LOFTNESS



Hydraulic Flail Mower

60MH · 72MH · 90MH

Owner's Manual and Parts Book
(Originating w/Serial Number
05-451 thru 05-467)

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

N14800 Rev. J

05.31.18


LOFTNESS

LOFTNESS SPECIALIZED EQUIPMENT, INC.
LIMITED WARRANTY POLICY

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

All Loftness products have a one (1) year limited warranty. The XLB10 Grain Bag Loader has a two (2) year limited warranty.

If any Loftness product is used as rental equipment, or in a commercial application, 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;
- Improper knife replacement;
- Missing knives;
- Striking foreign objects
- Lack of lubrication
- Failures caused by running in an "out-of-balance" condition;
- Tires;
- Conveyors;
- Auger wear;
- Saw blades; and
- Brakes and brake pads.

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.

April 2017


LOFTNESS

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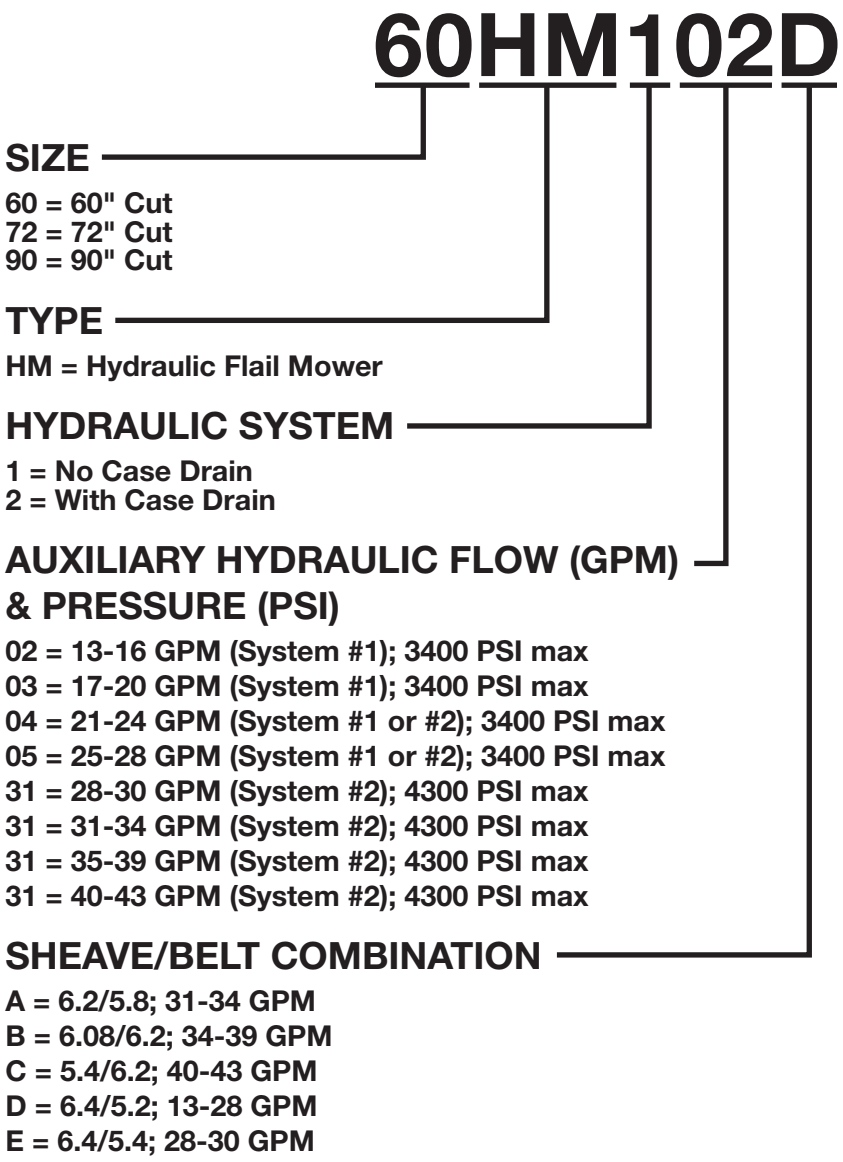
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Ordering Code

Hydraulic Flail Mower (Example)

The ordering code will consist of two numbers (machine size), two letters (machine type), one number (hydraulic system), two numbers (motor GPM and PSI), and one letter (sheave/belt combination). An example for 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.

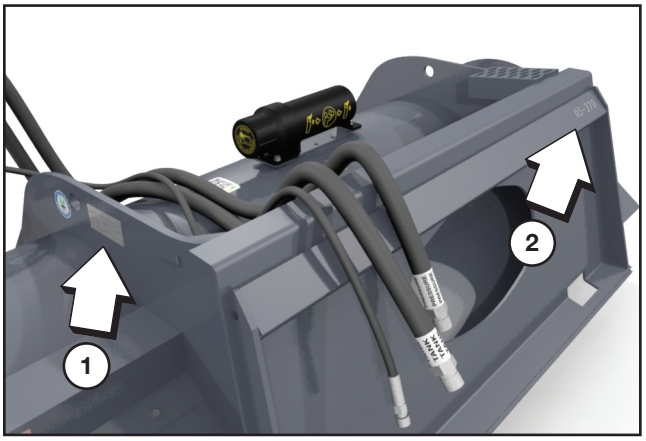
Make sure that all personnel have read this owner's manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

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 arrows above indicate the location of the serial number tag (1) and the location of the serial number stamped into the frame (2).

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

Manual Storage



Keep the owner's manual and the entire documentation packet in the storage compartment provided on your flail mower. The owner's manual must be available for all operators.

Hydraulic Flail Mower Features

- NEW - High Pressure Gear-type Motor (28-43 GPM up to 4300 PSI)
- Standard Gear Motor (with or without Case Drain) (13-28 GPM up to 3400 PSI)
- Heavy-duty, Bearing Block
- 3-groove Banded Belt
- 0 - 4 1/2 inch Cutting Height (roller adjustment)
- 1/4 inch End Plates
- 5 1/2" OD x 1/4" Wall Roller Tube
- 1-1/2 inch Bearing on Gauge Roller
- 1900-2300 RPM Rotor Speed
- Structural Steel Frame, Front & Rear
- Spring-loaded Belt Tightener
- Full-width Gauge Roller with Roller Scraper
- Fine-cut, Reversible Knives
- 1-3/4 inch Rotor Bearings
- 10 Gauge Hood
- Easy Access Vented Belt Shield
- Hydraulic Hoses Included

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. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded. The color associated with Danger is RED.

WARNING: This word refers to a potentially hazardous situation that, if not avoided, could result in death or serious injury, and includes hazards that are exposed when guards are removed. It may also be used to alert against unsafe practices. 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 5.

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

- Move throttle to idle position.
- Disengage all power to the mower.
- Shut off engine and remove the key.
- Wait until the rotor has stopped completely before inspecting the unit.

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 this manual carefully. Become thoroughly familiar with the controls and proper use of the machine. Insure that all operators know how to stop the unit by disengagement of the controls using the mandatory shut-down procedure.
- Remember, it is the owner's responsibility for communicating all information on the safe use and proper maintenance of this machine.
- Never allow children to operate equipment. Allow adults to operate the equipment only after receiving the proper instructions. Keep the area of operation clear of all unauthorized persons.
- 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.
- Never attempt to make any adjustments while the engine is running or the key is in the "ON" position of the skid-steer loader. Before leaving the operator's position, disengage power to the mower and remove ignition key.
- Disengage hydraulic valve and place skid-steer controls in neutral or park before starting engine.

Safety Instructions for Operation and Maintenance

The following safety warnings are used here and on the shredder. Become familiar with them before operating this machine.

CAUTION:

- 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.
- 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.
- Repeated impact of the knives with hard objects can cause excessive wear and damage to the skid-steer or mower. Be sure to maintain recommended ground clearance as specified in this manual.
- Should excessive vibration occur, disengage the hydraulic valve immediately and shut off skid- steer. Do not continue to operate the machine until the problem has been determined and corrected.
- Do not start, operate, or work on this machine until you have carefully read and thoroughly understand the contents of this manual, the operator's manual for your loader, and the EMI skid-loader safety manual provided with the flail mower.
- Keep children, spectators and other workers off and away from the machine while it is operating or engine is running. Do not carry passengers.
- Before inspecting, cleaning, lubricating, adjusting or servicing any part of the flail mower, always exercise the "Mandatory Shut-Down Procedure" on page 5. After service has been performed, be sure to restore all guards, shields and covers to their original position.
- Read and observe all warnings decals on the machine before attempting to operate the flail mower. Do not attempt to operate this machine 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.

Safety Rules (Cont'd)

Safety Instructions for Operation and Maintenance (Cont'd)

- The operator must not use drugs or alcoholic drinks which would impair his alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he can safely operate a machine.
- Stay alert for hidden hazards or traffic.
- 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 operate the flail mower without good light and visibility.
- Make sure all controls, (levers, pedals and switches), are in **NEUTRAL** position before starting the loader engine.
- 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.

WARNING:

- Keep all guards, shields and decals in place.
- Always repair or replace any front flipper shields that are damaged or missing.
- Keep hands, feet and clothing away from moving components.
- Do not wear loose or baggy clothing around rotating machinery. Machine must be clear of people, tools, and other objects before engaging hydraulic valve.
- Before working under any hydraulically controlled implement, be certain it is securely blocked!
- 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.
- Always use an approved roll bar and seatbelt for safe operation. Overturning a loader without a roll bar and seatbelt can result in injury or death.
- 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.
- Operate the flail mower only from the operator's seat.
- Keep your feet on the pedals, (floor plates) seat belt fastened snuggly and seat bar lowered, (if equipped), when operating the flail mower.
- Never operate the flail-mower in a lifted position. Work only on the surface that the loader is standing on.
- Do not operate the mower above the rated RPM.

DANGER:

- **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 5.

Operation Safety

Because this machine will be operated in a potentially hazardous environment, it is **ABSOLUTELY MANDATORY** that you read and follow these safety precautions.

WARNING:

- Stay alert for hidden hazards or traffic. Do not carry passengers.
- Never operate the mower without good light or visibility.
- Engage the hydraulic valve slowly at idle speed to prevent unnecessary stress to driveline.
- 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 skid-steer or mower. Be sure to maintain recommended ground clearance as specified in this manual.

Safety Rules (Cont'd)

Operation Safety (Cont'd)

- 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.
- 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.
- Never park on a steep incline.
- Do not leave equipment in raised position.
- 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.
- **DO NOT** allow **ANY** people or animals within 1000 feet of the work area while operating this machine.
- **THOROUGHLY** clear the work area of **ALL** foreign objects such as bottles, rocks, wire, etc. before starting shredder.
- **ALWAYS** operate shredder level with the ground (front to rear).
- **NEVER** operate shredder over 2 feet above the ground.
- When high pressure fluid escapes, it can be almost invisible, yet have enough pressure to penetrate the skin and enter the blood stream. Never attempt to use hands to search for suspected oil leak. If injured by escaping fluid, consult a doctor at once! Serious reaction or infection can occur if proper medical treatment is not obtained immediately.

WARNING:

- Never operate the mower without guards, shields, plates or other safety precaution devices in place. Shields are for your protection, please keep all shields in place.
- Always cut in an up and down direction on slopes. To avoid loss of control and to prevent overturn, never cut across the slope.
- Reduce speed when turning.
- Do not operate on extremely steep slopes.
- 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.
- 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.

DANGER:

- Never get off skid-steer while it is in motion!
- Rotating driveline! Personal injury or death can result from entanglement!
- 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.

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.

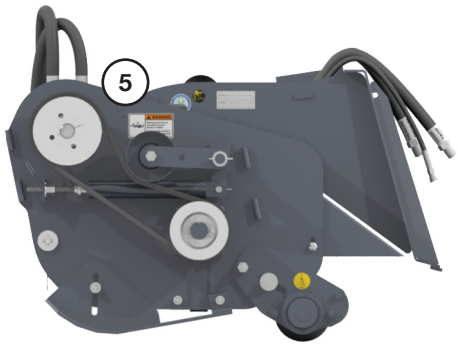
⚠	**WARNING:** *Contact with high pressure fluids may cause fluid penetration and burn hazards. Fluid that is under pressure can penetrate body tissue. Fluid penetration can cause serious injury and possible death. If fluid is injected into the skin, seek medical attention immediately!*

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 37.*





(Belt Cover removed to show decal)

1

DANGER

STAY BACK

KEEP HANDS AND FEET AWAY FROM ROTATING KNIVES UNDER MACHINE. DO NOT LEAVE OPERATOR'S POSITION WHILE PTO IS ENGAGED AND TRACTOR IS RUNNING.

Part No. 4135

2

DANGER



ALWAYS OPERATE CUTTER HEAD AS LOW AS POSSIBLE.

LIFTING OR TILTING BACK INCREASES THE RISK FROM FLYING DEBRIS.

N13863

Part No. N13863

3

DANGER

STAY BACK

Part No. 4334

4

CAUTION

DO NOT START, OPERATE, OR WORK ON THIS MACHINE UNTIL YOU HAVE CAREFULLY READ AND THOROUGHLY UNDERSTAND THE CONTENTS OF THE OPERATOR'S MANUAL.

NOTE: IF YOU DO NOT HAVE AN OPERATOR'S MANUAL, CONTACT YOUR DEALER OR

LOFTNESS SPECIALIZED EQUIPMENT
650 SOUTH MAIN
HECTOR, MN 55342
1-800-828-7624

FAILURE TO FOLLOW SAFETY, OPERATING, AND MAINTENANCE INSTRUCTIONS COULD RESULT IN DEATH OR SERIOUS INJURY TO THE OPERATOR OR BYSTANDERS, POOR OPERATION, AND COSTLY BREAKDOWN.

Part No. 4256

5



WARNING

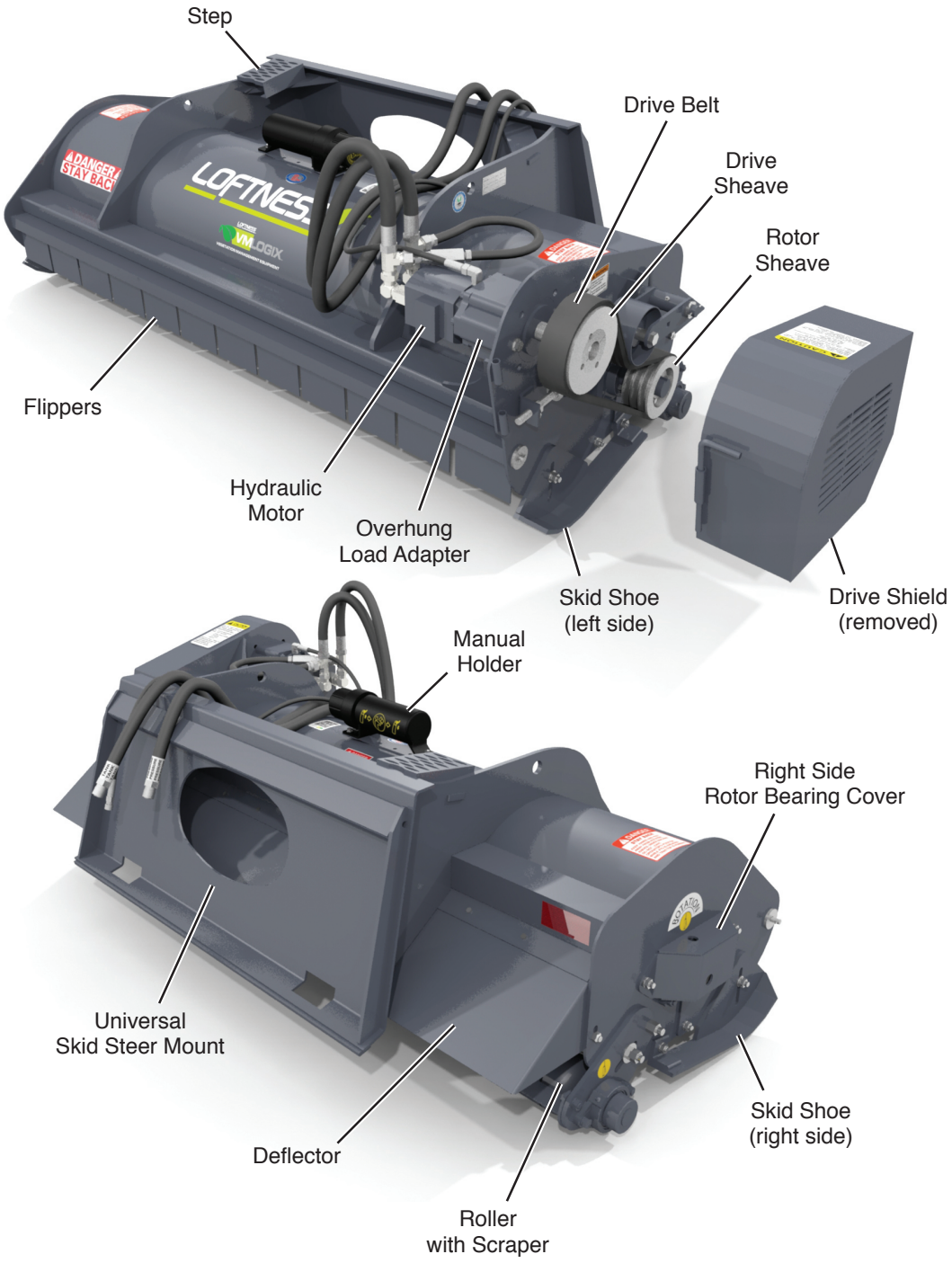
Rotating parts hazard. Can cause serious injuries or death.

Do not operate machine without shields attached.

PN 4189

Part No. 4189

Hydraulic Flail Mower Identification



Attaching to Loader Using Standard Universal Mounting Plate

The Loftness Hydraulic Flail Mower can be attached to any skid-steer with an auxiliary hydraulic system of 13-40 GPM, which has a standard universal skid steer hitch.

1. Pull the attachment-locking levers all the way up.
2. Tilt the loader-mounting plate ahead. Drive forward with the loader and hook the top edge of the mounting plate under the flange on the flail mower mount. Be careful not to damage the locking levers on the loader-mounting plate.
3. Tilt the loader-mounting plate back until you feel the weight of the flail-mower transfer to the loader tires, but do not lift the attachment off the ground. Stop the engine.

⚠	**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.*

4. Push locking-levers down into the locked, over-center position.

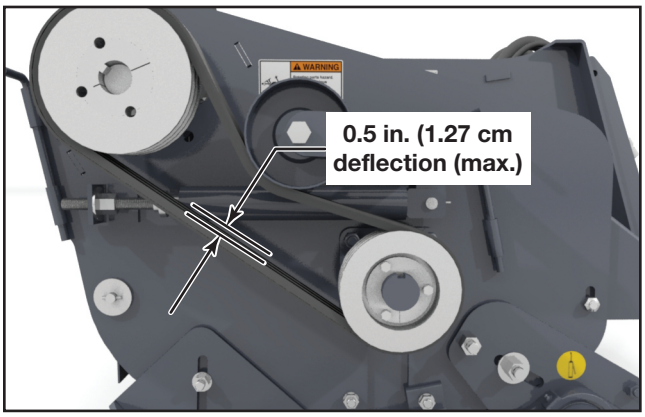
⚠	**WARNING:** *Locking-wedge pins must extend through the holes in attachment-mounting plate. Levers must be fully down in the locked over-center position. Failure to secure wedge pins can allow attachment to come off, causing serious injury or death.*

Hydraulic Connections

Connect hydraulic quick-couplers from flail mower to auxiliary hydraulic outlets on loader.

⚠	**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.*

Checking Belt Tension



The rotor drive belts should have 1/2" maximum deflection at the midpoint between the sheaves.

Operation

For best results, operate the machine as low to the ground as possible without the blades striking ground or other obstructions. Because of the high speed of the blades, the life of the blade 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 blades 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, which allows self-adjusting for surface irregularities in time to prevent scalping. It runs the full width-of-cut and is used to determine the height-of-cut. See “Adjusting Height of Cut” 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 skid steer 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.*

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					
Every 100	Safety Labels	X					
Every 500	Hydraulic Motor	X					X

Lubrication

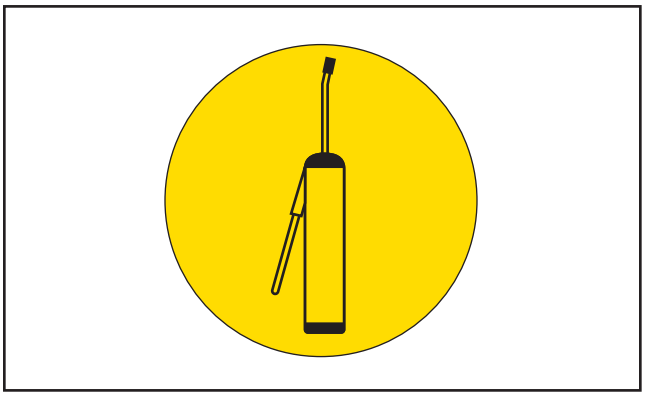
Grease Points Location

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

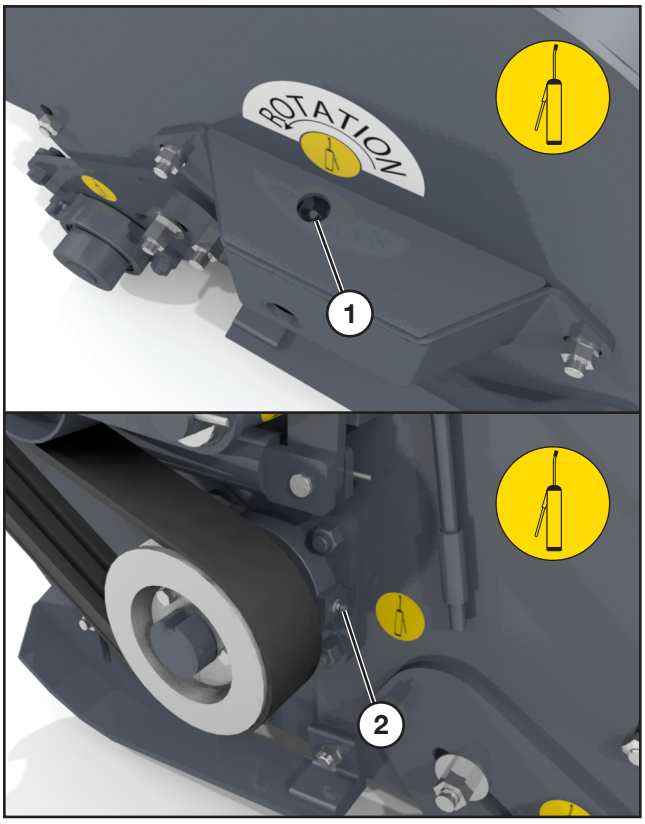


NOTE: *Grease point decals as shown above are placed on the machine near all grease zerks.*

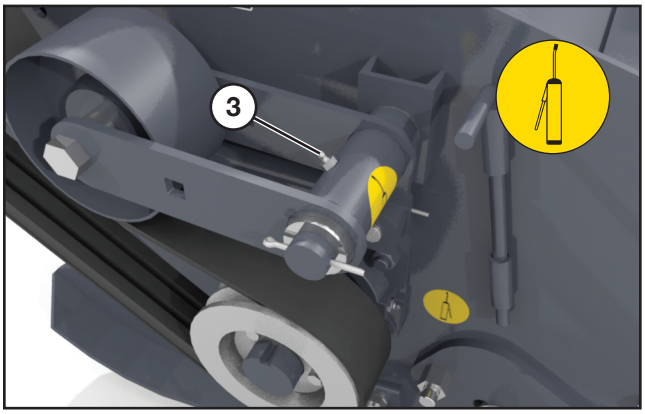
See “Hydraulic Flail Mower Identification” on page 10 to aid in component location and identification.

Lubrication (Cont'd)

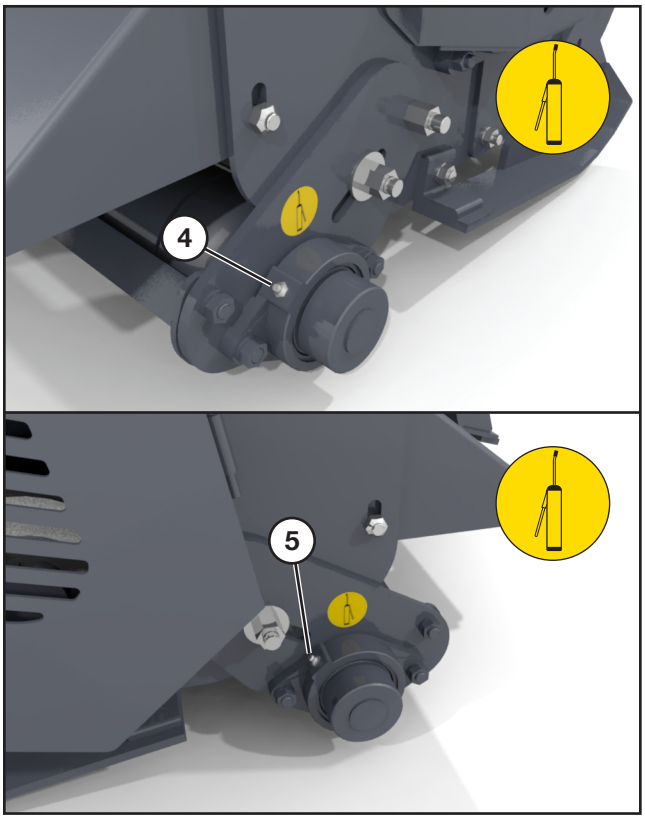
Grease Points Location (Cont'd)



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



Location: Belt idler bracket (3). Remove Drive Shield for access.
Interval: Every 25 hours of operation



Location: Roller bearings - right side (4) left side (5).
Interval: Every 8 hours of operation.

Adjusting Height of Cut

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

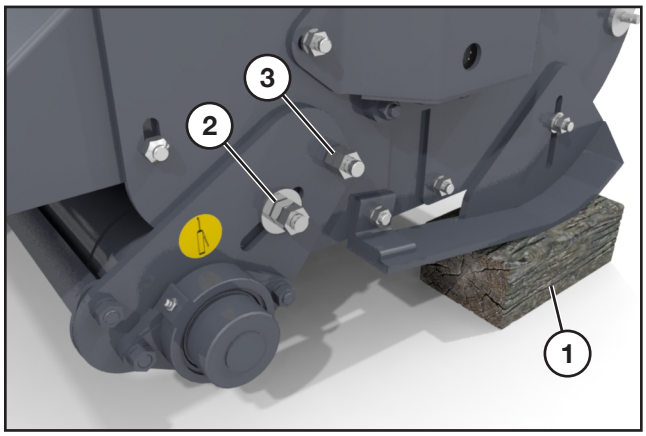
The flail mower uses slotted adjustments on the rear roller to allow an infinite cutting height adjustment from 0 to 4-1/2".

To adjust the height of cut:

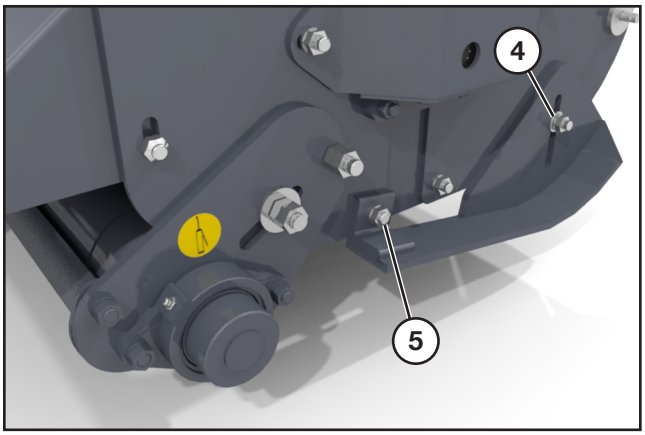
1. Set bucket tilt cylinders to carry flail mower level from front to rear.
2. Turn off all power to the flail mower.

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

3. Manually position knife rotor until the bottom row of knives is at the lowest operating position.



4. Set blocks (1) under skid shoes at the desired cutting height.
5. Loosen the nuts of the 5/8" carriage bolt (2) and the 5/8" pivot bolt (3) on both sides of the mower. Repeat on opposite side of the flail mower.
6. Allow steel roller to contact ground.
7. Retighten the 5/8" nuts to 170 ft. lbs.
8. Remove blocks from under skid shoes.



9. Adjust the skid shoes 1"-2" from ground to prevent scalping by means of the 1/2" carriage bolts (4) and the 1/2" pivot bolts (5). Repeat on opposite side of the flail mower.

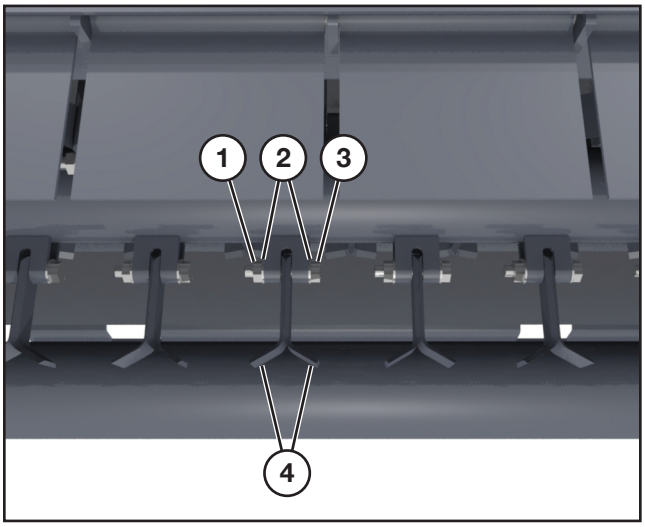
Knife Reversal or Replacement:

When the knives become dull, they should be reversed to extend the usable life. When both sides of the knives become dull, the set must be replaced. Always replace knives as a set, either when broken or dull. If a set of knives is replaced, the set on the opposite side of rotor must be replaced to maintain the balance.

NOTE: *The knife mounts are staggered and no set is directly across from another. If the third set of knives is replaced on one side, replace the third set on opposite side, and so forth.*

1. Disconnect or turn off all power to the flail mower.

⚠	**DANGER:** *Failure to turn off power to the flail mower before replacing knives could result in serious injury or death.*

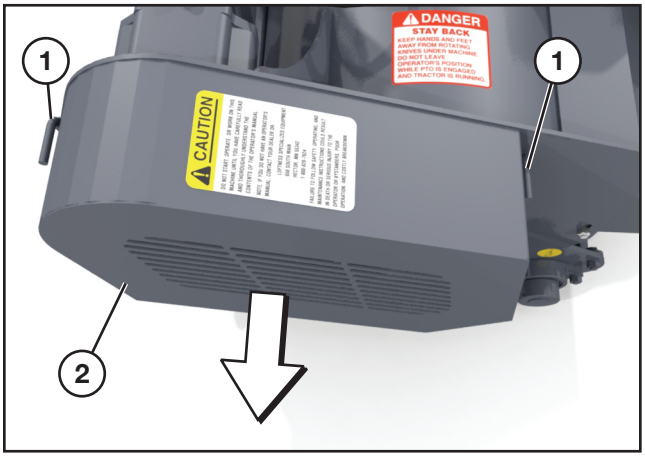


2. Remove the 9/16" standard nut, two flat washers, the 9/16" bolt, and the set of knives.
3. Install new knives or reversed set. (The bolt must be inserted through the knife mount from the left side in order for the nut to be tightened by rotation).
4. Make certain the bolt is forced to the outside of the knife mount loop.
5. Apply a thread-locking compound to the nut and torque to 75 ft.-lbs.

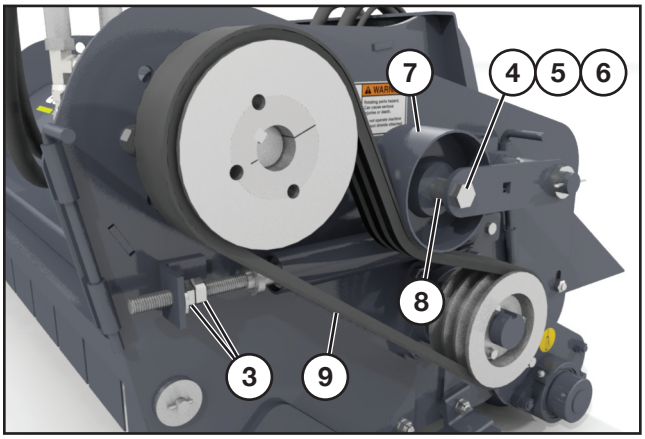
Belt Removal/Installation

Disconnect or turn off all power to the flail mower.

⚠	**DANGER:** *Failure to turn off power to the flail mower before removing the belt could result in serious injury or death.*



1. Remove two pins (1), pull belt guard shield from left end of the mower to expose the belt and its components.



2. Unlock the 5/8" nuts (3) on the threaded rod of the belt tightener tube and thread them in to relieve the spring tension on the belt.
3. Remove the 5/8" nut (4) and lock washer (5) from the 5/8" bolt (6). Remove the bolt and pulley (7) and the two spacers (8).
4. Remove the belt (9).
5. Reverse the above steps for installation.

Sheave Removal

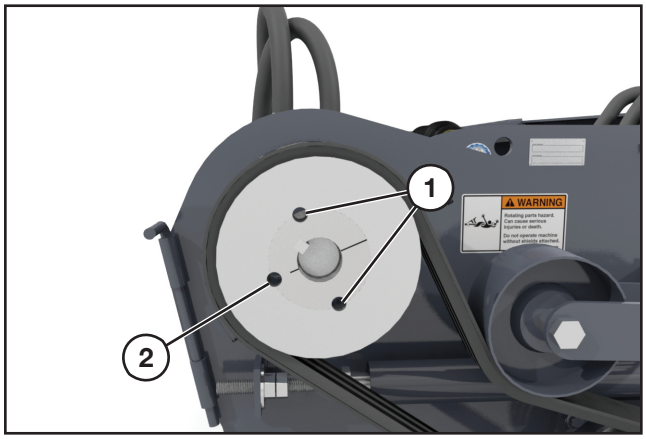
NOTE: *Refer to parts breakdown "Belt and Sheaves" on page 29 for illustrated parts listing.*

Drive Sheave Removal

1. Disconnect or turn off all power to the flail mower.

Remove the drive belt, following the instructions in "Belt Removal/Installation" on page 16.

⚠	**DANGER:** *Failure to turn off power to the flail mower before removing sheaves could result in serious injury or death.*



2. Remove the two screws (1) from the taper lock bushing of the drive sheave .
3. Insert one screw into the threaded hole (2).
4. 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.*

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, not threaded holes (each complete hole will be threaded on one side only).
7. Apply a thread-locking compound to setscrews and thread into the two opposing holes.
8. Position assembly on shaft and alternately torque setscrews to 35 ft.-lbs.
9. To increase gripping force, hammer face of bushing using drift or sleeve.

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

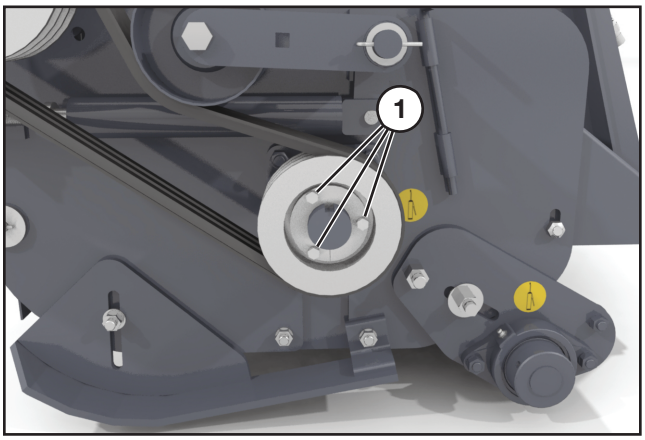
10. Re-torque screws after hammering.
11. Recheck screw torque after initial run-in, and periodically thereafter, repeat steps 4, 5 & 6 if loose.
12. Check alignment of the sheaves. Repeat sheave removal and assembly procedures if necessary.

Rotor Sheave Removal

1. Disconnect or turn off all power to the flail mower.

Remove the drive belt, following the instructions in "Belt Removal/Installation" on page 16.

⚠	**DANGER:** *Failure to turn off power to the flail mower before removing sheaves could result in serious injury or death.*



1. Loosen and remove all mounting bolts (1) on the rotor sheave bushing.
2. Insert cap screws into all threaded jack screw holes.
3. Loosen the bushing by first tightening the screw furthest from the bushing saw slot, then, alternately tighten remaining screws. Keep tightening the screws in small but equal increments until the tapered sprocket/sheave and bushing disengage.

⚠	**CAUTION:** *Excessive screw torque may cause damage to the bushing or sheave.*

Rotor Removal (Mower in Operating Position)

The belt and sheave should be removed with the mower in operating position, but the procedures for rotor removal and installation are greatly simplified if the machine is turned upside down.

⚠	**CAUTION:** *If procedure is initiated with mower in operating position, proper lifting devices must be used to lift and move rotor. A mower rotor weighs approximately 35 lbs./ft., thus a 90 inch mower rotor weighs approximately 250 lbs.*

Rotor Removal (Mower in Upside Down Position)

This service section is written as if the mower is upside down. If procedure is done with machine in operating position, movable jacks will be needed to support and move the rotor.

NOTE: *Refer to parts breakdown "Rotor" on page 22 for illustrated parts listing.*

1. Attach a lifting device to both ends of rotor, and apply a light tension.
2. Loosen the set screws on the bearings.
3. Remove the four 1/2" nuts and lock washers from the 1/2" bolts holding the bearing to the anti-wrap plate on the left hand side of the mower. Remove the bearing. Remove the nuts and lock washers on the two 1/2" bolts thru the anti-wrap plate and the mower end plate.
4. Remove the nuts and lock washers on the two 1/2" bolts and remove the bearing guard on the right side of the mower.
5. Remove the flat head screw, the star washer, and the bearing retaining washer from the rotor shaft on the right hand side of the mower.
6. Repeat step 2 on right hand side.
7. Lift rotor out of machine.
8. Slide anti-wrap plates off shafts. Remove spacer shaft of rotor.
9. Reverse the above noted procedure for installation.

Storage

End of the Season

- Clean entire mower thoroughly.
- Clean the belt, sheaves, and pulley. Relax the belt tension.
- Lubricate all parts of the machine. See "Lubrication" on page 13.
- Paint all parts that are worn or rusted.
- Store mower in a clean dry place.

Beginning of the Season

- Review your operator's manual.
- Lubricate all parts of the machine. See "Lubrication" on page 13.
- Tighten all bolts, nuts and set screws.
- Reapply tension to belt so there is 1/2" deflection at midpoint between the sheaves.

Troubleshooting

WARNING: *When high pressure fluid escapes,it can be almost invisible, yet have enough pressure to penetrate the skin and enter the blood stream. Never attempt to use hands to search for suspected oil leak. If injured by escaping fluid, consult a doctor at once! Serious reaction or infection can occur if proper medical treatment is not obtained immediately.*

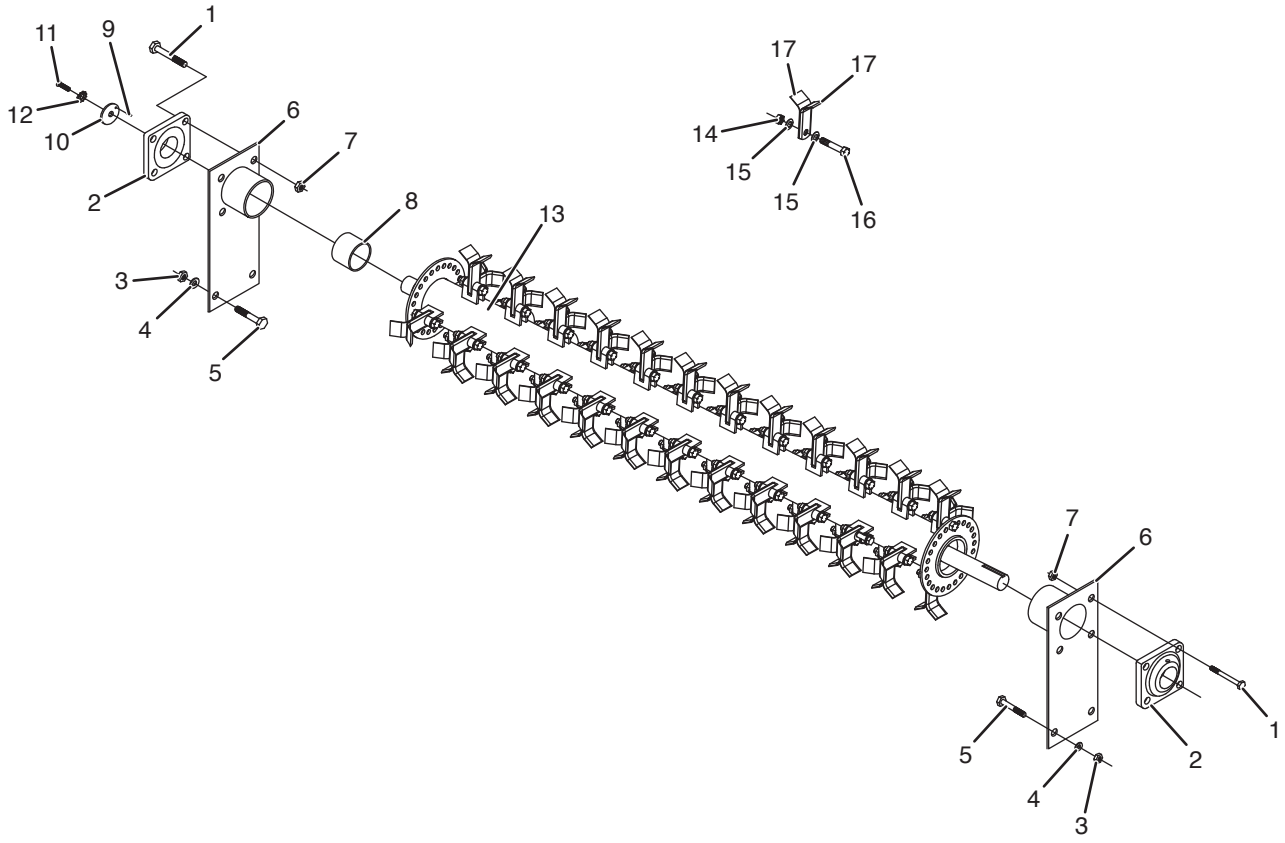
PROBLEM	CAUSE	SOLUTION
Excessive Vibration	Broken or missing knife.	Replace knife.
	Mud and/or debris wrapped around the rotor.	Clean the machine.
	Bearing malfunction.	Check and replace faulty rotor and drive line bearings.
	Damage to rotor, includes bent end shafts of missing balance weights, or actual rotor deformity from striking rocks, etc.	Return to factory for repair.
	Tractor top link not adjusted properly.	Re-adjust top link so input shaft of gearbox is parallel with PTO shaft on tractor.
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 Does Not Turn	Bearings malfunction.	Check and replace.
	Belt damaged or slipping.	Adjust tension or replace.
	Gearbox malfunction.	If the gearbox is determined to be faulty while the machine is still under warranty, **DO NOT** open the gearbox.


LOFTNESS



PARTS IDENTIFICATION

Rotor



To order a complete 60" rotor assembly with Knives (items 13, 14, 15, 16, 17), use part number N11056.

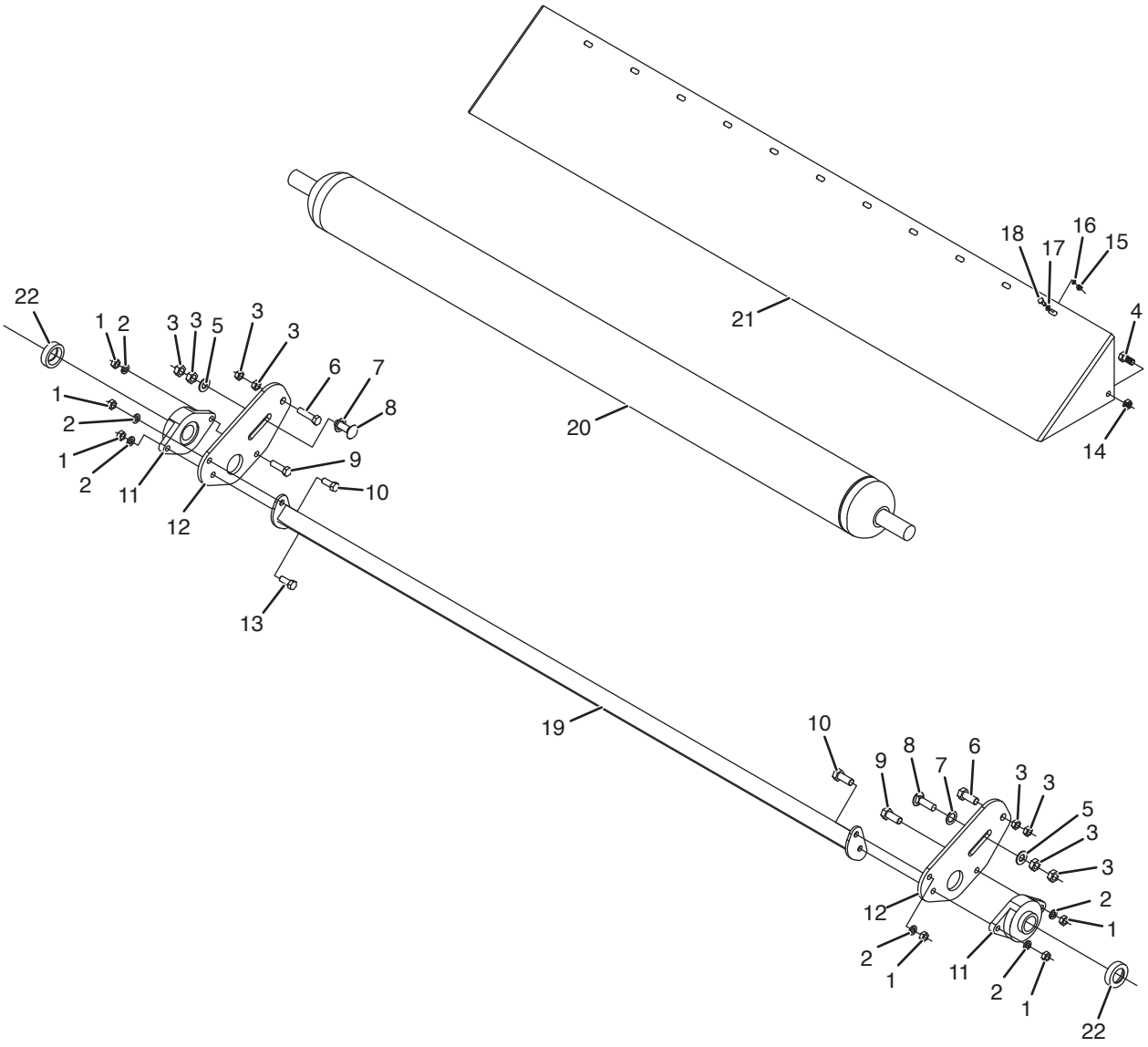
To order a complete 72" rotor assembly with Knives (items 13, 14, 15, 16, 17), use part number N10963.

To order a complete 90" rotor assembly with Knives (items 13, 14, 15, 16, 17), use part number N11845.

Rotor

#	QTY.	PART #	DESCRIPTION
1	8	4245	BOLT, 1/2"-20 UNF X 1-3/4" LG HEX HD GR 8
2	2	N30233	BEARING, 1-3/4" DODGE 4-BOLT FLANGE
3	4	4250	NUT, 1/2" UNC STD
4	4	4155	WASHER, 1/2" LOCK
5	4	4012	BOLT, 1/2" UNC X 1-1/4" LG HEX HD GR 5
6	2	7505	PLATE, ANTI-WRAP (FLAIL BEARING)
7	8	4436	NUT, 1/2"-20 UNF LOCK GR 8
8	1	N31927	SPACER, FLAIL ROTOR SHORT
9	1	4085	PIN, ROLL (3/16" X 3/4" LG)
10	1	4434	WASHER, FLAIL BEARING RETAINING
11	1	4468	SCREW, 1/2"-20 UNF X 1-1/4" LG FLAT HD CAP
12	1	4076	WASHER, 1/2" EXTERNAL TOOTH LOCK
13	1	N11058	ROTOR, 60" FLAIL W/O KNIVES
	1	7520	ROTOR, 72" FLAIL W/O KNIVES
	1	7521	ROTOR, 90" FLAIL W/O KNIVES
14	60	4323	NUT, 9/16"-12 UNC STD HEX HD GR 8 (60")
	48	4323	NUT, 9/16"-12 UNC STD HEX HD GR 8 (72")
	40	4323	NUT, 9/16"-12 UNC STD HEX HD GR 8 (90")
15	120	4337	WASHER, 9/16" SAE FLAT WASHER (60")
	96	4337	WASHER, 9/16" SAE FLAT WASHER (72")
	80	4337	WASHER, 9/16" SAE FLAT WASHER (90")
16	60	4324	BOLT, 9/16"-12 UNC X 3" LG HEX HD GR 8 (60")
	48	4324	BOLT, 9/16"-12 UNC X 3" LG HEX HD GR 8 (72")
	40	4324	BOLT, 9/16"-12 UNC X 3" LG HEX HD GR 8 (90")
17	120	8600	KNIFE, 60° HEAVY DUTY (60")
	96	8600	KNIFE, 60° HEAVY DUTY (72")
	80	8600	KNIFE, 60° HEAVY DUTY (90")

Roller



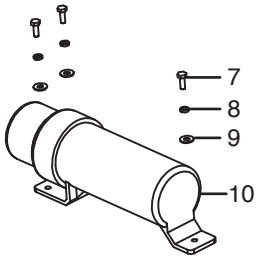
The hardware requirements for items 15, 16, 17 and 18 varies according to deflector length. The quantities per length are as follows:

60" Deflector - 9 ea.
72" Deflector - 11 ea.
90" Deflector - 17 ea.

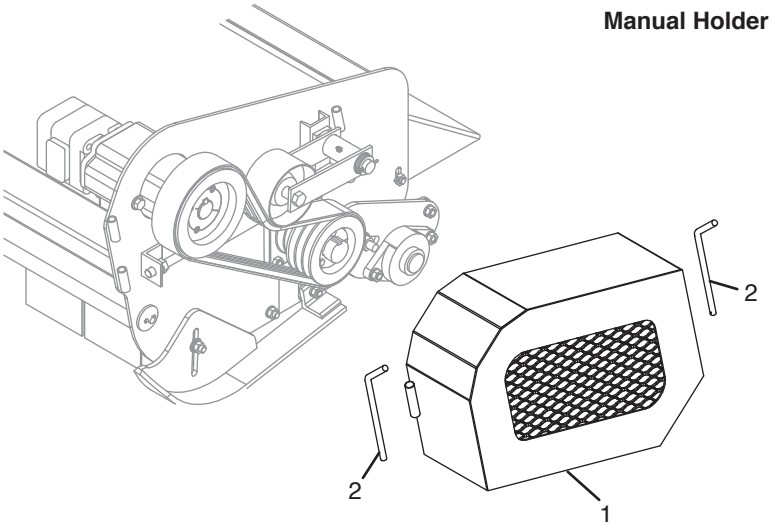
Roller

#	QTY.	PART #	DESCRIPTION
1	6	4250	NUT, 1/2" UNC STD
2	6	4155	WASHER, 1/2" LOCK
3	8	4438	NUT, STANDARD 5/8" GRD 8
4	2	4011	BOLT, 1/2" UNC X 1" LG HEX HD GR 5
5	2	4069	WASHER, 5/8" FLAT
6	2	4022	BOLT, 5/8" UNC X 2" LG HEX HD GR 5
7	2	4347	WASHER, 1-5/16" OD X 7/8" ID X 1/16"THK
8	2	4339	BOLT, 5/8" UNC X 2" LG CARRIAGE GR 5
9	2	4013	BOLT, 1/2" UNC X 1-1/2" LG HEX HD GR 5
10	2	4012	BOLT, 1/2" UNC X 1-1/4" LG HEX HD GR 5
11	2	N30230	BEARING, 1-1/2" DODGE 2BLT FLG
12	2	7513	PLATE, ROLLER MOUNT
13	2	4014	BOLT, 1/2" UNC X 1-3/4" HEX HD GR 5
14	2	4054	NUT, 1/2" UNC LOCK
15	Varies	4230	NUT, 1/4" UNC STD
16	Varies	4231	WASHER, 1/4" LOCK
17	Varies	3183	WASHER, 1/4" FLAT
18	Varies	4340	BOLT, 1/4" UNC X 3/4" LG HEX HD GR5
19	1	N10983	SCRAPER, 60" REAR ROLLER
	1	7516	SCRAPER, 72" REAR ROLLER
	1	7517	SCRAPER, 90" REAR ROLLER
20	1	N10981	ROLLER, 60" REAR
	1	7514	ROLLER, 72" REAR
	1	7515	ROLLER, 90" REAR
21	1	N11057	DEFLECTOR, 60" REAR DOOR
	1	N10447	DEFLECTOR, 72" REAR DOOR
	1	N10448	DEFLECTOR, 90" REAR DOOR
22	2	N12137	PROTECTOR, 1-1/2" BEARING
	4	4354	SCREW, 3/8" X 3/8" SET (INCLUDED W/N12137)

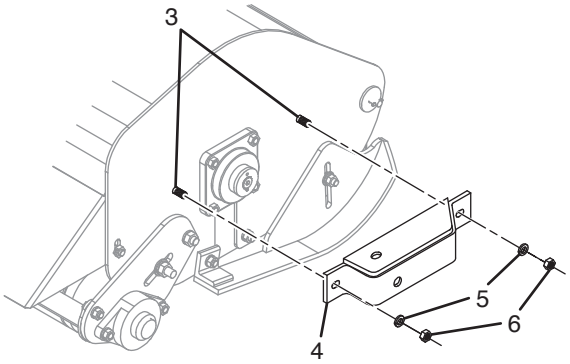
Drive Shield, Bearing Cover, and Manual Holder



Manual Holder



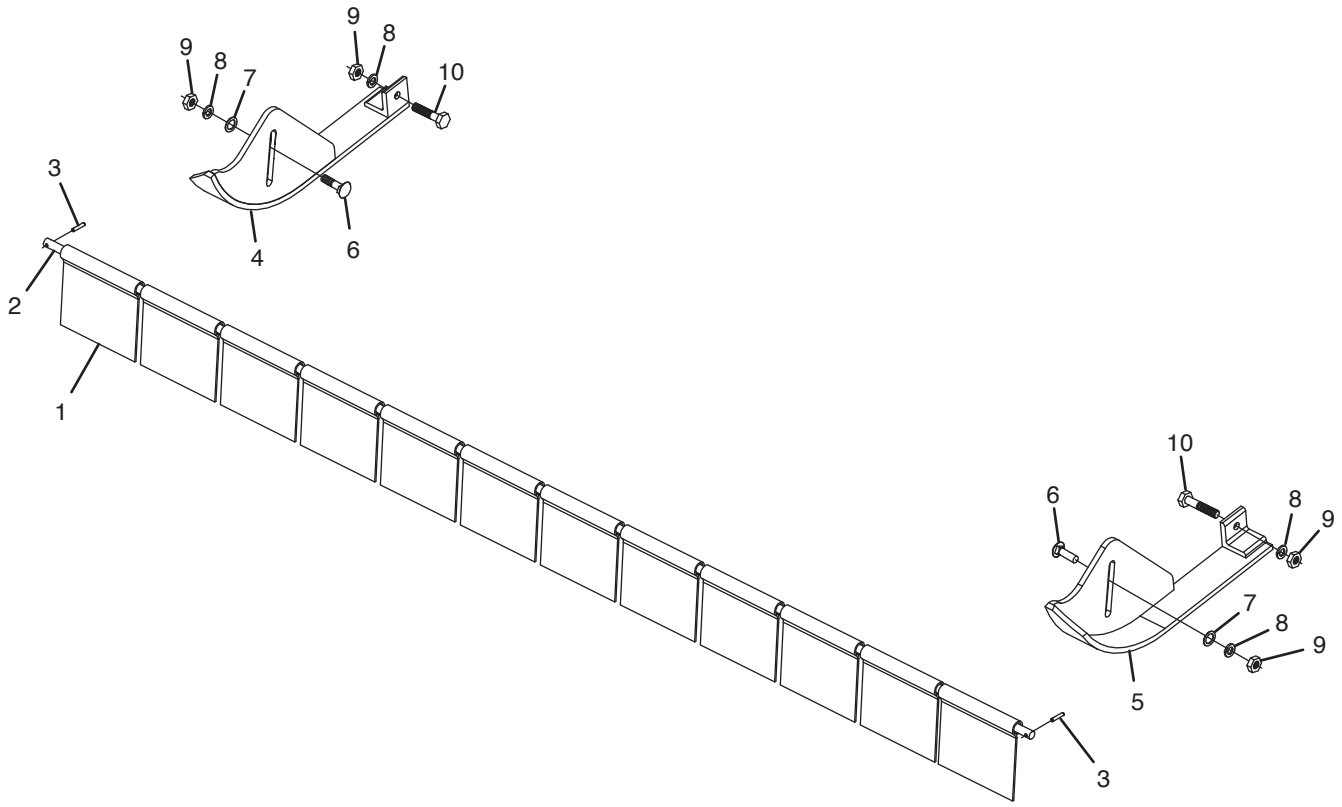
Drive Shield



Bearing Cover

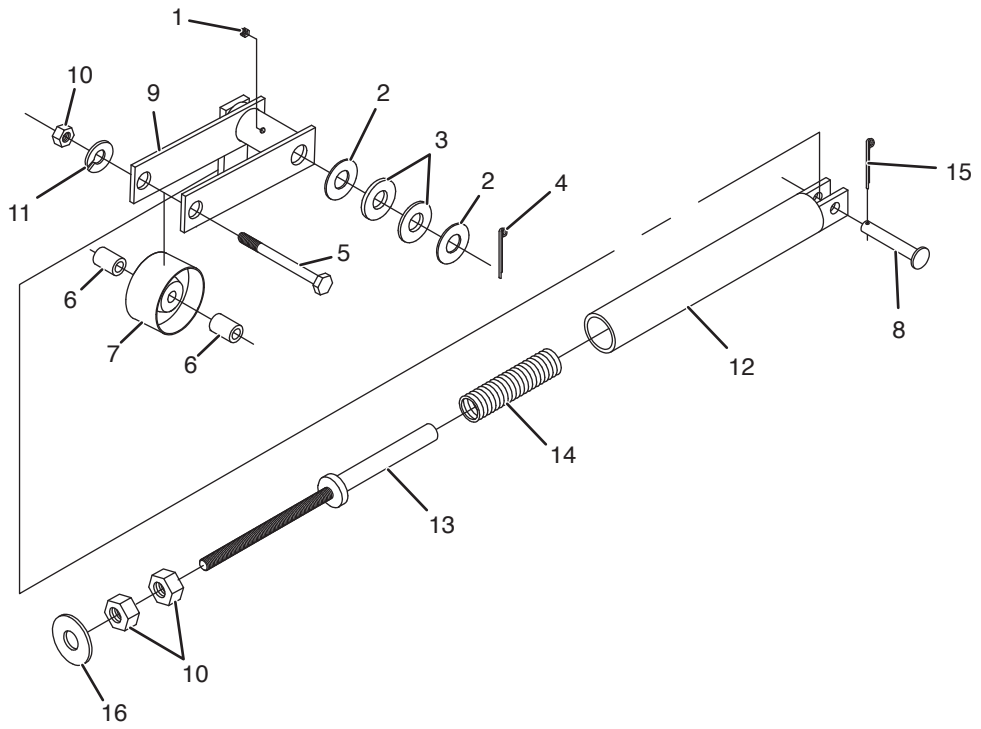
#	QTY.	PART #	DESCRIPTION
1	1	7530	SHIELD, BELT
2	2	7529	PIN, BELT SHIELD
3	2	4012	BOLT, 1/2" UNC X 1-1/4" LG HEX HD GR 5
4	1	N16161	GUARD, RIGHT BEARING
5	2	4155	WASHER, 1/2" LOCK
6	2	4250	NUT, 1/2" UNC STD
7	3	4340	BOLT, 1/4" X 3/4" GR 5
8	3	4231	WASHER, LOCK 1/4"
9	3	4460	WASHER, FLAT 1/4"
10	1	N19600	HOLDER, LG. OPERATORS MANUAL
11	1	N14800	MANUAL, FLAIL MOWER (SPECIFY SERIAL NO.) (Not Shown)

Flippers and Skid Shoes



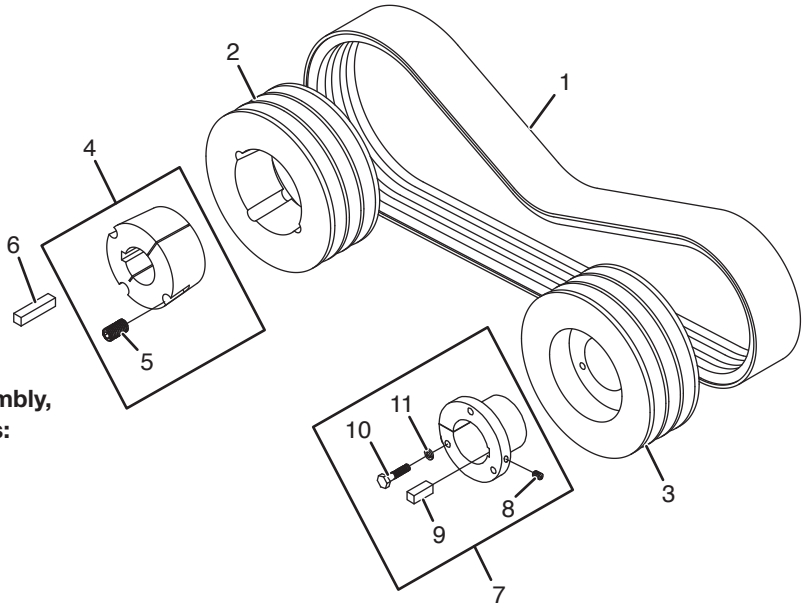
#	QTY.	PART #	DESCRIPTION
1	15	N10958	FLIPPER, 90" FRONT
	12	N10958	FLIPPER, 72" FRONT
	10	N10958	FLIPPER, 60" FRONT
2	1	7508	ROD, 90" FLIPPER
	1	7507	ROD, 72" FLIPPER
	1	N10991	ROD, 60" FLIPPER
3	2	4375	PIN, 3/16" X 1" LG ROLL
4	1	7512	SHOE, RIGHT SKID
5	1	7511	SHOE, LEFT SKID
6	2	4039	BOLT, 1/2" UNC X 1-1/2" LG CARRIAGE
7	2	4068	WASHER, 1/2" FLAT
8	4	4155	WASHER, 1/2" LOCK
9	4	4250	NUT, 1/2" UNC STD
10	2	4013	BOLT, 1/2" UNC X 1-1/2" LG HEX HD GR 5

Belt Tightener



#	QTY.	PART #	DESCRIPTION
1	1	4105	ZERK, SCREW-IN GREASE
2	2	4157	WASHER, 1" ID THIN SPACER
3	2	4158	WASHER, 1" ID THICK SPACER
4	1	4325	PIN, COTTER 3/16" X 1-1/2"
5	1	4252	BOLT, 5/8-11 UNC X 4-1/2" LG HEX HD GR 5
6	2	7528	SPACER, 5/8" ID X 15/16" LG
7	1	8409	PULLEY, IDLER 5" OD X 2-1/2"
8	1	4392	PIN, 1/2" X 1-1/4" PLATED
9	1	7527	BRACKET, BELT TIGHTENER
10	2	4438	NUT, STANDARD 5/8" GRD 8
11	1	4070	WASHER, 5/8" LOCK
12	1	9163	TUBE, BELT TIGHTENER
13	1	7525	ROD, BELT TIGHTENER
14	1	8067	SPRING, BELT TIGHTENER
15	1	4092	PIN, COTTER 5/32" X 2"
16	1	4069	WASHER, FLAT 5/8"

Belt and Sheaves

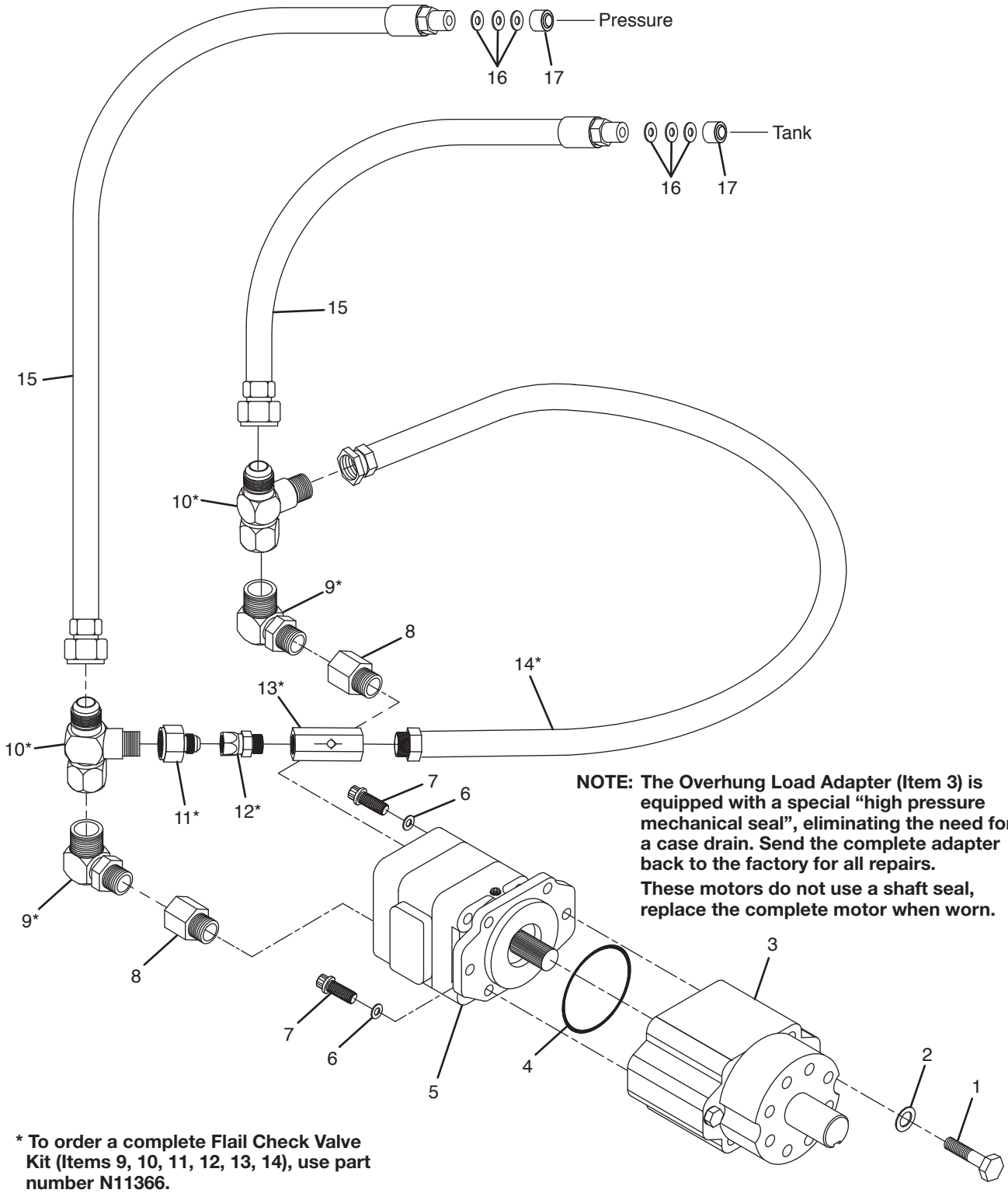


To order a complete Belt Assembly, use the following part numbers:

N49328 for Code “D”.
N49329 for Code “E”.
N49325 for Code “A”.
N49326 for Code “B”.
N49327 for Code “C”.

#	QTY.	PART #	DESCRIPTION
1	1	8403	BELT, 3B X 51" GOODYEAR
2	1	N34056	SHEAVE, 3B X 6.4 TPL 2517 (**Code “D”**)
	1	N34056	SHEAVE, 3B X 6.4 TPL 2517 (**Code “E”**)
	1	N34043	SHEAVE, 3B X 6.2 TPL 2517 (**Code “A”**)
	1	N34042	SHEAVE, TAPERLOCK 6.08 PD 3-BAND (**Code “B”**)
	1	N34073	SHEAVE, 3B X 5.4 TPL 2517 (**Code “C”**)
3	1	8402	SHEAVE, QD 523B 3-BAND (**Code “D”**)
	1	N34050	SHEAVE, 3B X 5.4 QD SD (**Code “E”**)
	1	N34041	SHEAVE, 3B X 5.6 QD SD (**Code “A”**)
	1	N34053	SHEAVE, 3B X 6.2 QD SD (**Code “B”**)
	1	N34053	SHEAVE, 3B X 6.2 QD SD (**Code “C”**)
4	1	8126	BUSHING, 1-1/2" TAPER LOCK KEYED
5	3	8128-10	SCREW, 1/2" X 1" SET TAPER LOCK
6	1	7121-02	KEY, 3/8" X 1-3/4"
7	1	8414	BUSHING, 1-3/4" QD SD
8	1	4083	SCREW, SET 1/4"-20 UNC X 3/8"
9	1	N31930	KEY, 3/8" X 5/16" X 1-3/4" LG
10	3	N31931	BOLT, 1/4"-20 UNC X 1-3/4" HEX HD GR 5 FULL THREAD
11	3	4231	WASHER, LOCK 1/4"

Hydraulic Motor, 3400 PSI without Case Drain (System 1, 13-28 GPM Units)



NOTE: The Overhung Load Adapter (Item 3) is equipped with a special "high pressure mechanical seal", eliminating the need for a case drain. Send the complete adapter back to the factory for all repairs.

These motors do not use a shaft seal, replace the complete motor when worn.

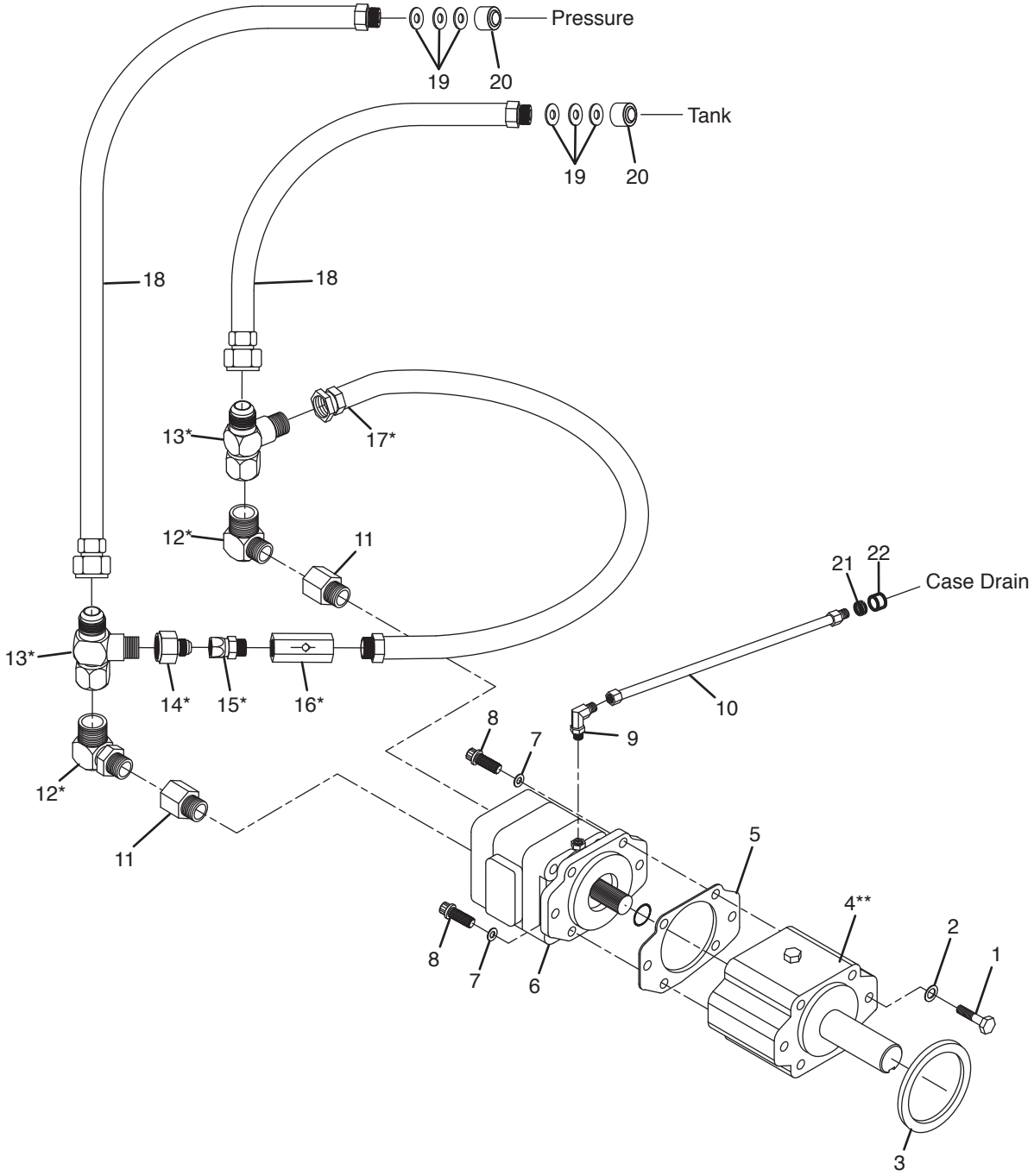
*** To order a complete Flail Check Valve Kit (Items 9, 10, 11, 12, 13, 14), use part number N11366.**

Hydraulic Motor, 3400 PSI without Case Drain (System 1, 13-28 GPM Units)

#	QTY.	PART #	DESCRIPTION
1	2	4013	BOLT, 1/2" UNC X 1-1/2" GRADE 5
2	2	4068	WASHER, 1/2" SAE FLAT GRADE 8 (For Motors N10908, N10909, and N10911)
	2	4064	WASHER, FLAT 3/8" (For Motors N10910)
3	1	N10533	ADAPTER, OVERHUNG LOAD (Includes Item 4)
4	1	N11859	SEAL, 0-RING (243)
5	1	N10908	MOTOR, COMMERCIAL 1.97 CUB IN (13-16 GPM) W/O SEAL
	1	N10909	MOTOR, COMMERCIAL 2.46 CUB IN (17-20 GPM) W/O SEAL
	1	N10910	MOTOR, COMMERCIAL 2.95 CUB IN (21-24 GPM) W/O SEAL
	1	N10911	MOTOR, COMMERCIAL 3.44 CUB IN (25-28 GPM) W/O SEAL
6	6	N16472	WASHER, NORD-LOCK 1/2"
7	6	N31534	BOLT, 1/2" X 1-1/4" 12 PT GR 8
8	2	N11694	REDUCER, 1-5/16-12 0-RING TO 1-1/16-12 0-RING
9*	2	N11945	ELBOW, 90° 1-1/16" M 0-RING TO 1-1/16" M JIC
10*	2	N19306	TEE, 12MJIC-12FJIC-12MJIC SWIVEL
11*	1	N11948	ADAPTER, 1-1/16" F JIC TO 3/4" M JIC
12*	1	N11947	ADAPTER, 3/4" M 0-RING TO 3/4" F SWIVEL
13*	1	N11949	VALVE, IN LINE CHECK 3/4" F 0-RING
14*	1	N11369	HOSE, 1/2" X 20" HYD 3/4" F JIC TO 1/2" M 0-RING
15	2	N15944	HOSE, 3/4" X 102"-12FJIC-12MOR
16	6	4064	WASHER, FLAT 3/8"
17	2	N15893	CAP, 3/4 ALUMINUM HOSE

*** Included in Flail Check Valve Kit, part number N11366.**

Hydraulic Motor, 3400 PSI <u>with</u> Case Drain (System 1 or 2, 21-28 GPM Units)



*** To order a complete Flail Check Valve Kit (Items 12, 13, 14, 15, 16, 17), use part number N11366.**

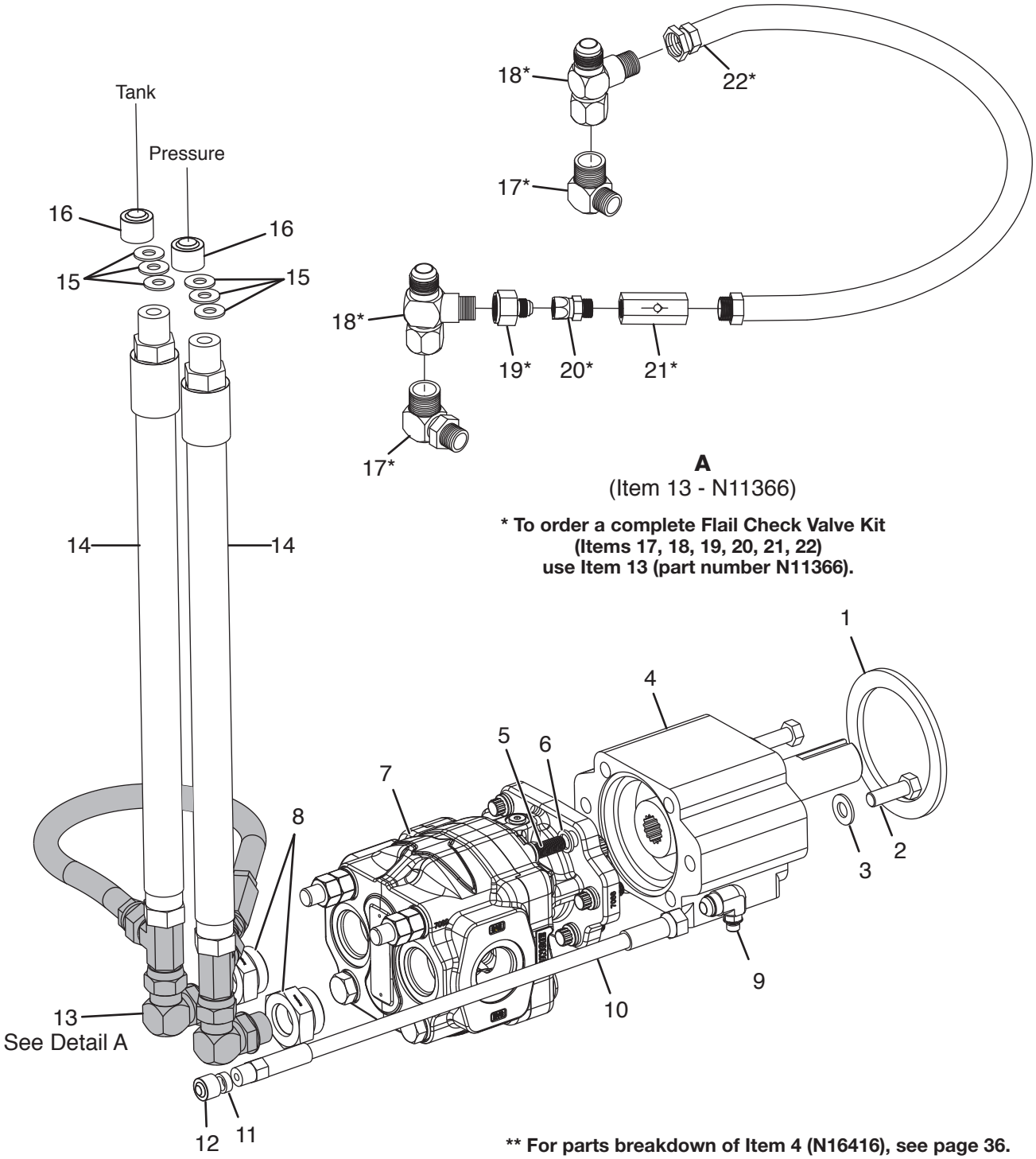
**** For parts breakdown of Item 4 (N16416), see page 36.**

Hydraulic Motor, 3400 PSI with Case Drain (System 1 or 2, 21-28 GPM Units)

#	QTY.	PART #	DESCRIPTION
1	2	4013	BOLT, 1/2" UNC X 1-1/2" GRADE 5
2	2	4068	WASHER, 1/2" SAE FLAT
3	1	N16574	ADAPTOR, OVERHUNG LOAD 1/4
4	1	N16416	ADAPTER, OVERHUNG LOAD MOTOR #2 (Includes Item 7)
5	1	N14158	GASKET (Included with Item 4)
6	1	N20280	MOTOR, COMMERCIAL #4, 21-24 GPM
	1	N16455	MOTOR, COMMERCIAL #5, 25-28 GPM
7	6	N16472	WASHER, NORD-LOCK 1/2"
8	6	N31534	BOLT, 1/2" X 1-1/4" 12 PT GR 8
9	1	N17003	ELBOW, 90 DEG - 8MJIC - 6MOR
10	1	N16248	HOSE, 1/4" X 24" X 5000PSI
11	2	N11694	REDUCER, 1-5/16-12 0-RING TO 1-1/16-12 0-RING
12*	2	N11945	ELBOW, 90° 1-1/16" M 0-RING TO 1-1/16" M JIC
13*	2	N19306	TEE, 12MJIC-12FJIC-12MJIC SWIVEL
14*	1	N11948	ADAPTER, 1-1/16" F JIC TO 3/4" M JIC
15*	1	N11947	ADAPTER, 3/4" M 0-RING TO 3/4" F SWIVEL
16*	1	N11949	VALVE, IN LINE CHECK 3/4" F 0-RING
17*	1	N11369	HOSE, 1/2" X 20" HYD 3/4" F JIC TO 1/2" M 0-RING
18	2	N15944	HOSE, 3/4" X 102"-12FJIC-12MOR
19	6	4064	WASHER, FLAT 3/8"
20	2	N15893	CAP, 3/4 ALUMINUM HOSE
21	1	N32002	PLUG, 3/8 SCH 40 X 25
22	1	N15895	CAP, 1/2 ALUMINUM HOSE

*** Included in Flail Check Valve Kit, part number N11366.**

Hydraulic Motor, 4300 PSI (System 2, 28-43 GPM Units)



*** To order a complete Flail Check Valve Kit (Items 17, 18, 19, 20, 21, 22) use Item 13 (part number N11366).**

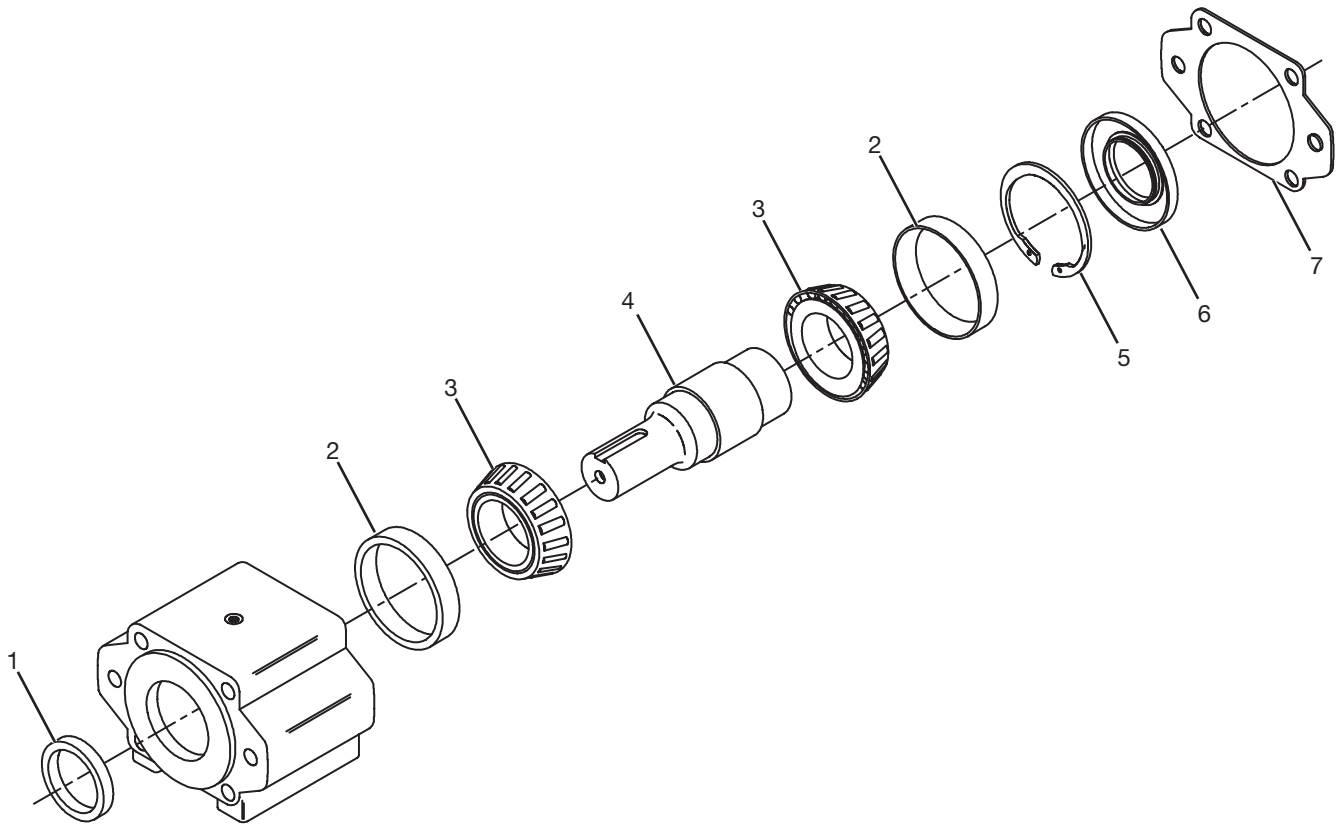
**** For parts breakdown of Item 4 (N16416), see page 36.**

Hydraulic Motor, 4300 PSI (System 2, 28-43 GPM Units)

#	QTY.	PART #	DESCRIPTION
1	1	N16574	ADAPTOR, OVERHUNG LOAD 1/4
2	2	4013	BOLT, 1/2" X 1-1/2" GRADE 5
3	2	4068	WASHER, 1/2" SAE FLAT
4	1	N16416	ADAPTER, OVERHUNG LOAD MOTOR #2
5	6	N31534	BOLT, 1/2 X 1-1/4 12 PT GRD8
6	6	N16472	WASHER, 1/2 NORDLOCK
7	1	N34676	MOTOR, MUNCIE 62.9CC
8	2	N31225	ADAPTER, 20MOR - 12FOR
9	1	N34763	ELBOW, 90 -8MJIC -4MORB
10	1	N16248	HOSE, I/4" X 24" X 5000PSI
11	1	N32002	PLUG, 3/8 SCH 40 X .25
12	1	N15895	CAP, 1/2 ALUMINUM HOSE
13	1	N11366	KIT, FLAIL & BLW CHECK VALVE
14	2	N15944	HOSE, 3/4" X 102"-12FJIC-12MOR
15	6	4064	WASHER, FLAT 3/8"
16	2	N15893	CAP, 3/4 ALUMINUM HOSE
17*	2	N11945	ELBOW, 90° 1-1/16" M 0-RING TO 1-1/16" M JIC
18*	2	N19306	TEE, 12MJIC-12FJIC-12MJIC SWIVEL
19*	1	N11948	ADAPTER, 1-1/16" F JIC TO 3/4" M JIC
20*	1	N11947	ADAPTER, 3/4" M 0-RING TO 3/4" F SWIVEL
21*	1	N11949	VALVE, IN LINE CHECK 3/4" F 0-RING
22*	1	N11369	HOSE, 1/2" X 20" HYD 3/4" F JIC TO 1/2" M 0-RING

*** Included in Flail Check Valve Kit, part number N11366.**

Overhung Load Adapter (N16416)



#	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	N14154	SHAFT
5	1	N14156	RING, RETAINING
6	1	N14157	SEAL, REAR (55MM X 90MM X 10MM)
7	1	N14158	GASKET

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 9.*

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

Part No. 4334



Part No. 4135



Part No. N13863



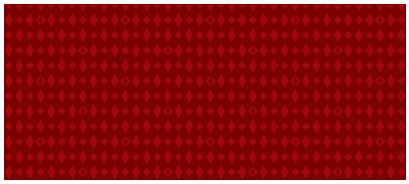
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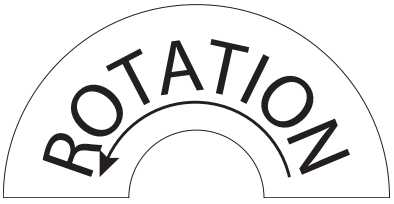
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Part No. 4141



Part No. N13872



Machine Decals and Signs (Cont'd)

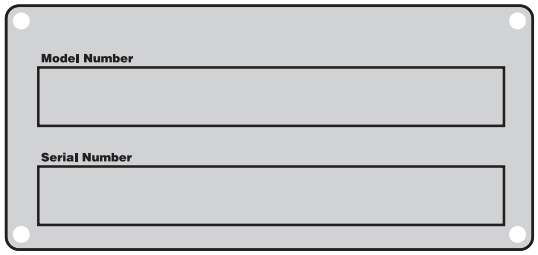
Part No. N24822

PRESSURE
PRESSURE
PRESSURE
PRESSURE
PRESSURE
PRESSURE
PRESSURE
PRESSURE

Part No. N24823

TANK
TANK
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Part No. N13721



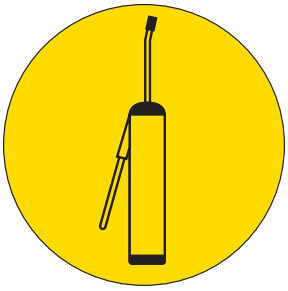
Part No. N13517



Part No. 4138



Part No. 4137



Part No. N33105



Part No. N28576

LOFTNESS™
VMLOGIX™
VEGETATION MANAGEMENT EQUIPMENT

Part No. N26973

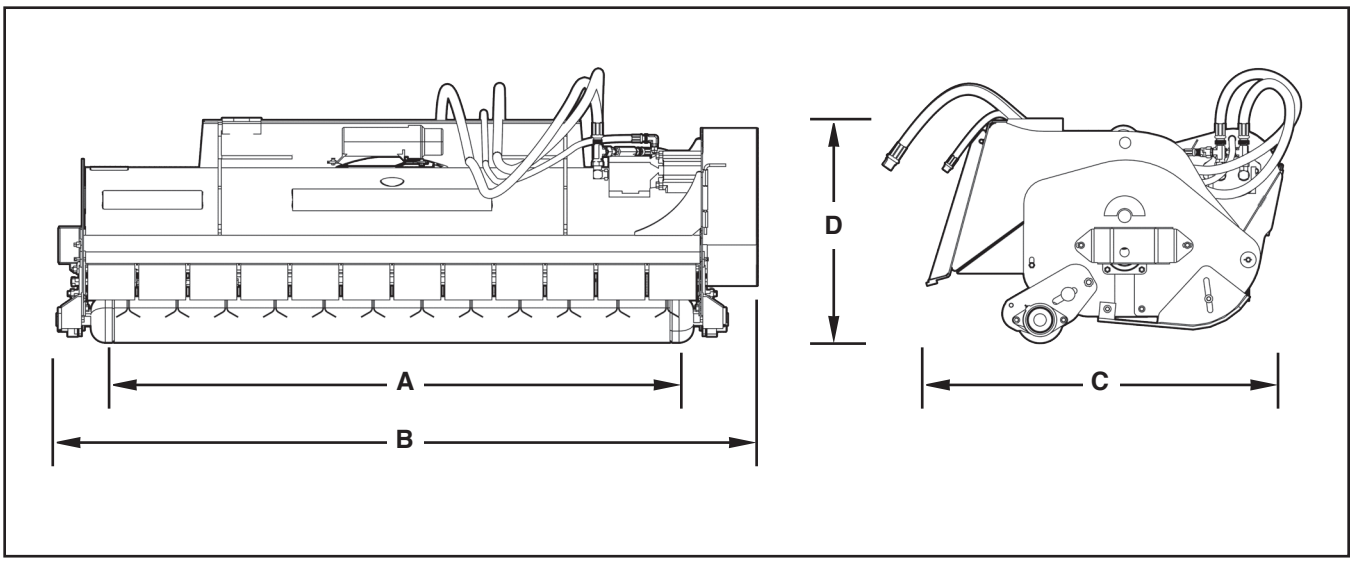
LOFTNESS™

Specifications

DESCRIPTION	FLAIL MOWER
Cutting Width	60 in. (152.4 cm)
	72 in. (182.9 cm)
	90 in. (228.6 cm)
Cutting Height	0 to 4-1/2 in. (roller adjustment)
Operating Capacity	1 in. (2.54 cm) Continuous
Motor	High Pressure Gear-type Motor, 28-43 GPM up to 4300 PSI
	Gear-type Motor, 13-28 GPM up to 3400 PSI
Rotor Bearing	Heavy Duty 1-3/4 in. Bearings
Roller Bearing	Heavy Duty 1-1/2 in. Bearings
Mount	Skid Steer - Universal
Knives	60° Heavy Duty, Heat Treated, Reversible, Side Slice
Skid Shoes	Adjustable

Appendix

Dimensions



DESCRIPTION	FLAIL MOWER		
	60MH	72MH	90MH
Cutting Width (A)	60 in. (152.4 cm)	72 in. (182.9 cm)	90 in. (228.6 cm)
Overall Width (B)	72 in. (182.9 cm)	84 in. (213.4 cm)	102 in. (259.1 cm)
Cutting Depth (C)	42.75 in. (108.6 cm)	42.75 in. (108.6 cm)	42.75 in. (108.6 cm)
Height (D)	23.25 in. (59.1 cm)	23.25 in. (59.1 cm)	23.25 in. (59.1 cm)
Number of Knives	80	96	120
Weight	930 lb. (421.9 kg)	1,008 lb. (457.2 kg)	1,208 lb. (547.9 kg)
Crated Weight	1,225 lb. (555.7 kg)	1,275 lb. (578.3 kg)	1,475 lb. (669.0 kg)

Torque Specifications

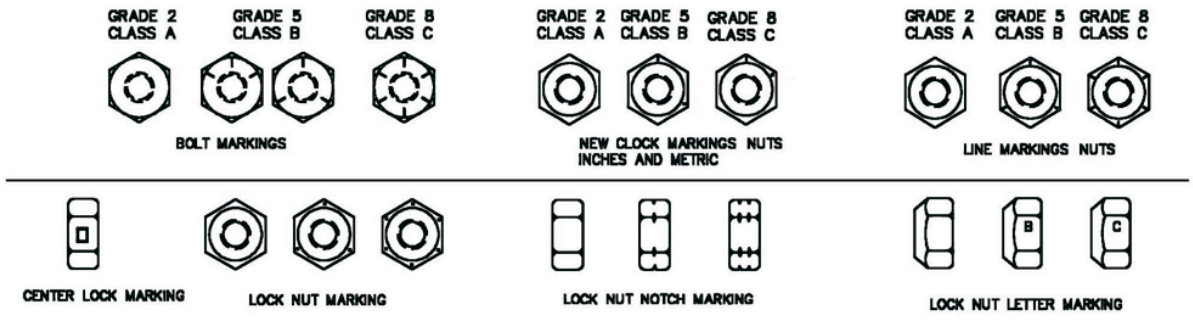
Inches Hardware and Lock Nuts

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)

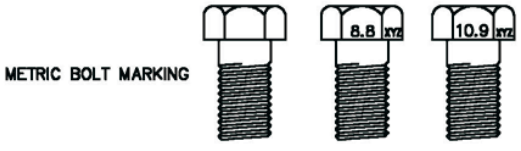
Metric Hardware and Lock Nuts

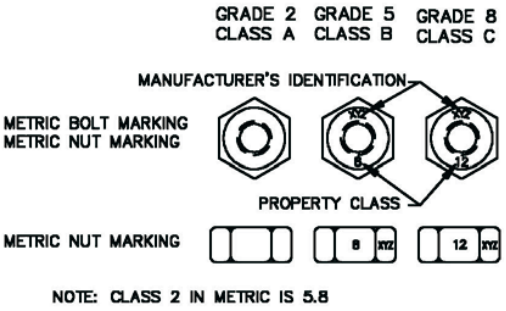
TORQUE CHARTS

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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