LOFTNESS

Air Windrower Shredder

20' Model

Owner's Manual and Parts Book
(Originating with Serial Number 59-195)

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

209757

03.16.24


LOFTNESS

LOFTNESS SPECIALIZED EQUIPMENT, INC.
LIMITED WARRANTY POLICY

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

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

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

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

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

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

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

WARRANTY REQUIREMENTS

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

LIMITATIONS OF WARRANTY

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

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

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

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

EXCLUSIONS OF WARRANTY

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

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


LOFTNESS

LOFTNESS CROPLOGIX
RESIDUE MANAGEMENT EQUIPMENT

To the Dealer:

In order to ensure that your customer's unit will provide many years of trouble free service, please ensure that the following Pre-Delivery Inspection has been done. Refer to manual for specifications.

PRE-DELIVERY INSPECTION

____ All fasteners are tight.
____ Grease PTO shaft (u-joints and slide tube).
____ Grease all grease zerks.
____ PTO shields in place and rotate freely.
____ Driveshaft key stock installed and secure.
____ Bearing locking collar set screws are tight.
____ Set screws on the drive sprockets are tight.
____ Belts tensioned correctly.
____ Gearbox oil level(s) are checked to manual specifications.
____ Wheel nuts are tight, 6 bolt hub (100 FT-LB), 8 bolt hub (135 FT-LB).
____ All safety decals in place and legible.
____ All safety lights work.
____ Paint scratches touched up.

Model specific

____ Diffuser pivots freely and locks easily (End Delivery).

Run In

____ Hydraulic pressure checked for leaks and operation of all functions of unit.
____ PTO shaft operates correctly.

Approximate set up time per unit

End Delivery: 1.5 hours
Center Discharge (with transport): 6 hours
Standard (with transport): 1.5 hours
Vegetable: 1.5 hours (w/tires)
Vegetable: 6 hours (w/bed rollers)
Center Discharge (without transport): 6 hours
Standard (without transport): 1.5 hours

To the Customer

Use this manual as your first source of information about the machine. If you follow the instructions in the manual, your residue management equipment will perform at its optimum for many years.
The photos and line drawings used in this manual are of a production unit, but due to our program of continuous improvement, your machine may vary slightly from the one shown. We reserve the right to make changes and improvements at any time.


LOFTNESS

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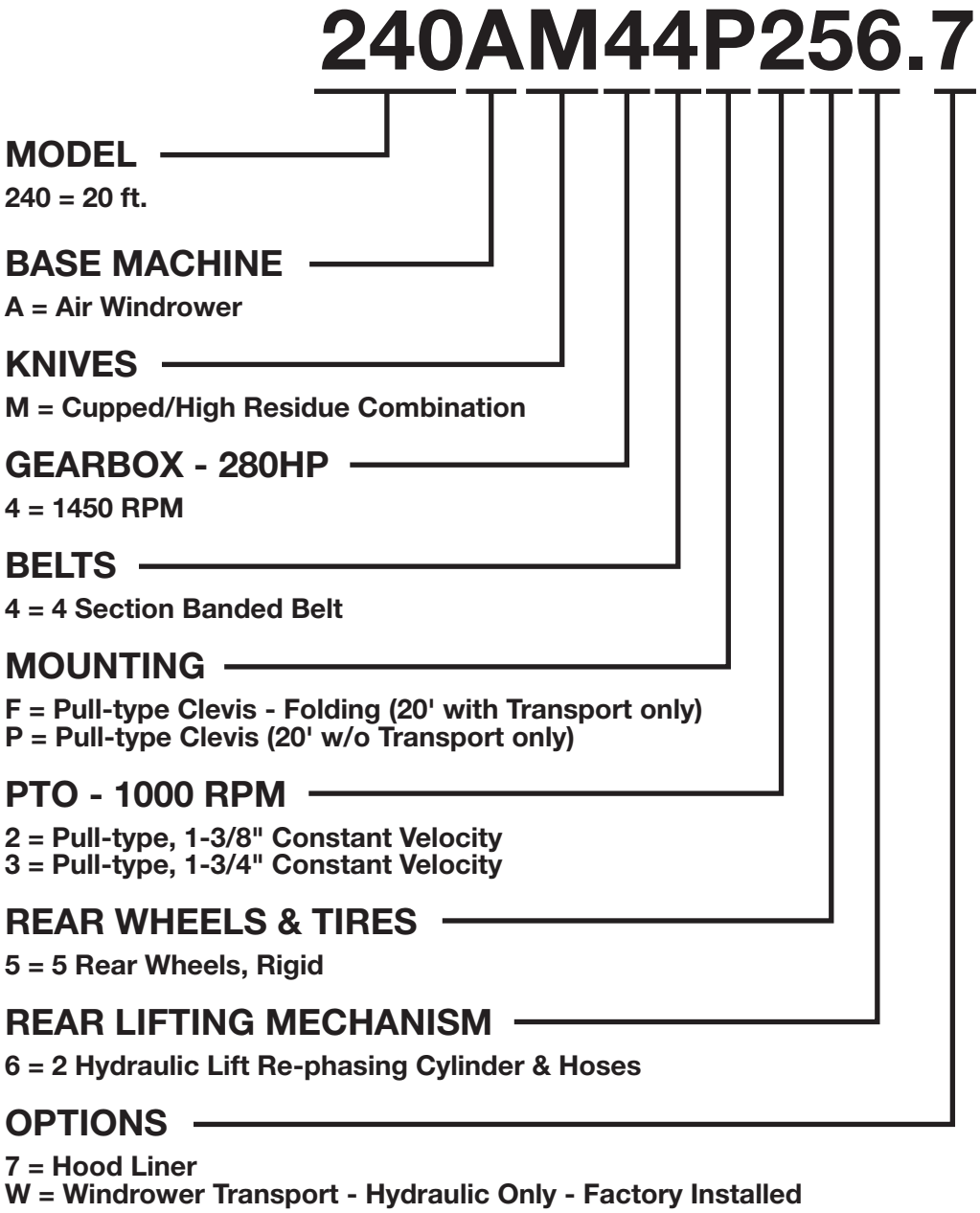
Ordering Code

Air Windrower Shredder (Example)

The ordering code will consist of three numbers (machine model), one letter (base machine), one letter (knives type), one number (gearbox rpm), one number (belt style), one letter (mounting type), one number (PTO type), one number (rear wheel setup), one number (lifting mechanism), and one to three numbers/letters (options). An example for a Air Windrower Shredder of this type would be as shown below.




LOFTNESS

Owner Information

Thank you for your decision to purchase a Air Windrower Shredder 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.

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.

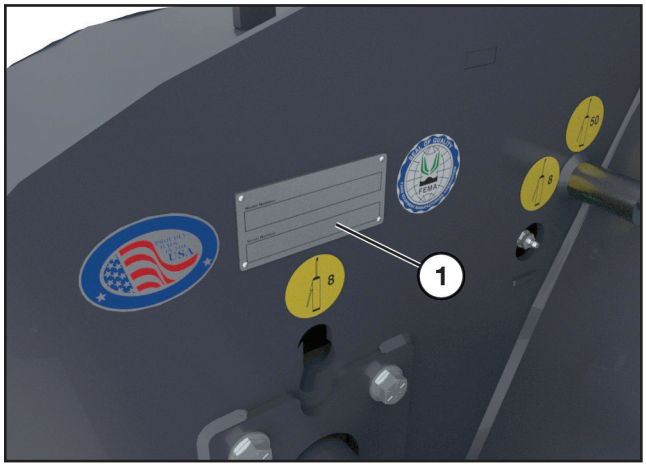
Make sure that all personnel have read this owner's manual and thoroughly understand safe and correct operating, set-up, installation and maintenance procedures.

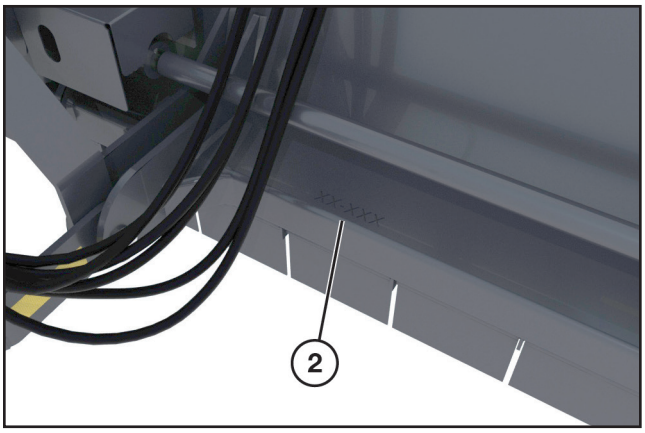
Continuous improvement and advancement of Loftness products may result in changes to your equipment that may not be reflected in this publication. Loftness reserves the right to make product improvements to the machine at any time. Although great care has been taken to ensure the accuracy of this publication,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

Warranty Policy

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

Serial Number Location

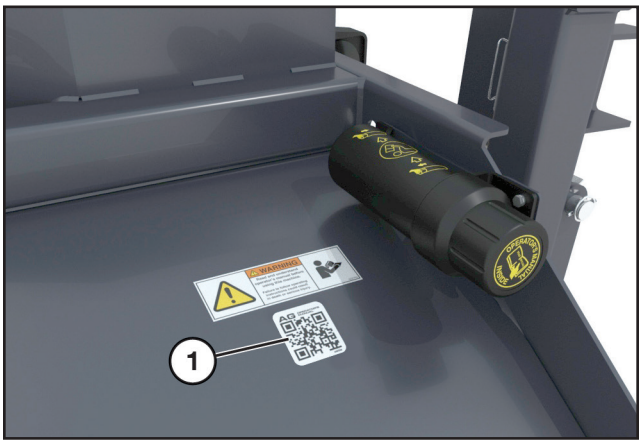




The arrows indicate the location of the serial number tag (1), and the location of the serial number stamped into the frame (2) adjacent to the operation hitch.

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

Owner's Manual Access



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

To access a digital owner's manual, use a smart phone to scan the QR Code (1) located on the motor cover. This code will link to the Air Windrower Shredder owner's manual on the Loftness website.

Air Windrower Shredder Features

- 20' Cutting Width
- Pull-type Hitch
- 37 in. Side Discharge
- 1-3/8 in. or 1-3/4 in. 1000 RPM PTO
- 1,450 RPM Rotor
- 4-1/2 in. Wide Cupped Knives - Hardened Combined with High Residue Knives
- Flow Deflectors
- 4-Groove Banded Belts
- Spring-loaded Push-type Idler System
- Adjustable Wheel Spacing
- Folding Wing

Air Windrower Shredder Options

- Transport System (Street Side and Curb Side Transport Wheels Hydraulically Positioned)
- Hood Liner

Safety First

Safety Alert Symbol

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

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

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

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

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

IMPORTANT: Highlights information that must be heeded.

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

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

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

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

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

Owner's Responsibility

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

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

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

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

Make sure that all personnel know how to stop the machine and attachment by disengaging all controls. See "Mandatory Shut-Down Procedure" on page 5.

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

Mandatory Shut-Down Procedure

- 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.

- Never allow children to operate equipment. Never allow adults to operate equipment without proper instructions.
- Keep the area of operation clear of all unauthorized persons.
- Remove from area of operation all foreign objects such as sticks, wire, rocks, etc., that might become tangled in rotors, causing damage to the windrower or be thrown from the windrower striking other objects.
- Never attempt to make any adjustments while the engine is running or the key is in the “ON” position of the tractor. Before leaving the operator’s position, disengage power to the windrower and remove ignition key.
- Disengage PTO, clutch and hydraulic valve and shift tractor into neutral or park before starting engine.

Safety Instructions for Operation and Maintenance

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

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.
- 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.
- Unless instructed by decal or operator’s manual, stop engine before leaving operator’s position and wait for all movement to stop before attempting to adjust, lubricate, unclog or inspect. Exercise mandatory shut-down procedure. After the service has been performed, be sure to restore all guards, shields and covers to their original position.
- Always observe all safety rules shown on decals. Replace any damaged decals immediately. If the unit is repainted, be sure to replace all decals which apply to the machine.
- Become familiar with and know how to use all the safety devices and controls on the windrower before attempting to operate the unit. Know how to stop the unit before starting it.
- Before working under any hydraulically controlled implement, be sure to securely block implement in position.
- Keep children and spectators off and away from the machine while it is in operation.
- Never operate the windrower with a 540 RPM tractor.
- Never use a steel hammer when connecting or disconnecting a PTO shaft.

CAUTION:

- Repeated impact of the knives with frozen ground or hard objects can cause excessive wear and damage to tractor or windrower. Be sure to maintain recommended ground clearance as specified in this manual.
- Should excessive vibration occur, disengage the tractor 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.

WARNING:

- Keep all guards, shields and decals in place.
- Always repair or replace any front flipper shields that are damaged or missing.
- Be sure PTO outer guard turns freely before operating machine.
- Keep hands, feet and clothing away from moving components.

Safety Instructions for Operation and Maintenance (Cont'd)

WARNING:

- Do not wear loose or baggy clothing around rotating machinery. Machine must be clear of people, tools, and other objects before engaging PTO.
- Engage the PTO slowly at idle speed to prevent unnecessary stress to drive-line.
- Read and observe all warnings on the machine before attempting to operate the windrower. Do not attempt to operate this machine unless all factory-installed safety devices are in place.
- Never attempt to lubricate the windrower with the engine running. Always be sure to exercise the mandatory shut-down procedure.
- Be extremely careful not to bottom out or extend PTO shaft too far, damage to tractor or windrower could occur. Be careful to avoid lifting windrower too high, which results in excessive PTO shaft wear if machine is operated during turning maneuver. DO NOT USE PTO ADAPTERS OF ANY KIND.
- Do not operate the windrower without the universal joints locked to the tractor and gearbox shafts.
- Operating the windrower at less than rated RPM will reduce drum 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.
- Do not operate the windrower above the rated RPM.

DANGER:

- Escaping fluid under pressure can be invisible and can penetrate the skin. Do not use hands to search for leaks!
- Hydraulic lines or other components can be hot after operation! “DO NOT TOUCH”!
- Keep hands and feet out! Do not step on or over the machine while it is in operation!
- Rotating drive-line. Personal injury or death can result from entanglement.

Hydraulic Safety

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

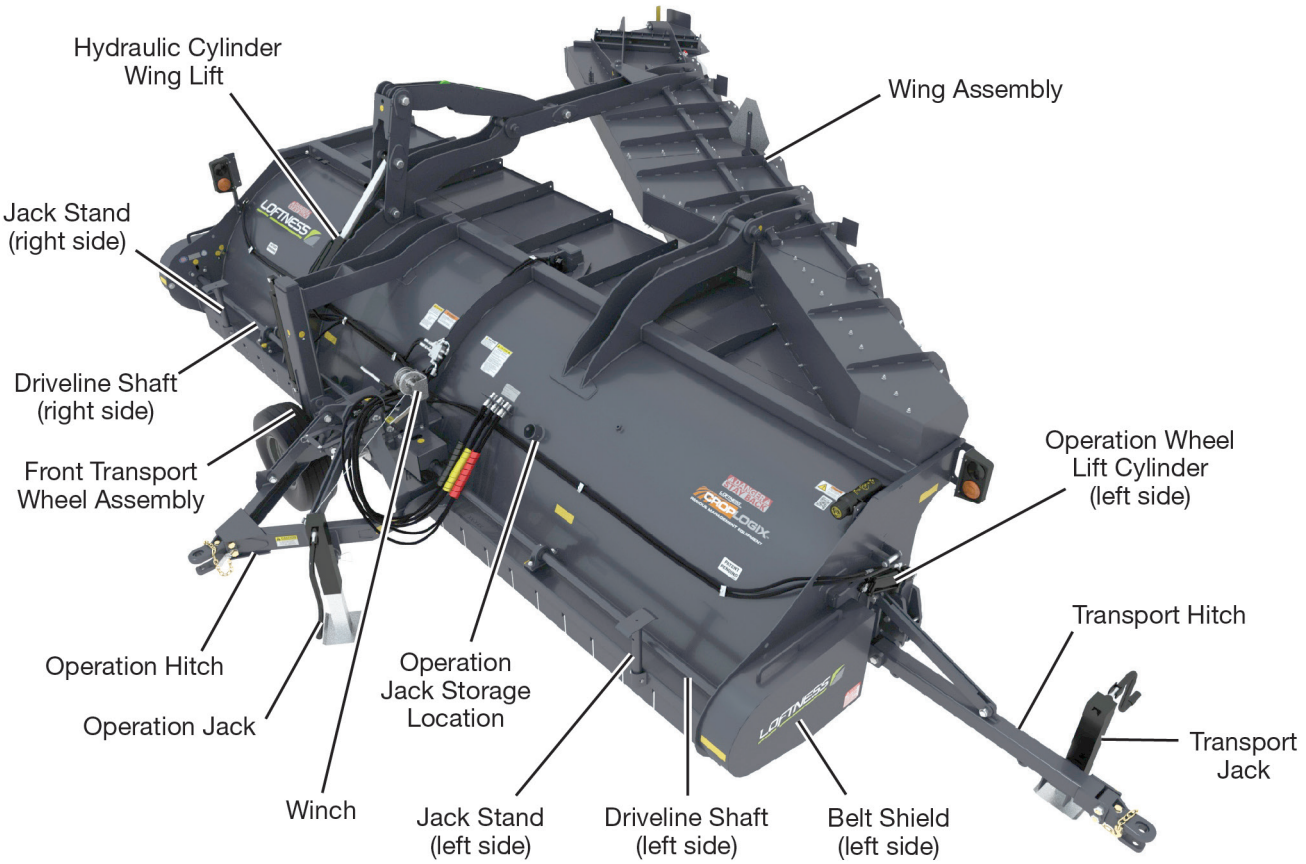
- Always wear safety goggles or glasses when working on hydraulic system to avoid eye injury.
- The hydraulic system is under high pressure. Make sure all lines and fittings are tight and in good condition. These fluids escaping under high pressure can have sufficient force to penetrate skin and cause serious injury.
- Never check for leaks by using any part of your body to feel for escaping fluid.
- To prevent serious personal injury from escaping high pressure fluid, never attempt to inspect, service or disassemble any part of the hydraulic system until all pressure has been relieved from the system.

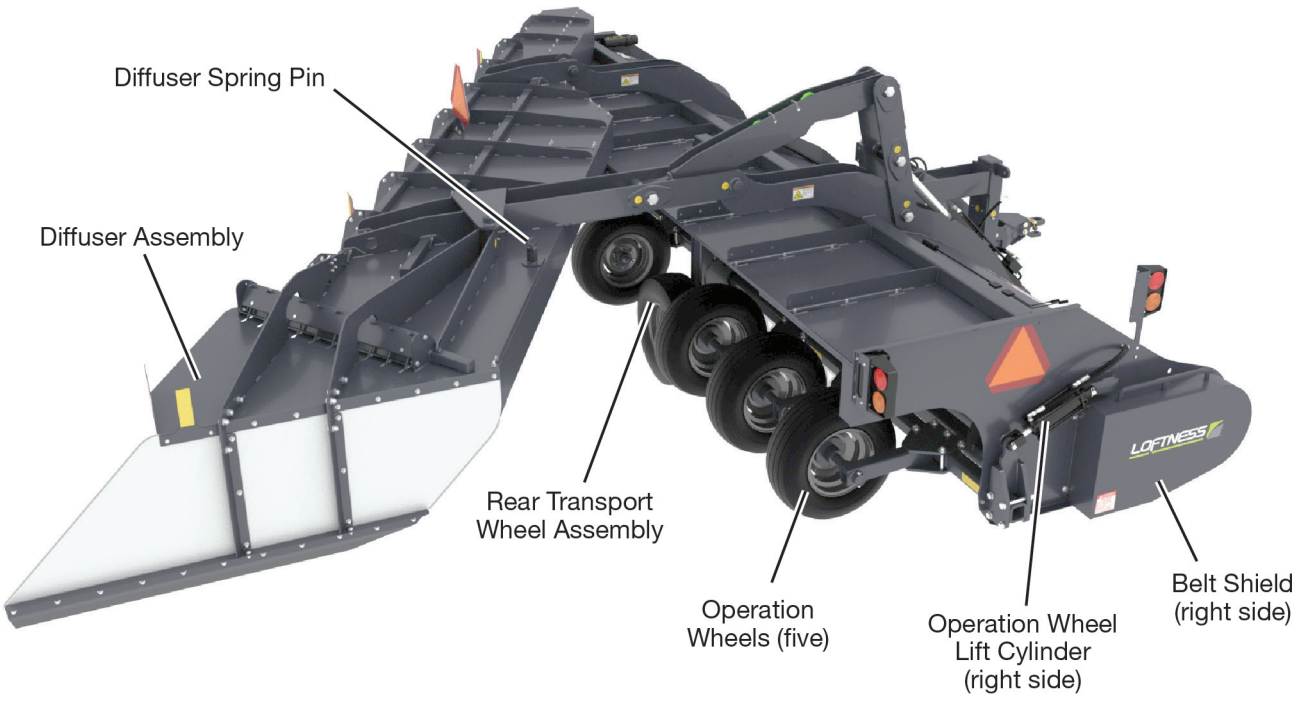
California Proposition 65 Warning

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

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

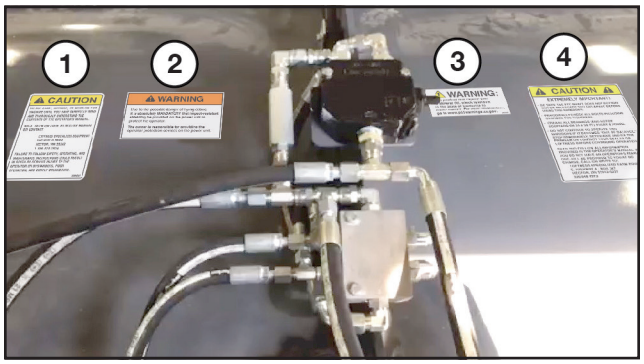
Air Windrower Shredder Identification





Safety Decal Locations

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



1

⚠ 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: SCAN QR CODE TO ACCESS MANUAL OR CONTACT

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.

208824

Part No. 208824

2

⚠ WARNING

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.

Part No. N17013

3

⚠ WARNING:

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

203264

Part No. 203264

4

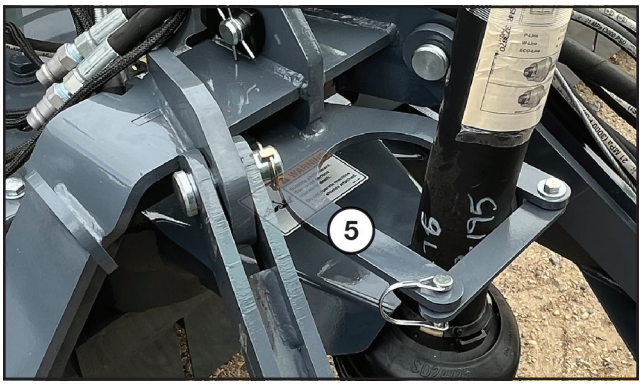
⚠ CAUTION ⚠

EXTREMELY IMPORTANT!

- BE SURE THE PTO SHAFT DOES NOT BOTTOM OUT OR TELESCOPE TOO FAR APART BEFORE USING THIS SHREDDER.
- PERIODICALLY CHECK ALL BOLTS INCLUDING GEARBOX FOR TIGHTNESS.
- GREASE ALL BEARINGS (AND ROTOR COUPLERS ON 24 & 30 FT.) EVERY 8 HOURS.
- DO NOT CONTINUE TO OPERATE THIS SHREDDER IF IT BECOMES "OUT OF BALANCE." STOP IMMEDIATELY, DETERMINE AND FIX THE PROBLEM OR CONTACT YOUR DEALER OR LOFTNESS BEFORE CONTINUING OPERATION.
- READ AND FOLLOW ALL INFORMATION PROVIDED IN THE OPERATOR'S MANUAL. IF YOU DO NOT HAVE AN OPERATOR'S MANUAL, ONE WILL BE PROVIDED TO YOU AT NO CHARGE. CALL OR WRITE TO:
  LOFTNESS SPECIALIZED FARM EQUIPMENT
  S. HIGHWAY 4 - BOX 337
  HECTOR, MN 55342-0337
  320-848-6273

4335

Part No. 4335



5

⚠ WARNING

Rotating parts hazard. Can cause serious injuries or death.

Do not operate machine without shields attached.

PN 4189

Part No. 4189

Safety Decal Locations (Cont'd)

6

Part No. N22763

7

Part No. 4334

8

Part No. 206502

Safety Decal Locations (Cont'd)

9

Part No. N18549

10

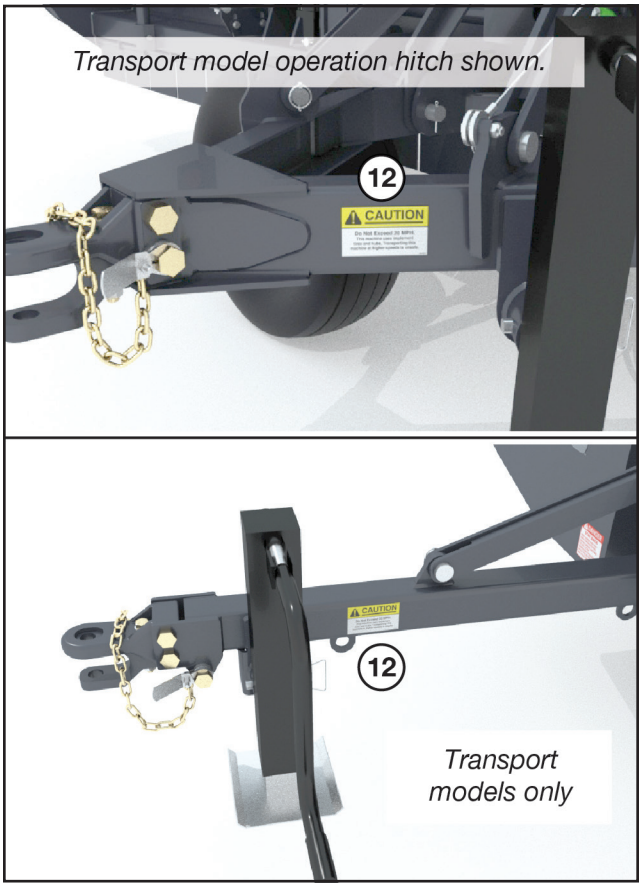
Part No. 4132

(Transport models only)

11

Part No. 4135

Safety Decal Locations (Cont'd)



(12)

CAUTION

Do Not Exceed 20 MPH.
This machine uses implement tires and hubs. Transporting this machine at higher speeds is unsafe.

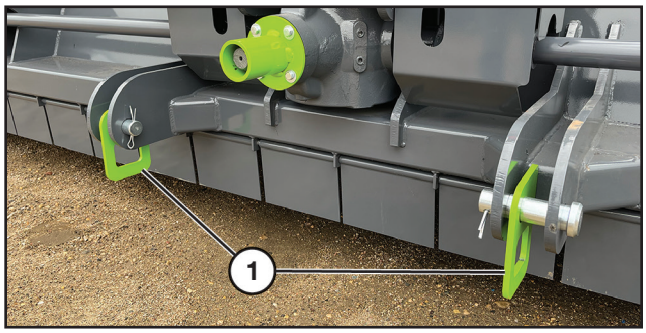
N23931

Part No. N23931

Equipment Set-up

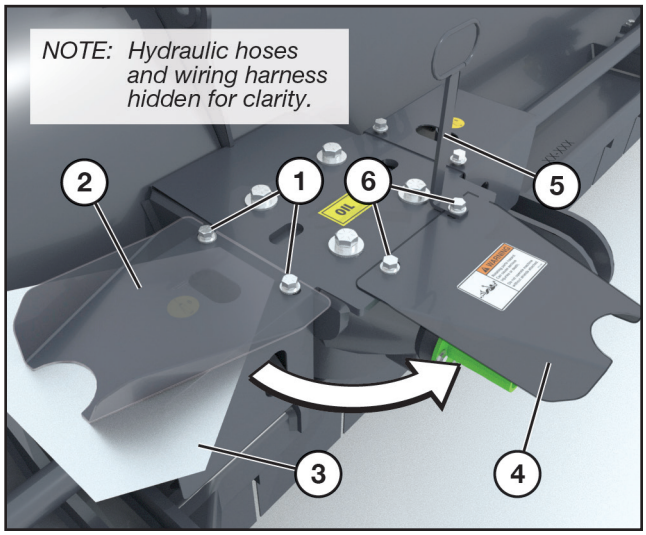
To accommodate for shipping width, some components of the windrower have been removed or secured in a temporary non-operating position. Follow the steps in this section to get the windrower into the operational configuration.

Remove Shipping Tie-Down Brackets



Remove the two brackets (1) that were used to secure the windrower during shipping.

PTO Shield



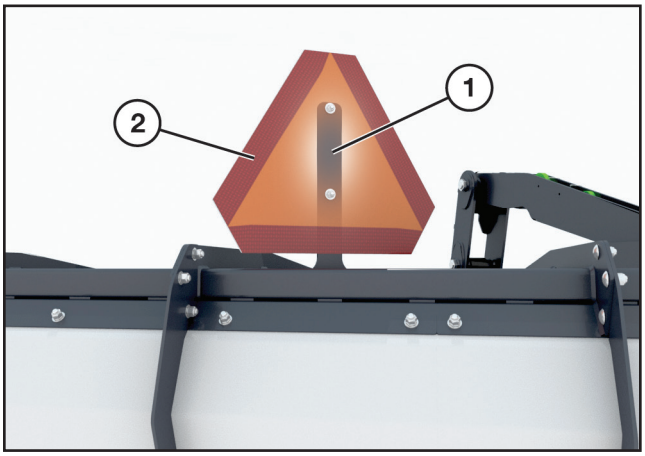
Remove the two bolts and washers (1) and lift the PTO shield (2) off of the driveline guard.

Set the slow moving vehicle sign (3) aside. This will be assembled in the following step.

Return the bolts and washers back into the same position. Tighten.

Reposition the PTO shield in the new position as shown (4). The hose holder (5) will need to be removed from its shipping location and repositioned to be on top of the PTO shield. Use the existing hardware (6) to secure. Tighten all hardware.

Installing the Slow Moving Vehicle Sign



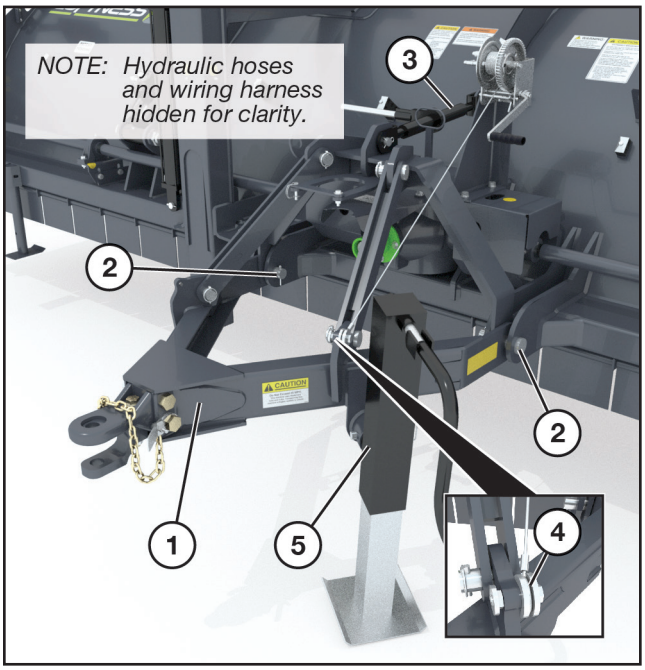
Using the hardware already located on the bracket (1) at the rear of the wing assembly, secure the slow moving vehicle sign (2).

Equipment Set-up (Cont'd)

Operation Hitch Installation (Transport Models)

The operation hitch assembly is heavy. Use a hoist and chains (or straps) to lift and place the hitch into position.

> **DANGER:** ***Crushing Hazard.*** *Failure to safely secure and lift the hitch assembly could result in severe injury or death. Use a power hoist and proper lifting equipment. Allow only trained personnel to lift the hitch assembly.*



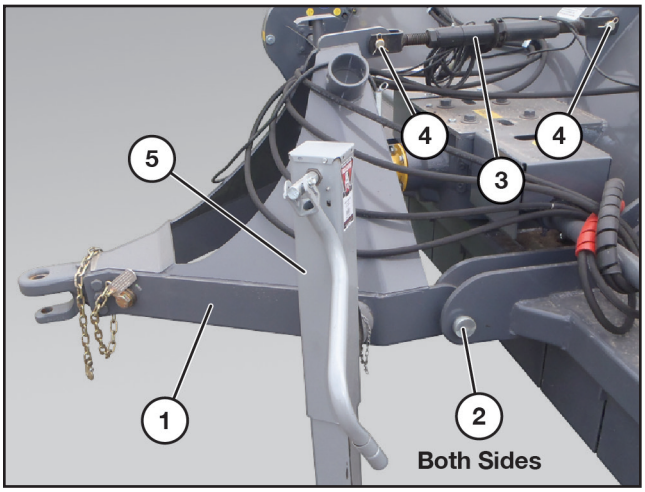
Install the operation hitch assembly (1), insert pins and secure with the cotter pins (2).

Connect the ratchet jack (3) from the frame to the hitch, insert pins and secure with clips.

Connect the winch cable end loop (4) at the location shown. Loop the cable end between the two large washers. Tighten the hardware.

Position the operation jack (5) in the jacking location and secure with the pin.

Operation Hitch Installation (Models without Transport)

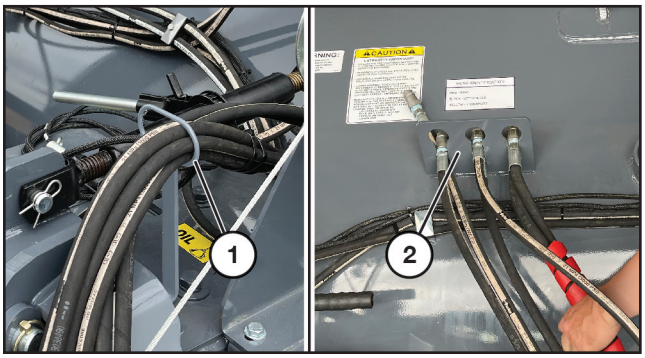


Install the hitch assembly (1), insert pins and secure with the cotter pins (2).

Connect the ratchet jack (3) from the frame to the hitch, insert pins on each end (4) and secure with clips.

Position the operation jack (5) in the jacking location.

Route Hoses and Wiring Harness



After installing the operation hitch assembly, route the hydraulic hoses and wiring harness through the hose holder (1). Secure the hose ends onto the storage rack (2) located on hood of the shredder.

Equipment Set-up (Cont'd)

Transport Wheels

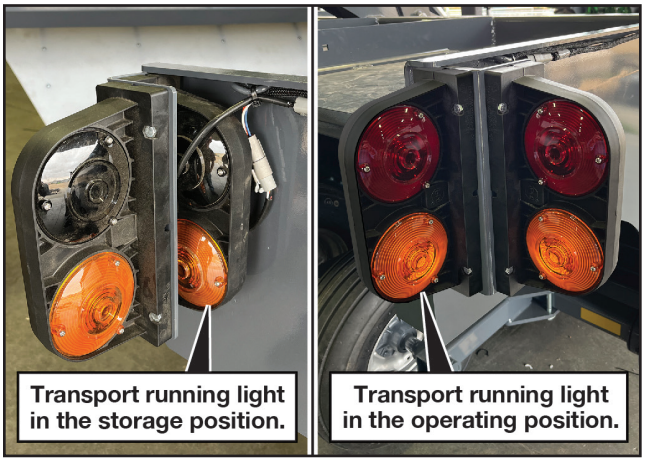
NOTE: *Before this step, make sure there is enough clearance to install the transport wheels. Use the jack on the operation hitch to raise the windrower if necessary.*

Remove the nut (1) and bolt (2) from the windrower frame. Lift and slide the transport wheel assembly into place. Reinstall the hardware and tighten.

Repeat procedure for the opposite transport wheel.

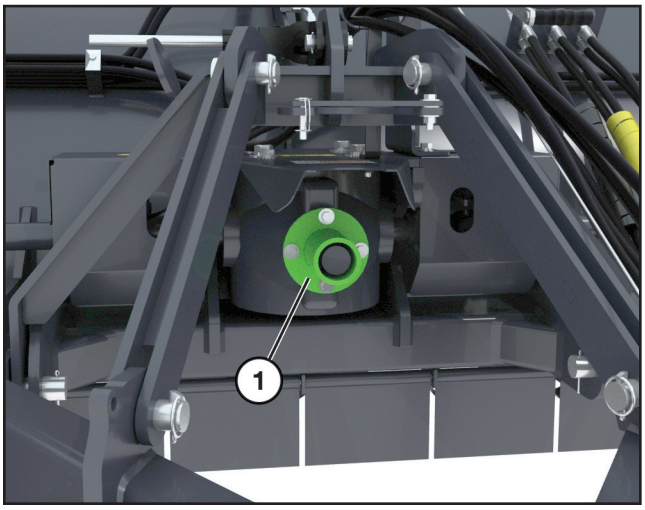
Transport Lights

NOTE: *This procedure is only for windrower models equipped with the transport feature.*



Remove the hardware securing the transport running lights from the shipping configuration. Reposition the light assembly into the operating position as shown. Reinstall the hardware and tighten.

Gearbox Shaft Guard



Remove the gearbox shaft guard (1) by removing the four bolts with washers.

NOTE: *Keep the shaft guard and store in a convenient location. Use it to protect the shaft splines whenever the PTO shaft is not installed.*

PTO Set-up

When connecting the PTO to both the windrower and tractor, it is the owner's/operator's responsibility to insure that the PTO length is correct and will not bottom out or become disengaged.

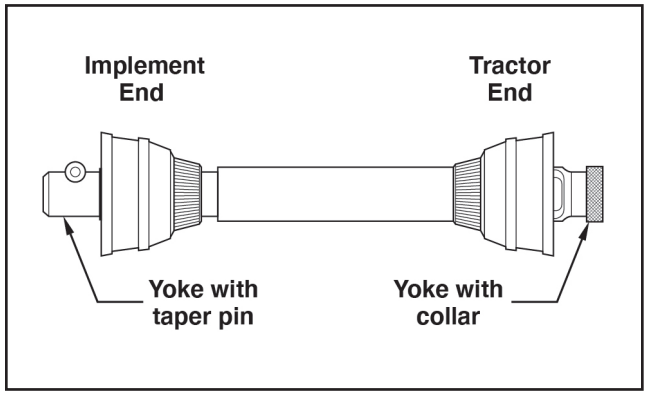
The PTO provided with each Loftness windrower will work on most tractors without modification.

Variations in the PTO and hitch geometry on some tractors may make it necessary to adjust the length of the PTO.

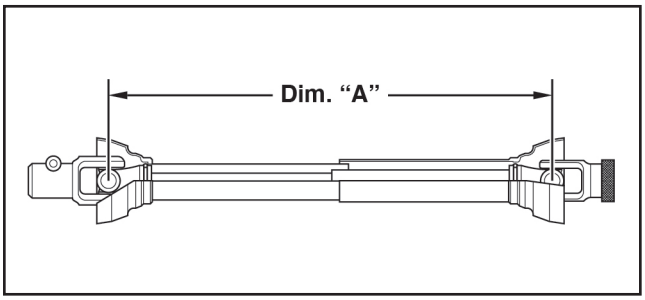
Check PTO length (6" overlap min.). Lubricate CV before initial start-up and before connecting to tractor to allow movement of tractor yoke in all directions to help distribute grease through out the moving parts. Lubricate after every 8 hours of use. Tighten PTO clamp bolts (torque to 150 ft. lbs.), then recheck after 10 minutes of operation and again after 1 hour of operation.

PTO Sizing

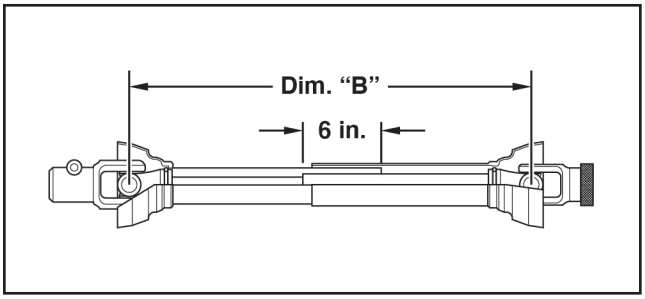
The following diagrams assist in sizing the PTO as outlined in "PTO Set-up" above.



IMPORTANT: *Before operating the windrower, check to make sure the PTO will not bottom out or become disengaged.*

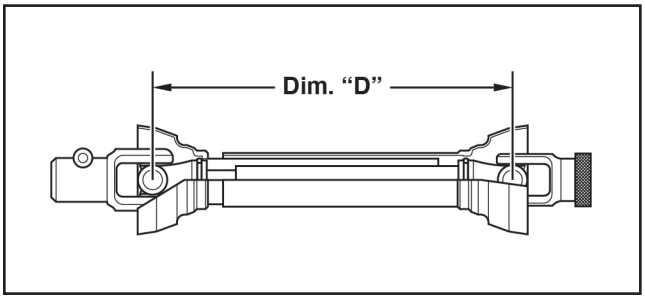


Extend the PTO until it is fully extended, but not completely separated. This will determine dimension "A".



Subtract 5" from dimension "A" to determine dimension "B". This will be your maximum operating length.

IMPORTANT: *Never operate equipment with the PTO extended further than dimension "B".*



Push PTO halves together, as far as possible, to determine dimension "C". Add 1" to this dimension for dimension "D" which will be the minimum operating length.

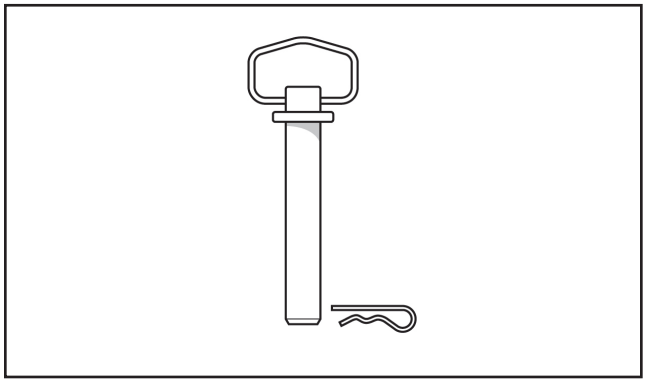
IMPORTANT: *Never operate equipment with PTO collapsed to less than dimension "D".*

Getting Started

Pre-Start Checklist

- Grease the machine. See “Grease Points Location” on page 34 for grease point locations.
- Adjust air in tires to recommended pressure.
- Check oil level in gearbox (maintain level to the lower check plug hole on side of gearbox case).
- Drive Belt tension – if belt needs adjustment, refer to “Belt Tension” on page 17 for instructions.
- Check all bolts, nuts and set screws for tightness.
- Review operator’s manual.

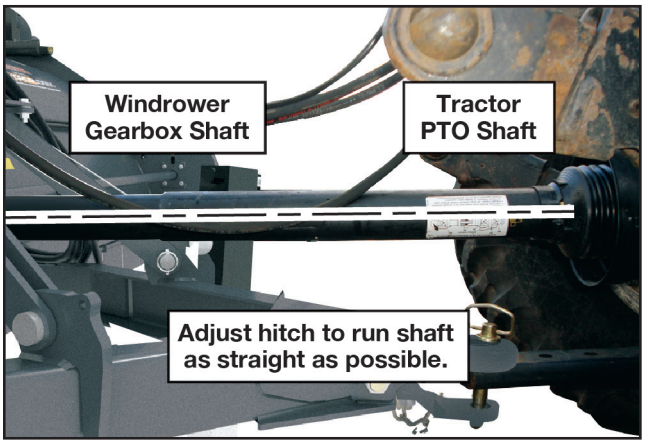
Attaching the Windrower for Operation



IMPORTANT: *Use a safety-locking pin when connecting hitch pins.*

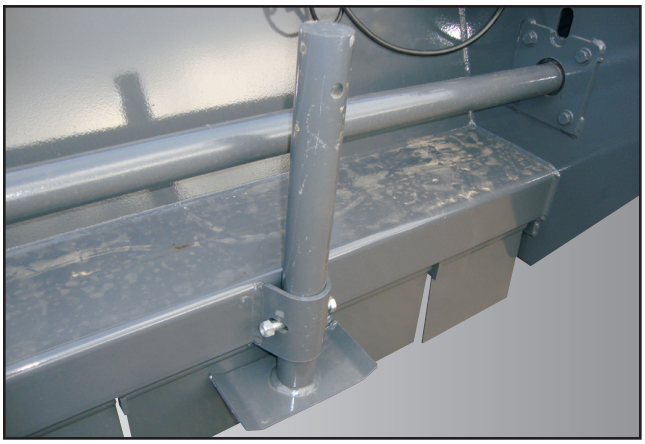
⚠	**DANGER:** *Failure to install a safety locking pin could result in loss of hitch pin, causing the windrower to become disconnected from the tractor during operation, or in transport, which could cause serious injury, or death, to those near by.*

The windrower can be attached to any tractor with a PTO that conforms to ASAE-SAE standards, see “PTO Set-up” on page 16 for PTO specifications and set-up. Do not use a windrower built for 1000 RPM with a 540 RPM tractor or serious damage to the windrower could occur.



Connect hitch to draw bar. Adjust hitch to permit PTO shaft to run as straight as possible.

Jack Stands



IMPORTANT: *During operation and transport, the jack stands should be locked in their highest position.*

Belt Tension

Check the rotor drive belts to ensure they have 1/2" maximum deflection at the midpoint between the pulleys. If adjustments need to be made, see “Belt Adjustment” on page 38 for instructions.

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

Cutting Conditions

The windrower is most efficient when crop and field conditions are dry.

IMPORTANT: *To minimize clogging issues, avoid cutting in damp conditions.*

Operating Speed

Various shredding conditions require different ground speeds. Under most conditions, the tractor can be driven between 3 and 7 MPH. Maintain the needed ground speed and 1,000 PTO RPMs for proper air flow.

Maintaining Rotor Balance

The rotors of the windrower are factory balanced and must remain in balance during the life of the machine. Should any knives on the machine need replacing, be sure to also replace the knives directly opposite to avoid vibration and maintain the rotor balance. See “Knife Replacement” on page 42 for instructions on replacing the knives.

If a knife is not available, take the opposite one off until two new knife sets can be replaced.

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

⚠	**CAUTION:** *Be sure the rotors have stopped completely before checking the knives.*

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

⚠	**CAUTION:** *Repeated impact to the knives from frozen ground or other hard objects can cause excessive wear and damage to tractor or windrower. Repeated impact to hard objects can cause the metal ring constraining knives to rotor to fail and release the knife from the rotor. Be sure to maintain recommended ground clearance as specified in this manual.*

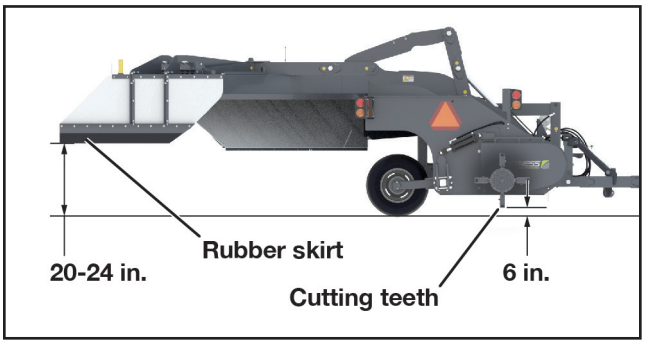
Cutting Height

The recommended minimum cutting height is 6 in. Continually cutting below this height increases the likelihood that ground scalping could occur. Frequent scalping greatly reduces windrower component lifetimes. Loftness considers this pattern to be misuse, and subsequently will not be covered under warranty.

The cutting height is adjusted and controlled with the rear hydraulic cylinders (rear operation wheels). Customer may need to supply cylinder stops to aid in obtaining the recommended cutting height. Maintaining the proper cutting height will provide a uniform crop shredding. It is also easier to begin the new round by eliminating the need to adjust the cutting height every time. The most important advantage is that it eliminates repositioning.

Another important consideration is the PTO shaft angle. For the longest PTO shaft life and minimum vibration, the tractor PTO shaft and the stub shaft on the windrower need to be close to parallel after adjustment into the operating position. It might be necessary to remove the PTO shaft from the windrower when adjusting the cutting height for a better viewpoint to get the shaft angles similar. See “Attaching the Windrower for Operation” on page 17, and “PTO Set-up” on page 16 for more information on installing and adjusting the PTO shaft.

Adjusting the Cutting Height

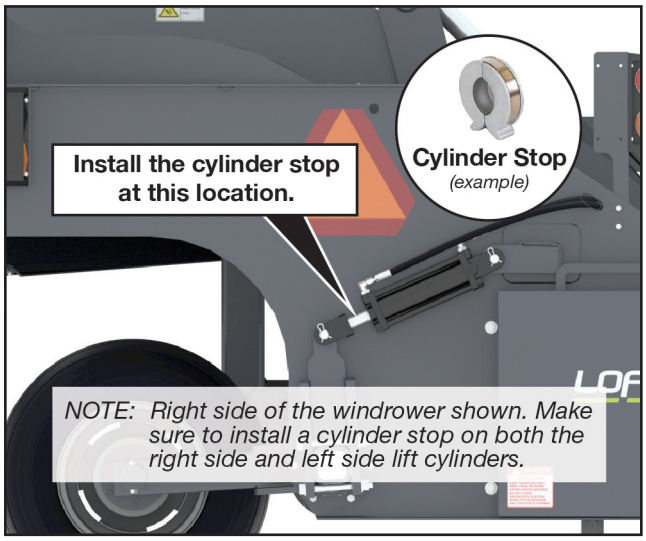


The cutting teeth should be kept 6 in. off of the ground, and the distance between the rubber skirt on the rear-most part of the discharger chute and the ground should be between 20 in. and 24 in.

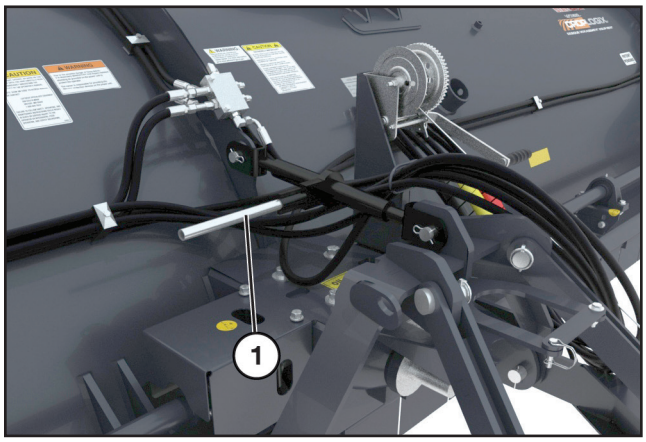
(Procedure continued on following page.)

Cutting Height (Cont'd)

Adjusting the Cutting Height (Cont'd)



Inserting a cylinder stop(s) on the lift cylinders (both sides) can help control the cutting height of the machine.



Use the ratchet jack (1) on the operation hitch to make final height adjustments.

Extending the jack will lower the tail end of the machine, and retracting the jack with raise it.

NOTE: *Keep in mind that adjustments to the ratchet jack will slightly alter the height of the cutting head.*

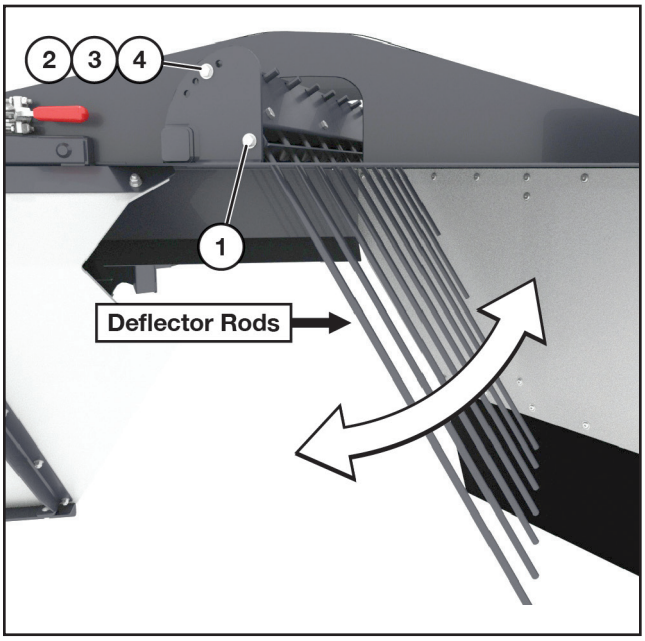
Adjust accordingly to maintain the 6 in. cutting height while keeping the rubber skirt between 20 in. and 24 in. off of the ground.

Deflector Adjustment

Adjustments can be made to the deflector to control the width of the windrow as it is dispelled out of the windrower chute.

Raise the deflector rods for a narrow windrow.

Lower the deflector rods for a wider windrow.



To adjust the angle of the diffuser rods, loosen (do not remove) the hardware (1) at the pivot point. Repeat the procedure on the opposite side of the deflector.

Then remove the nut (2), bolt (3), and washers (4) on both sides of the deflector that lock the deflector into position.

Pivot the deflector assembly by hand until the hole on the deflector assembly aligns with the desired setting hole on the discharge chute assembly - (there are four deflector angle settings total).

Reinstall the locking hardware through the aligned holes. Make sure to install the locking hardware on the opposite side of the deflector.

Tighten all hardware.

Turning

IMPORTANT: *The constant velocity PTO shaft can be turned with PTO engaged.*

IMPORTANT: *To avoid damage or excessive wear, do not engage or disengage the PTO with engine at high speed.*

⚠	**CAUTION:** *Be aware of the front transport wheel assembly on the windrower when making right turns. Contact with the tractor tire can occur if turns are made too sharp, resulting in damage to the windrower and/or tractor.*

⚠	**CAUTION:** *Be extremely careful not to bottom out or extend PTO shaft too far, damage to tractor or windrower could occur. Be careful to avoid lifting the windrower too high, which results in excessive PTO shaft wear if machine is operated during turning maneuvers. Do NOT use PTO adapters of any kind.*

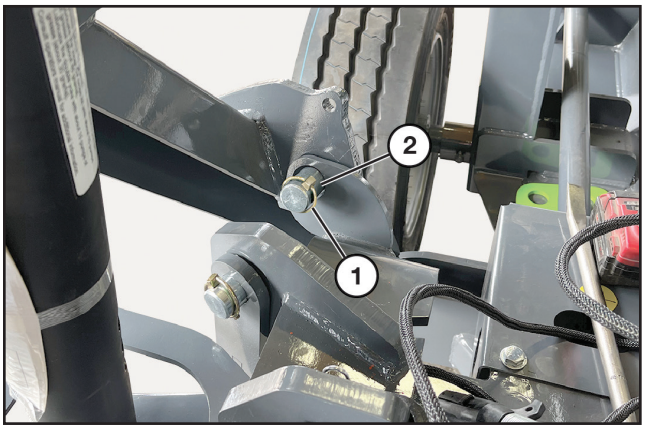
Transport to Operation Configuration Procedure

If equipped with the transport option, follow this section for proper instructions to safely convert the windrower from a transport configuration to an operation configuration.

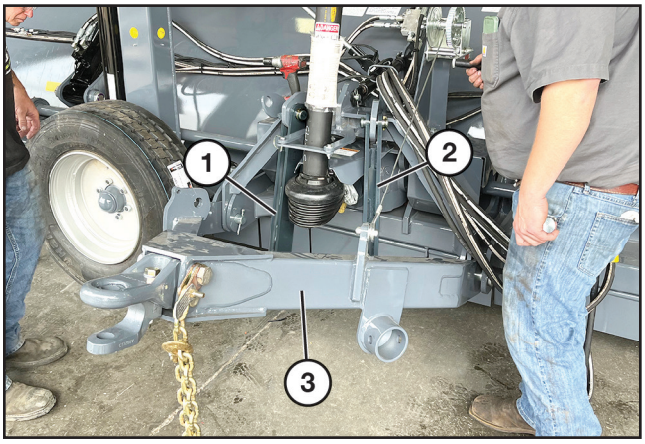
Putting the Operation Hitch into Position

Turn off the tractor and dismount. Follow the “Mandatory Shut-Down Procedure” on page 5.

⚠	**DANGER:** *Failure to turn the tractor off before disconnecting could result in serious injury or death.*



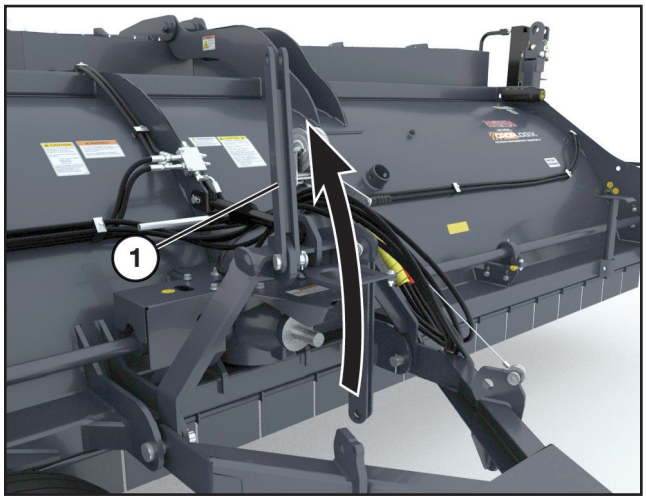
Remove the linchpin (1) and safety lock pin (2) on the operating hitch.



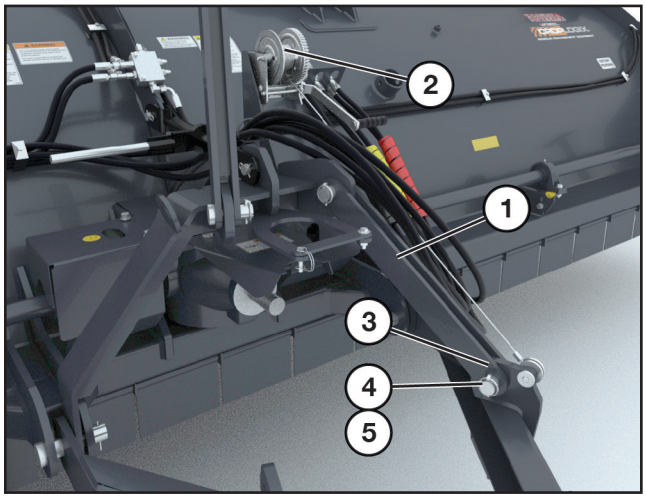
Lower the hitch using the hand winch until the hitch braces (1 and 2) can rotate up and through the hitch frame (3).

(Procedure continued on following page.)

Transport to Operation Configuration Procedure (Cont'd)

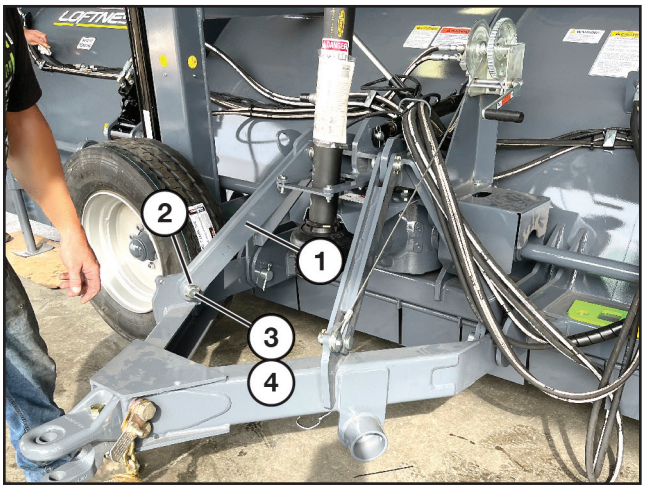


Rotate the right side hitch (1) brace to a vertical position.



Hold the left hitch (1) brace while operating the hand winch (2) to bring the hitch into alignment with the lower hole (3) in the left brace.

Insert the pin (4), and secure with linchpin (5).



Lower the right brace (1) and align with the hole (2) in the hitch. Insert the pin (3) and secure with the linchpin (4) as shown above.

IMPORTANT: *When complete with this step, operate the hand winch to add some slack in the operation hitch cable to allow for sharp turns.*

Disconnect the electrical wiring harness for transport and store/wrap it securely to the windrower frame.

Remove the drawbar pin from the hitch.

Disconnect the safety chain.

Connecting to the Operation Hitch

Remount the tractor, start, and move into position to connect to the operation hitch.

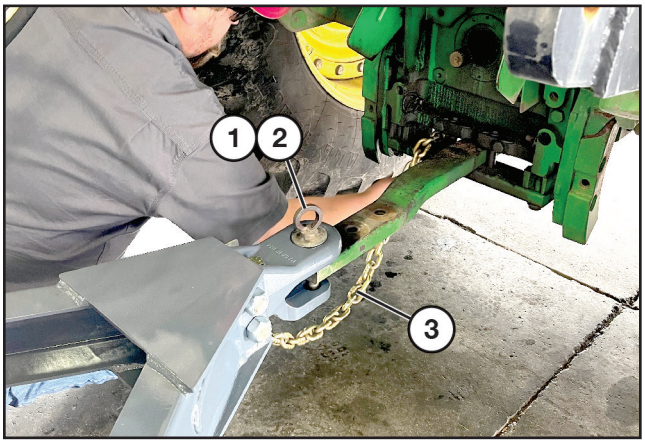
Once aligned, turn off the tractor and dismount.

⚠	**DANGER:** *Failure to turn the tractor off before connecting the hydraulic lines and PTO shaft could result in serious injury or death.*

(Procedure continued on following page.)

Transport to Operation Configuration Procedure (Cont'd)

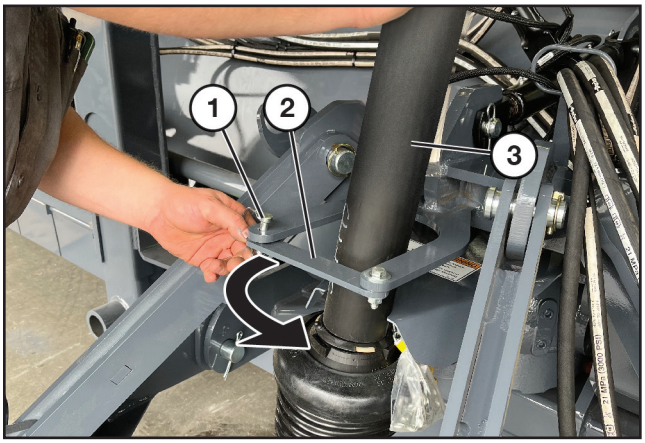
Connecting to the Operation Hitch



Insert the drawbar pin (1), secure with the safety locking (2) pin.

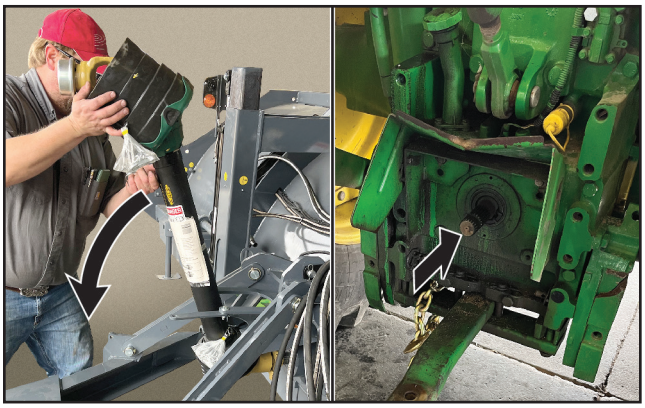
NOTE: *Use the hitch ratchet if necessary to align the operation hitch with the tractor's drawbar.*

Connect the safety chain (3).



Pull the retaining pin (1) on the PTO holder and move the arm (2) out of the way to release the tractor end of the PTO shaft (3).

Return the arm and retaining pin back into position.



Pivot the PTO shaft into position and connect to the tractor's PTO.

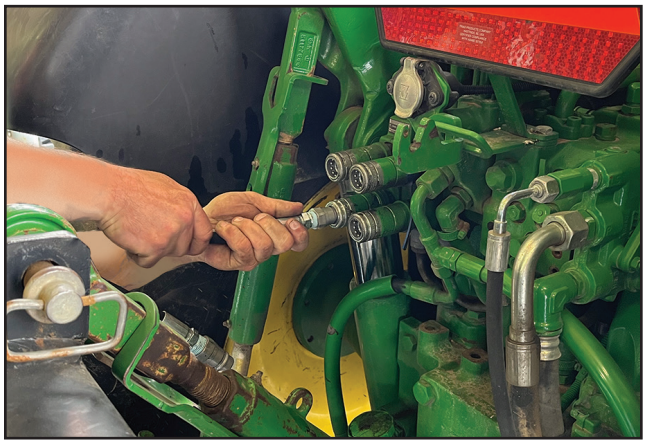
NOTE: *Watch the length of the PTO shaft. Make sure you have enough clearance to get by the tractor's hitch configuration. You may need to release the PTO shaft before connecting the windrower to the tractor.*

Refer to "PTO Set-up" on page 16 for reference on installing and adjusting the PTO shaft.

Transport to Operation Configuration Procedure (Cont'd)

Connecting to the Hydraulics

Remove the hose coupler ends from the storage rack on top of the windrower.



Connect the hydraulic hoses to the tractor's hydraulic system.

NOTE: *Hydraulic hoses are labeled to indicate which coupler to connect to on the tractor's hydraulic system.*

NOTE: *Make sure there is enough slack in the hydraulic hoses to allow for sharp turns.*

Connect the windrower's wiring harness to the tractor's wiring connection.

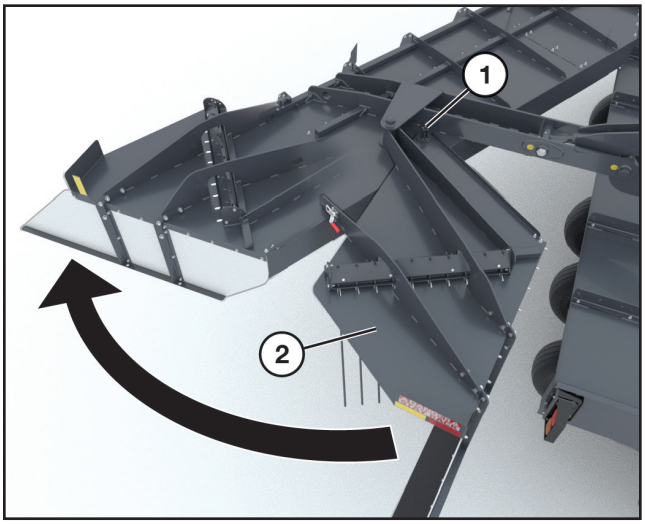
Moving the Pivot Wing into the Operating Position

Using the hydraulic system, extend the wing pivot cylinder until the wing rests on the stop (1).

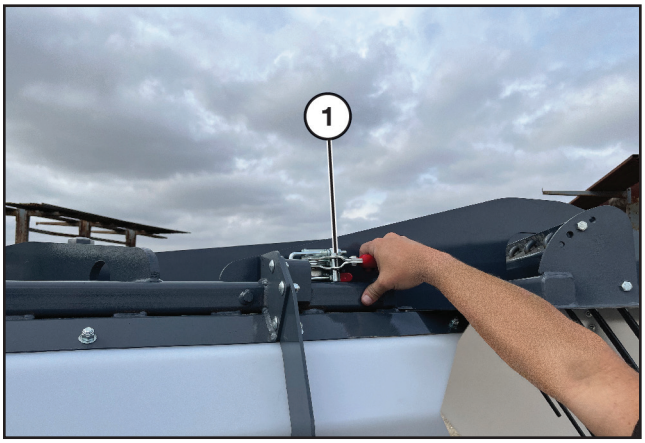
NOTE: *As the wing is unfolding into the operation position the transport wheels are simultaneously retracting (shown above). This lowers the windrower and will now be supported by the rear operation wheels.*

Transport to Operation Configuration Procedure (Cont'd)

Moving the Diffuser into the Operating Position



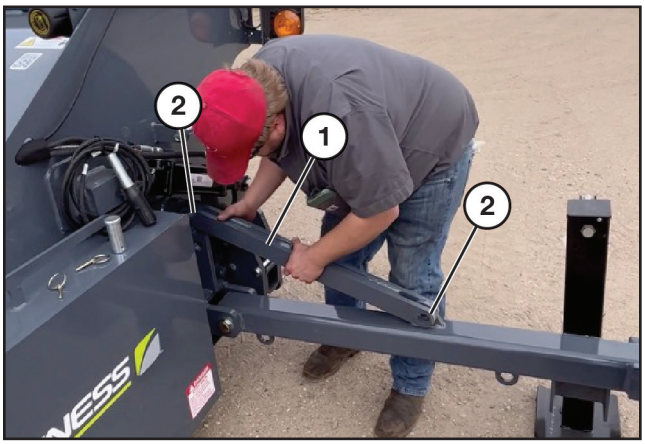
Lift the spring pin (1) and rotate the diffuser assembly (2) into the operating position.



Engage the latch (1) to secure the diffuser into place.

Storing the Transport Hitch

⚠	**CAUTION:** *The transport hitch assembly is heavy. Have an extra person available to assist with this procedure. Failure to do so could result in injury.*



Remove the transport hitch support bar (1) by removing the pins and linchpins at each end (2). Set the bar, pins, and linchpins aside.

Have one person support the hitch while the other person removes the transport jack.

(Procedure continued on following page.)

Transport to Operation Configuration Procedure (Cont'd)

Storing the Transport Hitch

Lift the hitch to its vertical storage position and install the pin. Secure with the linchpin.

Attach the support bar to the bottom of the transport hitch and secure with the pins and the linchpins at each end of the bar.

Install the transport jack onto the hitch in the storage position (parallel with the transport hitch) and secure with the safety pin.

Adjust the Cutting Height

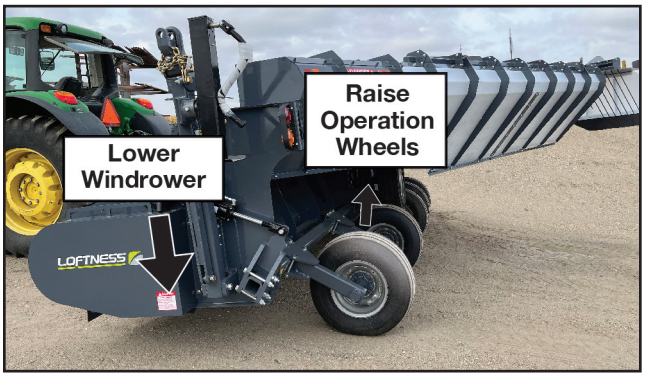
Using the hydraulic system, adjust the position of the rear operation wheels to the desired cutting height.

NOTE: *For the most efficient operation, the cutting teeth should be kept 6 in. off of the ground, and the distance between the rubber skirt on the rear-most part of the discharger chute and the ground should be between 20 in. and 24 in. See "Adjusting the Cutting Height" on page 18 if adjustments need to be made to keep the machine height within these measurements.*

Operation to Transport Configuration Procedure

If equipped, follow this section for proper instructions to safely convert the windrower from an operating configuration to a transport configuration.

Lowering the Windrower

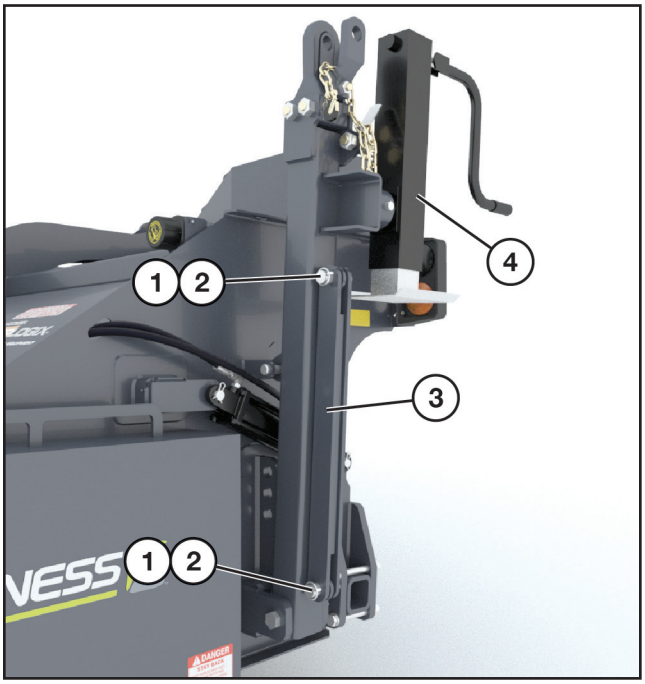


Using the hydraulic system, raise the rear operation wheels to lower the windrower to its lowest position. At this point the lift cylinders are fully retracted

Operation to Transport Configuration Procedure (Cont'd)

Setting Up the Transport Hitch

⚠	**CAUTION:** *The transport hitch assembly is heavy. Have an extra person available to assist with this procedure. Failure to do so could result in injury.*

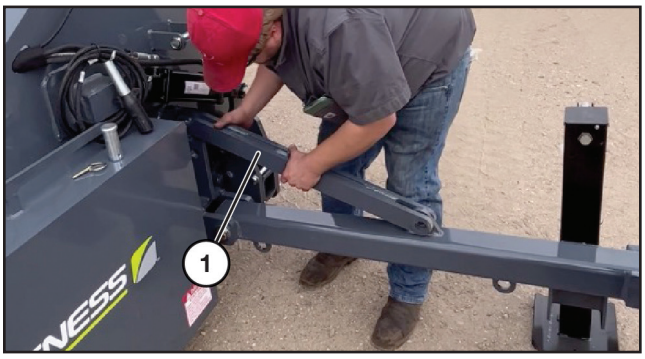


Remove the pins and linchpins (1 and 2) securing the support bar (3) to the underside of the transport hitch and set the bar aside.

Remove the jack stand (4).

Have one person support the transport hitch while the other removes the pin (1) securing the hitch in the upright storage position.

Lower and support the hitch while the other person installs the transport jack into the operating position and secures with the safety pin.

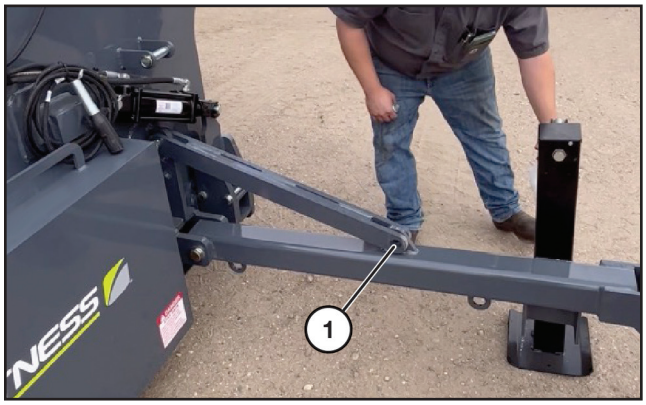


Connect the machine end of the support bar (1) to the windrower as shown, securing with the pin and linchpin.

(Procedure continued on following page.)

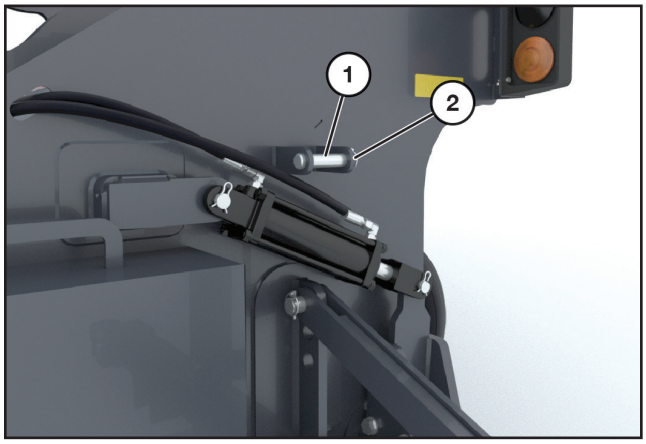
Operation to Transport Configuration Procedure (Cont'd)

Setting Up the Transport Hitch (Cont'd)



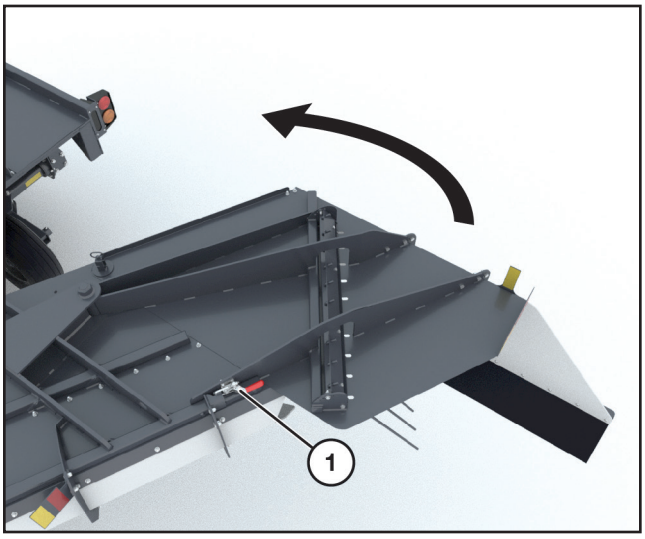
Adjust and position the hitch tongue until the hole in the opposite end of the support bar aligns with the hole in the hitch tongue (1). Insert the pin and secure with the linchpin.

Use the transport jack to align the transport hitch with the tractor drawbar height.

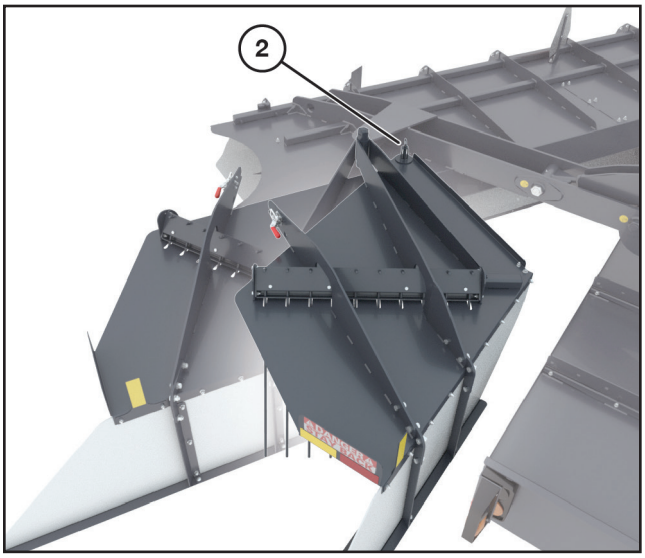


Return the pin (1) used to hold the transport hitch in the upright position back to its storage position. Secure with the linchpin (2).

Rotate the Diffuser into the Transport Position



Release the latch (1) and rotate the diffuser into the transport position.

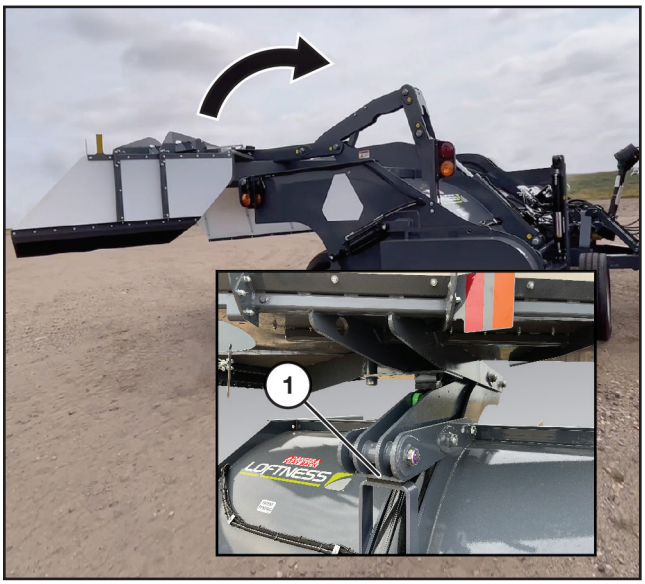


Engage the spring pin (2) to lock the diffuser assembly into place.

NOTE: *Two holes on top of the diffuser assembly allow it to be locked into the two positions shown above.*

Operation to Transport Configuration Procedure (Cont'd)

Folding the Wing Assembly



Use the hydraulic system to fold the wing assembly into the transport position until it comes to rest on the stops (1).

NOTE: *As the wing is folding up into the transport/ storage position the transport wheels are simultaneously being lowered (shown above), raising the windrower.*

Disconnect from the Operation Hitch

Turn the tractor off and cycle the hydraulic valves to remove any pressure from the hoses before disconnecting.

Dismount the tractor.

Follow the "Mandatory Shut-Down Procedure" on page 5.

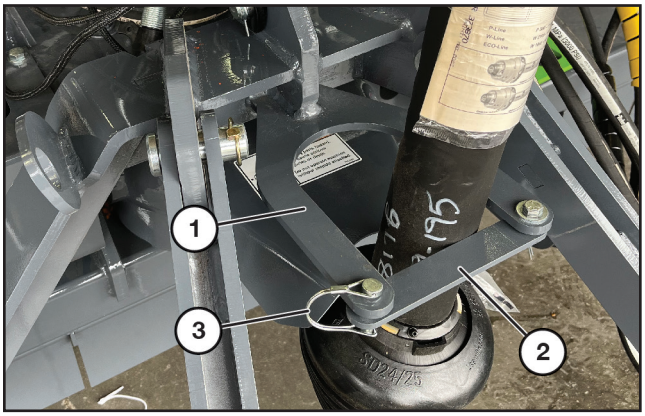
⚠	**DANGER:** *Failure to turn the tractor off before disconnecting could result in serious injury or death.*

NOTE: *Use the hitch ratchet if necessary to relieve any tension between the operation hitch and the tractor's drawbar.*

Disconnect the safety chain connected to the tractor.

Disconnecting the PTO Shaft

⚠	**DANGER:** *Failure to turn the tractor off before disconnecting the PTO shaft could result in serious injury or death.*



With the tractor turned off, disconnect the PTO shaft from the tractor end and position in the PTO holder (1) as shown. Make sure the arm (2) is secured with the retaining pin (3).

(Procedure continued on following page.)

Operation to Transport Configuration Procedure (Cont'd)

Disconnecting the Hydraulic Hoses

⚠	**DANGER:** *Failure to turn the tractor off before disconnecting the hydraulic lines could result in serious injury or death.*

Disconnect all hydraulic couplers and the wiring harness connection from the windrower to the tractor.

Wrap all hydraulic hoses neatly and make sure they are secure. Place coupler ends in the storage rack on top of windrower.

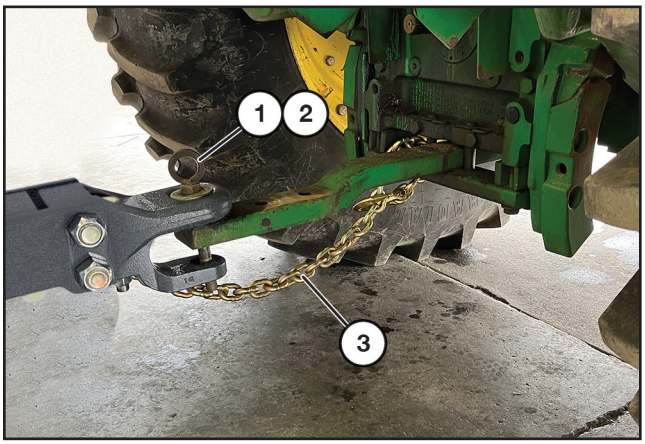
Secure the wiring harness.

Connecting to the Transport Hitch

Remount tractor, start, and move into position to connect to the transport hitch.

Turn off the tractor and dismount. Follow the "Mandatory Shut-Down Procedure" on page 5.

⚠	**DANGER:** *Failure to turn the tractor off before connecting could result in serious injury or death.*



Insert the drawbar pin (1), securing with the safety locking pin (2).

Connect the safety chain (3).

⚠	**DANGER:** *Failure to install a safety locking pin could result in loss of hitch pin, causing the windrower to become disconnected from the tractor during transport, which could cause serious injury, or death, to those near by.*

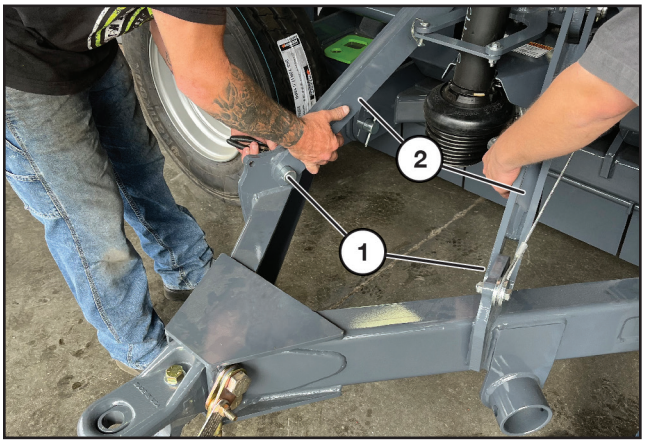
Retract the transport jack and rotate it into the storage position (parallel with the hitch tongue).

Connect the electrical wiring harness for transport.

NOTE: *Make sure there is enough slack in the wiring harness to allow for sharp turns.*

Operation to Transport Configuration Procedure (Cont'd)

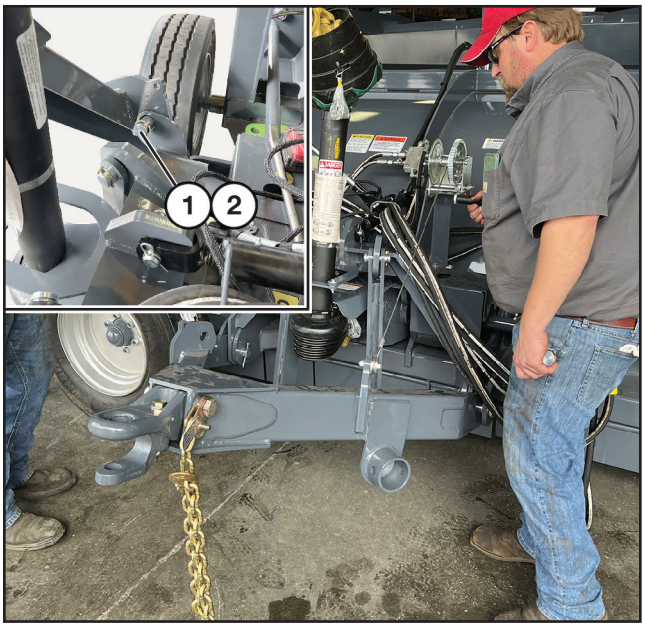
Folding the Operation Hitch



Using the hand winch on the operation hitch, adjust the cable to create enough slack to allow the lower pins (1) in the braces (2) to be removed.

Remove the lower pins (1) and set aside. These will be reinstalled into the same holes on the hitch after the hitch assembly is raised.

With the pins removed, lower the hitch with the hand winch until the braces drop clear through the hitch.



Using the hand winch, raise the hitch up to the storage position. Use the right brace pin (1) and linchpin (2) to secure into position.

Return the remaining brace pin to lower hole of the left brace and secure with linchpin.

⚠	**CAUTION:** *Verify warning lights are properly operating before transporting the windrower on public roads. Make sure "Slow Moving Vehicle" decal is visible.*

⚠	**CAUTION:** *Verify all jacks have been returned to their storage positions and the jack stands are raised and locked in their highest position before transport.*

Transporting

Whenever transporting the windrower on public roads, verify taillights are operating correctly.

⚠	**CAUTION:** *Do not exceed 20 mph when transporting the windrower.*

Transporting the Windrower in the Operation Configuration

When transporting the windrower short distances in its operation configuration, rear operation wheels (1) must be lowered so the windrower is at its highest position.

IMPORTANT: *Do not fold the wing when transporting the windrower in the operation configuration; the wing must be remain in the operation position as shown above.*

⚠	**CAUTION:** *Verify warning lights are properly operating before transporting the windrower on public roads. Make sure "Slow Moving Vehicle" decal is visible.*

⚠	**CAUTION:** *Verify all jacks have been returned to their storage positions and the jack stands are raised and locked in their highest position before transport.*

⚠	**CAUTION:** *For windrowers with the transport option, be aware of the front transport wheel assembly when making right turns. Contact with the tractor tire can occur if turns are made too sharp, resulting in damage to the windrower and/or tractor.*


LOFTNESS

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 windrower after each use.

Maintenance of any type on equipment is dangerous when the machine is running.

DANGER: *Always shut-down all equipment prior to cleaning, adjusting, lubricating or performing service of any kind. Review and become familiar with the "Mandatory Shut-Down Procedure" before attempting any service work.*

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

Maintenance Schedule

HOURS	SERVICE POINTS	SERVICE REQUIRED					
		CHECK	CLEAN	CHANGE	GREASE	ADJUST	OIL
Every 8	Machine		X				
	Loose Bolts					X	
	Hoses and Wiring	X					
	Oil Leaks	X					
	Rotor Bearings				X		
	Knives	X					
	Belt Tensioner				X		
	Line Shaft Bearings	X			X		
	PTO CV Shaft	X			X		
Every 25	Telescoping PTO Tube	X			X		
	Line Shaft U-Joints	X			X		
Every 50	PTO Overrunning Clutch	X			X		
	Wheel Lift Tubes	X			X		
	Drive Belt Tension	X					
	Drive Belt	X					
	Safety Labels	X					
Every 100	Wheel Bearings	X			X		
	Gearbox (w/oil change)	X					X

Lubrication

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.

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.

Lubrication (Cont'd)

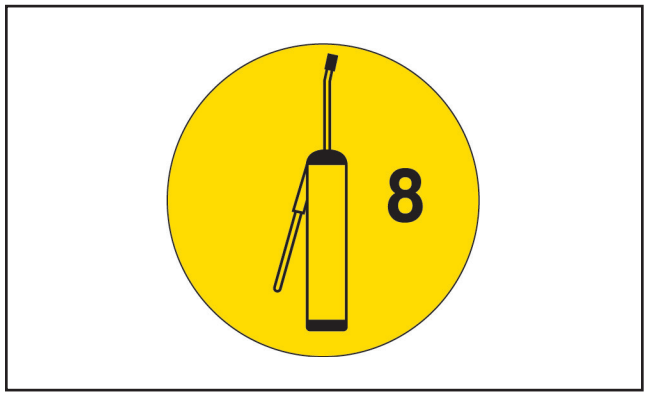
Grease Points Location

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.*

WARNING: *Do not lubricate parts while the machine is running.*

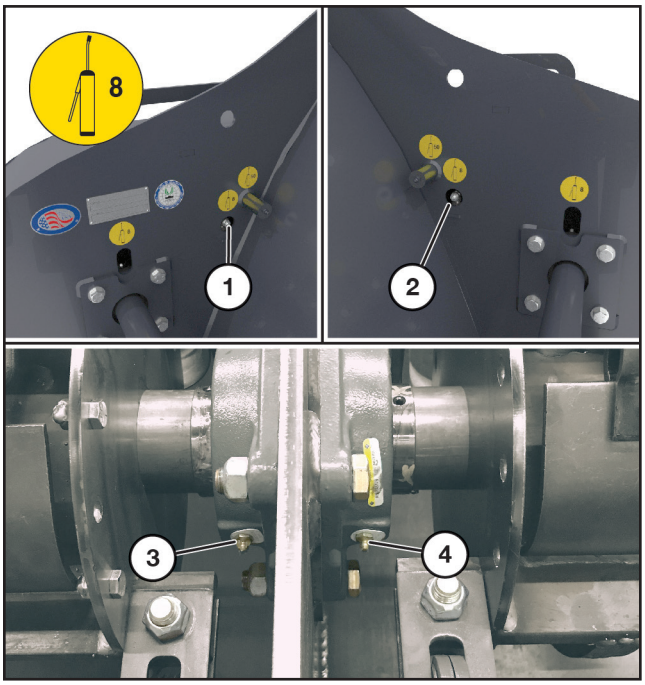
⚠	**DANGER:** *Shut down and lock out power from the tractor before lubricating the shredder. Failure to do so could result in serious injury or death.*



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

See "Air Windrower Shredder Identification" on page 8 for component location and identification.

8-Hour Lubrication Points



Location: Rotor Bearings (1, 2) - outside. Located on the left and right ends of the windrower, inside the end plates.
Rotor bearings (3, 4) - inside. Located on the bearings positioned between the two rotors. Access the fittings from underneath the windrower near the operation hitch.

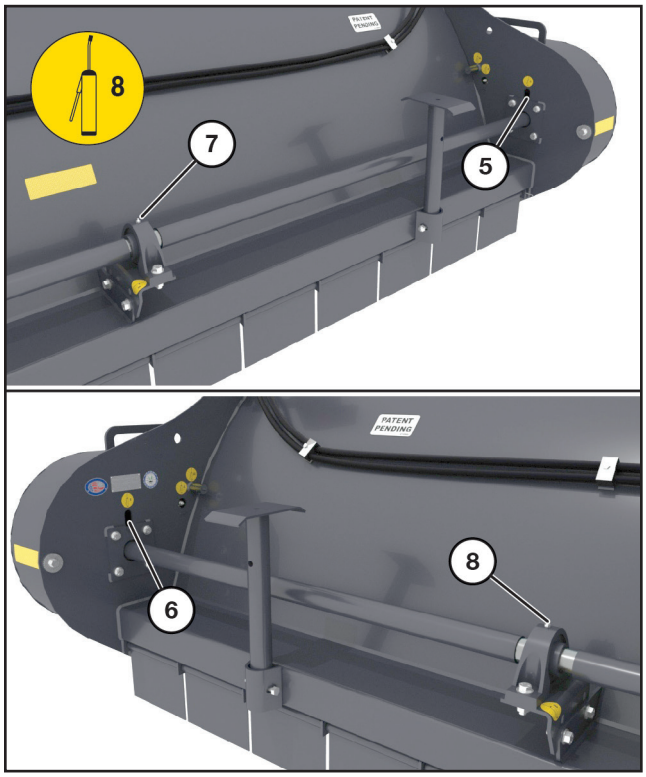
NOTE: *Rotor bearings cannot be damaged by overgreasing. Grease fittings until a small amount of grease is purged from the bearing.*

Interval: Every 8 hours of operation.

Lubrication (Cont'd)

Grease Points Location (Cont'd)

8-Hour Lubrication Points (Cont'd)

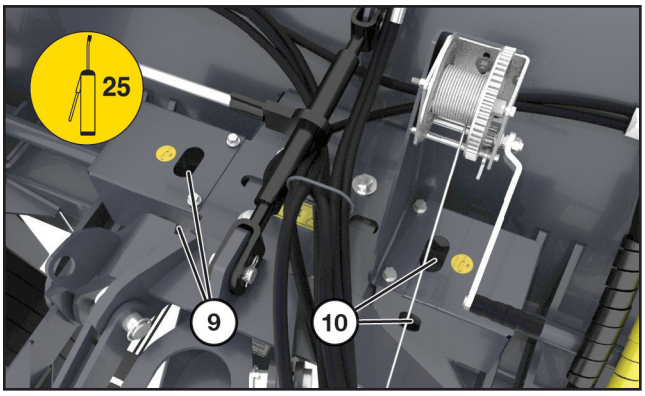


Location: Line shaft ends (5, 6). One zerk located on each end of the windrower, inside the end plates. Lubricate the fitting through the opening in the frame.

Line shaft pillow blocks (7, 8). One zerk located on each pillow block to the left and right of the gear box.

Interval: Every 8 hours of operation.

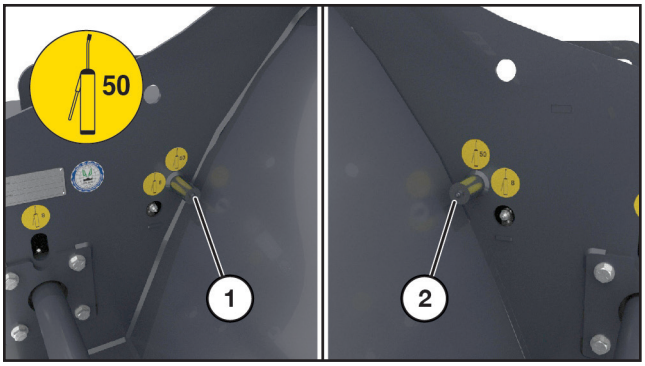
25-Hour Lubrication Points



Location: Gearbox U-joint (9, 10). (Located on the U-joints on each side of the gearbox. Access via holes on top or side of gearbox shields.)

Interval: Every 25 hours of operation.

50-Hour Lubrication Points



Location: Belt tensioner (1, 2). Located on the left and right ends of the windrower, inside the end plates.

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

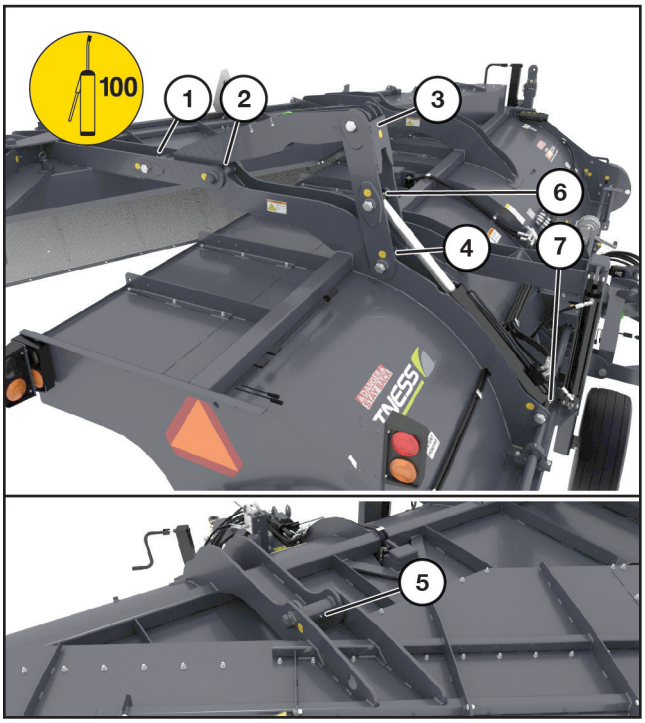
NOTE: *Over lubricating may be transferred to the belt, causing the belt to slip, resulting in loss of rotor RPM speed.*

Interval: Every 50 hours of operation.

Lubrication (Cont'd)

Grease Points Location (Cont'd)

100-Hour Lubrication Points

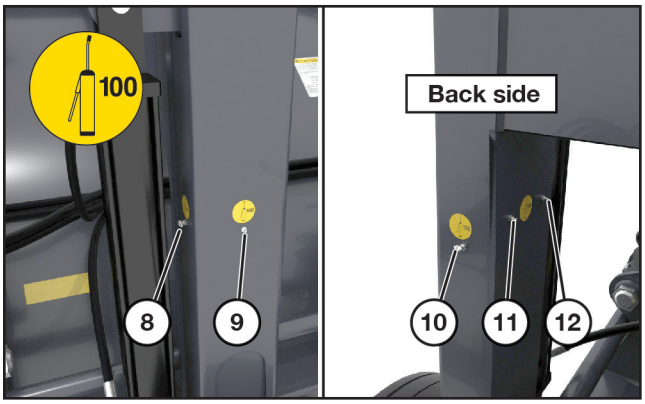


Location: Wing pivot points, right side (1, 2, 3, 4).
Wing pivot point, left side (5).
Located on top of the windrower.

Interval: Every 100 hours of operation.

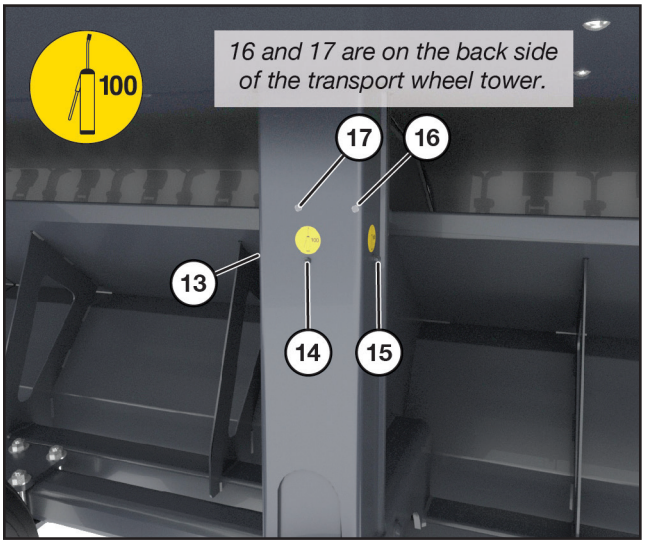
Location: Wing cylinder (6, 7). Located on each end of the wing lift cylinder; front of the windrower.

Interval: Every 100 hours of operation.



Location: Front transport wheel tower (8, 9, 10, 11, 12) - front of the windrower. Five fittings located on the front transport wheel assembly.

Interval: Every 100 hours of operation.



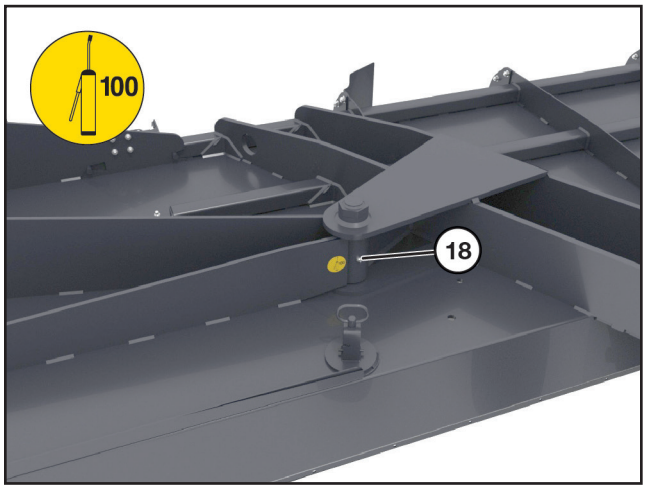
Location: Rear transport wheel tower (13, 14, 15, 16) - rear of the windrower. Five fittings located on the rear transport wheel assembly.

Interval: Every 100 hours of operation.

Lubrication (Cont'd)

Grease Points Location (Cont'd)

100-Hour Lubrication Points (Cont'd)



Location: Diffuser (18). Located at the pivot point of the diffuser assembly.

Interval: Every 100 hours of operation.

PTO Lubrication Points

Location: **(Not shown)** Standard PTO CV shaft. Three U-joints and two additional fittings located under the bell housing.

Interval: Every **8 hours** of operation.

Location: **(Not shown)** Telescoping PTO tube. One located by lining up the hole in the PTO guard with grease zerk.

Interval: Every **25 hours** of operation.

Location: **(Not shown)** PTO overrunning clutch. Located near U-joint yoke.

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

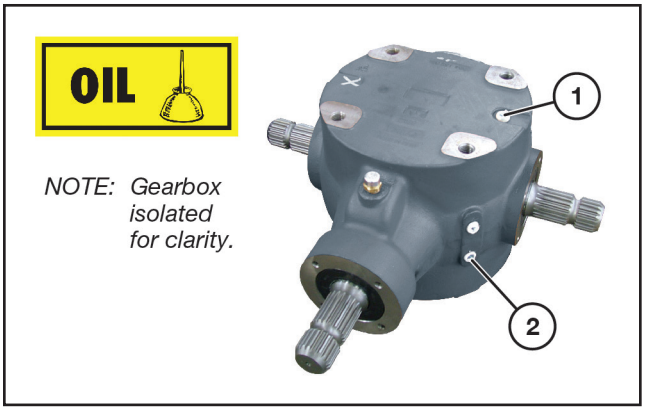
Other Lubrications Points

Location: **(Not shown)** Operation wheel bearings - 5 total.
Transport wheel bearings - 2 total.

NOTE: *Grease and repack.*

Interval: Every 100 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 lower port.

NOTE: *The gearbox holds approximately 128 oz.*

Reinsert the plug back into the lower port and tighten.

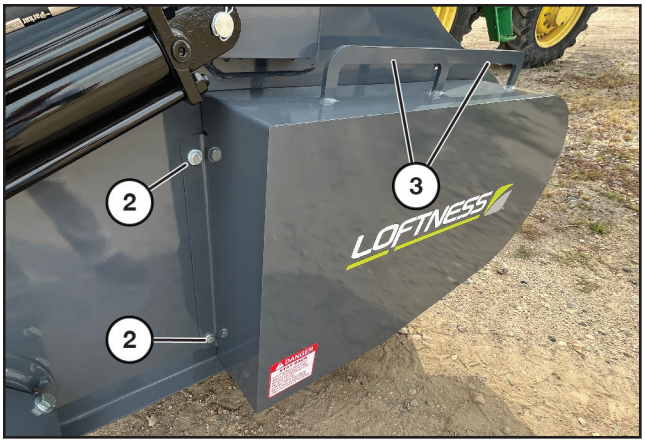
Return the remaining plug back into the upper port and tighten.

Belt Shields

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

NOTE: *The belt shield removal procedure is the same for both sides. The right side is shown for this procedure.*

To remove the belt shield, remove the bolt with washer (1) securing the belt shield to the frame.



Remove the two bolts with washers (2) to free the belt shield.

Lift the shield up and off of the frame using the handle (3). This will expose the belt drive components.

Reverse the procedure to reinstall the belt shield.

Belt Adjustment

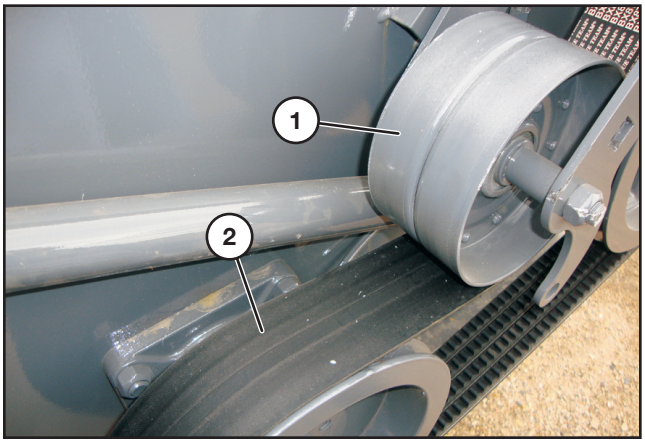
NOTE: *The belt shield removal procedure is the same for both sides. The right side is shown for this procedure.*

NOTE: *Refer to "4-Band Drive" on page 56 for parts breakdown and assembly of belt drive components.*

Turn off all power to the windrower.

DANGER: *Failure to turn off power to the windrower before adjusting the belt drive could result in serious injury or death.*

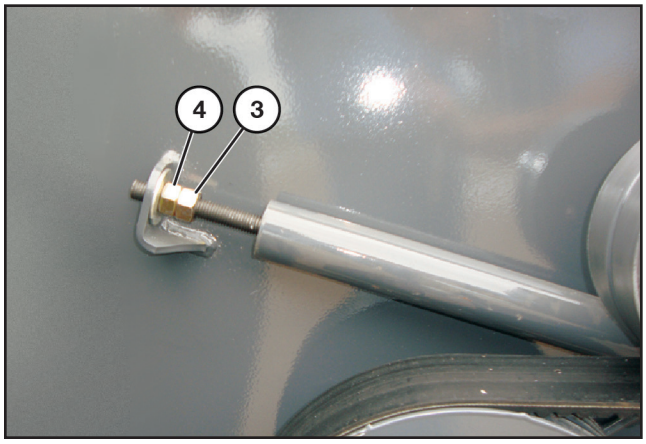
Remove belt shield. See "Belt Shields" for instructions on removing the belt shields.



Check belt idler (1) position to insure it is centered on the belt (2).

(Procedure continued on following page.)

Belt Adjustment (Cont'd)



Loosen the jam nut (3).

Turn the hex nut (4) next to the adjustment bracket clockwise until the washer on the spring base is recessed into the tightener tube. Tighten jam nut (3) to lock.

Rotate the pulleys manually in the direction of normal machine rotation to check alignment of idler on the belt. Adjust if necessary.

Reinstall the belt shield when complete.

Belt Replacement

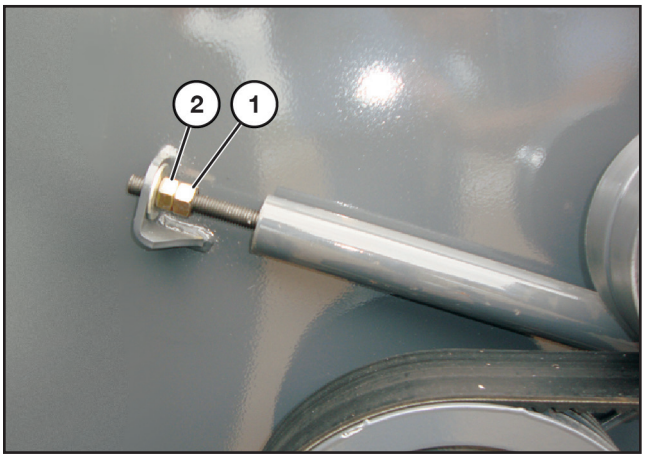
NOTE: *The belt replacement procedure is the same for both sides. The right side is shown for this procedure.*

NOTE: *Refer to "4-Band Drive" on page 56 for parts breakdown and assembly of belt drive components.*

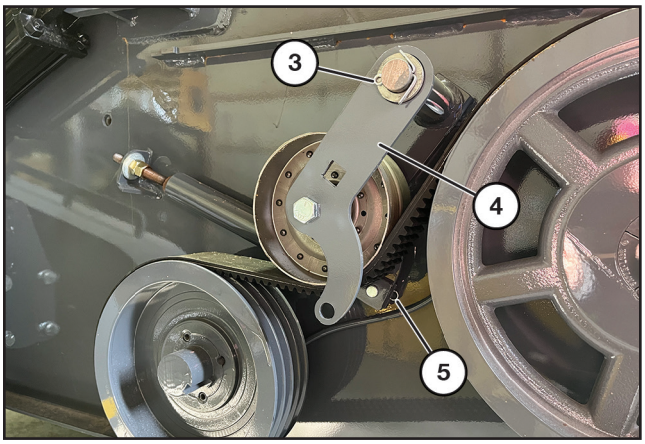
Turn off all power to the windrower.

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

Remove belt shield. See "Belt Shields" on page 38 for instructions on removing the belt shields.



Loosen jam nuts (1 and 2) on the belt tightener which will release the tension from the belt.



Remove the pin (3) holding the tensioner assembly (4) onto the tightener/tensioner mount.

Then remove the pin (5) that secures the belt tightener tube to the tensioner assembly.

Slide the tensioner assembly off of the mount. The belt can now be removed.

Replace with the new belt.

Reinsert the tensioner assembly and reinstall the pins.

Adjust the tension on the belt. Refer to "Belt Adjustment" on page 38 for instructions.

Reinstall the belt shield when complete.

Sheave and Pulley Removal

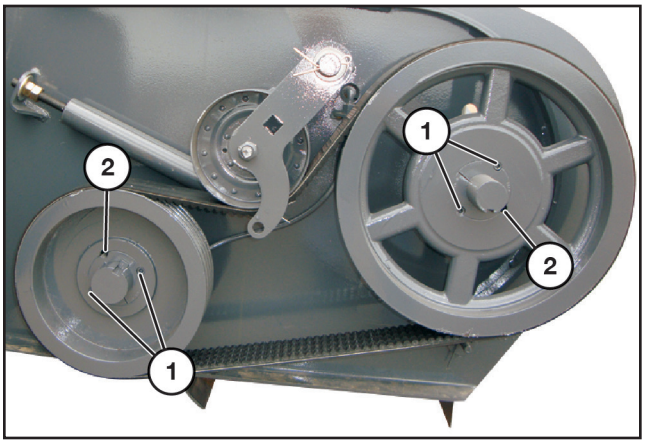
NOTE: *Refer to "4-Band Drive" on page 56 for parts breakdown and assembly of belt drive components.*

Turn off all power to the windrower.

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

Remove belt shield. See "Belt Shields" on page 38 for instructions on removing the belt shields.

Remove the idler arm and drive belt, following the instructions in "Belt Replacement" on page 39.



Remove the taper lock bushing set screws (1).

Insert set screw into threaded hole (2).

Tighten screw until bushing grip is released. If excessively tight, lightly hammer face of pulley using drift or sleeve.

IMPORTANT: *Never hit pulley directly with hammer.*

⚠	**CAUTION:** *Excessive or uneven pressure on set screws may damage the bushing, making removal difficult or possibly damaging the sheave.*

⚠	**CAUTION:** *Excessive screw torque may cause damage to the bushing or sheave. Recommended torque is 430 in/lbs.*

Pulley Assembly

Clean shaft, bore of bushing, outside of bushing and hub bore of all oil, paint and dirt. File away any burrs

Insert bushing in hub. Match the hole pattern, not threaded holes (each complete hole will be threaded on one side only).

Apply a thread-locking compound to setscrews and thread into the two opposing holes.

Position assembly on shaft and alternately torque set screws to 35 ft. lbs.

To increase gripping force, hammer face of bushing using drift or sleeve.

IMPORTANT: *Never hit bushing directly with hammer.*

Re-torque screws after hammering.

Recheck screw torque after initial run-in, and periodically thereafter. If loose, hammer face of bushing and re-torque screws again.

Check alignment of the pulleys. Repeat pulley removal and assembly procedures if necessary.

Install belt. See "Belt Replacement" on page 39 for reference.

Reinstall the belt shield when complete.

Rotor Removal

This service section is written as if the windrower is upside down. If procedure is done with machine in operating position, movable jacks will be needed to support and move the rotors. The first rotor removed must be the last rotor installed. The center bearing with the bolts started through it, must be on the last rotor removed (first rotor installed).

NOTE: *Refer to "Rotors, with Bearings and Lubrication" on page 60 for parts breakdown and assembly of rotor components.*

Turn off all power to the windrower.

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

1. Apply an appropriate supporting mechanism to both rotors. (Chains and hoist)
2. Loosen the set screws on bearing lock collars.
3. Loosen and remove the outer bearing from the shaft of the first rotor to be removed.
4. Remove the four nuts from the bolts holding the two center bearings to the center plate. (The rotor on the side of the removed nuts is the first to be removed from the machine).
5. Slide the rotor outward away from center plate. (This step might require the removal of the stripper bolts located on the outside balancing ring. Make note of which hole the stripper bolts are removed from and replace in the same holes to insure proper balance.
6. Slide the four inner bearing bolts outward until the center bearing on the first rotor is free. Be careful not to slide them too far out or the second rotor might fall free prematurely.
7. Remove rotor from the machine by lifting inner end of rotor first to clear center plate and then sliding outer shaft in through end plate.
8. To remove inner rotor bearing, loosen and remove flat head cap screw, star washer and retaining washer. Slide bearing off shaft. Remove collar.

Repeat steps 3 through 8 for the opposite rotor.

Rotor Assembly

1. Slide bearing spacer on shorter shaft of the rotor. (Shaft with 1/2 in. [1.27 cm] tapped hole in center).
2. Install roll pin into end of shaft.
3. Insert the four bolts through the bearing housing and then slide it completely on the shaft.
4. Apply thread-locking compound to flat head screw. Slide through washers and install into threaded hole in shaft. Torque to 75 ft lbs.

NOTE: *To determine left and right rotor, install so that the bolt head on the knife U-clamp faces the front of the machine.*

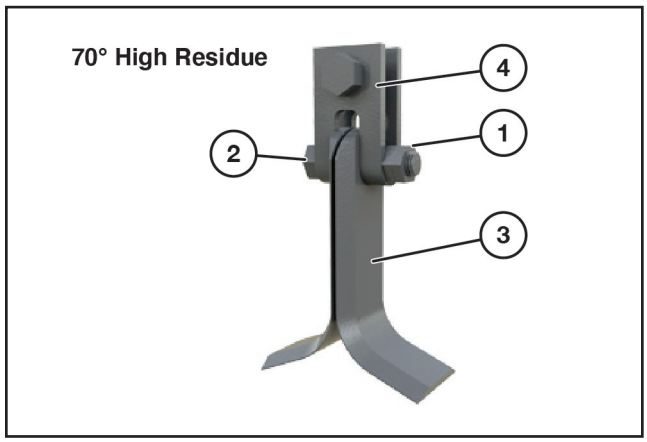
5. Insert four outer bearing bolts into end plate with the heads of the bolts inside the rotor cavity (nuts will be inside belt housing).
6. Install rotor by inserting the outer end (long shaft) into the bearing hole of the end plate.
7. Align the four bearing bolts with the center plate holes and insert the bolts so that they protrude about 1/4 in. (.635 cm) through opposite side of plate. To allow for easier future greasing, point the grease fitting toward the rear of the machine.
8. Repeat steps 1-5 (without the four bolts through the bearing) on the second rotor.
9. Align the holes in bearing and push center bolts completely through both bearings and center plate. Install new locking nuts but do not torque.
10. Install outer bearings onto shafts (grease fitting to point up when machine is in operating position) and tighten new lock nuts to 170 ft. lbs.
11. While supporting the rotor at the center plate, tighten the bearing bolts to 170 ft lbs.
12. Apply a thread locking compound and tighten the set screws.
13. Replace stripper bolts directly across from each other to maintain proper rotor balance.

Knife Replacement

Turn off all power to the shredder.

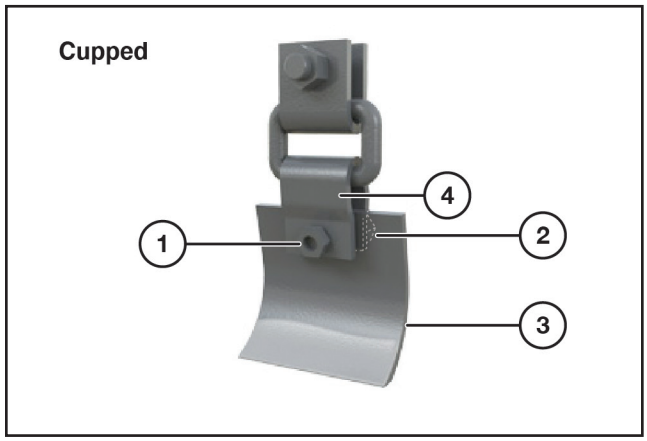
⚠	**DANGER:** *Failure to turn off power to the shredder before replacing knives could result in serious injury or death.*

70° High Residue



Remove lock nut (1), bushing and bolt (2), then remove knife (3) from slotted u-bar (4).

Cupped



Remove lock nut (1) and bolt (2). Slide knife (3) out of U-bar (4).

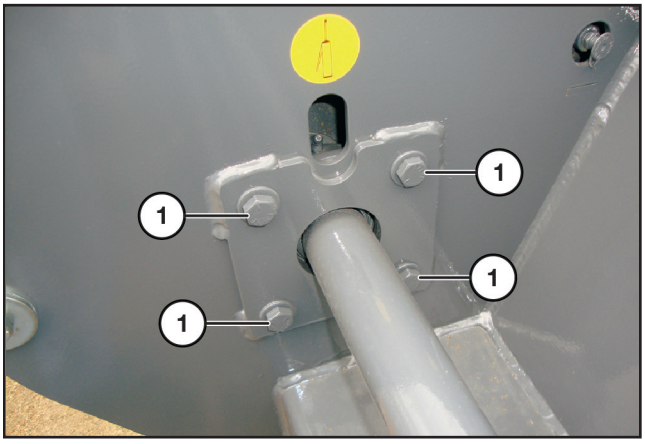
IMPORTANT: *The rotors of the shredder are factory balanced and must remain in balance during the life of the machine. Should any knives on the machine need replacing, be sure to also replace the knives directly opposite to avoid vibration and maintain the rotor balance. If a knife is not available, take the opposite one off until two new knife sets can be replaced.*

Gearbox Repair

Repairs to the gearbox by the customer will be limited to the replacing of the cross or pinion shaft seals. See “Gearbox, 1450 RPM Bondioli (N13950)” on page 64 for parts breakdown. These seals can be removed and replaced by using a screwdriver or similar instrument without opening the gearbox. If the machine is still under warranty, do not attempt to repair the gearbox as unauthorized repairs will void the warranty. All warranty repairs should be done through your Authorized Loftness Dealer. Contact your dealer or the Loftness factory for specific details concerning the gearbox warranty.

Gearbox Removal

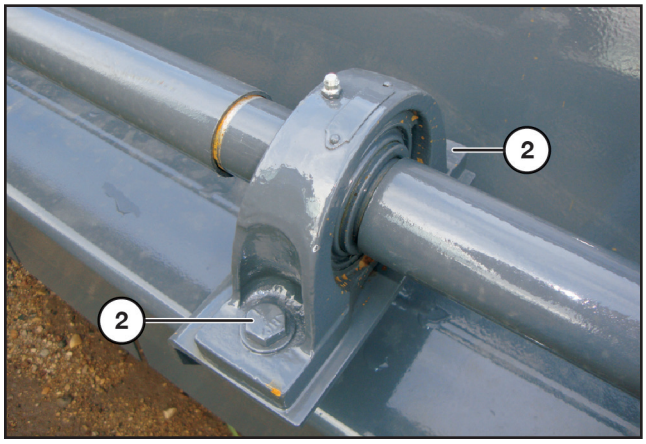
Remove the drive belt. Follow instructions in “Belt Replacement” on page 39 up until the point where the drive belt is removed.



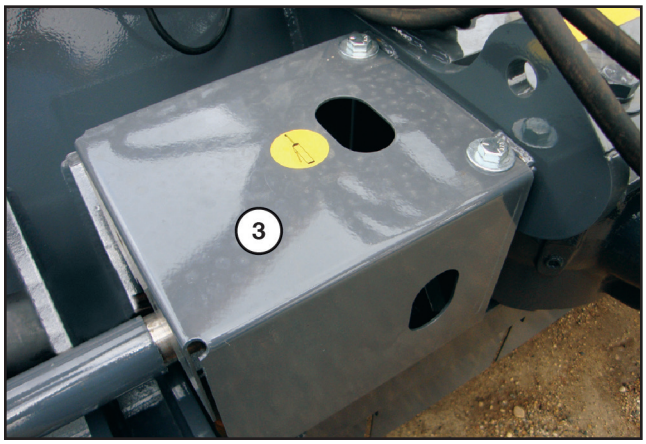
Remove the bolts (1) with washers securing the line-shaft bearing located behind the large pulley.

(Procedure continued on following page.)

Gearbox Removal (Cont'd)



Remove the bolts (2) securing the pillow block bearing supporting the line-shaft.

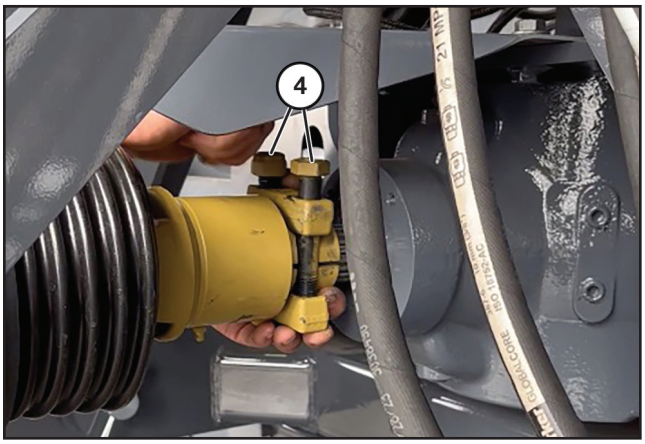


Remove driveline shield (3).

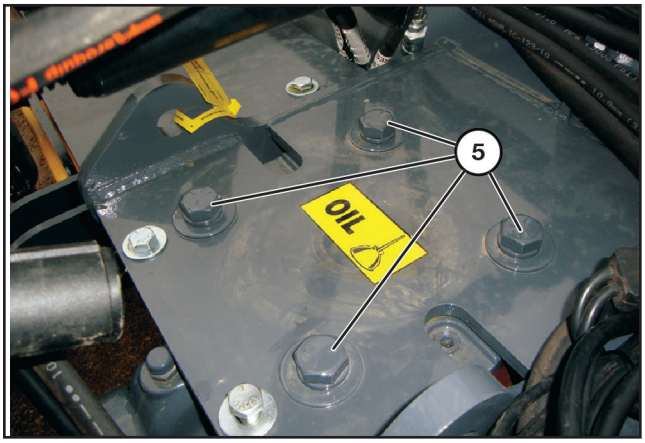
Loosen and remove the clamp bolts securing the U-joint to the gearbox shaft.

Slide the line-shaft outward until the U-joint is free of the shaft.

Repeat steps to remove opposite side line-shaft.



Remove PTO shaft by loosening and removing the clamp bolts (4). Then slide it off the shaft.

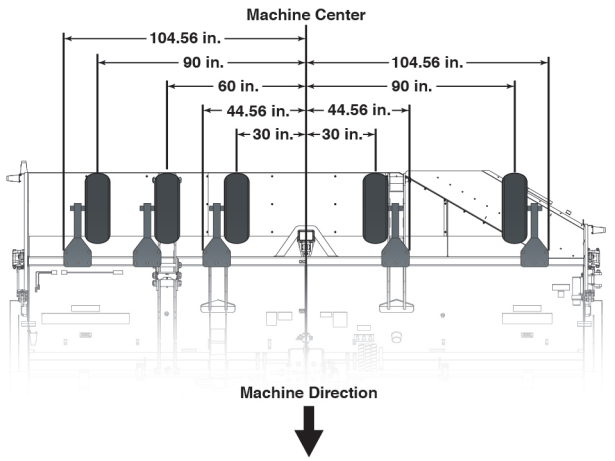


Remove the four bolts (5) with lock washers and washers securing the gearbox to the frame.

Rear Operation Wheel Spacing

NOTE: *The rear operation wheels are factory set for 30 in. row spacing.*

NOTE: View from top. Wing removed for clarity.



Follow the figure above for wheel orientation and reference for wheel assembly locations.

To obtain the best results from the windrower, wheel spacing should conform to crop row spacing.

To adjust wheel spacing, raise windrower and install blocks under windrower end plates. Raise rear wheels with hydraulic cylinders. Loosen wheel strut clamping bolts and adjust wheels to desired spacing.

Storage

End of the Season

- Clean the entire windrower thoroughly.
- Paint all parts that are worn.
- Lubricate all parts of the machine.
- Block up the frame of the windrower, DO NOT deflate the tires.
- Store the windrower in a dry area with the wing positioned out of direct sunlight.
- Review your operator's manual.

Beginning of the Season

- Review your operator's manual.
- Check air pressure in the tires.
- Drain and refill the gearbox to the proper level. Gearbox should be filled to the lower plug. The gearbox holds approximately 128 oz. of 80w-90 gear oil.
- Lubricate all parts of the machine.
- Tighten all loose bolts, nuts and set screws.
- Check and replace all worn knives.
- Should any knives need replacing, remember to replace the worn knives and those directly across from the those being replaced to avoid rotor imbalance and subsequent vibration.

Troubleshooting

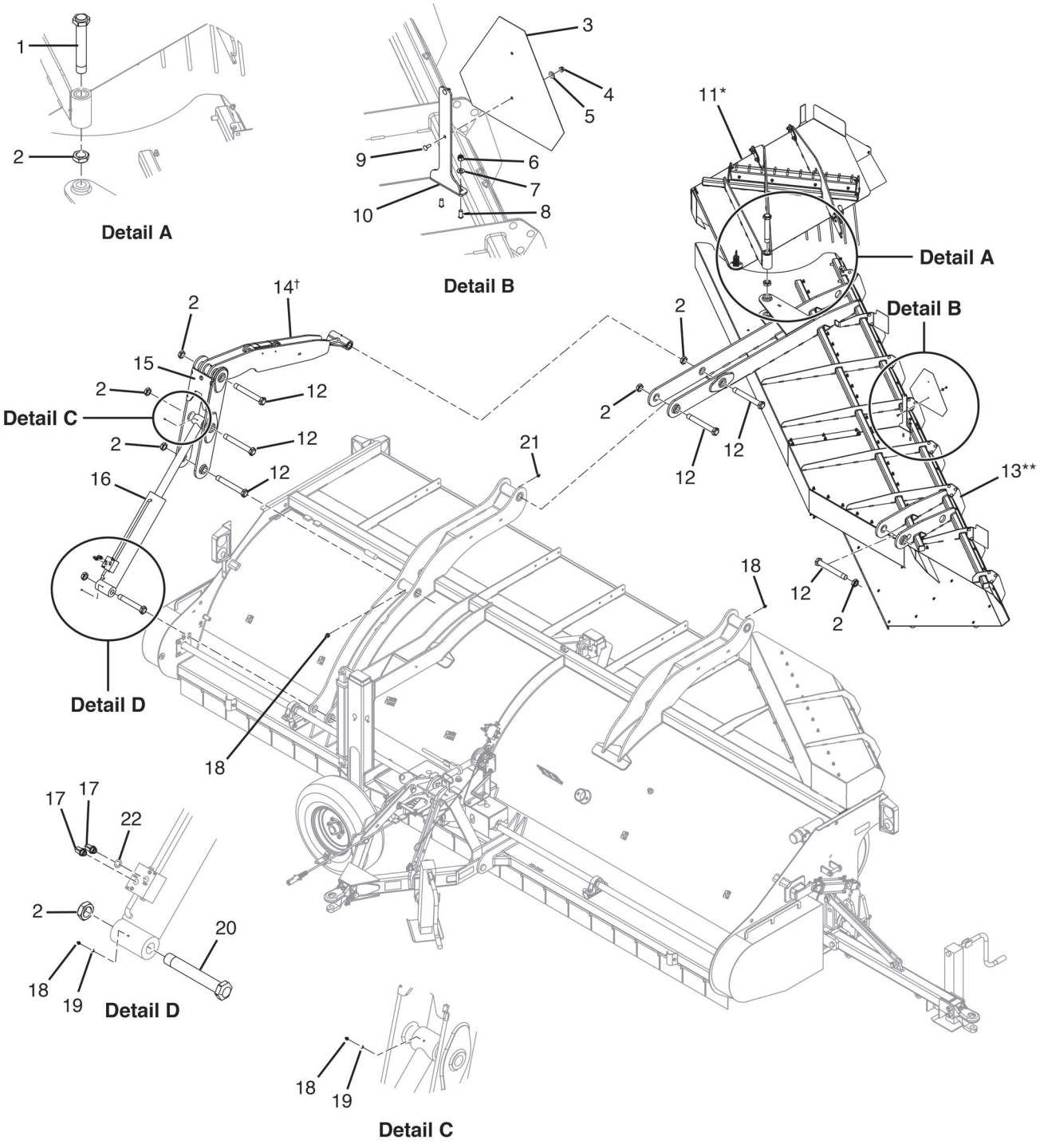
To assist with maintenance and repair, the following list of common problems and corrections is provided.

PROBLEM	POSSIBLE CAUSE	SOLUTION
Excessive Vibration	Broken or missing knives.	Replace broken/missing knives plus the worn knives on the opposite side of the rotor to maintain a balanced rotor.
	Mud and/or debris wrapped around the drum or knives.	Clean & remove all debris/mud.
	Bearing malfunction.	Check rotor & drive-line bearings, replace faulty bearings.
	Rotor damage.	Inspect rotor for physical damage. If damaged, remove and return to factory for proper repair.
Rotor Does Not Turn	Knife has become wedged.	Dislodge wedged knife between the end plate and the balancing ring.
	Gearbox malfunction.	Disconnect PTO and manually rotate the gearbox, if unable to rotate, remove gearbox and contact dealer for servicing.


LOFTNESS

PARTS IDENTIFICATION

Wing Pivot Assembly; Wing; Chute



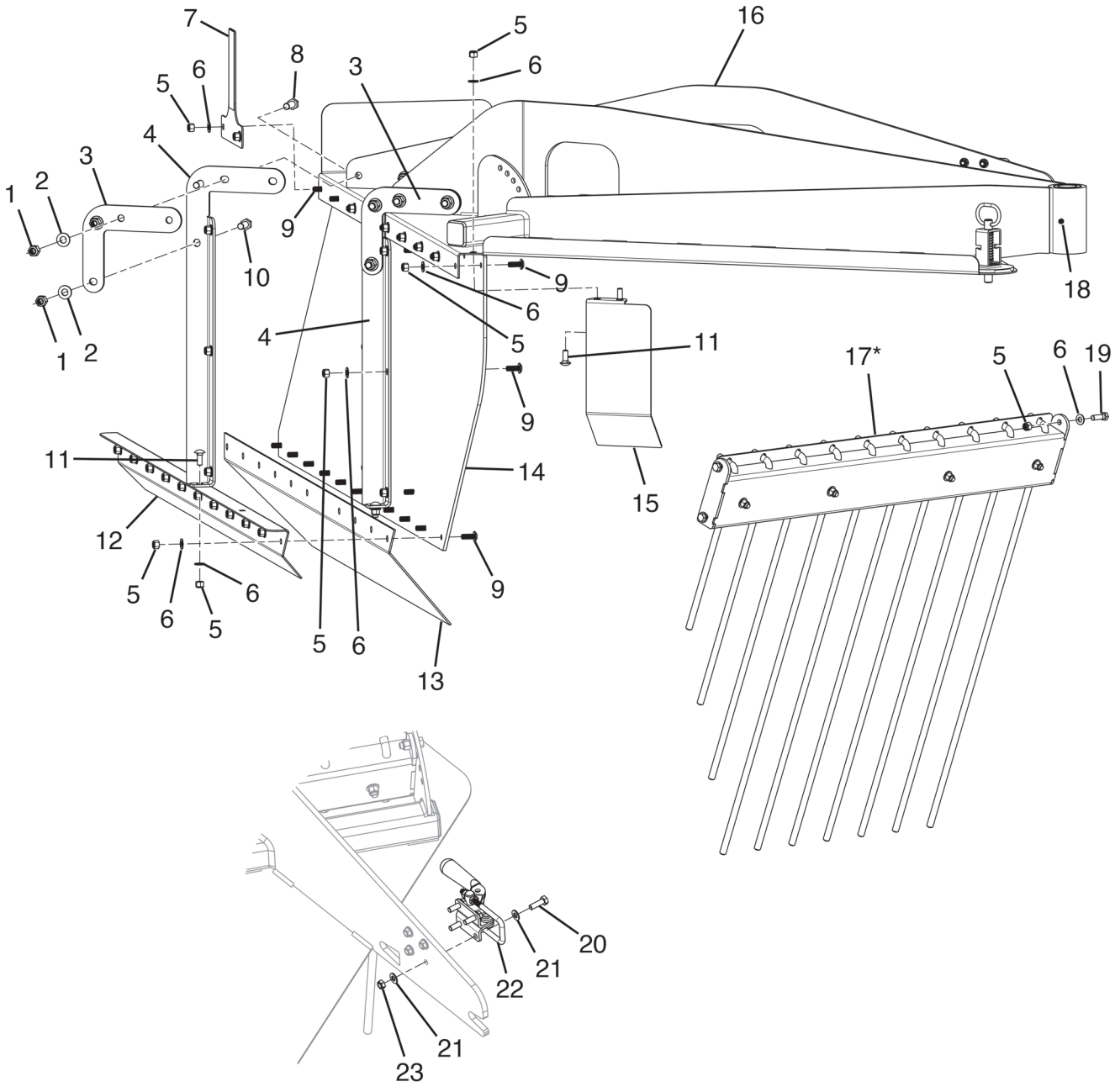
NOTE: See pages 84 and 88 for the hydraulic hoses and hose routing.

* **For a parts breakdown of item 11 - Chute (212257), see page 50.**
** **For a parts breakdown of item 13 - Wing (212189), see page 54.**
† **For a parts breakdown of item 14 - Link (212207), see page 53.**

Wing Pivot Assembly; Wing; Chute

#	QTY.	PART #	DESCRIPTION
1	1	212039	BOLT, 1.50-6 X 9.000 UNC-2A
2	8	209936	NUT, LOCK 1-1/2-6 NYLOCK THIN
3	1	N18549	DECAL, (SLOW MOVING SIGN)
4	2	209822	NUT, LOCK 1/4-20 NYLOCK
5	2	3183	WASHER, FLAT 1/4"
6	2	209887	NUT, LOCK 3/8IN-16 NYLOCK
7	2	N31741	WASHER, FLAT 3/8" SAE
8	2	4034	BOLT, CARRIAGE 3/8" X 1" GR. 5
9	2	4302	BOLT, CARRIAGE 1/4" X 3/4"
10	1	209963	PLATE, SMV SIGN HOLDER
11*	1	212257	CHUTE, SHWA DISCHARGE G2
12	6	212036	BOLT, 1.50-6 X 11.500 UNC-2A
13**	1	212189	WING, SHWA W/DEFL & DECALS
14***	1	212207	LINK, WING PIVOT ADJUSTABLE
15	1	212148	ARM, CYLINDER MOUNT
16	1	N28733	CYLINDER, 5" X 24" COUNTERBALANCE
17	2	N11952	ELBOW, 90 DEG - 8MJIC - 8MOR
18	4	4105	GREASE-ZERK, 1/4" SCREW-IN
19	2	212199	INSERT, THREAD LOCKING
20	1	212211	BOLT, 1.50-6 X 10.000 UNC-2A
21	1	4107	GREASE-ZERK, 1/4" SCREW-IN 90 DEG
22	1	210020	ORIFICE DISC .063

Discharge Chute (212257)

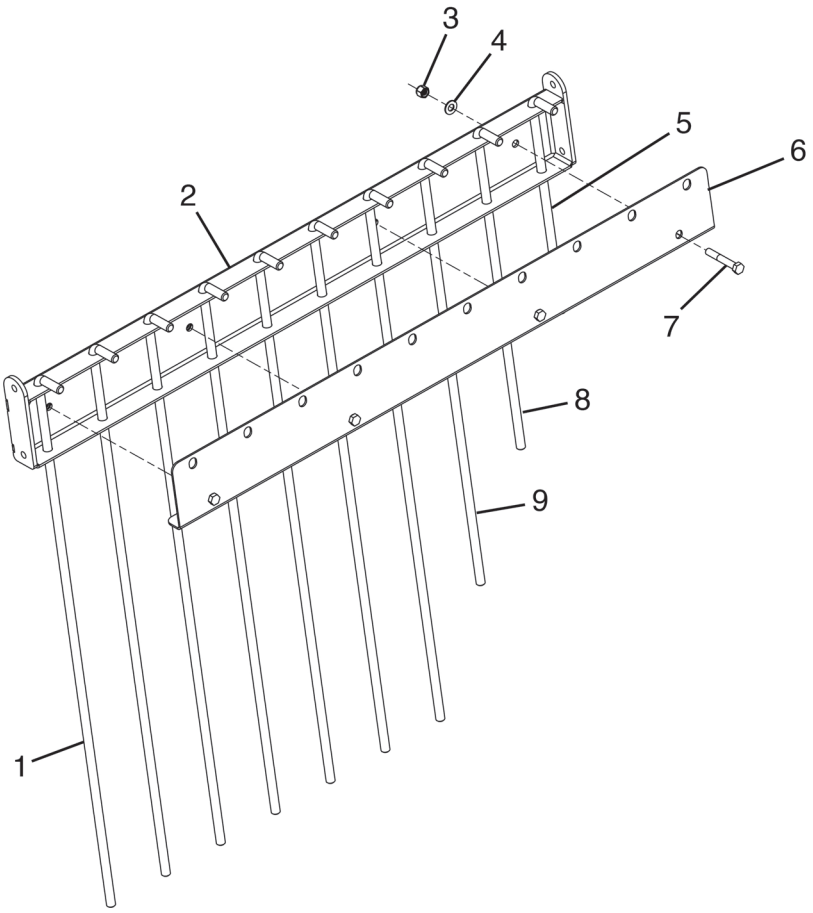


*** For a parts breakdown of item 17 - Deflector (209869), see“Deflector (209869)” on page 52.**

Discharge Chute (212257)

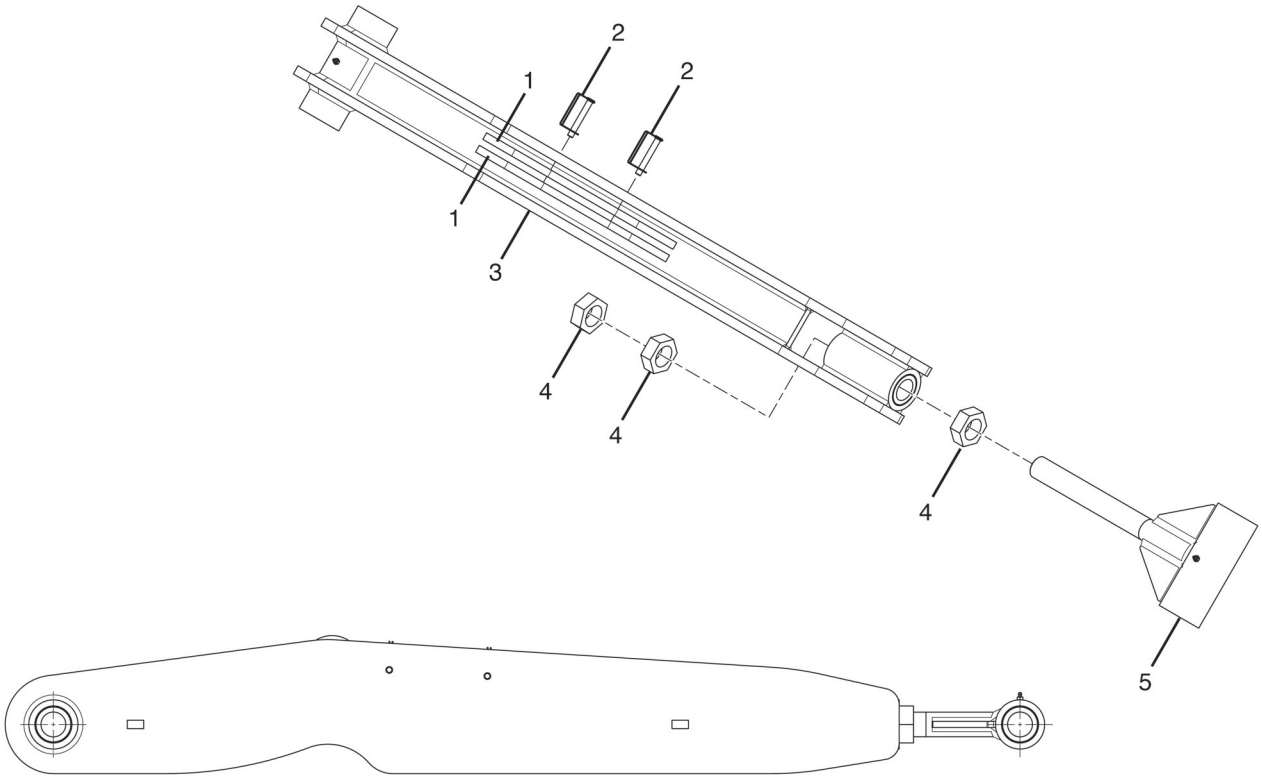
#	QTY.	PART #	DESCRIPTION
1	8	N149702	NUT, LOCK 1/2-13 NYLOCK
2	8	4068	WASHER, 1/2" SAE FLAT
3	2	212273	PLATE, CHUTE BRACE STIFFENER
4	2	212292	PLATE, CHUTE RIB
5	34	209887	NUT, LOCK 3/8IN-16 NYLOCK
6	34	N31741	WASHER, FLAT 3/8" SAE
7	1	212314	BRACKET, CHUTE REFL W/DECALS
8	4	4013	BOLT, 1/2" X 1-1/2" GRADE 5
9	26	212272	SCREW, BHCS 3/8-16 X 1 FLANGED
10	4	4012	BOLT, 1/2" X 1-1/4" GRADE 5
11	4	4034	BOLT, CARRIAGE 3/8" X 1" GR. 5
12	1	212290	PLATE, RUBBER MOUNT
13	1	212291	SKIRT, RUBBER SHWA ANG
14	1	212289	PLATE, CHUTE SIDE
15	1	212293	PLATE, DUST COVER
16	1	212312	CHUTE, TOP WELDMENT W/DECALS
17	1	209869	DEFLECTOR ASSY, SHWA
18	1	4105	GREASE-ZERK, 1/4" SCREW-IN
19	4	4005	BOLT, 3/8" X 1-1/4" GRADE 5
20	4	4203	BOLT, 5/16" X 1" GRADE 5
21	8	N28927	WASHER, FLAT 5/16 SAE
22	1	212254	CLAMP, TOGGLE LATCH-STYLE
23	4	4414	NUT, NYLOCK 5/16"

Deflector (209869)



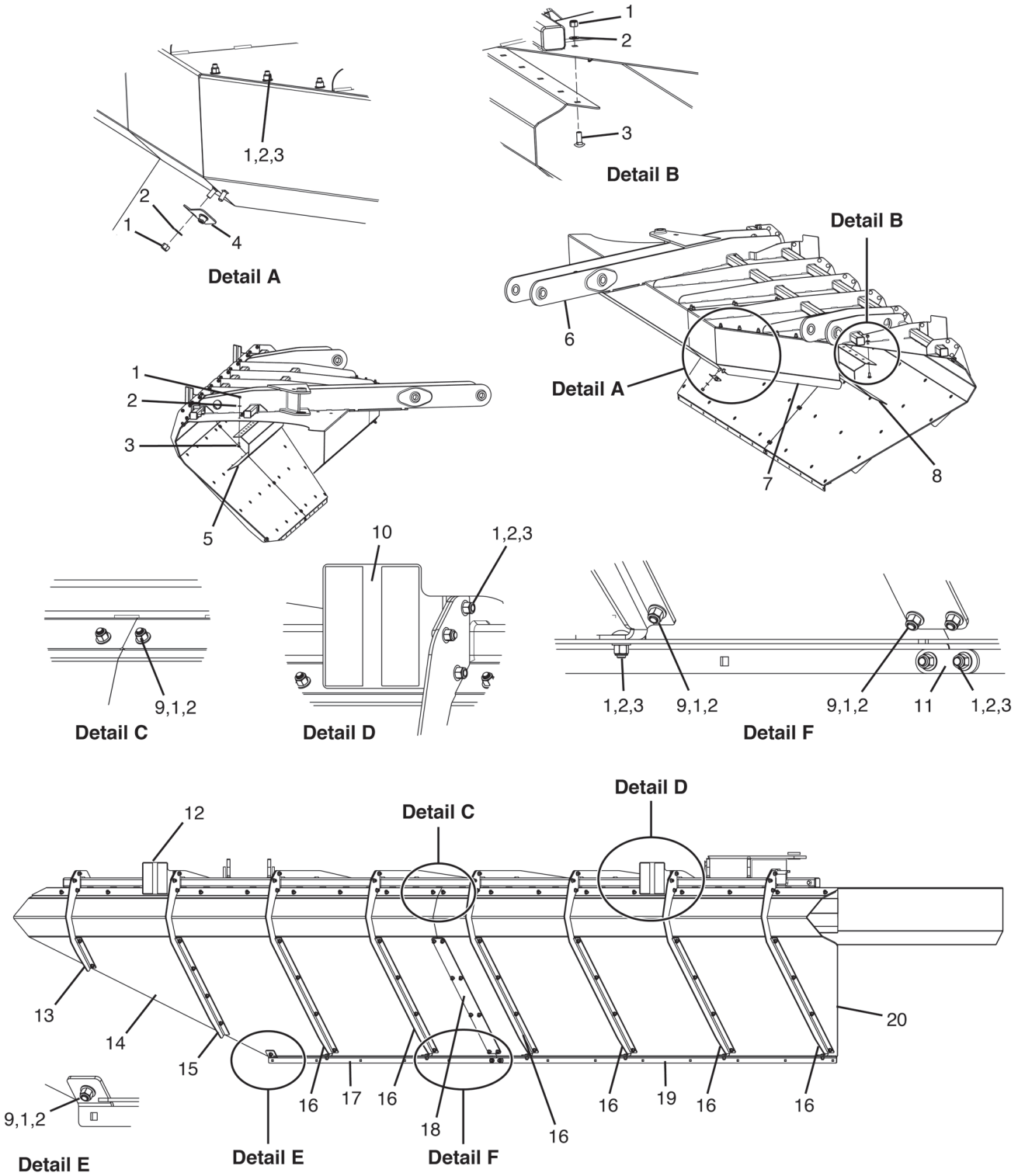
#	QTY.	PART #	DESCRIPTION
1	7	N19502	ROD, REAR TAIL - WINDROW
2	1	209870	WELDMENT, ROD PIVOT HEAD
3	4	209887	NUT, LOCK 3/8IN-16 NYLOCK
4	4	N31741	WASHER, FLAT 3/8" SAE
5	1	209886	ROD, REAR TAIL 14.500
6	1	209874	PLATE, SHWA ROD CLAMP
7	4	4313	BOLT, 3/8" X 2-1/2" GRADE 5
8	1	209885	ROD, REAR TAIL 21.500
9	1	209884	ROD, REAR TAIL 28.500

Adjustable Link, Wing Pivot (212207)



#	QTY.	PART #	DESCRIPTION
1	2	212270	WRENCH, 2.25 LASER CUT
2	2	N31221	PIN, 3/8" X 2-1/4" RETAINER
3	1	212203	WELDMENT, WING PIVOT LINK
4	3	N24541	NUT, JAM 1-1/2 PLATED
5	1	212206	END, LINK THREADED

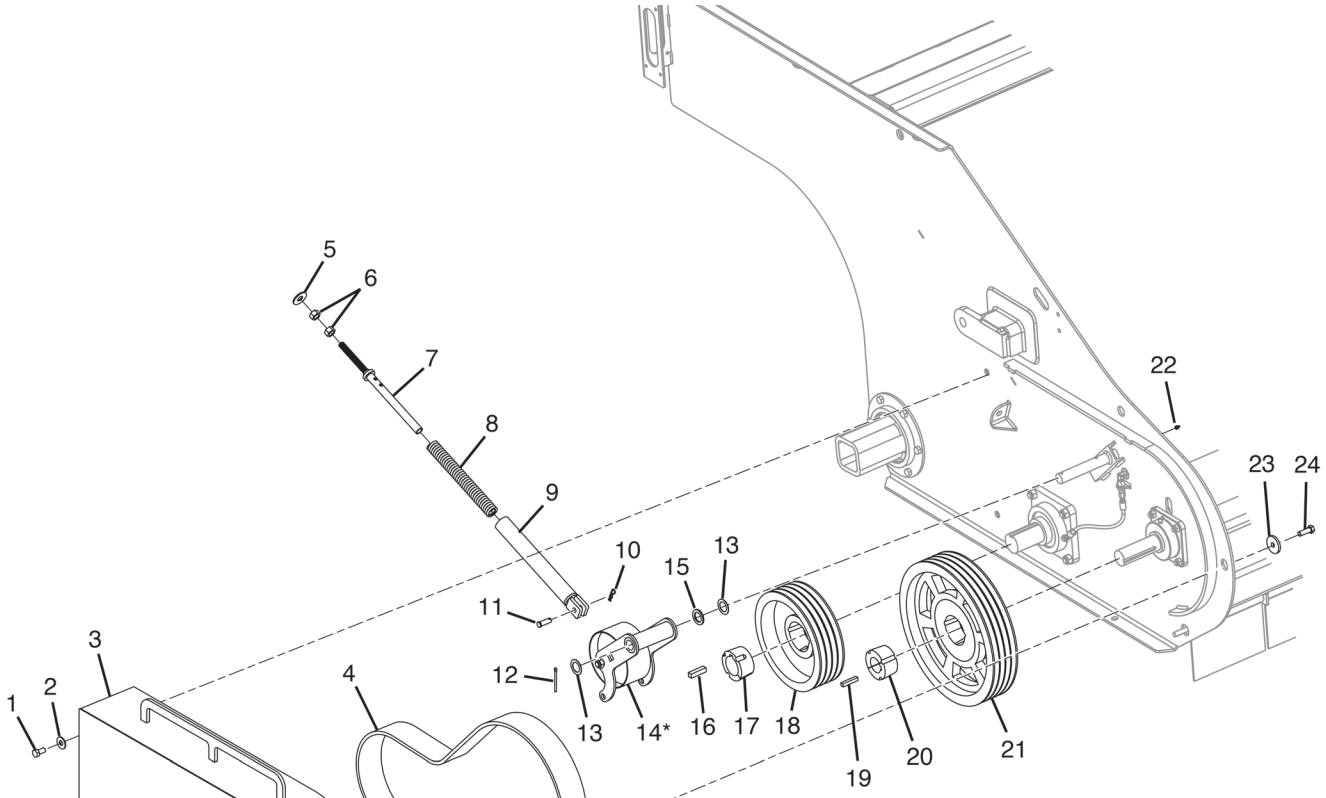
Wing; Deflectors (212189)



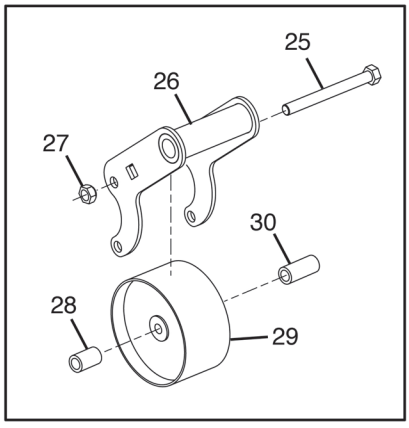
Wing; Deflectors (212189)

#	QTY.	PART #	DESCRIPTION
1	125	209887	NUT, LOCK 3/8IN-16 NYLOCK
2	125	N31741	WASHER, FLAT 3/8" SAE
3	68	4034	BOLT, CARRIAGE 3/8" X 1" GR. 5
4	1	212269	PLATE, COVER MENDING
5	1	209881	PLATE, SHWA DEFLECTOR 6
6	1	212190	WELDMENT, SHWA WING
7	1	212267	PLATE, WING BOLT-ON COVER
8	1	209912	PLATE, INNER FUNNEL
9	57	212272	SCREW, BHCS 3/8-16 X 1 FLANGED
10	1	212310	BRACKET, REFLECTOR W/DECALS R
11	1	212268	PLATE, TAIL MENDING
12	1	212311	BRACKET, REFLECTOR W/DECALS L
13	1	212226	PLATE, WING TAIL MOUNT 3
14	1	212191	DEFLECTOR, SHWA WING LEFT
15	1	212225	PLATE, WING TAIL MOUNT 2
16	6	212224	PLATE, WING TAIL MOUNT 1
17	1	212234	PLATE, WING BOTTOM LEFT
18	1	212235	PLATE, WING TAIL CONNECTOR
19	1	212233	PLATE, WING BOTTOM RIGHT
20	1	212192	DEFLECTOR, SHWA WING RIGHT

4-Band Drive



*** Item 14 - Belt Tightener**
Right - N18090 (shown)
Left - N18056



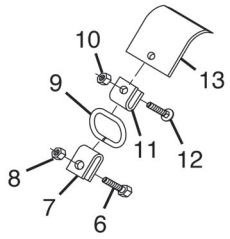
Item 28 (spacer) is always on the outside of the pulley, towards the belt shield.

NOTE: Quantities shown are for both the right and left sides of the windrower. Right side shown.

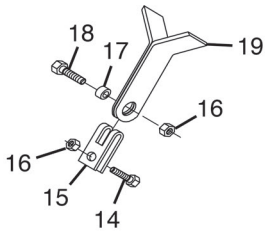
4-Band Drive

#	QTY.	PART #	DESCRIPTION
1	4	4011	BOLT, 1/2" X 1" GRADE 5
2	6	4486	WASHER, 1/2" FLAT
3	1	209238	SHIELD, SHW FLAT R W/DECALS *(Shown)*
	1	209237	SHIELD, SHW FLAT L W/DECALS
4	2	N10507	BELT, 4B X 87" BOND. SHRD.
5	2	4069	WASHER, FLAT 5/8"
6	4	4438	NUT, 5/8" STANDARD GRADE 8
7	2	7525	ROD, BMO & FLAIL BELT TIGHTENER
8	2	8067	SPRING, BELT TIGHTENER
9	2	N18517	TUBE, WINDROW BELT TIGHTENER
10	2	4089	CLIP, HAIRPIN .093 X 1-5/8"
11	2	4392	PIN, 1/2" X 1-1/4"
12	2	4329	PIN, COTTER 7/32" X 2-1/2"
13	4	4491	WASHER,1 3/4"ODX 1 1/8"ID 18GA
14	1	N18090	TIGHTENER, BELT RIGHT 4B *(Shown)*
	1	N18056	TIGHTENER, NARROW BELT LEFT 4B
15	2	4470	WASHER, 1-3/4OD X 1-1/8 X 10GA
16	2	7122-04	KEY, 1/2" X 2"
17	2	8165	BUSHING, 2-3/16 TPL 2517
18	2	8139	SHEAVE, 4B X 11" TAPERLOCK
19	4	7121-03	KEY, 3/8" X 2"
20	2	8127	BUSHING, 1-3/4 KW TAPERLOCK
21	2	8140	PULLEY, 4B X 16" TAPERLOCK
22	2	4105	GREASEZERK, 1/4" SCREW-IN
23	4	4074	WASHER, 2" OD X 1/2" ID X 1/4"
24	2	4013	BOLT, 1/2" X 1-1/2" GRADE 5
25	2	4457	BOLT, 5/8" X 6-1/2" GRADE 5
26	2	N18057	BRACKET, BELT TIGHTENER
27	2	4055	NUT, LOCK 5/8"
28	2	N18088	PIPE, BELT TIGHTENER SPACER (SHORT)
29	2	N10508	PULLEY, IDLER 6-1/2" O.D. w/5/8" BORE
30	2	N18089	PIPE, BELT TIGHTENER SPACER (LONG)

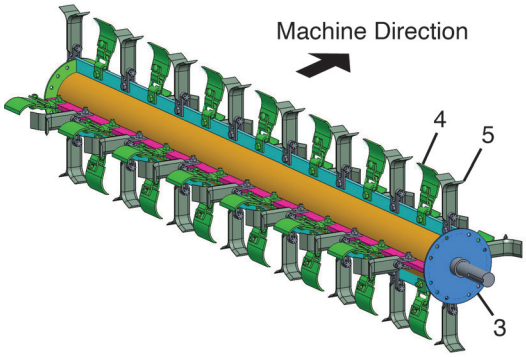
Rotors, with Knives



Cupped Knife Detail - 4

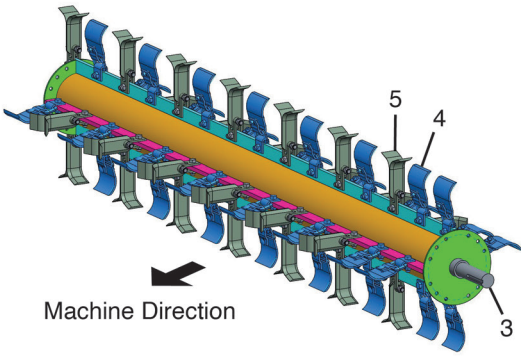


High Residue Knife Detail - 5



Right Side Rotor

1 - **To order a complete right side rotor with knives, use part number 212294.**



Left Side Rotor

2 - **To order a complete left side rotor with knives, use part number 212295.**

Rotors, with Knives

#	QTY.	PART #	DESCRIPTION
1	1	212294	ROTOR, 20' W/CUPPED & HI-RES RIGHT
2	1	212295	ROTOR, 20' W/CUPPED & HI-RES LEFT
3	2	N13242	ROTOR, 20' SHRD 2-3/16" W/O KNIVES
4	*Right Rotor* 28 *Left Rotor* 32	8022-10	KIT, CUPPED KNIFE COMPL ASSY
5	*Right Rotor* 30 *Left Rotor* 26	8136-10	SET, COMP. 70DEGREE HIGH RESIDUE

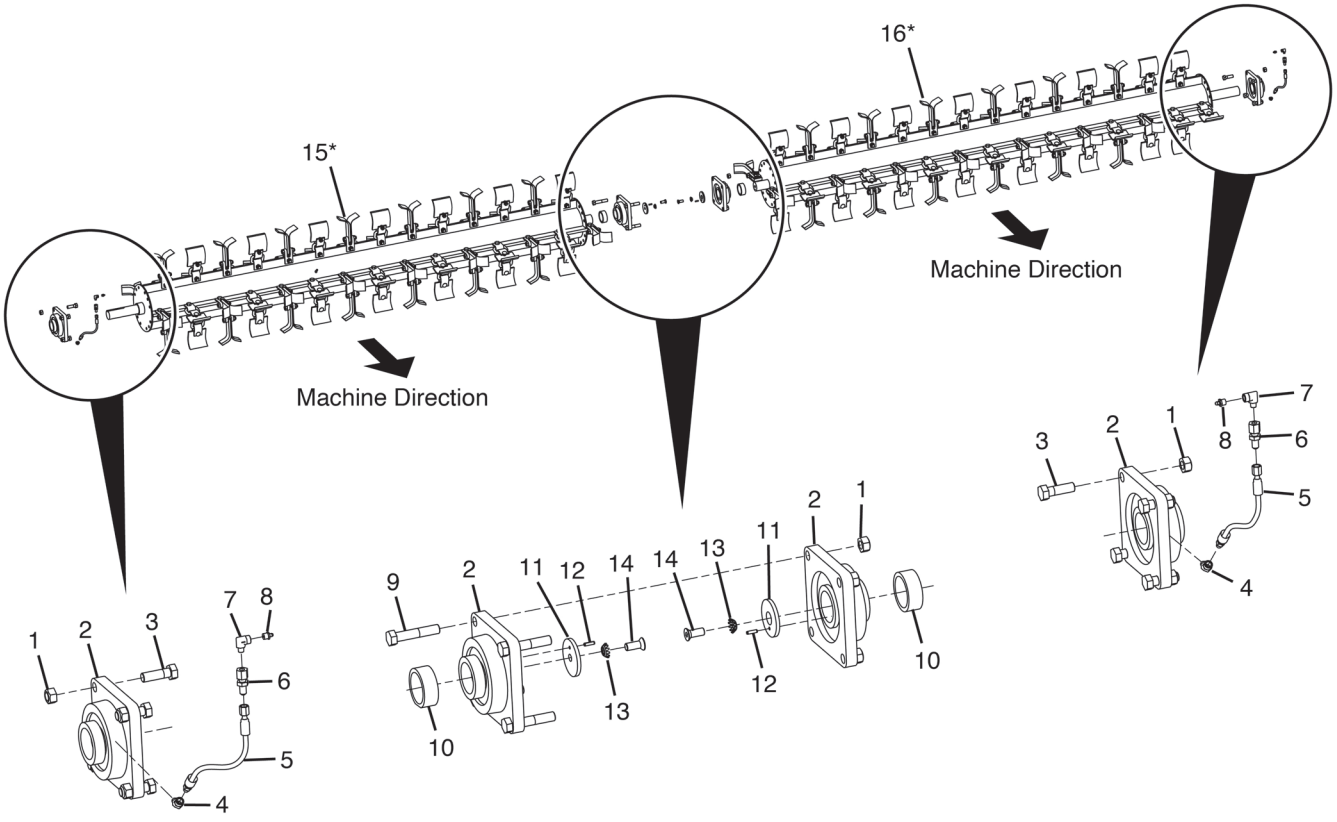
Quantities below are for one (1) cupped knife assembly (8022-10)

#	QTY.	PART #	DESCRIPTION
6	1	4043	BOLT, 5/8" X 2" GR 8
7	1	8033	U-BAR, KNIFE
8	1	4055	NUT, 5/8" LOCK
9	1	N24282	SQUARE-RING, CUPPED KNIFE
10	1	4054	NUT, LOCK 1/2" TOP
11	1	8035	CLIP, CUPPED KNIFE
12	1	4039	BOLT, CARRIAGE 1/2" X 1-1/2" GR5
13	1	8022	KNIFE, HARD-SURFACED CUPPED

Quantities below are for one (1) high residue knife assembly (8136-10)

#	QTY.	PART #	DESCRIPTION
14	1	4043	BOLT, 5/8" X 2" GR 8
15	1	8034	U-BAR, SLOTTED
16	2	4055	NUT, 5/8" LOCK
17	1	9073	BUSHING, KNIFE
18	1	4045	BOLT, 5/8" X 2-3/4" GR 8
19	2	8136	KNIFE, 70° HIGH RESIDUE

Rotors, with Bearings and Lubrication

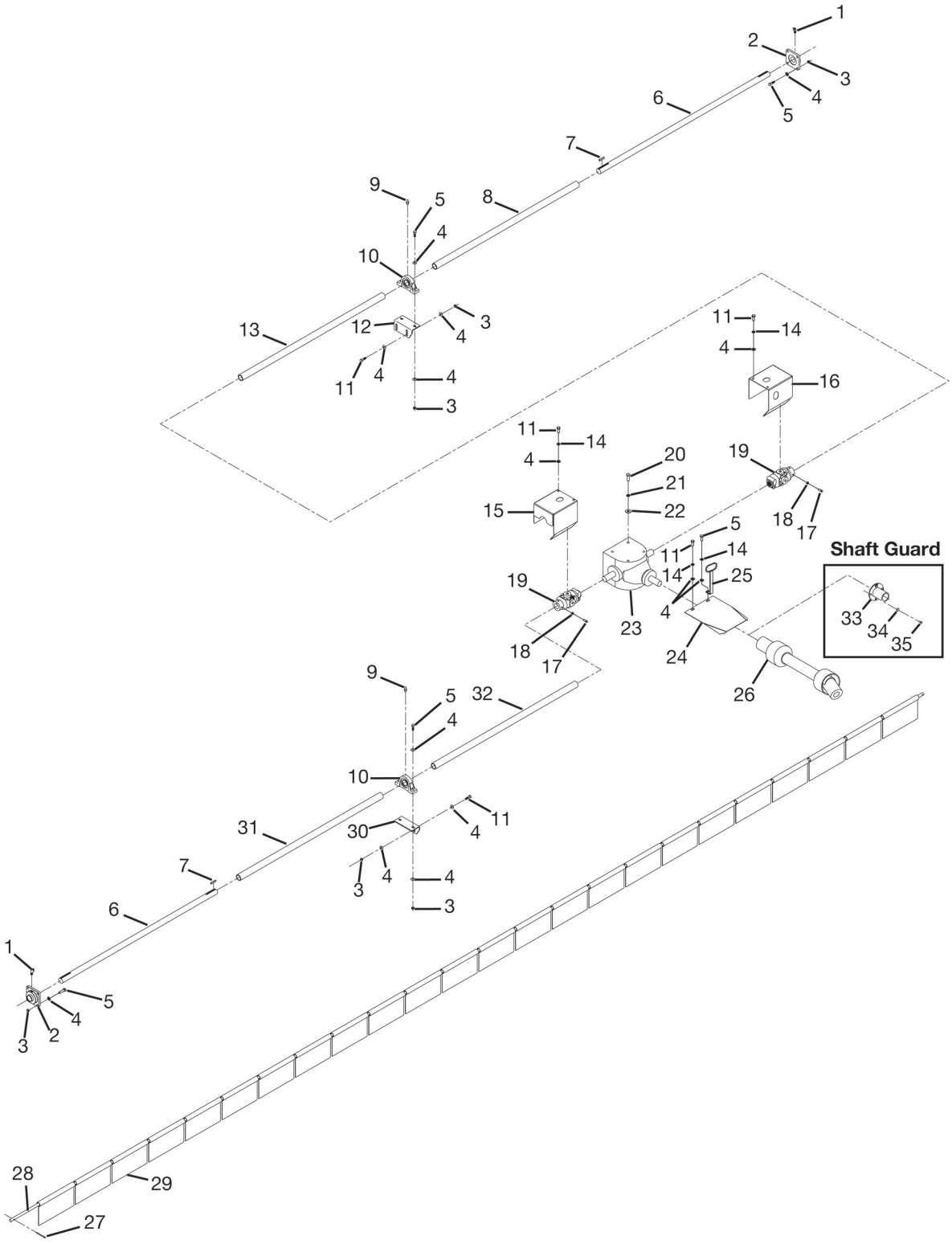


*** For a parts breakdown of items 15 and 16 - Rotors, see page 58.**

Rotors, with Bearings and Lubrication

#	QTY.	PART #	DESCRIPTION
1	12	4057	NUT, 5/8" FINE THREAD TOP LOCK
2	4	N16969	BEARING, 2-3/16"4BF SEALMASTER
3	8	4042	BOLT, 5/8" X 2" FINE THRD GR. 8
4	2	4471	ELBOW, 1/8" 45 DEG.STREET
5	2	4304	HOSE, GREASE 1/8" X 15"
6	2	4304-10	BULKHEAD, FITTING-GREASE HOSE
7	2	4472	ELBOW, 1/8" 90 DEG. STREET
8	2	N17007	GREASEZERK, 1/8" NPT
9	4	4047	BOLT, 5/8" X 3-1/4" GRD 8 FINE
10	2	N18075	SPACER, SHRD ROTOR 2-3/16" BRNG
11	2	4075	WASHER, 2-5/8" OD
12	2	4085	PIN, ROLL 3/16" X 3/4"
13	2	4076	WASHER, 1/2" EXT CNTSK LOCK
14	2	4468	BOLT, 1/2-20 UNF X 1-1/4 FL HD
15	1	212294	ROTOR, 20' W/CUPPED & HI-RES RIGHT
16	1	212295	ROTOR, 20' W/CUPPED & HI-RES LEFT

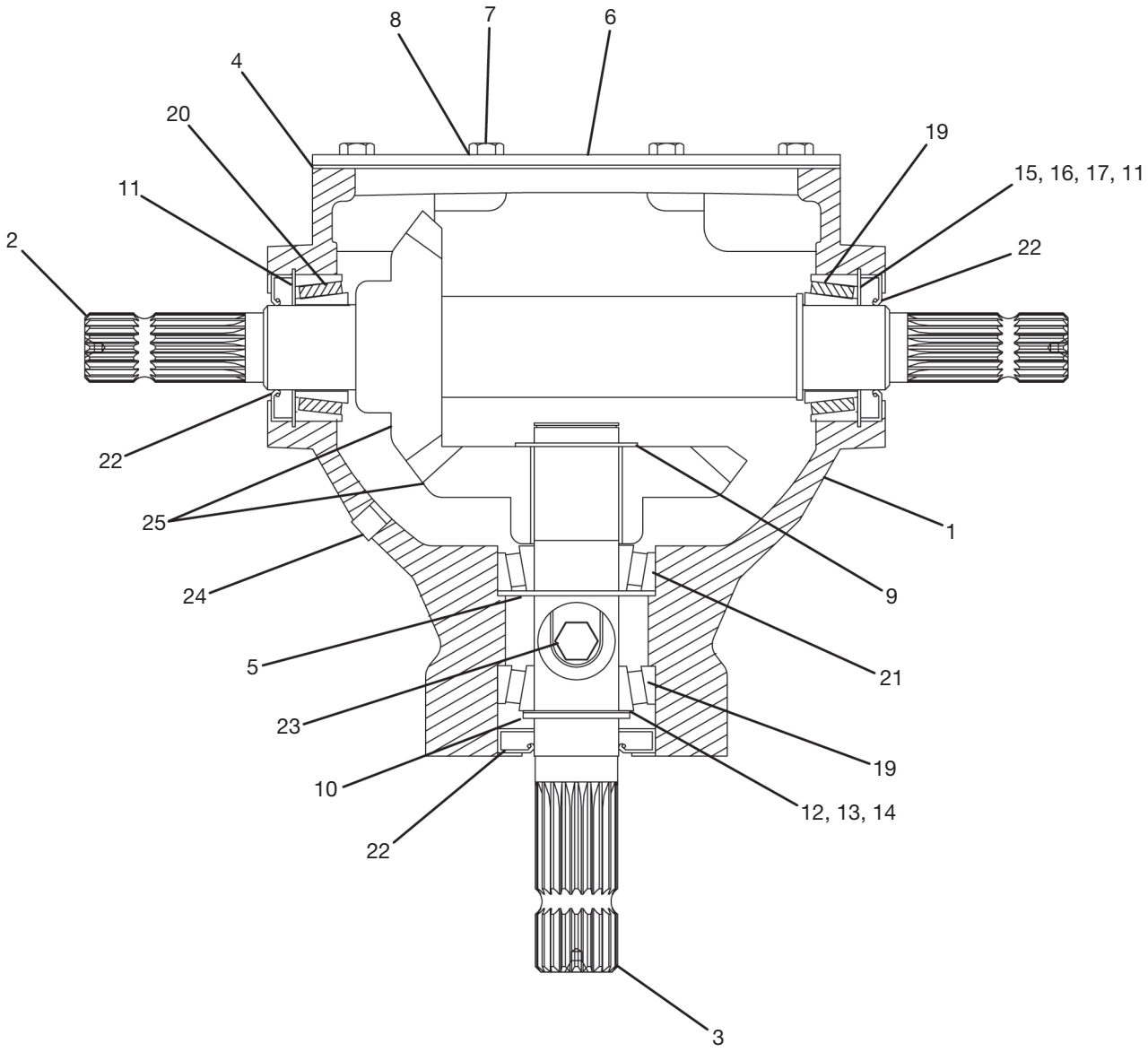
Drive Lines



Drive Lines

#	QTY.	PART #	DESCRIPTION
1	2	4106	GREASEZERK, 45 DEG SCW-IN 1/8NPT
2	2	N16970	BEARING, 1-3/4" SEALMASTER 4-BOLT FLANGE
3	16	4054	NUT, LOCK 1/2" TOP
4	30	4068	WASHER, 1/2" SAE FLAT
5	13	4014	BOLT, 1/2" X 1-3/4" GRADE 5
6	2	9094	SHAFT, SHRD DRIVELINE 112-1/2"
7	2	7121-03	KEY, 3/8" X 2"
8	1	N13023	SHIELD, SHRD 20' DRVLN OTR PVC
9	2	4105	GREASE-ZERK, 1/4" SCREW-IN
10	2	N16971	BEARING, 1-3/4 (SEALMASTER) PILLOW BLOCK
11	9	4012	BOLT, 1/2" X 1-1/4" GRADE 5
12	1	9098	MOUNT, SHRD DRIVELINE BEARING LEFT
13	1	N13022	SHIELD, SHRD DRIVELINE INNER PVC
14	6	4155	WASHER, LOCK 1/2"
15	1	N11987	SHIELD, UNV SHRD BONDIOLI DRIVELINE RIGHT
16	1	N11988	SHIELD, UNV SHRD BONDIOLI DRIVELINE LEFT
17	4	4082	SCREW, SQ HEAD SET 3/8" X 1-1/4"
18	4	4061	NUT, 3/8" JAM
19	2	N12440	U-JOINT, 1-3/4" RB X 1-3/4"-20SPL
20	4	4517	BOLT, 3/4" X 2" GR 5
21	4	4287	WASHER, LOCK 3/4"
22	4	4071	WASHER, FLAT 3/4"
23	1	N13950	GEARBOX, 1450RPM 1:1 BONDIOLI
24	1	209236	SHIELD, PTO FOLDING HITCH W/DECAL
25	1	212044	HOLDER, HOSE OVAL
26	1	8176	PTO, PT (1-3/4"-20 SPLINED W/OVERRUNNING CLUTCH)
	1	8175	PTO, PT (1-3/8"-21 SPLINED W/OVERRUNNING CLUTCH)
27	1	4092	PIN COTTER 5/32" X 2"
28	1	N36458	ROD, FLIPPER SHWD 20'
29	24	N18774	FLIPPER, SHREDDER 9-1/2" X 8-1/2"
30	1	9127	MOUNT, SHRD DRVLN BEARING RIGHT
31	1	209864	SHIELD, 20 DRIVELINE OTR PVC SH
32	1	209865	SHIELD, 20 DRIVELINE OTR PVC LG
33	1	N13858	GUARD, GEARBOX SHAFT
34	4	4064	WASHER, FLAT 3/8"
35	4	4193	BOLT, 3/8" X 3/4" GRADE 5

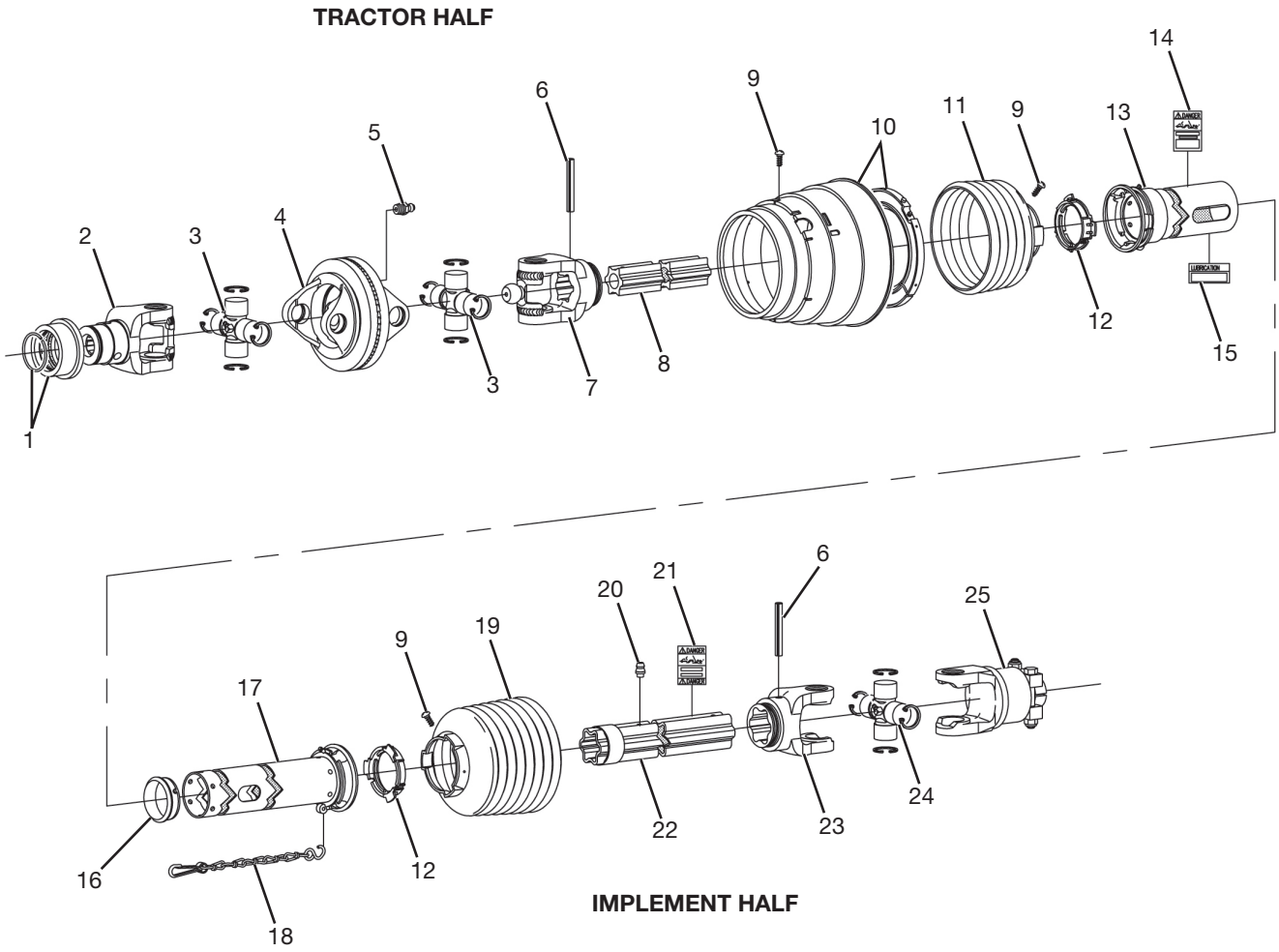
Gearbox, 1450 RPM Bondioli (N13950)



Gearbox, 1450 RPM Bondioli (N13950)

#	QTY.	PART #	DESCRIPTION
1	1	N14122	HOUSING, GEARBOX
2	1	8170-02	SHAFT, THROUGH
3	1	N14121	SHAFT, PINION
4	1	8170-04	GASKET, COVER
5	1	N14120	SPACER, PINION SHAFT
6	1	8170-06	COVER, HOUSING
7	8	8170-07	SCREW, COVER
8	8	8170-08	WASHER, COVER SCREW
9	1	8170-09	CIRCLIP, PINION SHAFT
10	1	8170-10	SNAP-RING, PINION SHAFT
11	2	8170-11	SNAP-RING, THROUGH SHAFT
12	1	8170-12	RING, PINION SHAFT
13	1	8170-13	RING, PINION SHAFT
14	1	8170-14	RING, PINION SHAFT
15	2	8170-15	RING, THROUGH SHAFT
16	2	8170-16	RING, THROUGH SHAFT
17	2	8170-17	RING, THROUGH SHAFT
18	2	8170-18	RING, THROUGH SHAFT
19	2	8170-19	BEARING, TAPERED ROLLER
20	1	8170-20	BEARING, THROUGH SHAFT
21	1	8170-21	BEARING, PINION SHAFT
22	3	8170-22	SEAL, OIL 2155 GEARBOX
23	1	8001-18	PLUG, OIL VENT
24	5	8001-19	PLUG, OIL
25	1	N14119	GEAR, BEVEL 1:1 (SET)

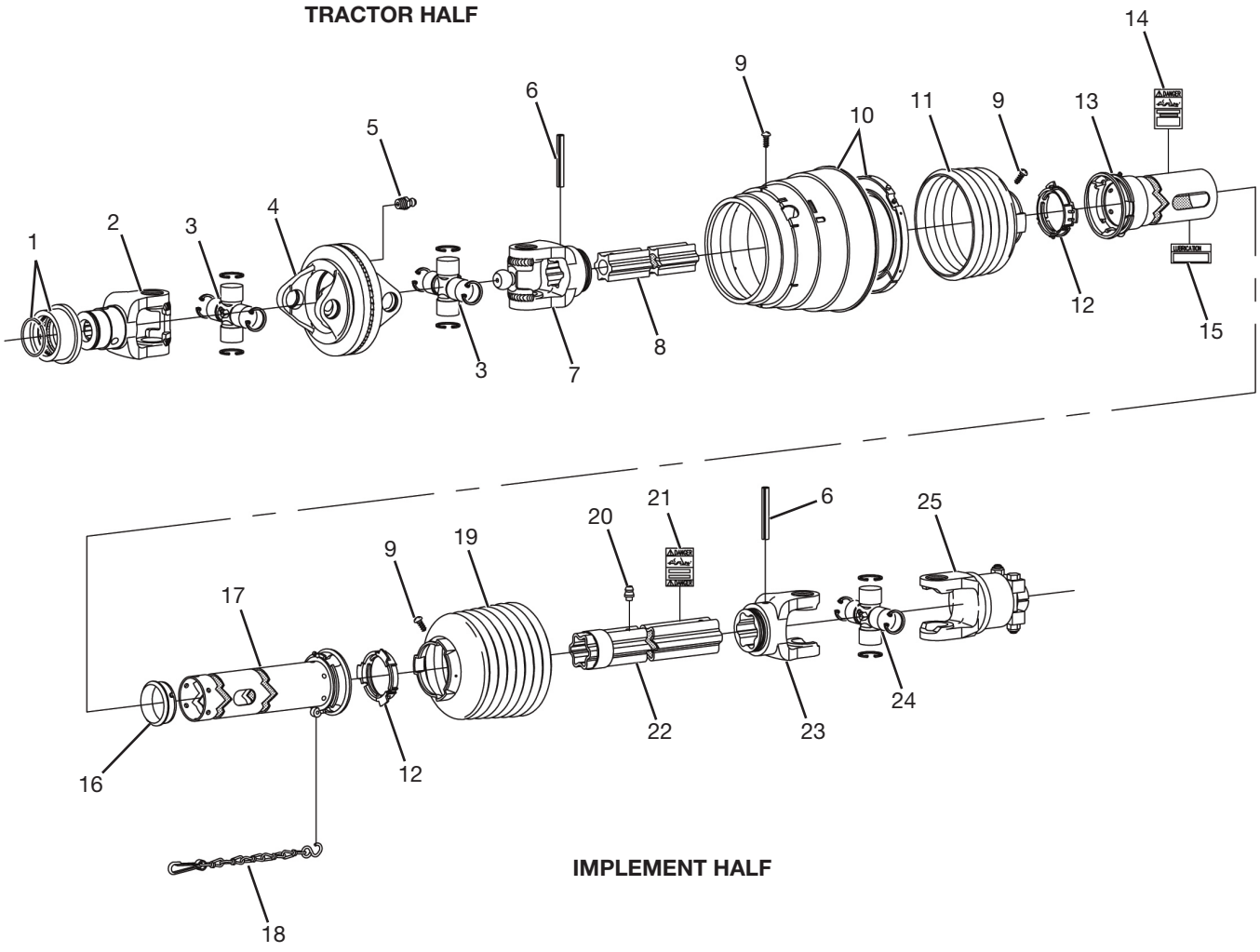
PTO, 1-3/8" Walterscheid w/Overrunning Clutch (8175)



PTO, 1-3/8" Walterscheid w/Overrunning Clutch (8175)

#	QTY.	PART #	DESCRIPTION
1	1	N10360	KIT, PTO SNAP RING (INCLUDED W/N10337)
2	1	N10337	YOKE, PTO 1-3/8"-21 SPLINE AS
3	2	N10341	KIT, PTO CROSS & BEARING
4	1	N10338	YOKE, PTO DOUBLE
5	1	N10339	ZERK, PTO GREASE (INCLUDED W/N10338)
6	2	N10342	PIN, PTO SPRING (10MM X 90MM)
7	1	N10340	YOKE, PTO INBOARD (S4)
8	1	N10343	SHAFT, PTO PROFILE (S4GA)
9	8	N11750	SCREW, PTO RIBBED SHIELD (W/N10351, NI0352 & N10367)
10	1	N10351	BEARING, PTO CV CONE
11	1	N10352	SHIELD, PTO CONE 4-RIB
12	2	N10348	RING, PTO BEARING (SC25)
13	1	N10349	GUARD, PTO SHAFT OUTER
14	1	N10357	DECAL, PTO SHAFT GUARD (INCLUDED W/N10349)
15	1	N10862	DECAL, PTO LUBRICATION
16	1	N10355	BEARING, PTO TUBE GUARD SUPPORT
17	1	N10350	GUARD, PTO TUBE INNER
18	1	N10356	CHAIN, PTO SAFETY
19	1	N10367	SHIELD, PTO CONE 7-RIB
20	1	N10359	ZERK, PTO GREASE (INCLUDED W/N10861)
21	1	N11761	DECAL, PTO TUBE GUARD (INCLUDED W/N10861)
22	1	NI0861	TUBE, PTO PROFILE W/SLEEVE
23	1	N10345	YOKE, PTO INBOARD (S5)
24	1	N10347	KIT, PTO CROSS & BEARING
25	1	8192	CLUTCH, PTO OVERRUNNING

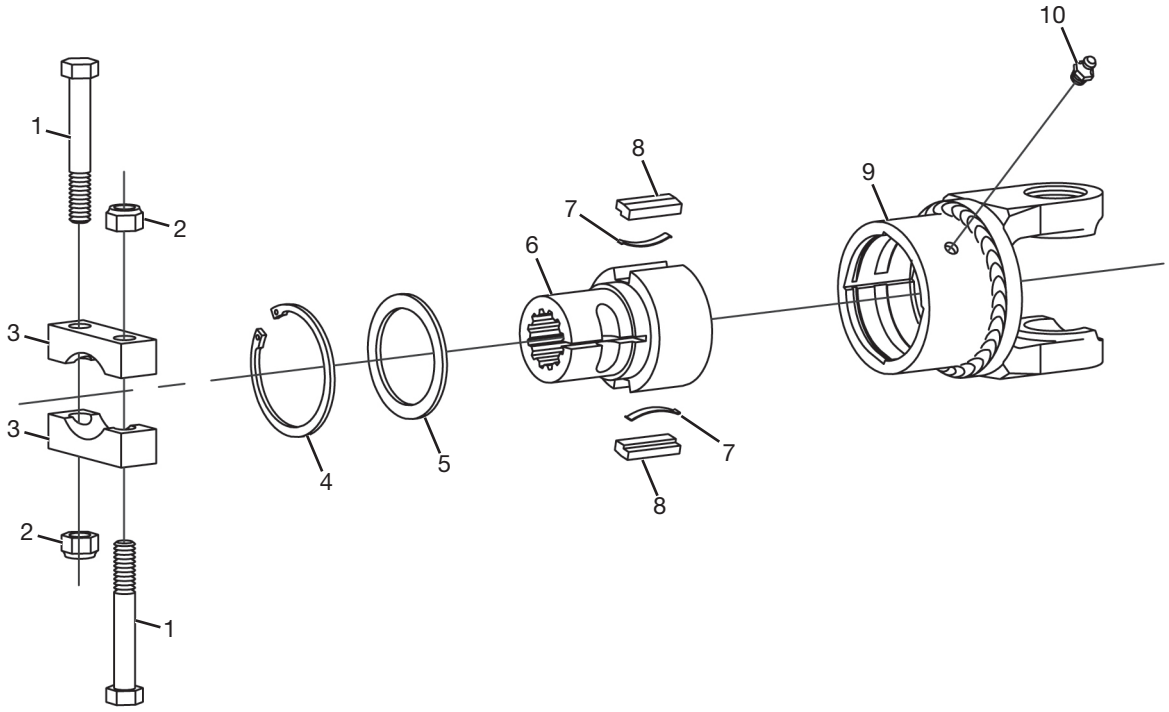
PTO, 1-3/4" Walterscheid w/Overrunning Clutch (8176)



PTO, 1-3/4" Walterscheid w/Overrunning Clutch (8176)

#	QTY.	PART #	DESCRIPTION
1	1	N10362	KIT, PTO SNAP RING (INCLUDED W/N10361)
2	1	N10338	YOKE, PTO 1-3/4"-20 SPLINE AS
3	2	N10341	KIT, PTO CROSS & BEARING
4	1	N10338	YOKE, PTO DOUBLE
5	1	N10339	ZERK, PTO GREASE (INCLUDED W/N10338)
6	2	N10342	PIN, PTO SPRING (10MM X 90MM)
7	1	N10340	YOKE, PTO INBOARD (S4)
8	1	N10343	SHAFT, PTO PROFILE (S4GA)
9	8	N11750	SCREW, PTO RIBBED SHIELD (W/N10351 & N10367)
10	1	N10351	BEARING, PTO CV CONE
11	1	N10352	SHIELD, PTO CONE 4-RIB
12	2	N10348	RING, PTO BEARING (SC25)
13	1	N10349	GUARD, PTO SHAFT OUTER
14	1	N10357	DECAL, PTO SHAFT GUARD
15	1	N10862	DECAL, PTO LUBRICATION
16	1	N10355	BEARING, PTO TUBE GUARD SUPPORT
17	1	N10350	GUARD, PTO TUBE INNER
18	1	N10356	CHAIN, PTO SAFETY
19	1	N10367	SHIELD, PTO CONE 7-RIB
20	1	N10359	ZERK, PTO GREASE
21	1	N11761	DECAL, PTO TUBE GUARD
22	1	Nl0861	TUBE, PTO PROFILE W/SLEEVE
23	1	N10345	YOKE, PTO INBOARD (S5)
24	1	N10347	KIT, PTO CROSS & BEARING
25	1	8192	CLUTCH, PTO OVERRUNNING

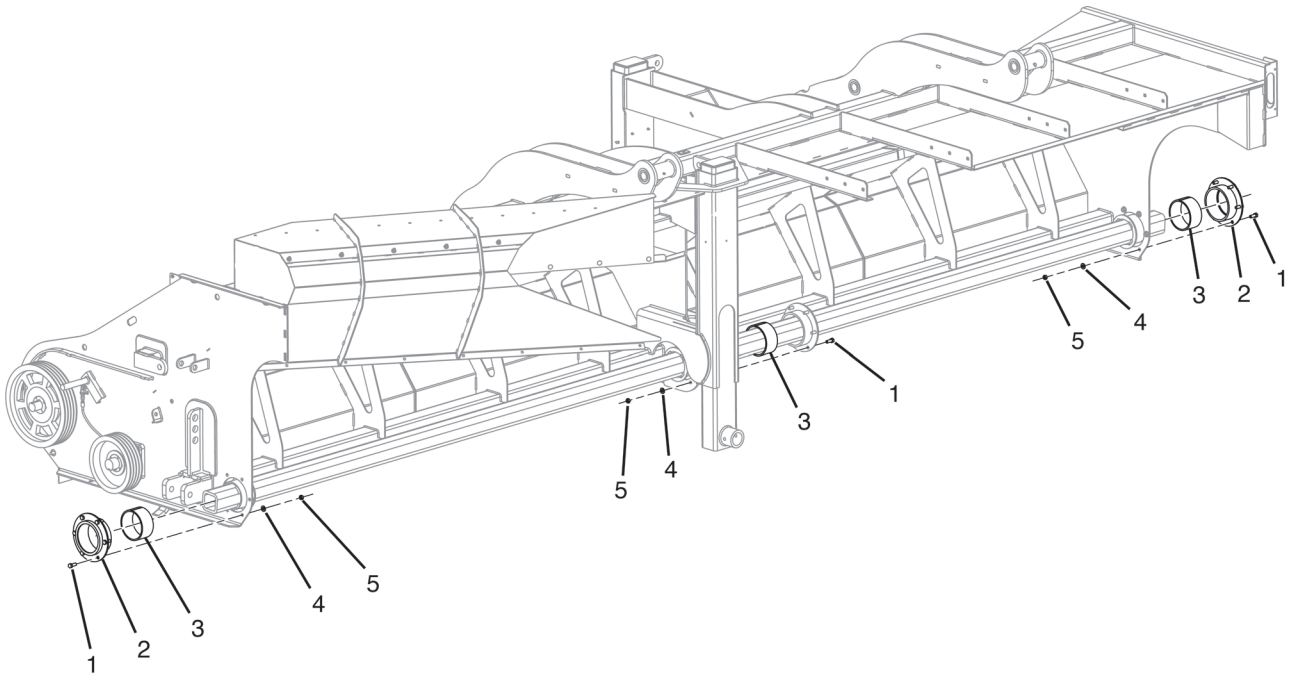
Clutch, 1-3/4" Walterscheid Overrunning (8192)



To order a complete overrunning clutch (items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10), use part number 8192

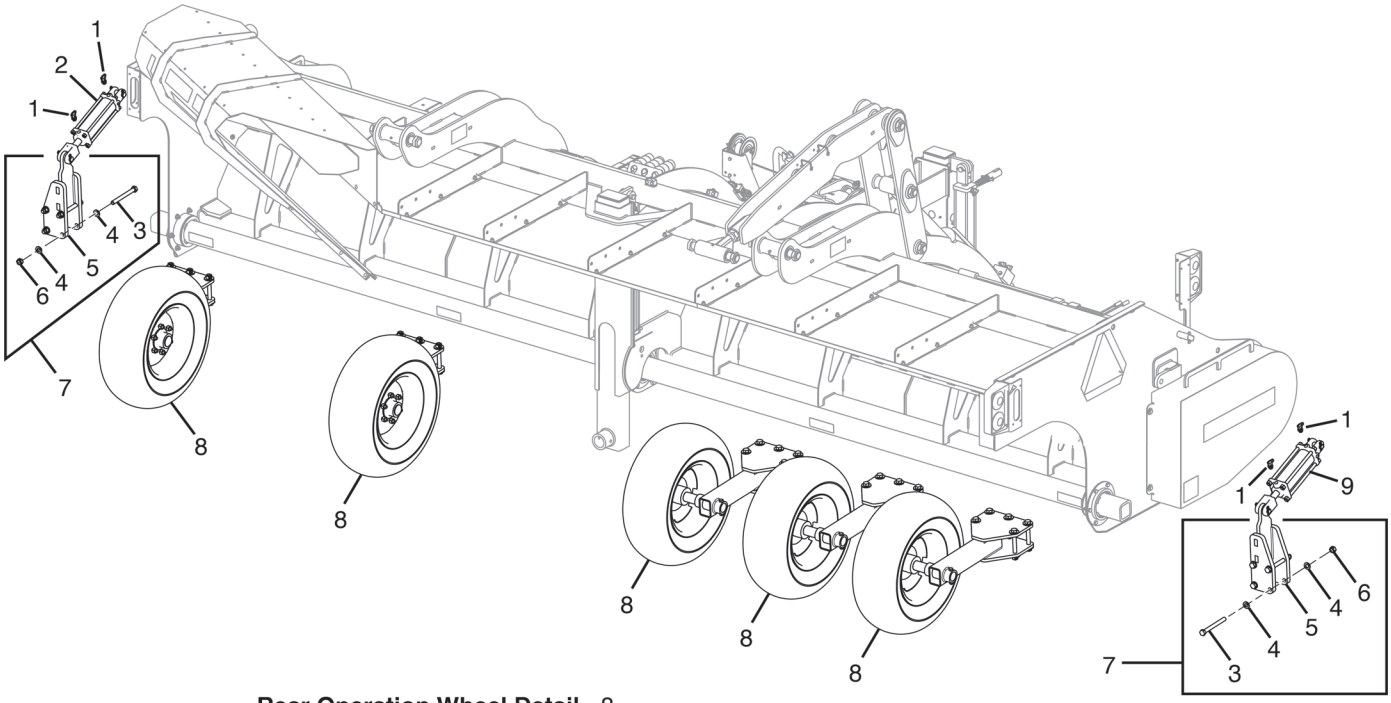
#	QTY.	PART #	DESCRIPTION
1	2	4448	BOLT, M16 X 110MM HEX HD.
2	2	4449	NUT, M16 LOCK
3	2	N10388	BRIDGE, CLUTCH CLAMP
4	1	N10873	1-3/4" HD CLUTCH RETAINING
5	1	N10878	WASHER, 1-3/4" HD CLUTCH (59.8 X 72)
6	1	N10892	HUB, 1-3/4"-20 SPLINE CLUTCH
7	2	N10877	SPRING, 1-3/4" HD CLUTCH LEAF
8	2	N10888	KEY, CLUTCH
9	1	N10887	HOUSING, CLUTCH
10	1	N10339	ZERK, GREASE (INCLUDED W/N10887)

Rear Tube Bushings

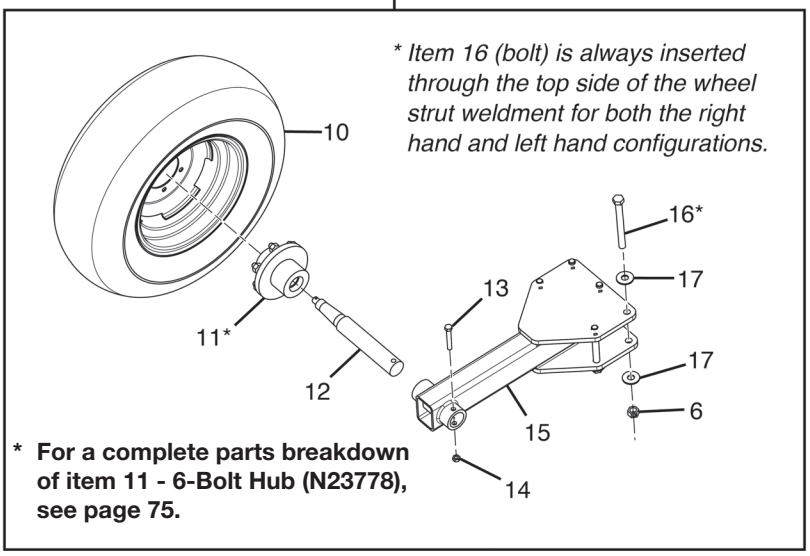


#	QTY.	PART #	DESCRIPTION
1	18	4012	BOLT, 1/2" X 1-1/4" GRADE 5
2	2	N34956	BUSHING, WHEEL
3	3	N34900	BUSHING, WHEEL PIVOT
4	18	4068	WASHER, 1/2" SAE FLAT
5	18	4054	NUT, LOCK 1/2" TOP

Assist Wheel Assembly



Rear Operation Wheel Detail - 8



*** For a complete parts breakdown of item 11 - 6-Bolt Hub (N23778), see page 75.**

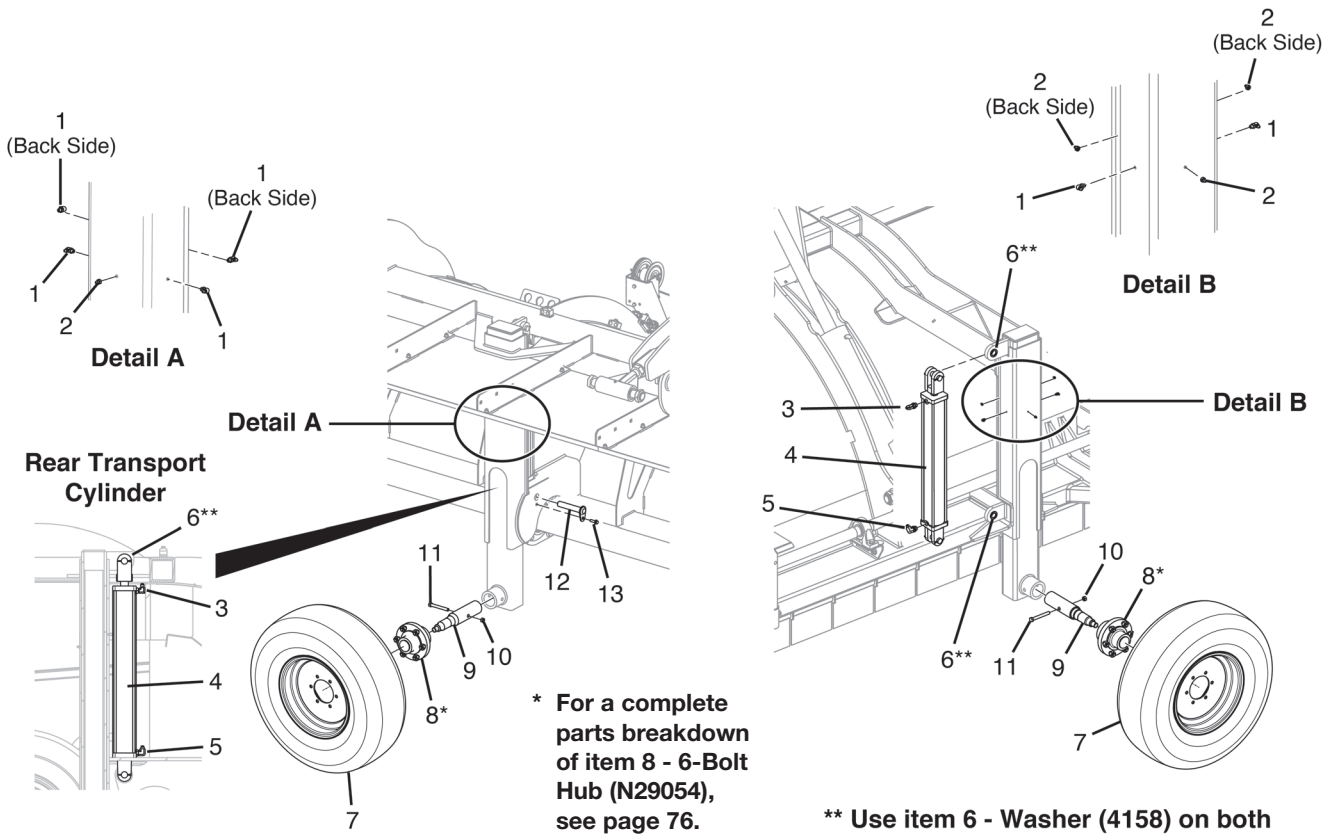
IMPORTANT: ITEMS 2 AND 9 ARE REPHASING CYLINDERS AND CANNOT BE INTERCHANGED!

NOTE: See pages 84 and 88 for the hydraulic hoses and hose routing.

Assist Wheel Assembly

#	QTY.	PART #	DESCRIPTION
1	4	N20037	ELBOW, 90 DEG - 6MJIC - 8MOR
2	1	8042	CYLINDER, 3" X 8" REPHASING
3	8	4545	BOLT, 3/4" X 7-1/2" GR 5
4	16	N35327	WASHER, FLAT 3/4" SAE
5	2	209749	ARM, WHEEL CYL
6	33	4056	NUT, LOCK 3/4"
7	2	209748	ARM, UNV REAR PT CYLINDER
8	5	209746	ASSY, SHWA ASSIST WHEEL
9	1	8043	CYLINDER, 3-1/4" X 8" REPHASNG
10	5	N22459	WHEEL, 11L-15 HIWAY D RATING
11	5	N23778	HUB, 6 BOLT 6" PAT W/STUDS
12	5	N25199	SPINDLE, GBL
13	5	4467	BOLT, 1/2" X 3-1/4" GRADE 5
14	5	4054	NUT, LOCK 1/2" TOP
15	5	209747	WLDMT, SHWA WHEEL STRUT DUAL
16	25	4458	BOLT, 3/4" X 6-1/2" GR 5
17	50	4071	WASHER, FLAT 3/4" USS ZINC

Transport Wheel Assembly (Transport Models)



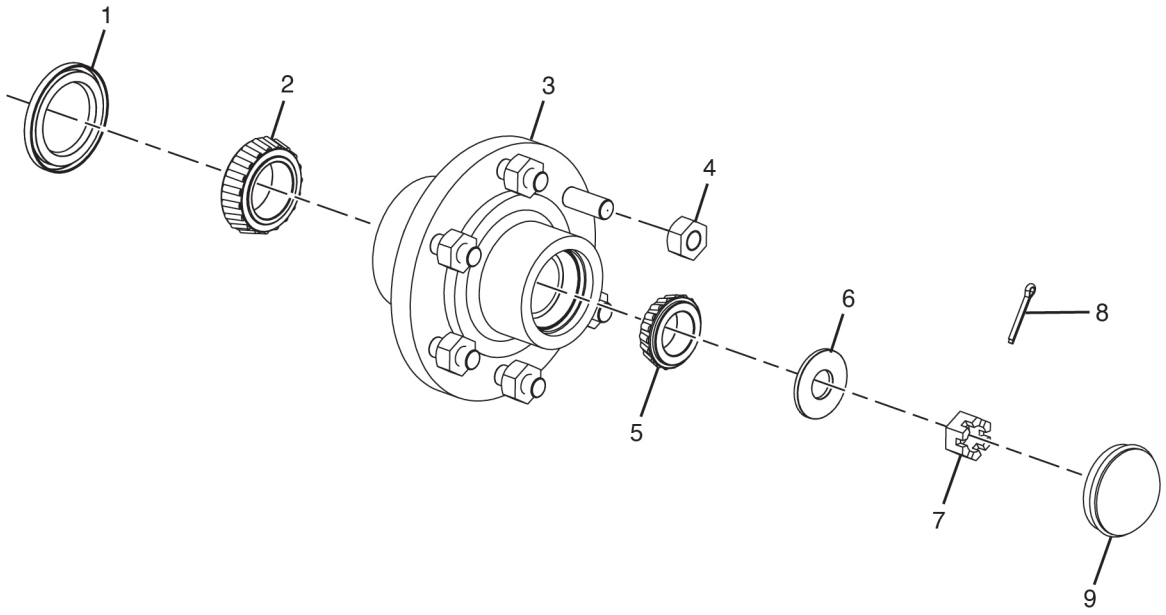
NOTE: See page 84 for the hydraulic hoses and hose routing.

*** For a complete parts breakdown of item 8 - 6-Bolt Hub (N29054), see page 76.**

**** Use item 6 - Washer (4158) on both ends of the front transport cylinder, and only the rod end (top) of the rear transport cylinder.**

#	QTY.	PART #	DESCRIPTION
1	6	4107	GREASE-ZERK, 1/4" SCREW-IN 90 DEG
2	4	4105	GREASE-ZERK, 1/4" SCREW-IN
3	2	N20037	ELBOW, 90 DEG - 6MJIC - 8MOR
4	2	N24091	CYLINDER, 3" X 24" 3000 PSI
5	2	212049	ELBOW, 90 -6MJIC-8MORB .062 OR
6	6	4158	WASHER, 1" ID THICK SPACER
7	2	N29267	WHEEL, 245 / 70R17.5 - 6000 LB
8	2	N29054	HUB, 6 BOLT 6" PAT W/STUDS
9	2	N32555	SPINDLE, SHWD TRANSPORT
10	5	4054	NUT, LOCK 1/2" TOP
11	2	4357	BOLT, 1/2" X 4" GRADE 5
12	1	212186	PIN, 1.000 X 5.438
13	1	N47855	BOLT, 3/8" X 1-1/4" SER FLG

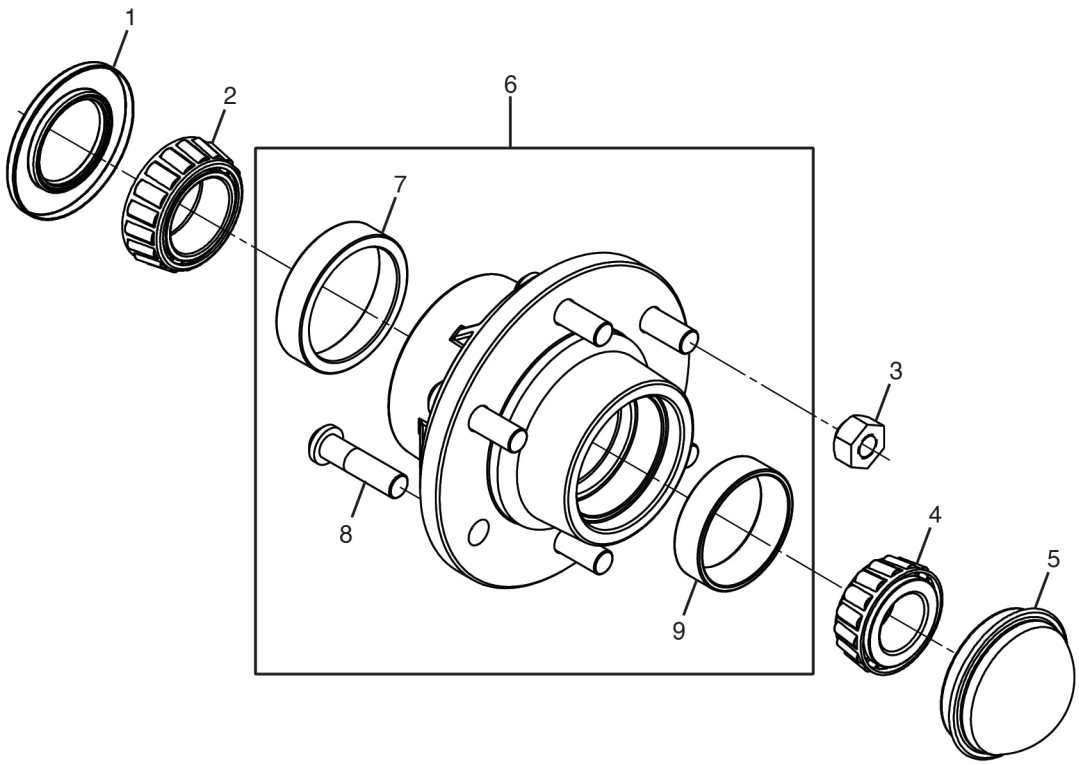
6 Bolt Hub (N23778)



To order complete hub, use part number N23778.

#	QTY.	PART #	DESCRIPTION
1	1	8082-04	SEAL, GREASE (6-BOLT HUB)
2	1	8082-03	CONE, BEARING (LARGE)
3	1	N23676	HUB, 6-BOLT STUD CASTING ONLY
4	6	N23764	NUT, LUG 9/16"-18 UNF
5	1	8082-06	CONE, BEARING (SMALL)
6	1	8082-07	WASHER, SPINDLE
7	1	8082-08	NUT, CASTLE SPINDLE (3/4"-16 UNF)
8	1	8082-09	PIN, COTTER (3/16" X 1-1/2")
9	1	8082-10	CAP, END (6-BOLT HUB)

Hub, 6 Bolt 6" (N29054)

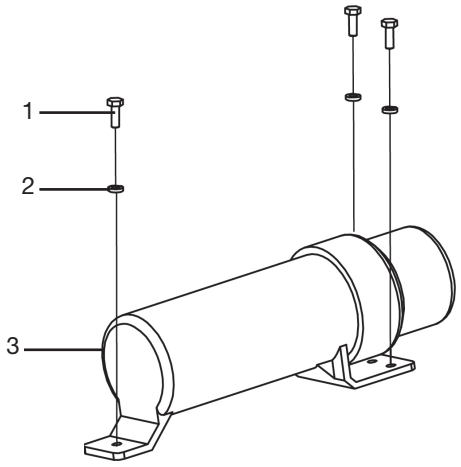


To order a complete 6-bolt hub assembly, use part number N29054.

To order a hub casting with studs and cup bearings, use part number N89170 (item 6).

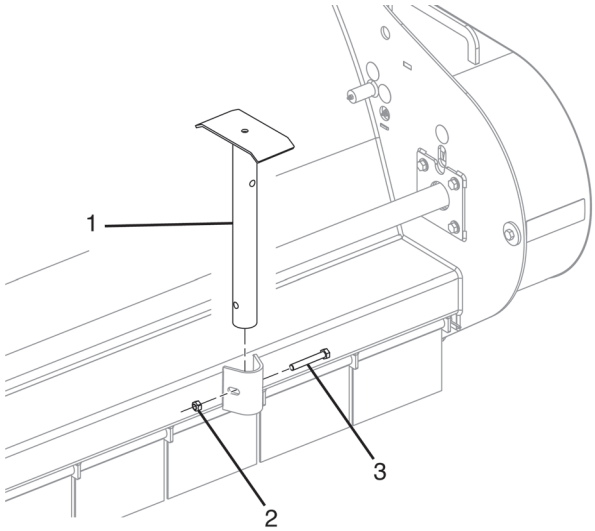
#	QTY.	PART #	DESCRIPTION
1	1	N89176	SEAL, 6-BOLT HUB N29054
2	1	N89172	BEARING, TAPERED ROLLER 1.796
3	6	N23764	NUT, LUG 9/16-18UNF (N23778)
4	1	N89174	BEARING, TAPERED ROLLER 1.375
5	1	N89178	CAP, 6-BOLT HUB N29054
6	1	N89170	HUB, 6-BOLT W/STUD & CUPS
7	1	N89164	CUP, BEARING INNER HUB N29054
8	6	N27304	STUD, HUB 9/16"-18UNF
9	1	N89166	CUP, BEARING OUTER HUB N29054

Manual Holder



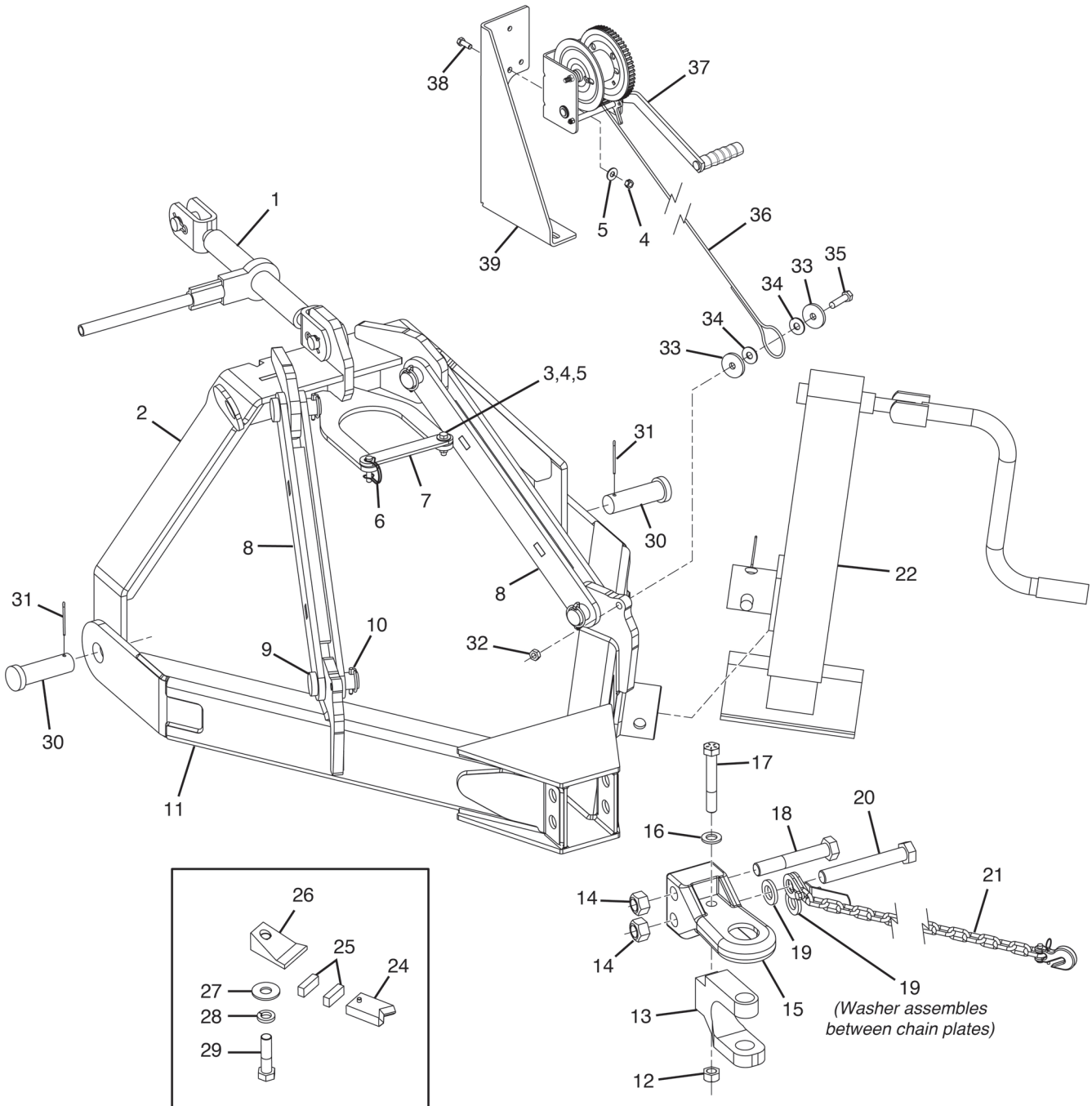
#	QTY.	PART #	DESCRIPTION
1	3	4340	BOLT, 1/4" X 3/4" GRADE 5
2	3	4231	WASHER, LOCK 1/4"
3	1	N19600	HOLDER, 01-315A STANDARD MANUAL
*	1	209757	MANUAL, SHWA 20FT *(Not Shown)*

Jack Stand



#	QTY.	PART #	DESCRIPTION
1	2	N32552	JACK, STORAGE STAND (SHREDDER)
2	2	4054	NUT, LOCK 1/2" TOP
3	2	4154	BOLT, 1/2" X 3-1/2" GRADE 5

Operation Hitch - Transport Models



(Washer assembles between chain plates)

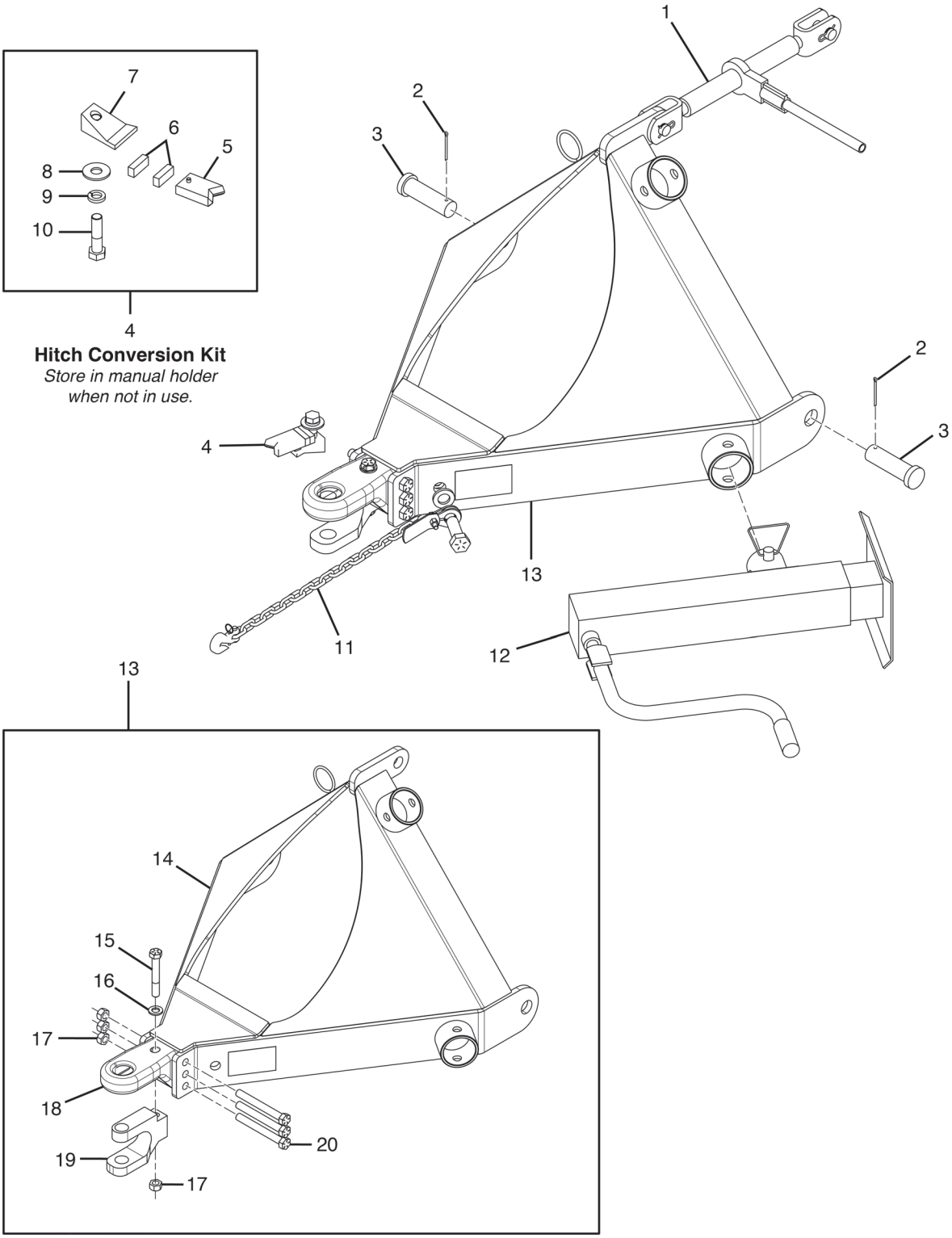
Hitch Conversion Kit
Store in manual holder when not in use.

To order a complete pull-type folding hitch (Items 1 through 23), use part number 212153

Operation Hitch - Transport Models

#	QTY.	PART #	DESCRIPTION
1	1	8048	BODY, RATCHET JACK
2	1	N32960	VERTICAL HITCH WELD - FOLDING HITCH
3	1	4006	BOLT, 3/8" X 1-1/2" GRADE 5
4	3	4052	NUT, LOCK 3/8"
5	5	4064	WASHER, FLAT 3/8"
6	1	N27991	PIN, 3/8" X 1-3/8" RETAINER
7	1	N27990	BAR, GBL SWING AUG PTO HOLDER
8	2	N32957	LINK WELD - FOLDING HITCH
9	4	4290	PIN, 1-1/4 X 2-1/2 MOUNTED HITCH
10	4	4095	CLIP, LINCHPIN
11	1	212154	HITCH, SHW FOLDING W/DECALS
12	1	N16352	NUT, LOCK 3/4" GRADE 8 FINE
13	1	N37463	CLEVIS, CAT 2 BOLT-ON HITCH
14	2	N16700	NUT, 1" - 14 GR 8 FINE THREAD TOP LOCK
15	1	N37474	BASE, CAT 2 BOLT-ON REC HITCH
16	1	N35327	WASHER, FLAT 3/4" SAE
17	1	4577	BOLT, 3/4" X 5" FN TH GR 8
18	1	N28583	BOLT, 1 X 6" FN TH GR 8
19	2	N24249	WASHER, 1.06 X 1.88 X .25 THK
20	1	N24607	BOLT, 1"-14 X 7" FINE THD GRD 8
21	1	N50253	CHAIN, SAFETY 3/8" X 46" 21,000 LB
22	1	N13732	JACK, PULL-TYPE HITCH
23	1	N37609	KIT, GBU HITCH CONV PART
24	1	N37475	BLOCK, CAT 2 BOLT-ON REC V
25	2	N37477	CUSHION, CAT 2 BOLT-ON REC
26	1	N37476	PLATE, CAT 2 BOLT-ON REC TOP
27	1	4071	WASHER, 3/4" FLAT
28	1	4287	WASHER, 3/4" LOCK
29	1	4352	BOLT, 3/4" X 3" GRADE 5
30	2	N13095	PIN, HITCH 1-1/2" X 4-3/8"
31	2	4355	PIN, COTTER 3/16" X 2-1/2"
32	1	4054	NUT, LOCK 1/2" TOP
33	2	4074	WASHER, 2" OD X 1/2" ID X 1/4"
34	2	4486	WASHER, 1/2" FLAT
35	1	4015	BOLT, 1/2" X 2" GRADE 5
36	1	N13272	CABLE, WINCH ASSY
37	1	201805	WINCH, CABLE 1800# DL
38	2	4195	BOLT, 3/8" X 1" GRADE 5
39	1	212183	PLATE, WINCH MOUNT BRACKET

Operation Hitch - Models without Transport (N40152)

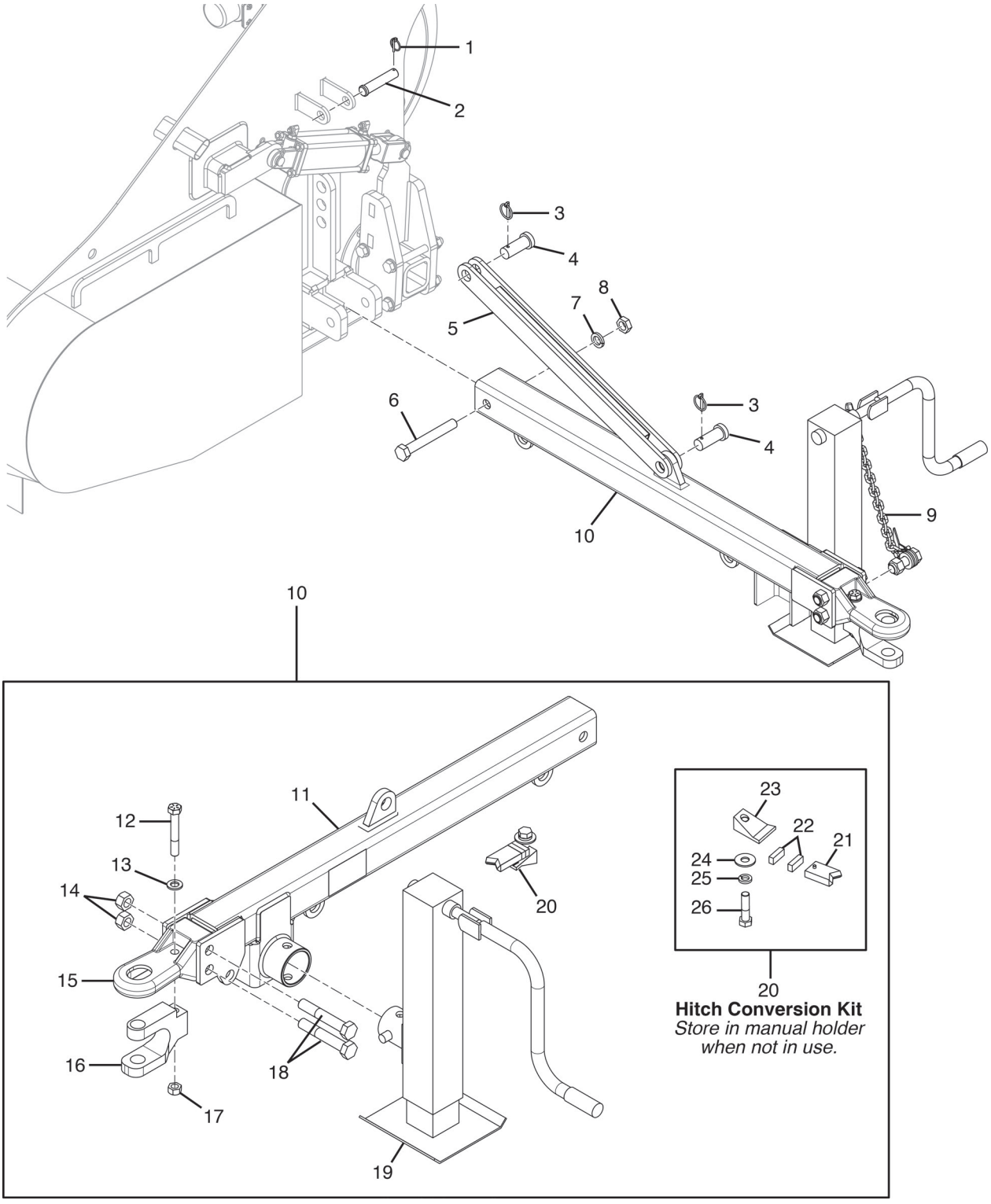


Hitch Conversion Kit
Store in manual holder when not in use.

Operation Hitch - Models without Transport (N40152)

#	QTY.	PART #	DESCRIPTION
1	1	8048	BODY, RATCHET JACK
2	2	4355	PIN, COTTER 3/16" X 2-1/2"
3	2	N13095	PIN, HITCH 1-1/2" X 4-3/8"
4	1	N37609	KIT, GBU HITCH CONV PART
5	1	N37475	BLOCK, CAT 2 BOLT-ON REC V
6	2	N37477	CUSHION, CAT 2 BOLT-ON REC
7	1	N37476	PLATE, CAT 2 BOLT-ON REC TOP
8	1	4071	WASHER, 3/4" FLAT
9	1	4287	WASHER, 3/4" LOCK
10	1	4352	BOLT, 3/4" X 3" GRADE 5
11	1	N50260	CHAIN, SAFETY 21,000LB W/ HDWR
12	1	N13732	JACK, PULL-TYPE HITCH
13	1	N32583	HITCH, UNIV SHWD PULL-TYPE
14	1	209249	HITCH, SHWD PULL-TYPE W/DECAL
15	1	4577	BOLT, 3/4" X 5" FN TH GR 8
16	1	N35327	WASHER, FLAT 3/4" SAE
17	4	N16352	NUT, LOCK 3/4" GRADE 8 FINE
18	1	N32970	HITCH, BOLT-ON, CAT 3
19	1	N37463	CLEVIS, CAT 2 BOLT-ON HITCH
20	3	N16351	BOLT, 3/4" X 6-1/2" FN TH GR 8

Transport Hitch (Transport Models)

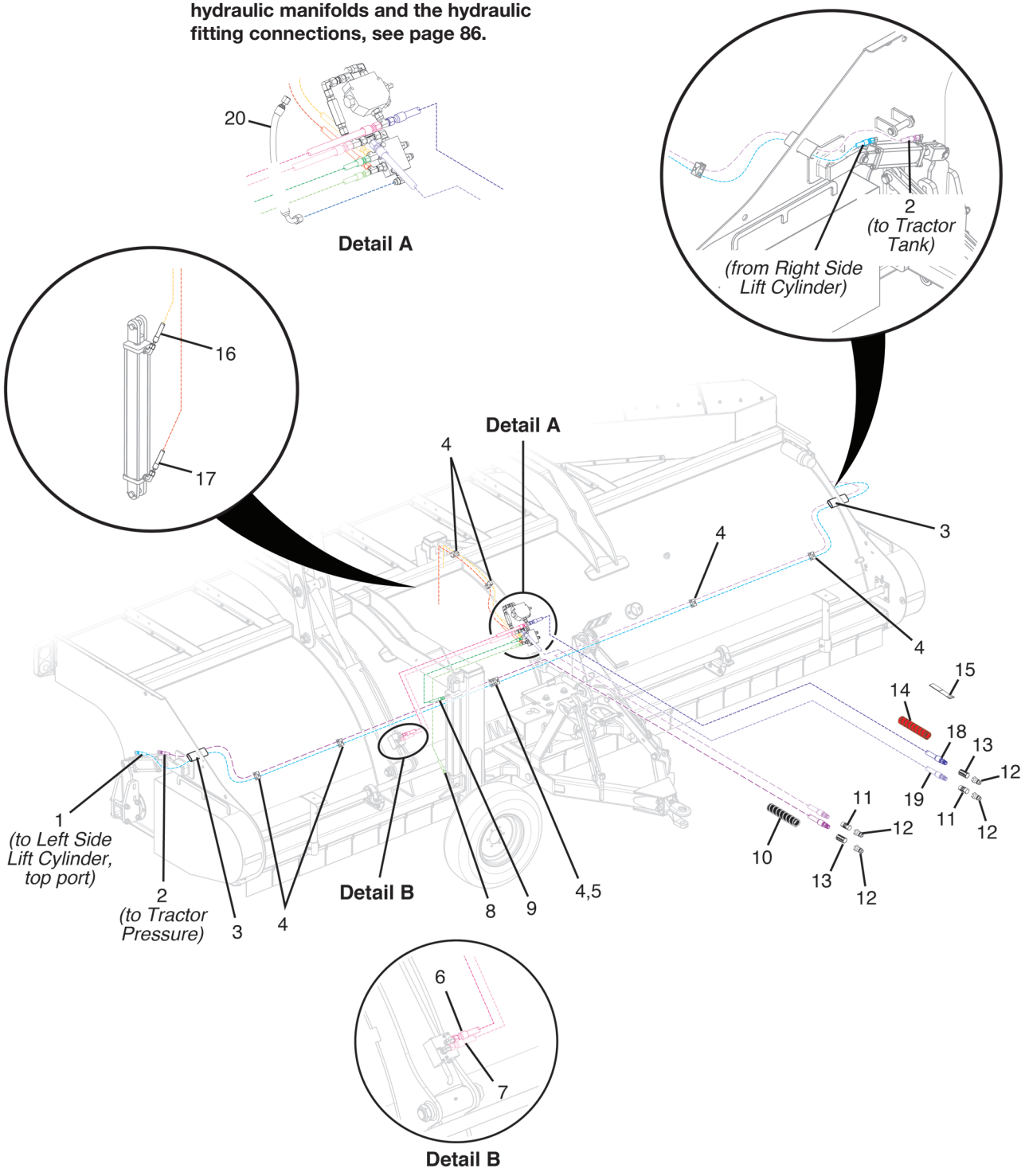


Transport Hitch (Transport Models)

#	QTY.	PART #	DESCRIPTION
1	1	N22192	PIN, LINCH 3/16" X 1-9/16"
2	1	N11932	PIN, 1" X 4-1/2" PLATED HITCH
3	2	4095	CLIP, LINCHPIN
4	2	4290	PIN, 1-1/4 X 2-1/2 MOUNTED HITCH
5	1	N23271	LINK, WIND SHRD TRANSPORT HITCH
6	1	N13410	BOLT, TRANSPORT SHORTENED
7	1	4166	WASHER, 1" LOCK
8	1	N19767	NUT, 1" GR. 8 TOPLOCK
9	1	N50260	CHAIN, SAFETY 21,000LB W/ HDWR
10	1	212163	HITCH, SHWA TRANSPORT W/DECAL
11	1	212164	TONGUE, SHWA TRANS W/DECAL
12	1	4577	BOLT, 3/4" X 5" FN TH GR 8
13	1	N35327	WASHER, FLAT 3/4" SAE
14	2	N16700	NUT, 1" - 14 GR 8 FINE THREAD TOP LOCK
15	1	N37474	BASE, CAT 2 BOLT-ON REC HITCH
16	1	N37463	CLEVIS, CAT 2 BOLT-ON HITCH
17	1	N16352	NUT, LOCK 3/4" GRADE 8 FINE
18	2	N28583	BOLT, 1 X 6" FN TH GR 8
19	1	N13732	JACK, PULL-TYPE HITCH
20	1	N37609	KIT, GBU HITCH CONV PART
21	1	N37475	BLOCK, CAT 2 BOLT-ON REC V
22	2	N37477	CUSHION, CAT 2 BOLT-ON REC
23	1	N37476	PLATE, CAT 2 BOLT-ON REC TOP
24	1	4071	WASHER, 3/4" FLAT
25	1	4287	WASHER, 3/4" LOCK
26	1	4352	BOLT, 3/4" X 3" GRADE 5

Hydraulics, Hose (Transport Models)

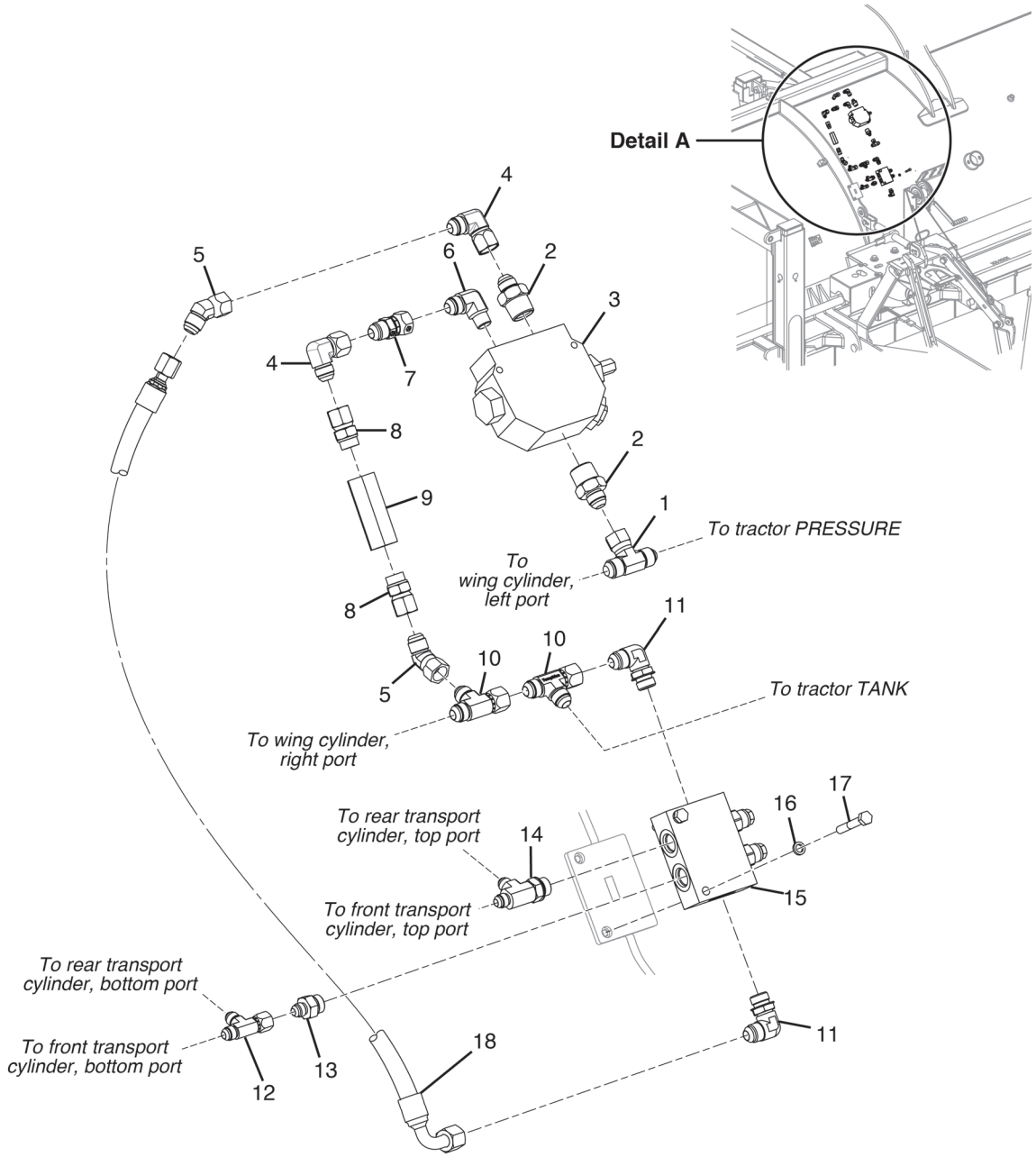
For a detailed parts breakdown of the hydraulic manifolds and the hydraulic fitting connections, see page 86.



Hydraulics, Hose (Transport Models)

#	QTY.	PART #	DESCRIPTION
1	1	212614	HOSE, 3/8 X 294 -6FJIC -6FJIC
2	2	212616	HOSE, 3/8 X 264 -6FJIC -8MP
3	2	212275	SLEEVE, HOSE 1-1/2 X 6
4	13	N21365	CLAMP, 3/8" DOUBLE HOSE
5	2	4413	BOLT, 5/16" X 3-1/4" GR 5
6	1	212624	HOSE, 1/2 X 68 -8FJIC -8FJIC
7	1	212626	HOSE, 1/2 X 64 -8FJIC -8FJIC
8	1	212632	HOSE, 3/8 X 61 -6FJIC -6FJIC
9	1	212628	HOSE, 3/8 X 66 -6FJIC -6FJIC
10	1	N32882	WRAP, HOSE BLACK
11	2	N24823	DECAL, TANK
12	4	N11825	COUPLER, 1/2" MALE PIONEER
13	2	N24822	DECAL, PRESSURE
14	1	N32884	WRAP, HOSE RED 1'
15	1	N28978	STRAP, CINCH 1.5 X 10 HD
16	1	201532	HOSE, 3/8 X 42 -6FJIC -6FJIC
17	1	N30489	HOSE, 3/8 X 72 -6FJIC -6FJIC
18	1	212618	HOSE, 1/2 X 114 -8FJIC90 -8MP
19	1	212620	HOSE, 1/2 X 114 -8FJIC -8MP
20	1	211404	HOSE, 1/2 X 18 -8FJIC -8FJIC90

Hydraulic Manifolds, Lift and Wing (Transport Models)



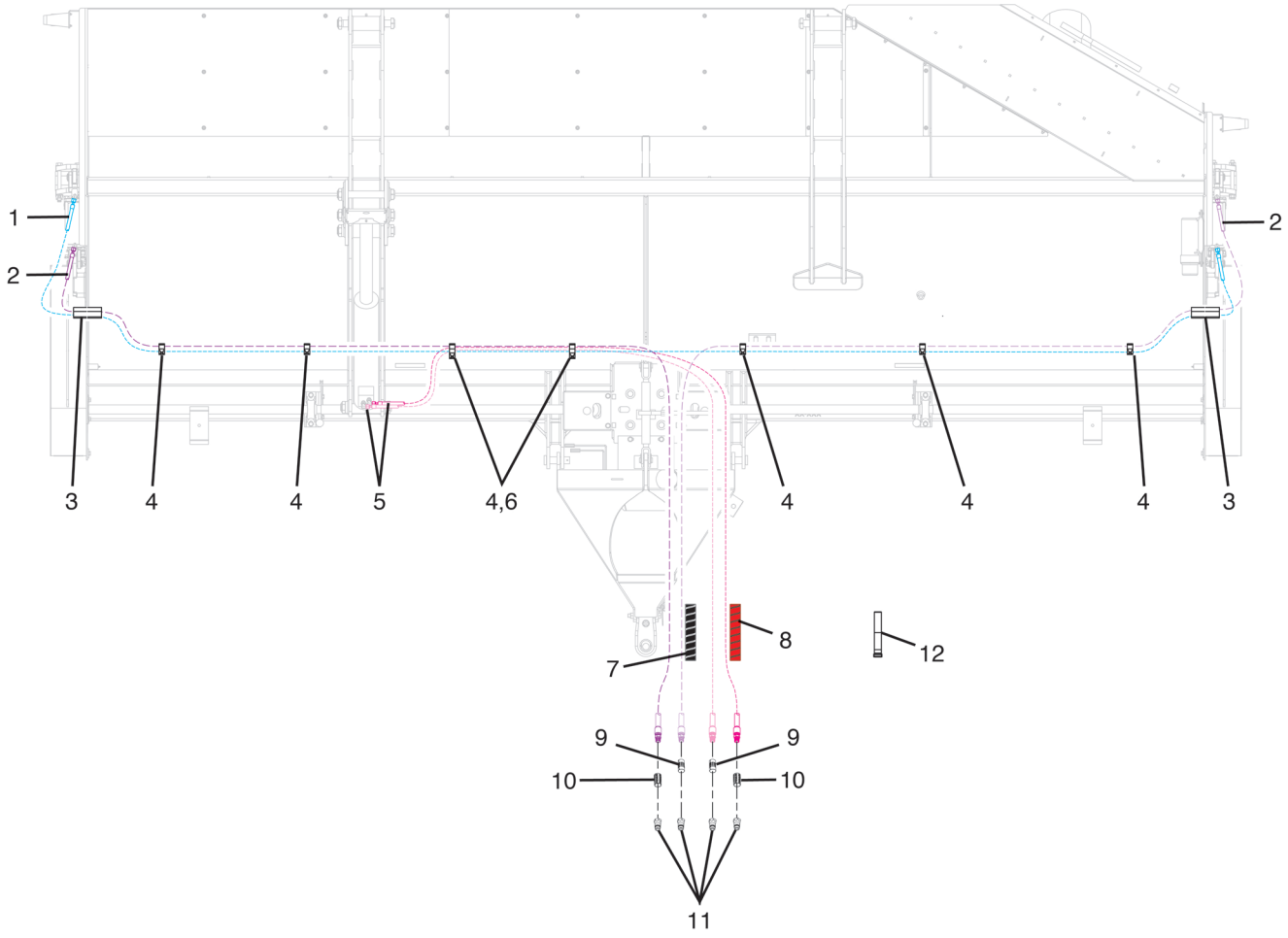
Detail A

NOTE: See page 84 for the hydraulic hoses and hose routing.

Hydraulic Manifolds, Lift and Wing (Transport Models)

#	QTY.	PART #	DESCRIPTION
1	1	N28895	TEE, 8MJIC-8MJIC-8FJIC
2	2	N28753	ADAPTER, 8MJIC -12MP
3	1	N24782	VALVE, SEQUENCE RD1075SH
4	2	N24827	ELBOW, 90 DEG - 8FJC - 8MJC
5	2	N28838	ELBOW, 45 DEG - 8MJIC -8FJIC
6	1	N24772	ELBOW, 90 DEG - 8MJIC - 6MP
7	1	N28840	ADAPTER, 8MJIC - 8FJIC
8	2	N24835	ADAPTER, 8MOR - 8FJIC
9	1	N11949	VALVE, CHECK 8FOR - 8FOR
10	2	N20549	TEE, 8MJIC-8FJIC-8MJIC SWL
11	2	N11952	ELBOW, 90 DEG - 8MJIC - 8MOR
12	1	N37279	TEE, -6MJIC-6FJIC-6MJIC
13	1	N17022	ADAPTER, 6MJIC - 8MOR
14	1	212119	TEE, 6MJIC-8MOR-6MJIC
15	1	N24644	VALVE, COUNTERBALANCE
16	1	N16469	WASHER, NORD-LOCK 5/16IN
17	2	4227	BOLT, 5/16" X 2" GRADE 5
18	1	212622	HOSE, 1/2 X 18 -8FJIC -8FJIC90

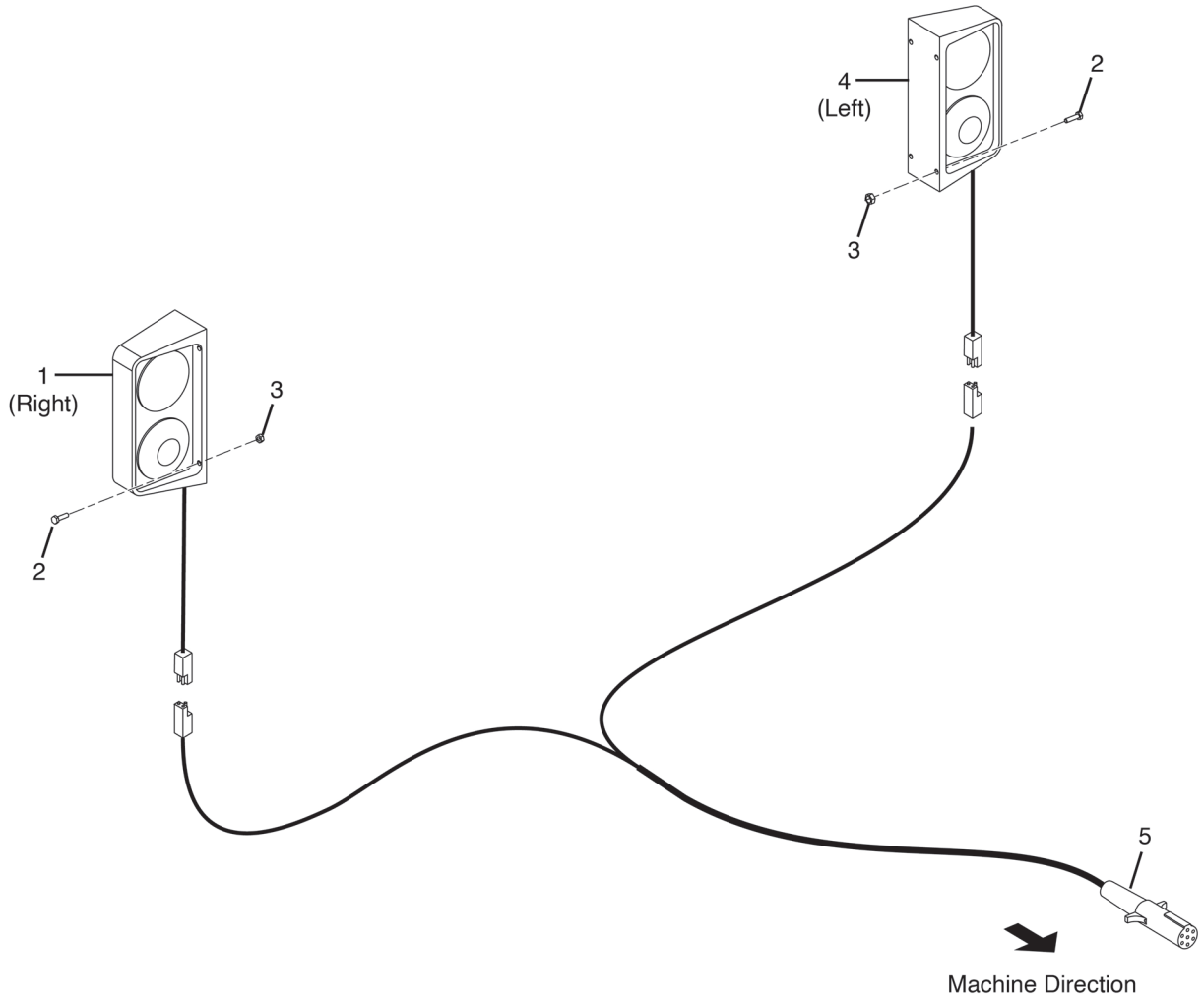
Hydraulics, Hose (Models without Transport)



Hydraulics, Hose (Models without Transport)

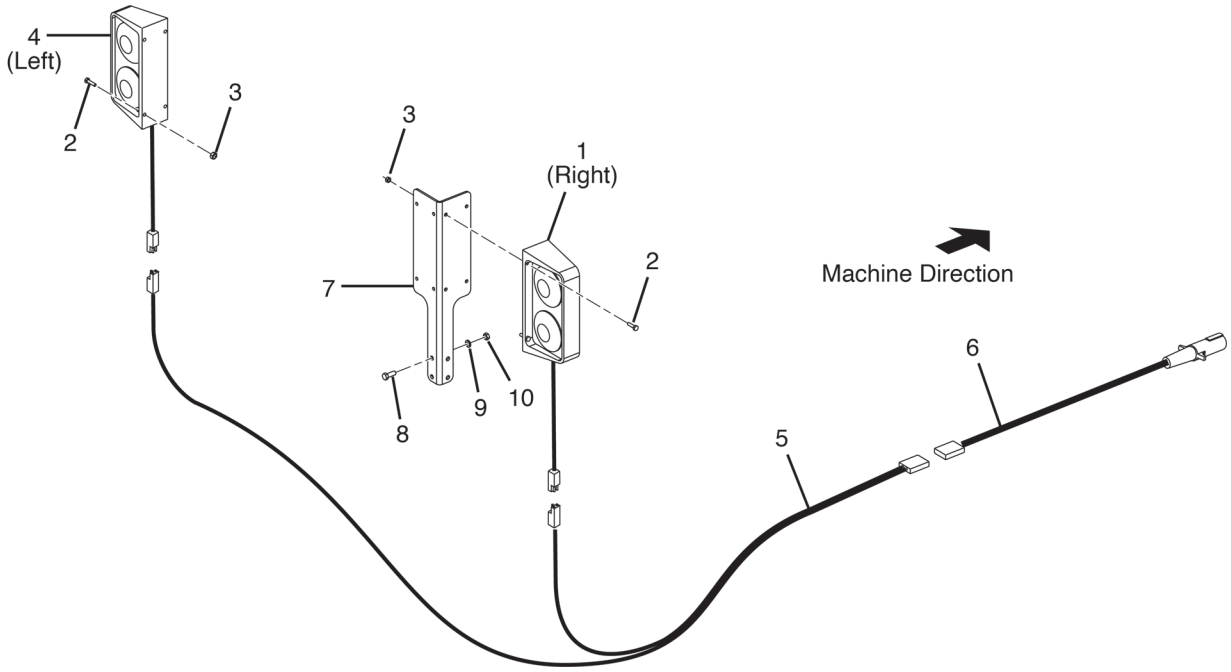
#	QTY.	PART #	DESCRIPTION
1	1	212614	HOSE, 3/8 X 294 -6FJIC -6FJIC
2	2	212616	HOSE, 3/8 X 264 -6FJIC -8MP
3	2	212275	SLEEVE, HOSE 1-1/2 X 6
4	13	N21365	CLAMP, 3/8" DOUBLE HOSE
5	2	212616	HOSE, 1/2 X 186 -8FJIC -8MP
6	2	4413	BOLT, 5/16" X 3-1/4" GR 5
7	1	N32882	WRAP, HOSE BLACK
8	1	N32884	WRAP, HOSE RED 1'
9	2	N24823	DECAL, TANK
10	2	N24822	DECAL, PRESSURE
11	4	N11825	COUPLER, 1/2" MALE PIONEER
12	1	N28978	STRAP, CINCH 1.5 X 10 HD

Light Kit, Operation (Transport Models, and Models without Transport)



#	QTY.	PART #	DESCRIPTION
1	1	N16290	LIGHT, RIGHT
2	8	4000	BOLT, 1/4" X 1" GRADE 5
3	8	4050	NUT, 1/4" LOCK
4	1	N16289	LIGHT, LEFT
5	1	210314	HARNESS-LIGHT, 30FT WISHBONE

Light Kit, Transport (Transport Models)



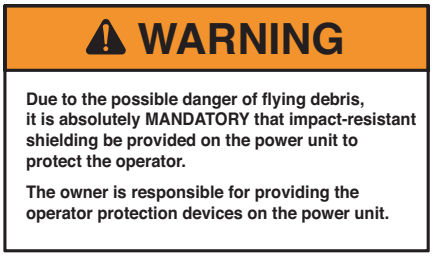
#	QTY.	PART #	DESCRIPTION
1	1	N16290	LIGHT, RIGHT
2	8	4000	BOLT, 1/4" X 1" GRADE 5
3	8	4050	NUT, 1/4" LOCK
4	1	N16289	LIGHT, LEFT
5	1	N16288	HARNESS, 25' REAR WISHBONE
6	1	N22784	HARNESS, GBU 4' BRAIDED TOUNGE
7	1	N16182	MOUNT, LIGHT
8	2	4195	BOLT, 3/8" X 1" GRADE 5
9	2	4065	WASHER, 3/8 LOCK
10	2	4233	NUT, STANDARD 3/8"

Machine Decals and Signs

NOTE: *All safety related decals are also shown in the Safety Instructions Section along with their location on the machine. See "Safety Decal Locations" on page 9.*

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

Part No. N17013



Part No. 208824

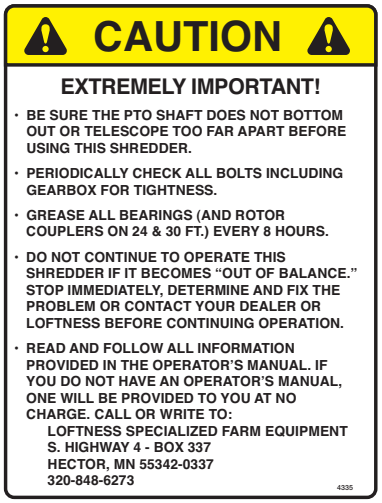
Part No. 4334

Part No. N22763

Part No. 4189

Part No. 4135

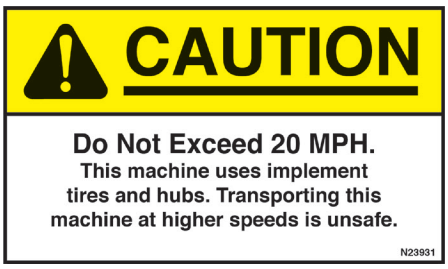
Part No. 4335



Part No. 206502

Machine Decals and Signs (Cont'd)

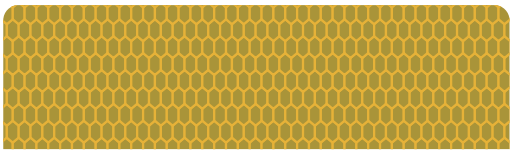
Part No. N23931



Part No. 203264

Part No. 4141

Part No. 4140



Part No. 204748

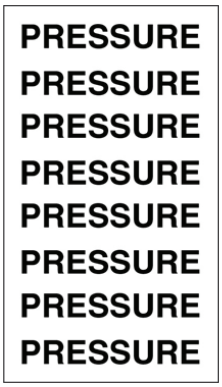
Part No. 4132

(Transport models only)

Part No. N18549

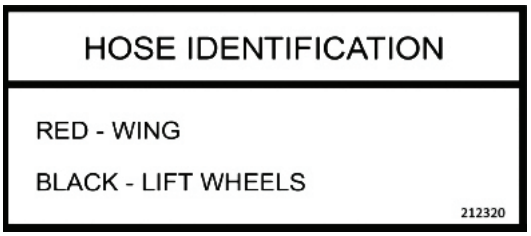
(Affixed to aluminum plate)

Part No. N24822



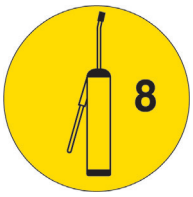
Part No. N24823

Part No. 212320

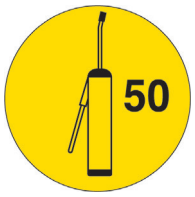


NOTE: *Grease point decals N28010, N28012, and N28013 are shown in their locations in the Lubrication section beginning on page 33.*

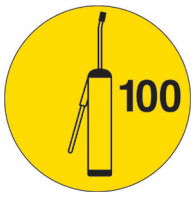
Part No. N28010



Part No. N28012



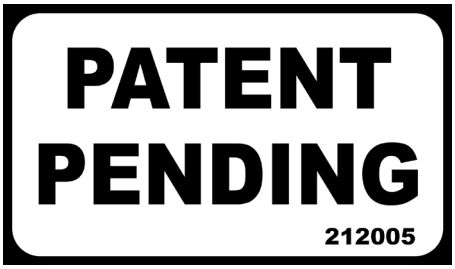
Part No. N28013



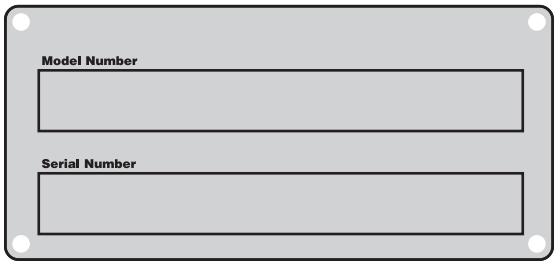
Part No. 4136

Machine Decals and Signs (Cont'd)

Part No. 212005



Part No. N13721



Part No. 209528

Part No. N13517

Part No. 4138

Part No. N26974 - *(small)*

Part No. N26973 - *(medium)*

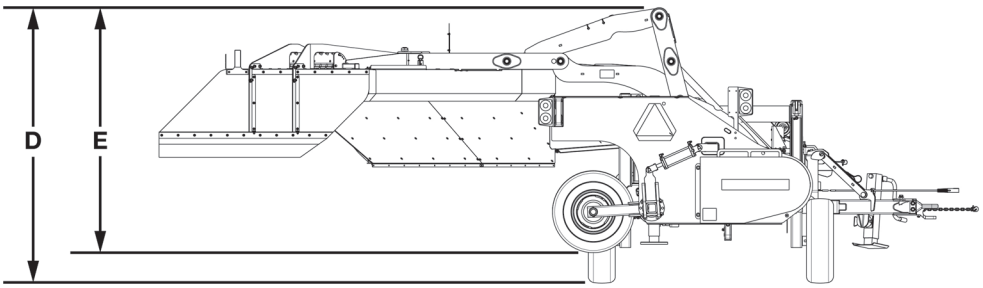
Part No. N26972 - *(large)*

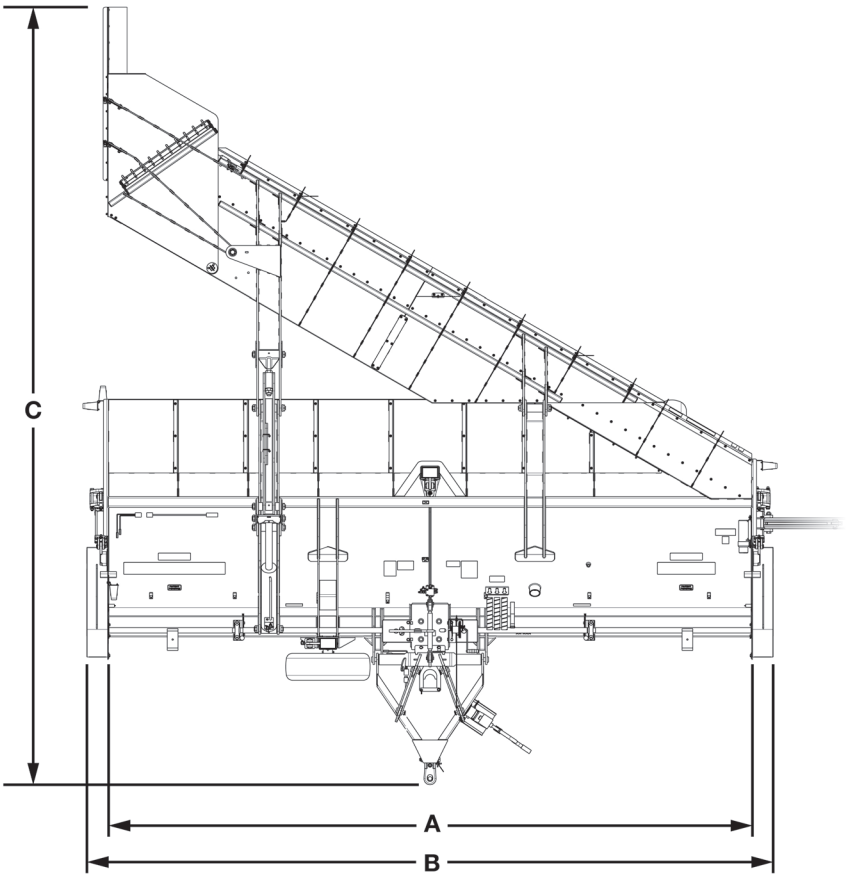
Part No. N32275

Specifications

DESCRIPTION	AIR WINDROWER SHREDDER
Cutting Width	240 in. (609.6 cm)
Knives	60 Cupped, 112 High Residue
Weight	approx. 12,500 lbs. (5669.91 kg)
Rotor	1450 RPM Computer Balanced
	7 1/2 in. (19.05 cm) Tube Diameter
	2 3/16 in. (5.55 cm) Shaft Diameter
Drive	1,000 RPM PTO
	Bondioli 280 HP

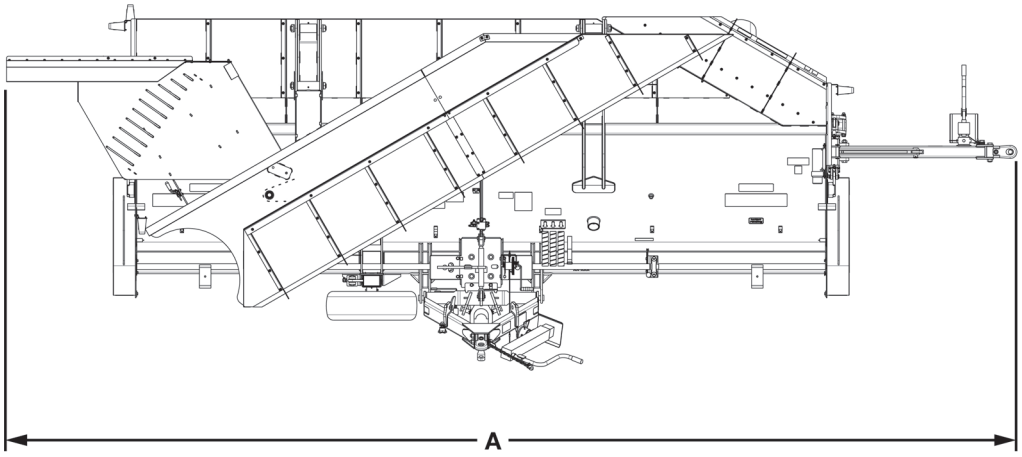
Dimensions - Transport Model (Wing Unfolded)

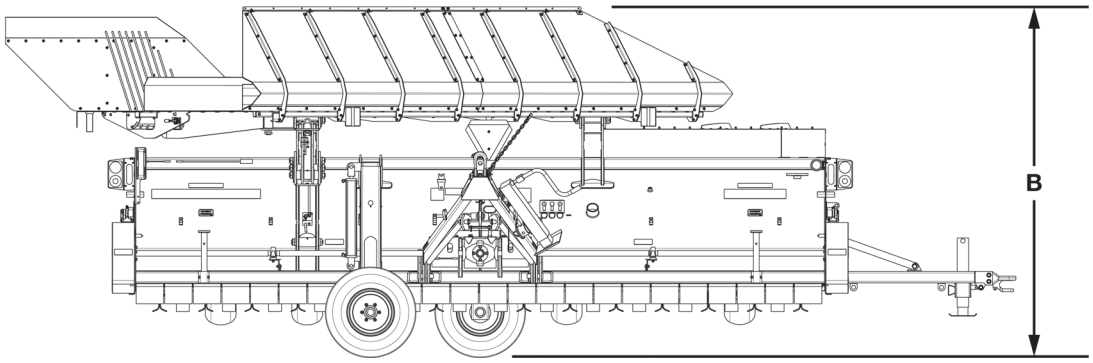




DESCRIPTION	AIR WINDROWER SHREDDER
Cutting Width (A)	240 in. (609.6 cm)
Overall Width (B)	255.3 in. (648.46 cm)
Total Depth (C)	289.2 in. (734.65 cm)
Standard Transport Height (D)	102.3 in. (259.84 cm)
Standard Operation Height (E)	90.9 in. (231.05 cm)

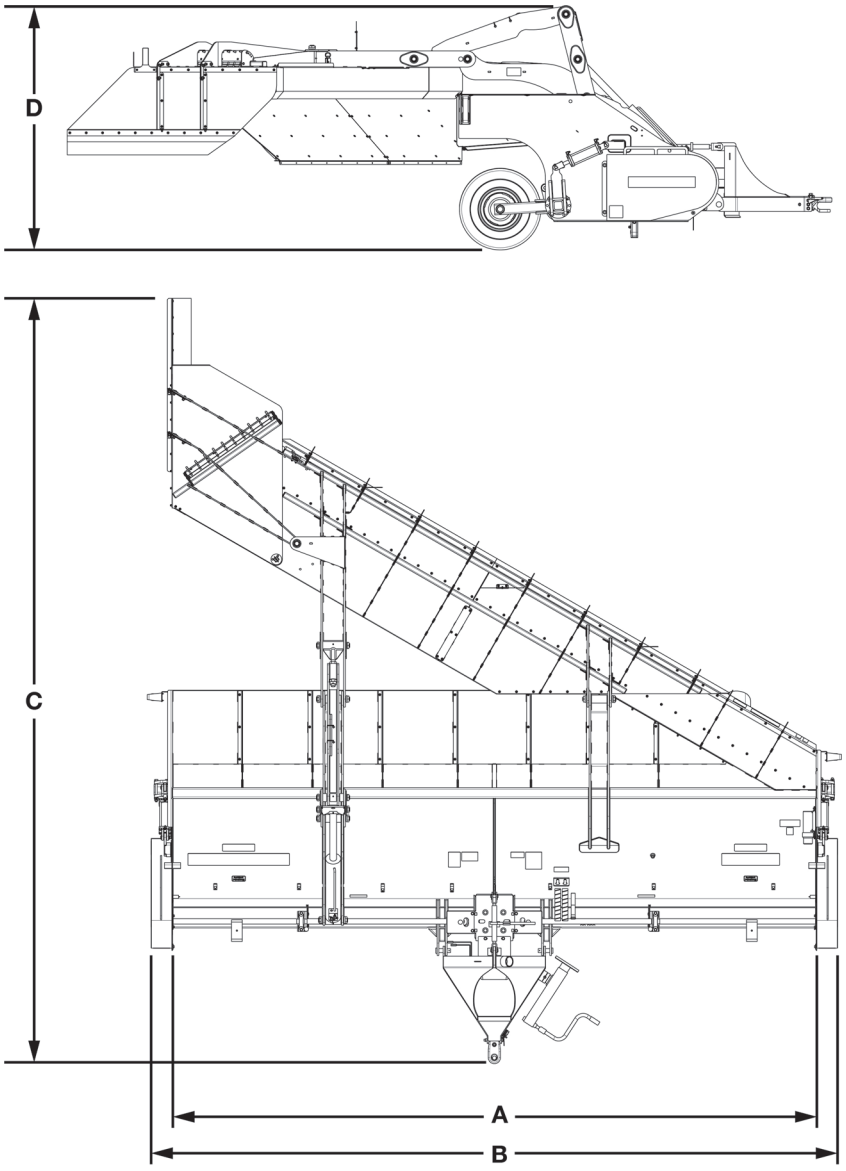
Dimensions - Transport Model (Wing Folded)





DESCRIPTION	AIR WINDROWER SHREDDER
Total Transport Length (A)	350.5 in. (890.17 cm)
Transport Height (B)	121.6 in. (309.03 cm)

Dimensions - Models without Transport (Operation Configuration)



DESCRIPTION	AIR WINDROWER SHREDDER
Cutting Width (A)	240 in. (609.6 cm)
Overall Width (B)	255.3 in. (648.46 cm)
Total Depth (C)	282.5 in. (717.44 cm)
Standard Transport Height (D)	90.9 in. (231.05 cm)

Torque Specifications

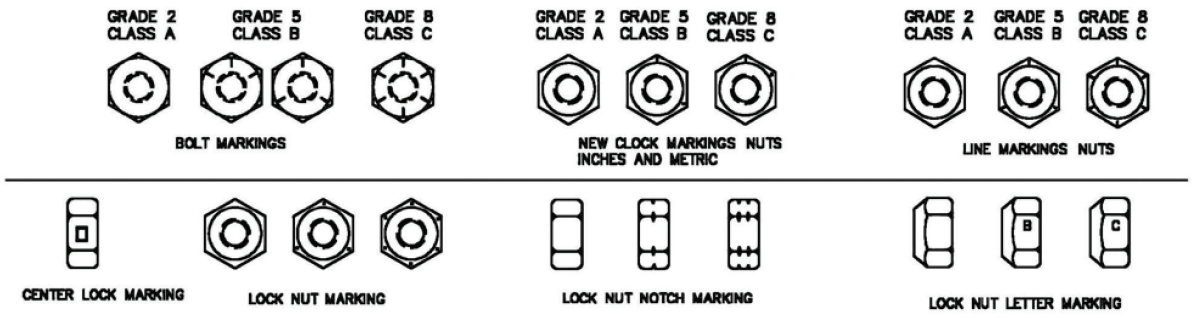
Inches Hardware and Lock Nuts

TORQUE CHARTS

Minimum Hardware Tightening Torques

Normal Assembly Applications
(Standard Hardware and Lock Nuts)

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



Torque Specifications (Cont'd)

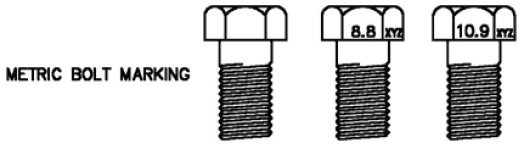
Metric Hardware and Lock Nuts

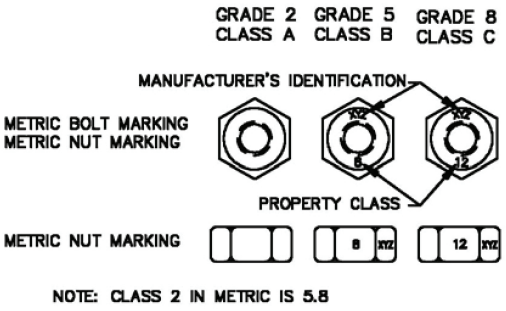
TORQUE CHARTS

Minimum Hardware Tightening Torques

Normal Assembly Applications
(Metric Hardware and Lock Nuts)

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





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Loftness Specialized Equipment, Inc.
650 So. Main Street • PO Box 337 • Hector, MN 55342
Tel: 320.848.6266 • Fax: 320.848.6269 • Toll Free: 1.800.828.7624

Printed in USA