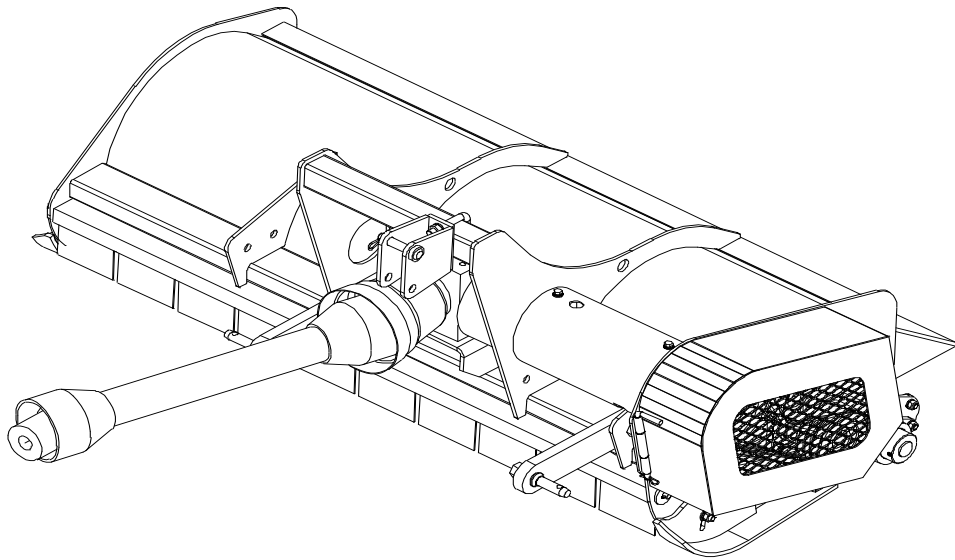


LOFTNESS

PTO Flail Mower

48M 60M 72M 90M

Operator's Manual & Parts Book (Originating w/Serial Number 04-207)



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



LOFTNESS Specialized
Equipment, Inc.

650 So. Main Street - PO Box 337 - Hector, MN 55342
Business Phone: 320-848-6266 * Fax: 320-848-6269 * Toll Free: 1-800-828-7624

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.



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



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
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DEALER

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Date



**PTO Flail Mower
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650 So. Main St. - PO Box 337 - Hector, MN 55342

Business Phone: 320-848-6266 * Fax: 320-848-6269 * Toll Free: 1-800-828-7624

Dear Customer:

Thank you for your decision to purchase a PTO Flail Mower from Loftness Specialized Equipment, Inc. It has been designed to provide years of profitable and dependable service. To ensure maximum performance of your mower, it is mandatory that you thoroughly study the owner's manual and follow its recommendations. Proper operation and maintenance are essential to maintain and maximize the life of the machine and to prevent damage or injury.

It is the owner's responsibility to:

- *Operate and maintain this mower 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.
- *Provide impact-resistant shielding on the power unit to protect the operator from the possible dangers of flying debris.
- *Make sure the mower is set-up correctly before being placed in service. It should be serviced at regular intervals thereafter, in accordance with procedures outlined in this manual.
- *Fulfill all warranty obligations so as not to void the warranties. The warranty section at the beginning of this manual outlines the warranty policy of Loftness Specialized Equipment, Inc.

Loftness Specialized Equipment, Inc. reserves the right to make product improvements to the equipment at any time.

We welcome you to the satisfied family of Loftness equipment owners.

Gloria Nelson, President
Steve Nelson, Vice-President
Dave Nelson, Vice-President

May, 2011

Section

1

Safety

WARNING

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

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

Owner's Manual (PTO Flail Mower)

Safety Instructions

Safety First

Accidents can be prevented by recognizing the causes or hazards before an accident occurs, and doing something about them. Read this manual carefully and become familiar with the controls and proper use of the machine. Know how to stop the unit by disengagement of the controls. Be sure the operator knows how to exercise the mandatory shut-down procedure.

Regardless of the care used in the design and construction of this equipment, there are some areas that cannot be safeguarded without interfering with accessibility and efficient operation.

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS

***ATTENTION**

***BECOME ALERT**

***YOUR SAFETY IS INVOLVED**

These safety alert symbols shown, are intended to identify and provide information that must be heeded for proper safe operation of the equipment and to prevent damage or deterioration of the equipment. In this manual and on labels used on this flail mower the words "Danger", "Warning", and "Caution" are used to indicate the following:



DANGER: (white lettering on red background) Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations typically for machine components which, for functional purposes, cannot be guarded.



WARNING: (black lettering on orange background) Indicates 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.



CAUTION: (black lettering on yellow background) Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe

The following safety information is a general overview of precautions that should be adhered to:

1. 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**" (page 1-2 Section 1).
2. Remember, it is the owner's responsibility for communicating all information on the safe use and proper maintenance of this machine.
3. 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.

Owner's Manual (PTO Flail Mower)

Safety Instructions Continued

Safety First Continued:

4. 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.
5. 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.
6. Disengage PTO and place tractor controls in neutral or park before starting engine.

Safety Instructions for Operation and Maintenance

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



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.



CAUTION:

- Do not start, operate or work on this machine until you have carefully read and thoroughly

understand the contents of this manual, the ADMA Agricultural Implement Driveline manual, and the EMI Industrial/Agricultural Mowers manual provided.

- 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.
- Never use a steel hammer when connecting or disconnecting a PTO shaft.
- Repeated impact of the knives with hard objects can cause excessive wear and damage to the tractor or mower. Be sure to maintain recommended ground clearance as specified in this manual.
- Should excessive vibration occur, disengage the PTO immediately and shut off tractor. Do not continue to operate the machine until the problem has been determined and corrected.
- Be sure the rotor has stopped completely before checking the knives.
- 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**" (page 1-2 Section 1). 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

Owner's Manual (PTO Flail Mower)

Safety Instructions for Operation and Maintenance Continued:

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.

- 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 tractor engine.



WARNING:

- Keep all guards, shields and decals in place.
- Check to make sure the PTO outer guards turn freely before operating the machine.
- Engage the PTO slowly at idle speed to prevent unnecessary stress to driveline.
- Be extremely careful not to bottom out or extend the PTO shaft too far, damage to tractor or mower could occur. Be careful to avoid lifting mower to high which results in excessive PTO shaft wear when machine is operating during a turning maneuver. **DO NOT USE PTO ADAPTERS OF ANY KIND.**
- Do not operate the mower without the universal joints locked to the tractor and gearbox shafts.

- Operating the mower at less than rated RPM will reduce rotor speed and cause improper cutting. Difficult conditions, reduce tractor speed by down-shifting gears while maintaining rated engine RPM. Severe working conditions may require a delay until they improve.
- Do not operate the mower above the rated RPM.
- 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 the PTO.
- Because of the potential safety hazard to eyes from flying debris, **USE OF PROTECTIVE EYEWEAR IS ABSOLUTELY MANDATORY** for operator and others in the work area.
- Use the handholds and step plates when getting on and off the tractor to prevent falls. Keep steps and platform cleared of mud and debris.
- Never operate the flail-mower in a lifted position. Work only on the surface that the tractor is standing on.



DANGER:

- Rotating driveline can cause personal injury or death by entanglement. Do not leave the operator's position for **ANY** reason or allow anyone near the flail mower while the PTO is engaged and tractor is running. Always exercise the "**Mandatory Shut-Down Procedure**" (page 2 Section 1).

Owner's Manual (PTO Flail Mower)

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.



CAUTION:

- Stay alert for hidden hazards or traffic. Do not carry passengers.
- Never operate the mower without good light or visibility.
- Engage the throttle slowly at idle speed to prevent unnecessary stress to driveline.
- After striking a foreign object, be sure to exercise **“Mandatory Shut-Down Procedure”** (page 1-2 Section 1). 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 tractor or mower. Be sure to maintain recommended ground clearance as specified in this manual.
- Should excessive vibration occur, disengage PTO immediately. Do not continue operation of mower until the problem has been detected and corrected. Be sure to exercise the **“Mandatory Shut-Down Procedure”** (page 1-2 Section 1).
- 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.
- 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).



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”** (page 1-2 Section 1).
- 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.

Owner's Manual (PTO Flail Mower)

OPERATION SAFETY CONTINUED:



DANGER:

- Never get off tractor 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.

Section

2

Operating

WARNING

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

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

Owner's Manual (PTO Flail Mower)

Operating and Set-up Instructions

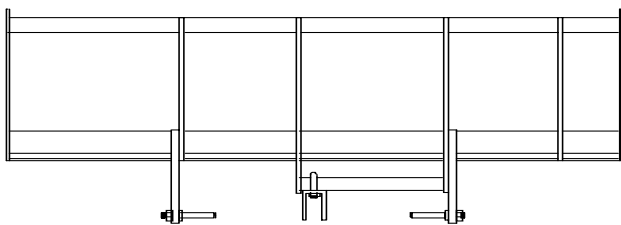
The Loftness Flail Mower is an effective, reliable machine used for maintaining grass and controlling weeds. For best results, operate the machine as low to the ground as possible without the blades striking ground or other obstructions. Because of the high speed of the blades, the life of the blade will be reduced if it is operated in rocky terrain or in areas where many obstructions 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 rollers 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 page 3-1 of Section 3).

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 tractor wheels forward operating direction).

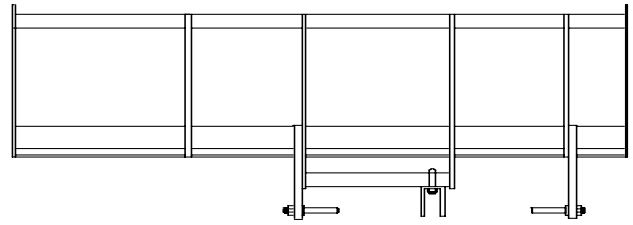
Attachment:

Category I Hitch Centered

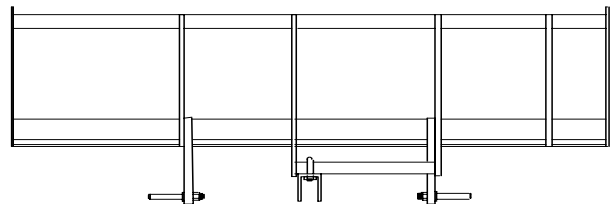


Top three-point & lower mount arms in centered position.

Category I Hitch Offset

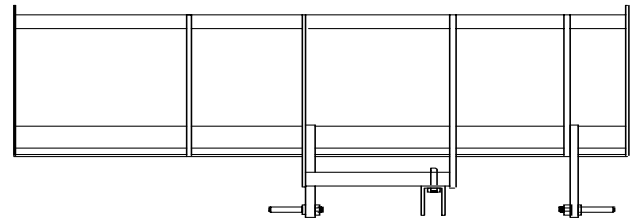


Top three-point & lower mount arms in offset position.



Category II Hitch Centered

Top three-point & lower mount arms in centered position.



Category II Hitch Offset

Top three-point & lower mount arms in offset position.

Refer to the above diagrams for your particular hitch application.

Important: In the above diagrams, take notice of the mounting position of the lower mount arms. Category I arms are attached to outside of mower hitch plates, Category II are attached to inside. The 3/4" x 2-1/4" mounting bolts are inserted through mower hitch mount plates first, with nut and lock washer securing the lower mount arm.

Owner's Manual (PTO Flail Mower)

Operating and Set-up Instructions Continued

The Loftness Flail Mower can be attached to any tractor, up to 70 HP, that has a standard A.S.A.E. three-point hitch and operates at the standard 540 RPM-PTO. speed under normal conditions.

Warning: Operating the mower in excess of the recommended operating speed can cause premature wear or damage to the machine and could result in personal injury.

The mower comes equipped with Category I pins. Category II pins and bushings should be available from your dealer. (The use of a Quick Hitch will also require Category II pins and bushings, and will increase the driveshaft operating length. Refer to driveshaft sizing procedure on page 3-2 Section 3).

- 1) Attach the tractor lift arms to the category hitch pins of the mower lower mount arms and secure with lynch-pins.
- 1) Attach tractor top link to hole in mower top three-point mount.
- 2) Connect and adjust stabilizer bars or chains to prevent side sway.

Important: Due to increased weight of three-point mounted mower, a weight ballast must be applied to the front of the tractor. Fluid in tires, wheel weights, front tractor weight, or any combination of these methods is suitable. The tractor front end weight should be at least 20% of total tractor weight with implement raised.

Attach the driveshaft to the mower by depressing push button on yoke, sliding yoke onto gearbox shaft, and releasing push button. Slide driveshaft until yoke locks onto gearbox shaft. The tractor end of the driveshaft fits A.S.A.E. standard 1-3/8" dia. 540 RPM tractor PTO shafts. Rotate the collar clockwise to install or remove the driveshaft. (See page 3-11 Section 3).

Driveshaft Sizing Procedure

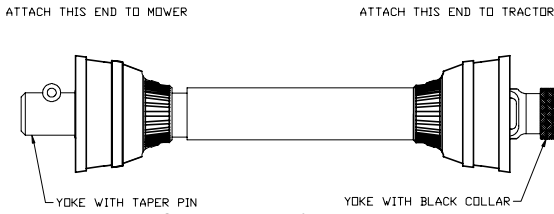
Due to the variation of many different tractor/implement hitch points, the driveshaft must

be sized for your particular application. The procedure for shortening the driveshaft is included in the following steps, 9 through 13

- 1) Attach mower to tractor lift arms in centered position.
- 2) Adjust tractor top link until mower gearbox input shaft is parallel with tractor input shaft.
- 3) Raise mower until the gearbox input shaft is level with the tractor PTO shaft. Block machine securely.
- 4) Attach rear driveshaft half onto mower gearbox.
- 5) Position tractor end of driveshaft against rear of tractor PTO shaft. (Do not attach onto PTO. This will allow space for removal/installation of driveshaft).
- 6) Hold driveshaft halves parallel to each other. Measure 1/2" back from universal joint bell shield and mark on opposite half. Do this on both halves.
- 7) Raise and lower the machine to determine the position which has the greatest distance between gearbox input shaft and PTO shaft. Block machine securely.
- 8) Hold attached driveshaft halves parallel to each other and measure the distance between the two marks (applied in step 6). This measurement will indicate the overlap of the two halves. There must be a minimum of 5" overlap or the driveshaft cannot be used.
- 9) Clamp driveshaft in padded vise to prevent damage to shield. Cut off the shield where marked (step 6).
- 10) Using the cut off section of shield as a guide, cut off the same amount of the shaft.
- 11) Repeat steps 9 & 10 to the other driveshaft half.
- 12) Deburr cut ends of driveshaft sections and remove all chips and filings.
- 13) Apply grease to male driveshaft half. Assemble driveshaft and install on tractor and mower, making sure the yokes lock into place. Make certain driveshaft shielding is in place.

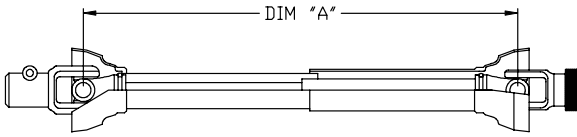
Owner's Manual (PTO Flail Mower)

Driveshaft Sizing Procedure



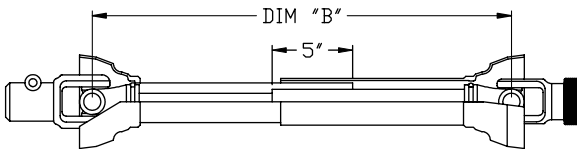
Important: Before operating mower check to make sure the driveline will not bottom out or become disengaged.

Pull drive halves apart until fully extended, just before they come completely apart. This is dimension A.



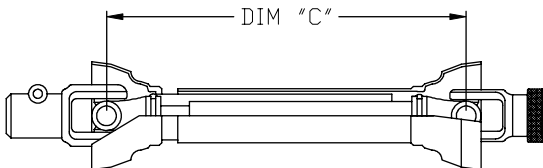
From, dimension A, subtract 5", establishing dimension B.

Important: Never operate equipment with driveline extended past dimension B.



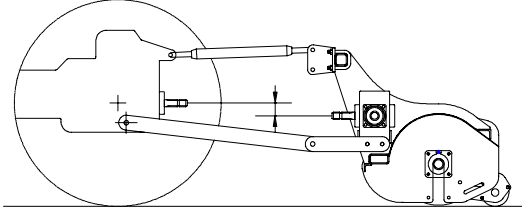
Push drive halves together as far as possible. This is dimension C. Add 1" to dimension C to establish dimension D.

Important: Never operate equipment with drive line collapsed to less than dimension D.

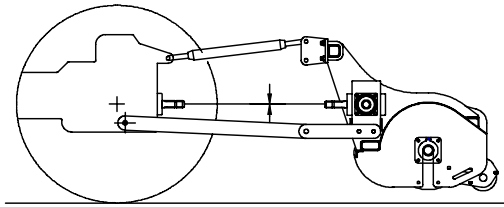


Procedure to Determine Proper Driveshaft Length

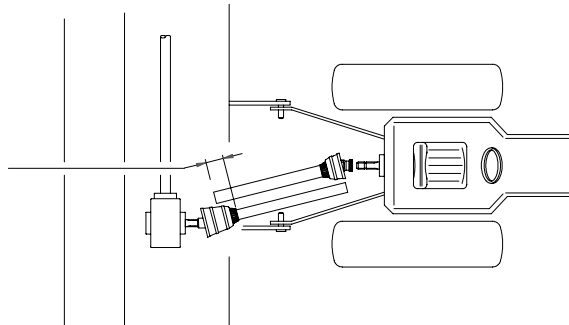
1. Attach mower to tractor lift arms.
2. Adjust tractor top link until mower gearbox input shaft is parallel with tractor PTO shaft.



3. Raise mower until the gearbox input shaft is level with tractor PTO shaft.



4. Install rear driveshaft half onto mower gearbox.
5. Hold tractor end of driveshaft against rear end of tractor PTO shaft, this will allow space for installation/removal of PTO driveshaft.



6. Determine excess driveshaft length by measuring from rearmost edge of front half shield to just behind the bell-shaped shield on the driveshaft half. Do this on both halves.


Owner's Manual (PTO Flail Mower) Operating and Set-up Instructions Continued


Important: To avoid damage or excessive wear, always engage or disengage PTO with engine at idle speed.

Important: Avoid lifting mower too high while in operation, which can lead to unnecessary driveline stress and wear,

Operating Speed

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

 **Warning:** Operating the mower below the rated RPM speed will reduce rotor speed and cause improper cutting. In difficult conditions, reduce tractor speed by down-shifting gears while maintaining rated engine RPM. Severely difficult conditions may require a delay until conditions improve.

 **Warning:** Do not operate the mower above the rated RPM

Belt Tension

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

Section

3

Maintenance

Owner's Manual (PTO Flail Mower)

Maintenance

Lubrication:

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.

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

Rotor, roller, and line shaft bearings cannot be damaged by over greasing. Grease bearings until a small amount of grease is purged from the bearing.

The following items require lubrication every (8) hours of running time:

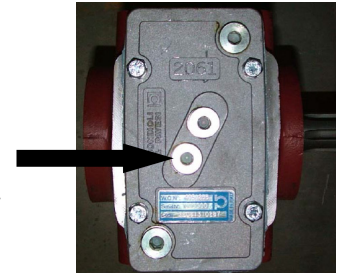
- 1) Rotor bearings, one located on each end of machine (one on driveline side, located under belt cover).
- 2) Roller bearings, one located on each end of the roller.
- 3) PTO shaft, one on each universal joint, and one on each end of PTO shaft shield.
- 4) Universal joint, located on left side of gearbox, under driveline shield.

The following items require lubrication every (25) hours of running time:

- 1) Belt idler bracket, located under belt cover.
- 2) Drive pulley shaft bearing, located under belt cover, behind the drive pulley.
- 3) Telescoping PTO shaft shield. Apply grease to surface of inside half.

The gearbox has four plugs on the right side.

Fill to this plug.
Approximately 40 oz.



Periodically check the oil level and keep filled to check plug level. Every (100) hours of running time and the beginning of each new season, drain and refill the gearbox with S.A.E. #90 gear oil.

General Service Information:

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 contact surfaces.

Procedure for Adjusting Height of Cut:

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

The Loftness Flail Mower uses slotted adjustments on the rear roller to allow a cutting height adjustment from 0" to 4-1/2". To adjust the height of a cut, refer to page 4-7 in Section 4 for an illustrated parts listing and familiarization of parts, then proceed as follows:

- 1) Manually position knife rotor until the bottom row of knives is at the lowest operating position.
- 2) Set blocks under the skid shoes at the desired cutting height.
- 3) Loosen the nuts of the 5/8" x 2" carriage bolt and the 5/8" x 1-1/2" pivot bolt, on both sides of the mower.
- 4) Allow steel roller to contact the ground.
- 5) Retighten the (4) 5/8" nuts to 170 ft. lbs.

Owner's Manual (PTO Flail Mower)

Maintenance Continued

General Service Information Continued:

- 6) Remove the blocks from under the skid shoes.
- 7) Adjust the length of the tractors top link to set the exact cutting height.
- 8) Adjust the skid shoes 1" to 2" above the ground to prevent scalping.

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 (2), either when broken or dull. If a set of knives is replaced, the set on the opposite side of the rotor must be replaced to maintain the balance. (The knife mounts are staggered and no set is directly across from another. If the 3rd set of knives is replaced on one side, replace 3rd set on opposite side, etc.). Refer to page 4-4 in Section 4 for and illustrated parts listing and familiarization of parts, then proceed as follows:

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

Rotor Removal:

The belt and pulley should be removed with the mower in operating position, but the procedure 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 remove rotor. A mower rotor weighs approximately 35 lbs/ft-ie, a 90" mower rotor weighs approximately 250 lbs.

Refer to page 4-5 in section 4 for an illustrated parts listing and familiarization of parts, then proceed as follows:

Belt Removal:

- 1) Loosen the 5/8" nuts on the threaded rod of the belt tightener tube and thread them in to relieve the spring tension on the belt.
- 2) Remove the 5/8" nut and lock washer from the 5/8" x 4-1/2" bolt. Remove the bolt and pulley and the two spacers.
- 3) Remove the bolt (reverse steps for installation).

Pulley Removal:

Refer to page 4-5 in section 4 for an illustrated parts listing and familiarization of parts, then proceed as follows:

- 1) Remove the (2) screws from the taper lock bushing of the rotor pulley.
- 2) Insert (1) screw into the threaded hole.
- 3) Tighten screw until bushing grip is released. (If excessively tight, lightly tap face of pulley using drift or sleeve – never hit pulley directly with a hammer.)

Caution:

- Excessive screw torque may cause damage to the bushing or sheave.

Owner's Manual (PTO Flail Mower)

Maintenance Continued

General Service Information Continued:

Rotor Removal:

This service section is written as if the mower is upside down. If procedure is done with machine in operating position, moveable jacks will be needed to support and move the rotor. Refer to page 4-4 in Section 4 for an illustrated parts listing and familiarization of parts, then proceed as follows:

- 1) Attach a lifting device to both ends of rotor, and apply light tension.
- 2) Loosen the set screws on the bearings.
- 3) Remove the (4) 1/2" nuts and lock washers from the 1/2" x 1-3/4" bolts holding the bearing to the anti-wrap plate on the left hand side of the mower. Remove the bearing, nuts and lock washers from the (2) 1/2" x 1-1/4" bolts through the anti-wrap plate and the mower end plate.
- 4) Remove the nuts and lock washers on the (2) 1/2" x 1-1/4" 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 (3) for the right hand side.
- 7) Lift rotor out of machine.
- 8) Slide anti-wrap plates off shafts. Remove spacer from right hand shaft rotor (reverse steps for installation).

Pulley Assembly:

Refer to page 4-5 in Section 4 for an illustrated parts listing and familiarization of parts, then proceed as follows:

- 1) Clean shaft, bore of bushing, outside of bushing and hub bore of all oil, paint and dirt. Remove all burrs.
- 2) Insert bushing into hub, match the hole pattern (not threaded holes – each complete hole will be threaded on one side only).
- 3) Apply a thread locking compound to set screws and thread into the two opposing holes.
- 4) Position assembly on shaft and alternately torque set screws to 35 ft. lbs.
- 5) To increase gripping force, tap face of bushing lightly with a drift or sleeve. (Do not hit bushing directly with a hammer.)

Maintenance Continued

TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	REMEDY
Excessive Vibration	* Broken or missing knife.	* Replace knife
	* Mud and/or debris wrapped around the rotor or knives.	* Clean the machine
	* Bearing malfunction	* Check and replace faulty rotor and driveline bearings.
	* Damage to rotor, includes bent end shafts or missing balance weights, or actual rotor deformity from striking rocks etc.	* Return to factory for repair
	* Tractor top link not adjusted properly.	* Readjust 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.
	* Tractor PTO speed too slow.	* Operate at 540 RPM
	* Ground speed too fast.	* Reduce ground speed and increase rotor speed.
	* Roller not properly adjusted.	* Readjust roller.
Rotor Does Not Turn	* Bearings malfunction.	* Check and replace.
	* Belt damaged or slipping.	* Adjust tension or replace.
	* Gearbox defective	* If the gearbox is determined to be faulty while the machine is still under warranty, DO NOT open the gearbox.

Owner's Manual (PTO Flail Mower)

Maintenance Continued

Storage

End of Season Storage:

- Clean entire mower thoroughly.
- Clean the belt and pulleys, relax the belt tension.
- Lubricate all parts of the machine
- Check areas for worn or damaged parts and replace them.
- Remove rust and repaint all parts that require paint to help protect the machine.
- Store the mower in a clean dry area.
- Review your operators manual.

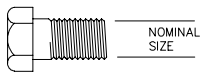
Beginning of the Season:

- Review your operators manual.
- Drain and refill gearbox.
- Lubricate all parts of the machine.
- Tighten all bolts, nuts, and set screws.
- Reapply tension to belt so there is 1/2" deflection at the midpoint between the pulleys.

Torque Charts

Minimum Hardware Tightening Torques

In Foot Pounds (Newton-Metres) for Normal Assembly Applications



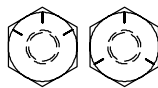
Inches Hardware and Lock Nuts

SAE Gr. 2 Nominal Size	SAE Grade 5		SAE Grade 8		Lock Nuts			
	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* (6.2)	72* (8.1)	86* (9.7)	112* (13)	121* (14)	157* (18)	61* (6.9)	86* (9.8)
5/16	115* (13)	149* (17)	178* (20)	229* (26)	250* (28)	324* (37)	125* (14)	176* (20)
3/8	17 (23)	22 (30)	26 (35)	34 (46)	37 (50)	48 (65)	19 (26)	26 (35)
7/16	27 (37)	35 (47)	42 (57)	54 (73)	59 (80)	77 (104)	30 (41)	42 (57)
1/2	42 (57)	54 (73)	64 (87)	83 (113)	91 (123)	117 (159)	45 (61)	64 (88)
9/16	60 (81)	77 (104)	92 (125)	120 (163)	130 (176)	169 (229)	65 (88)	92 (125)
5/8	83 (112)	107 (145)	128 (174)	165 (224)	180 (244)	233 (316)	90 (122)	127 (172)
3/4	146 (198)	189 (256)	226 (306)	293 (397)	319 (432)	413 (560)	160 (217)	226 (306)
7/8	142 (193)	183 (248)	365 (495)	473 (641)	515 (698)	667 (904)	258 (350)	364 (494)
1	213 (289)	275 (373)	547 (742)	708 (960)	773 (1048)	1000 (1356)	386 (523)	545 (739)

GRADE 2
CLASS A



GRADE 5
CLASS B



GRADE 8
CLASS C



BOLT MARKING'S

GRADE 2
CLASS A



GRADE 5
CLASS B



GRADE 8
CLASS C



NEW CLOCK MARKING'S NUTS
INCHES AND METRIC

GRADE 2
CLASS A



GRADE 5
CLASS B



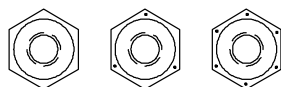
GRADE 8
CLASS C



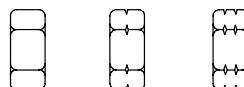
LINE MARKING'S NUTS



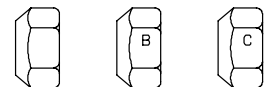
CENTER LOCK MARKING



LOCK NUT MARKING



LOCK NUT NOTCH MARKING



LOCK NUT LETTER MARKING

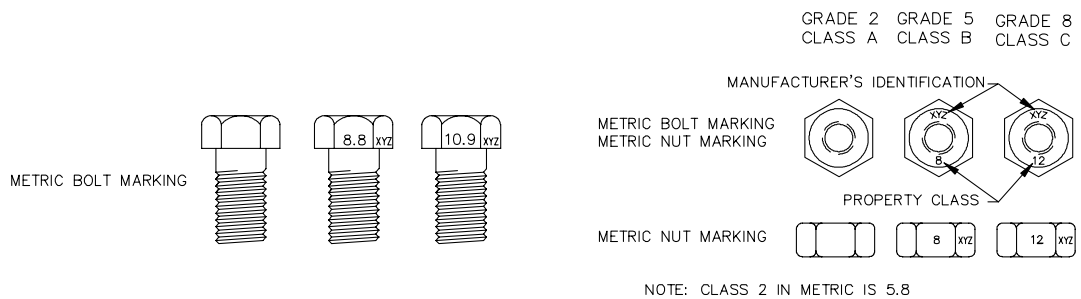
Torque Charts

Minimum Hardware Tightening Torque

Inch Pounds for Normal Assembly Applications

Metric Hardware and Lock Nuts

Nominal Size	Class 5.8		Class 8.8		Class 10.9		Lock Nuts
	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	15* (107)	19* (2.2)	23* (2.6)	30* (3.4)	33* (3.7)	42* (4.8)	16* (1.8)
M6	51* (5.8)	67* (7.6)	79* (8.9)	102* (12)	115* (13)	150* (17)	56* (6.3)
M8	124* (14)	159* (18)	195* (22)	248* (28)	274* (31)	354* (40)	133* (15)
M10	21 (28)	27 (36)	32 (43)	41 (56)	45 (61)	58 (79)	22 (30)
M12	36 (49)	46 (63)	55 (75)	72 (97)	79 (107)	102 (138)	39 (53)
M16	89 (121)	117 (158)	137 (186)	177 (240)	196 (266)	254 (344)	97 (131)
M20	175 (237)	226 (307)	277 (375)	358 (485)	383 (519)	495 (671)	195 (265)
M24	303 (411)	392 (531)	478 (648)	619 (839)	662 (897)	855 (1160)	338 (458)



Section

4

Service Parts

Service Parts

Ordering Service Parts:

To assist our customer service department in providing you with the correct replacement parts promptly and accurately, follow the ordering instructions as listed below.

1. Order replacement parts by providing the following information:
 - A) Mower serial number – Refer to serial number plate, which also includes the model number, located on left hand side of the center support (see page 4-3). Or if the plate is missing, check the upper hitch tube (see page 4-3, serial number is stamped into the tube).
 - B) Part description - Illustration drawings are provided to assist in identifying the parts by description and part numbers. Use this information to insure that correct service parts are ordered and sent to you.
 - C) Quantities - Order the exact number of parts required, do not order by “sets”.
 - D) Shipping instructions - Give company/customer name, shipping point or will call and mailing addresses notification if different than shipping point. State whether freight, express, parcel or other handling is desired. Confirm telephone orders in writing.
2. Inspection of parts when received is important. Damages or shortages should be brought to the attention of the carrier at the time the parts are accepted. Shipper's responsibilities cease upon delivery of shipment, in good order, to the customer.

Return Policy:

Return of parts for either warranty or incorrect parts received, must have a “Return of Materials Authorization” (RMA) number. Call Loftness Specialized Equipment, Inc. service department for this return number. To receive this number, you will need your “Sales Order, Invoice and Part Numbers” with quantities of parts to be returned. Credit information and shipping instructions will be given to you when you have received your “RMA” number. Be sure to place this number on the outside of the shipping package and on any documents placed inside.

Illustrated Parts Listings:

Illustrated parts drawings are included in this section, starting with page 4-3, that will assist you in identifying your flail mower and the parts available for service. These pages include part numbers, descriptions and quantities required for the 48”, 60”, 72” and 90” flail mowers. Include this information on your purchase orders to insure correct receiving of replacement parts.

**Owner's Manual (PTO Flail Mower)
Service Parts Continued**

Decals:

Refer to illustration drawing on page 4-3 for placement of below listed decals:

- 4135: Danger-Rotating Knives - (2) required
- 4137: Grease - (5) required
- 4138: F.E.M.A. - (1) required
- 4141: Red Reflectors - (2) required
- 4189: Warning-Rotating Parts - (2) required
- 4256: Caution-Do Not Start - (1) required
- 4334: Danger Stay Back - (1) required
- N13517: Proudly Made in the USA – (1) required
- N13721: Model & Serial Number Tag – (1) required
- N13863: Danger Flying Debris – (1) required
- N13872: Rotation Direction – (1) required
- N26973: Loftness Horizontal Medium – (1) required
- N26974: Loftness Horizontal Small – (1) required 48M Only
- N28576: VM Logix Large- (1) required
- N33105: VM Logix QR Code – (1) required



4256



N28576



N33105



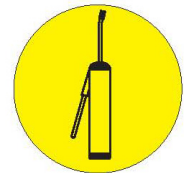
4135



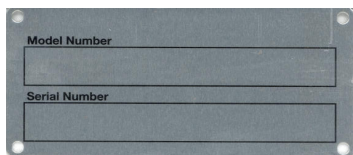
4334



4138



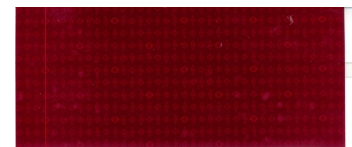
4137



N13721



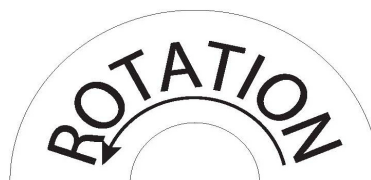
4189



4141



N13863

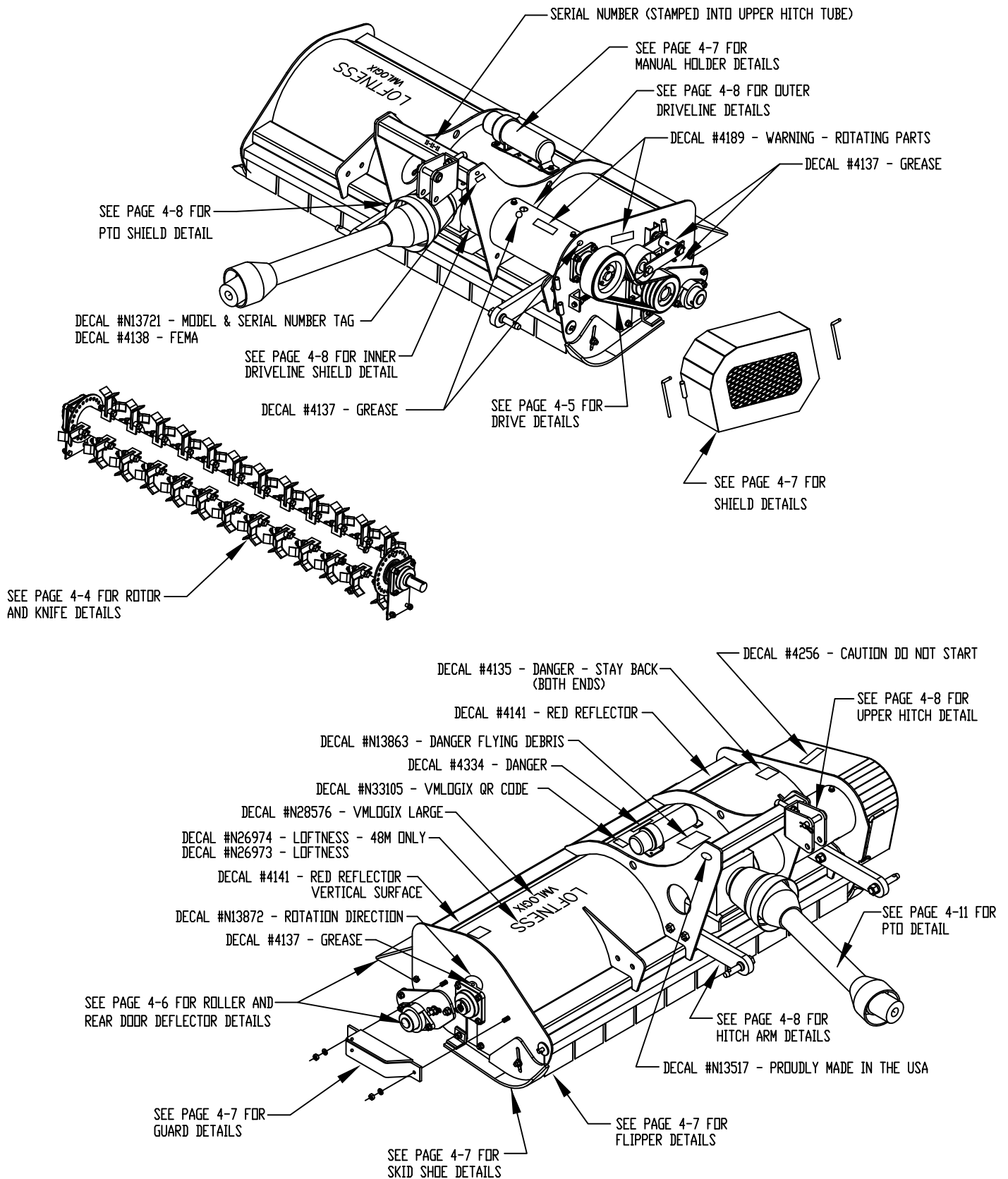


N13872



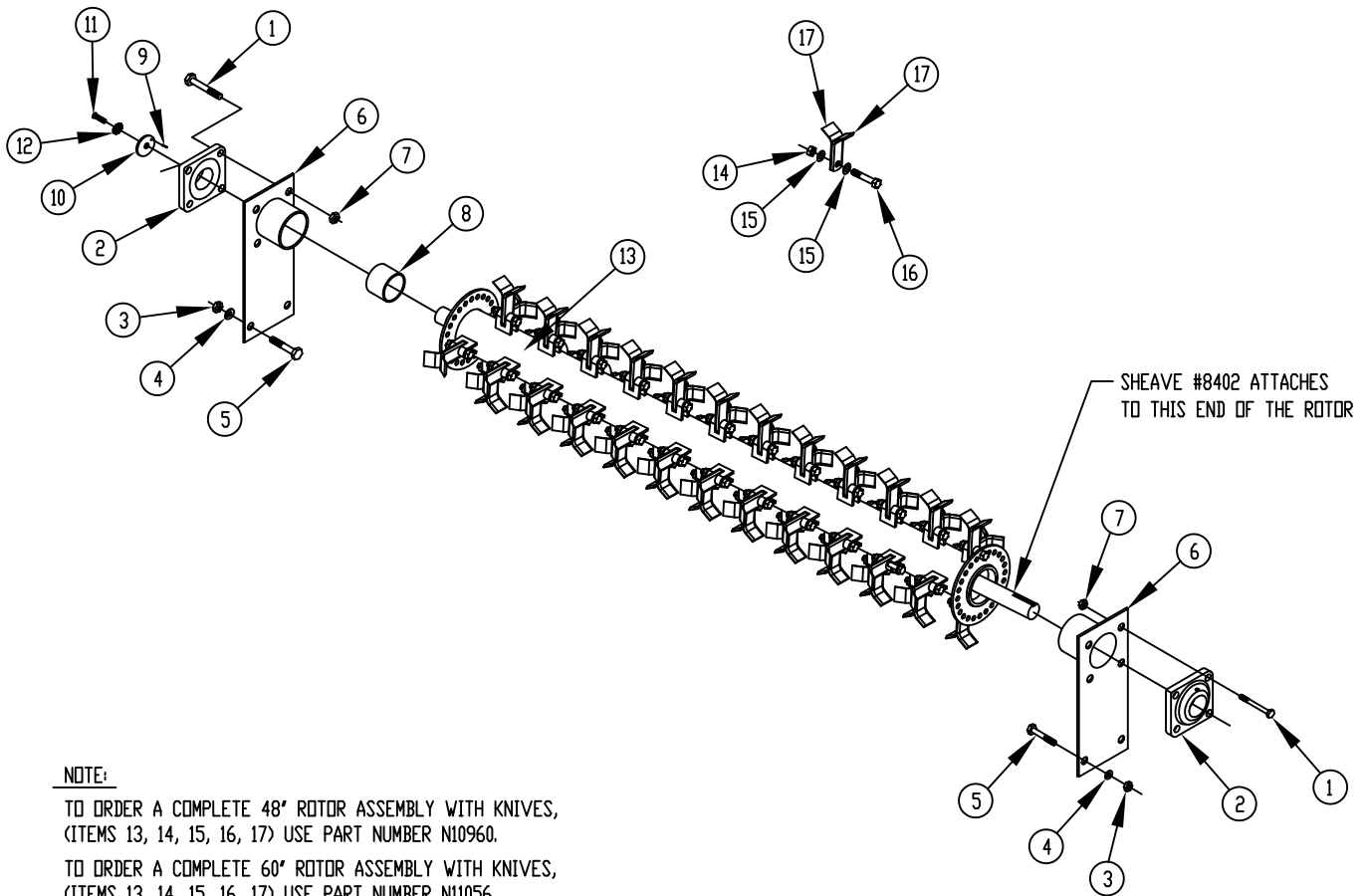
N13517

PTO FLAIL MOWER



THIS ILLUSTRATION PAGE IS A GENERAL OVERVIEW OF THE PTO FLAIL MOWER. SHOWN IS THE DECAL PLACEMENT AND REFERENCES TO THE DIFFERENT PAGES WHICH SHOW THE PARTS BREAK DOWN OF VARIOUS ASSEMBLIES. THE GENERAL SERVICE PORTION OF THE MANUAL IN SECTION 3, EXPLAINS THE ASSEMBLY OR DISASSEMBLY OF THE MOWER PARTS AND ALSO WILL REFER TO THESE PAGES AS PICTORIAL GUIDES IN SERVICING YOUR FLAIL MOWER.

PTO FLAIL MOWER ROTOR PARTS LIST



NOTE:

TO ORDER A COMPLETE 48" ROTOR ASSEMBLY WITH KNIVES, (ITEMS 13, 14, 15, 16, 17) USE PART NUMBER N10960.

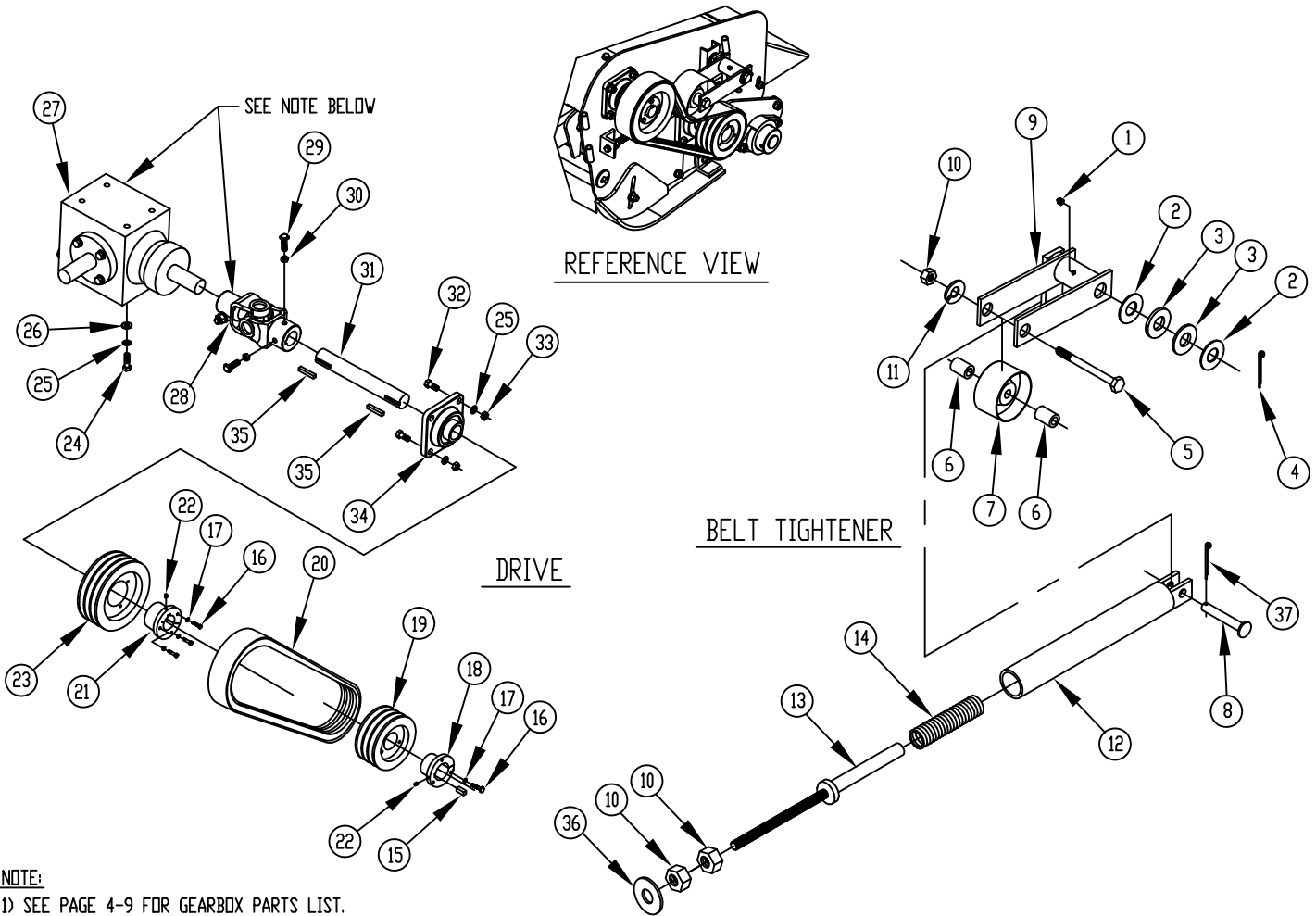
TO ORDER A COMPLETE 60" ROTOR ASSEMBLY WITH KNIVES, (ITEMS 13, 14, 15, 16, 17) USE PART NUMBER N11056.

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.

17	120	8600	KNIFE, 60° HEAVY DUTY (90°)	13	1	7521	ROTOR, 90° FLAIL W/D KNIVES
	96	8600	KNIFE, 60° HEAVY DUTY (72°)		1	7520	ROTOR, 72° FLAIL W/D KNIVES
	80	8600	KNIFE, 60° HEAVY DUTY (60°)		1	N11058	ROTOR, 60° FLAIL W/D KNIVES
	64	8600	KNIFE, 60° HEAVY DUTY (48°)		1	N10961	ROTOR, 48° FLAIL W/D KNIVES
16	60	4324	BOLT, 9/16"-12 UNC X 3" LG HEX HD GR 8 (90°)	12	1	4076	WASHER, 1/2" EXTERNAL TOOTH LOCK
	47	4324	BOLT, 9/16"-12 UNC X 3" LG HEX HD GR 8 (72°)	11	1	4468	SCREW, 1/2"-20 UNF X 1-1/4" LG FLAT HD CAP
	40	4324	BOLT, 9/16"-12 UNC X 3" LG HEX HD GR 8 (60°)	10	1	4434	WASHER, FLAIL BEARING RETAINING
	32	4324	BOLT, 9/16"-12 UNC X 3" LG HEX HD GR 8 (48°)	9	1	4085	PIN, ROLL (3/16" X 3/4" LG)
15	120	4337	WASHER, 9/16" SAE FLAT WASHER (90°)	8	1	N31927	SPACER, FLAIL ROTOR SHORT
	94	4337	WASHER, 9/16" SAE FLAT WASHER (72°)	7	8	4436	NUT, 1/2"-20 UNF LOCK GR 8
	80	4337	WASHER, 9/16" SAE FLAT WASHER (60°)	6	2	7505	PLATE, ANTI-WRAP (FLAIL BEARING)
	64	4337	WASHER, 9/16" SAE FLAT WASHER (48°)	5	4	4012	BOLT, 1/2"-13 UNC X 1-1/4" LG HEX HD GR 5
14	60	4323	NUT, 9/16"-12 UNC STD HEX HD GR 8 (90°)	4	4	4155	WASHER, 1/2" LOCK
	47	4323	NUT, 9/16"-12 UNC STD HEX HD GR 8 (72°)	3	4	4250	NUT, STANDARD 1/2"-13 UNC
	40	4323	NUT, 9/16"-12 UNC STD HEX HD GR 8 (60°)	2	2	N30233	BEARING, 1-3/4" DODGE 4-BOLT FLANGE
	32	4323	NUT, 9/16"-12 UNC STD HEX HD GR 8 (48°)	1	8	4435	BOLT, 1/2"-20 UNF X 1-1/2" LG HEX HD GR 8
ITEM	QTY	PART NO	DESCRIPTION	ITEM	QTY	PART NO	DESCRIPTION

PTO FLAIL MOWER DRIVE PARTS LIST

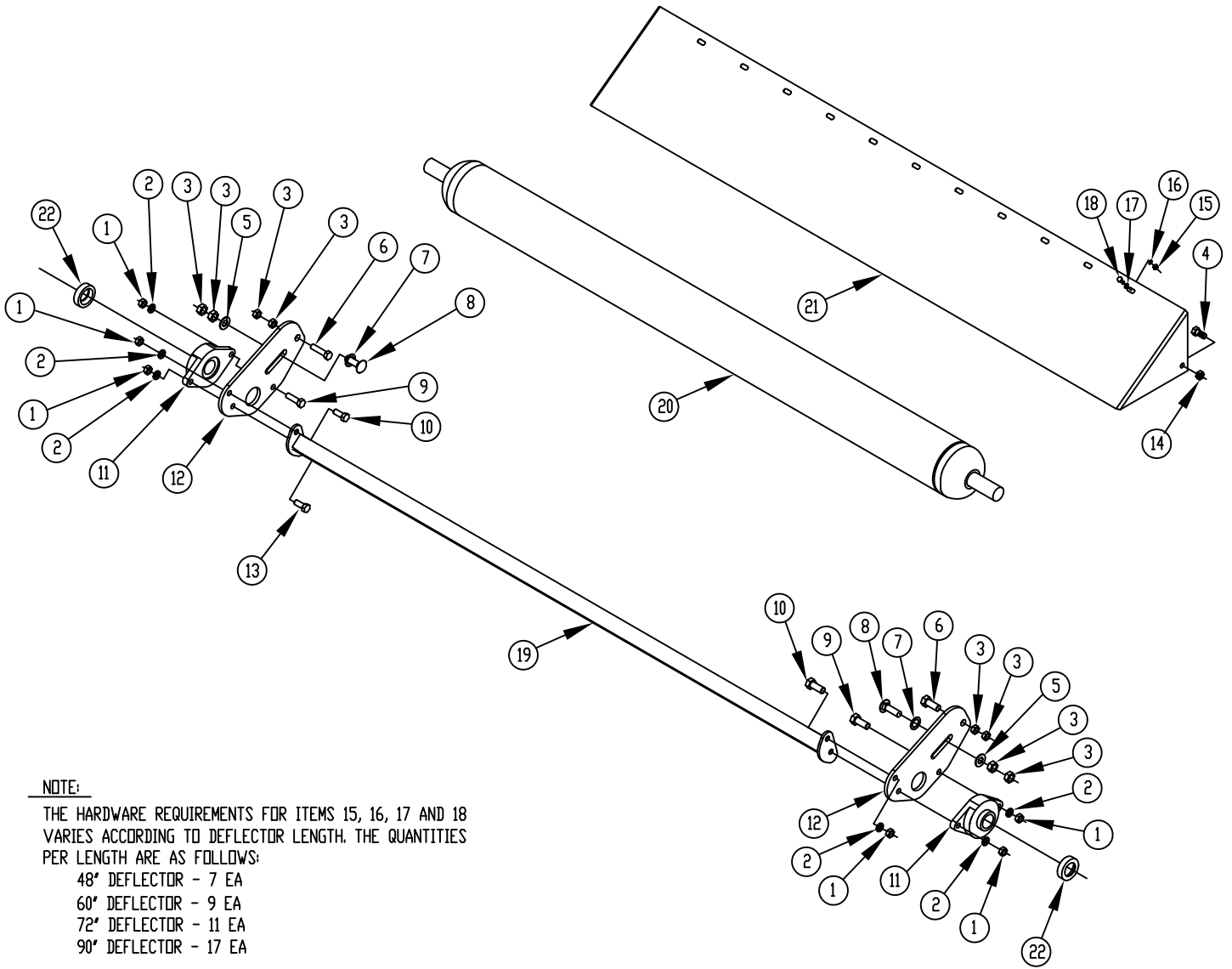


NOTE:

- 1) SEE PAGE 4-9 FOR GEARBOX PARTS LIST.
- 2) SEE PAGE 4-10 FOR U-JOINT PARTS LIST.

37	1	4092	PIN, COTTER 5/32" X 2"	20	1	8403	BELT, 3B X 51" GOODYEAR
36	1	4069	WASHER, FLAT 5/8"	19	1	8402	SHEAVE, QD 523B 3-BAND
35	2	7189-04	KEY, 5/16" X 1-3/4"	18	1	8414	BUSHING, 1-3/4" QD SD (INCLUDES #15, #16, #17 & #22)
34	1	N30227	BEARING, 1-3/8" 4-BOLT FLANGE	17	6	4231	WASHER, LOCK 1/4"
33	4	4250	NUT, STANDARD 1/2"-13 UNC	16	6	N31931	BOLT, 1/4"-20 UNC X 1-3/4" HEX HD GR 5 FULL THREAD
32	4	4013	BOLT, 1/2"-13 UNC X 1-1/2" GRADE 5	15	1	N31930	KEY, 3/8" X 5/16" X 1-3/4"
31	1	7501	SHAFT, 90° 3-PT DRIVELINE	14	1	8067	SPRING, BELT TIGHTENER
	1	7500	SHAFT, 72° 3-PT DRIVELINE	13	1	7525	ROD, BELT TIGHTENER
	1	N11677	SHAFT, 60° 3-PT DRIVELINE	12	1	9163	TUBE, BELT TIGHTENER
	1	N10959	SHAFT, 48° 3-PT DRIVELINE	11	1	4070	WASHER, 5/8" LOCK
30	2	4061	NUT, JAM 3/8"-16 UNC	10	2	4438	NUT, STANDARD 5/8" GRD 8
29	2	4082	SCREW, SQUARE HEAD SET 3/8"-16 UNC X 1"	9	1	7527	BRACKET, BELT TIGHTENER
28	1	N17031	U-JOINT, BONDOLI #5 FLAIL	8	1	4392	PIN, 1/2" X 1-1/4" PLATED
27	1	8400	GEARBOX, BONDOLI (#2061, RATIO 1:3.10)	7	1	8409	PULLEY, IDLER 5" OD X 2-1/2"
26	4	4068	WASHER, FLAT 1/2"	6	2	7528	SPACER, 5/8" ID X 15/16" LG
25	8	4155	WASHER, LOCK 1/2"	5	1	4252	BOLT, 5/8"-11 UNC X 4-1/2" LG HEX HD GR 5
24	4	4373	BOLT, M12 X 30MM GR 8.8	4	1	4325	PIN, COTTER 3/16" X 1-1/2"
23	1	8404	SHEAVE, 68 3B 3-BAND	3	3	4158	WASHER, 1" ID THICK SPACER
22	2	4083	SCREW, SET 1/4"-20 UNC X 3/8"	2	2	4157	WASHER, 1" ID THIN SPACER
21	1	8405	BUSHING, 1-3/8" SD QD (INCLUDES #16, #17, & #22)	1	1	4105	ZERK, SCREW-IN GREASE
ITEM	QTY	PART NO	DESCRIPTION	ITEM	QTY	PART NO	DESCRIPTION

PTO FLAIL MOWER ROLLER PARTS LIST



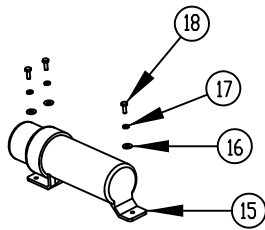
NOTE:

THE HARDWARE REQUIREMENTS FOR ITEMS 15, 16, 17 AND 18 VARIES ACCORDING TO DEFLECTOR LENGTH. THE QUANTITIES PER LENGTH ARE AS FOLLOWS:

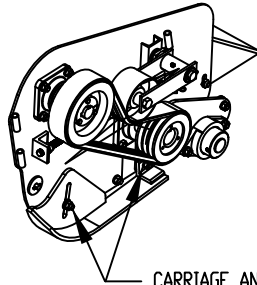
- 48' DEFLECTOR - 7 EA
- 60' DEFLECTOR - 9 EA
- 72' DEFLECTOR - 11 EA
- 90' DEFLECTOR - 17 EA

22	4	4354	SCREW, 3/8" X 3/8" SET (INCLUDED W/N12137)	16	VAR	4231	WASHER, 1/4" LOCK
	2	N12137	PROTECTOR, 1-1/2" BEARING	15	VAR	4230	NUT, 1/4" UNC STD
21	1	N10448	DEFLECTOR, 90" REAR DOOR	14	2	4054	NUT, 1/2" UNC LOCK
	1	N10447	DEFLECTOR, 72" REAR DOOR	13	2	4014	BOLT, 1/2" UNC X 1-3/4" HEX HD GR 5
	1	N11059	DEFLECTOR, 60" REAR DOOR	12	2	7513	PLATE, ROLLER MOUNT
	1	N10976	DEFLECTOR, 48" REAR DOOR	11	2	N30230	BEARING, 1-1/2" DODGE 2BLT FLG
20	1	7515	ROLLER, 90" REAR	10	2	4012	BOLT, 1/2" UNC X 1-1/4" LG HEX HD GR 5
	1	7514	ROLLER, 72" REAR	9	2	4013	BOLT, 1/2" UNC X 1-1/2" LG HEX HD GR 5
	1	N10981	ROLLER, 60" REAR	8	2	4339	BOLT, 5/8" UNC X 2" LG CARRIAGE GR 5
	1	N10977	ROLLER, 48" REAR	7	2	4347	WASHER, 1-5/16" OD X 7/8" ID X 1/16" THK
19	1	7517	SCRAPER, 90" REAR ROLLER	6	2	4022	BOLT, 5/8" UNC X 2" LG HEX HD GR 5
	1	7516	SCRAPER, 72" REAR ROLLER	5	2	4069	WASHER, 5/8" FLAT
	1	N10983	SCRAPER, 60" REAR ROLLER	4	2	4011	BOLT, 1/2" UNC X 1" LG HEX HD GR 5
	1	N10982	SCRAPER, 48" REAR ROLLER	3	8	4438	NUT, JAM 5/8" UNC
18	VAR	4340	BOLT, 1/4" UNC X 3/4" LG HEX HD GR5	2	6	4155	WASHER, 1/2" LOCK
17	VAR	3183	WASHER, 1/4" FLAT	1	6	4250	NUT, 1/2" UNC STD
ITEM	QTY	PART NO	DESCRIPTION	ITEM	QTY	PART NO	DESCRIPTION

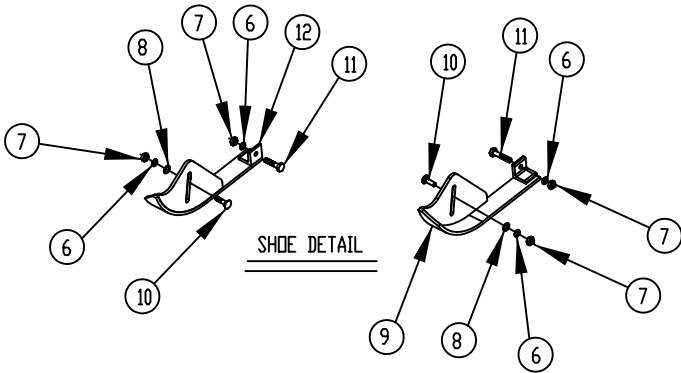
PTO FLAIL MOWER PARTS LIST



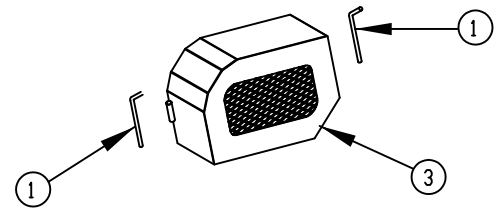
MANUAL HOLDER



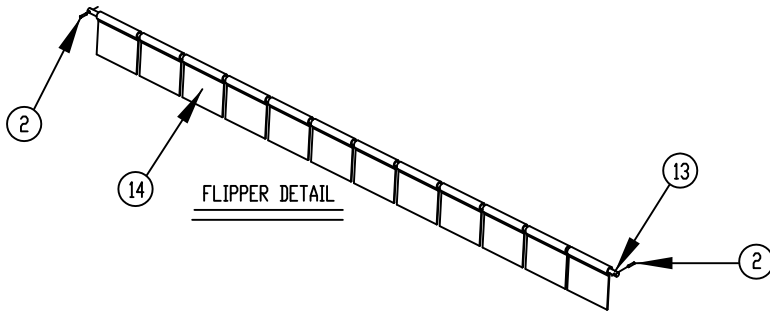
CARRIAGE AND PIVOT BOLTS
USED FOR HEIGHT ADJUSTMENTS



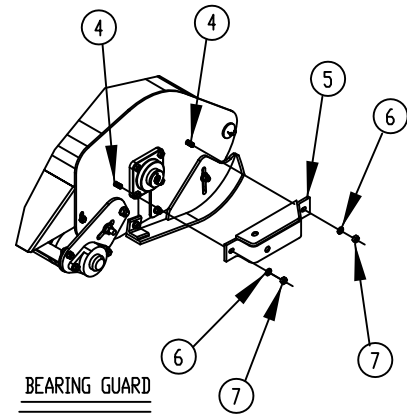
SHOE DETAIL



DRIVE SHIELD



FLIPPER DETAIL



BEARING GUARD

NOTE:

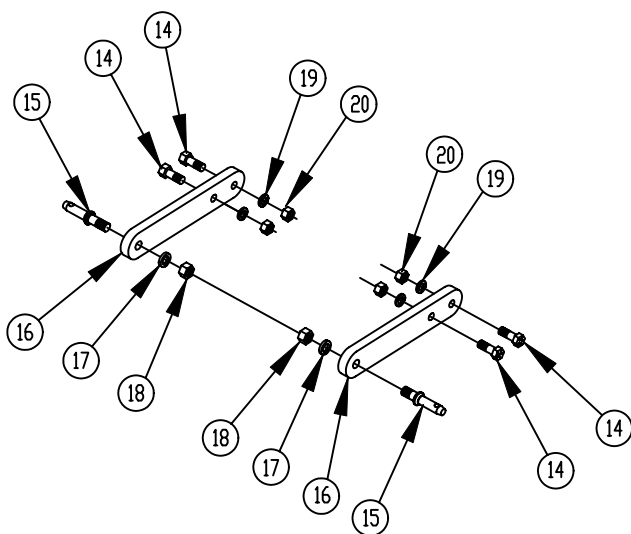
WHEN THE QUANTITIES (QTY) COLUMN IN THE PARTS LISTING SHOWS VAR (VARIES) REFER TO THE ILLUSTRATION FOR EXACT NUMBER OF ITEMS REQUIRED.

18	3	4340	BOLT, 1/4" X 3/4" GR 5	12	1	7512	SHOE, RIGHT SKID
17	3	4231	WASHER, LOCK 1/4"	11	2	4013	BOLT, 1/2"-13 UNC X 1-1/2" LG HEX HD GR 5
16	3	4460	WASHER, FLAT 1/4"	10	2	4039	BOLT, 1/2"-13 UNC X 1-1/2" LG CARRIAGE
15	1	N19600	HOLDER, LG. OPERATORS MANUAL	9	1	7511	SHOE, LEFT SKID
14	15	N10958	FLIPPER, FRONT (90" MODEL)	8	2	4068	WASHER, 1/2" FLAT
	12	N10958	FLIPPER, FRONT (72" MODEL)	7	VAR	4250	NUT, 1/2"-13 UNC STD
	10	N10958	FLIPPER, FRONT (60" MODEL)	6	VAR	4155	WASHER, 1/2" LOCK
	8	N10958	FLIPPER, FRONT (48" MODEL)	5	1	N16161	GUARD, RIGHT BEARING
13	1	7508	ROD, FLIPPER (90" MODEL)	4	2	4012	BOLT, 1/2"-13 UNC X 1-1/4" LG HEX HD GR 5
	1	7507	ROD, FLIPPER (72" MODEL)	3	1	7530	SHIELD, BELT
	1	N10991	ROD, FLIPPER (60" MODEL)	2	2	4375	PIN, 3/16" X 1" LG ROLL
	1	N10990	ROD, FLIPPER (48" MODEL)	1	2	7529	PIN, BELT SHIELD
ITEM	QTY	PART NO	DESCRIPTION	ITEM	QTY	PART NO	DESCRIPTION

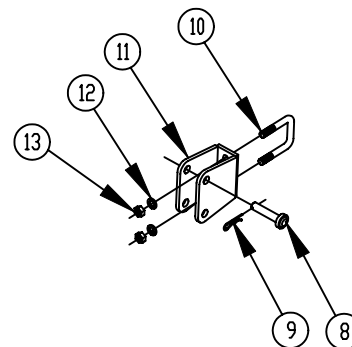
PTO FLAIL MOWER PARTS LIST

NOTE:

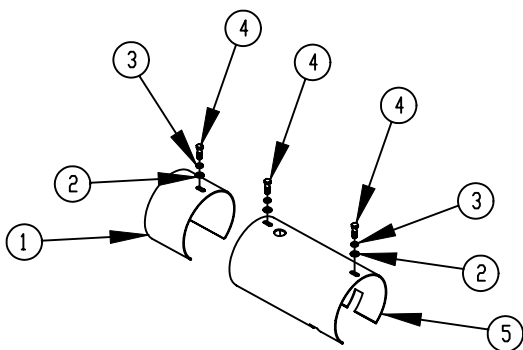
WHEN THE QUANTITIES (QTY) COLUMN IN THE PARTS LISTING SHOWS VAR (VARIES) REFER TO THE ILLUSTRATION FOR EXACT NUMBER OF ITEMS REQUIRED.



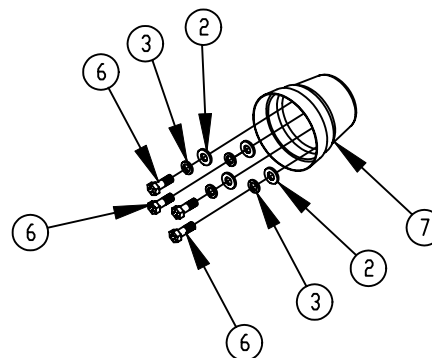
LOWER HITCH ARM DETAILS



UPPER 3-PT HITCH DETAILS



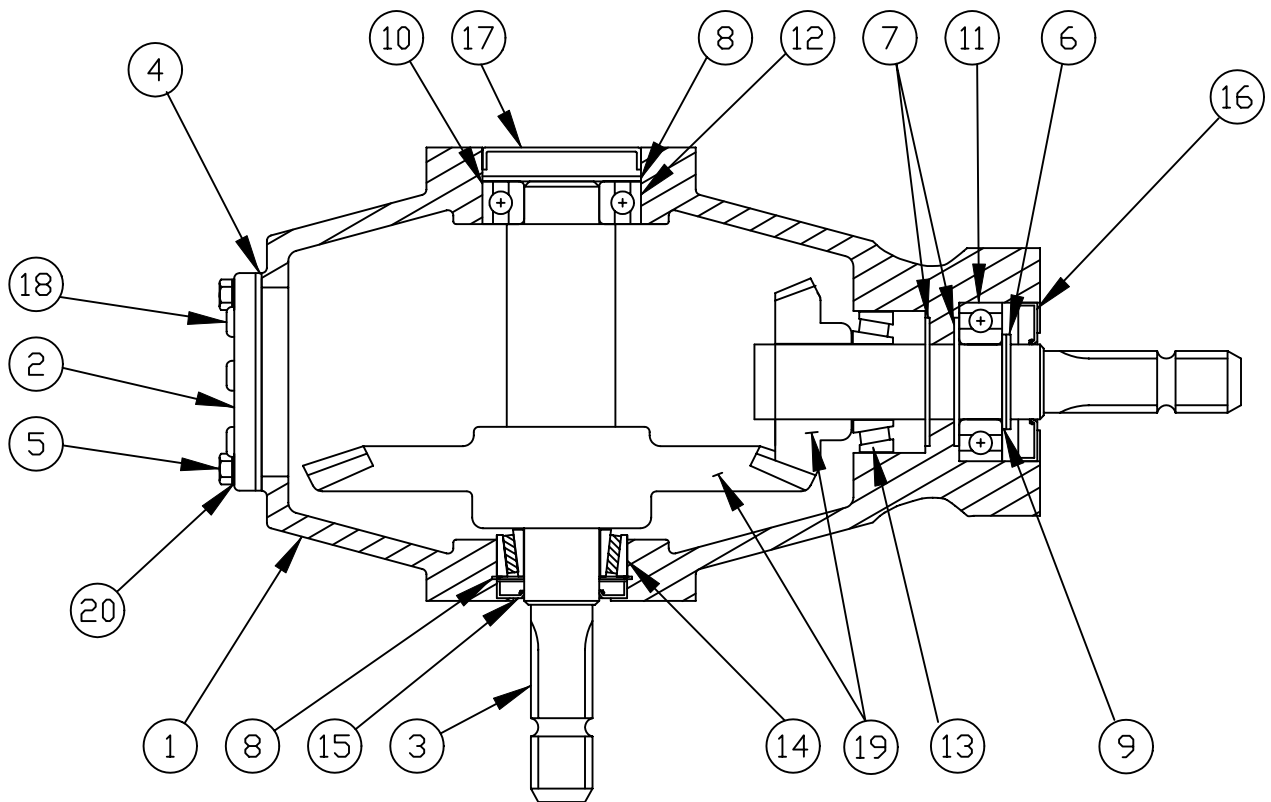
DRIVELINE SHIELD DETAILS



PTO SHIELD DETAILS

20	4	4341	NUT, STANDARD 3/4"-16 UNF GRADE 8	9	1	4336	CLIP, HAIRPIN 1/8" X 2-1/4"
19	4	4342	WASHER, LOCK 3/4"	8	1	4186	PIN, PLATED 3/4" X 3-1/4"
18	2	4060	NUT, STANDARD 7/8"-14 UNF (INCLUDED W/4101)	7	1	8408	SHIELD, PLASTIC PTO
17	2	4236	WASHER, LOCK 7/8" (INCLUDED W/4101)	6	4	4346	BOLT, M10 X 25MM GRADE 8.8
16	2	7522	ARM, LOWER MOUNT HITCH	5	1	7503	SHIELD, 90" PTO DRIVELINE
15	2	4101	PIN, CATEGORY 1 HITCH		1	7502	SHIELD, 72" PTO DRIVELINE
14	4	4343	BOLT, 3/4"-16 UNF X 2-1/4" GRADE 8		1	N10989	SHIELD, 60" PTO DRIVELINE
13	2	4058	NUT, STANDARD 5/8"-11 UNC		1	N11676	SHIELD, 48" PTO DRIVELINE
12	2	4070	WASHER, LOCK 5/8"	4	VAR	4195	BOLT, 3/8" UNC X 1" GRADE 5
11	1	7523	BRACKET, 3-PT MOUNT TOP	3	VAR	4065	WASHER, LOCK 3/8"
10	1	4361	U-BOLT, 5/8"-11 UNC X 2-5/8" X 4"	2	VAR	4064	WASHER, FLAT 3/8"
ITEM	QTY	PART NO	DESCRIPTION	1	1	7504	SHIELD, INNER DRIVELINE
				ITEM	QTY	PART NO	DESCRIPTION

2061 BONDIOLI GEARBOX 1:3.10 PARTS LIST

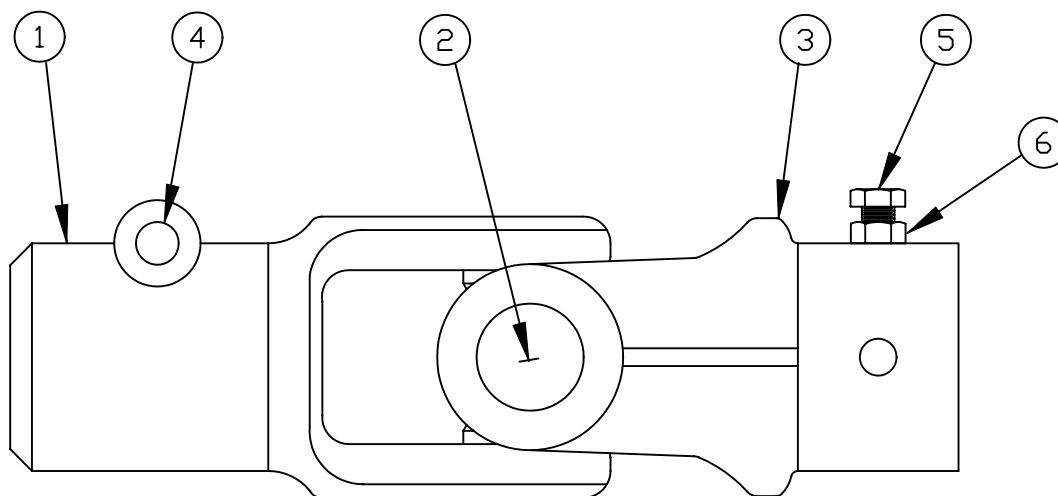


NOTE:

1) TO ORDER A COMPLETE GEARBOX (ITEMS 1 - 20),
USE PART NUMBER #8400.

20	4	8413-03	WASHER, COVER SCREW	10	1	8400-10	KIT, RING THROUGH SHAFT
19	1	8400-19	GEAR, SET (RATIO 1:3.10)	9	1	8400-09	KIT, RING PINION SHAFT
18	3	8001-19	PLUG, OIL	8	2	8400-08	SNAP-RING, THROUGH SHAFT
17	1	8400-17	CAP, HOUSING	7	2	8001-07	SNAP-RING, PINION SHAFT INNER
16	1	8001-15	SEAL, PINION SHAFT OIL	6	1	8001-06	SNAP-RING, PINION SHAFT OUTER
15	1	8400-15	SEAL, THROUGH SHAFT OIL	5	4	8001-04	SCREW, COVER
14	1	8400-14	BEARING, TAPERED ROLLER THROUGH SHAFT	4	1	8400-04	GASKET, COVER
13	1	8001-13	BEARING, TAPERED ROLLER PINION SHAFT	3	1	8400-03	SHAFT, THROUGH
12	1	8400-12	BEARING, BALL THROUGH SHAFT	2	1	8400-02	COVER, HOUSING
11	1	8400-11	BEARING, BALL PINION SHAFT	1	1	8400-01	HOUSING, CAST IRON
ITEM	QTY	PART NO	DESCRIPTION	ITEM	QTY	PART NO	DESCRIPTION

BONDIOLI #5 U-JOINT PARTS LIST



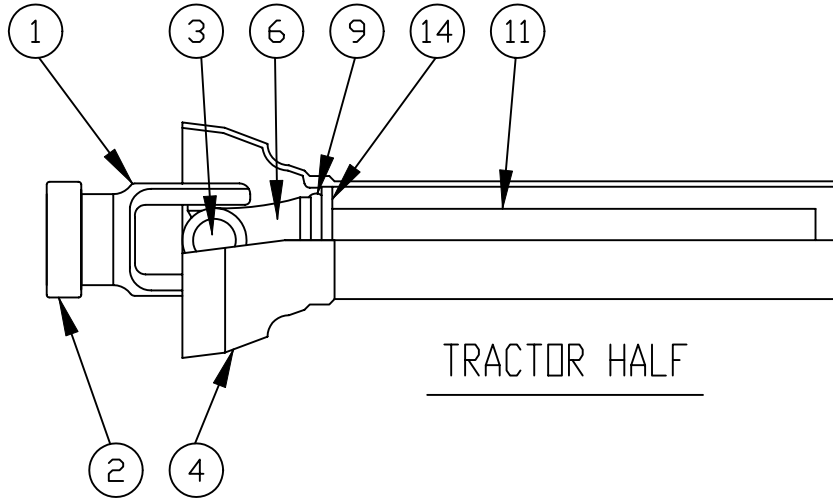
NOTE:

- 1) TO ORDER A COMPLETE U-JOINT, USE PART NUMBER N17031.
- 2) TO ORDER SERVICE PARTS, CALL THE SERVICE DEPARTMENT.

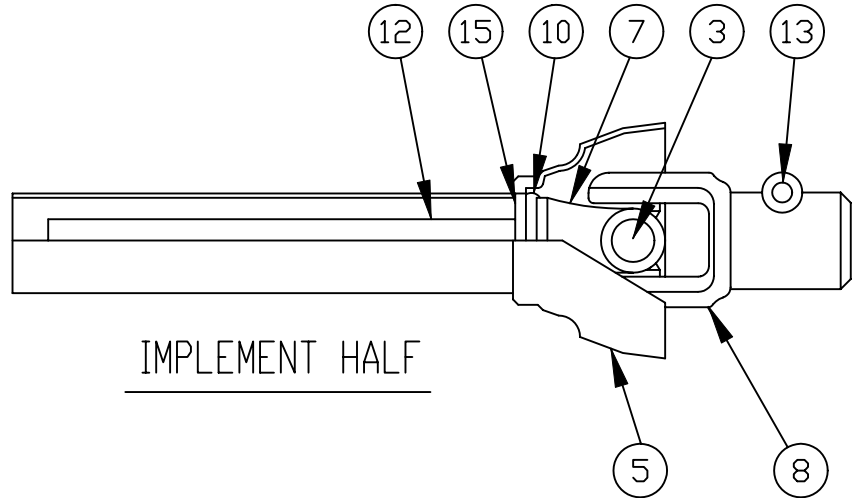
6	1		NUT, JAM 3/8"
5	1		SCREW, 3/8" X 1" SQ. HD. SET
4	1		KIT, TAPER BOLT
ITEM	QTY	PART NO	DESCRIPTION

3	1		YOKE
2	1		KIT, #5 CROSS REPAIR
1	1		YOKE
ITEM	QTY	PART NO	DESCRIPTION

BONDIOLI #6 PTO PARTS LIST



TRACTOR HALF



IMPLEMENT HALF

NOTE:

- 1) TO ORDER THE TRACTOR HALF OF THE PTO, CALL SERVICE DEPARTMENT.
- 2) TO ORDER THE IMPLEMENT HALF OF THE PTO, CALL SERVICE DEPARTMENT.
- 3) TO ORDER THE COMPLETE #5 PTO USE PART NUMBER #N17030.
- 4) TO ORDER SERVICE PARTS, CALL THE SERVICE PARTS.

							YOKE, #6 SPRING PIN
							YOKE, #6 INNER TUBE
							YOKE, #6 OUTER TUBE
							GUARD, #6 SAFETY INNER
							GUARD, #6 SAFETY OUTER
							KIT, #6 CROSS REPAIR
							KIT, #6 SLIDE LOCK
							YOKE, #6 SLIDE LOCK
15	1		COLLAR, #6 SHIELD SUPPORT INNER	ITEM	QTY	PART NO	DESCRIPTION
14	1		COLLAR, #6 SHIELD SUPPORT OUTER				
13	2		BUTTON, #6 COMPLETE PUSH				
12	1		SHAFT, #6 CARDAN				
11	1		TUBE, #6 CARDAN				
10	1		PIN, #6 SHAFT/YOKE FLEXIBLE				
9	1		PIN, #6 TUBE/YOKE FLEXIBLE				

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