 Bolt**
M4	1.7 N•m (15 in.-lb.)	2.2 N•m (19 in.-lb.)	2.6 N•m (23 in.-lb.)	3.4 N•m (30 in.-lb.)	3.7 N•m (33 in.-lb.)	4.8 N•m (42 in.-lb.)	1.8 N•m (16 in.-lb.)
M6	5.8 N•m (51 in.-lb.)	7.6 N•m (67 in.-lb.)	8.9 N•m (79 in.-lb.)	12 N•m (102 in.-lb.)	13 N•m (115 in.-lb.)	17 N•m (150 in.-lb.)	6.3 N•m (56 in.-lb.)
M8	14 N•m (124 in.-lb.)	18 N•m (159 in.-lb.)	22 N•m (195 in.-lb.)	28 N•m (248 in.-lb.)	31 N•m (274 in.-lb.)	40 N•m (354 in.-lb.)	15 N•m (133 in.-lb.)
M10	28 N•m (21 ft.-lb.)	36 N•m (27 ft.-lb.)	43 N•m (32 ft.-lb.)	56 N•m (41 ft.-lb.)	61 N•m (45 ft.-lb.)	79 N•m (58 ft.-lb.)	30 N•m (22 ft.-lb.)
M12	49 N•m (36 ft.-lb.)	63 N•m (46 ft.-lb.)	75 N•m (55 ft.-lb.)	97 N•m (72 ft.-lb.)	107 N•m (79 ft.-lb.)	138 N•m (102 ft.-lb.)	53 N•m (39 ft.-lb.)
M16	121 N•m (89 ft.-lb.)	158 N•m (117 ft.-lb.)	186 N•m (137 ft.-lb.)	240 N•m (177 ft.-lb.)	266 N•m (196 ft.-lb.)	344 N•m (254 ft.-lb.)	131N•m (97 ft.-lb.)
M20	237 N•m (175 ft.-lb.)	307 N•m (226 ft.-lb.)	375 N•m (277 ft.-lb.)	485 N•m (358 ft.-lb.)	519 N•m (383 ft.-lb.)	671 N•m (495 ft.-lb.)	265 N•m (195 ft.-lb.)
M24	411 N•m (303 ft.-lb.)	531 N•m (392 ft.-lb.)	648 N•m (478 ft.-lb.)	839 N•m (619 ft.-lb.)	897 N•m (662 ft.-lb.)	1160 N•m (855 ft.-lb.)	458 N•m (338 ft.-lb.)





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