



# Tree Hammer

80THXG160

Owner's Manual

(Serial Number 63-106 thru 63-113)



Model Number: \_\_\_\_\_  
Serial Number: \_\_\_\_\_  
Date of Purchase: \_\_\_\_\_



***LOFTNESS***<sup>TM</sup>

# **LOFTNESS SPECIALIZED EQUIPMENT, INC.**

## **WARRANTY POLICY**

**The warranty policy begins upon delivery of the unit to the original customer.  
All Loftness products have a one (1) year warranty policy.**

**If any Loftness product is used as a rental unit, the warranty period extends for only 30 days from the delivery date to the original customer.**

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. 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.

### **WARRANTY REQUIREMENTS**

**Warranty registration form must be filled out and returned to Loftness Specialized Equipment to validate all future warranty claims.**

### **LIMITATIONS OF WARRANTY**

All Products – 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:

All Shredders, Axes, Cutters & Mowers – Rotor Balance: Critical rotor balance can be affected by conditions beyond LOFTNESS' control, such as the operation of a shredder beyond the Company's rated capacity, improper knife replacement, missing knives, striking foreign objects, lack of lubrication, etc. Any failure resulting from running in as "out-of-balance" condition, such as, but not limited to bearing and or drive-line failure, metal fatigue, cracks, etc. will be considered abuse and will not be covered under warranty. LOFTNESS may elect to have an area representative evaluate the condition of the machine before warranty is considered.

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.

### **EXCLUSIONS OF WARRANTY**

Except as otherwise expressly stated herein, LOFTNESS makes no representation or warranty of any kind, expressed or implied, and makes no warranty of merchantability in respect to its machinery and/or attachments and makes no warranty that its machinery and/or attachments are fit for any particular purpose. LOFTNESS shall not be liable for incidental or consequential damages for any breach of warranty, including but not limited to inconvenience, rental or replacement equipment, loss of profits or other commercial loss. 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 2009**

***LOFTNESS***<sup>TM</sup>



# LOFTNESS

SPECIALIZED EQUIPMENT. UNLIMITED INNOVATION.

650 South Main Street  
Hector, MN 55342 USA  
loftness.com 320-848-6266  
US & Canada 800-828-7624



International: 320-848-6266 Fax: 320-848-6269 Parts Fax: 320-848-6055 E-mail: info@loftness.com Web Address: www.loftness.com

## WARRANTY REGISTRATION

Dealer No.: \_\_\_\_\_  
Dealer Name: \_\_\_\_\_ Dealer Phone: \_\_\_\_\_  
Shipping Address: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Invoice No.: \_\_\_\_\_ Part No.: \_\_\_\_\_  
Model No.: \_\_\_\_\_ Serial No.: \_\_\_\_\_

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### FOLLOWING INFORMATION MUST BE FILLED IN COMPLETELY FOR WARRANTY:

Customer:  
Last Name: \_\_\_\_\_ First \_\_\_\_\_ Middle Initial \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
County: \_\_\_\_\_ Warranty (Delivered) Date  
Phone: \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

#### DEALER

The machine was properly set up, adjusted and inspected before delivery. The following items were explained to the purchaser.

- \* How to operate machine properly as shown in the owner's manual.
- \* The importance of safety precaution, safety equipment and preventative maintenance.
- \* Loftness Warranty for this machine.

**X**

Dealer's Signature

Date

#### PURCHASER

I have received and reviewed the operator's manual for the above machine and understand the proper and safe operation as well as the applicable warranty outlined therein.

A customer's manual is included with each machine.

The unit was delivered to me in satisfactory condition.

**X**

Purchaser's Signature

Date

Customer Copy



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US & Canada 800-828-7624



International: 320-848-6266 Fax: 320-848-6269 Parts Fax: 320-848-6055 E-mail: info@loftness.com Web Address: www.loftness.com

## WARRANTY REGISTRATION

Dealer No.: \_\_\_\_\_  
Dealer Name: \_\_\_\_\_ Dealer Phone: \_\_\_\_\_  
Shipping Address: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
Invoice No.: \_\_\_\_\_ Part No.: \_\_\_\_\_  
Model No.: \_\_\_\_\_ Serial No.: \_\_\_\_\_

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### FOLLOWING INFORMATION MUST BE FILLED IN COMPLETELY FOR WARRANTY:

Customer:  
Last Name: \_\_\_\_\_ First \_\_\_\_\_ Middle Initial \_\_\_\_\_  
Mailing Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_  
County: \_\_\_\_\_ Warranty (Delivered) Date  
Phone: \_\_\_\_\_ Month \_\_\_\_\_ Day \_\_\_\_\_ Year \_\_\_\_\_

#### DEALER

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- \* How to operate machine properly as shown in the owner's manual.
- \* The importance of safety precaution, safety equipment and preventative maintenance.
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Dealer's Signature

Date

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A customer's manual is included with each machine.

The unit was delivered to me in satisfactory condition.

**X**

Purchaser's Signature

Date

Loftness Copy



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## Owner Information

Thank you for your decision to purchase a 80" Tree Hammer 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 Tree Hammer is an effective, reliable machine used for maintaining grass, weeds, brush and small trees. For best results, operate the machine as low to the ground as possible without the hammers striking ground or other obstructions. Lifting or tilting the tree hammer increases the risk of flying debris. Because of the high speed of the hammers, the life of the hammers 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 hammers pound and pulverize the grass, weeds and brush. The tree hammer deposits cut material over the entire width-of-cut, which eliminates bunching or windrowing behind the machine.

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.

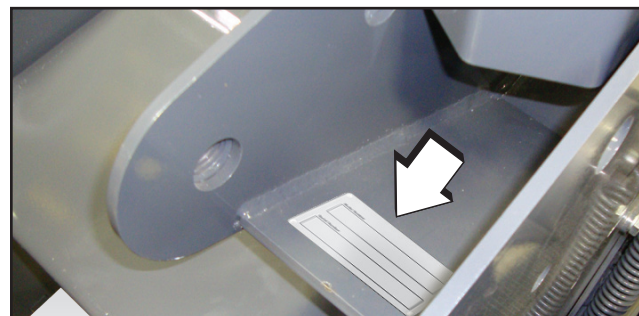
Make sure that all personnel have read this owner's manual and thoroughly understand safe and correct operating, installation and maintenance procedures.

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.

## Serial Number Location



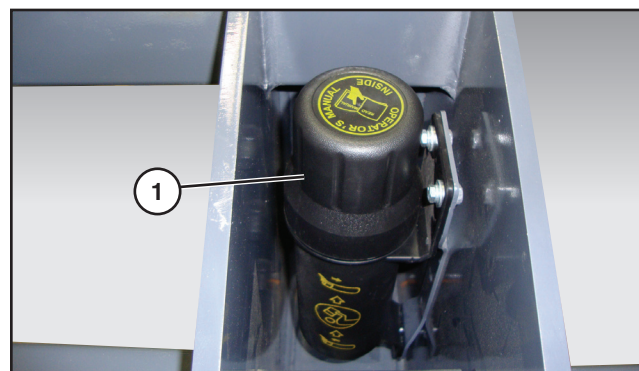
The arrow above indicates the location of the serial number tag.



The serial number is also stamped into the frame, on top of the hitch support.

Always use your model and serial number when requesting information or when ordering parts. Refer to the Ordering Code chart on page 3 to find your model number.

## Manual Storage



Keep the owner's manual and the entire documentation packet in the storage compartment (1) provided on your tree hammer. The owner's manual must be available for all operators.

# ***Introduction***

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## **Tree Hammer Features**

- Tractor-mounted, 1000 RPM PTO-driven
- Category II or III Three-point Hitch
- 260 HP Gearbox
- 1000 RPM PTO Shaft with Slip-clutch
- 1800 RPM - 21 inch Diameter Rotor
- 360 degree Swinging, Pocket-style Knives or Carbide Rotor with STD, Planer, or Quadco knives.
- “Hardox” Swedish Steel Body Parts
- Bearing Anti-wrap Protection
- 3 Inch Heavy-duty, Double-tapered, Roller Bearings
- Steel Deflector Chains
- 4-Groove Banded Belts
- 85-125 HP Use Single Belt Drive
- 125-160 HP Use Dual Belt Drive
- Spring-loaded Belt Tightener
- Skid Shoes - Adjustable 1-1/2 to 3 inches
- 160 Max HP Tractor
- 10" Capacity

## **Tree Hammer Options**

- 80 inch 4-Hinge Manual Adjust Door
- 80 inch 4-Hinge Hydraulic Adjust Door
- Manual Adjust Pusher Bar
- Hydraulic Adjust Pusher Bar
- 80 inch Cutter Bar



### Ordering Code

#### Tree Hammer (Example)

Use the ordering code example below as a guide to determine your tree hammer model.

**80THXG160S2.SH2**

#### CUTTING WIDTH

80 = 80"

#### BODY STYLE

T = Tree Hammer

#### CUTTER STYLE

H = Hammer

S = Standard Carbide

P = Planer Carbide

Q = Quadco

#### BODY SIZE

X = Extreme

#### DRIVE STYLE

G = Gear Drive

#### MAX HORSEPOWER

160 = 160

#### DRIVE

S = Single Drive

D = Dual Drive

#### HITCH

2 = Category 2

3 = Category 3

#### OPTIONS

S = Shear Bar

M = Manual Pusher

H = Hydraulic Pusher

Not available with Manual Door

1 = Manual Door

Not available with Hydraulic Pusher

2 = Hydraulic Door

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# Safety Instructions

## 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.



**WARNING: IMPROPER OPERATION OF THIS MACHINE CAN CAUSE DEATH OR SERIOUS INJURY. BEFORE USING THIS MACHINE, MAKE CERTAIN THAT EVERY OPERATOR:**

- *Is instructed in safe and proper use of the machine.*
- *Reads and understands the Manual(s) pertaining to the machine.*
- *Reads and understands ALL Safety Decals on the machine.*
- *Clears the area of other persons.*
- *Learns and practices safe use of machine controls in a safe, clear area before operating this machine on a job site.*

## 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 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.

# Safety Instructions

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## 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.**

- Read and observe all warnings decals on the machine before attempting to operate the attachment. Do not attempt to operate this attachment unless all factory devices and decals are in place. Keep safety decals clean of dirt and grime. Keep all guards, shields and decals in place.
- Remove from area of operation all foreign objects such as bottles, rocks, wire, etc., that might become tangled in the rotor, causing damage to the machine or be thrown striking other objects.
- Do not allow any people and animals within 300 feet of the machine and attachment during operation.
- Do not allow anyone to operate the attachment until he or she has read the owner's manual and is completely familiar with all safety precautions. Keep the work area clear of all unauthorized personnel.
- Do not allow persons under the influence of alcohol, medications, or other drugs that can impair judgment or cause drowsiness to operate or maintain the machine.
- Always use an approved roll bar and seatbelt for safe operation. Overturning a machine without a roll bar and seatbelt can result in injury or death.
- Use the handholds and step plates when getting on and off the machine to prevent falls. Keep steps and platform cleared of mud and debris.
- Always have an operator in the machine while the attachment is in operation. Never leave the machine and attachment running and unattended.
- Operate the attachment only from the operator's seat.
- Keep your feet on the pedals, (floor plates) seat belt fastened snugly and seat bar lowered, (if equipped), when operating the attachment.
- The adjustable push bar could contact the machine in some positions. Before starting the power unit, set the push bar in the most forward position, then slowly rotate the attachment back while an assistant checks for clearance. Repeat this process in the other settings to determine which positions are usable with your machine.
- Never attempt to make any adjustments while the attachment is running or the key is in the "ON" position in the machine. Before leaving the operator's position, disengage power to the attachment, shut off engine and remove ignition key.
- Disengage auxiliary hydraulics and place all machine controls in neutral and engage the parking brake before starting the engine.
- Become familiar with and know how to operate all safety devices and controls on the machine and attachment before attempting to operate. Know how to stop the machine and attachment before starting it.
- Repeated impact of the hammers with hard objects can cause excessive wear and damage to the power unit or attachment. Be sure to maintain recommended ground clearance as specified in this manual.
- Should excessive vibration occur, disengage the power to attachment immediately and shut off engine. Do not continue to operate the attachment until the problem has been determined and corrected.
- Do not start, operate, or work on this attachment until you have carefully read and thoroughly understand the contents of this manual, the operator's manual for your machine, and the EMI skid-loader safety manual provided with the attachment.

# ***Safety Instructions***

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- Keep children, bystanders and other workers off and away from the machine and attachment during operation. No riders allowed.
- Before inspecting, cleaning, lubricating, adjusting or servicing any part of the attachment, always exercise the Mandatory Shut-Down Procedure. See "Mandatory Shut-Down Procedure" on page 6. After service has been performed, be sure to restore all guards, shields and covers to their original position.
- Make sure the operator's area is clear of any distracting objects. Keep work areas clean and free of grease and oil to avoid slipping or falling.
- Make sure all controls, (levers, pedals and switches), are in NEUTRAL position before starting the engine.
- Before leaving the operator's position for ANY reason or allowing anyone to approach the machine and attachment, always perform the mandatory shutdown procedure.
- Do not wear loose hanging clothes, neckties or jewelry around rotating parts. Long hair is to be placed under a cap or hat. These precautions will help prevent you from becoming caught in any moving parts on the machine and attachment.
- Before working under the attachment, be certain it is securely blocked!
- Do wear safety glasses, ear protection, respirators, gloves, hard hats, safety shoes and other protective clothing when required.
- Periodically check all guards, shields and structural members. Replace or repair anything that could cause a potential hazard.
- Do not replace components or parts with other than factory-recommended service parts. To do so may decrease the effectiveness of the machine.
- It is the operator's responsibility to be aware of machine and attachment operation and work area hazards at all times.
- Never operate the attachment without adequate light and visibility.
- Keep hands and feet clear! Never step over or climb over the attachment while the rotor is engaged or the engine is running; entanglement could occur.
- Operators are responsible to know the location and function of all guards and shields including but not limited to belt drives and rotor. Operators are responsible to make certain that all guards are in place when operating the machine and attachment.
- Operators are responsible to be aware of safety hazard areas and follow instructions on warning, caution, or danger decals applied to the machine.
- Know the area before operating the machine. Be aware of power lines or other equipment.
- Do not lubricate parts while the machine is running.
- Do not smoke while servicing the machine.

## **Hydraulic Safety**

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

# Safety Instructions

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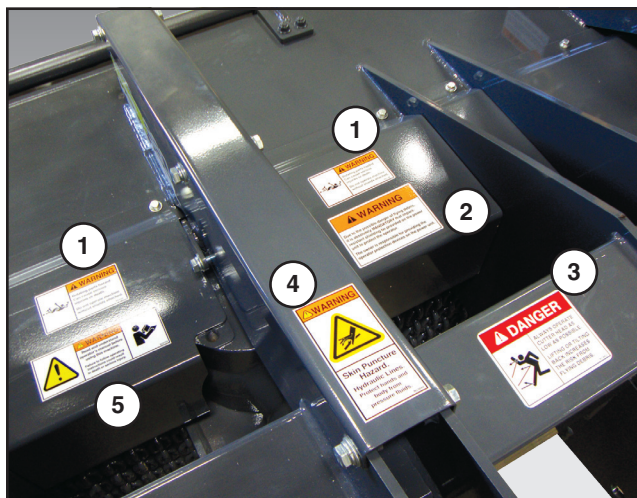




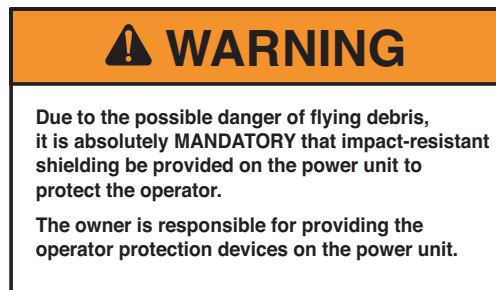
# Safety Instructions

## Safety Decal Locations

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



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Part No. N17013

3



Part No. N13863

1



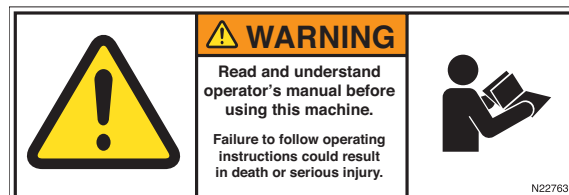
Part No. 4189

4

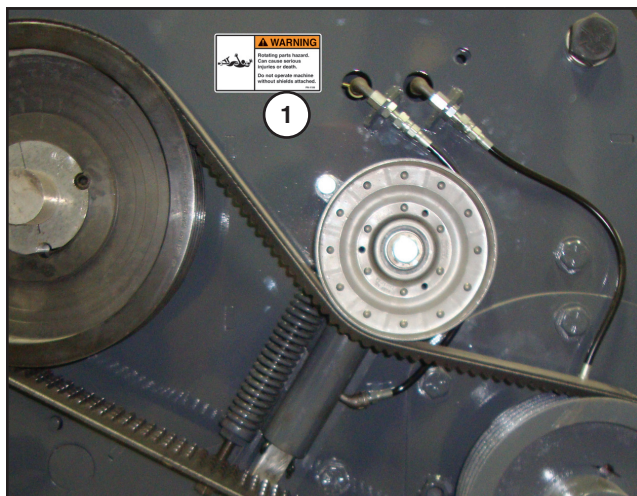


Part No. N23899

5



Part No. N22763




# Safety Instructions

## Safety Decal Locations (Cont'd)



6

**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



7

**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

8

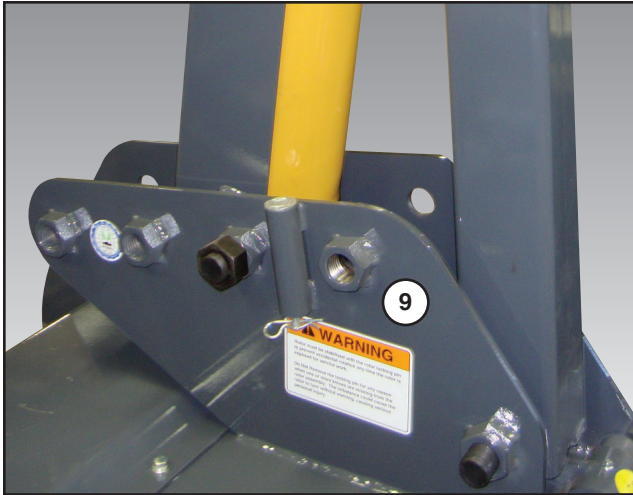
**DANGER**

**STAY BACK**

Part No. 4334



## Safety Instructions



**9**

**⚠ WARNING**

Rotor must be stabilized with the rotor locking pin to prevent accidental rotation any time the rotor is exposed for service work.

Do Not Remove the locking pin for any reason when one or more knives are missing from the rotor assembly. The imbalance could cause the rotor to turn without warning, causing serious personal injury.

Part No. N16759



**10**

**⚠ WARNING**

The adjustable push bar could contact the power unit in some positions.

Before starting the power unit, set the push bar in the most forward position, then slowly rotate the cutter head back while an assistant checks for clearance.

Repeat this process in the other settings to determine which positions are usable with your power unit.

Part No. N17014

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# Set-up Instructions

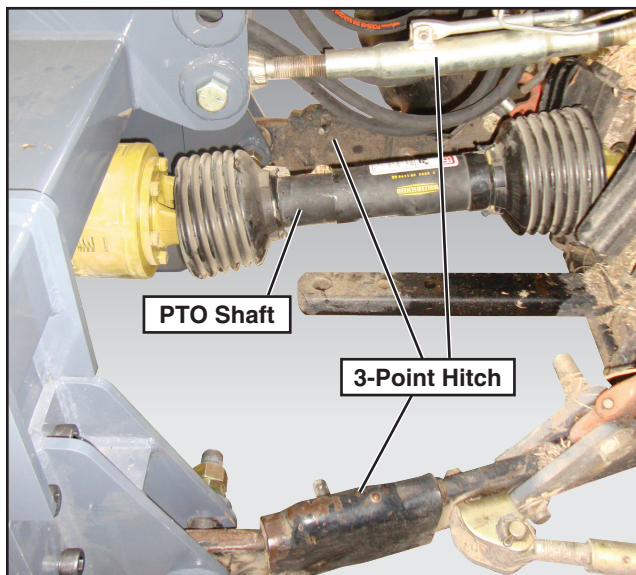
## Removing Shipping Bar

Your tree hammer may come with a bar attached near the pusher arm to protect the unit during shipping. This shipping bar must be removed before the tree hammer is put into operation.



To remove the shipping bar, unfasten the two 1-1/4" nuts (1) and take out the shipping bar. Return the two nuts to their original position and tighten.

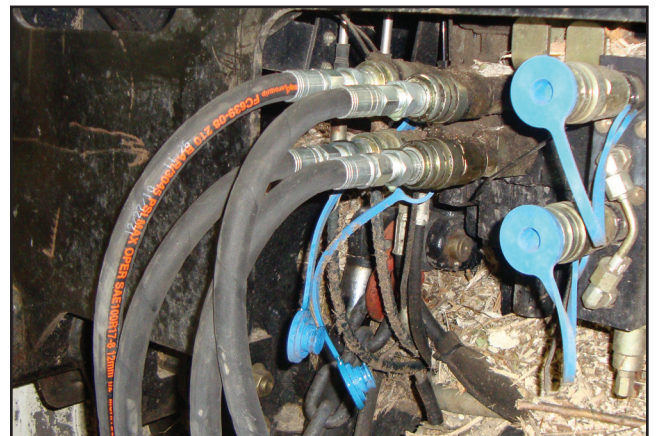
## Connections



Attach the tree hammer to the tractor using the 3-point hitch.

Connect the PTO shaft to the tree hammer and the tractor.

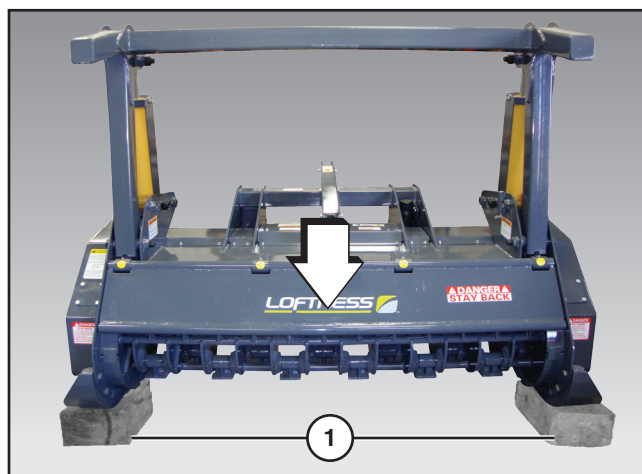
**NOTE:** When connecting the PTO to both the tree hammer and tractor, it is the owner's/operator's responsibility to insure that the PTO shaft length is correct and will not bottom out or become disengaged. The PTO provided with each Loftness tree hammer will work on most tractors without modification. However, variations in the PTO shaft and hitch geometry on some tractors may make it necessary to adjust the length of the PTO shaft. Recommendations concerning the proper PTO shaft size or length should be made by contacting Loftness.



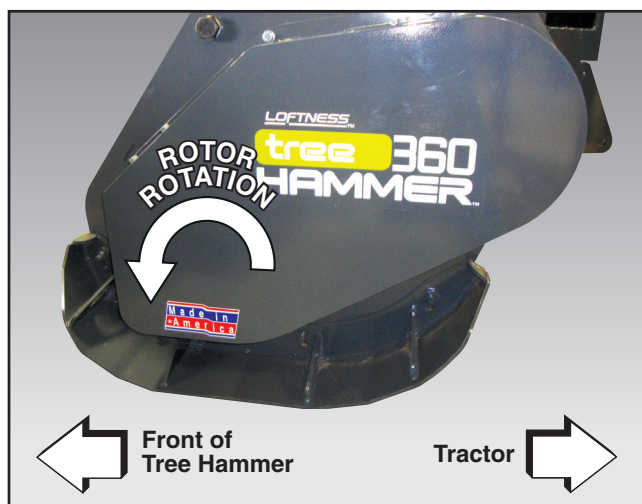
If equipped with hydraulic door and/or hydraulic pusher bar operation, install the hydraulic quick couplers to the hydraulics on the tractor.

# Set-up Instructions

## Checking Rotor Rotation



Raise the tree hammer off the ground and place blocks (1) underneath the skids. Lower the tree hammer down on the blocks.



Engage the tractor PTO, the rotor should start rotating in a forward direction. The rotation should be counterclockwise as viewed from the right side of the tree hammer.

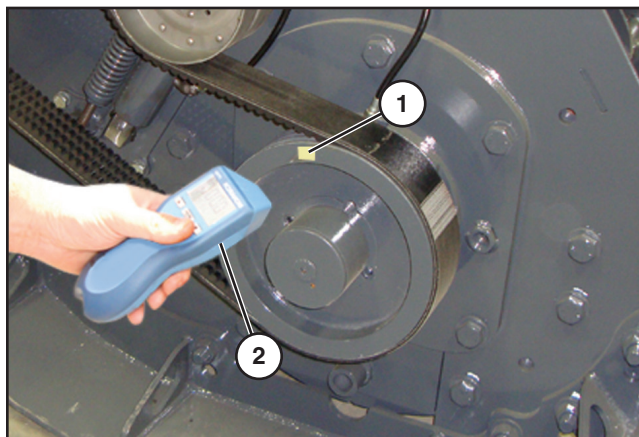


**DANGER:** Keep hands, feet, and clothing clear of rotor when tractor is running.



**DANGER:** After power to the rotor has been cut off, allow time for the spinning rotor to slow to a stop before leaving the tractor or approaching the tree hammer.

## Checking Rotor Speed



**NOTE:** The electronic tachometer shown above is not supplied with the tree hammer.

Remove left side belt cover. Apply a small piece of reflective tape (1) to the outer edge of the lower sheave. Point an electronic (photo) tachometer (2) towards the edge of the sheave to check the rotor speed.

**NOTE:** If your tree hammer is equipped with a dual driveline, this procedure can be done on the left or the right side.

Test the rotor RPM with tractor engine at full throttle.



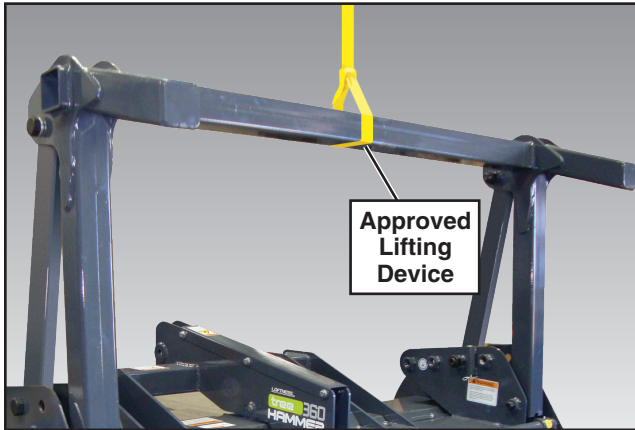
**DANGER:** Keep hands, feet, and clothing clear of belts, pulleys, and rotor while tractor is running.

No load RPM is approximately 1,800 RPM. If it is outside this recommended RPM, check and/or adjust the tractor throttle. You may also need to check for a worn or slipping belt, which may also cause a higher or lower RPM.

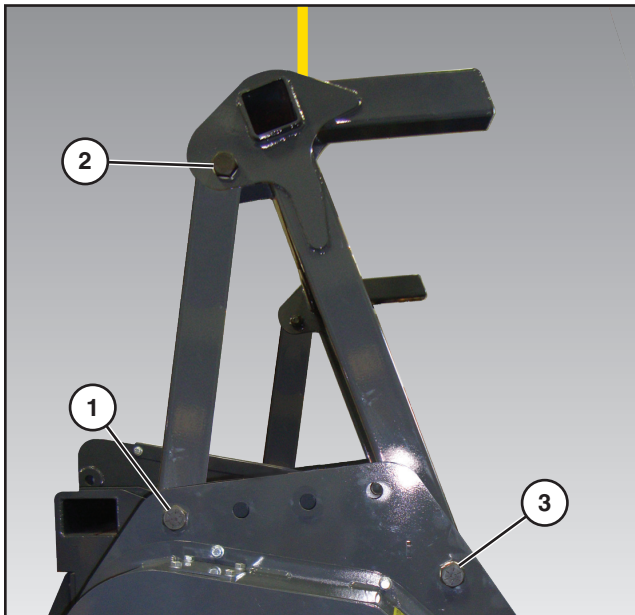


## Set-up Instructions

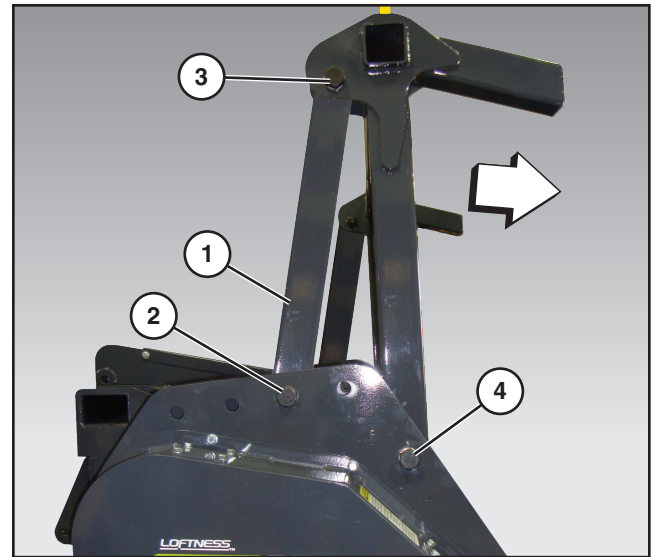
### Pusher Bar Adjustment (manual adjustment)



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



Remove bolt (1) from the lower storage position. Loosen the two bolts (2 & 3) to allow the pusher bar to pivot forward. This must be done on both sides.



Move the pusher bar forward.

Align the rear arm (1) with the desired hole from the front as shown.

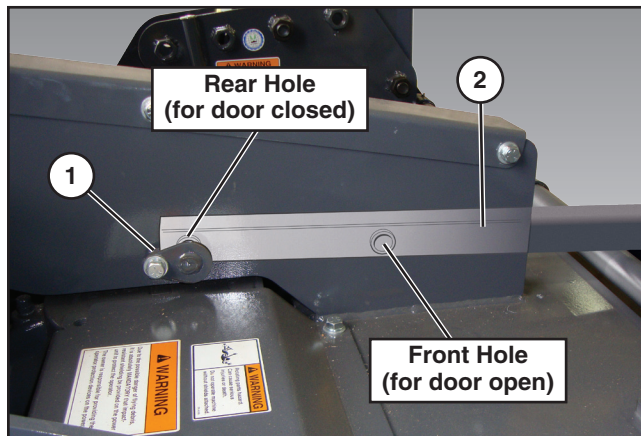
Reinstall bolt (2) and tighten securely against the frame. Tighten bolts (3 & 4). This must be done on both sides.

### Pusher Bar Adjustment (hydraulic)

Use your tractor hydraulic controls to adjust the position of the pusher bar.

# Set-up Instructions

## Door Adjustment (manual adjustment)



Remove the bolt, washer, and pin (1).

Align the front hole of the tube (2) with the hole for the pin to hold the door in the open (up) position.

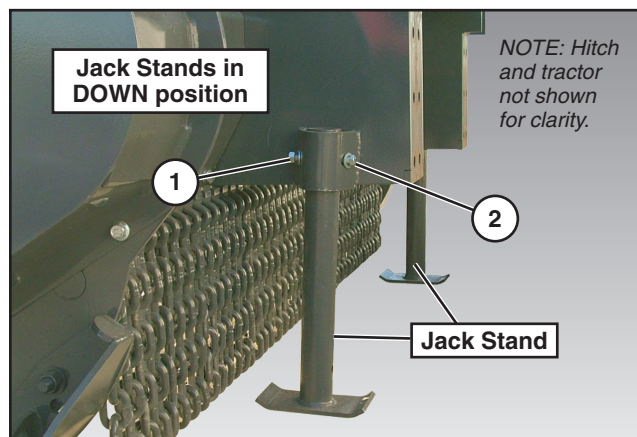
Align the rear hole of the tube (2) with the hole for the pin to keep the door in the closed (down) position.

Reinsert pin and fasten hardware.

## Door Adjustment (hydraulic adjustment)

Use your tractor hydraulic controls to adjust the position of the door.

## Jack Stands



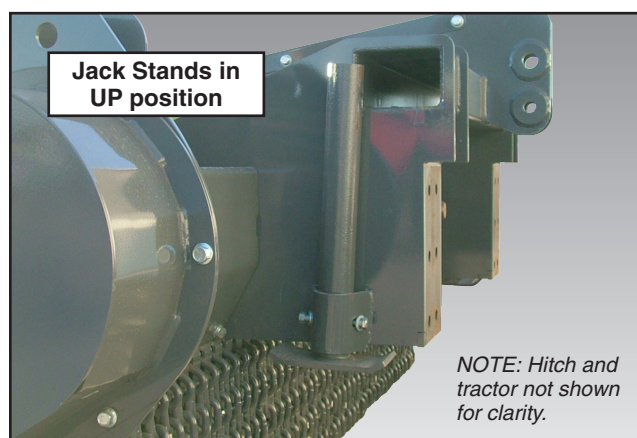
Once securely attached to the 3-point hitch of the tractor, the jack stand position can be adjusted.

Loosen and remove the lock nut (1), washers, and bolt (2).

Slide the jack stand UP until the hole near the base aligns with the hole for the hardware to put the stand in the up position.

Slide the jack stand DOWN until the hole near the top of the stand aligns with the hole for the hardware to put the stand in the down position.

Return the hardware to its original position and tighten. Repeat procedure for jack stand on opposite side.



**CAUTION:** Keep the jack stands down to stabilize the tree hammer whenever it is not attached to the tractor.

# Operating Instructions

## Getting Started

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



**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 tree hammer 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.



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

## Operation

Operate the tree hammer as low to the ground as possible without the hammers striking ground or other obstructions. Because of the high speed of the rotor, the life of the hammers will be reduced if it is operated in rocky terrain or in areas where many obstacles are present. The tree hammer deposits pulverized material over the entire width-of-cut, which eliminates bunching or windrowing behind the machine.



Maintain a constant work height by carrying the weight of the tree hammer on the 3-point hitch. Skid shoes should only be used to prevent scalping on uneven ground. Minimizing the vertical movement of the 3-point hitch will greatly improve the life of your PTO.

**NOTE:** Operate the tree hammer as low to the ground as possible without the hammers striking ground or other obstructions.

**NOTE:** Various mowing conditions, and desired finished cut appearance, will determine proper ground speed. Heavy brush will require a forward stop and go movement to allow the shredder to properly mow the brush.

**NOTE:** The rotor is equipped with multiple hammers, and your model may be equipped with an optional cutter bar that restricts the feed rate of the material being shredded.



**WARNING:** Lifting or tilting the tree hammer increases the risk of flying debris.



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



**WARNING:** Before leaving the operator's seat, lower the 3-point arms and tree hammer until contact is made with the ground. Stop engine and remove ignition key. Allow time for the spinning rotor to slow to a stop. Engage the parking brake.

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***LOFTNESS***<sup>TM</sup>



## 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 tree hammer after each use.

Proper lubrication is important. Too little lubricant will cause premature failure of a bearing. Too much lubrication usually causes high operating temperature and early failure of seals. Follow all lubrication instructions and schedules included in this section.

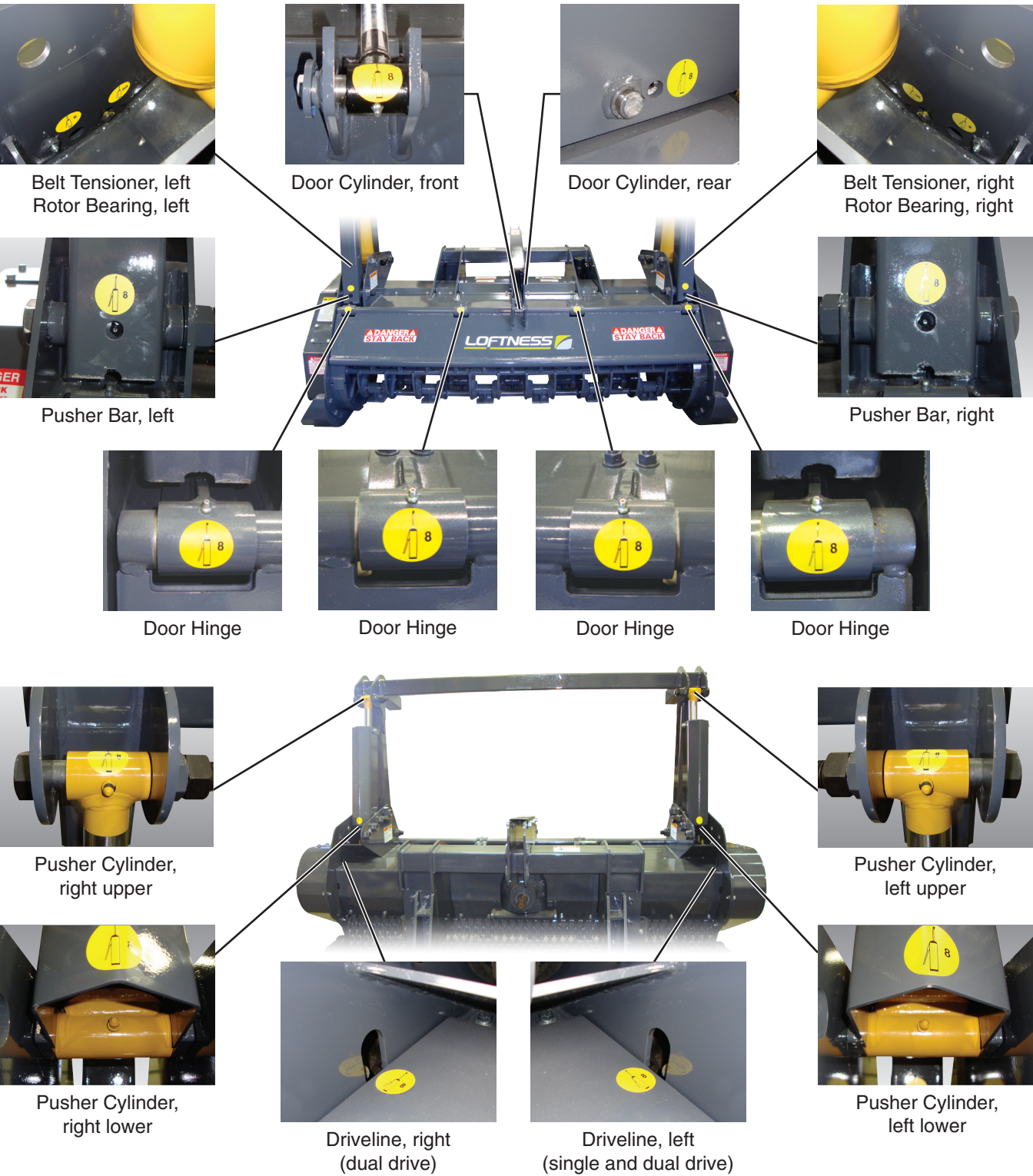
## Maintenance Schedule

H O U R S	SERVICE POINTS	SERVICE REQUIRED				
		C H E C K	C L E A N	C H A N G E	G R E A S E	A D J U S T
Every 8	Machine		X			
	Loose Bolts					X
	Hoses and Wiring	X				
	Oil Leaks	X				
	Rotor Bearing				X	
	Door Hinge				X	
	Driveline				X	
	Hammers	X				
	Cylinders (if equipped)				X	
	Pusher Bar (if equipped)				X	
Every 50	Belt Tensioner				X	
Every 100	Belt Tension	X				
	Drive Belt	X				
	Safety Labels	X				
	Gear Box Oil Level	X				

# Maintenance

## Lubrication

### Grease Point Location



## Grease Points Location (Cont'd)

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.*

See "Grease Point Location" on page 20 for component location and identification.

### • Belt Tensioner Grease Fitting

**Location:** Located at the base of the front push bar arm, both left and right side. Lubricate the fitting through the opening of the frame.

**NOTE:** *Remove the belt cover when lubricating the fitting. Visually inspect the idler pulley components while lubricating. Do Not over lubricate the idler pulley.*

**NOTE:** *Over lubricating may be transferred to the belt, causing the belt to slip, resulting in loss of rotor RPM speed and loss of power to the rotor.*

**Interval:** Every 50 hours of operation.

### • Rotor Bearings Grease Fittings

**Location:** Located at the base of the front push bar arm, both left and right side. Lubricate the fitting through the opening of the frame.

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

**Interval:** Daily or every 8 hours of operation.

### • Pusher Bar Grease Fittings

**Location:** Located at the base of the front push bar arm, both left and right side.

**Interval:** Daily or every 8 hours of operation.

### • Door Hinge And Door Cylinder Grease Fittings

**Location:** Door hinge grease fittings are located on the hinge of the front door.

Door cylinder fittings are located on the front and rear end of the door cylinder.

**Interval:** Daily or every 8 hours of operation.

### • Pusher Cylinder Grease Fittings

**Location:** Located on the upper and lower end of the pusher cylinder, both left and right side.

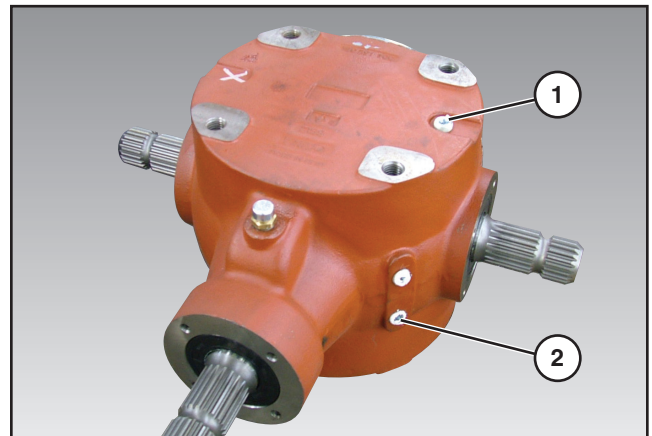
**Interval:** Daily or every 8 hours of operation.

### • Driveline Grease Fittings

**Location:** Located behind the pusher cylinders. Left side for single drive units; left and right side for dual drive units.

**Interval:** Daily or every 8 hours of operation.

## Adding Oil to Gearbox



Remove the plug from the upper port (1), and the plug from the lower port (2).

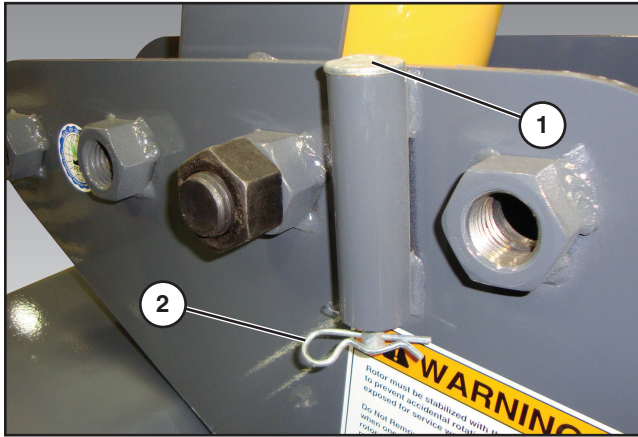
Using a funnel, add a 80W-90 gear oil into the upper port until it runs out through the bottom port. Reinsert the plug back into the lower port and tighten.

Return the remaining plug back into the upper port and tighten.

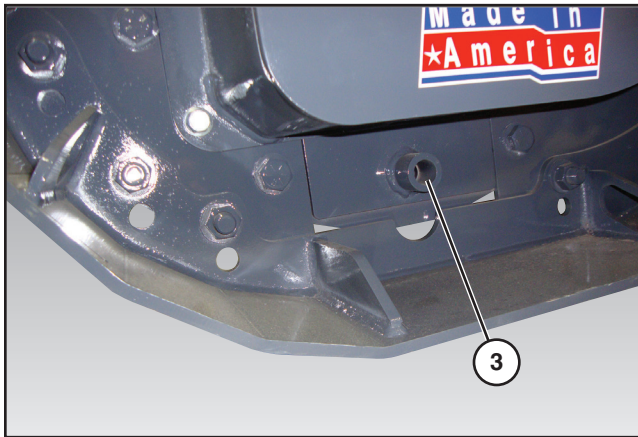


# Maintenance

## Rotor Lock Pin



The rotor lock pin (1) with clip (2) is stored on the frame inside the right side pusher cylinder. Use the rotor lock pin to keep the rotor from spinning when performing any work or maintenance on the rotor or hammers, or when transporting the tree hammer.



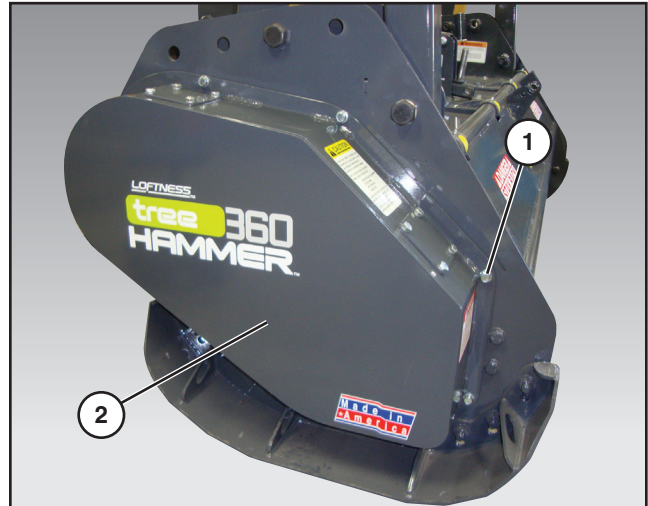
Remove the rotor lock pin from the storage compartment and insert into the locking hole (3) on either the left or right side of the unit.

Return the pin to its storage position and secure with the clip before operating the tree hammer, or when work or maintenance is finished.

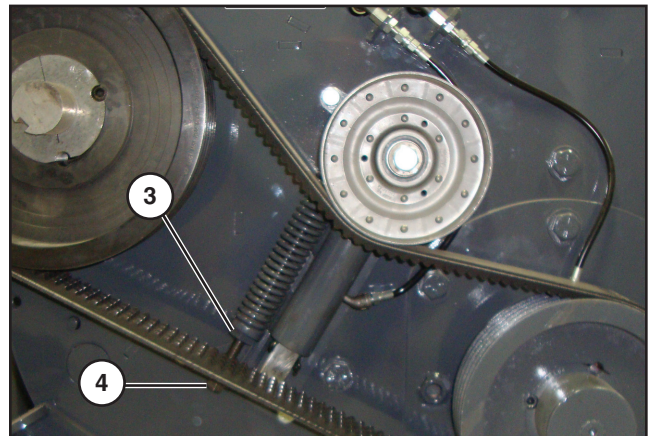


**CAUTION:** Do not operate the tree hammer with the locking pin inserted into the locking hole. Severe damage to the tree hammer could occur.

## Belt Adjustment



Remove the seven bolts (1) and drive belt cover (2).



Loosen jam nut (3).

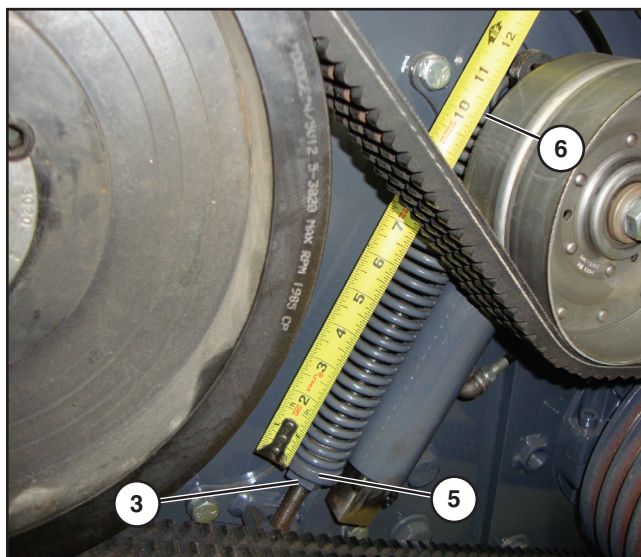
Turn adjustment bolt (4) clockwise to increase spring tension.

Turn adjustment bolt counterclockwise to decrease spring tension when replacing drive belt.

Remove the belt while belt tension is released.

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

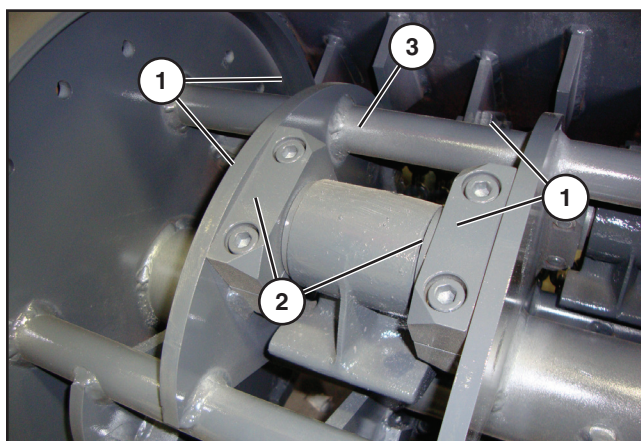
## Belt Adjustment (Cont'd)



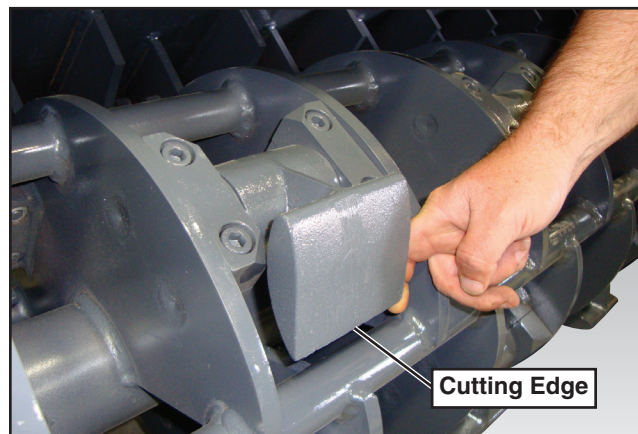
Turn the adjustment bolt clockwise until the distance from the collar (5) to the end of the spring (6) is approximately 10-1/4". Tighten jam nut (3).

## Tooth Removal and Installation

### Hammer



Remove the four bolts (1) and pull out the two mounts (2), the hammer (3), shaft, and washers.

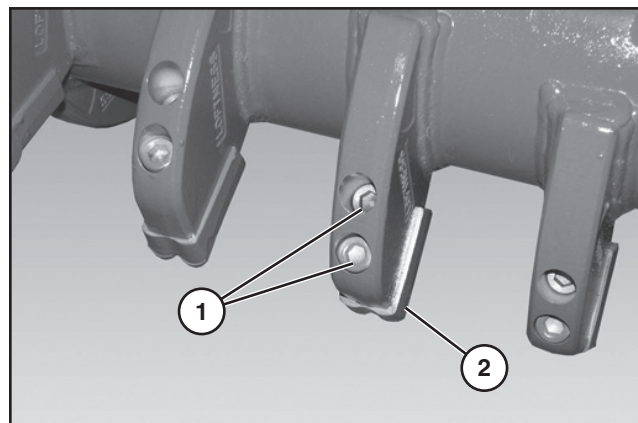


To install a new hammer, reverse the order of the removal procedure. Make sure that the cutting edge of the hammer is pointing down. See the photo above for hammer orientation.



**CAUTION:** Do not operate the tree hammer with a missing hammer. The rotor will become out of balance when spinning and severe damage to the tree hammer could occur.

### Double Tooth & Double Planer



Remove the two bolts (1) and tooth (2).

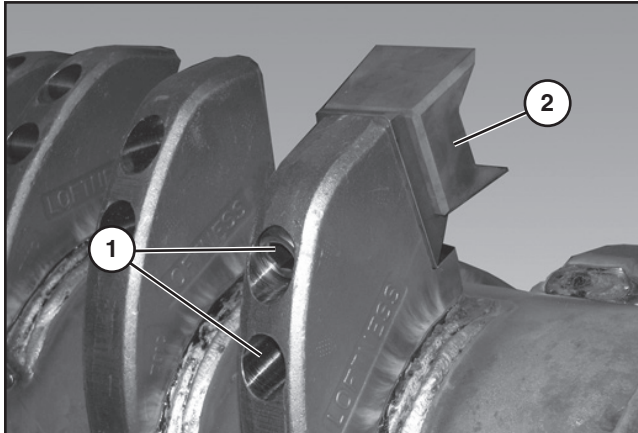


# Maintenance

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## Tooth Removal and Installation (Cont'd)

### Quadco Teeth

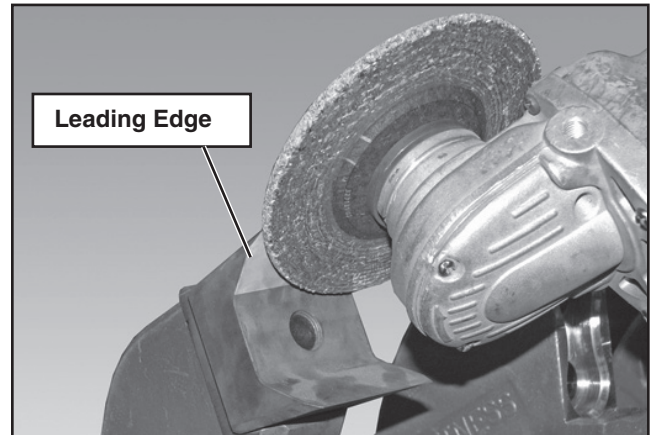


Remove the two bolts (1) and tooth (2).

## Tooth Sharpening (Quadco Option Only)

**NOTE:** *The teeth need to be kept sharp to maintain the most effective operation of the attachment. Daily inspection and touch up is recommended.*

**NOTE:** *The teeth can either be removed from the attachment or remain installed for sharpening.*



**NOTE:** *The Quadco cutter teeth have been heat treated to a specific hardness. Care must be taken to avoid overheating the leading edge of the tooth while sharpening. If the coloring in the tooth changes to either a blue or brown during the sharpening, you have removed the temper and the tooth will not hold it's cutting edge.*

**NOTE:** *When re-sharpening teeth using machine shop equipment, avoid overheating the teeth by using a flood coolant system.*

**NOTE:** *When re-sharpening teeth using a hand grinder, avoid overheating the tooth by lightly grinding each tooth, moving across the entire row of teeth before returning to the first tooth to repeat the procedure.*

**NOTE:** *Sharpen each tooth equally to maintain rotor balance. Always return tooth to it's original location if it is removed from the rotor for sharpening.*

## Storage

### End Of Season

- Clean entire tree hammer thoroughly.
- Clean belt and pulleys, relax the belt tension.
- Lubricate all parts of the machine. See “Lubrication” on page 20.
- Make a list of all worn or damaged parts and replace them.
- Paint all parts that are worn or rusted.
- Store tree hammer in a clean, dry area.
- Review the tree hammer operator’s manual.

### Beginning Of The Season

- Review the tree hammer operator’s manual.
- Lubricate all parts of the machine. See “Lubrication” on page 20.
- Tighten all bolts, nuts, and set screws. See “Torque Specifications” on page 65.
- Adjust belt tension. See “Belt Adjustment” on page 22.
- Replace all damaged, worn or missing decals.
- Install the tree hammer on a tractor and test the tree hammer for proper operation.



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

# Maintenance

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## Troubleshooting

PROBLEM	POSSIBLE CAUSE	SOLUTION
Excessive Vibration	Broken or missing hammer.	Replace hammer.
	Mud and/or debris wrapped around the rotor.	Clean the machine.
	Faulty rotor bearing.	Replace bearing(s).
	Damage to rotor (includes bent end of shafts, missing balance weights, or actual rotor deformity from striking rocks, etc.	Consult factory.
	Gearbox damaged.	Repair or replace gearbox.
Uneven Cutting	Hammer dull or worn excessively.	Replace hammer.
	Engine RPM too slow.	Adjust machine RPM to full throttle.
	Travel speed too fast.	Reduce ground speed and increase rotor speed.
Rotor Will Not Turn	Faulty rotor bearing.	Replace bearing(s).
	Belt damaged.	Replace belt.
	Belt slipping.	Clean or replace belt.
		Adjust tension.
	Gearbox damaged.	Repair or replace gearbox.
	Driveline damaged.	Inspect, repair, or replace driveline.



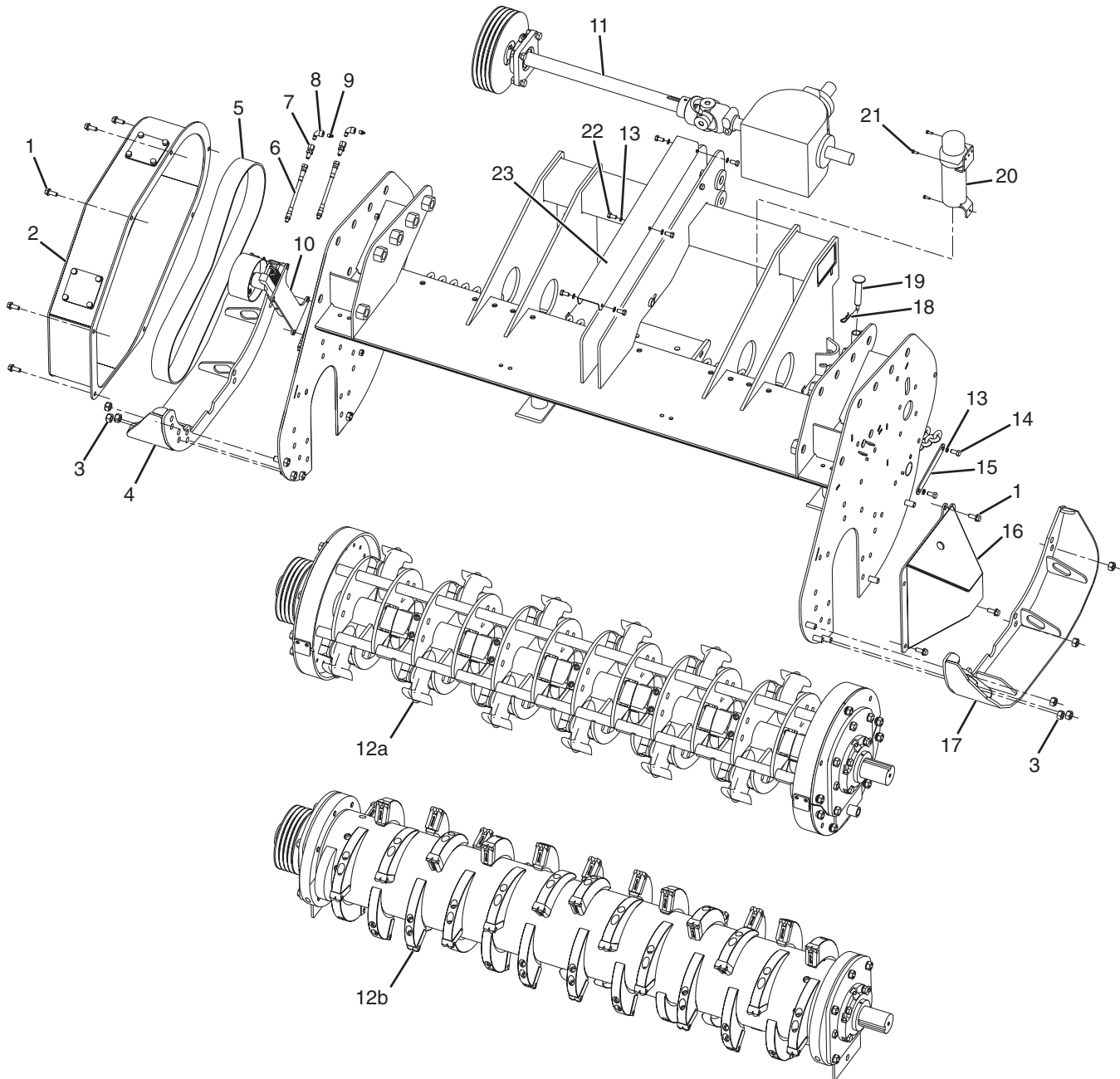


## PARTS IDENTIFICATION

## Parts Identification

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### Tree Hammer, 80" w/Rotor 4-Band Single Drive



**Note:** Both Rotor selections are shown.  
Item 12a Rotor is equipped with Hammers.  
Item 12b Rotor can be equipped with either Double Carbide, Planer Carbide, or Quadco Planer teeth.  
See parts list on page 36 & page 37 for rotor part number variations.

## Parts Identification

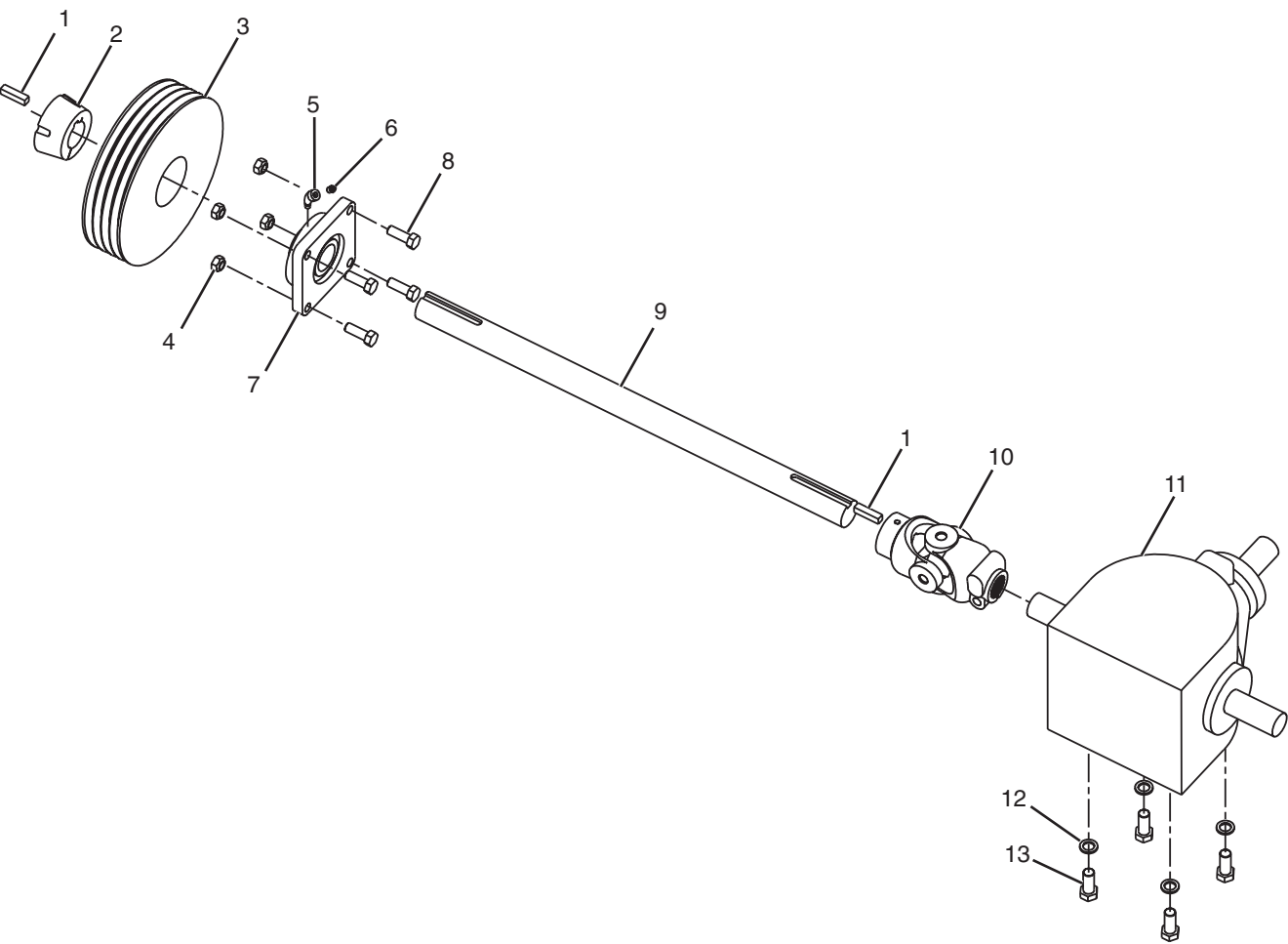
### Tree Hammer, 80" w/Rotor 4-Band Single Drive

#	QTY.	PART #	DESCRIPTION
1	11	N18360	BOLT, 1/2" X 1-1/4" SERRATED FLANGE
2	1	N24421	SHIELD, BELT LEFT ASSY
3	10	N16352	NUT, LOCK 3/4" GRADE 8 FINE
4	1	N24355	SKID, LEFT ADJUSTABLE 1-1/2" & 3"
5	1	N24329	BELT , 4/5V X 850 (85")
6	2	4304	HOSE, 15' GREASE W/FITTINGS
7	2	4304-10	BULKHEAD, FITTING-GREASE HOSE
8	2	4472	ELBOW, 1/8" 90 DEG. STREET
9	2	N17007	GREASE-ZERK, 1/4" SCREW-IN
10	1	N24242	TENSIONER, BELT 4 BAND
11	1	N28543	DRIVELINE, 80" SINGLE 4 BAND
12a	1	N28546	ROTOR, 4BAND ASSY 360 HAMMER
12b	1	N24386	ROTOR, 4BAND ASSY 1/2W CARBIDE
13	8	N16472	WASHER, 1/2 NORDLOCK
14	2	4011	BOLT, 1/2" X 1" GRADE 5
15	1	N28612	PLATE, ROD RETAINER
16	1	N28518	COVER, WELDMENT BEARING
17	1	N24354	SKID, RIGHT ADJUSTABLE 1-1/2" & 3"
18	1	4336	CLIP, HAIRPIN 1/8" X 2-1/4"
19	1	N16442	PIN, ROTOR LOCK
20	1	N19600	HOLDER, O1-315A STND. MANUAL
21	3	4340	BOLT, 1/4" X 3/4" GRADE 5
22	6	4011	BOLT, 1/2" X 1" GRADE 5
23	1	N24450	PLATE, COVER CYLINDER

# Parts Identification

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## Driveline, 80" Single

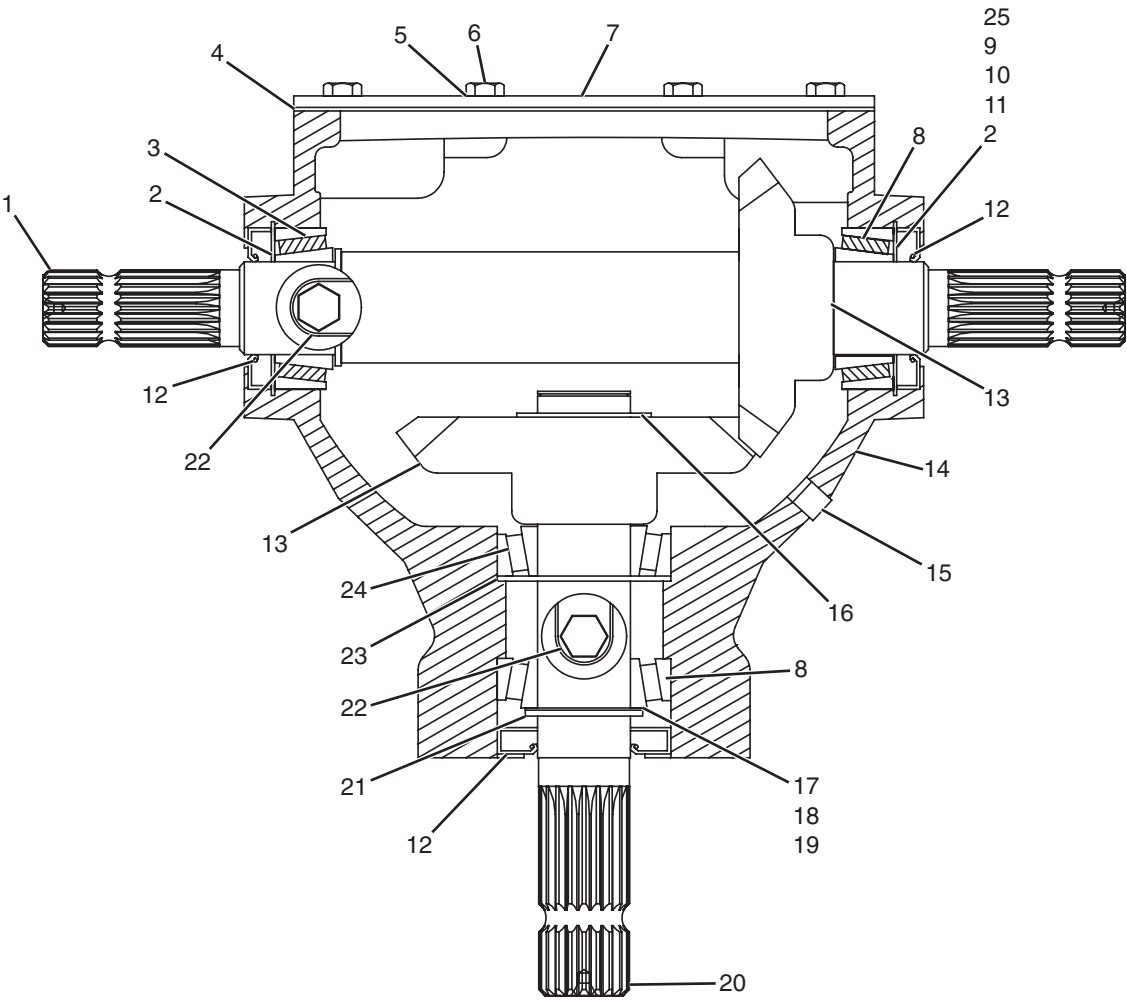


### Driveline, 80" Single

#	QTY.	PART #	DESCRIPTION
1	2	7122-04	KEY, 1/2" X 2"
2	1	N16916	BUSHING, 2" TPLK 1/2" KEY
3	1	N24079	SHEAVE, 4B X 12.5
4	4	4055	NUT, LOCK 5/8" TOP
5	1	4471	ELBOW, 1/8" 45 DEG. STREET
6	1	N17007	GREASE-ZERK, 1/8" NPT
7	1	8093	BEARING, 2" SEALMASTER 4 BOLT
8	4	4021	BOLT, 5/8 X 1-3/4 GRADE 5
9	1	N24346	SHAFT, DRIVELINE 35
10	1	N18105	U-JOINT, 1-3/4" RB X 1-3/4"-20SPL
11	1	N13952	GEARBOX, 2000RPM 1: 1.35 BONDIOLI
12	4	N16474	WASHER, 3/4 NORDLOCK
13	4	N13997	BOLT, 3/4" X 1-3/4" GRADE 5

# Parts Identification

## Gearbox, 2000 RPM Bondioli (N13952)



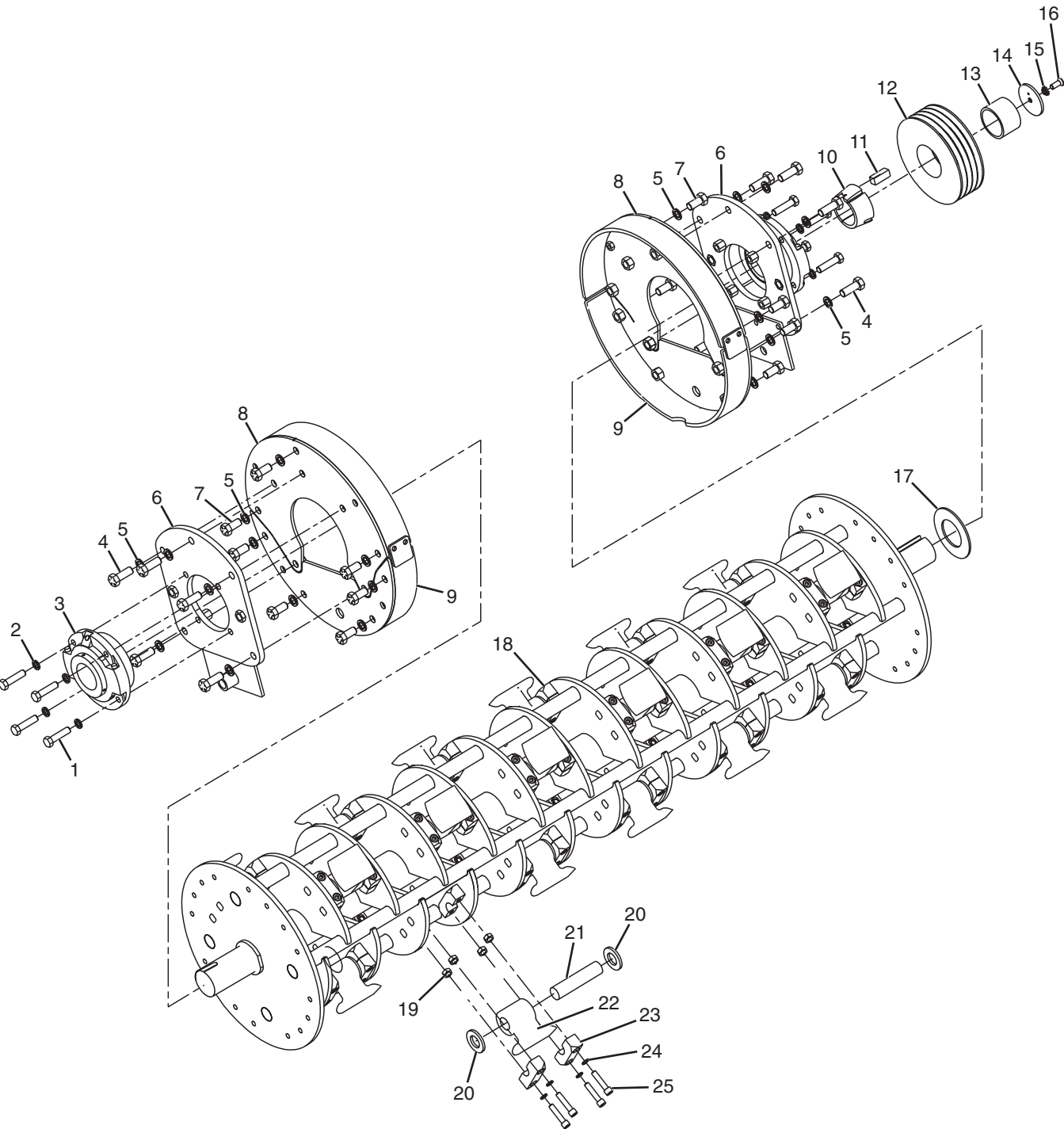


### Gearbox, 2000 RPM Bondioli (N13952)

#	QTY.	PART #	DESCRIPTION
1	1	8170-02	SHAFT, THROUGH 295383803
2	2	8170-11	SNAP-RING, THROUGH SHAFT 339000090
3	1	8170-20	BEARING, THROUGH SHAFT 354400050
4	1	8170-04	GASKET, COVER 298321400
5	8	8170-08	WASHER, COVER SCREW 335009000
6	8	8170-07	SCREW, COVER 310001100
7	1	8170-06	COVER, HOUSING 298625400
8	2	8170-19	BEARING, TAPERED ROLLER 354401050
9	2	8170-15	RING, THROUGH SHAFT 340080000
10	2	8170-16	RING, THROUGH SHAFT 340080001
11	2	8170-17	RING, THROUGH SHAFT 340080002
12	3	8170-22	SEAL, OIL 355020050
13	1	8170-25	GEAR, BEVEL 1:1.35 (SET) 448135701
14	1	N14123	HOUSING, GEARBOX 290291324
15	5	8001-19	PLUG, OIL 373010000
16	1	8170-09	CIRCLIP, PINION SHAFT 337000060
17	1	8170-12	RING, PINION SHAFT 340050001
18	1	8170-13	RING, PINION SHAFT 340050002
19	1	8170-14	RING, PINION SHAFT 340050003
20	1	N14121	SHAFT, PINION 295384036
21	1	8170-10	SNAP-RING, PINION SHAFT 339000050
22	1	8001-18	PLUG, OIL VENT 373007000
23	1	N14120	SPACER, PINION SHAFT 298405025
24	1	8170-21	BEARING, PINION SHAFT 354405050
25	2	8170-18	RING, THROUGH SHAFT 340080003

# Parts Identification

## Rotor, 4 Band Assy 360 (N28546)



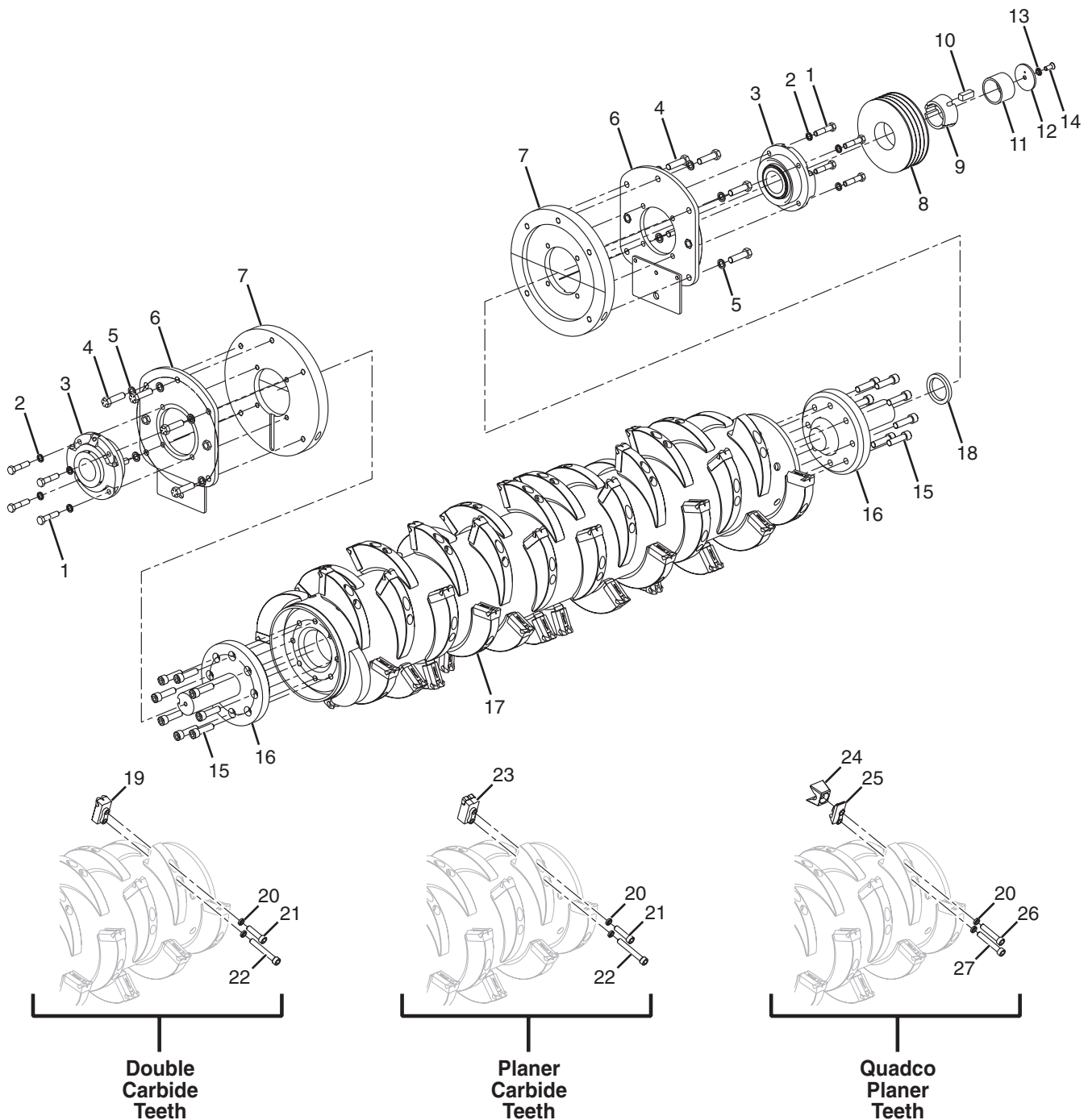
## Parts Identification

### Rotor, 4 Band Assy 360 (N28546)

#	QTY.	PART #	DESCRIPTION
1	8	4044	BOLT, 5/8" X 2-1/2" FN TH GRADE 8
2	8	N16473	WASHER, 5/8 NORDLOCK
3	2	N16418	BEARING, 3" PILOT FLNG ROLLER
4	10	N16509	BOLT, 3/4" X 2" FINE THREAD GRADE 8
5	24	N16474	WASHER, 3/4 NORDLOCK
6	2	N24598	PLATE, BEARING WELDMENT
7	14	N16350	BOLT, 3/4" X 1-1/2" FINE THREAD GRADE 8
8	2	N24402	ANTIWRAP, 21" TREEHAMMER TOP
9	2	N24404	ANTIWRAP, 21" TREEHAMMER BTM
10	1	N16917	BUSHING, 3" TPL 3/4" KEY
11	1	N16918	KEY, 3/4 X 2
12	1	N18974	SHEAVE, 4/5V X 9.75 DIA
13	1	N24424	BUSHING, 3.015ID X 3.500D X 2.28
14	1	N21464	WASHER, 3-1/2" OD BEARING RETAINING
15	1	4076	WASHER, 1/2" EXT CNTSK LOCK
16	1	4468	SCREW, 1/2"-20UNF X 1-1/4" FN TD FL HD CAP
17	1	N24459	BUSHING, TREEHAMMER RTR SPACER
18	1	N24340	ROTOR, 80" TREEHAMMER W/O HAMMER
19	96	4503	NUT, STANDARD 1/2" FN THD GR 8
20	48	N28620	WASHER, 1.380ID X 2.50ODX.1875
21	24	N24423	SHAFT, 360 CUTTER
22	24	N25188	HAMMER, 360 CUTTER GEN 2
23	48	N24380	MOUNT, KNIFE REMOVEABLE
24	96	N16472	WASHER, 1/2 NORDLOCK
25	96	N28017	BOLT, SHCS 1/2 X 2-1/4 FN GR 8

## Parts Identification

### Rotor, 4 Band Assy 1/2W Carbide (N24386)



To order complete Rotor with Double Carbide Teeth, use part number N28400.

To order complete Rotor with Planer Carbide Teeth, use part number N28678.

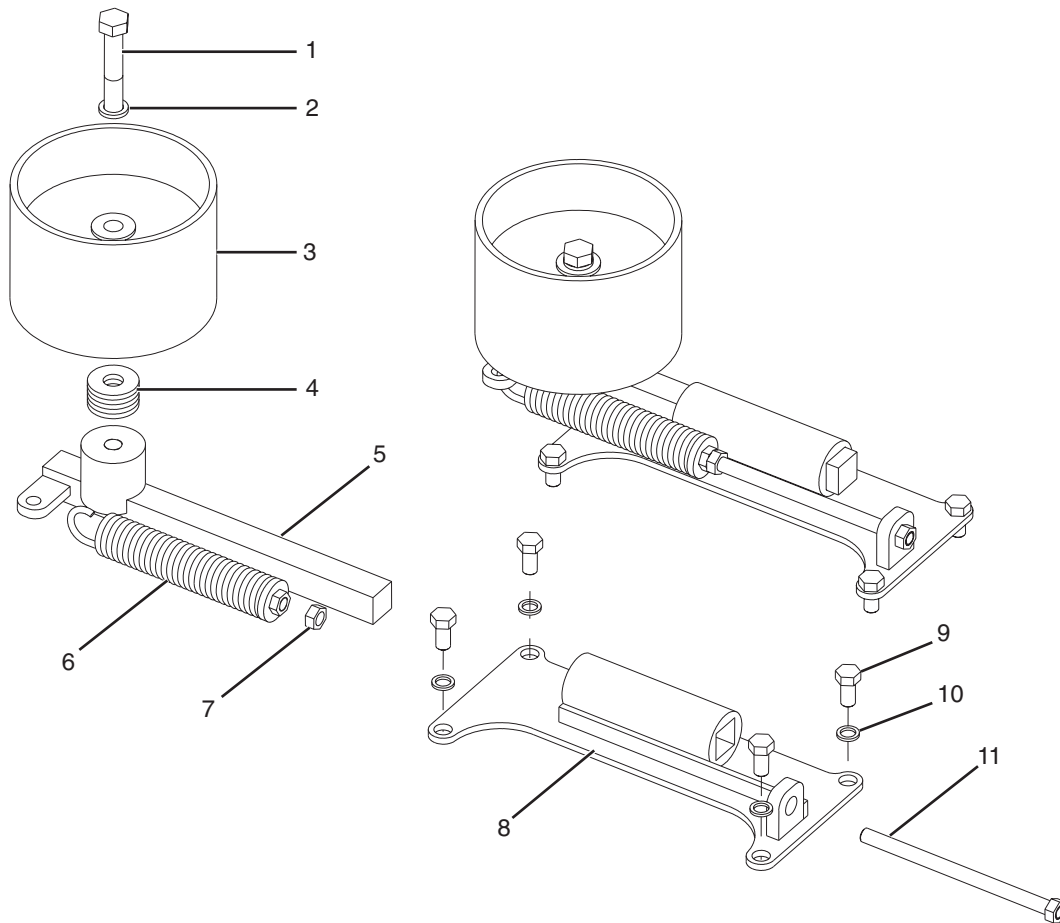
To order complete Rotor with Quadco Planer Teeth, use part number N28679.

### Rotor, 4 Band Assy 1/2W Carbide (N24386)

#	QTY.	PART #	DESCRIPTION
1	8	N28675	BOLT, 5/8" X 2-3/4" GRD 8 FN
2	8	N16473	WASHER, 5/8 NORDLOCK
3	2	N16418	BEARING, 3" PILOT FLNG ROLLER
4	10	N16510	BOLT, 3/4" X 2-3/4" FINE THREAD GRADE 8
5	10	N16474	WASHER, 3/4 NORDLOCK
6	2	N28674	PLATE, BEARING WELDMENT
7	2	N21068	PLATE, 2 PART 21" ROTOR ASSY
8	1	N18974	SHEAVE, 4/5V X 9.75 DIA
9	1	N16917	BUSHING, 3" TPL 3/4" KEY
10	1	N16918	KEY, 3/4 X 2
11	1	N24424	BUSHING, 3.015ID X 3.50OD X 2.28
12	1	N21464	WASHER, 3-1/2" OD BEARING RETAINING
13	1	4076	WASHER, 1/2" EXT CNTSK LOCK
14	1	4468	SCREW, 1/2"-20UNF X 1-1/4" FN TD FL HD CAP
15	16	N24028	BOLT, SHCS 3/4"-16 X 2-3/4"
16	2	N24027	DRIVESHAFT, 3" BOLT-ON
17	1	N28402	ROTOR, 80" 1/2" WALL W/O DRIVE
18	1	N28676	BUSHING, TREEHAMMER RTR SPACER
19	48	N15510	CARBIDE, 1-13/16" DOUBLE 5/8-18UNF
20	96	N17041	WASHER, LOCK 5/8"
21	48	N15646	SCREW, 5/8-18UNF X 2-1/2" GR 8
22	48	N32005	SCREW, 5/8-18UNF X 4-1/2" GR 8
23	1	N17044	CARBIDE, PLANER CARBIDE
24	1	N24279	TOOTH, QUADCO PLANER
25	1	N24139	HOLDER, TOOTH QUADCO PLANER
26	1	N26490	SCREW, SHCS 5/8-18UNF X 3-1/4"
27	1	N28571	SCREW, SHCS 5/8- 18UNF X 4

## Parts Identification

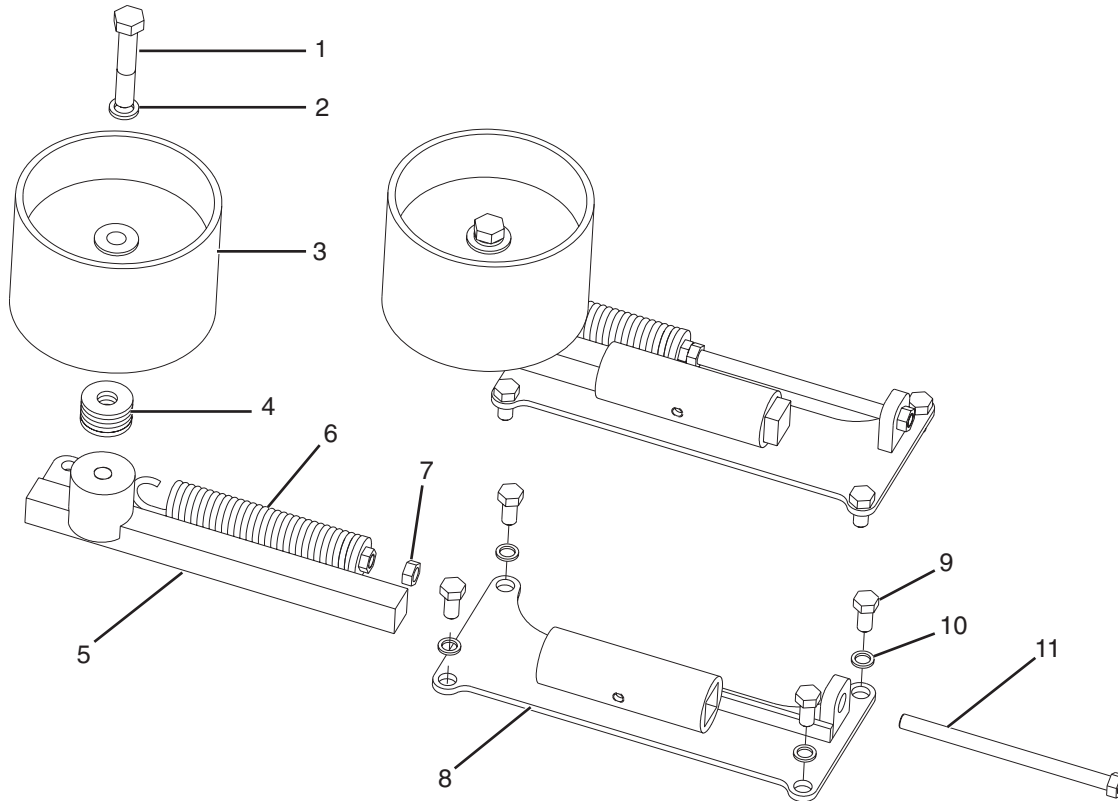
### 4 Band Belt Tensioner (Left) (N24242)



#	QTY.	PART #	DESCRIPTION
1	1	4459	BOLT, 5/8" X 3" GRADE 8
2	1	N16473	WASHER, 5/8" NORDLOCK
3	1	N10508	PULLEY, SHREDDER IDLER BELT 4B
4	Varies	N28269	WASHER, HARDENED 5/8"
5	1	N24167	SLIDE, WELDMENT SQ BELT TIGHT
6	1	N24211	SPRING, BELT TIGHTENER
7	1	4250	NUT, STANDARD 1/2"
8	1	N24216	BASE, BELT TIGHT SQ SLIDE
9	4	4012	BOLT, 1/2" X 1-1/4" GRADE 5
10	4	N16472	WASHER, 1/2" NORDLOCK
11	1	N24596	ROD, THREADED 1/2 X 7.66 W/NUT



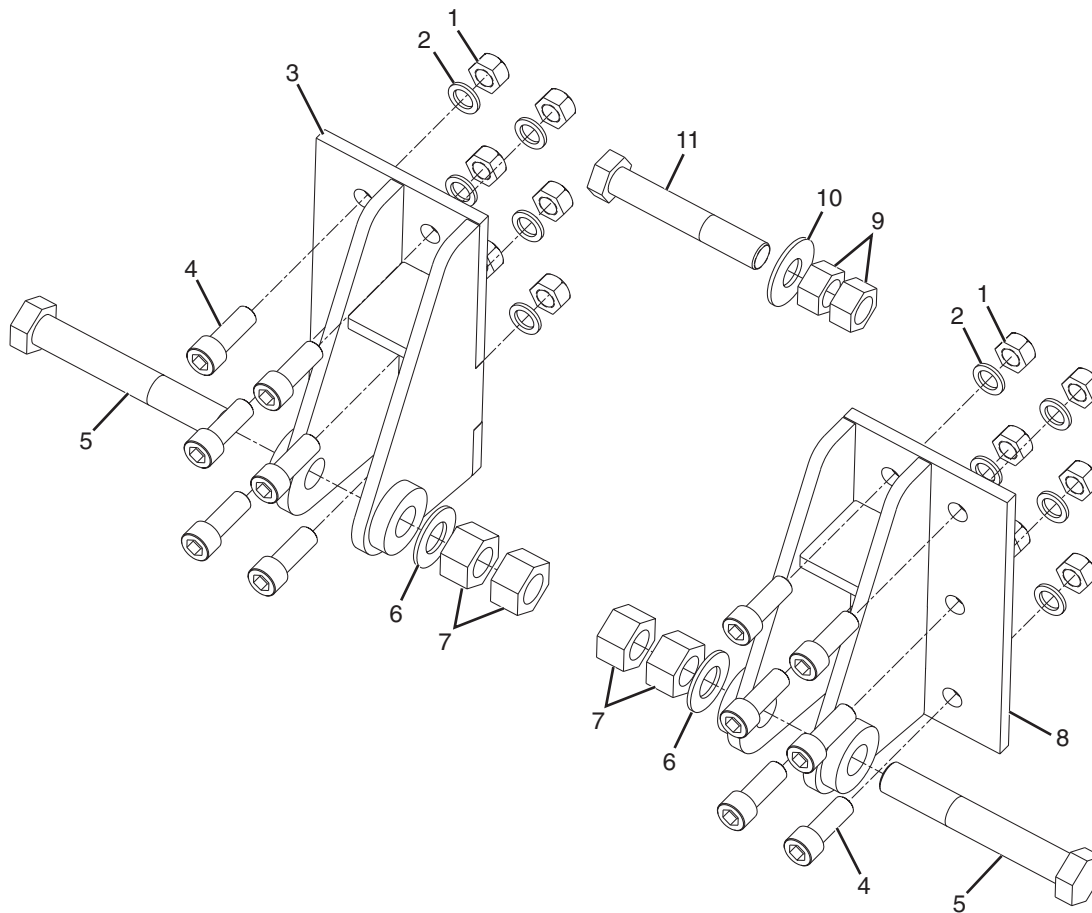
## 4 Band Belt Tensioner (Right) (N24245)



#	QTY.	PART #	DESCRIPTION
1	1	4459	BOLT, 5/8" X 3" GRADE 8
2	1	N16473	WASHER, 5/8" NORDLOCK
3	1	N10508	PULLEY, SHREDDER IDLER BELT 4B
4	Varies	N28269	WASHER, HARDENED 5/8"
5	1	N24229	SLIDE, WELDMENT SQ BELT TIGHT
6	1	N24211	SPRING, BELT TIGHTENER
7	1	4250	NUT, STANDARD 1/2"
8	1	N24166	BASE, BELT TIGHT SQ SLIDE
9	4	4012	BOLT, 1/2" X 1-1/4" GRADE 5
10	4	N16472	WASHER, 1/2" NORDLOCK
11	1	N24596	ROD, THREADED 1/2 X 7.66 W/NUT

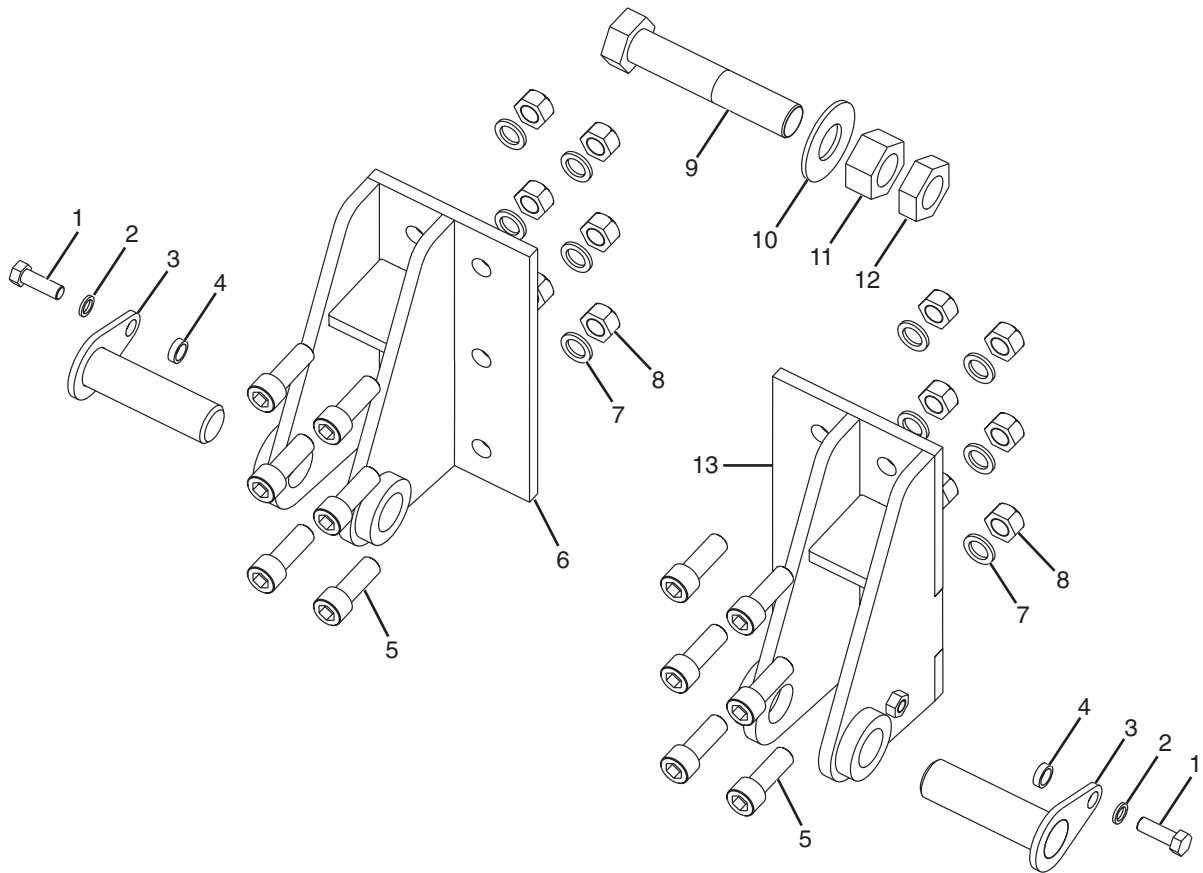
## Parts Identification

### Hitch, Bolt-On Category 2 (N28534)



#	QTY.	PART #	DESCRIPTION
1	12	N16352	NUT, LOCK 3/4" FN TH GR8
2	12	N16474	WASHER, 3/4 NORDLOCK
3	1	N28531	HITCH, BOLT-ON CAT 2 RIGHT
4	12	N24028	SCREW, 3/4-16 X 2-3/4 SOCKET HD
5	2	N28584	BOLT, 1-1/8 X 8 FN TH GR 8
6	2	N28586	WASHER, SAE FLAT 1-1/8
7	4	N28585	NUT, STANDARD 1-1/8 FN TH GR 8
8	1	N28533	HITCH, BOLT-ON CAT 2 LEFT
9	2	4490	NUT, 1" FN STANDARD
10	1	4356	WASHER, 1" FLAT
11	1	N28583	BOLT, 1 X 6" FN TH GR 8

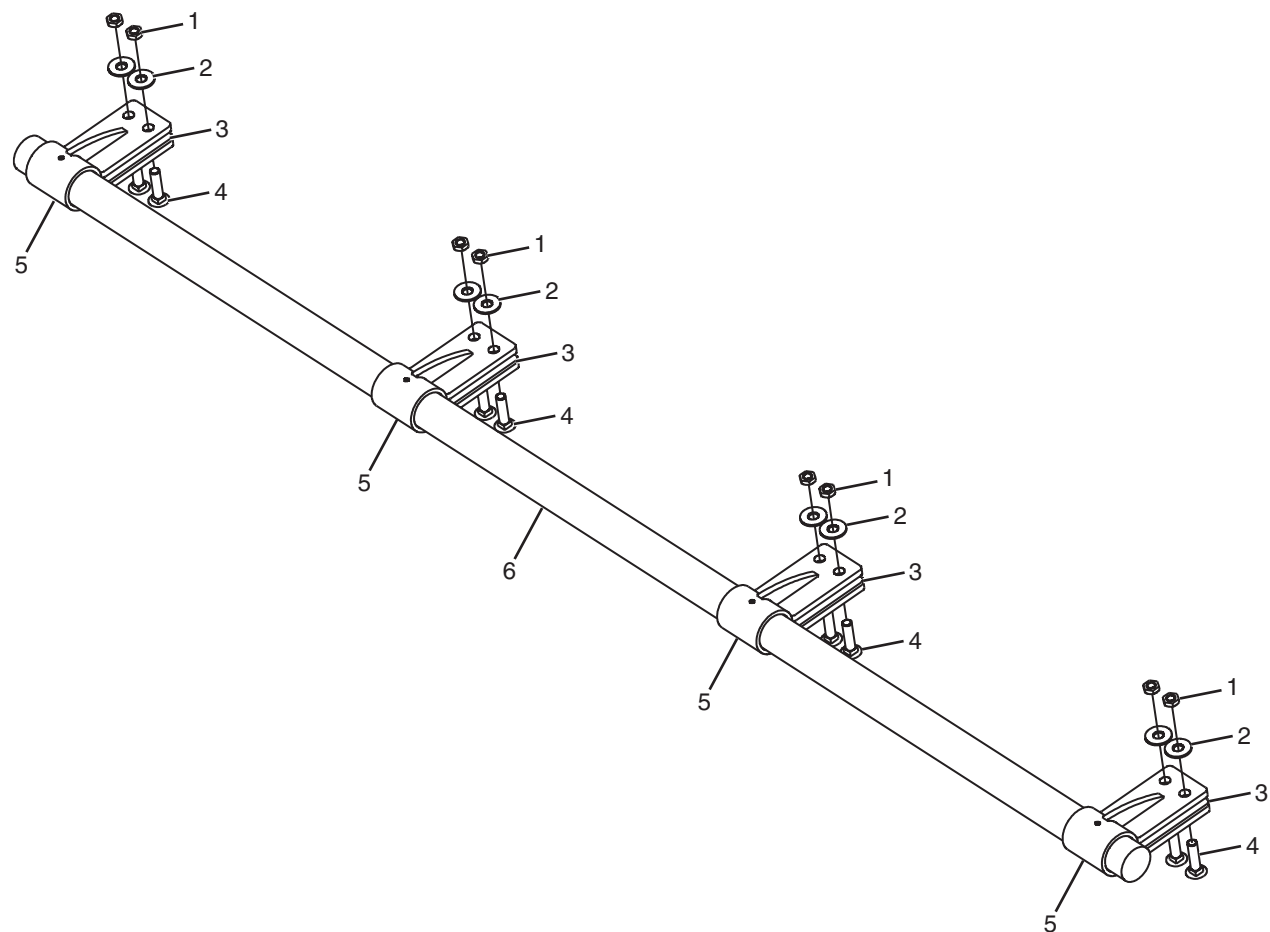
## Hitch, Bolt-On Category 3 (N28535)



#	QTY.	PART #	DESCRIPTION
1	2	4013	BOLT, 1/2" X 1-1/2" GRADE 5
2	2	N16472	WASHER, 1/2 NORDLOCK
3	2	N28590	PIN , 1-7/16 X 5.00
4	2	N28600	BUSHING, .622ID X .84OD X .25
5	12	N24028	SCREW, 3/4-16 X 2-3/4 SOCKET HD
6	1	N28536	HITCH, BOLT-ON CAT 3 RIGHT
7	12	N16474	WASHER, 3/4 NORDLOCK
8	12	N16352	NUT, LOCK 3/4" FN TH GR8
9	1	N28587	BOLT, 1-1/4 X 6" FN TH GR8
10	1	4316	WASHER, FLAT 1-1/4"
11	1	N28588	NUT, 1-1/4" FN TH GR8
12	1	N21383	NUT, 1-1/4" JAM
13	1	N28537	HITCH, BOLT-ON CAT 3 LEFT

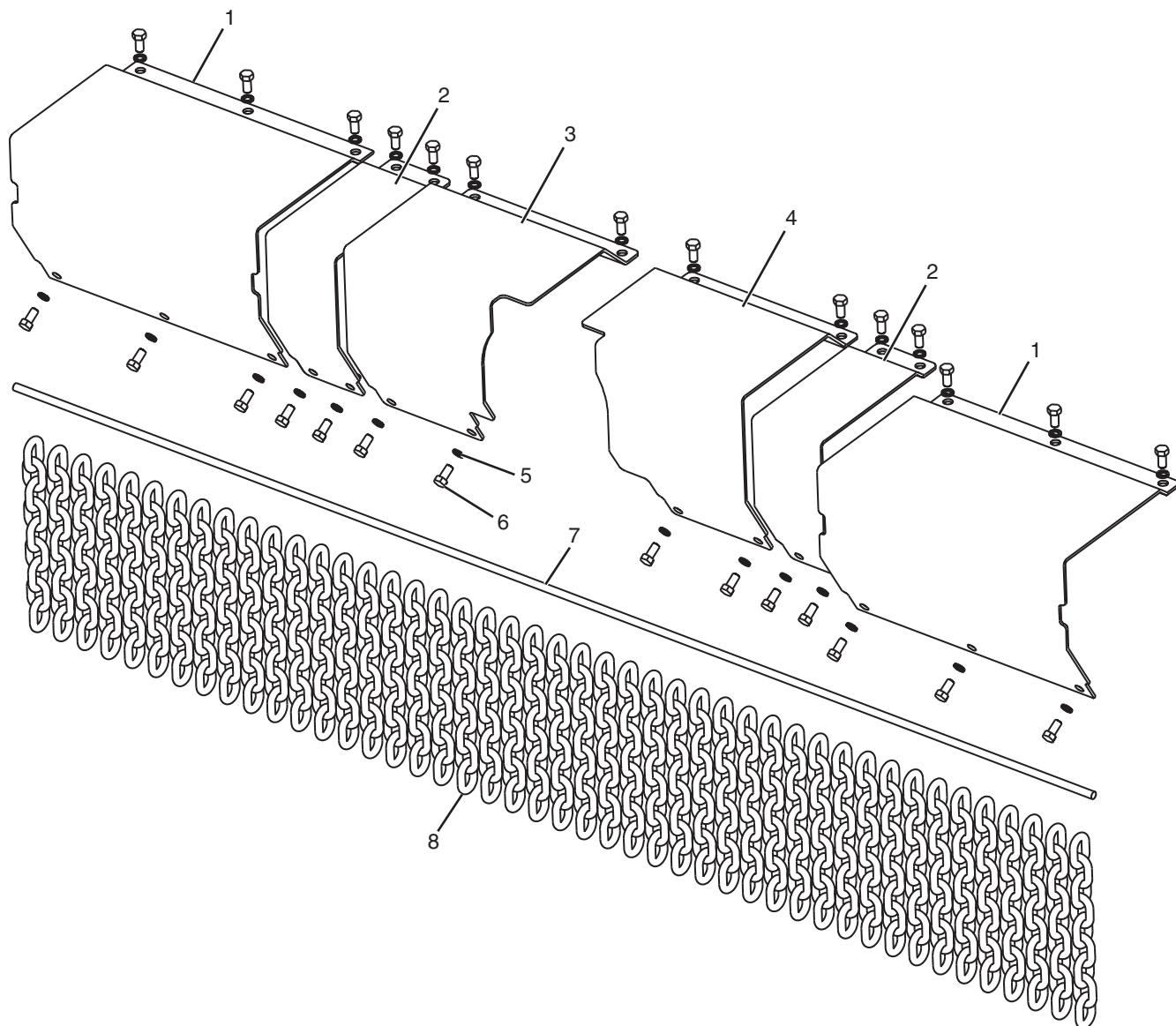
# Parts Identification

## Bumper, Front 80" 4 Hinge (N28547)



#	QTY.	PART #	DESCRIPTION
1	8	4054	NUT, LOCK 1/2" TOP
2	8	4486	WASHER, 1/2" FLAT
3	4	N24255	SPACER, HOOD PIVOT XCH 200HP
4	8	4524	BOLT, CARRIAGE 1/2" X 2"
5	4	N24048	PIVOT, DOOR XCH
6	1	N24183	SHAFT, DOOR 2.00 X 84.63

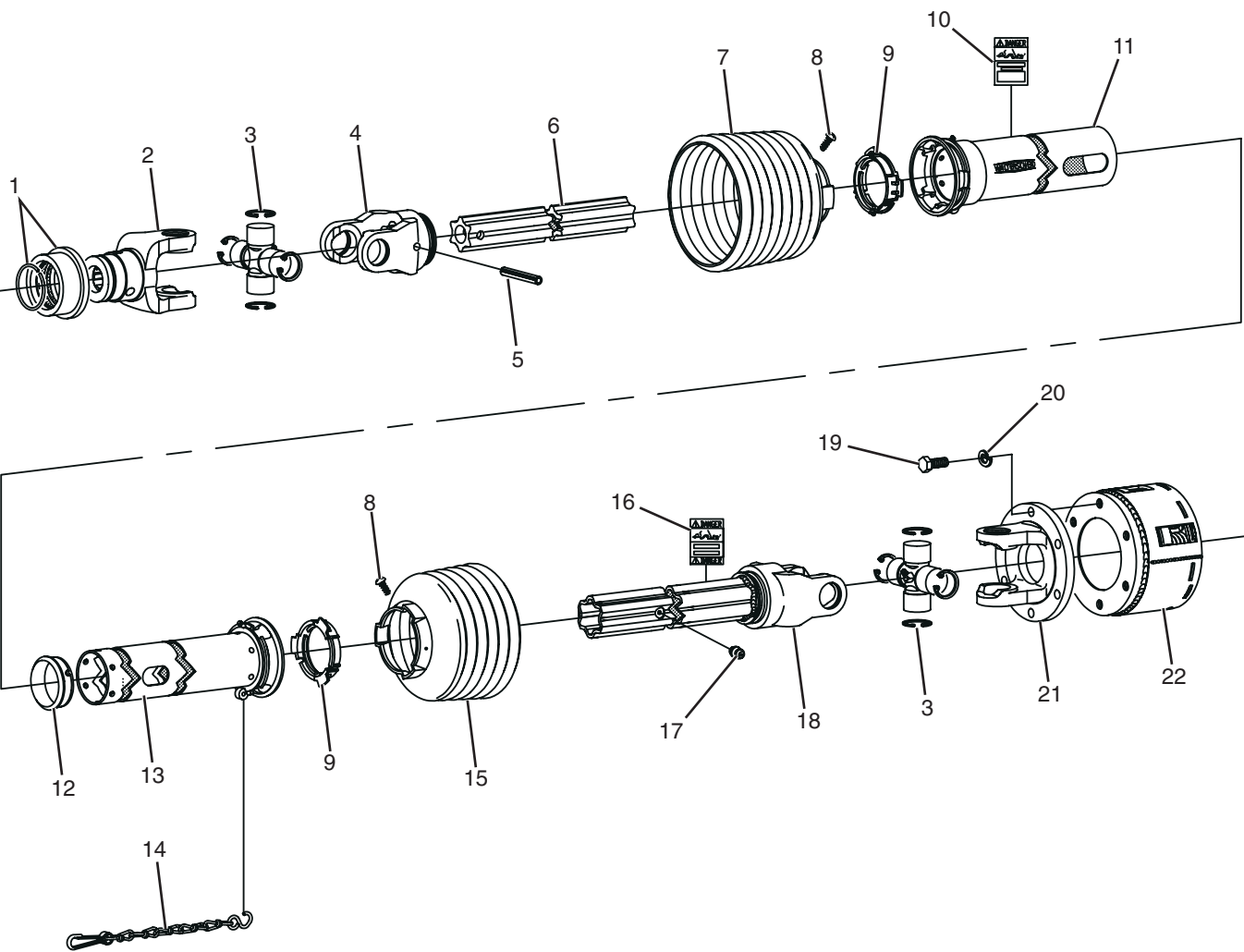
## Covers And Deflector Chains



#	QTY.	PART #	DESCRIPTION
1	2	N24374	COVER, DRIVESHAFT
2	2	N24412	COVER, HITCH
3	1	N24375	COVER, GEARBOX
4	1	N24452	COVER, GEARBOX
5	28	N16472	WASHER, 1/2 NORDLOCK
6	28	4011	BOLT, 1/2" X 1" GRADE 5
7	1	N24411	ROD, CHAIN
8	45	N24422	CHAIN, 1/2 DEFLECTOR

# Parts Identification

## PTO with Overrunning Clutch (N18359)



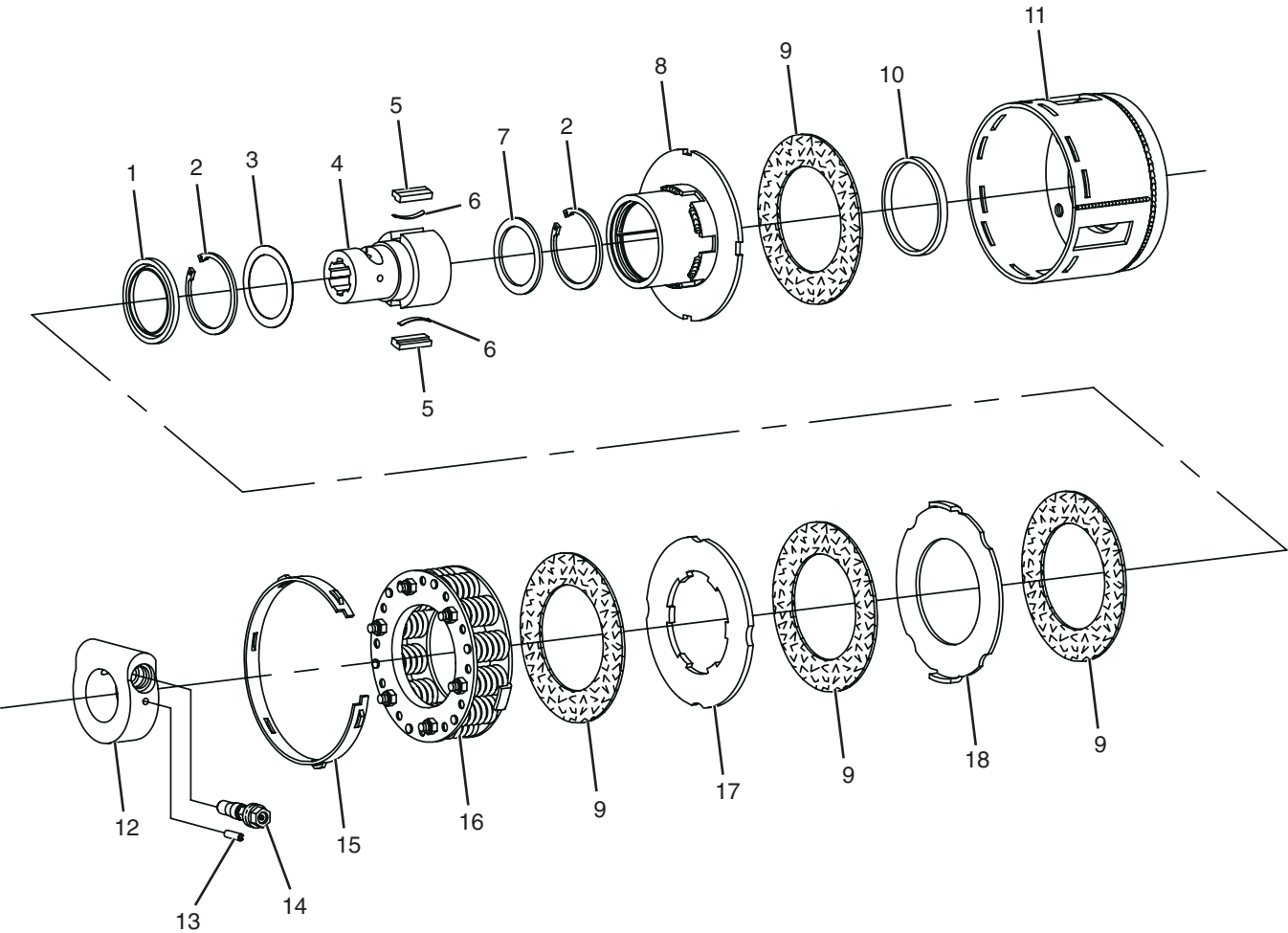


### PTO with Overrunning Clutch (N18359)

#	QTY.	PART #	DESCRIPTION
1	1	N10362	KIT, PTO SNAP RING (INCLUDED W/N10370)
2	1	N10370	YOKE, PTO 1-3/8"-21 SPLINE ASG
3	2	N10347	KIT, PTO CROSS & BEARING
4	1	N10364	YOKE, PTO INBOARD (S4)
5	1	N10342	PIN, PTO SPRING (10MM X 90MM)
6	1	N14174	SHAFT, WALTERSCHIED PTO PROFILE (S4GA)
7	1	N10367	SHIELD, PTO CONE 7-RIB
8	2	N11750	SCREW, PTO RIBBED SHIELD (INCLUDED W/N10367 & N10353)
9	2	N10348	RING, PTO BEARING (SC25)
10	1	N10357	DECAL, PTO SHAFT GUARD (INCLUDED W/N14176)
11	1	N14176	GUARD, PTO SHAFT OUTER
12	1	N10355	BEARING, PTO TUBE GUARD SUPPORT
13	1	N14175	GUARD, PTO TUBE INNER
14	1	N10356	CHAIN, PTO SAFETY
15	1	N10353	SHIELD, PTO CONE 6-RIB
16	1	N11761	DECAL, PTO TUBE GUARD (INCLUDED W/N14173)
17	1	N10359	ZERK, PTD GREASE (INCLUDED W/N14173)
18	1	N14173	TUBE, PTD PROFILE W/SLEEVE & YOKE
19	6	N10859	BOLT, M12 X 30MM
20	6	N10860	WASHER, M12 LOCK
21	1	N10858	YOKE, PTO FLANGE
22	1	N10856	CLUTCH, PTO 97 FRICTION/OVERRUNNING

# Parts Identification

## Clutch (N10856)

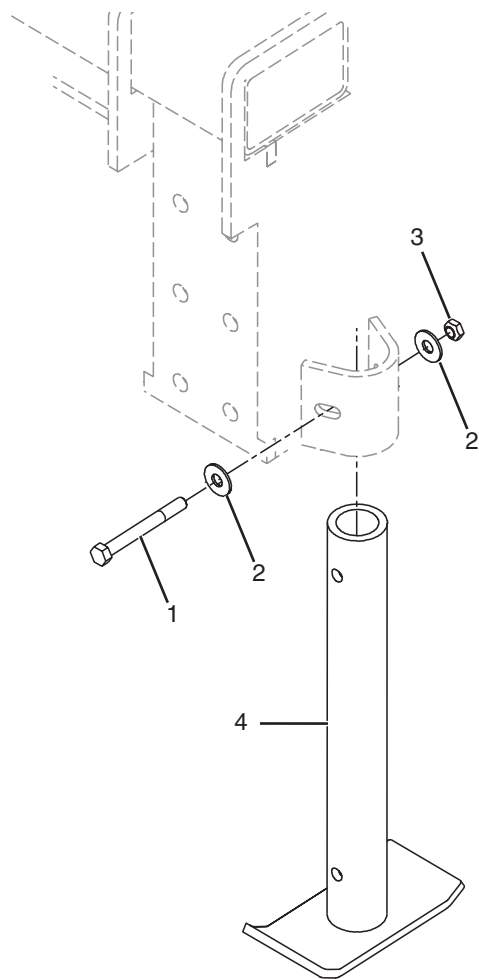


### Clutch (N10856)

#	QTY.	PART #	DESCRIPTION
1	1	N10879	RING, CLUTCH SEAL
2	2	N10873	RING, CLUTCH RETAINING
3	1	N10878	WASHER, CLUTCH (59.8 x 72)
4	1	N10875	HUB, CLUTCH
5	2	N10876	KEY, CLUTCH
6	2	N10877	SPRING, CLUTCH LEAF
7	1	N10874	WASHER, CLUTCH (56x72)
8	1	N10872	HOUSING, CLUTCH OVERRUNNING
9	4	N10871	DISK, CLUTCH FRICTION
10	1	N10870	RING, CLUTCH WEAR
11	1	N10869	HOUSING, CLUTCH
12	1	N10884	RING, CLUTCH CLAMPING
13	1	N10886	PIN, CLUTCH SPRING (6 x 22)
14	1	N10885	CONE, CLUTCH CLAMPING
15	1	N10883	RING, CLUTCH SETTING
16	1	N10882	SPRING, CLUTCH PACK
17	1	N10881	PLATE CLUTCH INNER DRIVE
18	1	N10880	PLATE, CLUTCH OUTER DRIVE

# Parts Identification

## Jack Stand



**Note:** The Tree Hammer is equipped with two Jack Stands. Only one is shown for parts listing.

#	QTY.	PART #	DESCRIPTION
1	1	4201	BOLT, 1/2" X 4-1/2" GR 5
2	2	4486	WASHER, 1/2" FLAT
3	1	4054	NUT, LOCK 1/2" TOP
4	1	N28553	JACK, STORAGE STAND

## 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.

**NOTE:** To order a complete Tree Hammer Decal kit use part number N28618.

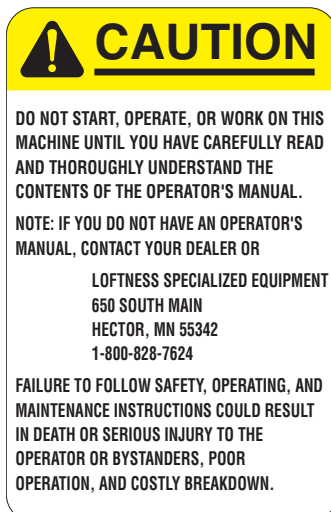
Part No. 4135



Part No. 4189



Part No. 4256



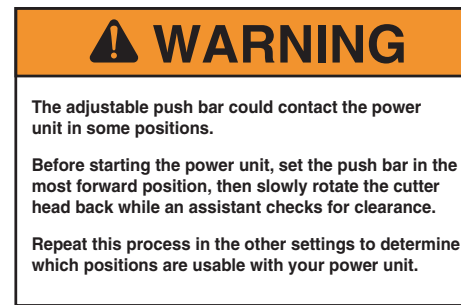
Part No. 4334



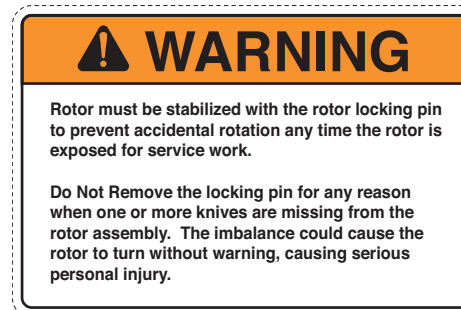
Part No. N13863



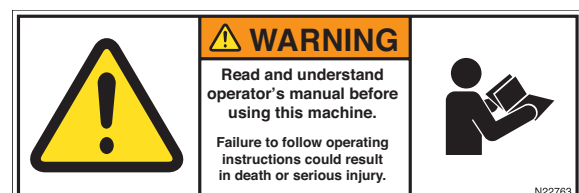
Part No. N17014



Part No. N16759



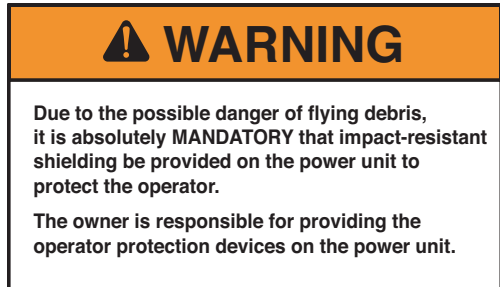
Part No. N22763



## Parts Identification

### Machine Decals And Signs (Cont'd)

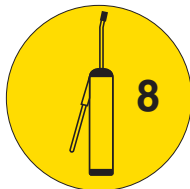
Part No. N17013



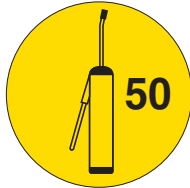
Part No. N23899



Part No. N28010



Part No. N28012



Part No. N13721



Part No. 4138



Part No. N33105



Part No. N13518



Part No. N26973



Part No. N26974



Part No. N28523



Part No. N28524



Part No. N28576



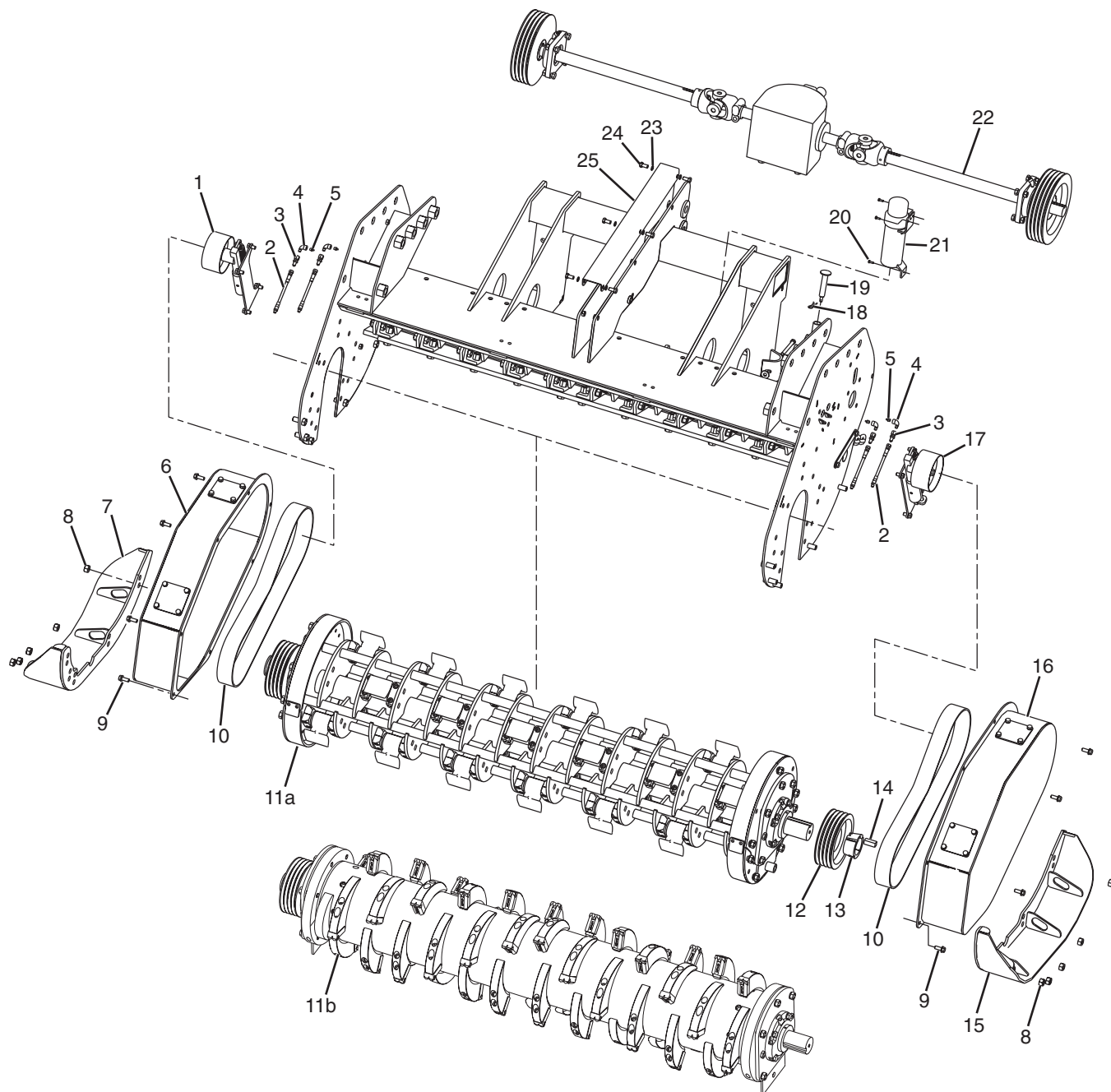




## TREE HAMMER OPTIONS

## Options

### Tree Hammer, 80" w/Rotor 4-Band Dual Drive



**Note:** Both Rotor selections are shown.

Item 11a Rotor is equipped with Hammers.

Item 11b Rotor can be equipped with either Double Carbide, Planer Carbide, or Quadco Planer teeth.

See parts list on page 36 & page 37 for rotor part number variations.

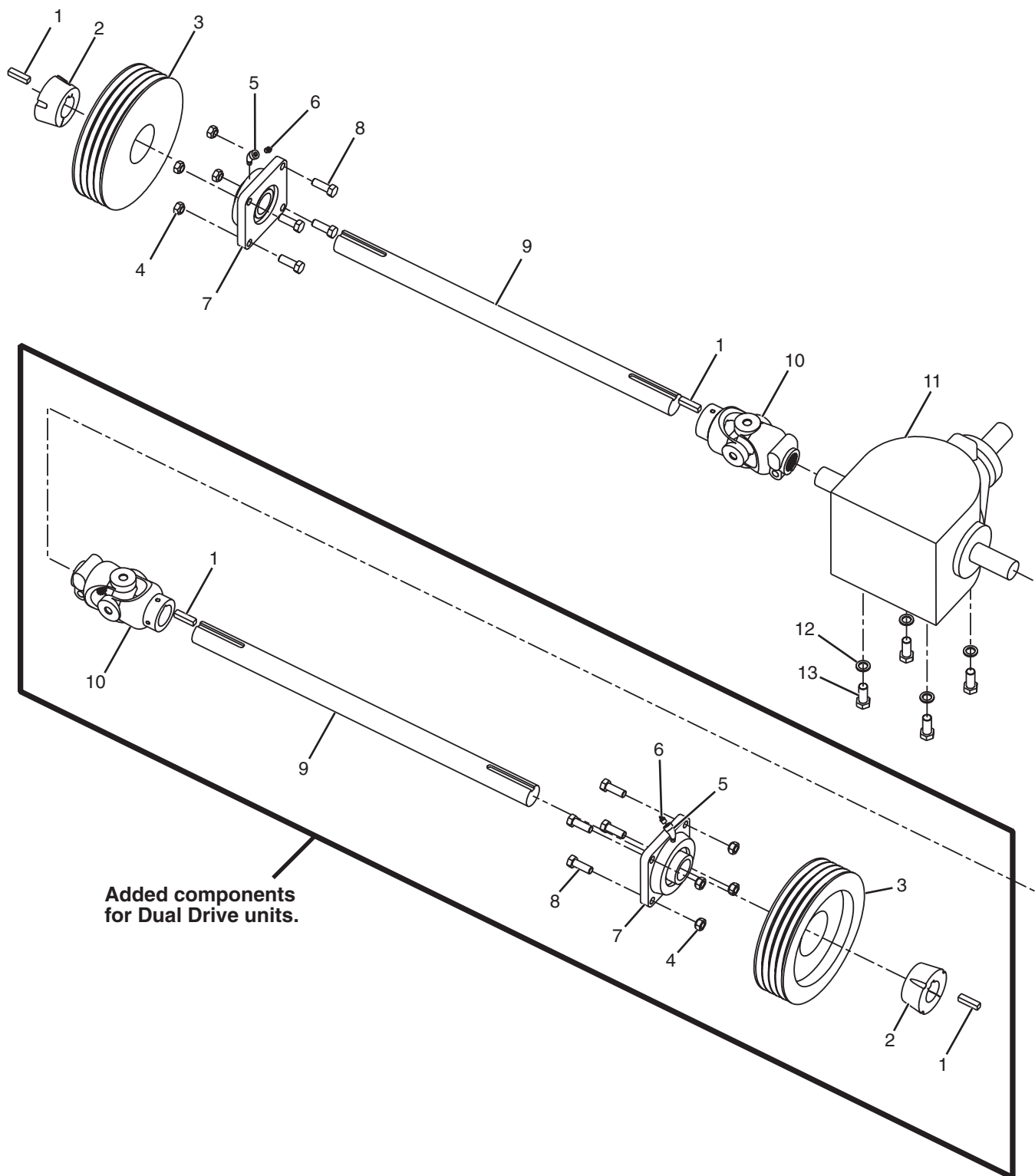
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**Tree Hammer, 80" w/Rotor 4-Band Dual Drive**

#	QTY.	PART #	DESCRIPTION
1	1	N24242	TENSIONER, BELT 4 BAND
2	4	4304	HOSE, 15' GREASE W/FITTINGS
3	4	4304-10	BULKHEAD, FITTING-GREASE HOSE
4	4	4472	ELBOW, 1/8" 90 DEG.STREET
5	4	N17007	GREASE-ZERK, 1/4" SCREW-IN
6	1	N24421	SHIELD, BELT LEFT ASSY
7	1	N24355	SKID, LEFT ADJUSTABLE 1-1/2" & 3"
8	10	N16352	NUT, LOCK 3/4" GRADE 8 FINE
9	14	N18360	BOLT, 1/2" X 1-1/4" SERATED FLANGE
10	2	N24329	BELT, 4/5V X 850 (85")
11	1	N28546	ROTOR, 4BAND ASSY 360 HAMMER
11b	1	N24386	ROTOR, 4BAND ASSY 1/2W CARBIDE
12	1	N18974	SHEAVE, 4/5V X 9.75 DIA
13	1	N16917	BUSHING, 3" TPL 3/4" KEY
14	1	N16918	KEY, 3/4 X 2
15	1	N24354	SKID, RIGHT ADJUSTABLE 1-1/2" & 3"
16	1	N24420	SHIELD, BELT RIGHT ASSY
17	1	N24245	TENSIONER, BELT 4 BAND
18	1	4336	CLIP, HAIRPIN 1/8" X 2-1/4"
19	1	N16442	PIN, ROTOR LOCK
20	3	4340	BOLT, 1/4" X 3/4" GRADE 5
21	1	N19600	HOLDER, 01-315A STND.MANUAL
22	1	N28542	DRIVELINE, 80" DUAL 4BAND
23	6	N16472	WASHER, 1/2 NORDLOCK
24	6	4011	BOLT, 1/2" X 1" GRADE 5
25	1	N24450	PLATE, COVER CYLINDER

## Options

### Driveline, 80" Dual

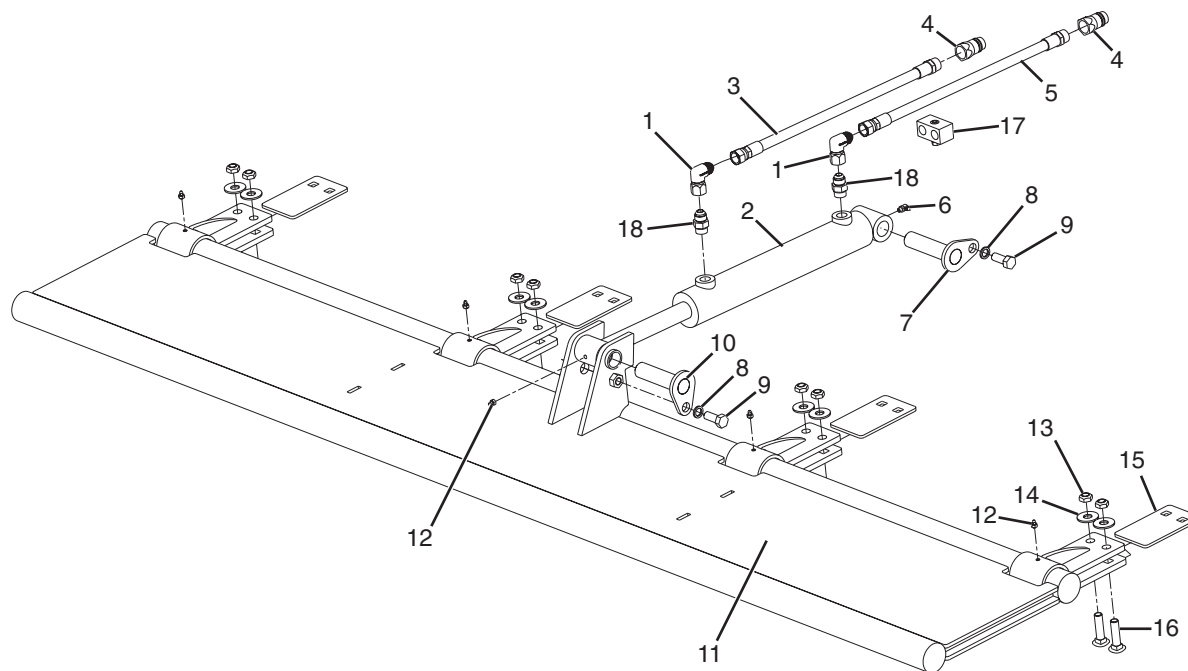


**Driveline, 80" Dual**

#	QTY.	PART #	DESCRIPTION
1	2 *	7122-04	KEY, 1/2" X 2"
2	1 *	N16916	BUSHING, 2" TPLK 1/2" KEY
3	1 *	N24079	SHEAVE, 4B X 12.5
4	4 *	4055	NUT, LOCK 5/8" TOP
5	1 *	4471	ELBOW, 1/8" 45 DEG. STREET
6	1 *	N17007	GREASE-ZERK, 1/8" NPT
7	1 *	8093	BEARING, 2" SEALMASTER 4 BOLT
8	4 *	4021	BOLT, 5/8 X 1-3/4 GRADE 5
9	1 *	N24346	SHAFT, DRIVELINE 35
10	1 *	N18105	U-JOINT, 1-3/4" RB X 1-3/4"-20SPL
11	1	N13952	GEARBOX, 2000RPM 1: 1.35 BONDOLI
12	4	N16474	WASHER, 3/4 NORDLOCK
13	4	N13997	BOLT, 3/4" X 1-3/4" GRADE 5
* Quantity doubles with Dual Drive units.			

## Options

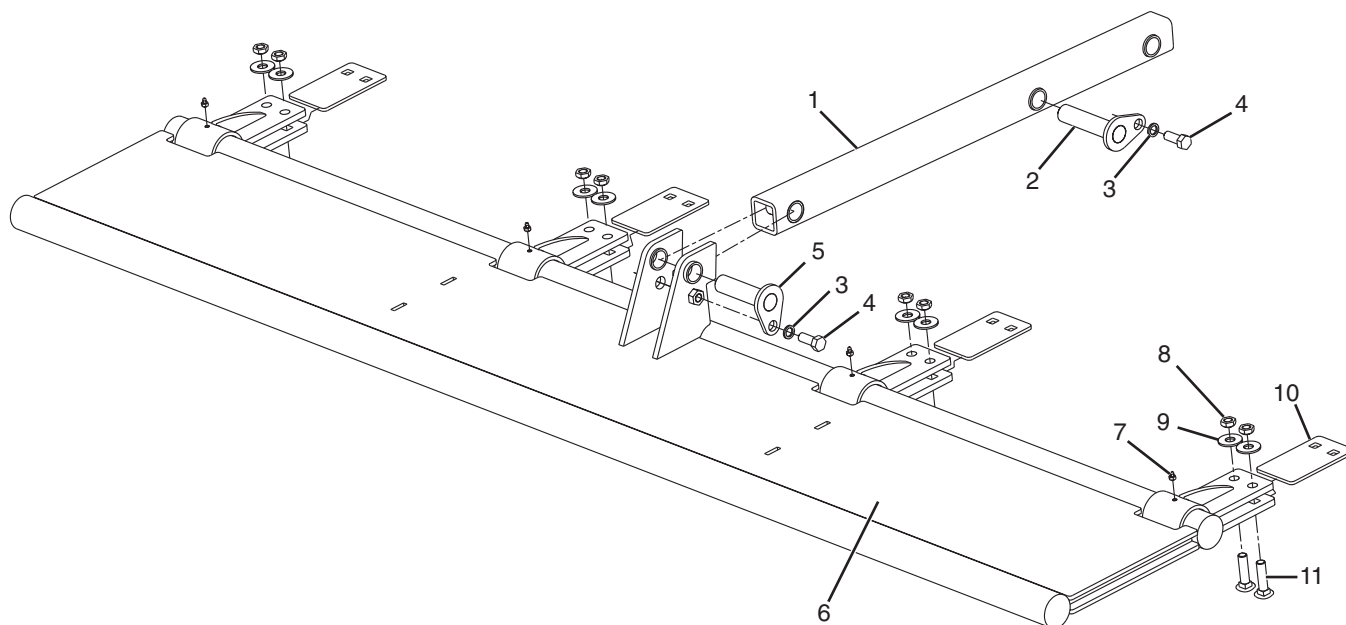
### Door, 80" 4 Hinge Hydraulic (N24383)



#	QTY.	PART #	DESCRIPTION
1	2	N24827	ELBOW, 90 DEG - 8FJIC - 8MJIC
2	1	N28000	CYLINDER, 2 X 10 3000 PSI
3	1	N28607	HOSE, 3/8" HYD 81" -8FJIC -8MP
4	2	N11825	COUPLER, 1/2" MALE PIONEER
5	1	N31443	HOSE, 3/8" HYD 72" -8FJIC -8MP
6	1	4107	GREASE-ZERK, 1/4" SCREW-IN 90 DEG
7	1	N28602	PIN, 1.00 X 4.37
8	2	N16472	WASHER, 1/2 NORDLOCK
9	2	4012	BOLT, 1/2" X 1-1/4" GRADE 5
10	1	N24998	PIN, 1.00 X 3.87
11	1	N24384	DOOR , 80" 4 HINGE
12	5	4105	GREASE-ZERK, 1/4" SCREW-IN
13	8	4054	NUT, LOCK 1/2" TOP
14	8	4486	WASHER, 1/2" FLAT
15	4	N24255	SPACER, HOOD PIVOT
16	8	4524	BOLT, CARRIAGE 1/2" X 2"
17	1	N21365	CLAMP, 3/8" HYD HOSE DOUBLE
18	2	N29074	RESTRICTOR, 8MJC - 8MOR - .031



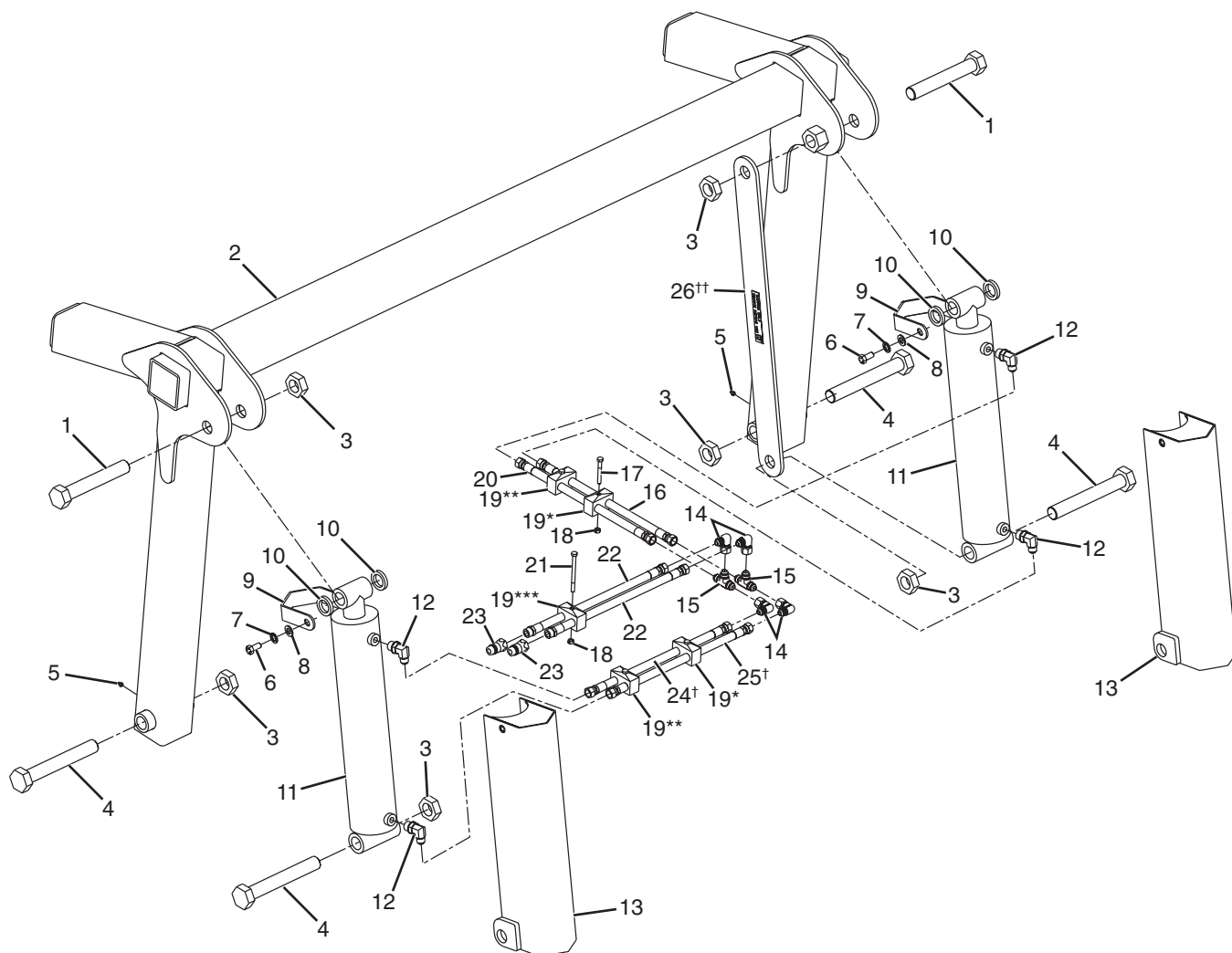
## Door, 80" 4 Hinge Manual Adjust (N28550)



#	QTY.	PART #	DESCRIPTION
1	1	N28605	TUBE, WELDMENT DOOR MAN ADJUST
2	1	N28602	PIN, 1.00 X 4.37
3	2	N16472	WASHER, 1/2 NORDLOCK
4	2	4012	BOLT, 1/2" X 1-1/4" GRADE 5
5	1	N24998	PIN, 1.00 X 3.87
6	1	N24384	DOOR, 80" 4 HINGE
7	4	4105	GREASE - ZERK, 1/4" SCREW-IN
8	8	4054	NUT, LOCK 1/2" TOP
9	8	4486	WASHER, 1/2" FLAT
10	4	N24255	SPACER, HOOD PIVOT
11	8	4524	BOLT, CARRIAGE 1/2" X 2"

## Options

### Pusher, Hydraulic (N24602)



- \* Mounts to hitch, left and right sides.
- \*\* Mounts to hood, left and right sides.
- \*\*\* Mounts to hitch, top center.
- † Routed through hitch, top tube.
- †† Bar is for shipping purposes only, remove before use.

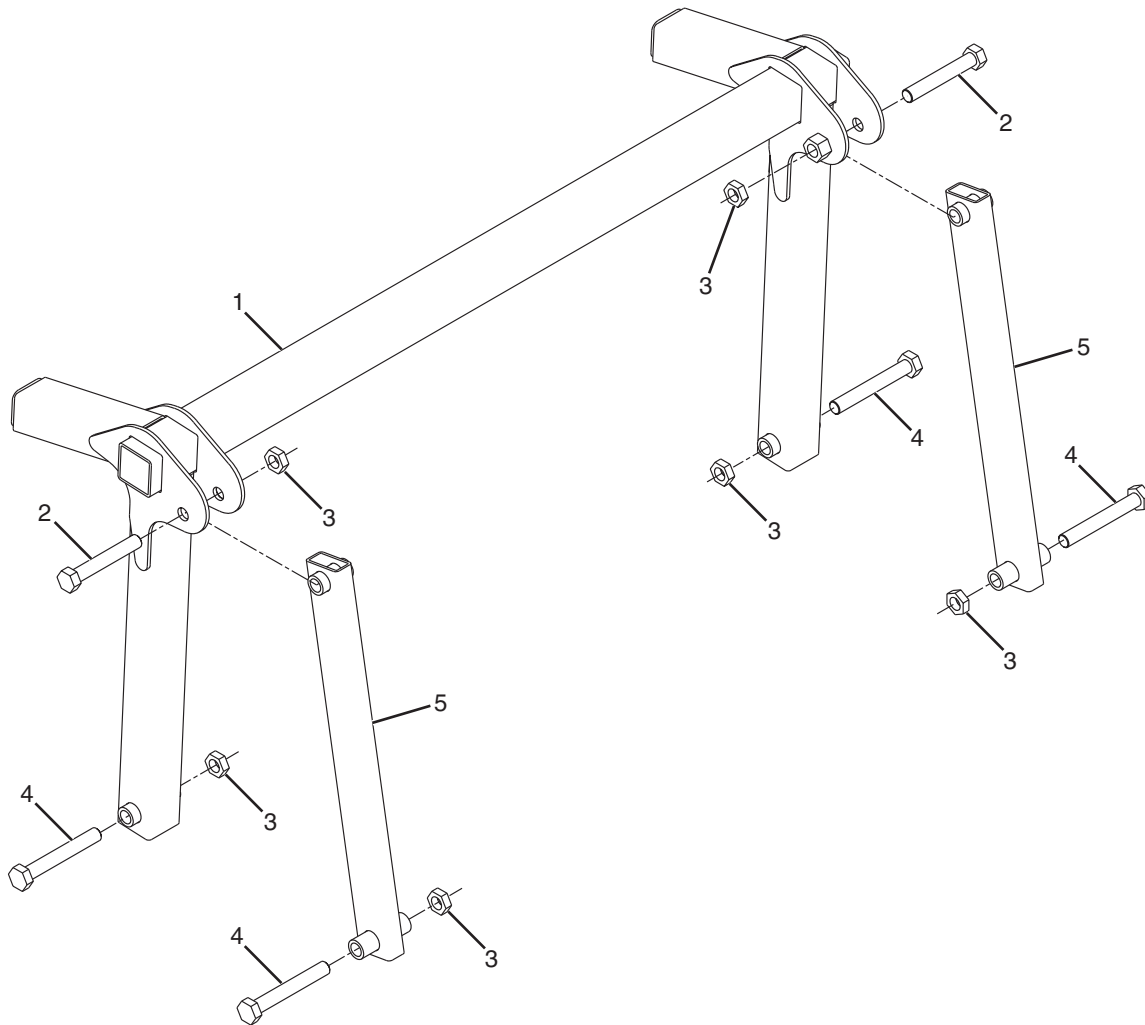
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**Pusher, Hydraulic (N24602)**

#	QTY.	PART #	DESCRIPTION
1	2	N21217	BOLT, 1-1/4" X 8" GRADE 8
2	1	N24365	PUSHER, 80 1/4 WALL TUBE
3	6	N21383	NUT, 1-1/4" JAM
4	4	N21136	BOLT, 1-1/4" - 7UNC X 9"
5	2	4105	GREASE-ZERK, 1/4" SCREW-IN
6	4	4011	BOLT, 1/2" X 1 GR5
7	4	4155	WASHER, LOCK 1/2"
8	4	4068	WASHER, FLAT 1/2" SAE
9	2	N21474	PLATE, STRAP CYLINDER
10	4	N21393	SPACER, 1-9/32ID X 1-7/8OD X 5/16
11	2	N16972	CYLINDER, 4" X 16" WELDED
12	4	N16173	ELBOW, 90 DEG - 8-MJC - 10MOR
13	2	N21389	COVER, 4" X 16" CYLINDER
14	4	N24827	ELBOW, 90 DEG - 8FJC - 8MJC
15	2	N17001	TEE, 8MJIC - 8MJIC - 8MJIC
16	1	N28667	HOSE, 1/2" 58" - 8FJIC - 8FJIC
17	1	4204	BOLT, 5/16" X 2-1/2" GRADE 5
18	2	4051	NUT, LOCK 5/16"
19	5	N13383	CLAMP, DBL. 1/2" SUPP. HOSE
20	1	N28666	HOSE, 1/2" 79" - 8FJIC - 8FJIC
21	1	N20226	BOLT, 5/16" X 4" GRADE 5
22	2	N28661	HOSE, 1/2" HYD 72" - 8FJIC - 8MP
23	2	N11825	COUPLER, 1/2" MALE PIONEER
24	1	N28664	HOSE, 1/2" 127" - 8FJIC - 8FJIC
25	1	N28665	HOSE, 1/2" 104" - 8FJIC - 8FJIC
26	1	N28425	BAR, SHIP XCH PUSHER W/DECAL

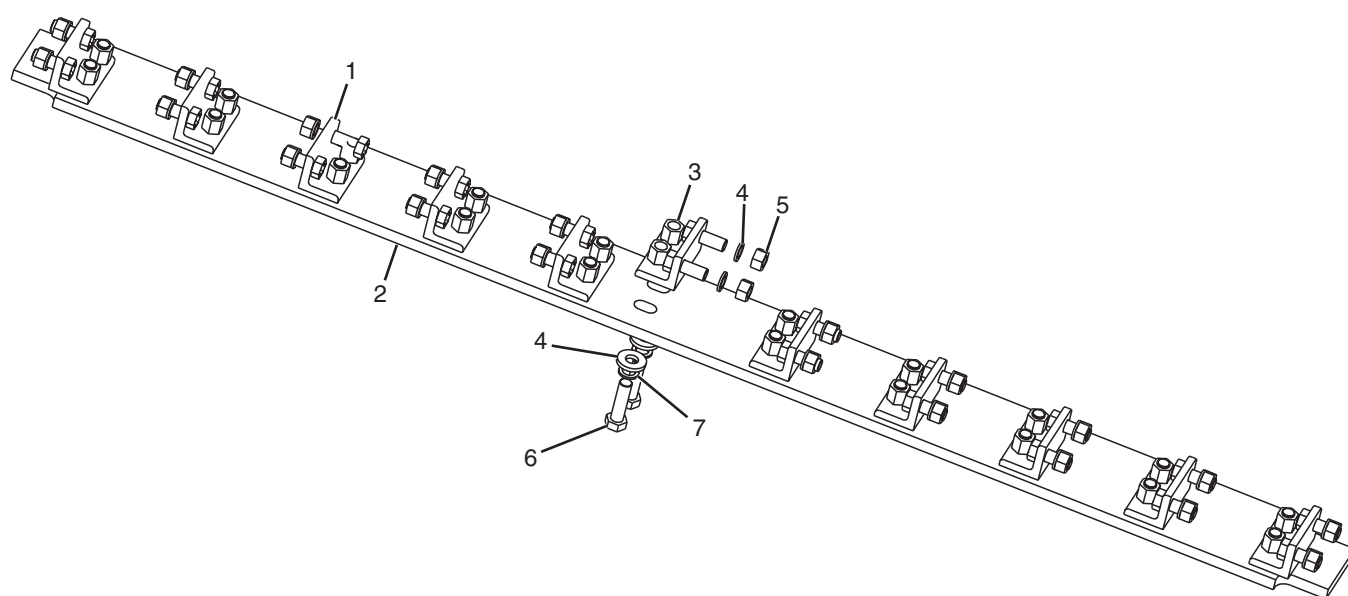
## Options

### Pusher, Manual (N24601)



#	QTY.	PART #	DESCRIPTION
1	1	N24365	PUSHER, 80 1/4 WALL TUBE
2	2	N21217	BOLT, 1-1/4" X 8" GRADE 8
3	6	N21383	NUT, 1-1/4" JAM
4	4	N21136	BOLT, 1-1/4" GRADE 8 X 9"
5	2	N20913	ARM, EXTREME AX GD MECH PUSHER

## Cutter Bar, 80" Cut Corners (N24455)



#	QTY.	PART #	DESCRIPTION
1	5	N21375	MOUNT, XCH REAR CUTTER ANGLE
2	1	N24456	PLATE, CTTR BAR 80" CUT CORNER
3	6	N21358	MOUNT, XCH REAR CUTTER ANGLE
4	44	N16474	WASHER, 3/4 NORDLOCK
5	22	4341	NUT, 3/4" FINE THREAD GRADE 8
6	22	N16510	BOLT, 3/4" X 2-3/4" FINE THREAD GRADE 8
7	22	N21351	WASHER, .781 X 1.75X .1875 HARDOX

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***LOFTNESS***<sup>TM</sup>

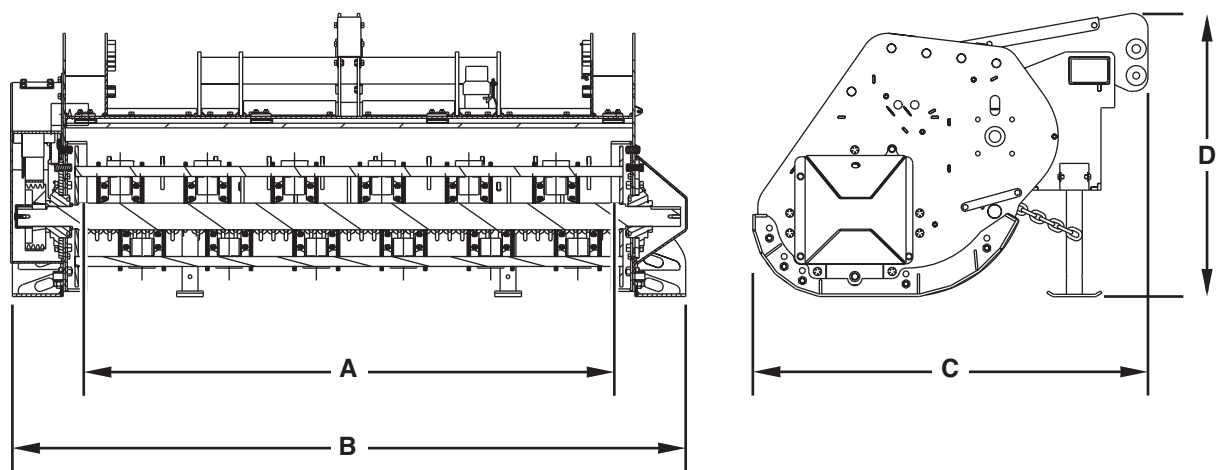


## Specifications

DESCRIPTION	TREE HAMMER
Cutting Width	80"
Gear Box	260 HP
Rotor Bearing	3.0 in. Piloted Double Taper
Rotor Tip Diameter	21 in. (53.34 cm)
Sheaves	Taperlock
Belt	Four Band 5VX Type
Belt Tightener	Spring Loaded Tensioner
Mount	Category 2 or Category 3 Hitch
Shear Bar	Optional
Pusher Bar	Manual Adjustment (Optional)
	Hydraulic Actuated (Optional)
Front Door	Manual Adjustment (Optional)
	Hydraulic Actuated (Optional)
Hammers	360° Swinging, Pocket-style Knives
Deflector	Steel Chain
Anti-Wrap Protection	Bearing

# Appendix

## Dimensions



DESCRIPTION	TREE HAMMER
Cutting Width (A)	80 in. (203.2 cm)
Overall Width (B)	101.5 in. (257.81 cm)
Overall Length (C)	59.3 in. (150.62 cm)
Operating Height (D)	42.46 in. (107.84 cm)
Number Of Knives	24
Weight	Single Drive (no options) - 3,800 lb. (1,723 kg)
	Single Drive (with options) - 4,750 lb. (2,154 kg)
	Dual Drive (with options) - 5,073 lb. (2,301 kg)

## Torque Specifications

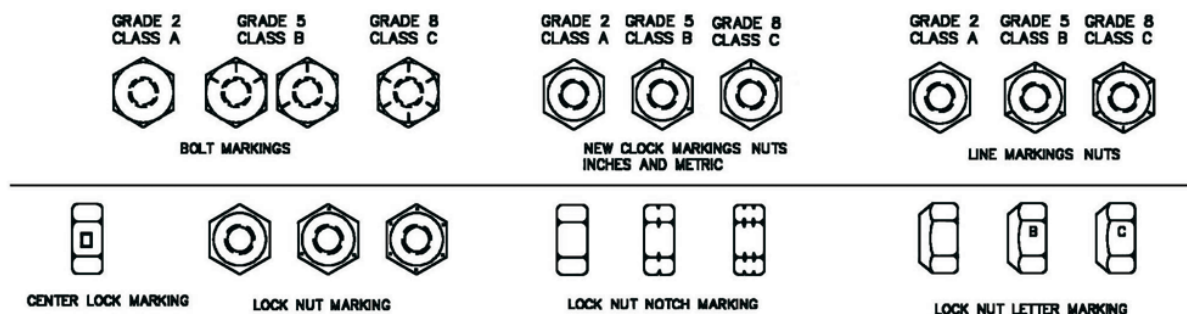
### Inches Hardware And Lock Nuts

#### 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)



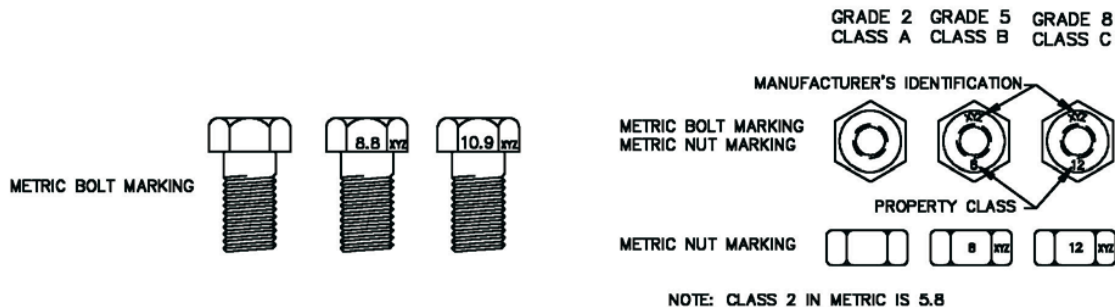
# Appendix

## 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.)	131 N•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.)





***LOFTNESS***<sup>TM</sup>

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