



Row Crop Shredder

12' through 30' Models

Owner's Manual and Parts Book
(Originating w/Serial Number 02-1760)



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



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)



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Ordering Code

Standard Crop 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 Standard Crop Shredder of this type would be as shown below.

144SH44P226.7

MODEL

144 = 12 ft.
156 = 13 ft.
180 = 15 ft.
216 = 18 ft.
240 = 20 ft.
264 = 22 ft.
288 = 24 ft.
300 = 25 ft.
315 = 8m
360 = 30 ft.

BASE MACHINE

S = Standard Shredder

KNIVES

H = High Residue
R = Hard Surface High Residue
L = Hard Surface Cotton
C = Cupped
M = Combination

GEARBOX - 280HP

4 = 1450 RPM
5 = 1700 RPM
6 = 2000 RPM

BELTS

4 = 4 Section Banded Belt
(12' - 22" only)
6 = 6 Section Banded Belt
(Option 12' - 22"; Standard 24' - 30')

(Remainder of code
continued on next page.)

(Remainder of code continued on next page.)

Ordering Code

Ordering Code (Cont'd)

144SH44P226.7

MOUNTING

P = Pull-Type Clevis (12' - 8m)
N = Pull-Type Clevis Floating (22' - 30')
M = Fully Mounted (12' - 8m)
S = Semi Mounted

PTO - 1000 RPM

2 = Pull-Type, 1-3/8 CV (12' - 8m)
3 = Pull-Type, 1-3/4 CV (12' - 8m)
4 = Mounted, 1-3/8 (12' - 8m)
5 = Mounted, 1-3/4 (12' - 8m)
6 = Pull-Type, 1-3/4 CV w/Slip-Clutch
7 = Mounted, 1-3/4 w/Slip-Clutch

REAR WHEELS & TIRES

2 = 2 Rear Wheels, Rigid (PT/FM) (12' - 15')
3 = 3 Rear Wheels, Swivel (FM) (18')
4 = 4 Rear Wheels, Rigid (PT/FM) (12' - 8m)
5 = 2 Rear Wheels-Swivel (FM) (12' - 15')
6 = 4 Rear Wheels-Swivel (FM/SM) (20' - 8m)
7 = 6 Rear Swivel Wheels - (4 Rear, 2 Front) (24' - 30')

REAR LIFTING MECHANISM

0 = Fixed Plate For Shipping (12' - 8m)
1 = 1 Ratchet (12' - 15')
2 = 2 Ratchets (18' - 22')
3 = 3 Ratchets (24' - 30')
4 = 1 Single Acting Hyd Cylinder (12' - 15')
6 = 2 Hyd Lift Re-Phasing Cylinders (12' - 22')
7 = 3 Hyd Lift Re-Phasing Cyl & Hoses (24' - 8m)
8 = 5 Hyd Lift Re-Phasing Cyl & Hoses (24' - 30') (6 Swivels Only)

OPTIONS

1 = 1 Rigid Front Wheel & Ratchet (SM) (18' - 8M)
2 = 2 Rigid Front Wheels & Ratchets (SM) (18' - 30')
3 = 2 Front Swivel Wheels (22' Only)
4 = 1 Offset Rear Wheel Rigid (Center Or End) (12' - 22')
7 = Hood Liner
8 = Hydraulic Transport (PT/FM) (18' - 8M)
9 = Transport Hitch (Semi-Mounted Only) (18' - 8M)
A = Anti-Wrap (12' - 22')
G = Green Paint

Owner Information

Thank you for your decision to purchase a crop 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.

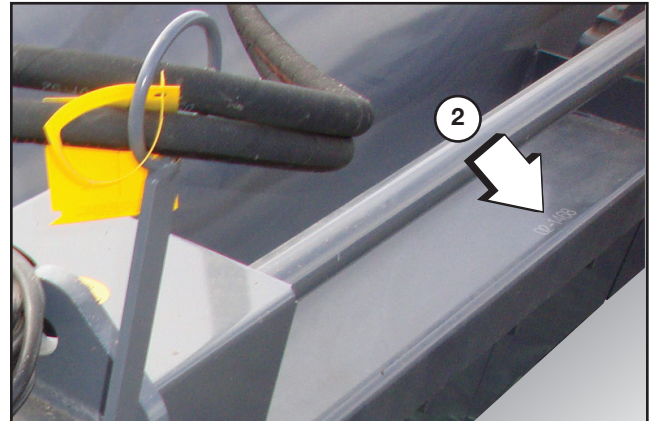
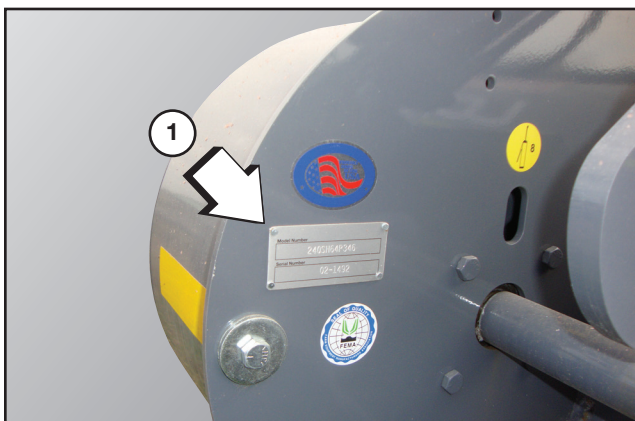
Make sure the shredder is set-up correctly before being placed in service and at regular intervals thereafter serviced in accordance with procedures outlined in this manual.

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.

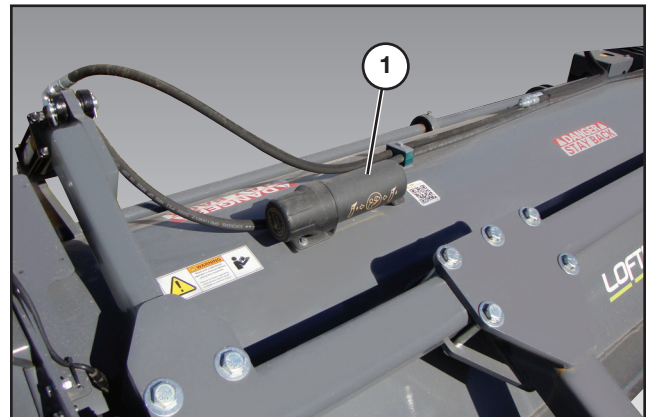
Serial Number Location



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

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

Manual Storage



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

Introduction

Standard Crop Shredder Features

- 12' to 30' Cutting Width
- Pull-type Hitch
Floating Pull-type Hitch
Semi-mounted Hitch
Fully Mounted Hitch
- 1-3/8 in. or 1-3/4 in. Constant Velocity
1000 RPM PTO
- 1,450 RPM Rotor
1,700 RPM Rotor
2,000 RPM Rotor
- 4-1/2 in. Wide Cupped Knives - Hardened
High Residue Knives
Hard-surface High Residue Knives
Hard-surface Cotton Knives
Combination Knives
- 4-Groove or 6-Groove Banded Belts
- Spring-loaded Push-type Idler System
- Rear Lift Provides Precise Height Adjustment
- 280 HP Gearbox
- Computer Balanced Rotors
- Optimized Rotor Speed
- Reinforced Rotor Tube
- Lateral Stabilization
- Enhanced Flow
- Recutter Bar
- Extreme Duty Class Frame

Standard Crop Shredder Options

- Hood Liner
- Hydraulic Transport (PT/FM) (18' - 8M)
- Folding Transport Hitch With Jack Stand
- 1 Rigid Transport Wheel
- 2 Front Wheels and Ratchets (SM)
- Bearing Anti-wrap (12' - 22')

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 Instructions

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 shredder or be thrown from the shredder 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 shredder and remove ignition key.
- Disengage PTO, clutch and hydraulic valve and shift tractor into neutral or park before starting engine.
- 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 shredder 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 shredder with a 540 RPM tractor.
- Never use a steel hammer when connecting or disconnecting a PTO shaft.

Safety Instructions for Operation and Maintenance

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



CAUTION:

- 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.



CAUTION:

- Repeated impact of the knives with frozen ground or hard objects can cause excessive wear and damage to tractor or shredder. 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.

Safety Instructions for Operation and Maintenance (Cont'd)

- Be sure PTO outer guard turns freely before operating machine.



WARNING:

- Keep hands, feet and clothing away from moving components.
- Do not wear loose or baggy clothing around rotating machinery. Machine must be clear of people, tools, and other objects before engaging 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 shredder. Do not attempt to operate this machine unless all factory-installed safety devices are in place.
- Never attempt to lubricate the shredder 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 shredder could occur. Be careful to avoid lifting shredder 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 shredder without the universal joints locked to the tractor and gearbox shafts.
- Operating the shredder 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 shredder above the rated RPM.



DANGER:

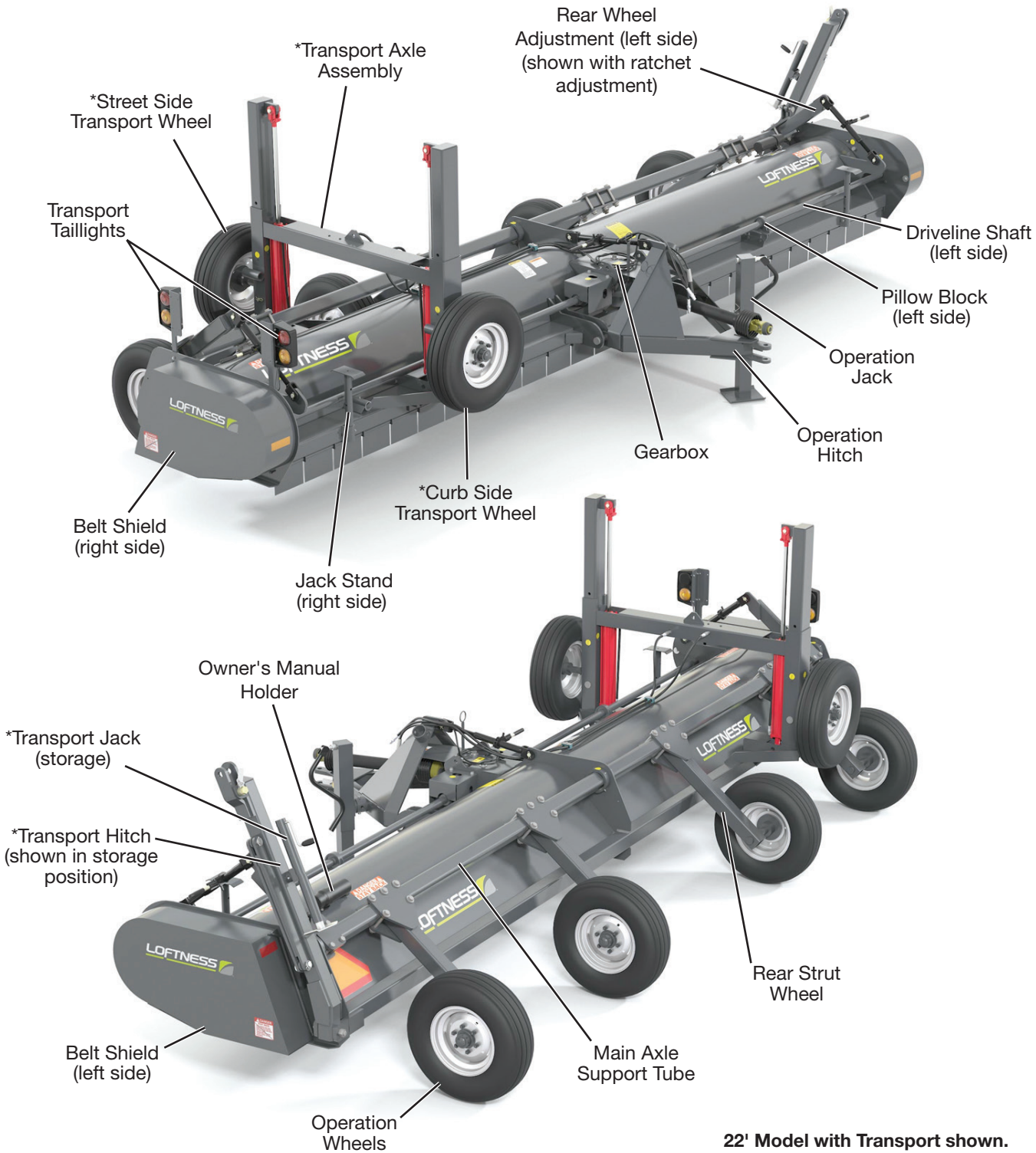
- Escaping fluid under pressure can be invisible and can penetrate the skin. Do not use hands to search for leaks!
- Hydraulic lines or other components can be hot after operation! "DO NOT TOUCH"!
- Keep hands and feet out! Do not step on or over the machine while it is in operation!
- Rotating drive-line.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

Hydraulic Safety

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

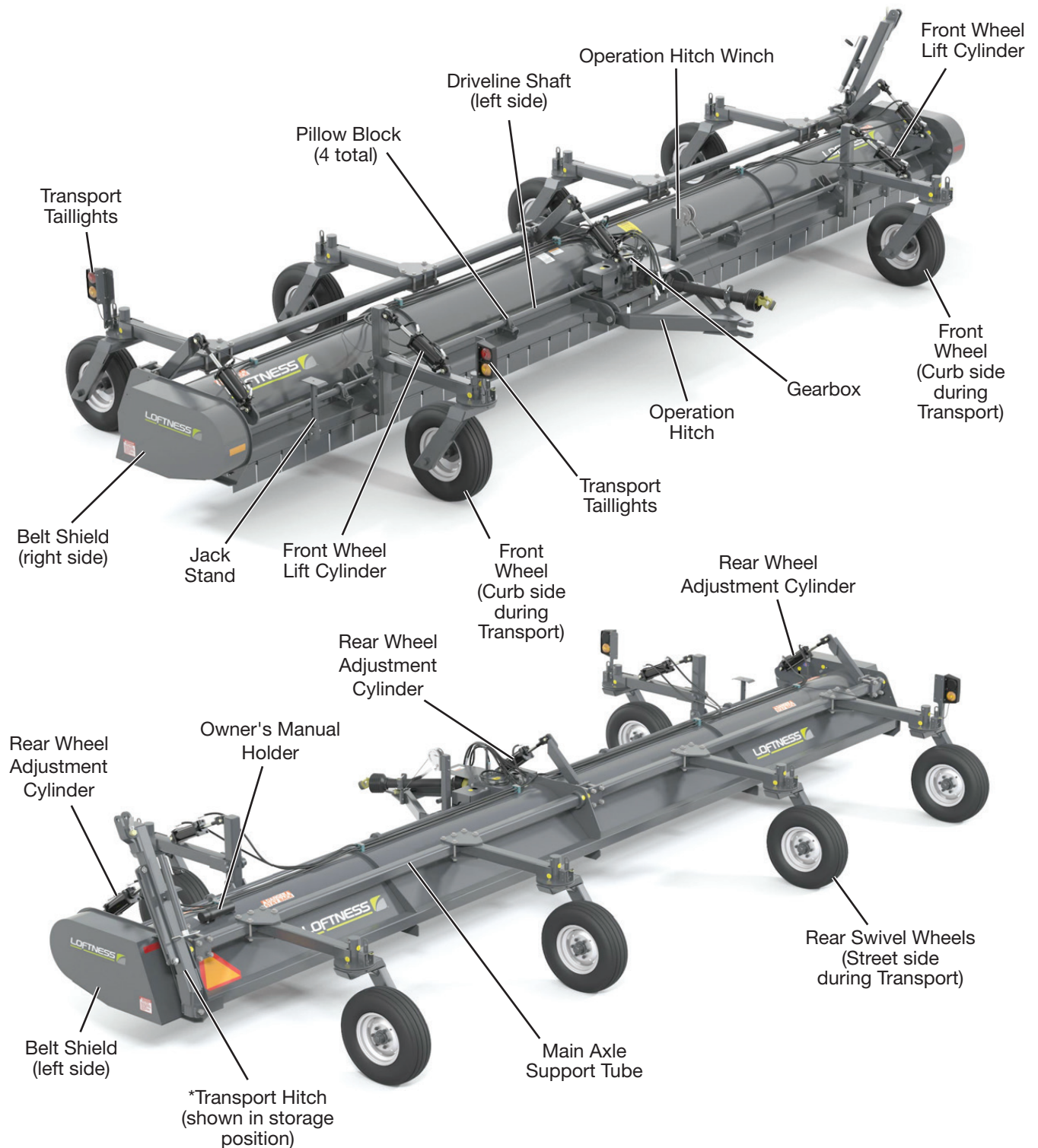
Safety Instructions

Standard Shredder Identification (12' - 22' Models)



Safety Instructions

Standard Shredder Identification (24' - 30' Models)



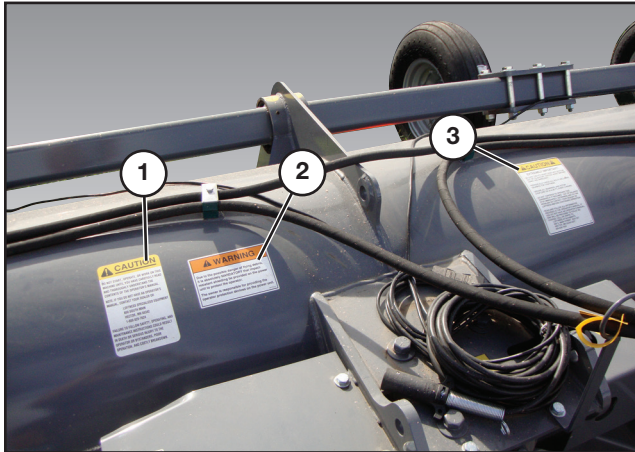
30' Model with Transport shown.

**Only on models with Transport.*

Safety Instructions

Safety Decal Locations

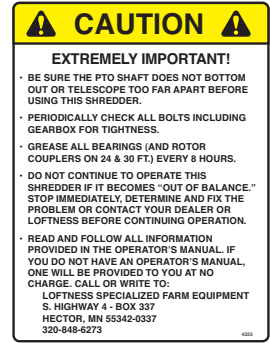
Check and replace any worn, torn, hard to read or missing safety decals on your machine.



3



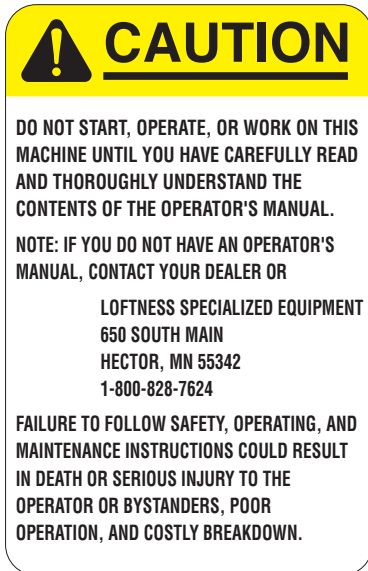
Part No. 4142



Part No. 4335

NOTE: Either decal 4142 or 4335 will be used depending on which hitch configuration is installed on the machine.

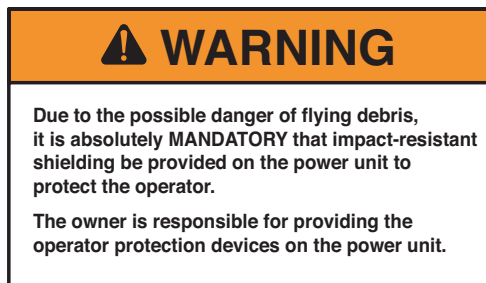
1



Part No. 4256



2



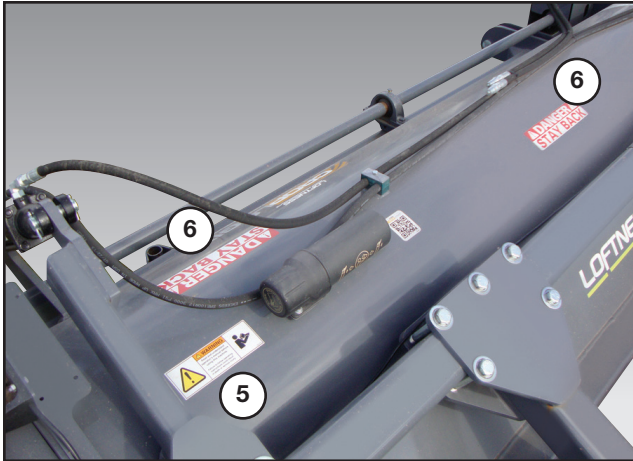
Part No. N17013

4



Part No. 4189

Safety Decal Locations (Cont'd)



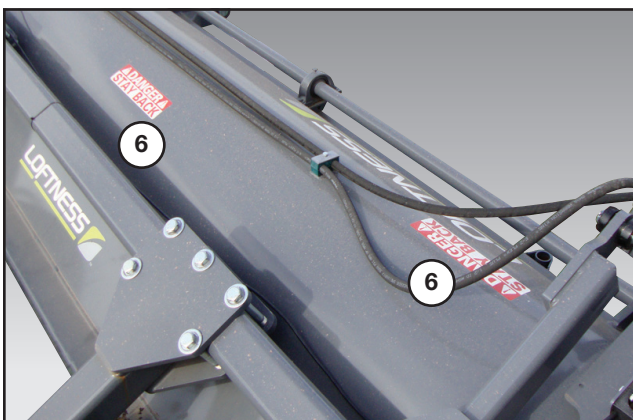
Part No. N22763



Part No. 4334

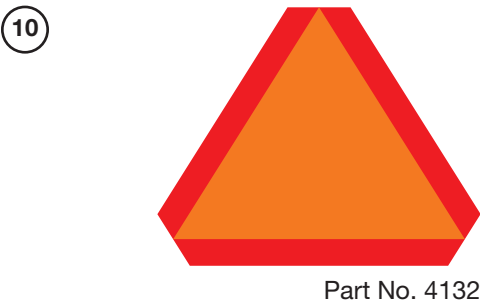
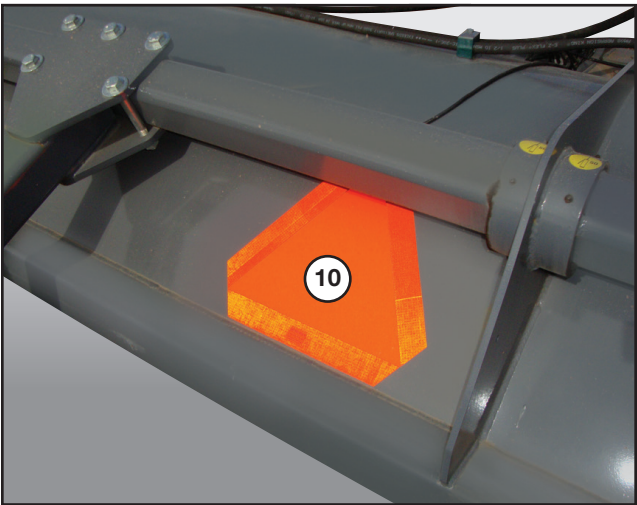
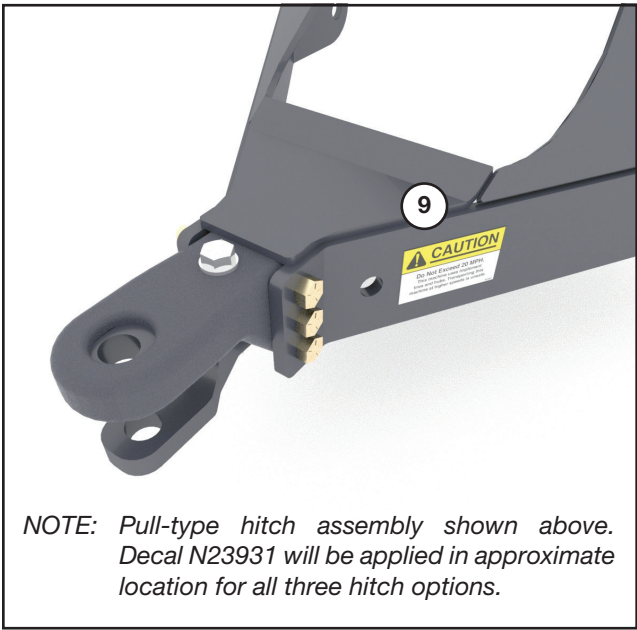


Part No. 4135

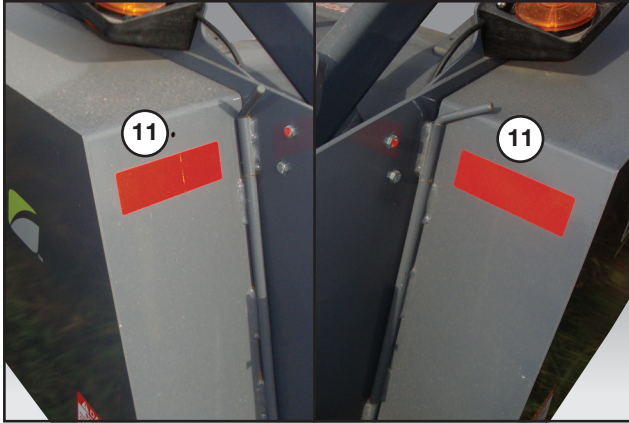


Safety Instructions

Safety Decal Locations (Cont'd)



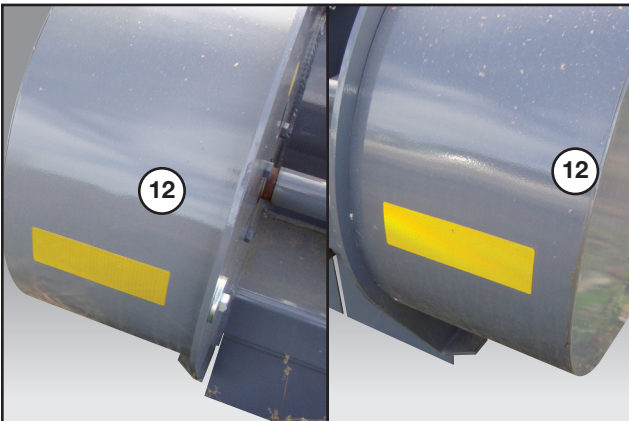
Safety Decal Locations (Cont'd)



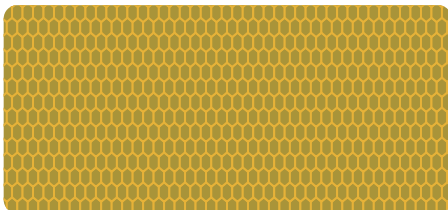
11



Part No. 4141



12



Part No. 4140

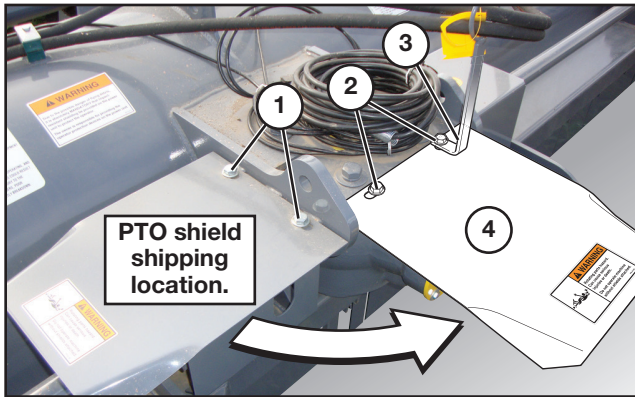


Set-up Instructions

Equipment Set-up

The shredder is shipped partly assembled with the lights and PTO shield hardware partially disassembled. The hitch is also separate and will need to be attached.

PTO Shield

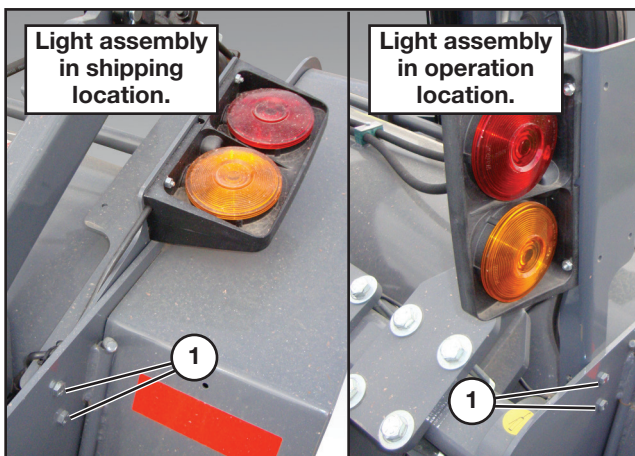


Move PTO shield from shipping location to operating position by removing two bolts and washers (1). Reinsert hardware back into holes to secure driveline shield.

Remove two bolts and washers (2) and hydraulic hose guide (3).

Install shield into new position (4) as shown above. Return hydraulic hose guide back into its original position on top of shield and secure with the bolts and washers.

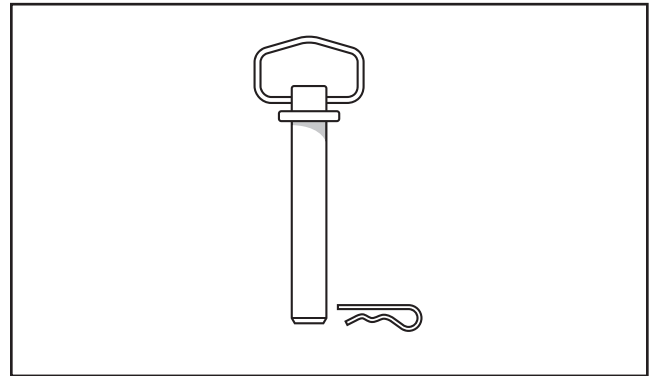
Lights



Remove hardware (1) securing light assembly in the shipping configuration. Move light assembly into upright position and reinsert the hardware (2).

Repeat procedure at each light assembly.

Hitch Pin



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 shredder to become disconnected from the tractor during operation, or in transport, which could cause serious injury, or death, to those near by.

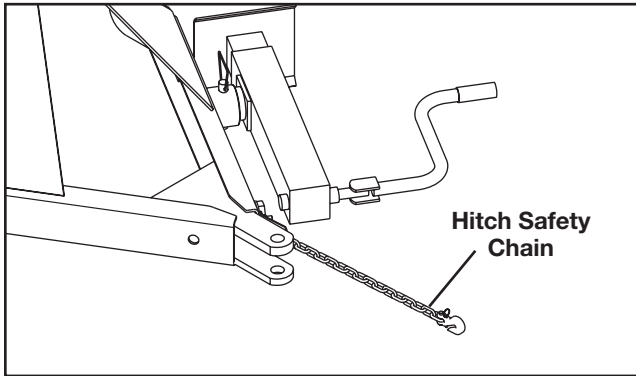
Jack Stands



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

Set-up Instructions

Hitch Safety Chain



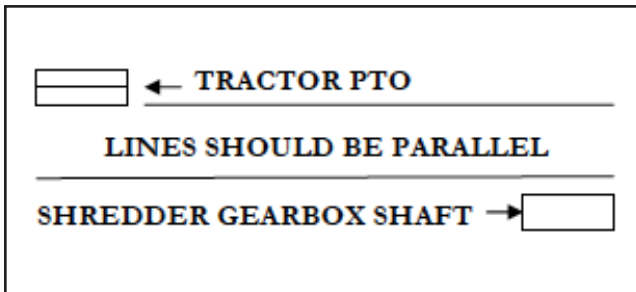
IMPORTANT: Always connect the hitch safety chains from the shredder to the tractor when transporting the shredder.

DANGER: Failure to connect the safety chains could cause the shredder to break away from the tractor if the hitch connection fails during operation, or in transport, which could cause serious injury, or death, to those near by.

Attaching the Pull-Type and Pull-Type Floating Shredder

The shredder can be attached to any tractor with a PTO that conforms to ASAE-SAE standards. Use a tractor with a 1,000 RPM PTO only or serious damage to the shredder could occur. Connect hitch to draw bar. Adjust hitch to permit PTO shaft to run as straight as possible.

Attach safety chains on hitch to tractor.



WARNING: Be extremely careful not to bottom out or extend PTO shaft too far, damage to tractor or shredder could occur. Do NOT use PTO adapters of any kind.



WARNING: Do not operate without universal joints locked to the tractor and implement shafts. Re-torque (150 ft lbs.) mounting bolts whenever PTO is removed and reinstalled. Recheck after 10 minutes of operation and again after 1 hour of operation.



CAUTION: Operate shredder only with a tractor of the same PTO RPM rating as the shredder.



CAUTION: Never use a steel hammer when connecting or disconnecting a PTO shaft.

IMPORTANT: Use a safety-locking pin when connecting hitch pins. Failure to do so could result in loss of pin and possible damage to equipment and become a safety hazard. See "Hitch Pin" on page 15

During operation and transport, the jack stands should be locked in their highest position. See "Jack Stands" on page 15.

Attaching the Semi-Mount Shredder

The shredder must be connected to the tractor using a CAT II or CAT III quick hitch. Do not attempt to use shredder without a quick hitch or damage to shredder and/or tractor could result. Spacers are not included with the machine. Adjust hitch to permit PTO shaft to run as straight as possible. After attaching PTO shaft to tractor, make sure that shaft does not telescope apart or bottom out before using shredder. Refer to "PTO Set-up" on page 23 for proper PTO use.

IMPORTANT: Do not operate without universal joints locked to the tractor and implement shafts. Re-torque (150 ft. lbs.) mounting bolts whenever PTO is removed and reinstalled. Recheck after 10 minutes of operation and again after 1 hour of operation.



CAUTION: Operate shredder only with a tractor of the same PTO RPM rating as the shredder.

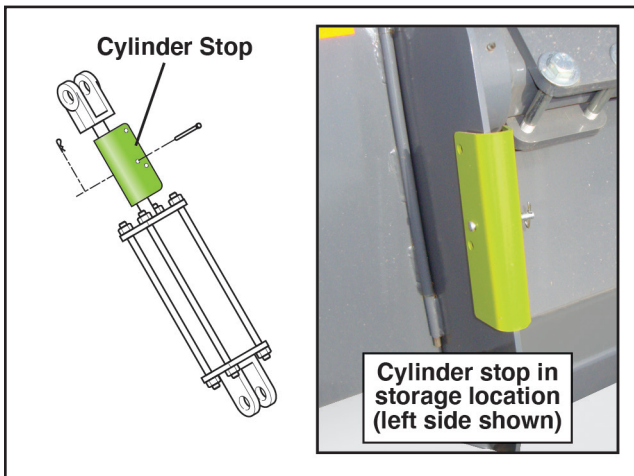


CAUTION: Never use a steel hammer when connecting or disconnecting a PTO shaft.

Attaching the Semi-Mount Shredder (Cont'd)

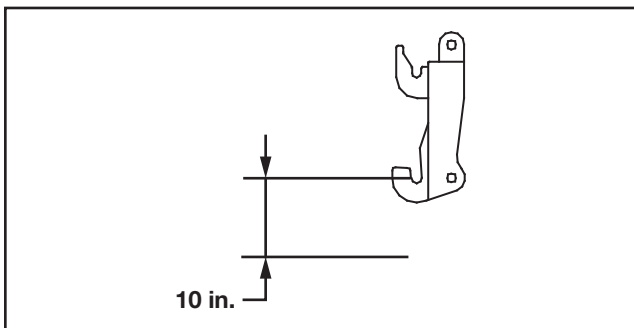
IMPORTANT: Use a safety-locking pin when connecting hitch pins. Failure to do so could result in loss of pin and possible damage to equipment and become a safety hazard. See "Hitch Pin" on page 15

During operation and transport, the jack stands should be locked in their highest position. See "Jack Stands" on page 15.



Hydraulic cylinder stops are furnished with each cylinder used on the shredder and are intended for field operation. The two different size stops provided will assist in helping to achieve the recommended cutting height of 5" to 6".

Customer may need to supply additional cylinder stops to aid in obtaining the recommended cutting height.

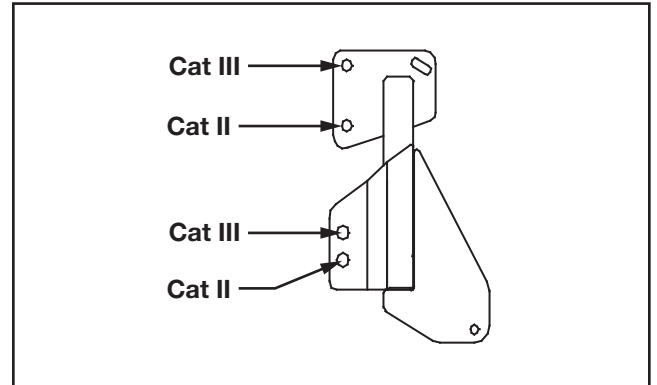


Distance between center of lower pin at lowest operating position and ground must be 10". Adjust three-point hitch accordingly.



CAUTION: Excessive operating height could result in PTO shaft failure or personal injury.

Attaching the Fully-Mounted Shredder



The shredder must be connected to the tractor using a CAT II or CAT III quick hitch (not supplied). Do not attempt to use shredder without a quick hitch or damage to shredder and/or tractor could result. Spacers are not included with the machine. After attaching PTO shaft to tractor, make sure that shaft does not telescope apart or bottom out before using shredder. Select proper pin configuration on shredder hitch for the particular tractor application. The two lower pin hole selections of the hitch are for CAT II hitches, and the two upper pin hole selections are for CAT III applications. Adjust hitch to permit PTO shaft to run as straight as possible. See "Attaching the Pull-Type and Pull-Type Floating Shredder" on page 16 for reference.



WARNING: Be extremely careful not to bottom out or extend PTO shaft too far apart, damage to tractor or shredder could occur. Do NOT use PTO adapters of any kind.



WARNING: Do not operate without universal joints locked to the tractor and implement shafts. Re-torque (150 ft. lbs.) PTO mounting bolts whenever PTO is removed and reinstalled. Recheck after 10 minutes of operation and again after 1 hour of operation.



CAUTION: Distance between center of lower pin at LOWEST OPERATING POSITION and ground must be 10" (Figure 5, page 2-2). Adjust three-point hitch accordingly. Excessive operating height could result in PTO shaft failure or personal injury.

Set-up Instructions

Attaching the Fully-Mounted Shredder (Cont'd)



CAUTION: Operate shredder only with a tractor of the same PTO RPM rating as the shredder.



CAUTION: Never use a steel hammer when connecting or disconnecting a PTO shaft.

IMPORTANT: Use a safety-locking pin when connecting hitch pins. Failure to do so could result in loss of pin and possible damage to equipment and become a safety hazard. See "Hitch Pin" on page 15

During operation and transport, the jack stands should be locked in their highest position. See "Jack Stands" on page 15.

Getting Started

Pre-Start Checklist

- Grease the machine. See “Grease Point Locations” on page 28 through page 32 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). See “Adding Oil to Gearbox” on page 32 for gearbox oil information.
- Drive Belt tension – if belt needs adjustment, see “Belt Adjustment” on page 33 for instructions.
- Check all bolts, nuts and set screws for tightness.
- Review operator’s manual.

Operating Speed

Various shredding conditions require different ground speeds. Under most conditions, the tractor can be driven between 3 and 7 MPH without causing undue wear on the shredder.



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



WARNING: Do not operate above rated RPM.

Maintaining Rotor Balance

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. See “Knife Replacement” on page 36 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.



CAUTION: Repeated impact of the knives with frozen ground or other hard objects can cause excessive wear and damage to tractor or shredder. Be sure to maintain recommended ground clearance as specified earlier in this manual.

Flail or Cupped Knives



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. The flail knives are double-edged and should be reversed when worn. When the knife is worn halfway, it should be reversed to obtain the maximum life.



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



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.

Operating Instructions

Belt Tension

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

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

Cutting Height Adjustment

The recommended cutting height is 4". Continually cutting below this height increases the likelihood that ground scalping could occur. Frequent scalping greatly reduces shredder component lifetimes. Loftness considers this pattern to be misuse, and subsequently will not be covered under warranty. It is recommended that cutting height be adjusted and controlled with the appropriate hydraulic cylinder or ratchet and three-point hitch stopping devices. By using a pre-adjusted shredder cutting height, uniform crop shredding will result. 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 shredder need to be parallel after adjustment into the operating position. It might be necessary to remove the PTO shaft from the shredder when adjusting the cutting height for a better viewpoint to get the shaft angles similar. See "Attaching the Pull-Type and Pull-Type Floating Shredder" on page 16 for reference.

Pull Type Models

Lower the shredder with the hydraulic cylinders or ratchet jack(s) to the recommended cutting height of 4". Using the ratchet jack on the hitch, level the shredder according to the guide lines shown in "Attaching the Pull-Type and Pull-Type Floating Shredder" on page 16.

If necessary, adjust hydraulic cylinder or ratchet jack to return the shredder to the recommended cutting height. Install hydraulic cylinder stops to allow repeated return to this setting.

Semi-Mounted Models

Lower the shredder using the remote hydraulic cylinder and the three-point hitch to the desired cutting height of 4". By adjusting the appropriate lifting mechanisms, level the shredder using the guidelines above for the PTO shaft

angle shown in "Attaching the Pull-Type and Pull-Type Floating Shredder" on page 16. When proper shredder alignment is achieved, adjust tractor three-point hitch stops and install collar stops on the hydraulic cylinders.

If the shredder is equipped with gauge wheels, adjust the gauge wheels so that the tractor and assist wheels carry approximately the same amount of weight.

IMPORTANT: *Do not carry the weight of the shredder on the gauge wheels. Set stop of three-point hitch so tractor hitch and the assist-wheels carry the weight of the shredder. Gauge wheels are designed to prevent the ends of the shredder from scalping the ground.*

Fully Mounted Models

Lower shredder to the recommended cutting height using the three-point hitch. Level the shredder by adjusting the adjustable top link of the tractors 3-point hitch to the position shown in "Attaching the Fully-Mounted Shredder" on page 17. When the shredder is leveled at the recommended operating height, lower the rear wheels with the ratchet jack(s) so that the wheels carry approximately 50% of the shredder's weight

Turning

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

Pull Type Models

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



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

Semi-Mounted Models

If equipped with rigid gauge wheels, the front of the shredder must be completely lifted to prevent damage to gauge wheel struts. The following is the recommended procedure for turning:

Operating Instructions

Semi-Mounted Models (Cont'd)

NOTE: If shredder is equipped with cylinders on the gauge wheels, it is recommended that the front of the shredder be lifted with the three-point hitch to obtain clearance for the gauge wheels instead of using the cylinders to lift the gauge wheels. This method will obtain faster and more consistent cutting height adjustment after completion of the turn.

1. Raise rear assist-wheels with hydraulic cylinders, then raise the tractor three-point hitch.
2. After the turn is completed, lower the tractor three-point first. Then lower the rear assist-wheels.

IMPORTANT: Do not carry the weight of the shredder on the gauge wheels. Set stop of three-point hitch so tractor hitch and the assist-wheels carry the weight of the shredder. Gauge wheels are designed to prevent the ends of the shredder from scalping the ground.



WARNING: Be extremely careful not to bottom out or extend PTO shaft too far, damage to tractor or shredder could occur, refer to "PTO Set-up" on page 23. Be careful to avoid lifting shredder too high, which results in excessive PTO shaft wear if machine is operated during turning maneuver. DO NOT use PTO adapters of any kind.

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

Fully Mounted Models

When turning, the shredder must be lifted completely off the ground to prevent damage to rear wheels.



WARNING: Be extremely careful not to bottom out or extend PTO shaft too far, damage to tractor or shredder could occur, refer to "PTO Set-up" on page 23. Be careful to avoid lifting shredder too high, which results in excessive PTO shaft wear if machine is operated during turning maneuver. DO NOT use PTO adapters of any kind.

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

Transporting with Optional Hitches

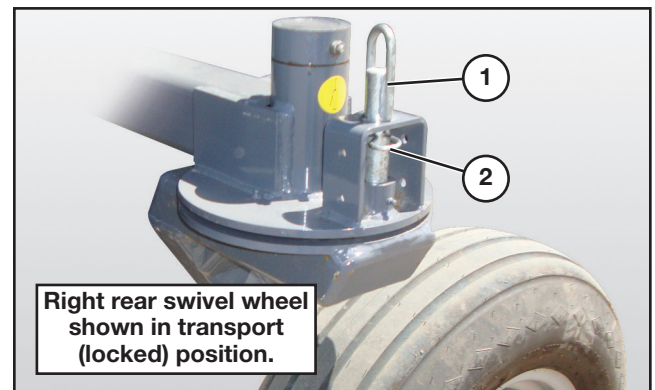
To assist in identifying the front, back, left or right of the shredder with regards to these transport instructions, the shredder will be identified from the field operating position.

IMPORTANT: DO NOT EXCEED 20 MPH WHEN TRANSPORTING YOUR SHREDDER.

Semi-Mount Model (With Rigid Front Gauge Wheels)

Changing from field use to transport, follow these procedures:

1. To change the shredder from field use to transport, first back the shredder up until the right rear swivel wheel is turned approximately 90 degrees to the right of field position.



Remove the locking pin safety clip allowing the pin to drop into the locked position for transport. Ensure the locking pin (1) is fully engaged in the locked position. Replace the safety clip (2) into the upper hole of the locking pin (install "under" the upper guide plate to prevent pin from disengaging during transport).

2. Lift machine completely. Remove ratchet jack from right side gauge wheel strut. Remove pins and collar. Slide strut out of receiver and rotate 90° counter-clock wise and insert into transport receiver.
3. Adjust cylinder stops on rear lift assist wheels to match the height of the rigid front gauge wheel set in towing position.

Operating Instructions

Semi-Mount Model (With Rigid Front Gauge Wheels) (Cont'd)

4. Position the ratchet jack for the left side gauge wheel at approximately the midpoint of the cylinder stroke.
5. Lower and disconnect the shredder. Remove tractor PTO half and store in a safe location. Fasten shredder half to three point hitch using a light chain or other appropriate method.
6. Lower the end transport hitch and lock into place with the pin in the upper link. Rotate the jack 90 degrees from stored position to assist in connecting the shredder to the tractor.



7. Raise the left side front gauge wheel completely during transport.
8. Attach safety chains from hitch to the tractor.

To set up the shredder for field operation, follow the above steps in reverse order.

Pull-Type and Fully-Mounted Models (With Hydraulic Transport)

1. Lower the shredder completely. Disconnect the tractor. Remove tractor half of PTO and store in a safe location. Fasten the shredder half PTO to hitch using a light chain or other appropriate means.
2. Position transport hitch with the bulldog jack and connect to the tractor, connect hydraulic lines. Lift the shredder with the transport wheels. Lock wheels with pin in the transport position and release pressure from hydraulic system.

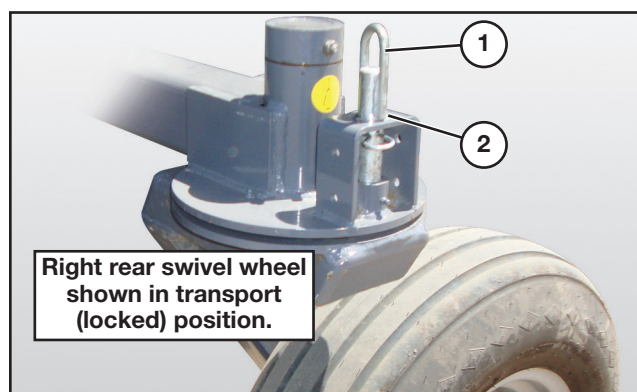
3. Attach safety chains from hitch to the tractor.

To set up shredder for operation, follow steps in reverse order.

30 Ft. Pull-Type Transporting

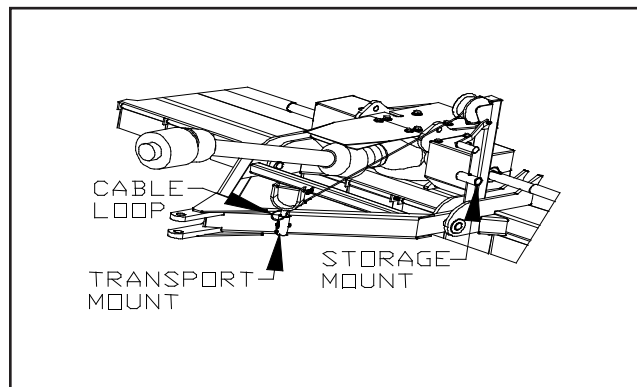
Changing from field use to transport, follow these procedures:

1. To change the shredder from field use to transport, first back the shredder up until the right rear swivel wheel is turned approximately 90° to the right of field position.



Remove the locking pin safety clip allowing the pin to drop into the locked position for transport. Ensure the locking pin (1) is fully engaged in the locked position. Replace the safety clip (2) into the upper hole of the locking pin. (install "under" the upper guide plate to prevent pin from disengaging during transport).

2. Move the PTO cradle from it's storage mount (located on the winch stand) to the transport mount (located on the left side of the hitch).



Check the cables end loop to ensure it is securely fastened to the underside of the cradle after it is pinned into place.

30 Ft. Pull-Type Transporting (Cont'd)

3. Disconnect the PTO and secure to the transport cradle using the safety pin provided. Remove drawbar pin to disconnect the tractor. Use the cable winch to lift the hitch and PTO upwards until the tractor half of the PTO is at an angle to prevent it from becoming detached from the shredder during transport.
4. Lower the floating transport hitch and connect to the tractor using jack provided. Connect the safety chains.
5. Drive the tractor forward until the right front swivel wheel can be safely locked into the transport position repeating the procedure required to lock the right rear wheel into the transport position.

IMPORTANT: *Ensure that the right front and right rear wheels are locked into the transport position, while all other wheels are allowed to swivel during transport.*

Reverse the above steps to return to full field operating position.

PTO Set-up

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

The PTO provided with each Loftness shredder 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.

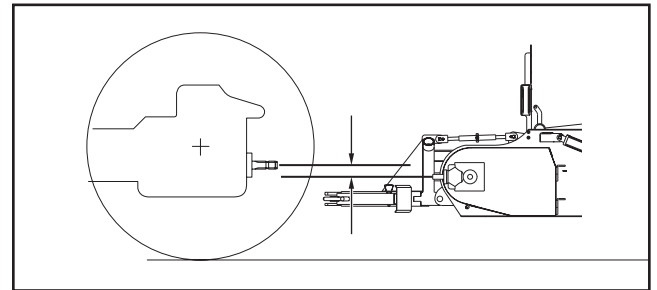
Check PTO length (6" overlap minimum). Lubricate CV before initial start-up and before connecting to tractor to allow movement of tractor yoke in all directions to help distribute grease through out the moving parts. Lubricate after every 8 hours of use. Tighten PTO clamp bolts (torque to 150 ft. lbs.),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

PTO Attaching and Use

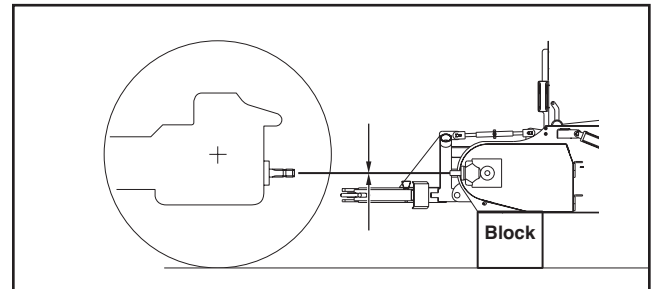
The shredder can be attached to any tractor with a PTO that conforms to ASAE-SAE standards. Use a tractor with a 1,000 RPM PTO only or serious damage to the shredder could occur.

The procedures listed below are provided to assist you in obtaining the correct PTO length.

1. Attach shredder to tractor lift arms.



2. Adjust tractor top link until shredder gearbox input shaft is parallel with tractor input shaft as shown above.

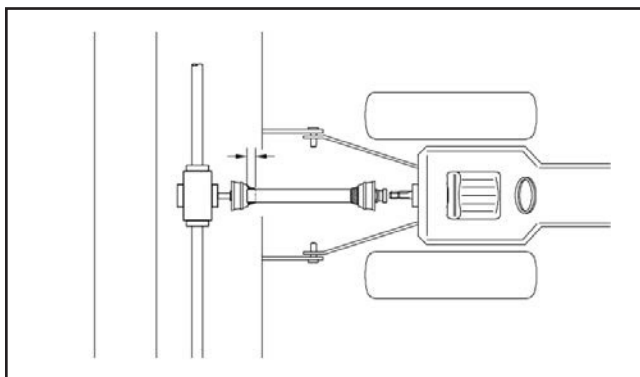


3. Raise shredder until the gearbox input shaft is level with the tractor PTO shaft. Position blocks under the shredder to stabilize as shown above.
4. Attach PTO implement half onto the shredder gearbox.

Operating Instructions

PTO Attaching and Use (Cont'd)

5. Position tractor half of the PTO against the tractor's PTO shaft, but do not attach.

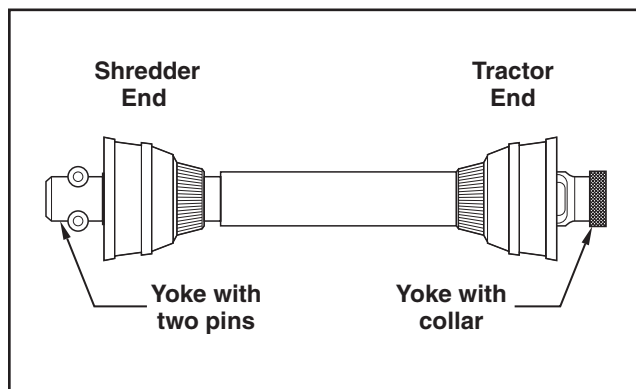


6. Line up both halves of the PTO so they are parallel to each other. Measure 1/2" back from the universal joint bell shield and mark on opposite half. Repeat this measuring to other half of the PTO.
7. Remove the blocks, raise and lower the shredder to determine the position which has the greatest distance between gearbox input shaft and tractor PTO shaft. Replace blocks under the shredder to stabilize when the greatest distance is determined.
8. Line up both halves of the PTO parallel to each other and measure the distance between the two marks. This measurement will indicate the overlap of the two halves. A minimum of 6" overlap must be available or the PTO cannot be used.
9. Clamp PTO in padded vise to prevent damage to shield. Cut off the shield where marked (determined in step 6).
10. Use the cut off section of shield as a guide and cut off the same amount of the shaft.
11. Repeat steps 9 and 10 to other half of PTO.
12. Deburr cut ends of PTO sections and remove all chips and filings.

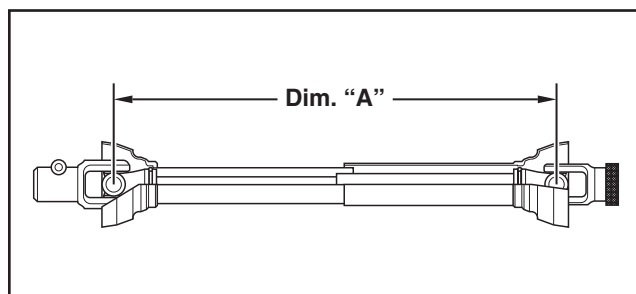
13. Apply grease to male half of PTO. Assemble PTO with shields in place and install on tractor and shredder, insuring the yokes lock into place.

PTO Sizing

The following diagrams assist in sizing the PTO as outlined in "PTO Set-up" on page 23.

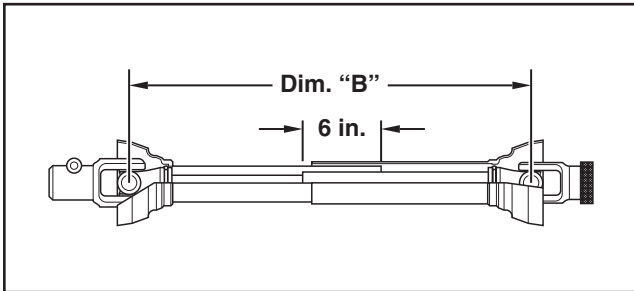


IMPORTANT: Before operating shredder, check to make sure the PTO will not bottom out or become disengaged.



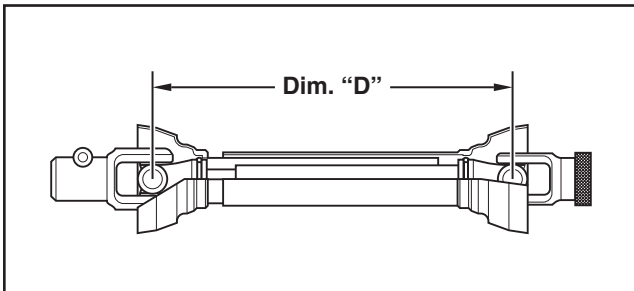
Extend the PTO until it is fully extended, but not completely separated. This will determine dimension "A".

PTO Sizing (Cont'd)



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".*



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 shredder 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 shutdown procedure before attempting any service work. See “Mandatory Shut-Down Procedure” on page 5 for shutdown instructions.

When reassembling components, always use new lock nuts and a thread-locking compound to ensure 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		
	PTO CV Shaft	X			X		
Every 25	Telescoping PTO Tube	X			X		
	Line Shaft U-Joints	X			X		
	Line Shaft Bearings	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

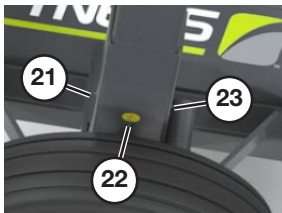
Proper lubrication is important. Too little lubricant will cause premature failure of a bearings. Too much lubrication usually causes high operating temperature and early failure of seals. Follow all lubrication instructions and schedules included in this section.

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.

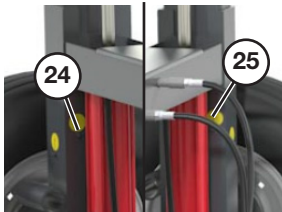
Replace any broken or missing grease fittings. Be sure to clean fitting before greasing.

Maintenance

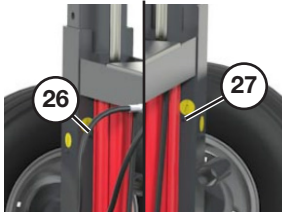
12' - 22' Model Grease Point Locations



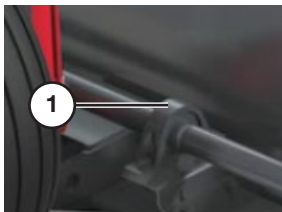
*Street Side Transport Axle Tube (outside)



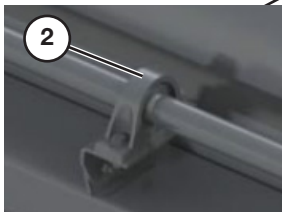
*Street Side Transport Axle Tube (inside)



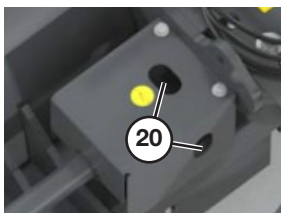
*Curb Side Transport Axle Tube (inside)



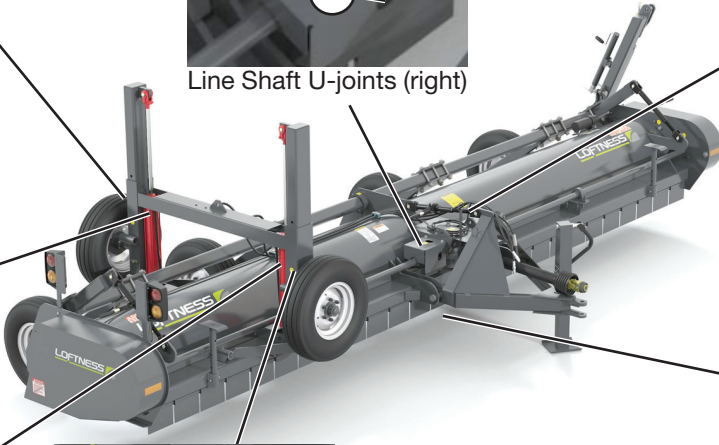
Pillow Block Bearing (right)



Pillow Block Bearing (left)



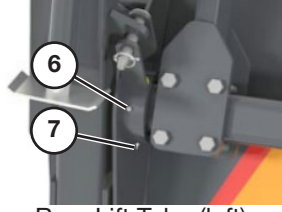
Line Shaft U-joints (right)



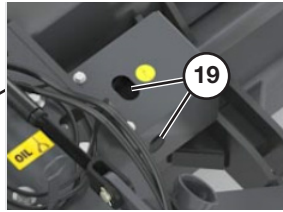
*Curb Side Transport Axle Tube (outside)



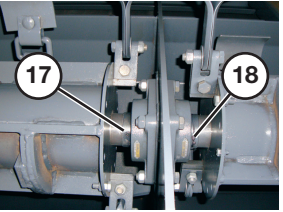
Belt Tensioner, Rotor Bearing, Line Shaft Bearing (left)



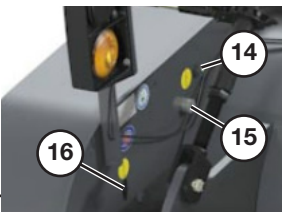
Rear Lift Tube (left)



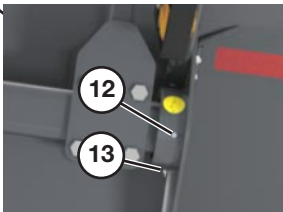
Line Shaft U-joints (left)



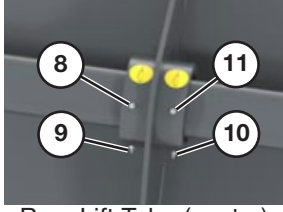
Rotor Bearings, (center)



Belt Tensioner, Rotor Bearing, Line Shaft Bearing (right)



Rear Lift Tube (right)



Rear Lift Tube (center)

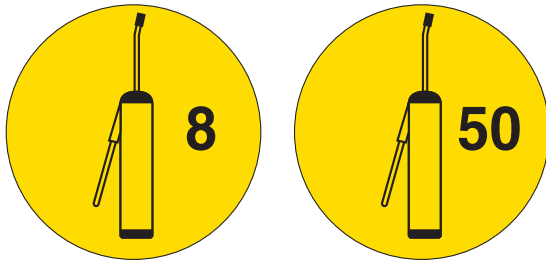
22' Model with Transport shown.

*Only on models with Transport.

12' - 22' Model Grease Point Locations (Cont'd)

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

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



NOTE: Lubricate the grease point every "X" (8 or 50) hours of operation indicated on the decal adjacent to the grease point.



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

Numbers below after "Location" correspond to grease point locations on opposite page.

See page 8 for component location and identification.

• Line Shaft Grease Fittings

Location: (5, 16) - Located on the left and right ends of the shredder, behind the belt shields. Lubricate the fitting through the opening in the frame.

Interval: Every 8 hours of operation.

• Rotor Bearing Grease Fittings

Location: (3, 14, 17, 18) - Located on the left and right ends of the shredder, behind the belt shields. Lubricate the fitting through the opening in the frame. There are also two fittings on the rotor bearings located between the two rotors. Access the fittings from underneath the shredder near 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.

• Belt Tensioner Grease Fittings

Location: (4, 15) - Located on the left and right ends of the shredder, behind the belt shields. Fitting located on end of protruding shaft.

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 and loss of power to the rotor

Interval: Every 50 hours of operation.

• Pillow Block Grease Fittings

Location: (1, 2) - Located on line shaft between the gearbox and the end plates.

Interval: Every 8 hours of operation.

• Line Shaft U-joint Grease Fittings

Location: (19, 20) - Located on the U-joints on each side of the gearbox. Access via holes on top or side of gearbox/line shaft shields.

Interval: Every 50 hours of operation.

• Pull-Type Rear Wheel Lift Tube Grease Fittings

Location: (6-13) - Eight fittings in the rear lift tube.

Interval: Every 50 hours of operation.

• Street Side Transport Axle Tube Grease Fittings

Location: (21-25) - Five fittings located on the tube for the street side transport wheel assembly.

Interval: Every 50 hours of operation.

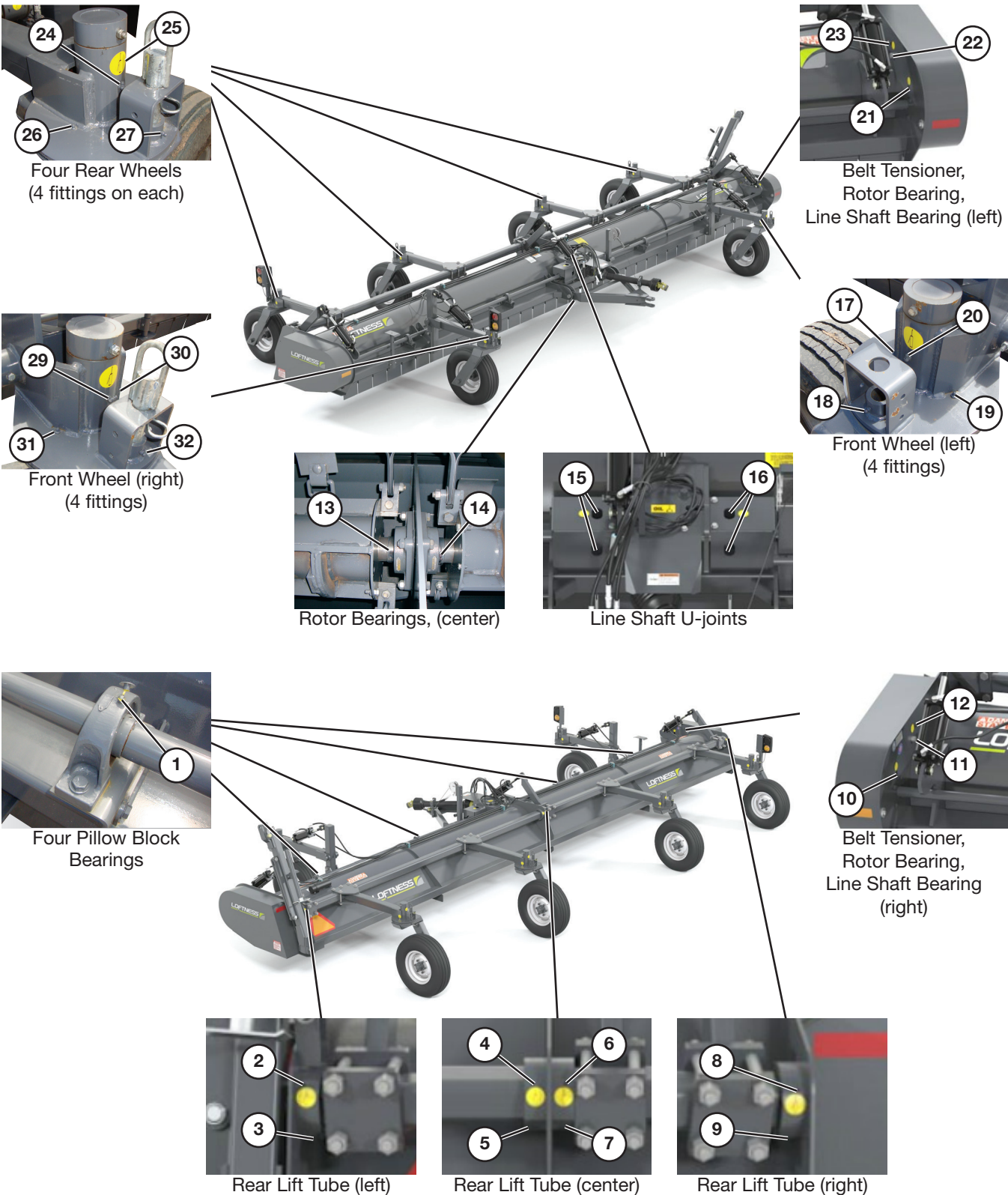
• Curb Side Transport Axle Tube Grease Fittings

Location: (26-30) - Five fittings located on the tube for the curb side transport wheel assembly.

Interval: Every 50 hours of operation.

Maintenance

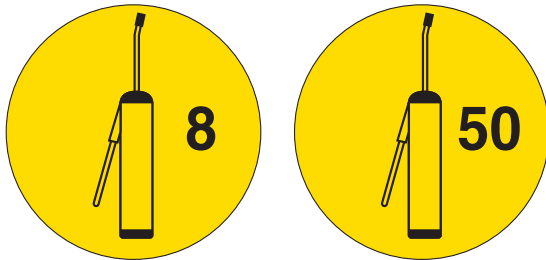
24' - 30' Model Grease Point Locations



12' - 22' Model Grease Point Locations (Cont'd)

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

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



NOTE: Lubricate the grease point every “X” (8 or 50) hours of operation indicated on the decal adjacent to the grease point.



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

Numbers below after “Location” correspond to grease point locations on opposite page.

See page 9 for component location and identification.

• Line Shaft Grease Fittings

Location: (10, 21) - Located on the left and right ends of the shredder, behind the belt shields. Lubricate the fitting through the opening in the frame.

Interval: Every 8 hours of operation.

• Rotor Bearing Grease Fittings

Location: (12, 13, 14, 23) - Located on the left and right ends of the shredder, behind the belt shields. Lubricate the fitting through the opening in the frame. There are also two fittings on the rotor bearings located between the two rotors. Access the fittings from underneath the shredder near 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.

• Belt Tensioner Grease Fittings

Location: (11, 22) - Located on the left and right ends of the shredder, behind the belt shields. Fitting located on end of protruding shaft.

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 and loss of power to the rotor

Interval: Every 50 hours of operation.

• Pillow Block Grease Fittings

Location: (1) - Fitting located on each of the pillow blocks on the line shaft between the gearbox and the end plates.

Interval: Every 8 hours of operation.

• Line Shaft U-joint Grease Fittings

Location: (15, 16) - Located on the U-joints on each side of the gearbox. Access via holes on top or side of gearbox/line shaft shields.

Interval: Every 50 hours of operation.

• Pull-Type Rear Wheel Lift Tube Grease Fittings

Location: (2-9) - Eight fittings in the rear lift tube.

Interval: Every 50 hours of operation.

• Rear and Gage Wheel Grease Fittings

Location: (24-27) - Four fittings located on the pivot of each of the **four** rear wheel assemblies (16 grease points total for the four rear wheels).

Interval: Every 8 hours of operation.

• Front Gage Wheel Grease Fittings

Location: (17-20, 29-32) - Four fittings located on the pivot of each front wheel assembly

Interval: Every 8 hours of operation.

Maintenance

Lubrication (Cont'd)

- **Standard PTO CV Shaft Grease Fittings**

Location: (not shown) - Three U-joints and two additional fittings located under the bell housing.

Interval: Every 8 hours of operation.

- **Telescoping PTO Tube Grease Fittings**

Location: (not shown) - One located by lining up the hole in the PTO guard with grease zerk.

Interval: Every 25 hours of operation.

- **PTO Overrunning Clutch Grease Fittings**

Location: (not shown) - Fitting located near U-joint yoke.

Interval: Every 50 hours of operation.

Other Lubrications Points

- **Wheel Bearings**

Location: (not shown) - All wheel bearings.

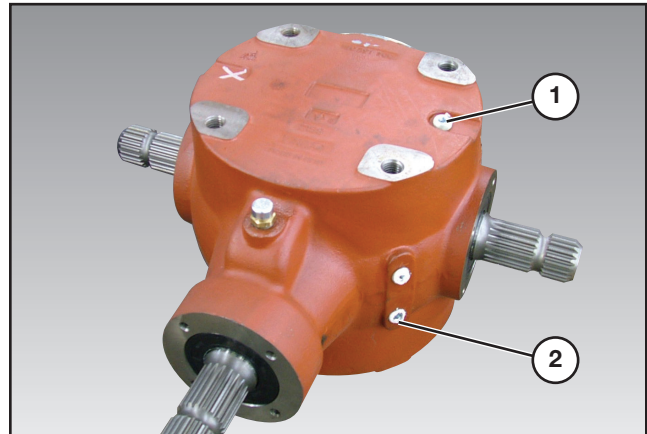
NOTE: Grease and re-pack.

Interval: Every 100 hours of operation.

- **Ratchet Jacks**

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).

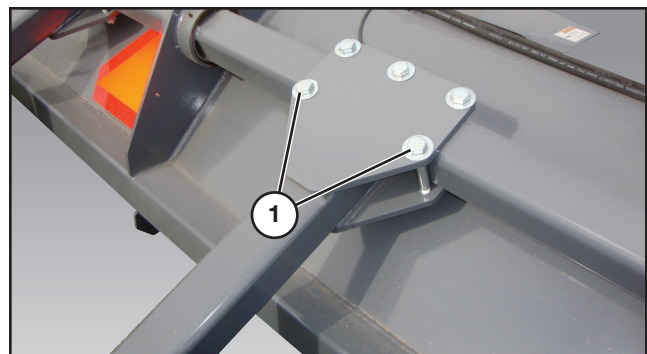
Using a funnel, add a #90 wt. gear oil into the upper port until it runs out through the bottom port. Reinsert the plug back into the lower port and tighten.

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

Wheel Spacing Adjustment (Pull-type and fully mounted models)

To obtain the best results from the shredder, wheel spacing should conform to crop row spacing. To adjust wheel spacing, raise shredder and install blocks under shredder end plates.

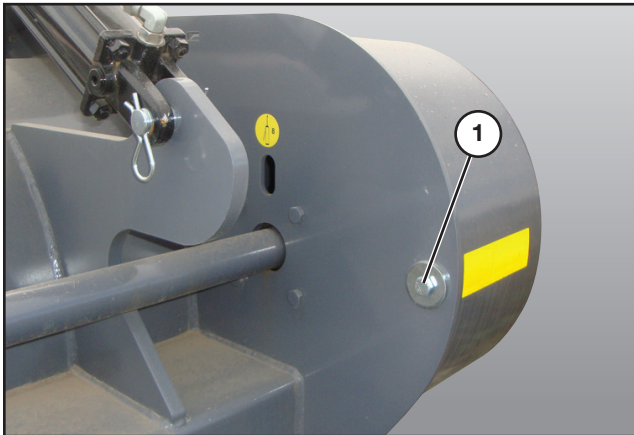
Raise rear wheels with ratchet jack.



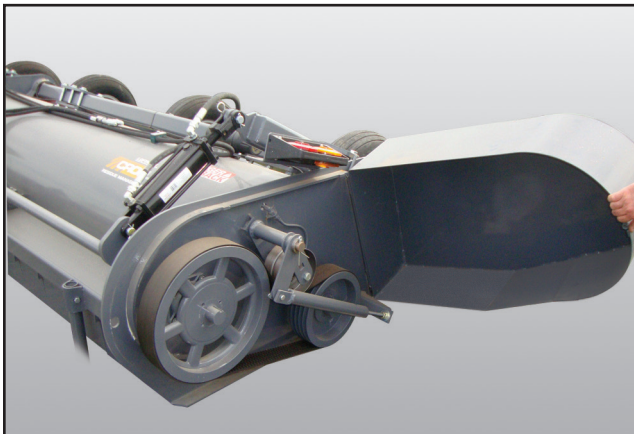
Loosen wheel strut clamping bolts (1) and adjust wheels to desired spacing.

NOTE: The center plate of shredder should ride in center between crop rows.

Belt Shields



To open the belt shields, remove bolt (1) and washer securing the belt shield to the frame.



Swing belt shield open, pivoting on hinge pins. This will expose the belt drive components.

NOTE: To completely detach the belt shield from the shredder, remove the two hinge pins and lift off of the machine.

Belt Adjustment

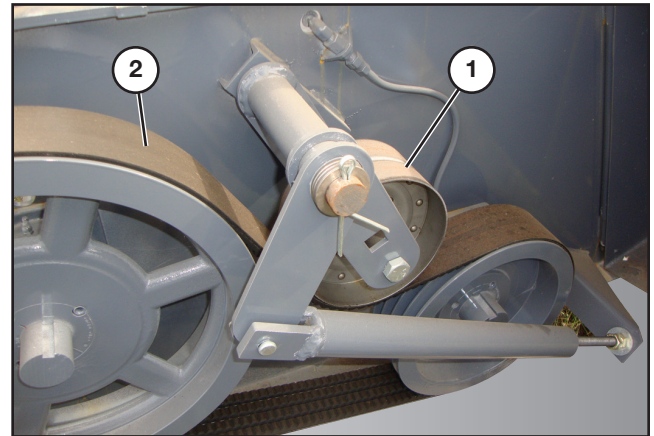
NOTE: Refer to “4-Band Drive” on page 43 or “6-Band Drive” on page 45 for parts breakdown and assembly of belt drive components.

Turn off all power to the shredder.

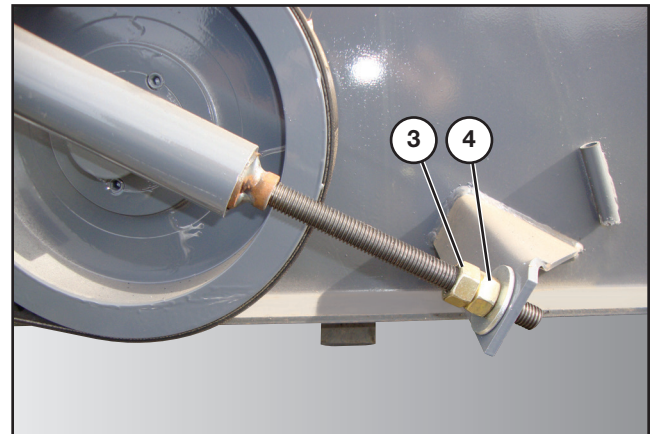


DANGER: Failure to turn off power to the shredder before adjusting the belt drive could result in serious injury or death.

Open belt shield. See “Belt Shields” on page 33 for instructions on opening the belt shield.



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



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.

Maintenance

Belt Replacement

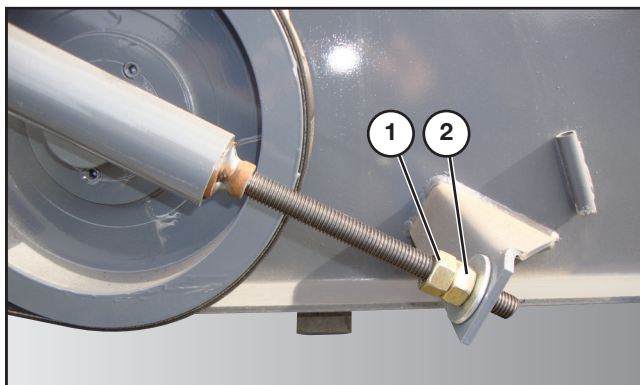
NOTE: Refer to “4-Band Drive” on page 43 or “6-Band Drive” on page 45 for parts breakdown and assembly of belt drive components.

Turn off all power to the shredder.

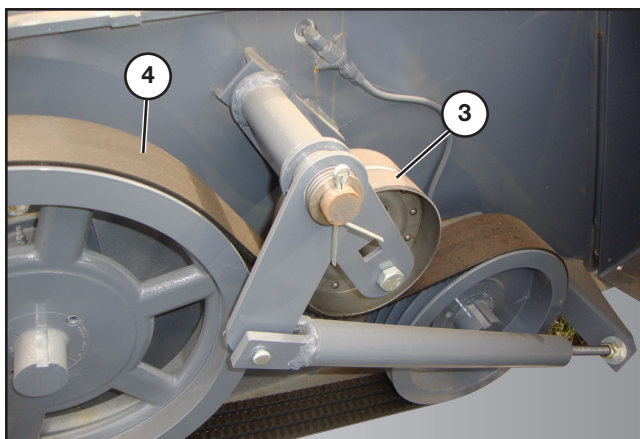


DANGER: Failure to turn off power to the shredder before replacing the belt could result in serious injury or death.

Open belt shield. See “Belt Shields” on page 33 for instructions on opening the belt shield.



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



Rotate idler (3) up to clear belt, then remove the belt (4).

Replace with new belt.

Reinsert idler arm and pin. Tighten jam nuts.

Sheave Removal

NOTE: Refer to “4-Band Drive” on page 43 or “6-Band Drive” on page 45 for parts breakdown and assembly of belt drive components.

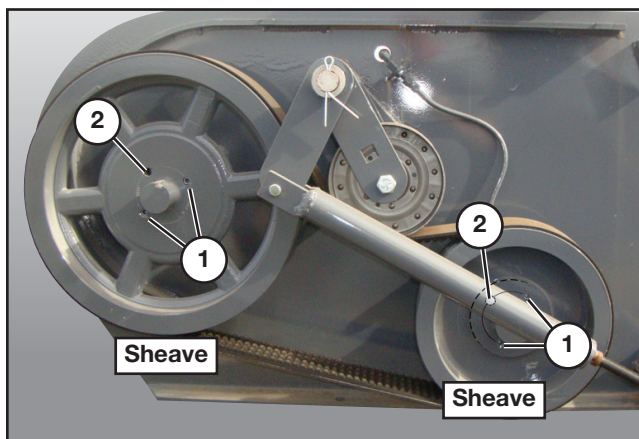
Turn off all power to the shredder.



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

Open belt shield. See “Belt Shields” on page 33 for instructions on opening the belt shield.

Remove the idler arm and drive belt, following the instructions in “Belt Replacement” on page 34.



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 sheave 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.

Sheave 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 and recheck screw torque.

Check alignment of the sheaves. Repeat sheave removal and assembly procedures if necessary.

Install belt. See "Belt Replacement" on page 34 for reference.

Rotor Removal

This service section is written as if the shredder 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 "12' - 22' Rotors" on page 54, "24' - 30' Rotor - Four Drum Rotors" on page 62, "4-Band Drive" on page 43 and "6-Band Drive" on page 45 for parts breakdown and assembly of rotor components.*

Turn off all power to the shredder.



DANGER: *Failure to turn off power to the shredder 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 ensure 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.

Maintenance

Rotor Assembly (Cont'd)

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.

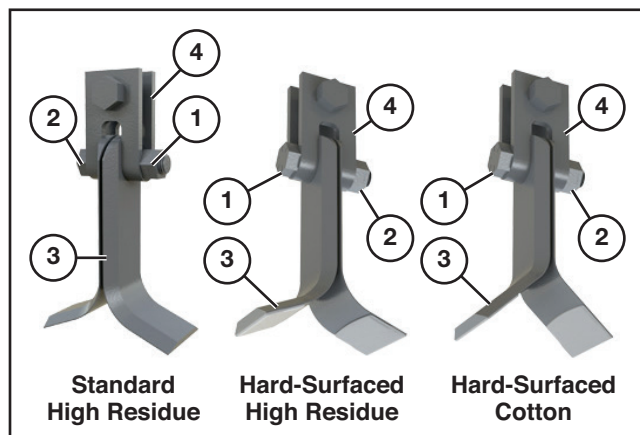
Knife Replacement

Turn off all power to the shredder.



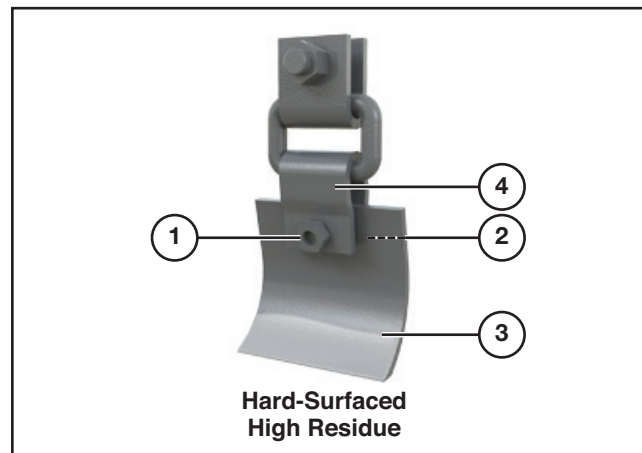
DANGER: Failure to turn off power to the shredder before replacing knives could result in serious injury or death.

Side Slice



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).

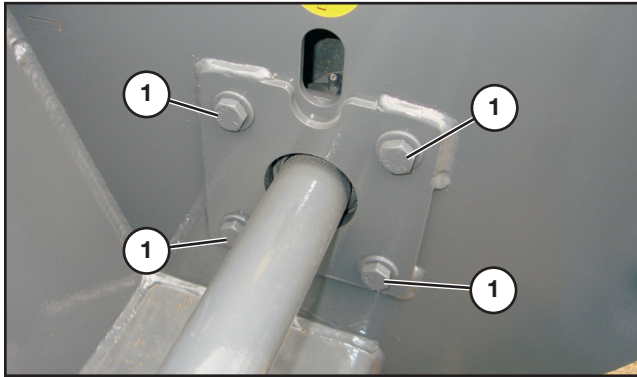
IMPORTANT: The rotors of the shredder are factory balanced and must remain in balance during the life of the machine. Should any knives on the machine need replacing, be sure to also replace the knives directly opposite to avoid vibration and maintain the rotor balance. If a knife is not available, take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

Gearbox Repair

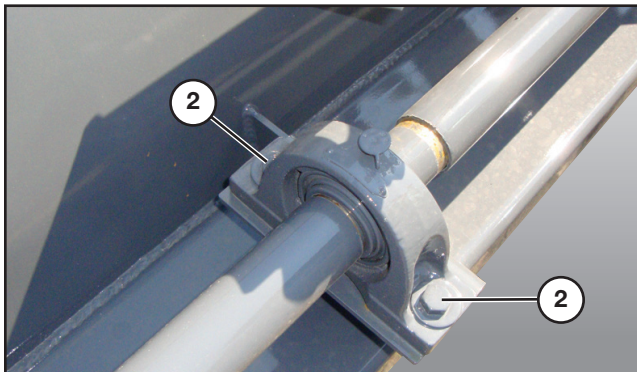
Repairs to the gearbox by the customer will be limited to the replacing of the cross or pinion shaft seals. See parts breakdown for gearboxes on pages page 96, page 98, and page 100. These seals can be removed and replaced by using a screwdriver or similar instrument without opening the gearbox. If the 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

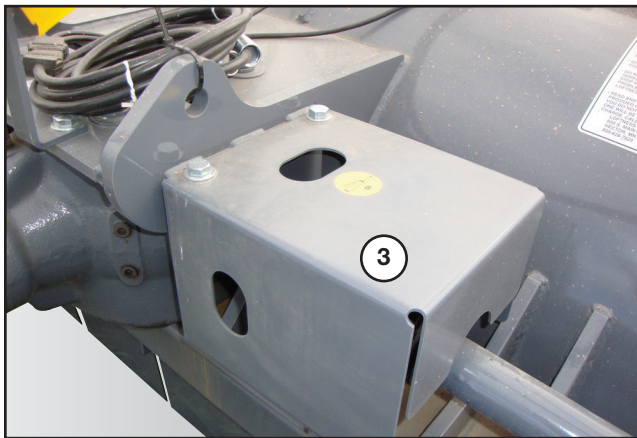
Remove the drive belt. Follow instructions in “Belt Replacement” on page 34 up until the point where the drive belt is removed.



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



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

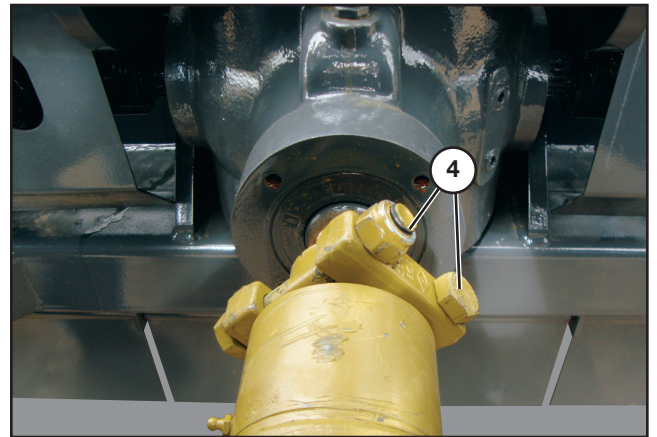


Remove driveline shield (3).

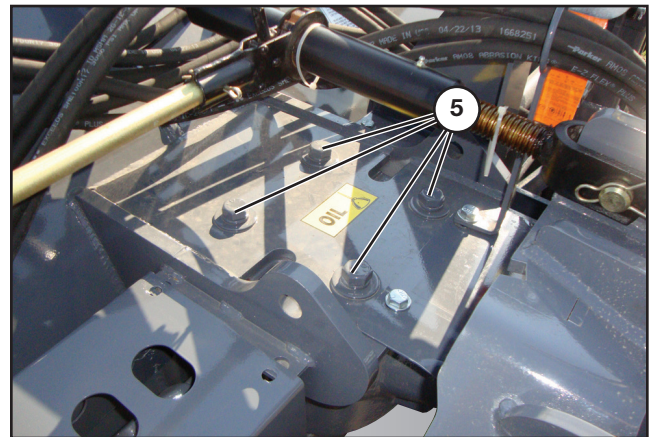
Loosen and remove the clamp bolts securing the U-joint to the gearbox shaft.

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.

Maintenance

Storage

End of the Season

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

Beginning of the Season

- Review your operator's manual.
- Check air pressure in the tires.
- Drain and refill gearbox to proper level. Gearbox should be filled to the lower plug.
- 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.

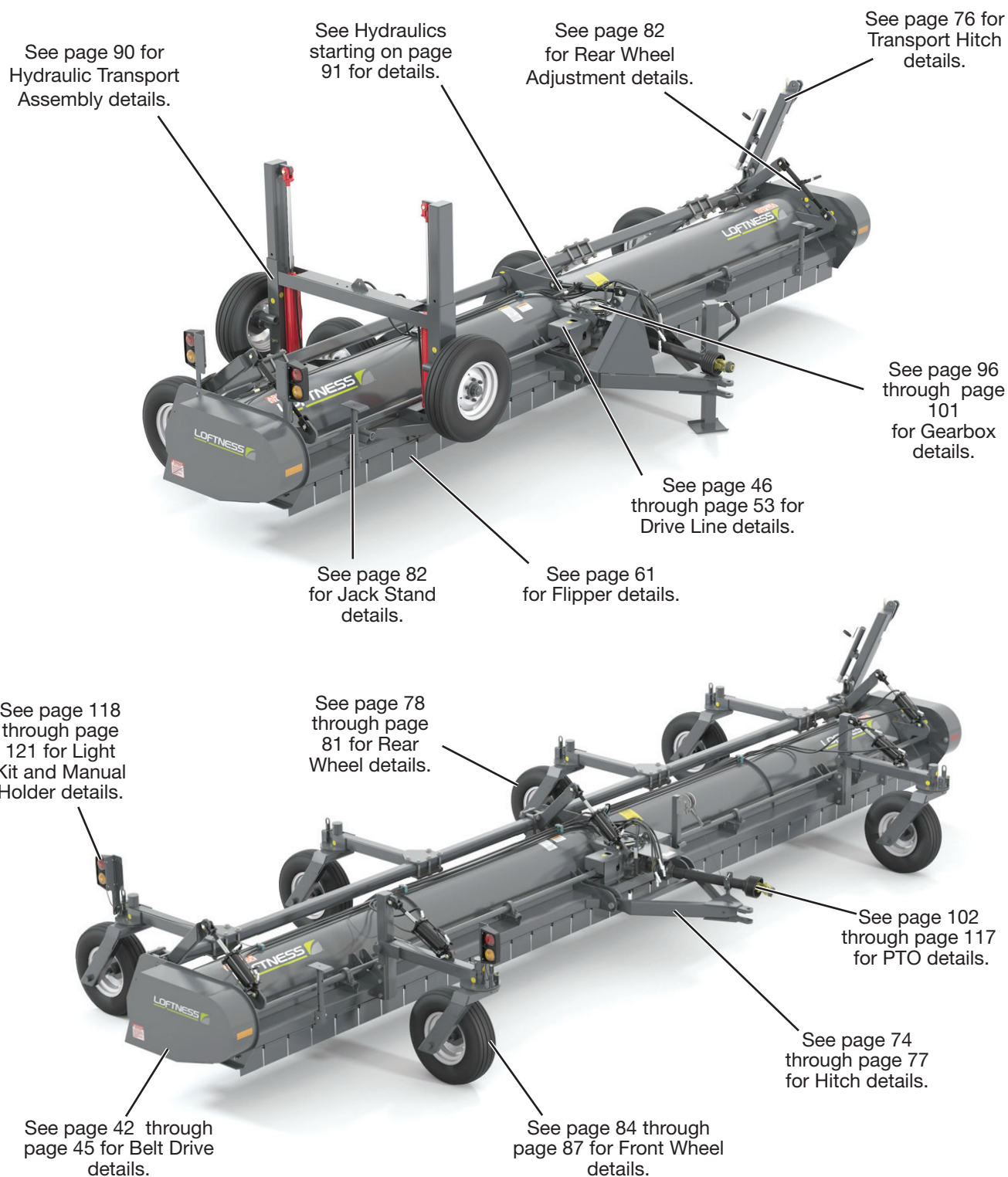
Troubleshooting

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.



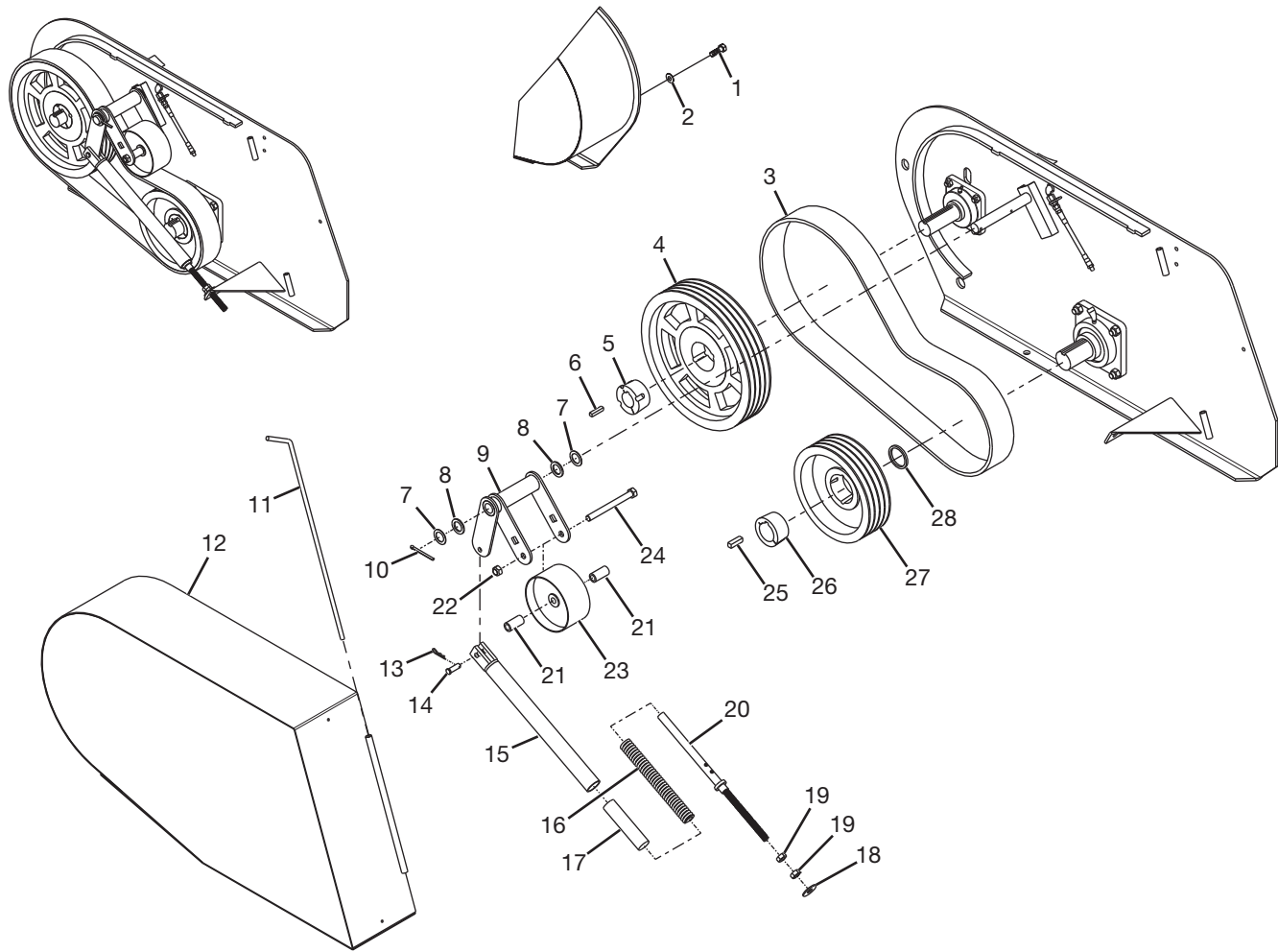
Parts Identification



22' and 30' Models shown.

Parts Identification

4-Band Drive



To order a complete LEFT side belt tightener assembly (Items 9, 21, 22, 23, 24), use part number N13387.

To order a complete RIGHT side belt tightener assembly (Items 9, 21, 22, 23, 24), use part number N13386.

NOTE: Quantities shown are for both the right and left sides of the shredder.

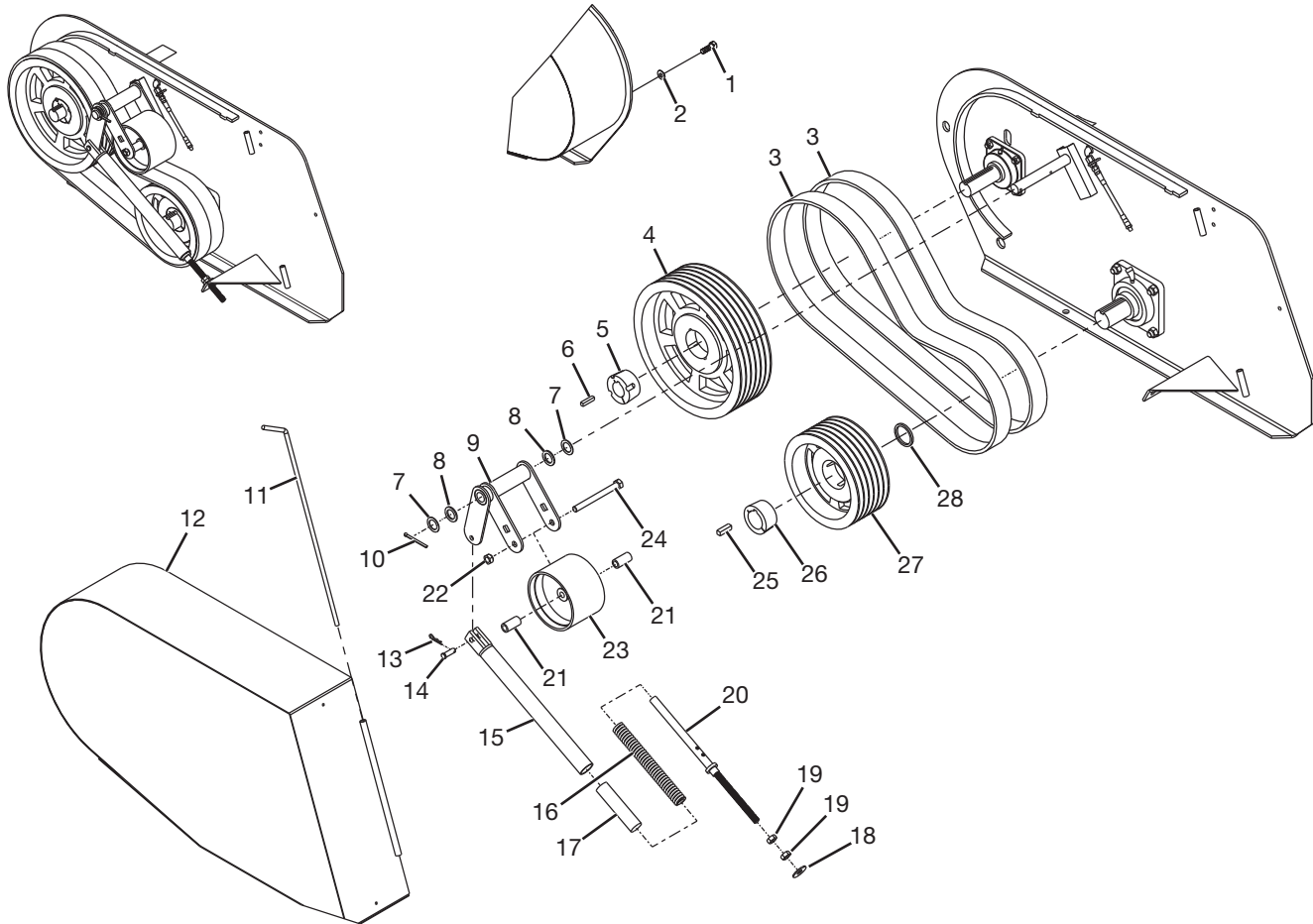
Left side shown.

4-Band Drive

#	QTY.	PART #	DESCRIPTION
1	2	4012	BOLT, 1/2" X 1-1/4" GRADE 5
2	2	4074	WASHER, 2" OD X 1/2" ID X 1/4T
3	2	N10507	BELT, 4B X 87" BOND. SHRD.
4	2	8140	SHEAVE, 4B X 16" TAPERLOCK
5	2	8127	BUSHING, 1-3/4 KW TAPERLOCK
6	2	7121-02	KEY, 3/8" X 1-3/4'
7	Varies	4491	WASHER, 1-1/8" ID X 1-3/4" OD X 18 GA
8	Varies	4470	WASHER, 1-1/8" ID X 1-3/4" OD X 10 GA
9	1	N13457	BRACKET, UNV SHRD BELT TIGHTENER LEFT (Shown)
	1	N13456	BRACKET, UNV SHRD BELT TIGHTENER RIGHT
10	2	4322	PIN, COTTER 1/4" X 3"
11	2	N12018	PIN, UNV SHRD BELT SHIELD BACK
12	1	N20437	SHIELD, SHREDDER UNV BELT 2-DRM LEFT (Shown)
	1	N20438	SHIELD, SHREDDER UNV BELT 2-DRM RIGHT
13	2	4089	CLIP, HAIRPIN .093 X 1-5/8'
14	2	4392	PIN, 1/2" X 1-1/4"
15	2	N12003	TUBE, UNV SHRD BELT TIGHTENER
16	2	8067	SPRING, BELT TIGHTENER
17	2	N12006	SPACER, UNV SHRD BELT TIGHTENER TUBE (INCLUDED W/N12003)
18	2	4069	WASHER, FLAT 5/8"
19	4	4438	NUT, 5/8" STANDARD GRADE 8
20	2	N12000	SHAFT, UNV SHRD BELT TIGHTENER
21	2	N11995	PIPE, UNV SHRD BELT TIGHTENER SPACER
22	2	4055	NUT, LOCK 5/8" TOP
23	2	N10508	PULLEY, IDLER BELT 6-1/2" OD X 5/8" BORE
24	2	4457	BOLT, 5/8" X 6-1/2" GR 5
25	2	N27290	KEY, 1/2" X 1-3/4" EXTRA HARDENED
26	2	8165	BUSHING, 2-3/16" TPL. DOD. 117715
27	2	8139	SHEAVE, 4B X 11" TAPERLOCK
28	2	N16445	BUSHING, 2-3/16 ID X 2-3/4 OD

Parts Identification

6-Band Drive



To order a complete LEFT side belt tightener assembly (Items 9, 21, 22, 23, 24), use part number N11998.

To order a complete RIGHT side belt tightener assembly (Items 9, 21, 22, 23, 24), use part number N11997.

NOTE: Quantities shown are for both the right and left sides of the shredder.

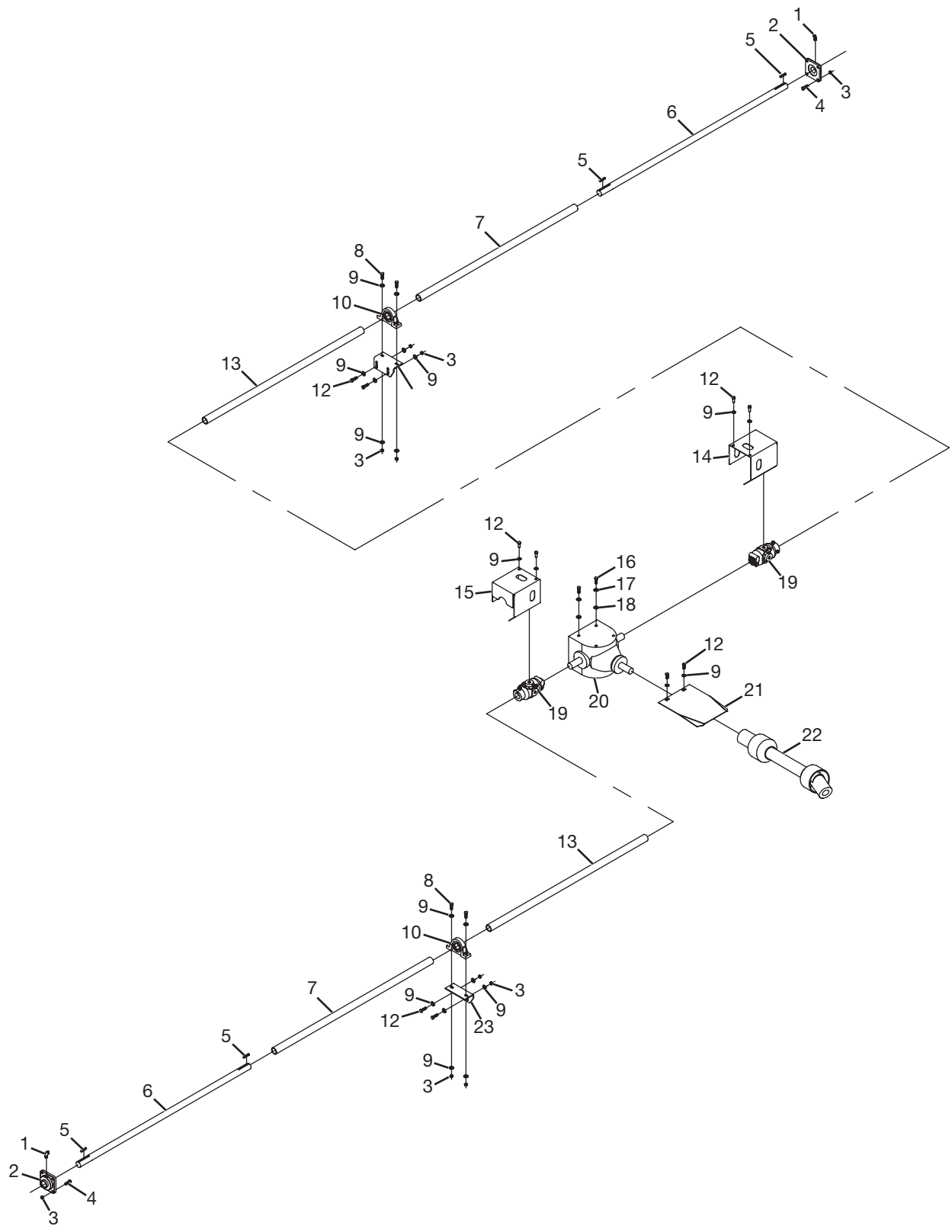
Left side shown.

6-Band Drive

#	QTY.	PART #	DESCRIPTION
1	2	4012	BOLT, 1/2" X 1-1/4" GRADE 5
2	2	4074	WASHER, 2" OD X 1/2" ID X 1/4T
3	4	8172	BELT, 3B X 87"
4	2	8119	SHEAVE, LARGE 6B X 16" TPLK
5	2	8127	BUSHING, 1-3/4 KW TAPERLOCK
6	2	7121-02	KEY, 3/8" X 1-3/4'
7	4	4491	WASHER, 1-1/8" ID X 1-3/4" OD X 18 GA
8	4	4470	WASHER, 1-1/8" ID X 1-3/4" OD X 10 GA
9	1	N13457	BRACKET, UNV SHRD BELT TIGHTENER LEFT (Shown)
	1	N13456	BRACKET, UNV SHRD BELT TIGHTENER RIGHT
10	2	4322	PIN, COTTER 1/4" X 3"
11	2	N12018	PIN, UNV SHRD BELT SHIELD BACK
12	1	N12007	SHIELD, L.H. BELT (Shown) (24'-30' Models)
	1	N12008	SHIELD, R.H. BELT (24'-30' Models)
13	2	4089	CLIP, HAIRPIN .093 X 1-5/8'
14	2	4392	PIN, 1/2" X 1-1/4"
15	2	N12003	TUBE, UNV SHRD BELT TIGHTENER
16	2	8067	SPRING, BELT TIGHTENER
17	2	N12006	SPACER, UNV SHRD BELT TIGHTENER TUBE (INCLUDED W/N12003)
18	2	4069	WASHER, FLAT 5/8"
19	4	4438	NUT, 5/8" STANDARD GRADE 8
20	2	N12000	SHAFT, UNV SHRD BELT TIGHTENER
21	2	N11995	PIPE, UNV SHRD BELT TIGHTENER SPACER
22	2	4055	NUT, LOCK 5/8" TOP
23	2	N11999	PULLEY, SHREDDER IDLER BELT 6B X 5/8" BORE
24	2	4457	BOLT, 5/8" X 6-1/2" GR 5
25	2	N27290	KEY, 1/2" X 1-3/4" EXTRA HARDENED
26	2	8165	BUSHING, 2-3/16" TPL. DOD. 117715
27	2	8107	SHEAVE, SMALL 6B X 11" TAPERLOCK
28	2	N16445	BUSHING, 2-3/16 ID X 2-3/4 OD

Parts Identification

12' - 22' Drive Line



12' - 22' Drive Line

NOTE:

1) For Gearbox (Item 20):

Refer to page 96 for 1450 RPM Bandioli Gearbox (N13950) parts list.

Refer to page 98 for 1700 RPM Bandioli Gearbox (N13951) parts list.

Refer to page 100 for 2000 RPM Bandioli Gearbox (N13952) parts list.

2) For PTO (Item 22):

Refer to page 102 for MTD PTO - 1-3/8" - 21 Splined w/Overrunning Clutch (8173) parts list.

Refer to page 104 for MTD PTO - 1-3/4" - 20 Splined w/Overrunning Clutch (8174) parts list.

Refer to page 106 for PT PTO - 1-3/8" - 21 Splined w/Overrunning Clutch (8175) parts list.

Refer to page 108 for PT PTO - 1-3/4" - 20 Splined w/Overrunning Clutch (8176) parts list.

Refer to page 110 for PT PTO - 1-3/4" - 20 Splined w/Overrunning Clutch (N10512) parts list.

Refer to page 112 for MTD PTO - 1-3/4" - 20 Splined w/Overrunning Clutch (N10515) parts list.

3) For U-Joint (Item 19):

Refer to page 115 for U-Joint (N12440) parts list.

4) 12' and 13' shredders have only one driveline and shield on each side. No center support bearing and brackets are required.

See the following two pages for the 12' through 22' drive line parts list.

Parts Identification

12' - 22' Drive Line (Cont'd)

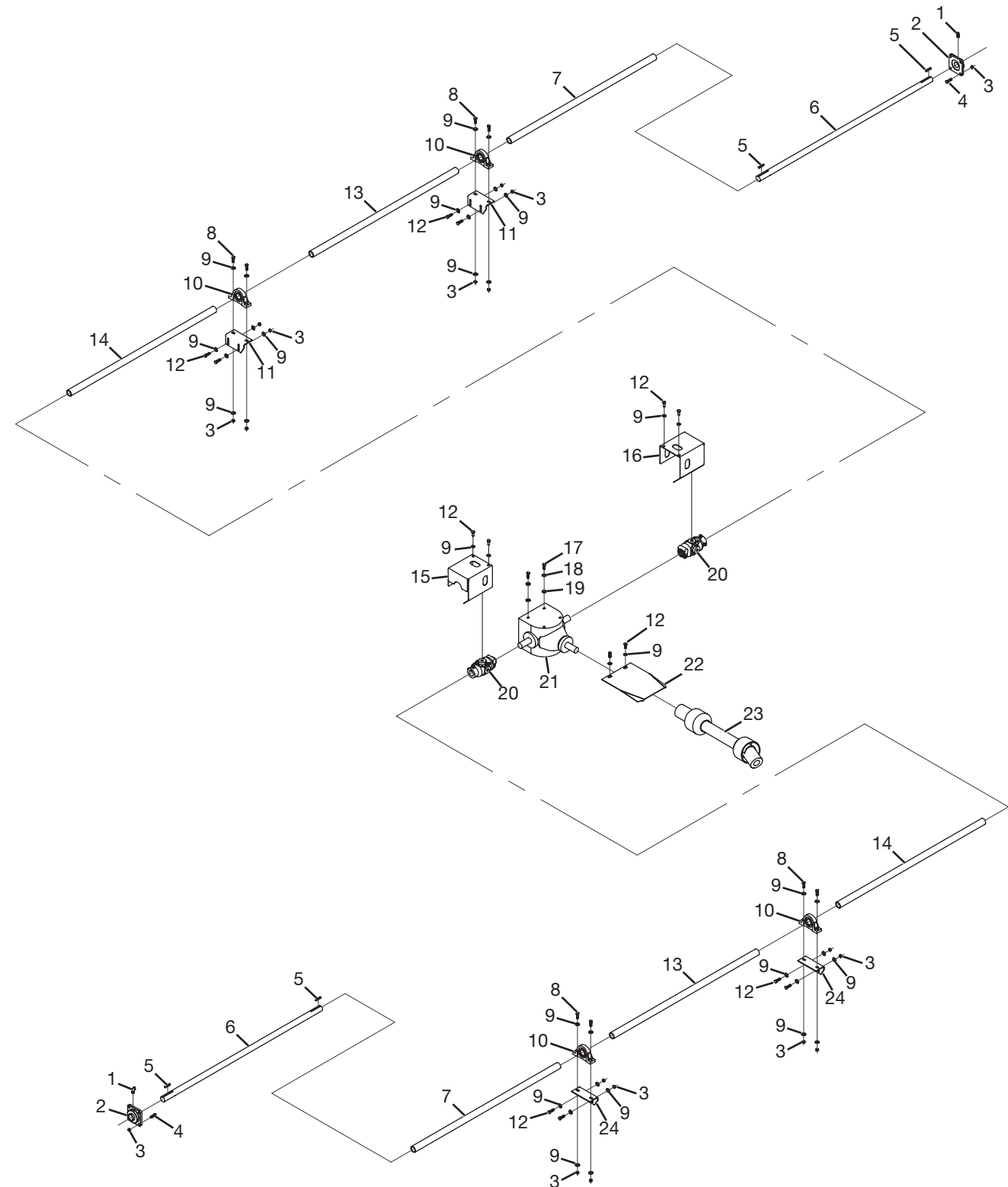
#	QTY.	PART #	DESCRIPTION
1	2	N154810	GREASE ZERK, 45° 1/8 NPT
2	2	8087	BEARING, 1-3/4" 4-BOLT FLANGE
3	16	4054	NUT, LOCK 1/2" TOP
4	8	4013	BOLT, 1/2" X 1-1/2" GRADE 5
5	4	7121-03	KEY, 3/8" X 2"
6	2	9091	SHAFT, DRIVELINE 1-3/4" X 64-1/2" LG. (12' SHREDDER)
	2	9133	SHAFT, DRIVELINE 1-3/4" X 70-1/2" LG. (13' SHREDDER)
	2	9092	SHAFT, DRIVELINE 1-3/4" X 82-1/2" LG. (15' SHREDDER)
	2	9093	SHAFT, DRIVELINE 1-3/4" X 100-1/2" LG. (18' SHREDDER)
	2	9094	SHAFT, DRIVELINE 1-3/4" X 112-1/2" LG. (20' SHREDDER)
	2	9095	SHAFT, DRIVELINE 1-3/4" X 124-1/2" LG. (22' SHREDDER)
7		N/A	SHIELD, OUTER DRIVELINE (12' SHREDDER)
		N/A	SHIELD, OUTER DRIVELINE (13' SHREDDER)
	2	N13132	SHIELD, OUTER DRIVELINE (15' SHREDDER)
	2	N13119	SHIELD, OUTER DRIVELINE (18' SHREDDER)
	2	N13023	SHIELD, OUTER DRIVELINE (20' SHREDDER)
	2	N13108	SHIELD, OUTER DRIVELINE (22' SHREDDER)
8	4	4014	BOLT, 1/2" X 1-3/4" GRADE 5
9	22	4068	WASHER, FLAT 1/2" SAE
10	2	8089	BEARING, 1-3/4" PILLOW BLOCK
11	1	9098	MOUNT, LEFT DRIVELINE BEARING
12	10	4012	BOLT, 1/2 X 1-1/4" GRADE 5
13	2	N13157	SHIELD, INNER DRIVELINE (12' SHREDDER)
	2	N13145	SHIELD, INNER DRIVELINE (13' SHREDDER)
	2	N13022	SHIELD, INNER DRIVELINE (15' SHREDDER)
	2	N13022	SHIELD, INNER DRIVELINE (18' SHREDDER)
	2	N13022	SHIELD, INNER DRIVELINE (20' SHREDDER)
	2	N13107	SHIELD, INNER DRIVELINE (22' SHREDDER)
14	1	N11988	SHIELD, LEFT DRIVELINE
15	1	N11987	SHIELD, RIGHT DRIVELINE

12' - 22' Drive Line (Cont'd)

#	QTY.	PART #	DESCRIPTION
16	4	N13997	BOLT, 3/4" X 1-3/4" GR5
17	4	4287	WASHER, LOCK 3/4"
18	4	4071	WASHER, FLAT 3/4"
19	2	N12440	U-JOINT, 1-3/4" RB X 1-3/4"-20 SPLINE
20	1	N13950	GEARBOX, BONDIOLI 1:1 RATIO 1450 RPM (3/4" BOLTS)
	1	N13951	GEARBOX, BONDIOLI 1:1.18 RATIO 1700 RPM (3/4" BOLTS)
	1	N13952	GEARBOX, BONDIOLI 1:1.35 RATIO 2000 RPM (3/4" BOLTS)
21	1	9110	SHIELD, PTO 12" X 16"
22	1	8173	PTO, MTD (1-3/8"-21 SPLINED W/OVERRUNNING CLUTCH)
	1	8174	PTO, MTD (1-3/4"-20 SPLINED W/OVERRUNNING CLUTCH)
	1	8175	PTO, PT (1-3/8"-21 SPLINED W/OVERRUNNING CLUTCH)
	1	8176	PTO, PT (1-3/4"-20 SPLINED W/OVERRUNNING CLUTCH)
	1	N10512	PTO, PT (1-3/4"-20 SPLINED W/OVERRUNNING CLUTCH)
	1	N10515	PTO, MTD (1-3/4"-20 SPLINED W/OVERRUNNING CLUTCH)
23	1	9127	MOUNT, RIGHT DRIVELINE BEARING

Parts Identification

24' - 30' Drive Line



24' - 30' Drive Line

NOTE:

1) For Gearbox (Item 21):

Refer to page 96 for 1450 RPM Bandioli Gearbox (N13950) parts list.

Refer to page 98 for 1700 RPM Bandioli Gearbox (N13951) parts list.

Refer to page 100 for 2000 RPM Bandioli Gearbox (N13952) parts list.

2) For PTO (Item 23):

Refer to page 102 for MTD PTO - 1-3/8" - 21 Splined w/Overrunning Clutch (8173) parts list.

Refer to page 104 for MTD PTO - 1-3/4" - 20 Splined w/Overrunning Clutch (8174) parts list.

Refer to page 106 for PT PTO - 1-3/8" - 21 Splined w/Overrunning Clutch (8175) parts list.

Refer to page 108 for PT PTO - 1-3/4" - 20 Splined w/Overrunning Clutch (8176) parts list.

Refer to page 110 for PT PTO - 1-3/4" - 20 Splined w/Overrunning Clutch (N10512) parts list.

Refer to page 112 for MTD PTO - 1-3/4" - 20 Splined w/Overrunning Clutch (N10515) parts list.

3) For U-Joint (Item 20):

Refer to page 115 for U-Joint (N12440) parts list.

See the following two pages for the 24' through 30' drive line parts list.

Parts Identification

24' - 30' Drive Line (Cont'd)

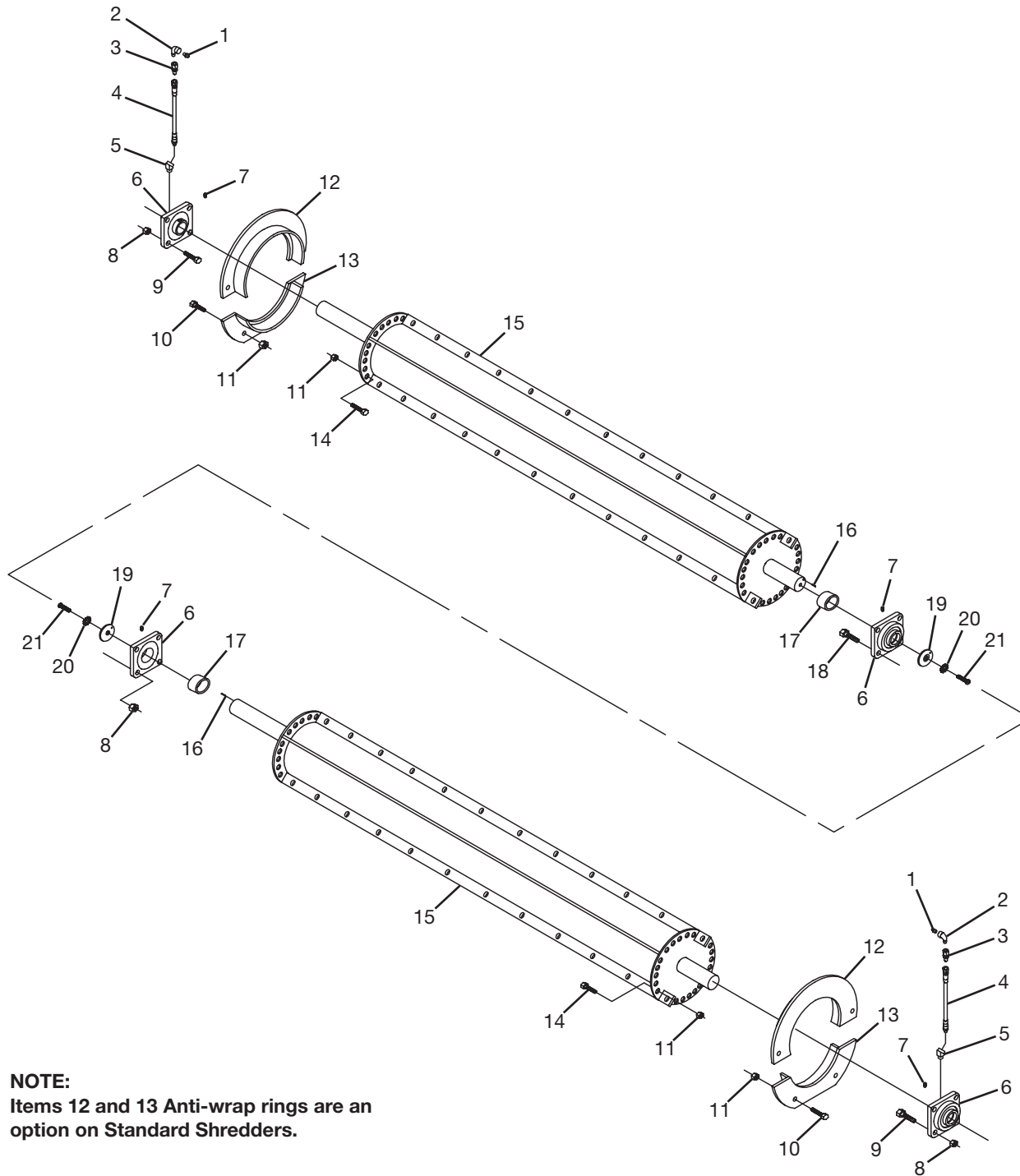
#	QTY.	PART #	DESCRIPTION
1	2	N154810	GREASE ZERK, 45° 1/8 NPT
2	2	8087	BEARING, 1-3/4" 4-BOLT FLANGE
3	24	4054	NUT, LOCK 1/2" TOP
4	8	4013	BOLT, 1/2" X 1-1/2" GRADE 5
5	4	7121-03	KEY, 3/8" X 2"
6	2	9349	SHAFT, DRIVELINE 1-3/4" X 136-1/2" LG. (24' SHREDDER)
	2	9350	SHAFT, DRIVE LINE 1-3/4" X 142-1/2" LG. (25' SHREDDER)
	2	N11580	SHAFT, DRIVELINE 1-3/4" X 149-1/2" LG. (8M SHREDDER)
	2	8467	SHAFT, DRIVE LINE 1-3/4" X 172" LG. (30' SHREDDER)
7	2	N13195	SHIELD, OUTER DRIVELINE (24' SHREDDER)
	2	N13213	SHIELD, OUTER DRIVELINE (25' SHREDDER)
	2	N13227	SHIELD, OUTER DRIVELINE (8M SHREDDER)
	2	N11990	SHIELD, OUTER DRIVELINE (30' SHREDDER)
8	8	4014	BOLT, 1/2" X 1-3/4" GRADE 5
9	30	4068	WASHER, FLAT 1/2" SAE
10	4	8089	BEARING, 1-3/4" PILLOW BLOCK
11	2	9098	MOUNT, LEFT DRIVELINE BEARING
12	14	4012	BOLT, 1/2 X 1-1/4" GRADE 5
13	2	N13194	SHIELD, MIDDLE DRIVELINE (24' SHREDDER)
	2	N13212	SHIELD, MIDDLE DRIVELINE (25' SHREDDER)
	2	N11989	SHIELD, MIDDLE DRIVELINE (30' SHREDDER)
	2	N13226	SHIELD, MIDDLE DRIVELINE (8M SHREDDER)
14	2	N13022	SHIELD, INNER DRIVE LINE (24' SHREDDER)
	2	N13022	SHIELD, INNER DRIVE LINE (25' SHREDDER)
	2	N13022	SHIELD, INNER DRIVELINE (8M SHREDDER)
	2	N13022	SHIELD, INNER DRIVE LINE (30' SHREDDER)

24' - 30' Drive Line (Cont'd)

#	QTY.	PART #	DESCRIPTION
15	1	N11987	SHIELD, RIGHT DRIVELINE
16	1	N11988	SHIELD, LEFT DRIVELINE
17	4	N13997	BOLT, 3/4" X 1-3/4" GR5
18	4	4287	WASHER, LOCK 3/4"
19	4	4071	WASHER, FLAT 3/4"
20	2	N12440	U-JOINT, 1-3/4" RB X 1-3/4"-20 SPLINE
21	1	N13950	GEARBOX, BONDIOLI 1:1 RATIO 1450 RPM (3/4" BOLTS)
	1	N13951	GEARBOX, BONDIOLI 1:1.18 RATIO 1700 RPM (3/4" BOLTS)
	1	N13952	GEARBOX, BONDIOLI 1:1.35 RATIO 2000 RPM (3/4" BOLTS)
22	1	9110	SHIELD, PTO 12" X 16"
23	1	8173	PTO, MTD (1-3/8"-21 SPLINED W/OVERRUNNING CLUTCH)
	1	8174	PTO, MTD (1-3/4"-20 SPLINED W/OVER RUNNING CLUTCH)
	1	8175	PTO, PT (1-3/8"-21 SPLINED W/OVER RUNNING CLUTCH)
	1	8176	PTO, PT (1-3/4"-20 SPLINED W/OVERRUNNING CLUTCH)
	1	N10512	PTO, PT (1-3/4"-20 SPLINED W/OVERRUNNING CLUTCH)
	1	N10515	PTO, PT (1-3/4"-20 SPLINED W/OVERRUNNING CLUTCH)
24	2	9127	MOUNT, RIGHT DRIVE LINE BEARING

Parts Identification

12' - 22' Rotors



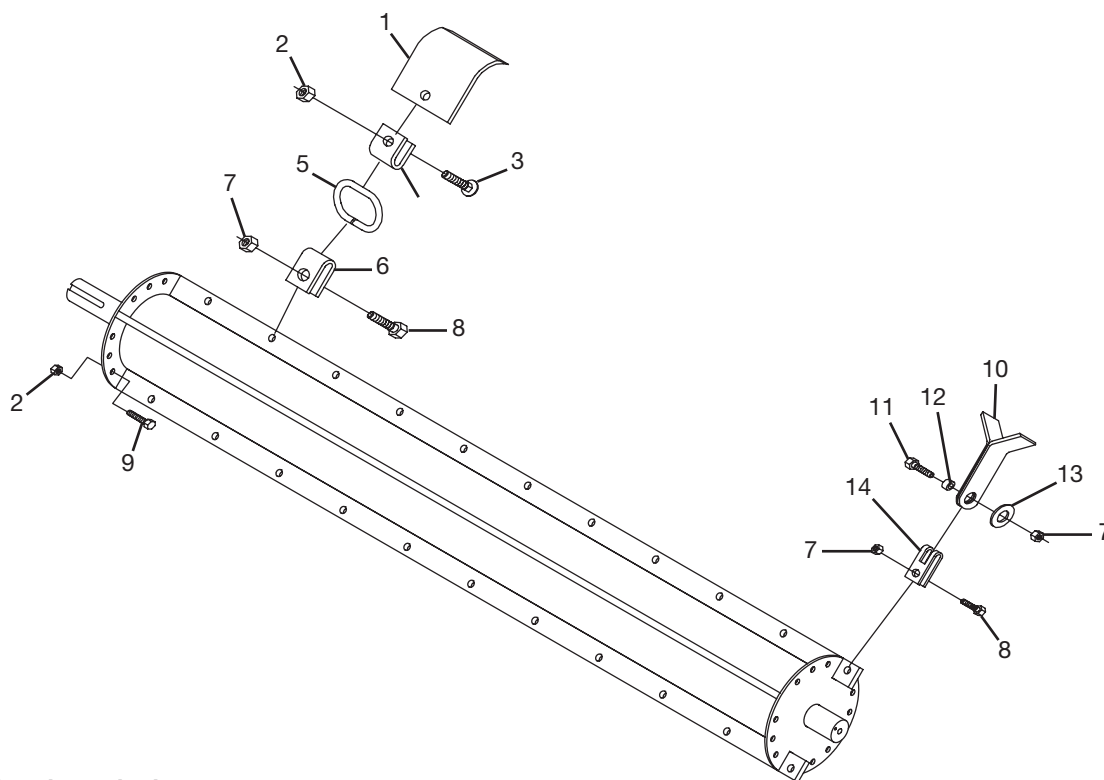
NOTE:
Items 12 and 13 Anti-wrap rings are an option on Standard Shredders.

12' - 22' Rotors

#	QTY.	PART #	DESCRIPTION
1	2	N17007	GREASEZERK, 1/8" NPT
2	2	4472	ELBOW, 1/8" 90 DEG. STREET
3	2	4304-10	BULKHEAD, FITTING-GREASE HOSE
4	2	4304	HOSE, 15" GREASE (W/FITTINGS)
5	2	4471	ELBOW, 1/8" 45 DEG. STREET
6	4	N16969	BEARING, 2-3/16" 4-BOLT FLANGE W/FLINGER
7	4	4261	SCREW, 5/16" UNF X 3/8" SET
8	12	4057	NUT, 5/8" UNF LOCK
9	8	4042	BOLT, 5/8" X 2" FN TH GR 8
10	8	4012	BOLT, 1/2" X 1-1/4" GRADE 5
11	12	4054	NUT, LOCK 1/2" TOP
12	2	9144	RING, TOP ANTI -WRAP
13	2	9145	RING, BOTTOM ANTI -WRAP
14	4	4152	BOLT, 1/2" X 2-1/2" (FULL THREAD)
15	2	N13238	ROTOR, 12' W/O KNIVES
	2	N13239	ROTOR, 13' W/O KNIVES
	2	N13240	ROTOR, 15' W/O KNIVES
	2	N13241	ROTOR, 18' W/O KNIVES
	2	N13242	ROTOR, 20' W/O KNIVES
	2	N13243	ROTOR, 22' W/O KNIVES
16	2	4085	PIN, ROLL (3/16" X 3/4")
17	2	211869	SPACER, SHRD ROTOR 2-3/16
18	4	4306	BOLT, 5/8" UNF X 3" GRADE 8
19	2	4075	WASHER, BEARING RETAINER
20	2	4076	WASHER, 1/2" EXTERNAL TOOTH C'SINK LOCK
21	2	4468	SCREW, FHCS 1/2"-20UNF X 1-1/4

Parts Identification

Rotor with Cupped Knives

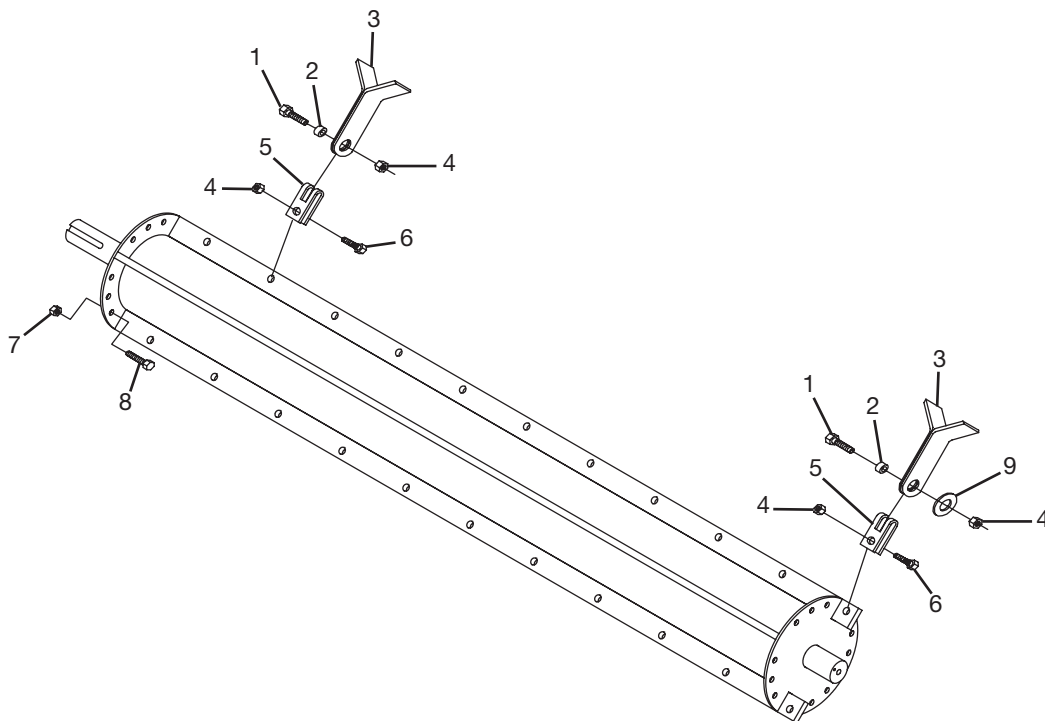


NOTE:

Quantities shown in the parts list are per rotor, not total requirements for the shredder.

#	QTY.						PART #	DESCRIPTION
	12'	13'	15'	18'	20'	22'		
1	32	36	42	50	56	62	8022	KNIFE, HARD SURFACE CUPPED
2	34	38	44	52	58	64	4054	NUT, LOCK 1/2" TOP
3	32	36	42	50	56	62	4039	BOLT, CARRIAGE 1/2" X 1-1/2"
4	32	36	42	50	56	62	8035	CLIP, CUPPED KNIFE
5	32	36	42	50	56	62	N24282	RING, FORGED SQUARE
6	32	36	42	50	56	62	8033	U-BAR, SIDE SLICE
7	36	40	46	54	60	66	4055	NUT, LOCK 5/8" TOP
8	34	38	44	52	58	64	4043	BOLT, 5/8" X 2" GR 8
9	2	2	2	2	2	2	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
10	4	4	4	4	4	4	8136	KNIFE, 70 DEG. HIGH RESIDUE
11	2	2	2	2	2	2	4045	BOLT, 5/8" X 2-3/4" GR 8
12	2	2	2	2	2	2	9073	BUSHING, H.RES.-HRD SUR COT KN
13	2	2	2	2	2	2	4488	WASHER, .894 ID X1.75OD X.080T
14	2	2	2	2	2	2	8034	U-BAR, SLOTTED COTTON KNIFE

Rotor with 70° High Residue Knife (Hard Surfaced)



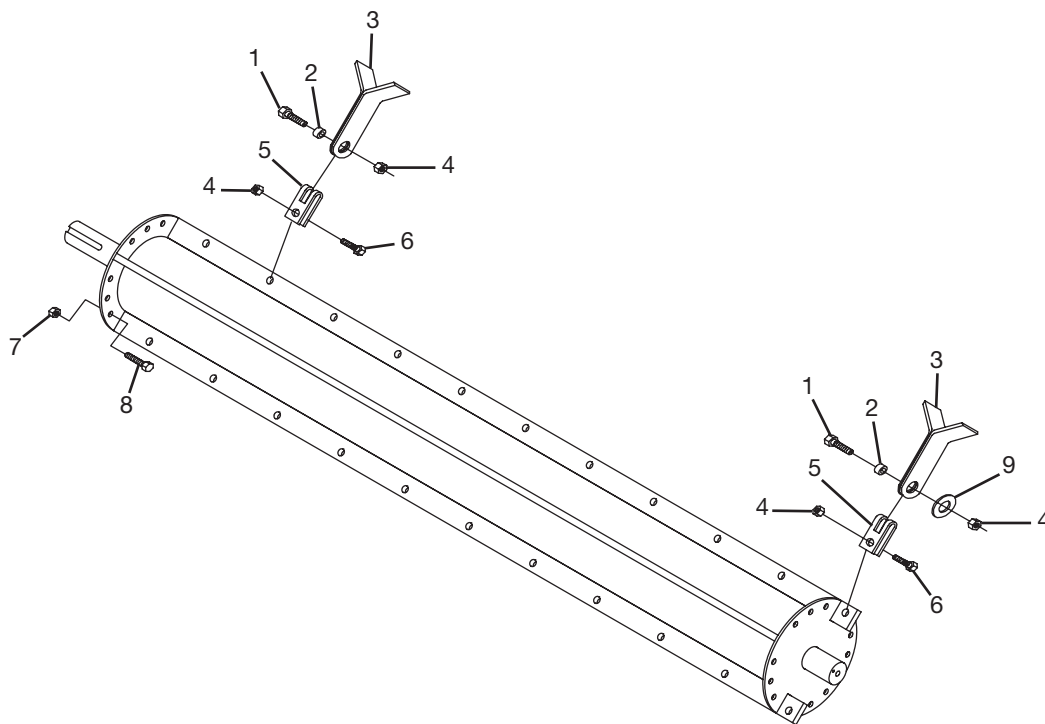
NOTE:

Quantities shown in the parts list are per rotor, not total requirements for the shredder.

#	QTY.						PART #	DESCRIPTION
	12'	13'	15'	18'	20'	22'		
1	34	38	44	52	58	64	4045	BOLT, 5/8" X 2-3/4" GR 8
2	34	38	44	52	58	64	9073	BUSHING, H.RES.-HRD SUR COT KN
3	68	76	88	104	116	128	N10506	KNIFE, 70 DEG. H.R. HRD.SURF.
4	68	76	88	104	116	128	4055	NUT, LOCK 5/8" TOP
5	34	38	44	52	58	64	8034	U-BAR, SLOTTED COTTON KNIFE
6	34	38	44	52	58	64	4043	BOLT, 5/8" X 2" GR 8
7	2	2	2	2	2	2	4054	NUT, LOCK 1/2" TOP
8	2	2	2	2	2	2	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
9	2	2	2	2	2	2	4488	WASHER, .894 ID X1.75OD X.080T

Parts Identification

Rotor with Cotton/Rice Knife (Hard Surfaced)

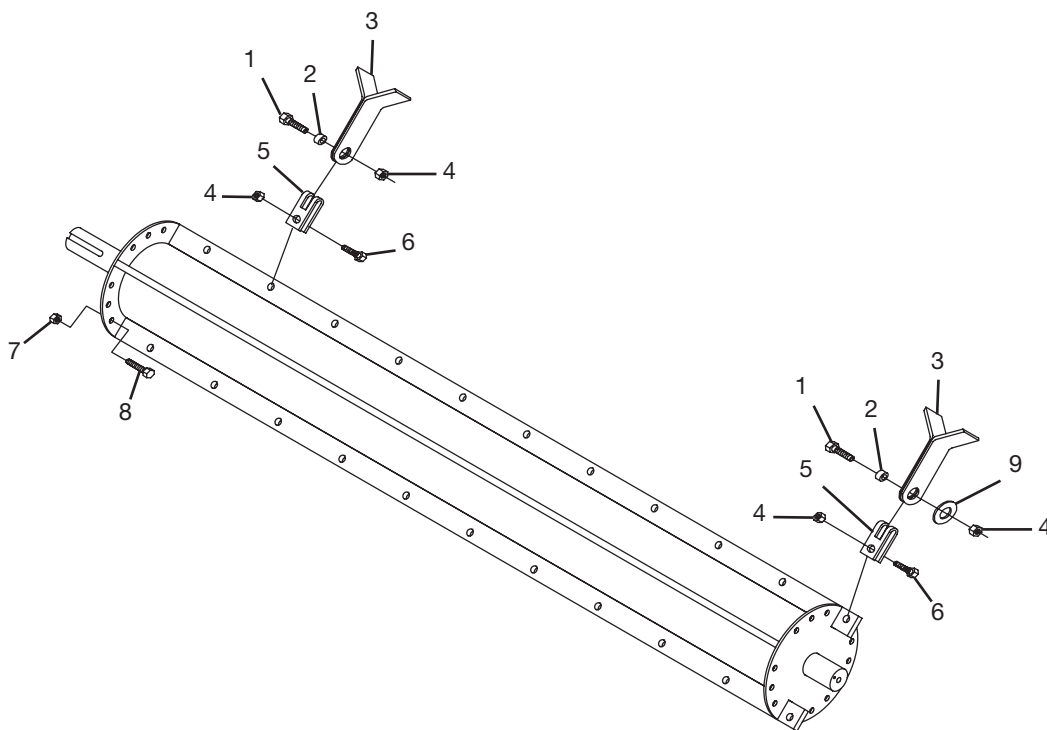


NOTE:

Quantities shown in the parts list are per rotor, not total requirements for the shredder.

#	QTY.						PART #	DESCRIPTION
	12'	13'	15'	18'	20'	22'		
1	34	38	44	52	58	64	4045	BOLT, 5/8" X 2-3/4" GR 8
2	34	38	44	52	58	64	9073	BUSHING, H.RES.-HRD SUR COT KN
3	68	76	88	104	116	128	8021	KNIFE, HARD SURFACE COTTON
4	68	76	88	104	116	128	4055	NUT, LOCK 5/8" TOP
5	34	38	44	52	58	64	8034	U-BAR, SLOTTED COTTON KNIFE
6	34	38	44	52	58	64	4043	BOLT, 5/8" X 2" GR 8
7	2	2	2	2	2	2	4054	NUT, LOCK 1/2" TOP
8	2	2	2	2	2	2	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
9	2	2	2	2	2	2	4488	WASHER, .894 ID X1.75OD X.080T

Rotor with High Residue Knife



NOTE:

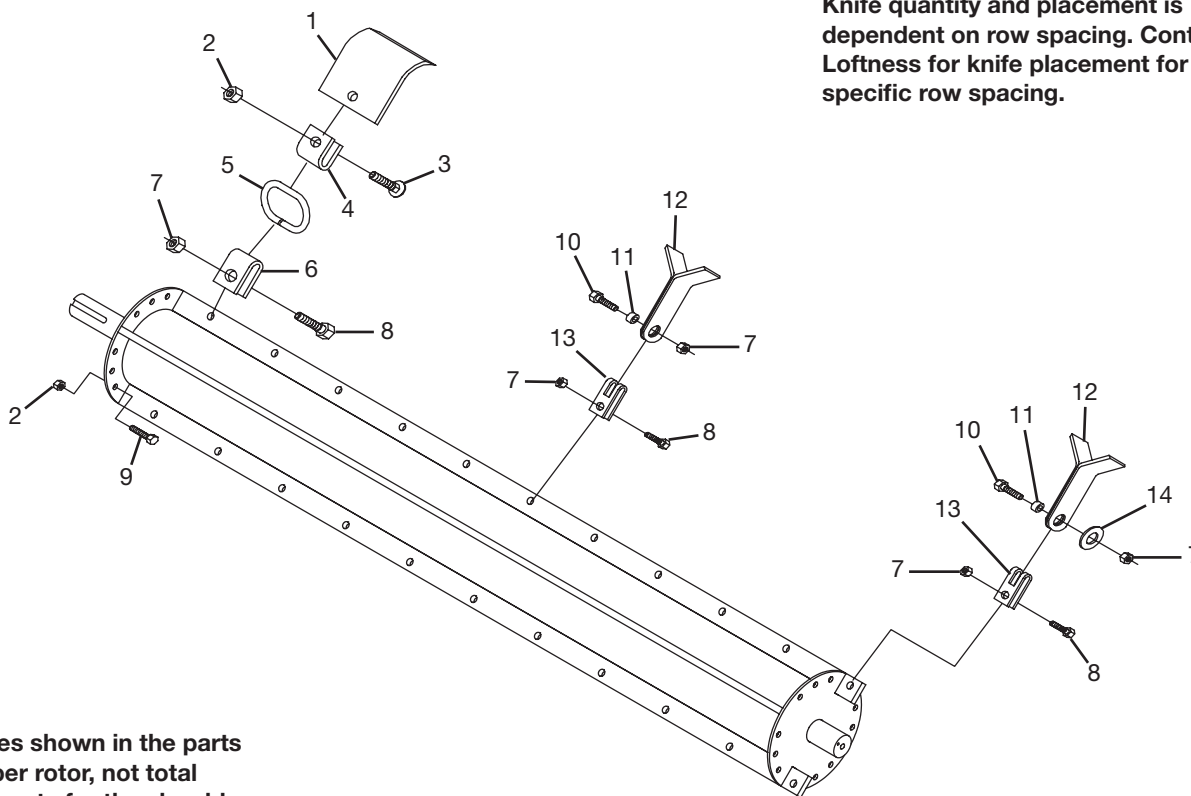
Quantities shown in the parts list are per rotor, not total requirements for the shredder.

#	QTY.						PART #	DESCRIPTION
	12'	13'	15'	18'	20'	22'		
1	34	38	44	52	58	64	4045	BOLT, 5/8" X 2-3/4" GR 8
2	34	38	44	52	58	64	9073	BUSHING, H.RES.-HRD SUR COT KN
3	68	76	88	104	116	128	8136	KNIFE, 70 DEG. HIGH RESIDUE
4	68	76	88	104	116	128	4055	NUT, LOCK 5/8" TOP
5	34	38	44	52	58	64	8034	U-BAR, SLOTTED COTTON KNIFE
6	34	38	44	52	58	64	4043	BOLT, 5/8" X 2" GR 8
7	2	2	2	2	2	2	4054	NUT, LOCK 1/2" TOP
8	2	2	2	2	2	2	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
9	2	2	2	2	2	2	4488	WASHER, .894 ID X1.75OD X.080T

Parts Identification

Rotor with Combination Knives

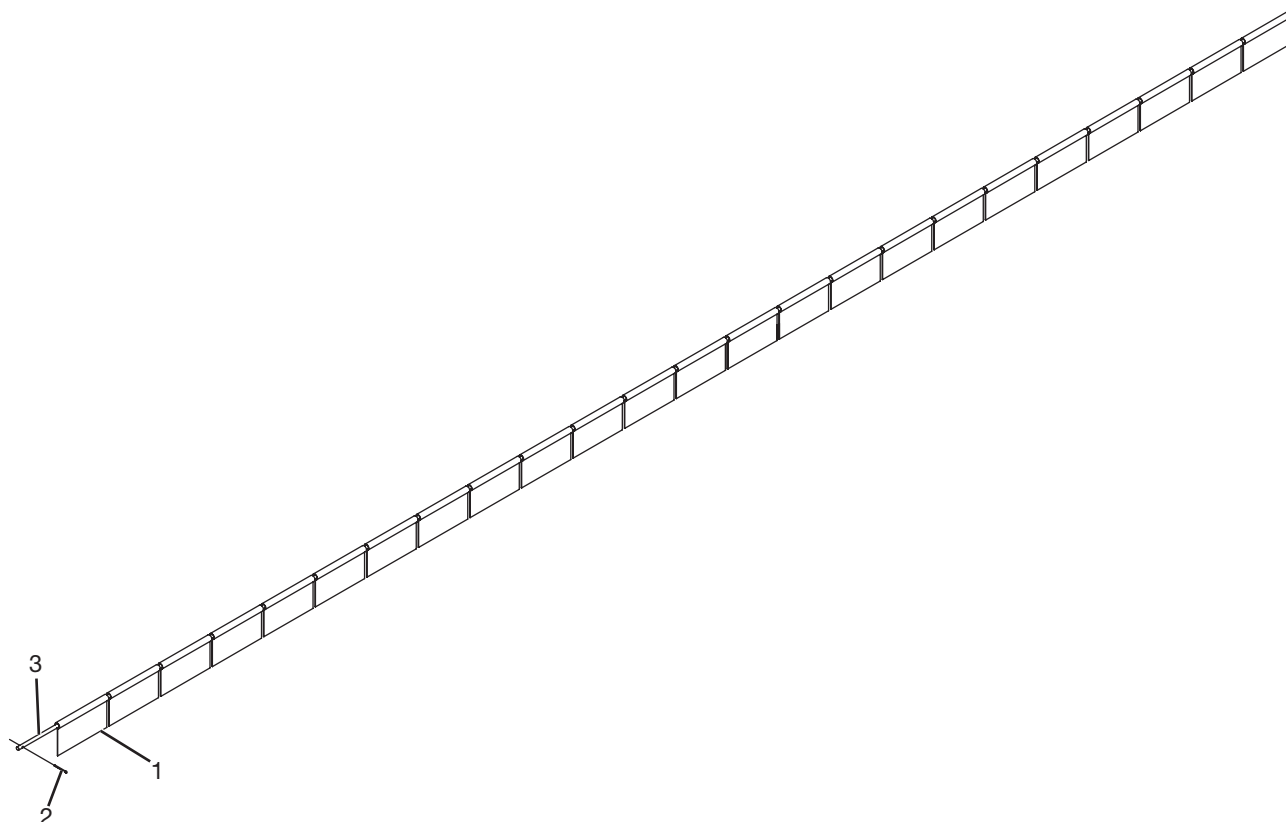
NOTE:
Knife quantity and placement is dependent on row spacing. Contact Loftness for knife placement for specific row spacing.



NOTE:
Quantities shown in the parts list are per rotor, not total requirements for the shredder.

#	QTY.						PART #	DESCRIPTION
	12'	13'	15'	18'	20'	22'		
1	16	18	21	25	28	31	8022	KNIFE, HARD SURFACE CUPPED
2	18	20	23	27	30	33	4054	NUT, LOCK 1/2" TOP
3	16	18	21	25	28	31	4039	BOLT, CARRIAGE 1/2" X 1-1/2"
4	16	18	21	25	28	31	8035	CLIP, CUPPED KNIFE
5	16	18	21	25	28	31	N24282	RING, FORGED SQUARE
6	16	18	21	25	28	31	8033	U-BAR, SIDE SLICE
7	52	58	67	79	88	97	4055	NUT, LOCK 5/8" TOP
8	34	38	44	52	58	64	4043	BOLT, 5/8" X 2" GR 8
9	2	2	2	2	2	2	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
10	16	18	21	25	28	31	4045	BOLT, 5/8" X 2-3/4" GR 8
11	16	18	21	25	28	31	9073	BUSHING, H.RES.-HRD SUR COT KN
12	18	20	23	27	30	33	8136	KNIFE, 70 DEG. HIGH RESIDUE
13	18	20	23	27	30	33	8034	U-BAR, SLOTTED COTTON KNIFE
14	2	2	2	2	2	2	4488	WASHER, .894 ID X1.75OD X.080T

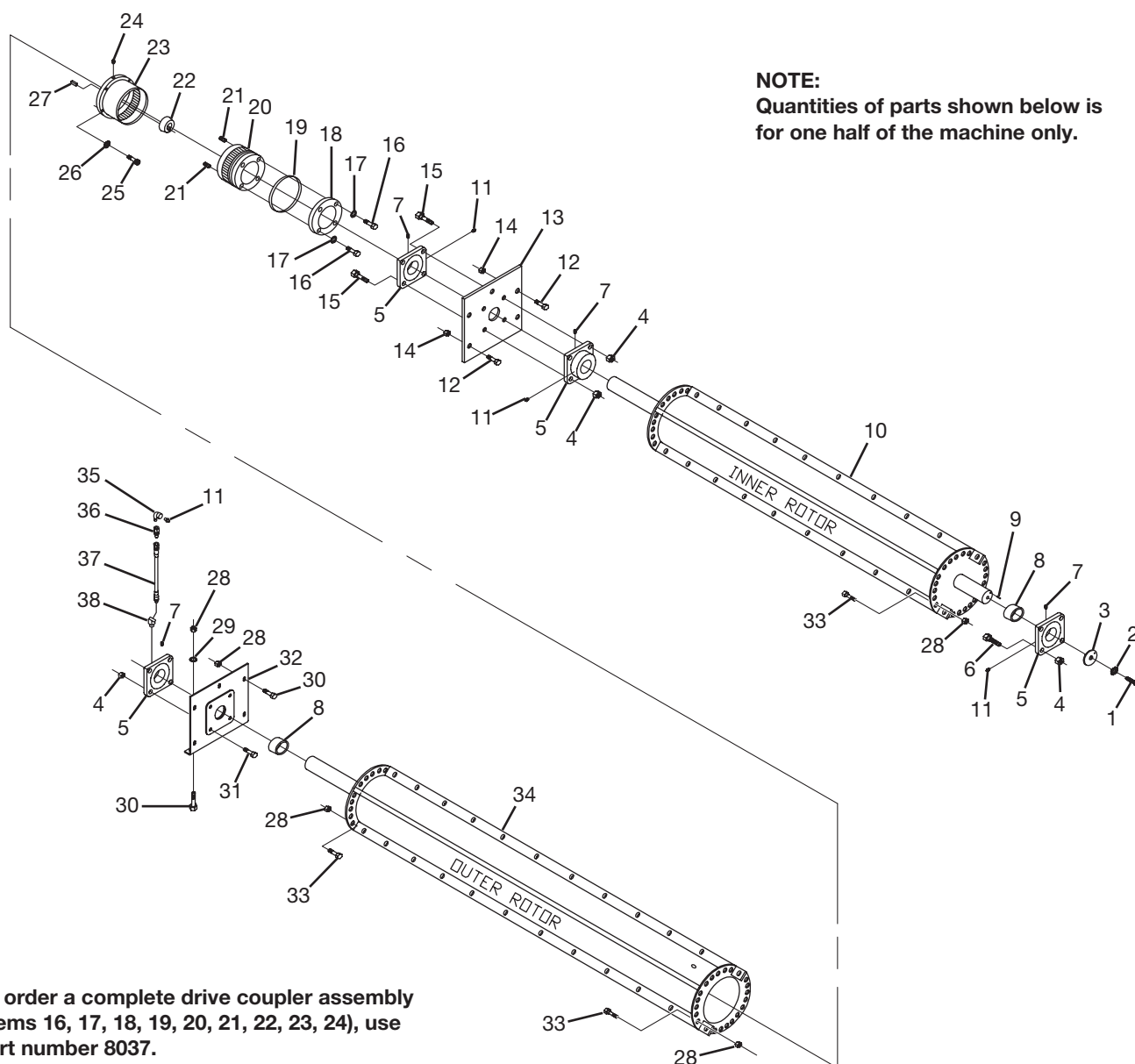
Flippers and Rods



#	QTY.										PART #	DESCRIPTION
	12'	13'	15'	18'	20'	22'	24'	25'	8m	30'		
1	14	15	18	21	24	26	28	30	30	36	N18774	FLIPPER, SHREDDER (9-1/2" X 8-1/2")
2	2	2	2	2	2	4	4	4	4	4	4329	PIN, COTTER 7/32" X 2-1/2"
3	1	-	-	-	-	-	-	-	-	-	9082	ROD, FLIPPER 12' SHREDDER
	-	1	-	-	-	-	-	-	-	-	9130	ROD, FLIPPER 13' SHREDDER
	-	-	1	-	-	-	-	-	-	-	9083	ROD, FLIPPER 15' SHREDDER
	-	-	-	1	-	-	-	-	-	-	9084	ROD, FLIPPER 18' SHREDDER
	-	-	-	-	1	-	-	-	-	-	9085	ROD, FLIPPER 20' SHREDDER
	-	-	-	-	-	2	-	-	-	-	9086	ROD, FLIPPER 22' SHREDDER
	-	-	-	-	-	-	2	-	-	-	8446	ROD, FLIPPER 24' SHREDDER
	-	-	-	-	-	-	-	2	-	-	8447	ROD, FLIPPER 25' SHREDDER
	-	-	-	-	-	-	-	-	2	-	N11597	ROD, FLIPPER 8M SHREDDER
	-	-	-	-	-	-	-	-	-	2	8448	ROD, FLIPPER 30' SHREDDER

Parts Identification

24' - 30' Rotor - Four Drum Rotors



To order a complete drive coupler assembly (Items 16, 17, 18, 19, 20, 21, 22, 23, 24), use part number 8037.

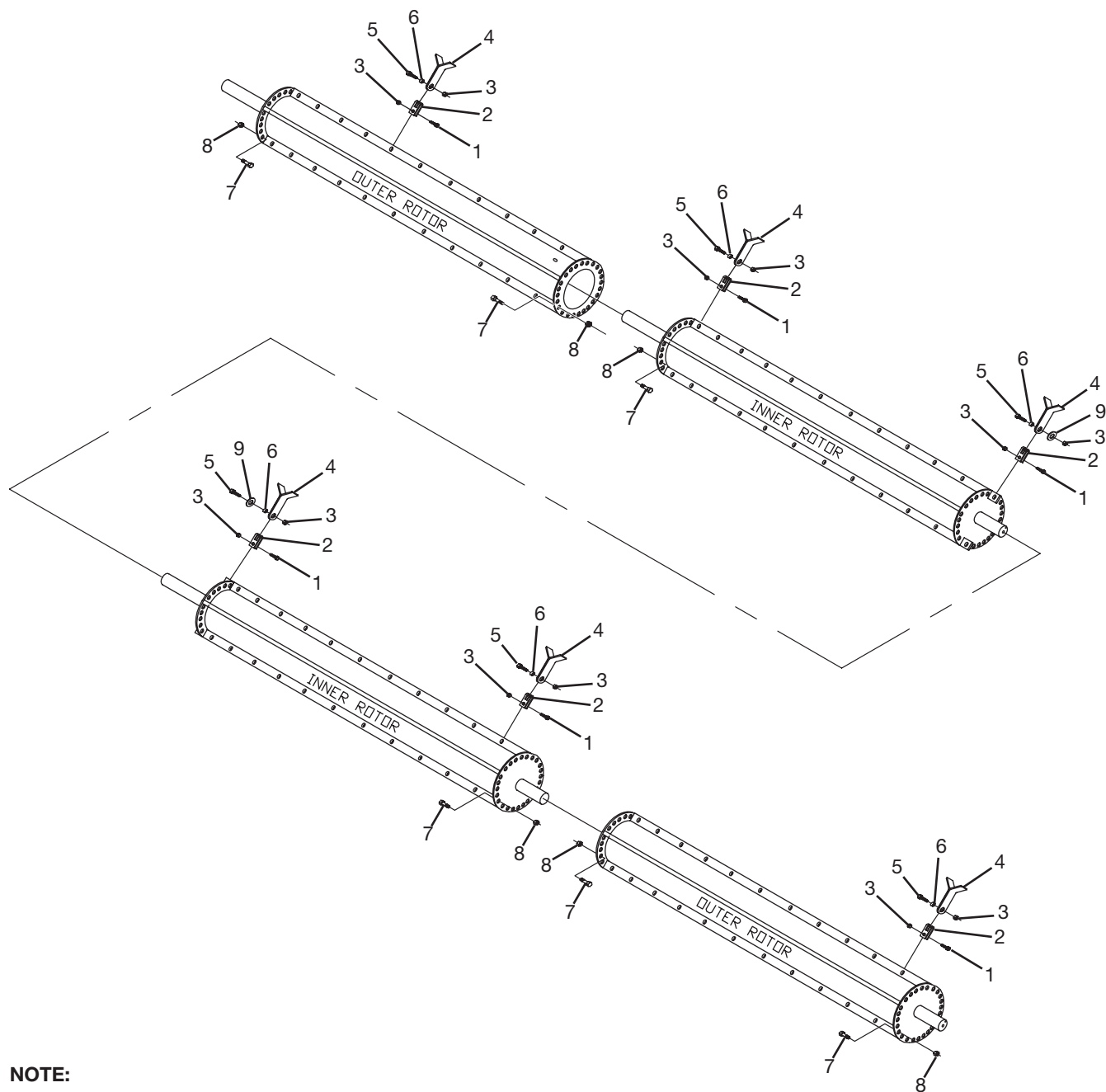
#	QTY.	PART #	DESCRIPTION
1	1	4468	SCREW, FHCS 1/2"-20UNF X 1-1/4
2	1	4076	WASHER, EXTERNAL TOOTH LOCK 1/2"
3	1	4075	WASHER, 5/8" BEARING RETAINING
4	12	4057	NUT, LOCK 5/8" UNF
5	4	211873	BEARING, 2-3/16" 4-BOLT FLANGE
6	4	4306	BOLT, 5/8" UNF X 3" GRADE 8

24' - 30' Rotor - Four Drum Rotors

#	QTY.	PART #	DESCRIPTION
7	8	4261	SCREW, SET (5/16" UNF X 3/8")
8	2	211869	SPACER, 2-3/16" BEARING
9	1	4085	PIN, ROLL (3/16" X 3/4")
10	1	N11473	ROTOR, 30' INNER W/O KNIVES
	1	N10504	ROTOR, 8 METER INNER W/O KNIVES
	1	N11471	ROTOR, 25' INNER W/O KNIVES
	1	N11470	ROTOR, 24' INNER W/O KNIVES
11	5	N17007	GREASEZERK, 1/8" NPT (INCLUDED WITH N16969)
12	5	4020	BOLT, 5/8" X 1-1/2" GRADE 5
13	1	N10498	PLATE INNER ROTOR 2-3/16" BEARING MOUNTING
14	5	4055	NUT, LOCK 5/8" TOP
15	4	4044	BOLT, 5/8" UNF X 2-1/2" GRADE 8
16	4	3211	BOLT, 1/4" X 1/2"
17	4	4231	WASHER, LOCK 1/4"
18	1	9346	COVER, DUST
19	1	8463	O-RING, VALLEY DRIVE COUPLER (INCLUDED W/8037)
20	1	NA	HUB, SPECIAL F2 FLEX
21	2	8128-10	SCREW, SET 1/2-13" X 1"
22	1	N14191	BUSHING, F, 2 SPEC. DTL 2"B
23	1	NA	SLEEVE, SPECIAL F2
24	2	4105	ZERK, GREASE 1/4" SCREW-IN
25	6	1100	SCREW, 1/2" X 2" ALLEN HD
26	6	1099	WASHER, 1/2" INTERNAL TOOTH LOCK
27	1	7122-04	KEY, 1/2" X 2"
28	11	4054	NUT, LOCK 1/2" TOP
29	2	4155	WASHER, LOCK 1/2"
30	7	4012	BOLT, 1/2" X 1-1/4" GRADE 5
31	4	4042	BOLT, 5/8" X 2" FN TH GR 8
32	1	N11427	PLATE, OUTER 2-3/16" BEARING (4-DRUM)
33	6	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
34	1	N11477	ROTOR, 30' OUTER W/O KNIVES
	1	N10474	ROTOR; 8 METER OUTER W/O KNIVES
	1	N11475	ROTOR, 25' OUTER W/O KNIVES
	1	N11474	ROTOR; 24' OUTER W/O KNIVES
35	1	4472	ELBOW, 1/8" 90 DEG. STREET
36	1	4304-10	BULKHEAD, FITTING-GREASE HOSE
37	2	4304	HOSE, 15" GREASE (W/FITTINGS)
38	2	4471	ELBOW, 1/8" 45 DEG. STREET

Parts Identification

24' - 30' Rotor - 45° Hard Surface Cotton Knife



NOTE:

- 1) Quantities shown in the parts list for both inner and outer rotors are per rotor.
- 2) To order a complete knife kit with mounting hardware for part number 8021 - 45° Hard Surface Cotton Knife (Items 1, 2, 3, 4, 5, 6), use part number 8021-10.

Outer Rotor w/45° Hard Surface Cotton Knives

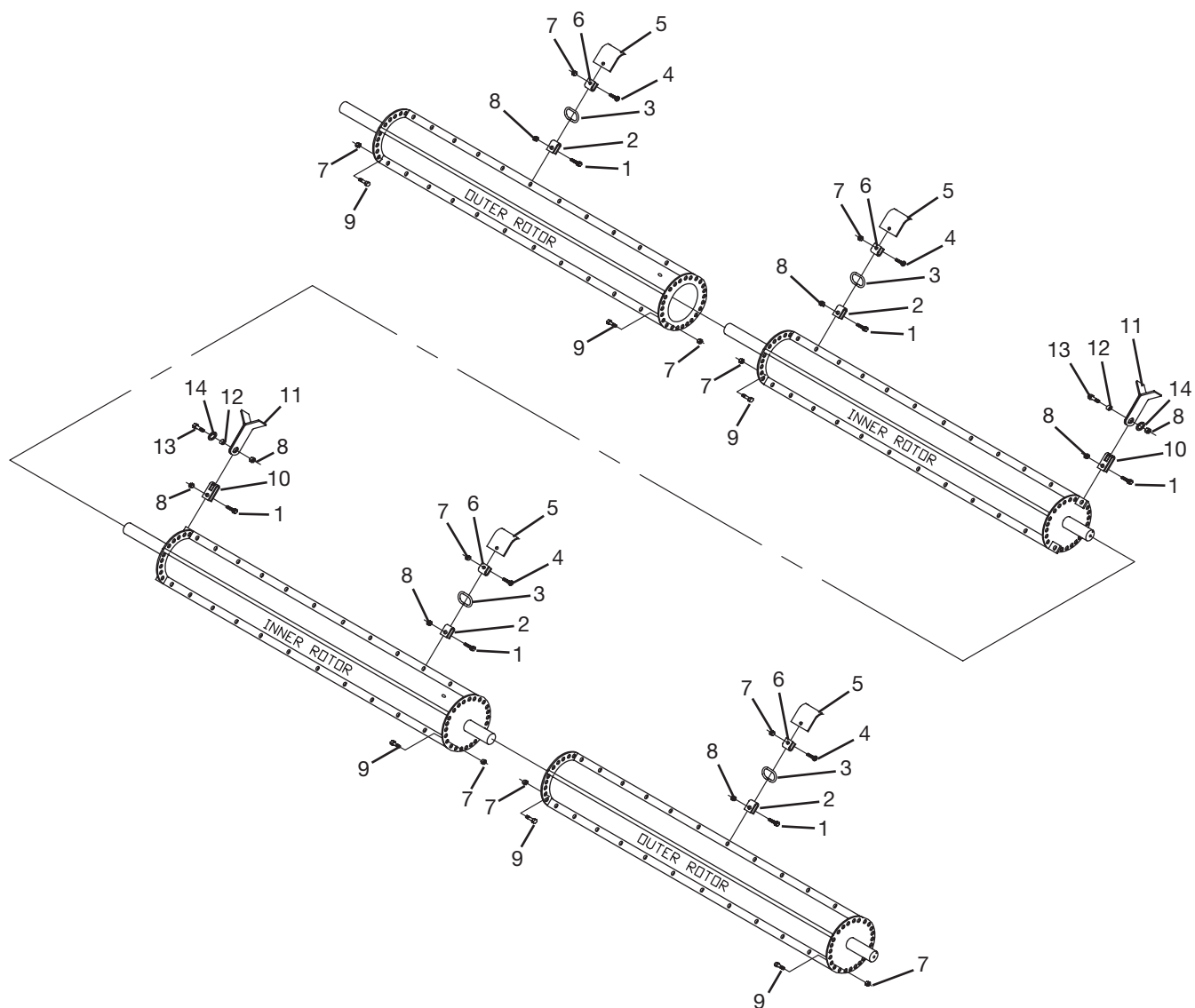
#	QTY.				PART #	DESCRIPTION
	24'	25'	8m	30'		
1	34	34	38	42	4043	BOLT, 5/8" X 2" GR 8
2	34	34	38	42	8034	U-BAR, SLOTTED COTTON KNIFE
3	68	68	76	84	4055	NUT, LOCK 5/8" TOP
4	68	68	76	84	8021	KNIFE, HARD SURFACE COTTON
5	34	34	38	42	4045	BOLT, 5/8" X 2-3/4" GR 8
6	34	34	38	42	9073	BUSHING, H.RES.-HRD SUR COT KN
7	4	4	4	4	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
8	4	4	4	4	4054	NUT, LOCK 1/2" TOP

Inner Rotor w/45° Hard Surface Cotton Knives

#	QTY.				PART #	DESCRIPTION
	24'	25'	8m	30'		
1	34	34	38	44	4043	BOLT, 5/8" X 2" GR 8
2	34	34	38	44	8034	U-BAR, SLOTTED COTTON KNIFE
3	68	68	76	88	4055	NUT, LOCK 5/8" TOP
4	68	68	76	88	8021	KNIFE, HARD SURFACE COTTON
5	34	34	38	44	4045	BOLT, 5/8" X 2-3/4" GR 8
6	34	34	38	44	9073	BUSHING, H.RES.-HRD SUR COT KN
7	2	2	2	2	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
8	2	2	2	2	4054	NUT, LOCK 1/2" TOP
9	2	2	2	2	4488	WASHER, .894 ID X1.75OD X.080T

Parts Identification

24' - 30' Cupped Knife



NOTE:

- 1) Quantities shown in the parts list for both the inner and outer rotors are per rotor.
- 2) To order a complete knife kit with mounting hardware for part number 8022 - Cupped Knife (Items 1, 2, 3, 4, 5, 6, 7, 8), use part number 8022-10.
- 3) To order a complete knife kit with mounting hardware for part number 8136 - 70° High Residue Knife (Items 1, 8, 10, 11, 12, 13, 14), use part number 8136-10.

24' - 30' Cupped Knife

Outer Rotor w/Cupped Knives

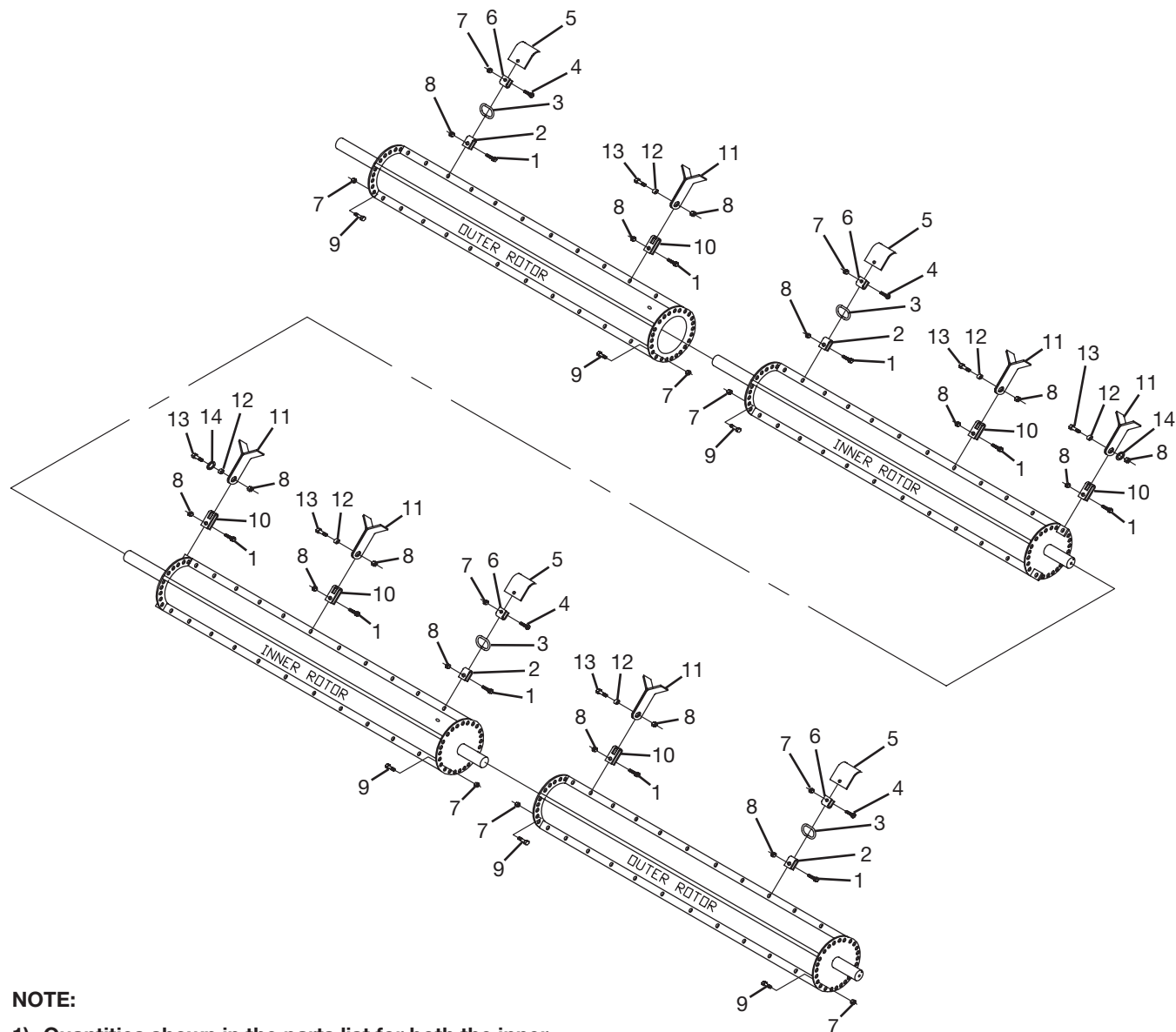
#	QTY.				PART #	DESCRIPTION
	24'	25'	8m	30'		
1	34	34	38	42	4043	BOLT, 5/8" X 2" GR 8
2	34	34	38	42	8033	U-BAR, SIDE SLICE
3	34	34	38	42	N24282	RING, FORGED SQUARE
4	34	34	38	42	4039	BOLT, CARRIAGE 1/2" X 1-1/2"
5	34	34	38	42	8022	KNIFE, HARD SURFACE CUPPED
6	34	34	38	42	8035	CLIP, CUPPED KNIFE
7	38	38	42	46	4054	NUT, LOCK 1/2" TOP
8	34	34	38	42	4055	NUT, LOCK 5/8" TOP
9	4	4	4	4	4295	BOLT, 1/2" X 2" GR 5 FULL THRD

Inner Rotor w/Cupped Knives

#	QTY.				PART #	DESCRIPTION
	24'	25'	8m	30'		
1	34	34	38	44	4043	BOLT, 5/8" X 2" GR 8
2	32	32	36	42	8033	U-BAR, SIDE SLICE
3	32	32	36	42	N24282	RING, FORGED SQUARE
4	32	32	36	42	4039	BOLT, CARRIAGE 1/2" X 1-1/2"
5	32	32	36	42	8022	KNIFE, HARD SURFACE CUPPED
6	32	32	36	42	8035	CLIP, CUPPED KNIFE
7	34	34	38	44	4054	NUT, LOCK 1/2" TOP
8	36	36	40	46	4055	NUT, LOCK 5/8" TOP
9	2	2	2	2	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
10	2	2	2	2	8034	U-BAR, SLOTTED COTTON KNIFE
11	4	4	4	4	8136	KNIFE, 70 DEG. HIGH RESIDUE
12	2	2	2	2	9073	BUSHING, H.RES.-HRD SUR COT KN
13	2	2	2	2	4045	BOLT, 5/8" X 2-3/4" GR 8
14	2	2	2	2	4488	WASHER, .894 ID X1.75OD X.080T

Parts Identification

24' - 30' Combination Knife



NOTE:

- 1) Quantities shown in the parts list for both the inner and outer rotors are per rotor.
- 2) To order a complete knife kit with mounting hardware for part number 8022 - Cupped Knife (Items 1, 2, 3, 4, 5, 6, 7, 8), use part number 8022-10.
- 3) To order a complete knife kit with mounting hardware for part number 8136 - 70° High Residue Knife (Items 1, 8, 10, 11, 12, 13), use part number 8136-10.

24' - 30' Combination Knife

Outer Rotor w/Combination Knives

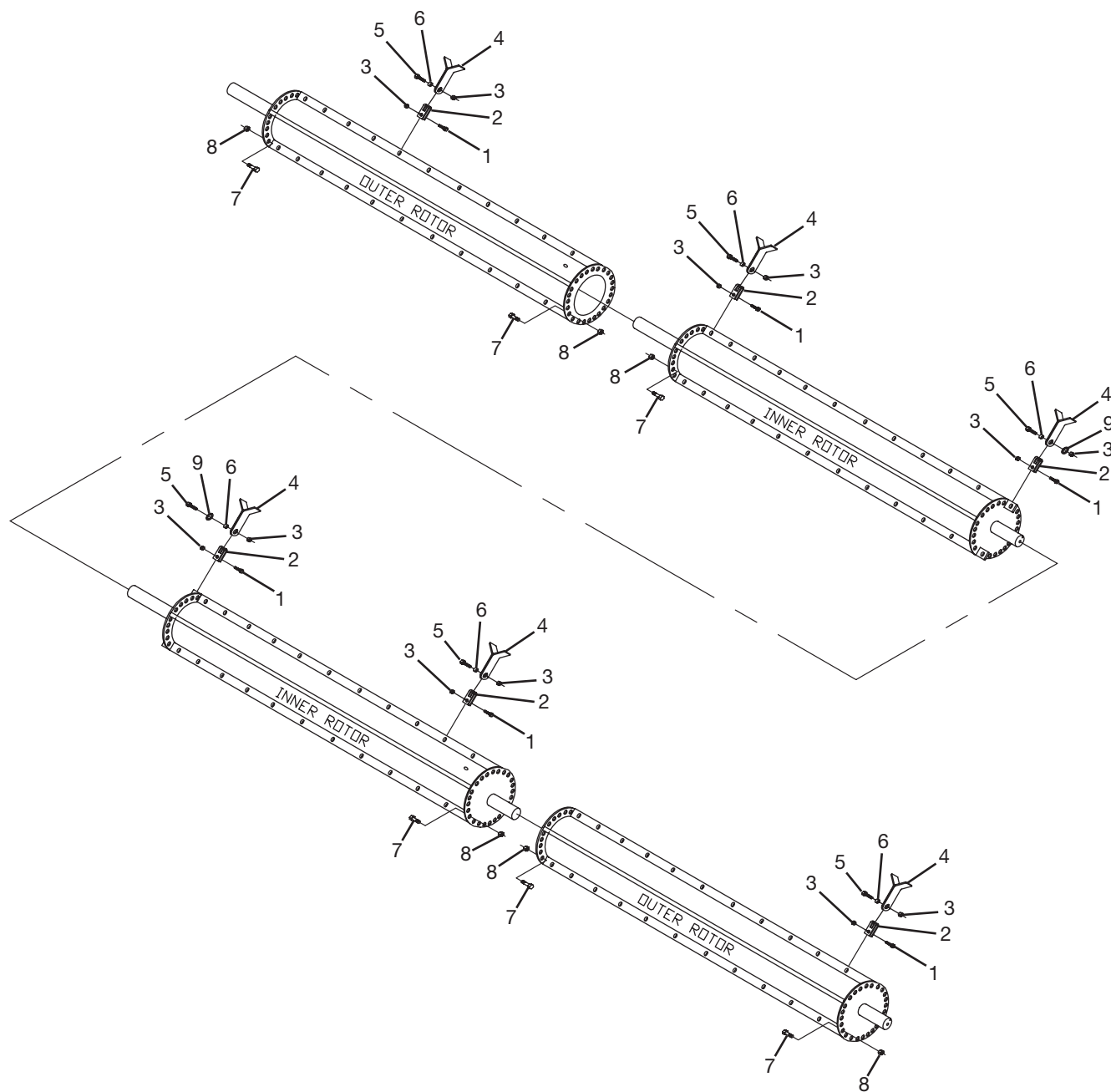
#	QTY.				PART #	DESCRIPTION
	24'	25'	8m	30'		
1	34	34	38	42	4043	BOLT, 5/8" X 2" GR 8
2	17	17	19	21	8033	U-BAR, SIDE SLICE
3	17	17	19	21	N24282	RING, FORGED SQUARE
4	17	17	19	21	4039	BOLT, CARRIAGE 1/2" X 1-1/2"
5	17	17	19	21	8022	KNIFE, HARD SURFACE CUPPED
6	17	17	19	21	8035	CLIP, CUPPED KNIFE
7	21	21	23	25	4054	NUT, LOCK 1/2" TOP
8	51	51	57	63	4055	NUT, LOCK 5/8" TOP
9	4	4	4	4	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
10	17	17	19	21	8034	U-BAR, SLOTTED COTTON KNIFE
11	34	34	38	42	8136	KNIFE, 70 DEG. HIGH RESIDUE
12	17	17	19	21	9073	BUSHING, H.RES.-HRD SUR COT KN
13	17	17	19	21	4045	BOLT, 5/8" X 2-3/4" GR 8

Inner Rotor w/Combination Knives

#	QTY.				PART #	DESCRIPTION
	24'	25'	8m	30'		
1	34	34	38	44	4043	BOLT, 5/8" X 2" GR 8
2	16	16	18	21	8033	U-BAR, SIDE SLICE
3	16	16	18	21	N24282	RING, FORGED SQUARE
4	16	16	18	21	4039	BOLT, CARRIAGE 1/2" X 1-1/2"
5	16	16	18	21	8022	KNIFE, HARD SURFACE CUPPED
6	16	16	18	21	8035	CLIP, CUPPED KNIFE
7	18	18	18	18	4054	NUT, LOCK 1/2" TOP
8	52	52	58	67	4055	NUT, LOCK 5/8" TOP
9	2	2	2	2	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
10	18	18	20	23	8034	U-BAR, SLOTTED COTTON KNIFE
11	36	36	40	46	8136	KNIFE, 70 DEG. HIGH RESIDUE
12	18	18	20	23	9073	BUSHING, H.RES.-HRD SUR COT KN
13	18	18	20	23	4045	BOLT, 5/8" X 2-3/4" GR 8
14	2	2	2	2	4488	WASHER, .894 ID X1.75OD X.080T

Parts Identification

24' - 30' 70° High Residue Knife



NOTE:

- 1) Quantities shown in the parts list for both inner and outer rotors are per rotor.
- 2) To order a complete knife kit with mounting hardware for part number 8136 - 70° High Residue Knife (Items 1, 2, 3, 4, 5, 6), use part number 8136-10.

24' - 30' 70° High Residue Knife

Outer Rotor w/70° High Residue Knives

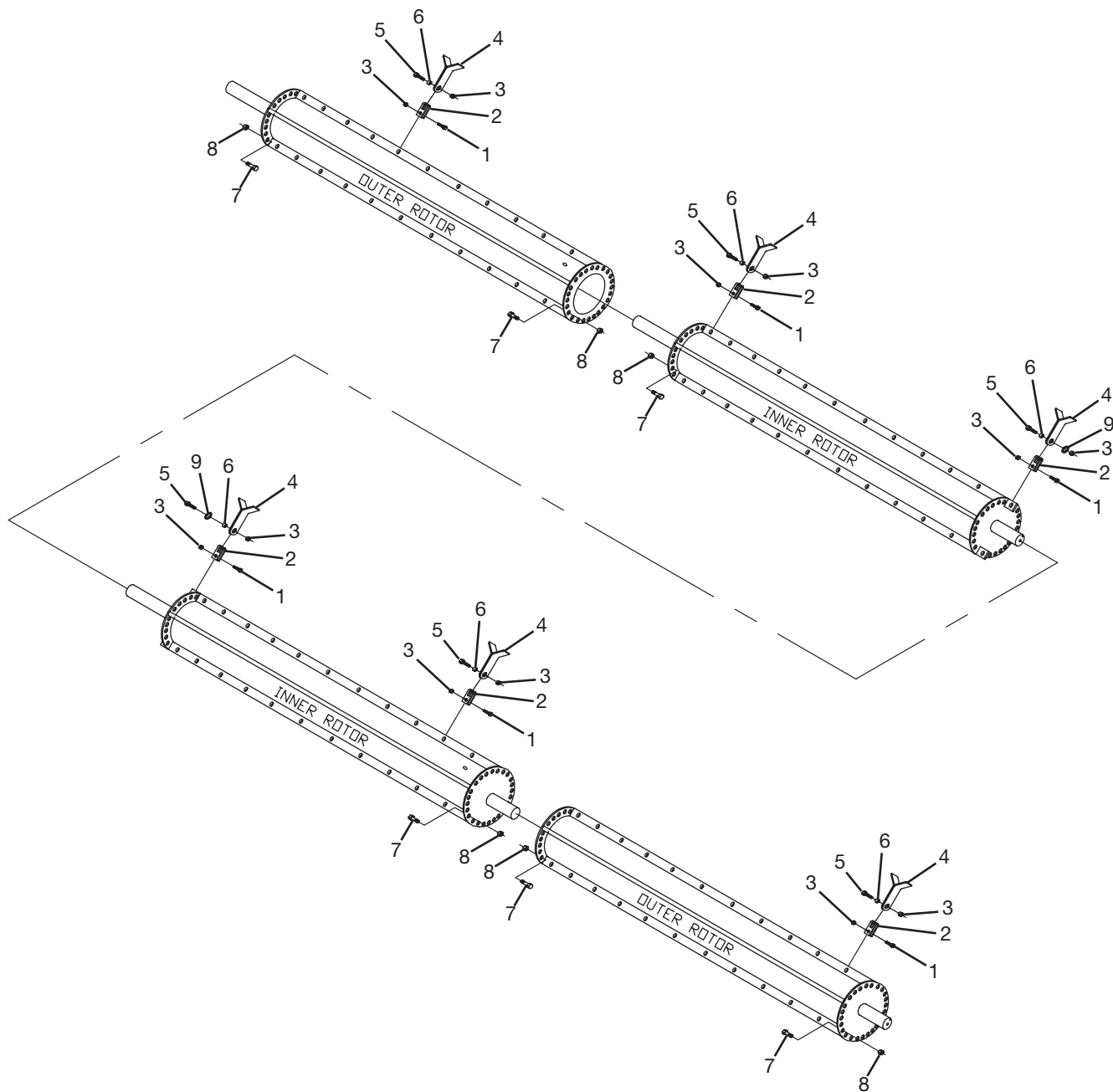
#	QTY.				PART #	DESCRIPTION
	24'	25'	8m	30'		
1	34	34	38	42	4043	BOLT, 5/8" X 2" GR 8
2	34	34	38	42	8034	U-BAR, SLOTTED COTTON KNIFE
3	68	68	76	84	4055	NUT, LOCK 5/8" TOP
4	68	68	76	84	8136	KNIFE, 70 DEG. HIGH RESIDUE
5	34	34	38	42	4045	BOLT, 5/8" X 2-3/4" GR 8
6	34	34	38	42	9073	BUSHING, H.RES.-HRD SUR COT KN
7	4	4	4	4	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
8	4	4	4	4	4054	NUT, LOCK 1/2" TOP

Inner Rotor w/70° High Residue Knives

#	QTY.				PART #	DESCRIPTION
	24'	25'	8m	30'		
1	34	34	38	44	4043	BOLT, 5/8" X 2" GR 8
2	34	34	38	44	8034	U-BAR, SLOTTED COTTON KNIFE
3	68	68	76	88	4055	NUT, LOCK 5/8" TOP
4	68	68	76	88	8136	KNIFE, 70 DEG. HIGH RESIDUE
5	34	34	38	44	4045	BOLT, 5/8" X 2-3/4" GR 8
6	34	34	38	44	9073	BUSHING, H.RES.-HRD SUR COT KN
7	2	2	2	2	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
8	2	2	2	2	4054	NUT, LOCK 1/2" TOP
9	2	2	2	2	4488	WASHER, .894 ID X1.75OD X.080T

Parts Identification

24' - 30' 70° Hard Surface Knife



NOTE:

- 1) Quantities shown in the parts list for both inner and outer rotors are per rotor.
- 2) To order a complete knife kit with mounting hardware for part number N10506 - 70° Hard Surface Knife (Items 1, 2, 3, 4, 5, 6), use part number N13161.

24' - 30' 70° Hard Surface Knife

Outer Rotor w/70° Hard Surface High Residue Knives

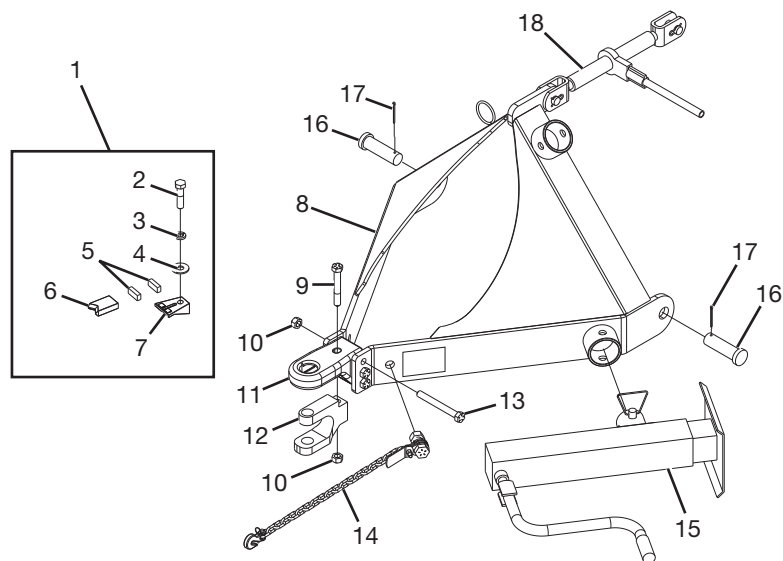
#	QTY.				PART #	DESCRIPTION
	24'	25'	8m	30'		
1	34	34	38	42	4043	BOLT, 5/8" X 2" GR 8
2	34	34	38	42	8034	U-BAR, SLOTTED COTTON KNIFE
3	68	68	76	84	4055	NUT, LOCK 5/8" TOP
4	68	68	76	84	N10506	KNIFE, 70 DEG. H.R. HRD.SURF.
5	34	34	38	42	4045	BOLT, 5/8" X 2-3/4" GR 8
6	34	34	38	42	9073	BUSHING, H.RES.-HRD SUR COT KN
7	4	4	4	4	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
8	4	4	4	4	4054	NUT, LOCK 1/2" TOP

Inner Rotor w/70° Hard Surface High Residue Knives

#	QTY.				PART #	DESCRIPTION
	24'	25'	8m	30'		
1	34	34	38	44	4043	BOLT, 5/8" X 2" GR 8
2	34	34	38	44	8034	U-BAR, SLOTTED COTTON KNIFE
3	68	68	76	88	4055	NUT, LOCK 5/8" TOP
4	68	68	76	88	N10506	KNIFE, 70 DEG. H.R. HRD.SURF.
5	34	34	38	44	4045	BOLT, 5/8" X 2-3/4" GR 8
6	34	34	38	44	9073	BUSHING, H.RES.-HRD SUR COT KN
7	2	2	2	2	4295	BOLT, 1/2" X 2" GR 5 FULL THRD
8	2	2	2	2	4054	NUT, LOCK 1/2" TOP
9	2	2	2	2	4488	WASHER, .894 ID X1.75OD X.080T

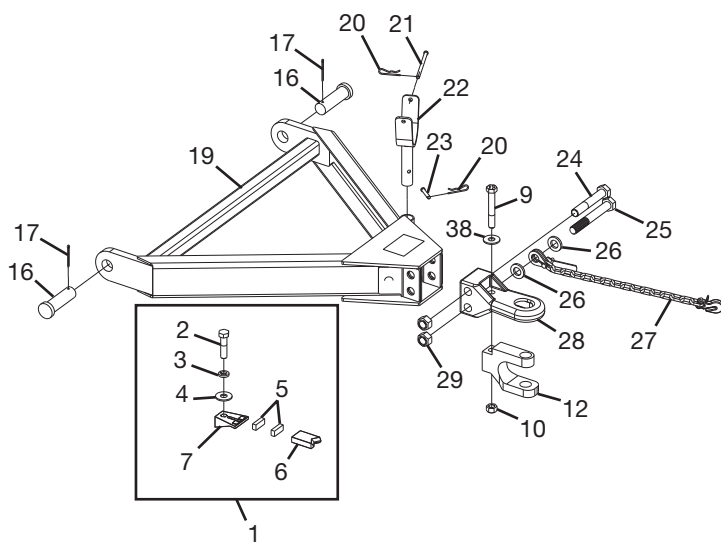
Parts Identification

Hitch Options



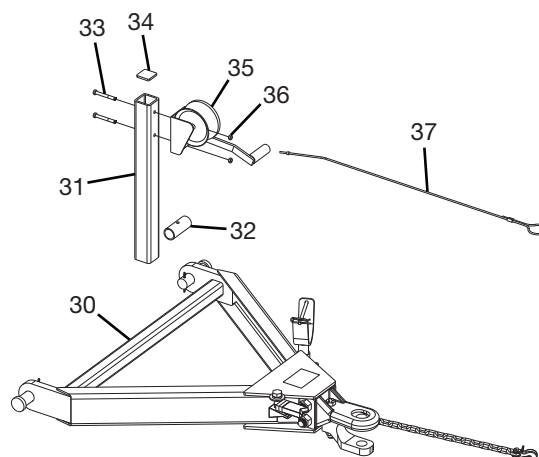
Hitch Assembly (Pull-Type)
N40152 (12' - 8m models only)

To order a complete pull-type hitch assembly (Items 1, 8-13, 14, 15, 16, 17, 18), use part number N40152.



Hitch Assembly (Floating)
N40155 (22' - 30' models only)

To order a complete floating hitch assembly, use part number N40155.



Hitch Assembly (Floating w/Winch)
N30370 (24' - 30' models only)

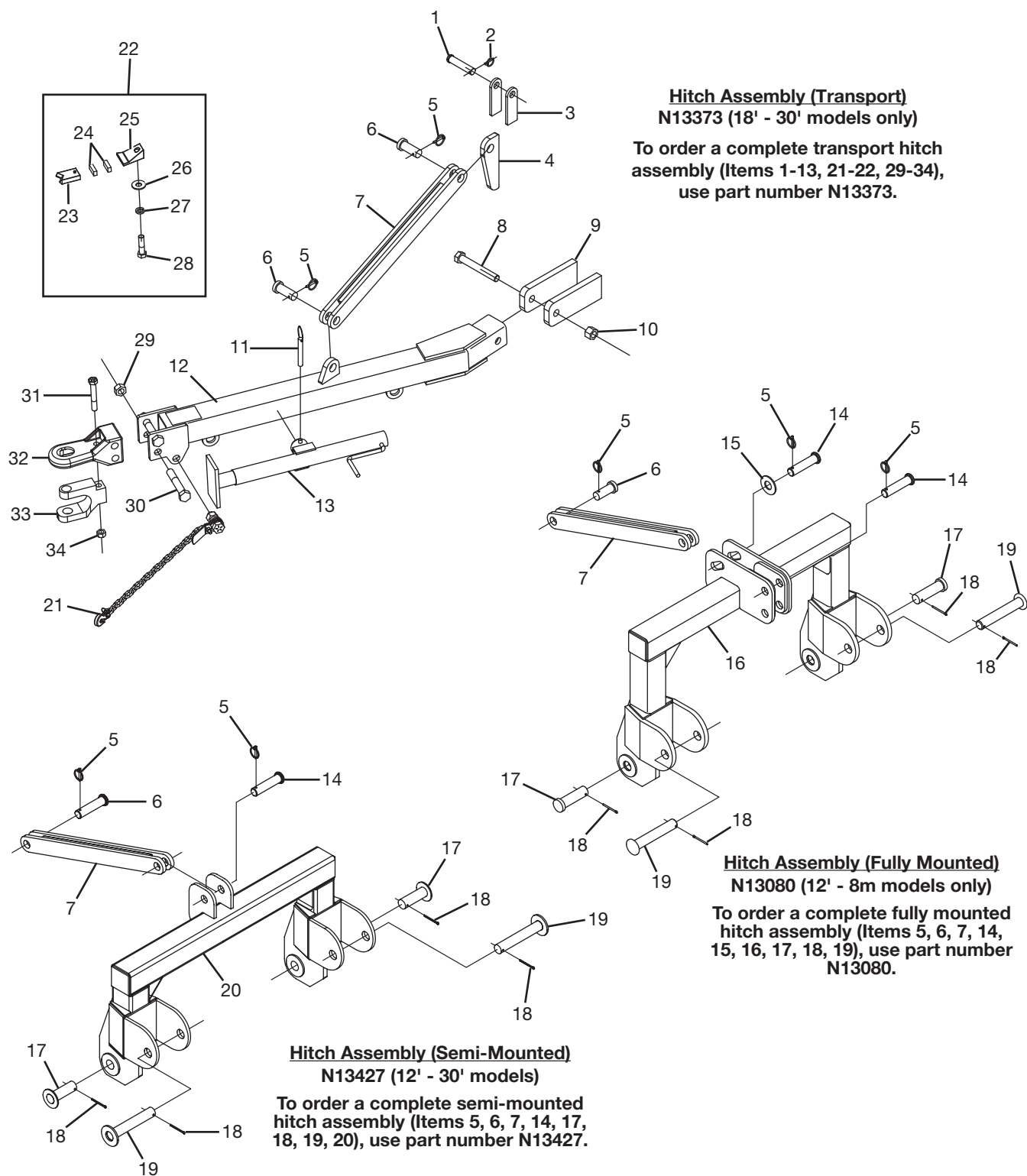
To order a complete pull-type hitch assembly, use part number N30370.

Hitch Options

#	QTY.	PART #	DESCRIPTION
1	1	N37609	KIT, GBU HITCH CONV PART
2	1	4352	BOLT, 3/4" X 3" GRADE 5
3	1	4287	WASHER, 3/4" LOCK
4	1	4071	WASHER, 3/4" FLAT
5	2	N37477	CUSHION, CAT 2 BOLT-ON REC
6	1	N37475	BLOCK, CAT 2 BOLT-ON REC V
7	1	N37476	PLATE, CAT 2 BOLT-ON REC TOP
8	1	209249	HITCH, SHWD PULL-TYPE W/DECAL
9	1	4577	BOLT, 3/4" X 5" FN TH GR 8
10	Varies	N16352	NUT, LOCK 3/4" GRADE 8 FINE
11	1	N32970	HITCH, BOLT-ON, CAT 3
12	1	N37463	CLEVIS, CAT 2 BOLT-ON HITCH
13	3	N16351	BOLT, 3/4" X 6-1/2" FN TH GR 8
14	1	N50260	CHAIN,SAFETY 21,000LB W/ HDWR
15	1	N13732	JACK, PULL-TYPE HITCH
16	2	N13095	PIN, HITCH 1-1/2" X 4-3/8"
17	2	4355	PIN, COTTER 3/16" X 2-1/2"
18	1	8048	BODY, RATCHET JACK
19	1	208638	HITCH, FLOATING W/DECAL
20	2	4336	CLIP, HAIRPIN 1/8" X 2-1/4"
21	1	N13237	PIN, 3/8" X 5-47/64"
22	1	9138	CRADLE, SHREDDER PTO
23	1	4096	PIN, 3/8" X 1-3/4" PLATED
24	1	N28583	BOLT, 1 X 6" FN TH GR 8
25	1	N28579	BOLT, 1"-14UNF X 8 GR 8
26	2	N24249	WASHER, 1.06 X 1.88 X .25 THK
27	1	N50253	CHAIN, SAFETY 3/8" X 46" 21,000 LB
28	1	N37474	BASE, CAT 2 BOLT-ON REC HITCH
29	2	N16700	NUT,1"-14GR.8FINE THREADTOPLOCK
30	1	N40155	HITCH, SHRD FLOATING FINAL ASSEM
31	1	N10424	TUBE, UNIV.SHREDDER WHINCH MNT
32	1	9412	MOUNT, BLW JACK STAND
33	2	4007	BOLT, 3/8" X 3" GRADE 5
34	1	N11983	CAP, SHRD WINCH MOUNT TUBE END
35	1	8098	WINCH, CABLE 1500# 1297-C131
36	2	4233	NUT, STANDARD 3/8"
37	1	N13272	CABLE, WINCH ASSY
38	1	N35327	WASHER, FLAT 3/4 SAE

Parts Identification

Hitch Options

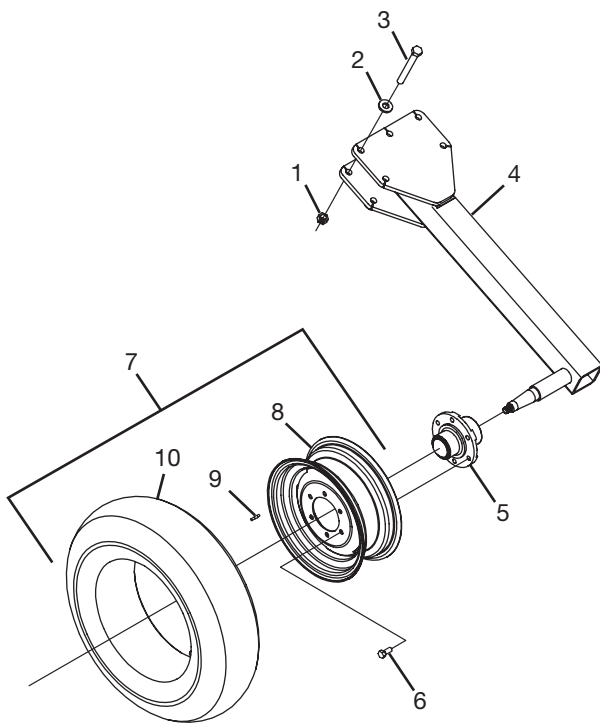


Hitch Options

#	QTY.	PART #	DESCRIPTION
1	1	N11932	PIN, HITCH (1" X 4-1/4")
2	1	N22192	PIN, LYNCH 3/16" X 1-9/16"
3	2	N13380	PLATE, HITCH UPRIGHT
4	1	N13372	ANCHOR, TRANSPORT BODY
5	Varies	4095	CLIP, LYNCH PIN
6	Varies	4290	PIN, MOUNTED HITCH (1-1/4" X 2-1/2")
7	1	9286	BAR, UPPER LINK HITCH
8	1	N13410	BOLT, TRANSPORT HITCH
9	2	N13370	EAR, TRANSPORT FOLD-UP
10	1	4249	NUT, LOCK 1" GR 8 TOP
11	1	8047-10	PIN, BULLDOG JACK (INCLUDED W/8047)
12	1	208637	TONGUE, TRANS W/DECAL
13	1	8047	JACK, BULLDOG INCLUDED W/N13374
14	Varies	4291	PIN, MOUNTED HITCH (1-1/4" X 4-1/2")
15	1	N28586	WASHER, FLAT 1-1/4"
16	1	N10312	HITCH, UNIV.SHRD. FULL MOUNTED
17	2	N13095	PIN, 1-1/2" X 4-3/8" (5-1/2")
18	4	4329	PIN, COTTER (7/32" X 2-1/2")
19	4	N13218	PIN, LOWER HITCH (1-7/16" X 8")
20	1	N32984	HITCH, SEMI-MOUNTED
21	1	N24248	CHAIN, SAFETY W/MOUNT HARDWARE
22	1	N37609	KIT, GBU HITCH CONV PART
23	1	N37475	BLOCK, CAT 2 BOLT-ON REC V
24	2	N37477	CUSHION, CAT 2 BOLT-ON REC
25	1	N37476	PLATE, CAT 2 BOLT-ON REC TOP
26	1	4071	WASHER, 3/4" FLAT
27	1	4287	WASHER, 3/4" LOCK
28	1	4352	BOLT, 3/4" X 3" GRADE 5
29	2	N16700	NUT, 1"-14GR.8FINE THREADTOPLOCK
30	2	N28583	BOLT, 1 X 6" FN TH GR 8
31	1	4577	BOLT, 3/4" X 5" FN TH GR 8
32	1	N37474	BASE, CAT 2 BOLT-ON REC HITCH
33	1	N37463	CLEVIS, CAT 2 BOLT-ON HITCH
34	1	N16352	NUT, LOCK 3/4" GRADE 8 FINE

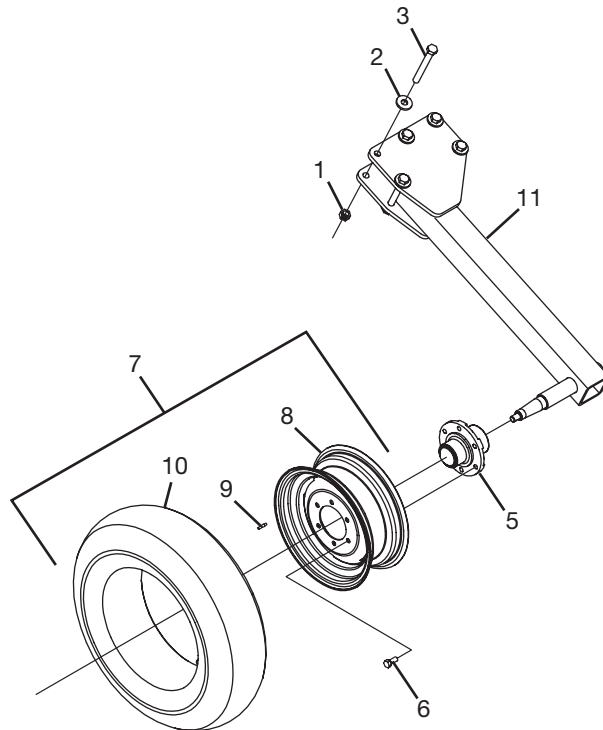
Parts Identification

Non Swivel Assist Wheel Assemblies



Assist Wheel Assembly

To order a complete assist wheel assembly (Items 1, 2, 3, 4, 5, 6, 7), use part number N10223.



Offset Assist Wheel Assembly

To order a complete offset assist wheel assembly (Items 1, 2, 3, 5, 6, 7, 11), use part number N13413.

NOTE:

1) See page 88 for parts breakdown of Item 5 (N23778), 6-bolt hub parts.

Non Swivel Assist Wheel Assemblies

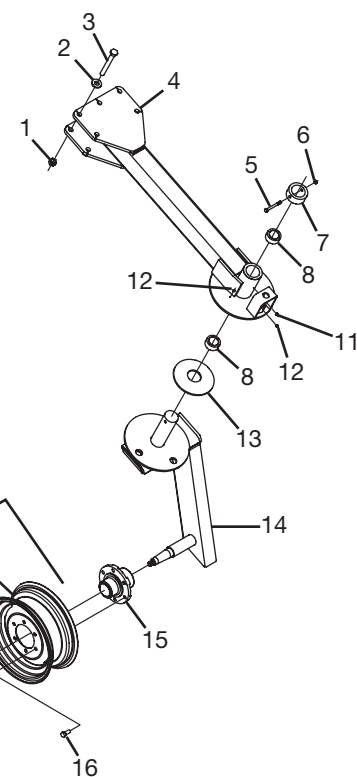
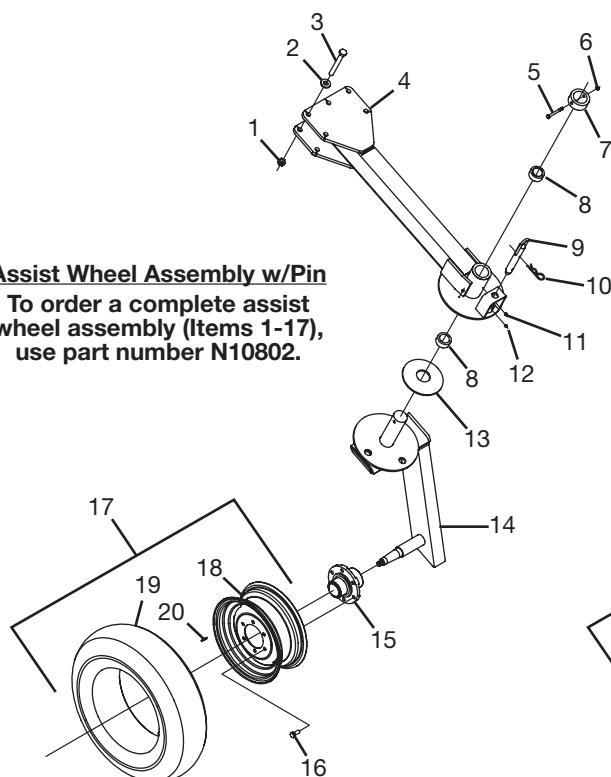
#	QTY.	PART #	DESCRIPTION
1	5	4056	NUT, LOCK 3/4"
2	5	4479	WASHER, FLAT 3/4"
3	5	4458	BOLT, 3/4"-10 X 6-1/2" GRADE 5
4	1	N11618	STRUT, REAR WHEEL
5	1	N23778	HUB, 6 BOLT 6" PAT W/STUDS
6	1	N23764	NUT, LUG 9/16-18UNF (INCLUDED W/N23778)
7	1	N22459	WHEEL, 11L15 COMPLETE ASS'Y (INCLUDES ITEMS 8, 9, 10)
8	1	N22460	RIM, 15 X 8 LB - 8" WIDE (INCLUDED W/N22459)
9	1	8079	STEM, TIRE VALVE (INCLUDED W/N22459)
10	1	N22461	TIRE, 11L15 - 10 PLY (INCLUDED W/N22459)
11	1	N13414	STRUT, REAR OFFSET WHEEL

Parts Identification

Swivel Assist Wheel Assemblies

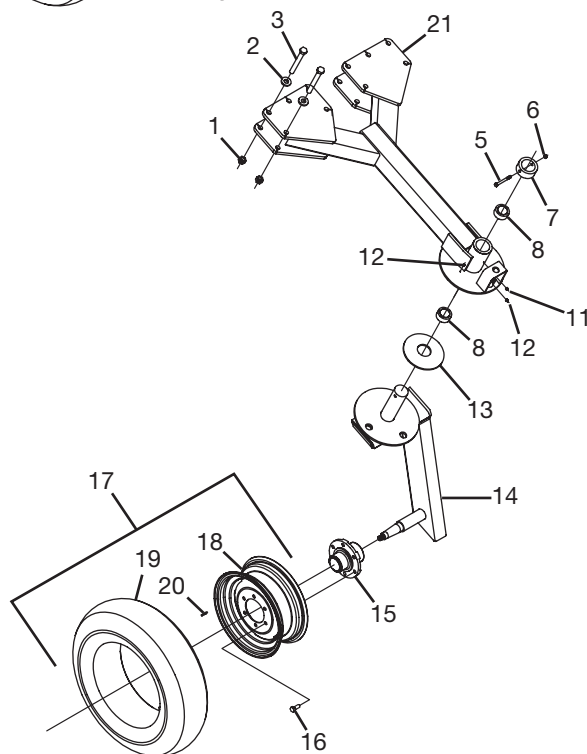
Assist Wheel Assembly w/Pin

To order a complete assist wheel assembly (Items 1-17), use part number N10802.



Assist Wheel Assembly w/o Pin

To order a complete assist wheel assembly (Items 1, 2, 3, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17), use part number N13248.



Center Assist Wheel Assembly w/o Pin

To order a complete assist wheel assembly (Items 1, 2, 3, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 21), use part number N11626.

NOTE:

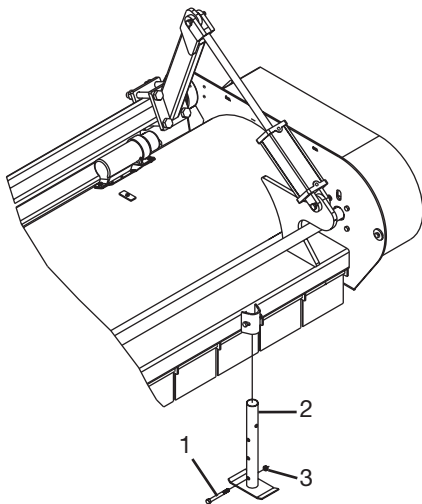
- 1) See page 88 for parts breakdown of Item 15 (N23778), 6-bolt hub parts.

Swivel Assist Wheel Assemblies

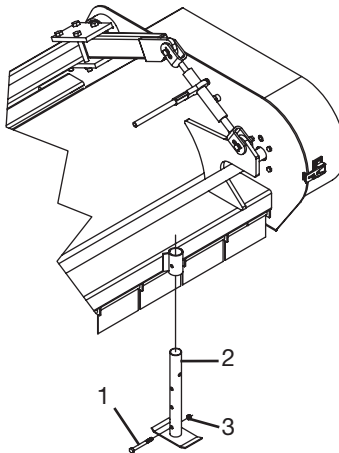
#	QTY.	PART #	DESCRIPTION
1	VAR	4056	NUT, LOCK 3/4"
2	VAR	4479	WASHER, FLAT 3/4"
3	VAR	4458	BOLT, 3/4"-10 X 6-1/2" GRADE 5
4	1	N13329	ARM, ASSIST WHEEL (REAR)
5	1	4975	BOLT, 1/2 x 4 GR8 FN
6	1	4436	NUT, LOCK 1/2" FN
7	1	214435	COLLAR, ASSIST WHEEL
8	2	N13331	BUSHING, BRONZE (2-3/4" OD X 2-1/2" ID X 2")
9	1	N10806	PIN, ASSIST WHEEL LOCKING
10	1	4394	CLIP, HAIRPIN (1/4 X 3-1/2)
11	1	4107	GREASEZERK, 90 DEG SCW-IN 1/4
12	3	4105	ZERK, 1/4" SCREW-IN GREASE
13	1	N10214	INSERT, ASSIST WHEEL
14	1	214437	CASTER, REAR ASSIST WHEEL
15	1	N23778	HUB, 6 BOL T 6" PAT W/STUDS
16	6	N23764	NUT, LUG 9/16-18UNF (INCLUDED W/N23778)
17	1	N22459	WHEEL, 11L15 COMPLETE ASS'Y (INCLUDES ITEMS 18,19,20)
18	1	N22460	RIM, 15 X 8 LB - 8" WIDE (INCLUDED W/N22459)
19	1	N22461	TIRE, 11L15 - 10 PLY (INCLUDED W/N22459)
20	1	8079	STEM, TIRE VALVE (INCLUDED W/N13245)
21	1	N11621	ARM, CENTER ASSIST WHEEL

Parts Identification

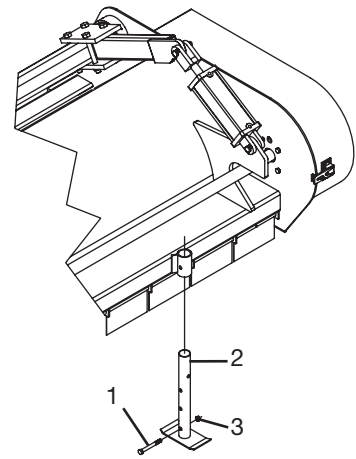
Rear Wheel Adjustment Options



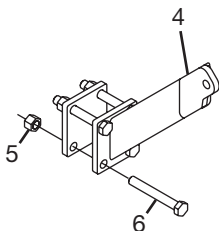
Semi-Mount w/Hydraulic Cylinder
Left side shown.



Pull-Type w/Ratchet Jack
Left side shown.

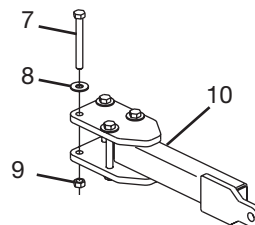


Pull-Type w/Hydraulic Cylinder
Left side shown.



To order a complete rear wheel left side lift cylinder arm (Items 4, 5, 6), use part number N13394.

To order a complete rear wheel right side lift cylinder arm (Items 4, 5, 6), use part number N13393.



To order a complete universal rear wheel lift arm (Items 7, 8, 9, 10), use part number N13392.

Rear Wheel Adjustment Options

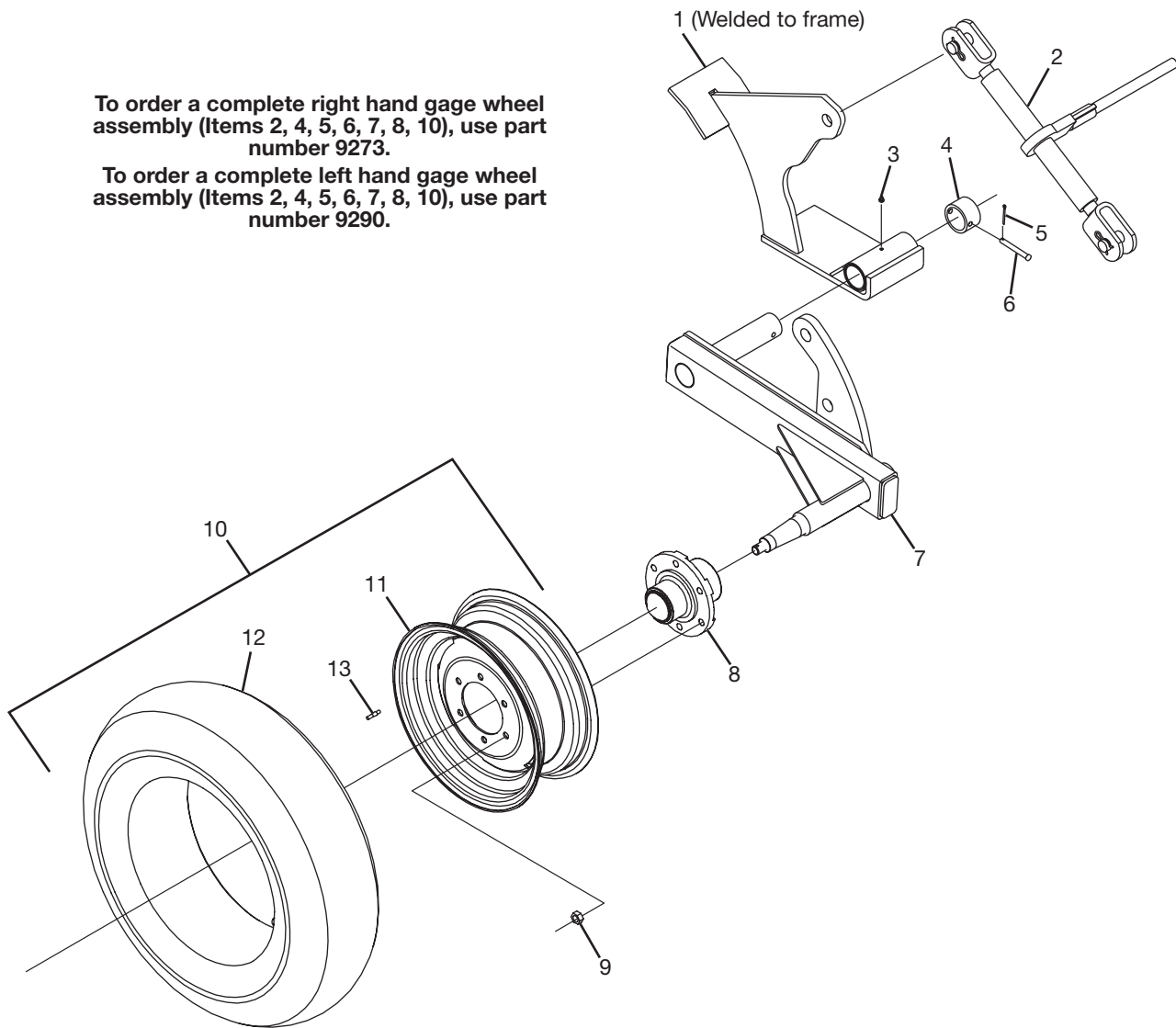
#	QTY.	PART #	DESCRIPTION
1	1	4154	BOLT, 1/2" X 3-1/2" GR 5
2	1	9011	JACK, STORAGE STAND
3	1	4054	NUT, LOCK 1/2" TOP
4	1	N16410	ARM, REAR WHEEL L.H. CYLINDER LIFT (Shown)
	1	N16411	ARM, REAR WHEEL R.H. CYLINDER LIFT
5	4	4249	NUT, LOCK 1" GR 8 TOP
6	4	N16413	BOLT, 1"-8UNC X 1-1/2" GRADE 8
7	4	4458	BOLT, 3/4" X 6-1/2" GR. 5
8	4	4071	WASHER, 3/4" FLAT
9	4	4056	NUT, 3/4" LOCK
10	1	N10254	ARM, UNV SHRD REAR WHL CYL

Parts Identification

Front Gage Wheel Assembly Option

To order a complete right hand gage wheel assembly (Items 2, 4, 5, 6, 7, 8, 10), use part number 9273.

To order a complete left hand gage wheel assembly (Items 2, 4, 5, 6, 7, 8, 10), use part number 9290.



Right Side Gage Wheel Assembly Shown.

NOTE:

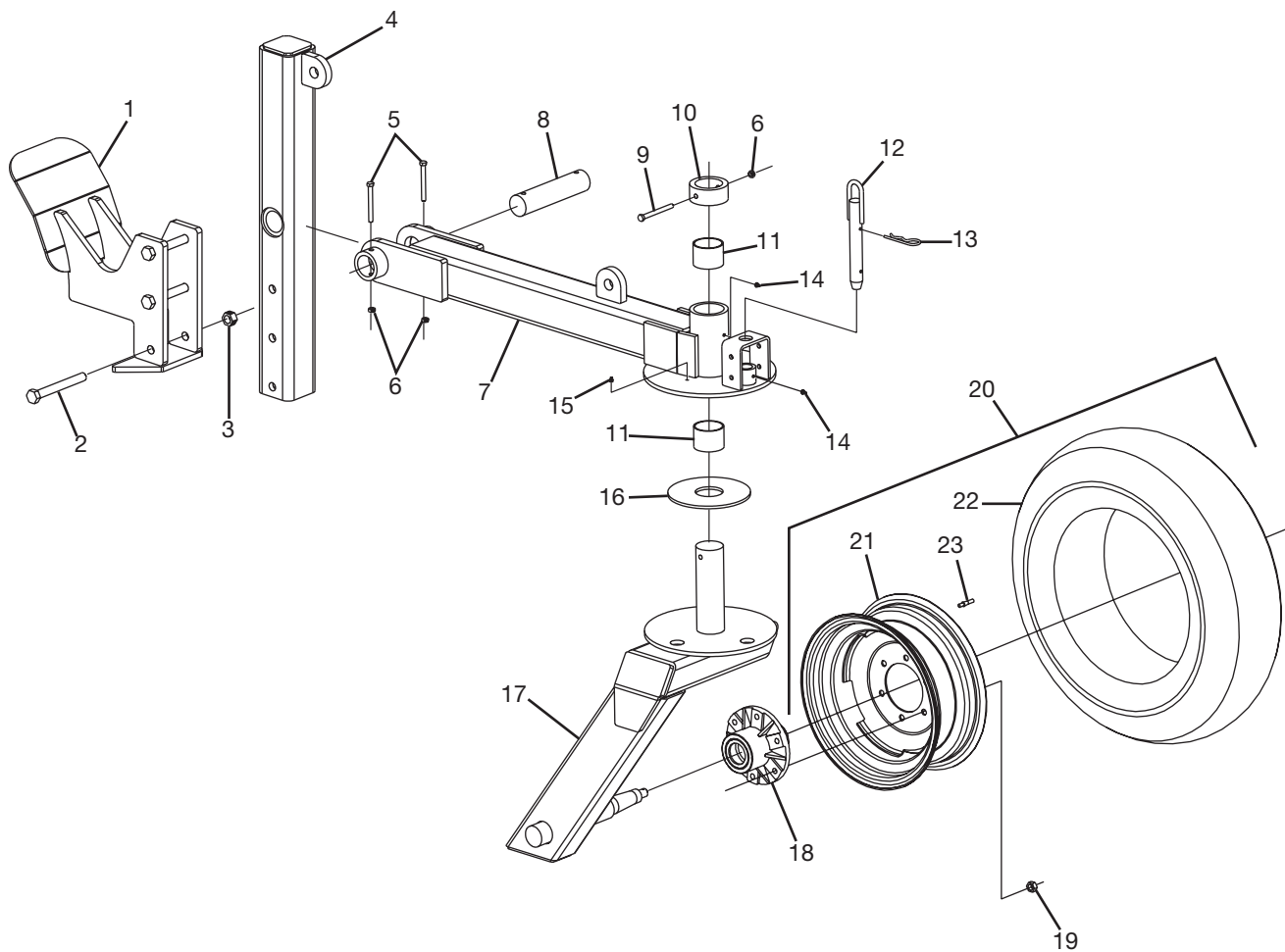
- 1) See page 88 for parts breakdown of Item 8 (N23778), 6-bolt hub parts.

Front Gage Wheel Assembly Option

#	QTY.	PART #	DESCRIPTION
1	1	N13288	MOUNT, GAGE WHEEL RIGHT (Shown)
	1	N13283	MOUNT, GAGE WHEEL LEFT
2	1	8048	JACK, RATCHET
3	1	4105	GREASE-ZERK , 1/4" SCREW-IN
4	1	9280	COLLAR, ASSIST WHEEL LOCK
5	1	4099	PIN, COTTER (1/8" X 1-1/2")
6	1	4093	PIN, 3/8" X 3" PLATED
7	1	9292	STRUT, LEFT GAGE WHEEL
	1	9291	STRUT, RIGHT GAGE WHEEL (Shown)
8	1	N23778	HUB, 6 BOL T 6" PAT W/STUDS
9	6	N23764	NUT, LUG 9/16-18UNF (INCLUDED W/N23778)
10	1	N22459	WHEEL, 11L15 COMPLETE ASS'Y (INCLUDES ITEMS 11,12,13)
11	1	N22460	RIM, 15 X 8 LB - 8" WIDE (INCLUDED W/N22459)
12	1	N22461	TIRE, 11L15 - 10 PLY (INCLUDED W/N22459)
13	1	8079	STEM, TIRE VALVE (INCLUDED W/N22459)

Parts Identification

Front Swivel Wheel Assembly Option



To order a complete front swivel wheel assembly (Items 1-20), use part number N11616.

NOTE:

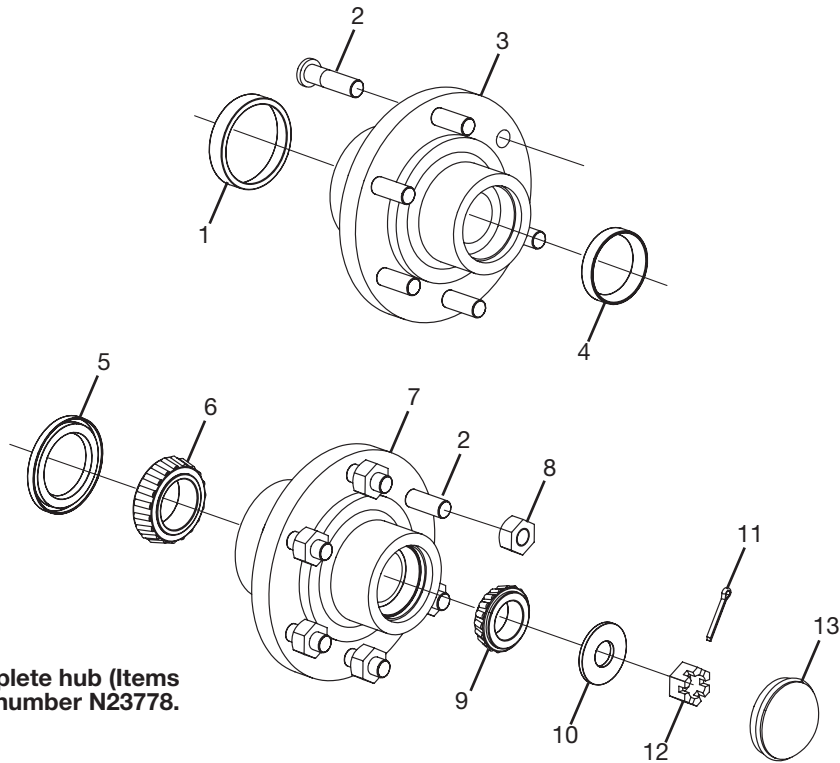
1) See page 88 for parts breakdown of Item 18 (N23778), 6-bolt hub parts.

Front Swivel Wheel Assembly Option

#	QTY.	PART #	DESCRIPTION
1	1	N32268	MOUNTING, WHEEL SUB-ASSY
2	3	4458	BOLT, 3/4"-10 X 6-1/2" GRADE 5
3	3	4056	NUT, 3/4" LOCK
4	1	N10227	TOWER, FRONT ASSIST WHEEL
5	2	4255	BOLT, 3/8" X 3-1/2" GR 5
6	3	4436	NUT, LOCK 1/2 FN
7	1	N13336	ARM, FRONT SWIVEL WHEEL
8	1	N10237	PIN, FRONT ASSIST WHEEL
9	1	4975	BOLT, 1/2 x 4 GR8 FN
10	1	214435	COLLAR, ASSIST WHEEL
11	2	N13331	BUSHING, 2-3/4" O.D. X 2-1/2" I.D. X 2"
12	1	N10806	PIN, ASSIST WHEEL LOCKING
13	1	4394	CLIP, HAIRPIN 1/4" X 3-1/2"
14	2	4105	GREASE-ZERK , 1/4" SCREW-IN
15	2	4104	ZERK, 1/4" DRIVE-IN GREASE
16	1	N10214	INSERT, ASSIST WHEEL
17	1	214433	CASTER, FRONT ASSIST WHEEL
18	1	N23778	HUB, 6 BOL T 6" PAT W/STUDS
19	6	N23764	NUT, LUG 9/16-18UNF (INCLUDED W/N23778)
20	1	N22459	WHEEL, 11L15 COMPLETE ASS'Y (INCLUDES ITEMS 21, 22, 23)
21	1	N22460	RIM, 15 X 8 LB - 8" WIDE (INCLUDED W/N22459)
22	1	N22461	TIRE, 11L15 - 10 PLY (INCLUDED W/N22459)
23	1	8079	STEM, TIRE VALVE (INCLUDED W/N22459)

Parts Identification

6 Bolt Hub



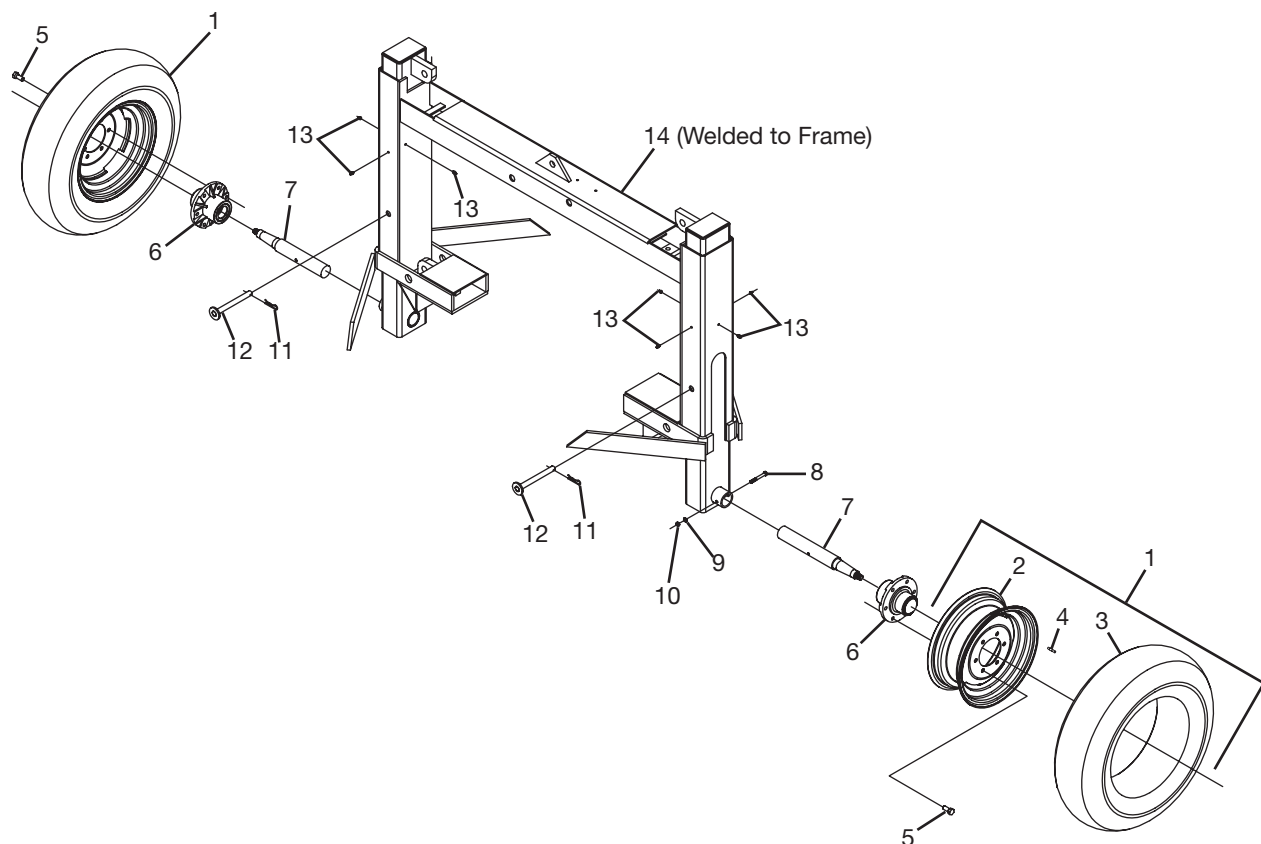
To order a complete hub (Items 6-14), use part number N23778.

6 Bolt Hub

#	QTY.	PART #	DESCRIPTION
1	1	8082-02	CUP, BEARING (LARGE)
2	6	N27304	STUD, HUB 9/16 - 18UNF
3	1	NA	CASTING, HUB 6 BOLT (NO PARTS)
4	1	8082-05	CUP, BEARING (SMALL)
5	1	8082-04	SEAL, GREASE (6-BOLT HUB)
6	1	8082-03	CONE, BEARING (LARGE)
7	1	N23676	HUB, 6-BOLT STUD CASTING ONLY
8	6	N23764	NUT, LUG 9/16"-18 UNF
9	1	8082-06	CONE, BEARING (SMALL)
10	1	8082-07	WASHER, SPINDLE
11	1	8082-09	PIN, COTTER 3/16" X 1-1/2"
12	1	8082-08	NUT, CASTLE SPINDLE (3/4"-16 UNF)
13	1	8082-10	CAP, END (6-BOLT HUB)

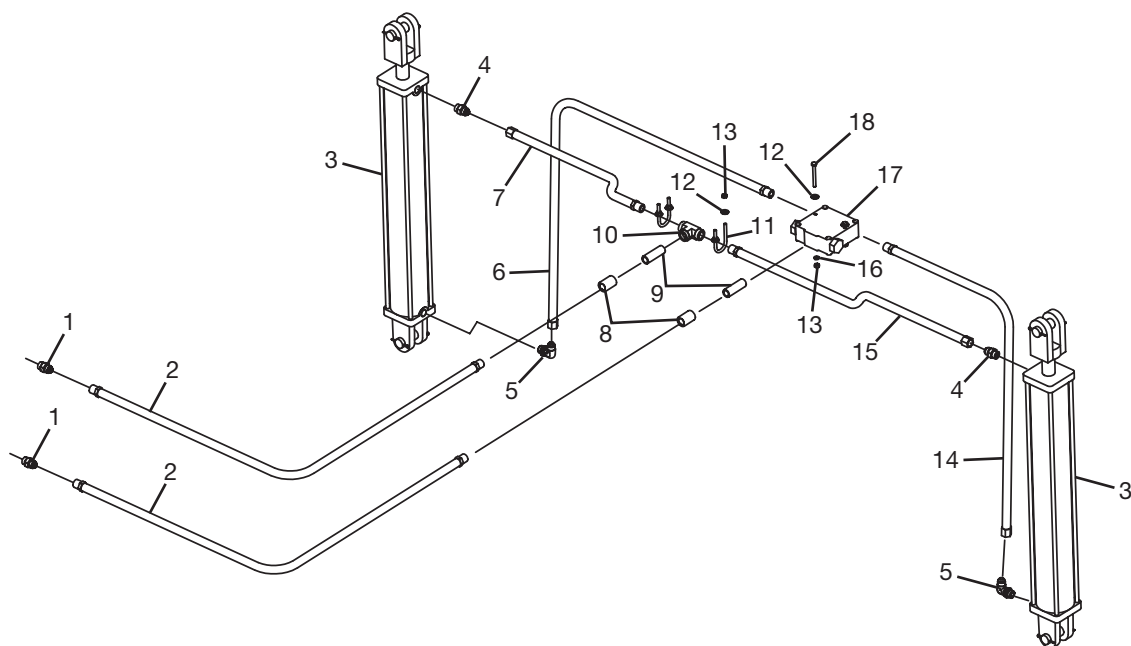
Parts Identification

Hydraulic Transport, 18' - 8m Models (N13078)



#	QTY.	PART #	DESCRIPTION
1	2	N22459	WHEEL, 11L15 COMPLETE ASS'Y (INCLUDES ITEMS 2,3,4)
2	2	N22460	RIM, 15 X 8 LB - 8" WIDE (INCLUDED W/N22459)
3	2	N22461	TIRE, 11L15 - 10 PLY (INCLUDED W/N22459)
4	2	8079	STEM, TIRE VALVE (INCLUDED W/ N22459)
5	12	N23764	NUT, LUG 9/16-18UNF (INCLUDED W/N23778)
6	2	N23778	HUB, 6 BOLT 6" PAT W/STUDS
7	2	8076-01	SPINDLE, 2" X 15" W/HOLE
8	2	4007	BOLT, 3/8" X 3" GRADE 5
9	2	4065	WASHER, LOCK 3/8"
10	2	4233	NUT, STANDARD 3/8"
11	2	4336	CLIP, HAIRPIN (1/8" X 2-1/4")
12	2	9240	PIN, LOCKING
13	10	4105	ZERK, GREASE 1/4" SCREW IN
14	1	N13077	FRAME, HYDRAULIC TRANSPORT

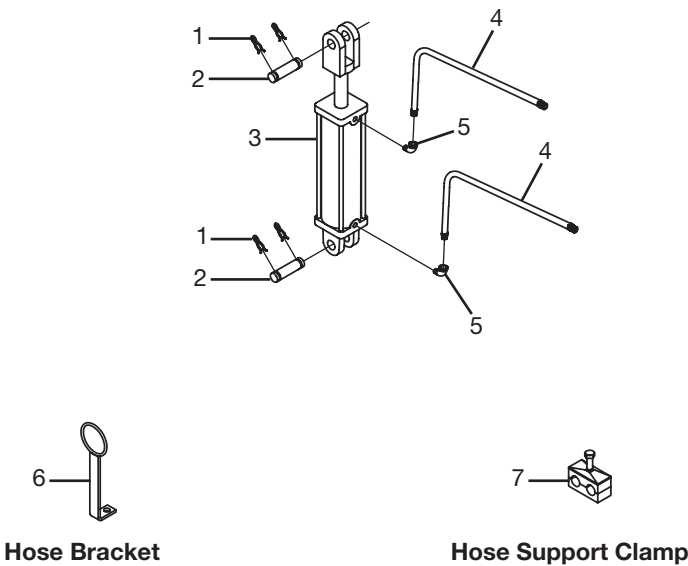
Hydraulics, Transport Axle (included with N13078)



#	QTY.	PART #	DESCRIPTION
1	2	N11825	COUPLER, 1/2" MALE PIONEER
2	2	N13650	HOSE, 1/2" X 14' HYDRAULIC TRANSPORT (18', 20', 8M')
	2	N13651	HOSE, 1/2" X 12' HYDRAULIC TRANSPORT (20', 24', 25')
3	2	N24091	CYLINDER, 3" X 24" 3000 PSI
4	2	N20228	ADAPTER, 8MJIC - MOR
5	2	N11952	ELBOW, 90 DEG - 8MJIC - 8MOR
6	1	M31055	HOSE, 1/2" X 53' - 8MPX - 8FJIX SWL
7	1	N31056	HOSE, 1/2" X 15-1/2" - 8MPX -8FJIX SWL
8	2	4353	COUPLING, PIPE (1/2")
9	2	4320	NIPPLE, PIPE (1/2" X 2-1/2")
10	1	4177	TEE, 1/2
11	2	4178	U-BOLT, 1/4" X 1-1/4" X 1-3/4"
12	6	4460	WASHER, FLAT 1/4" SAE
13	6	4230	NUT, STANDARD 1/4"
14	1	N31054	HOSE, 1/2" X 39" - 8MPX -8FJIX SWL
15	1	N31057	HOSE, 1/2" X 27-1/2"-8MPX-8FJIX SWL
16	2	4231	WASHER, LOCK 1/4"
17	1	8143	VALVE, FLOW DIVIDER
18	2	4003	BOLT, 1/4" X 2-1/2" GRADE 5

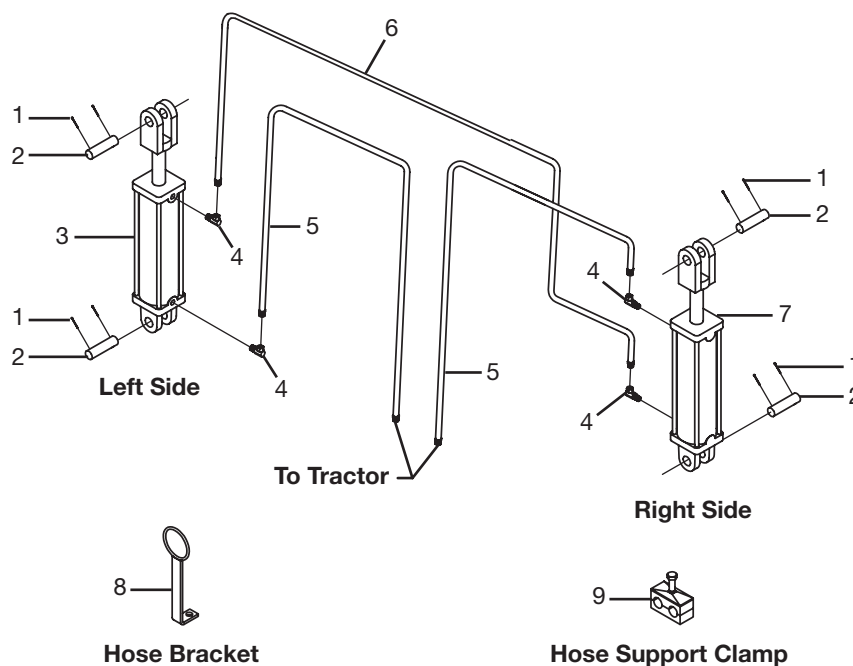
Parts Identification

Hydraulics, Single (12' - 15')



#	QTY.	PART #	DESCRIPTION
1	4	8039-12	CLIP, RETAINER
2	2	8039-11	PIN, 1" X 2-3/4"
3	1	N21715	CYLINDER, HYDRAULIC SINGLE ACTING (3" X 8")
4	2	N13653	HOSE, 1/2" X 13' (SWIVEL FITTING ONE END / 12' - 15')
5	2	4359	ELBOW, 90 DEG - 8MOR - 8FP SWL
6	1	N13652	BRACKET, HOSE
7	Varies	N13383	CLAMP, HOSE SUPPORT

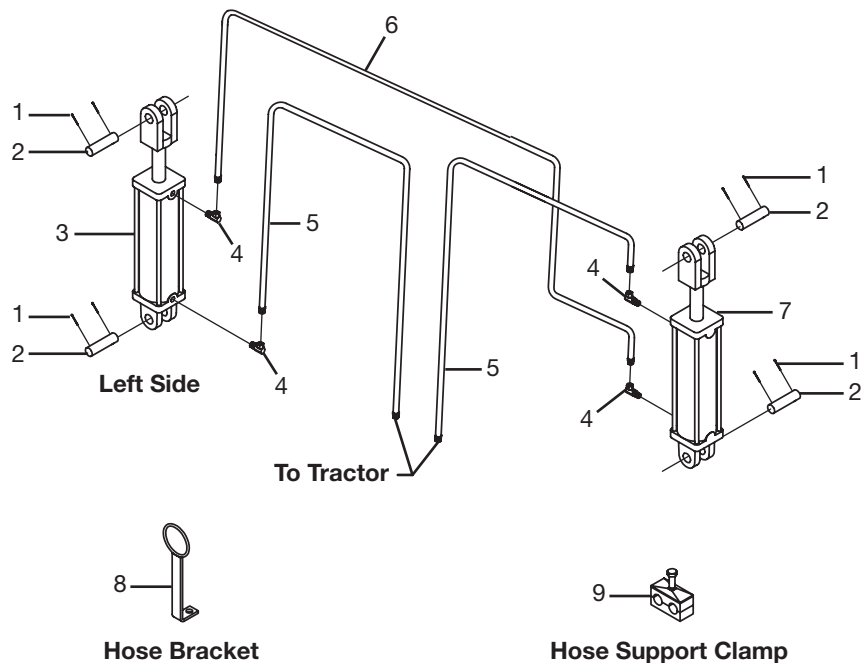
Hydraulics, Two Phasing Cylinder System (12' - 22')



#	QTY.	PART #	DESCRIPTION
1	8	8042-03	PIN, COTTER 5/32" X 1-1/2" (INCLUDED W/CYLINDER)
2	4	8042-01	PIN, 1" X 3-1/4" (INCLUDED W/CYLINDER)
3	1	8043	CYLINDER, HYDRAULIC PHASING (3-1/4")
4	4	4359	ADAPTER, 3/4" M O-RING BOSS X 90° 1/2" SWIVEL FEMAL
5	2	N13640	HOSE, 1/2" X 13' (NON-SWIVEL ENDS / 12' - 13' SEMI-HT)
	2	N13647	HOSE, 1/2" X 15' (NON-SWIVEL ENDS - 15' SEMI-MT)
	2	N13641	HOSE, 1/2" X 16' (NON-SWIVEL ENDS - 18' MODEL)
	2	N13643	HOSE, 1/2" X 18' (NON-SWIVEL ENDS - 20' MODEL)
	2	N13642	HOSE, 1/2" X 19' (NON-SWIVEL ENDS - 22' MODEL)
	2	N13644	HOSE. 1/2" X 21' (NON-SWIVEL ENDS - 30' MODEL)
6	1	N13641	HOSE, 1/2" X 16' (NON-SWIVEL ENDS / 12' - 15' MODEL)
	1	N13642	HOSE, 1/2" X 19' (NON-SWIVEL ENDS - 18' MODEL)
	1	N13644	HOSE, 1/2" X 21' (NON-SWIVEL ENDS - 20' MODEL)
	1	N13645	HOSE, 1/2" X 23' (NON-SWIVEL ENDS - 22' MODEL)
	1	N18933	HOSE, 1/2" X 24' (NON-SWIVEL ENDS - 30' MODEL)
7	1	8042	CYLINDER, HYDRAULIC PHASING (3")
8	1	N13652	BRACKET, HOSE
9	Varies	N13383	CLAMP, HOSE SUPPORT

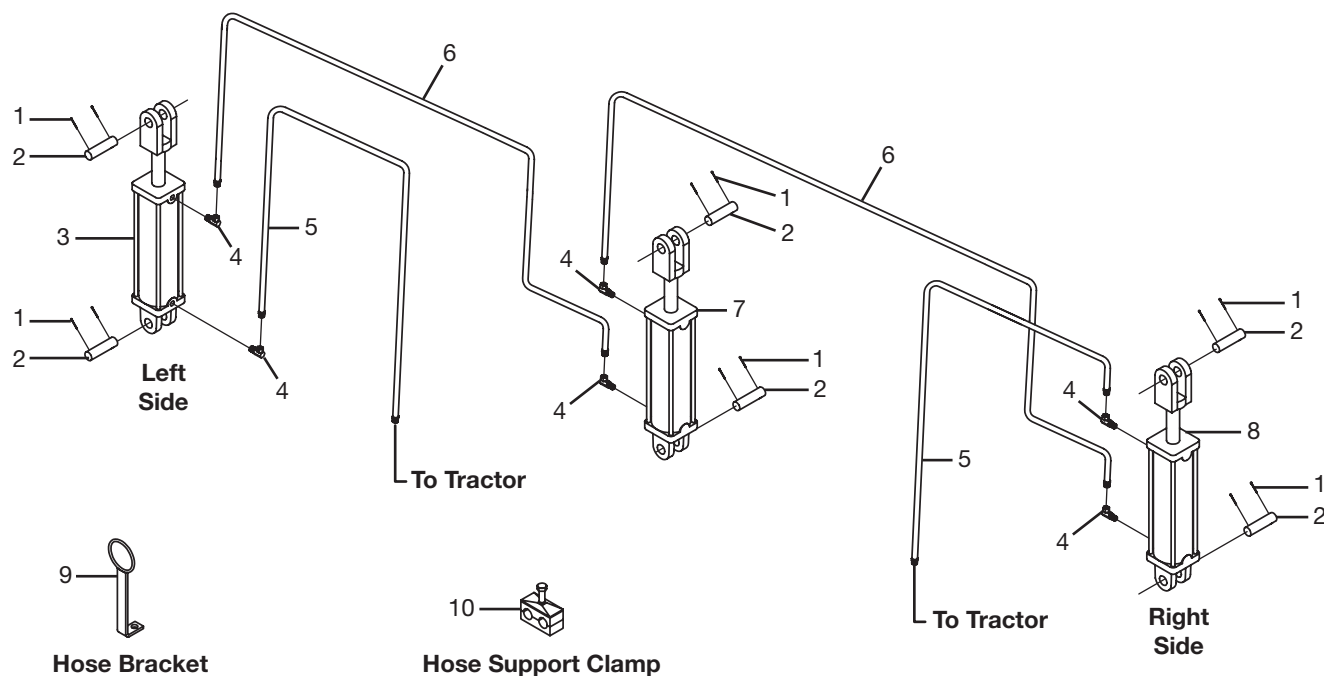
Parts Identification

Hydraulics, Two Phasing Cylinder System (24' - 30' w/Front Swivel Wheels)



#	QTY.	PART #	DESCRIPTION
1	8	8042-03	PIN, COTTER 5/32" X 1-1/2" (INCLUDED W/CYLINDER)
2	4	8042-01	PIN, 1" X 3-1/4" (INCLUDED W/CYLINDER)
3	1	8043	CYLINDER, HYDRAULIC PHASING (3-1/4")
4	4	4359	ADAPTER, 3/4" M O-RING BOSS X 90° 1/2" SWIVEL FEMAL
5	2	N13641	HOSE, 1/2" X 16' (NON-SWIVEL ENDS - 24' MODEL)
	2	N13643	HOSE, 1/2" X 18' (NON-SWIVEL ENDS - 25' MODEL)
	2	N13642	HOSE, 1/2" X 19' (NON-SWIVEL ENDS - 8M MODEL)
	2	N13644	HOSE, 1/2" X 21' (NON-SWIVEL ENDS - 30' MODEL)
6	1	N13642	HOSE, 1/2" X 19' (NON-SWIVEL ENDS - 24' MODEL)
	1	N13644	HOSE, 1/2" X 21' (NON-SWIVEL ENDS - 25' MODEL)
	1	N13645	HOSE, 1/2" X 23' (NON-SWIVEL ENDS - 8M MODEL)
	1	N18933	HOSE, 1/2" X 24' (NON-SWIVEL ENDS - 30' MODEL)
7	1	8042	CYLINDER, HYDRAULIC PHASING (3")
8	1	N13652	BRACKET, HOSE
9	Varies	N13383	CLAMP, HOSE SUPPORT

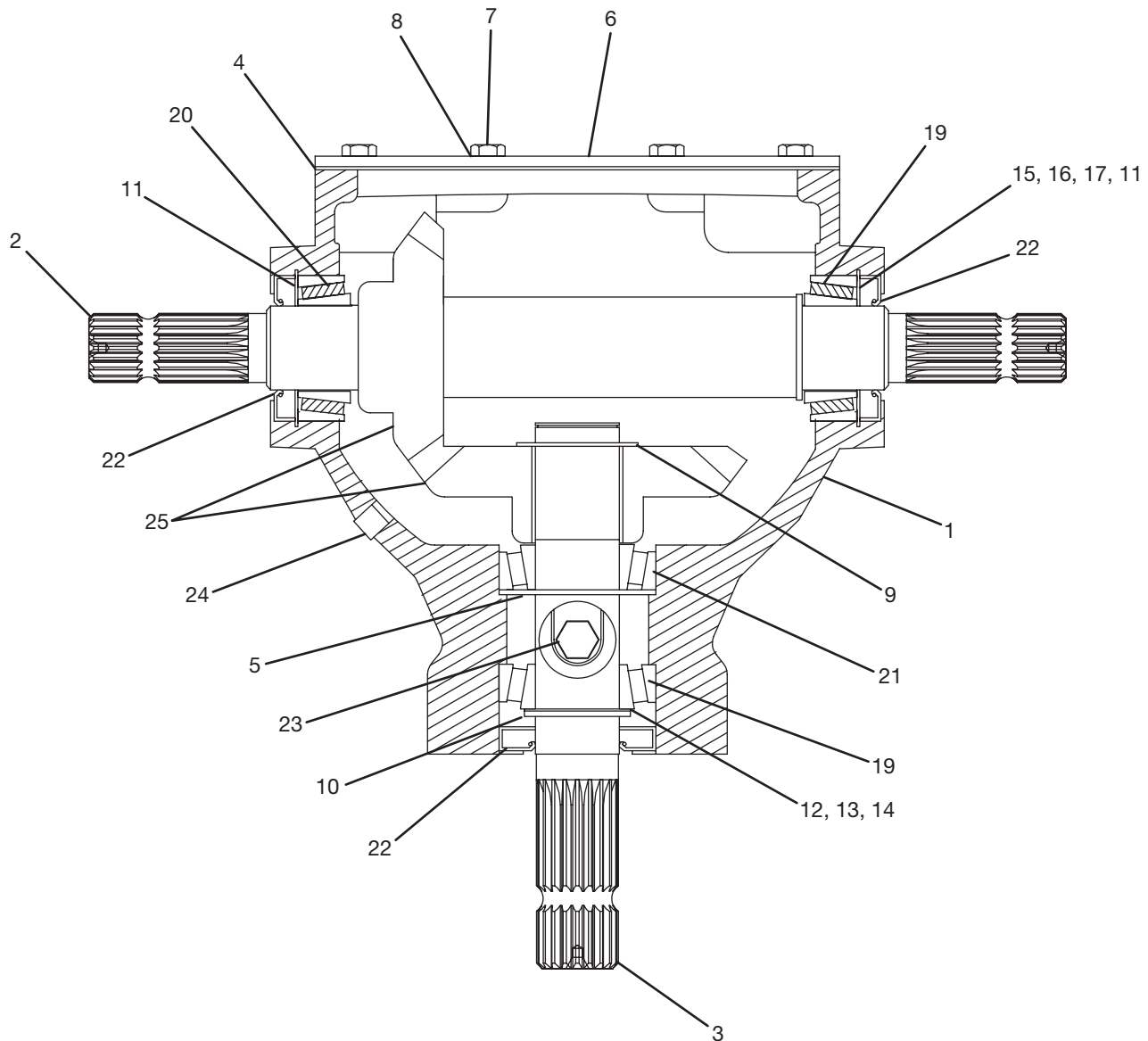
Hydraulics, Three Phasing Cylinder System (24' - 30')



#	QTY.	PART #	DESCRIPTION
1	8	8042-03	PIN, COTTER 5/32" X 1-1/2" (INCLUDED W/CYLINDER)
2	4	8042-01	PIN, 1" X 3-1/4" (INCLUDED W/CYLINDER)
3	1	8044	CYLINDER, HYDRAULIC PHASING (3-1/2")
4	6	4359	ADAPTER, 3/4" M O-RING BOSS X 90° 1/2" SWIVEL FEMAL
5	2	N13644	HOSE, 1/2" X 21' (NON-SWIVEL ENDS - 24' MODEL)
	2	N13645	HOSE, 1/2" X 23' (NON-SWIVEL ENDS - 25' MODEL)
	2	N13645	HOSE, 1/2" X 23' (NON-SWIVEL ENDS - 8 METER MODEL)
	2	N13648	HOSE, 1/2" X 27' (NON-SWIVEL ENDS - 30' MODEL)
6	2	N13646	HOSE, 1/2" X 14' (NON-SWIVEL ENDS - 24' MODEL)
	2	N13647	HOSE, 1/2" X 15' (NON-SWIVEL ENDS - 25' MODEL)
	2	N13641	HOSE, 1/2" X 16' (NON-SWIVEL ENDS - 8 METER MODEL)
	2	N13643	HOSE, 1/2" X 18' (NON-SWIVEL ENDS - 30' MODEL)
7	1	8043	CYLINDER, HYDRAULIC PHASING (3-1/4")
8	1	8042	CYLINDER, HYDRAULIC PHASING (3")
9	1	N13652	BRACKET, HOSE
10	Varies	N13383	CLAMP, HOSE SUPPORT

Parts Identification

Gearbox, 1450 RPM Bondioli (N13950)



To order a complete gearbox (Items 1-25), use part number N13950.

This gearbox uses 3/4"-10 NC bolts for mounting to the shredder.

To order a complete pinion shaft ring kit (items 12, 13, 14), use part number 8170-26.

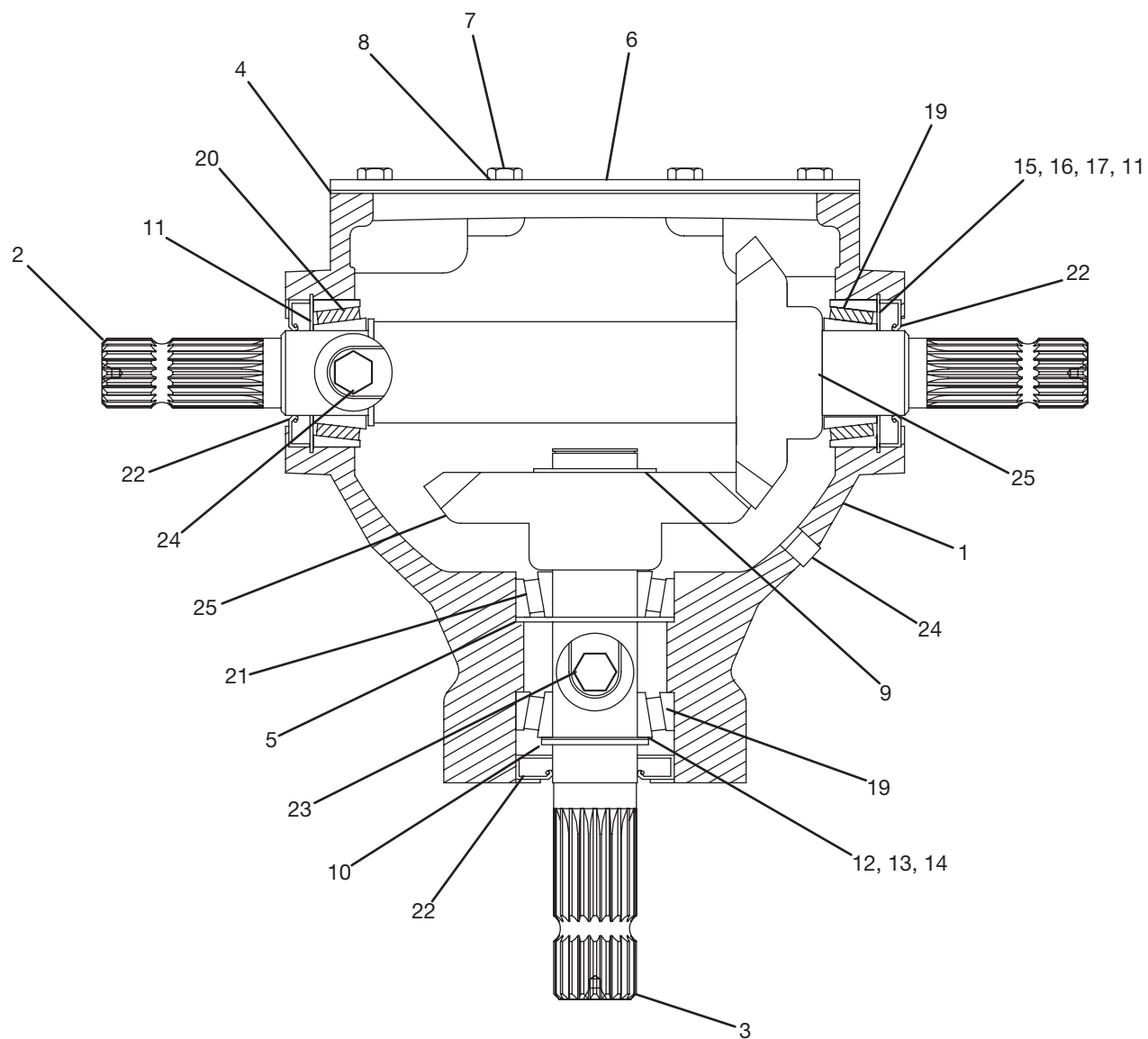
To order a complete through shaft ring kit (items 11, 15, 16, 17), use part number 8170-27.

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	N/A	SNAP-RING, THROUGH SHAFT
12	1	N/A	RING, PINION SHAFT
13	1	N/A	RING, PINION SHAFT
14	1	N/A	RING, PINION SHAFT
15	2	N/A	RING, THROUGH SHAFT
16	2	N/A	RING, THROUGH SHAFT
17	2	N/A	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
23	1	8001-18	PLUG, OIL VENT
24	5	8001-19	PLUG, OIL
25	1	N14119	GEAR, BEVEL 1:1 (SET)

Parts Identification

Gearbox, 1700 RPM Bondioli (N13951)



To order a complete gearbox (Items 1-25), use part number N13951.

This gearbox uses 3/4"-10 NC bolts for mounting to the shredder.

To order a complete pinion shaft ring kit (items 12, 13, 14), use part number 8170-26.

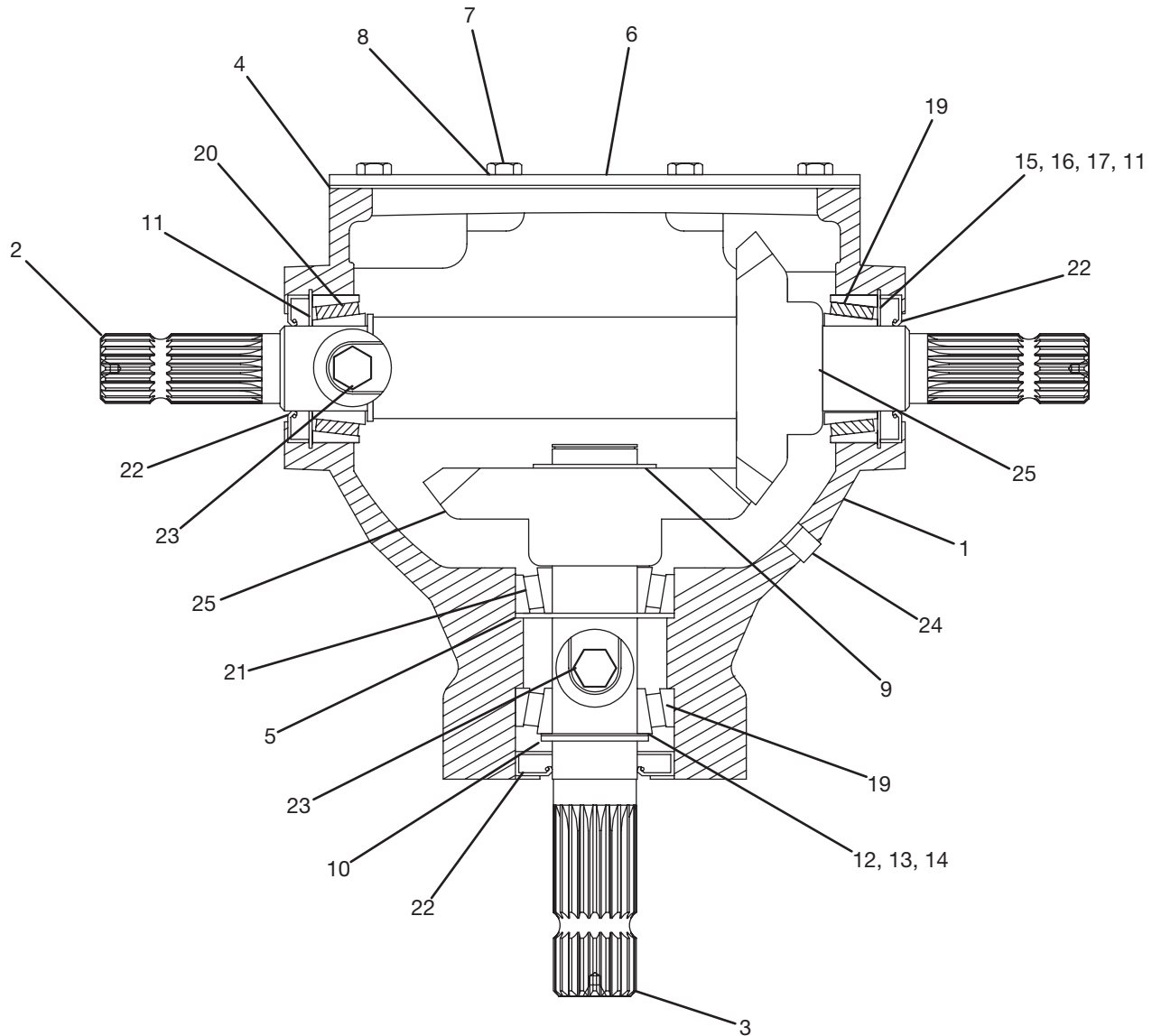
To order a complete through shaft ring kit (items 11, 13, 14), use part number 8170-27.

Gearbox, 1700 RPM Bondioli (N13951)

#	QTY.	PART #	DESCRIPTION
1	1	N14123	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	N/A	SNAP-RING, THROUGH SHAFT
12	1	N/A	RING, PINION SHAFT
13	1	N/A	RING, PINION SHAFT
14	1	N/A	RING, PINION SHAFT
15	2	N/A	RING, THROUGH SHAFT
16	2	N/A	RING, THROUGH SHAFT
17	2	N/A	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
23	1	8001-18	PLUG, OIL VENT
24	5	8001-19	PLUG, OIL
25	1	N11422	GEAR, BEVEL 1:1.18 (SET)

Parts Identification

Gearbox, 2000 RPM Bondioli (N13952)



To order a complete gearbox (Items 1-25), use part number N13952.

This gearbox uses 3/4"-10 NC bolts for mounting to the shredder.

To order a complete pinion shaft ring kit (items 12, 13, 14), use part number 8170-26.

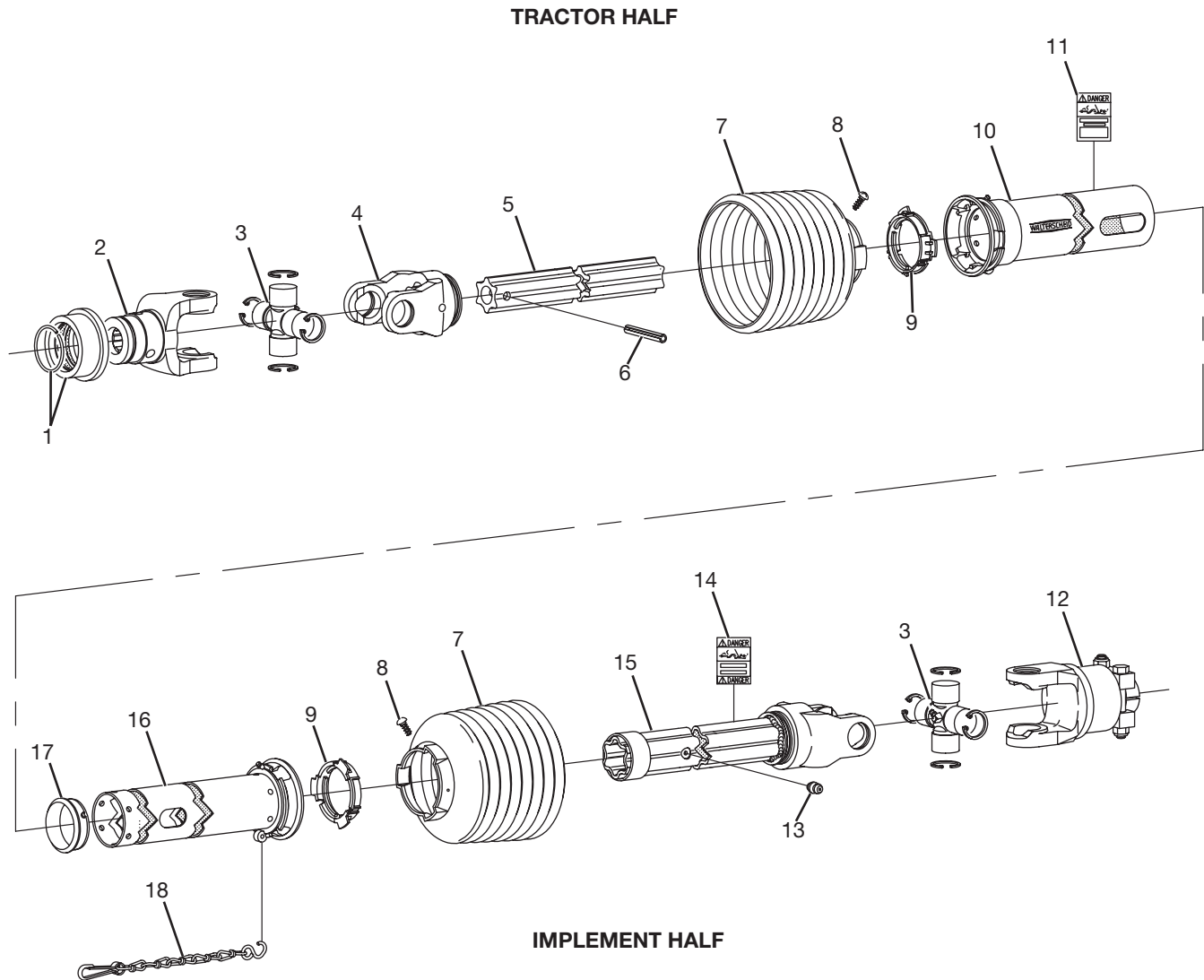
To order a complete through shaft ring kit (items 11, 15, 16, 17), use part number 8170-27.

Gearbox, 2000 RPM Bondioli (N13952)

#	QTY.	PART #	DESCRIPTION
1	1	N14123	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	N/A	SNAP-RING, THROUGH SHAFT
12	1	N/A	RING, PINION SHAFT
13	1	N/A	RING, PINION SHAFT
14	1	N/A	RING, PINION SHAFT
15	2	N/A	RING, THROUGH SHAFT
16	2	N/A	RING, THROUGH SHAFT
17	2	N/A	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
23	1	8001-18	PLUG, OIL VENT
24	5	8001-19	PLUG, OIL
25	1	8170-25	GEAR, BEVEL 1:1.35 (SET)

Parts Identification

PTO, 1-3/8" Walterscheid w/Overrunning Clutch (8173)



Refer to page 114 for the complete parts breakdown of the overrunning clutch (Item 12), part number 8192.

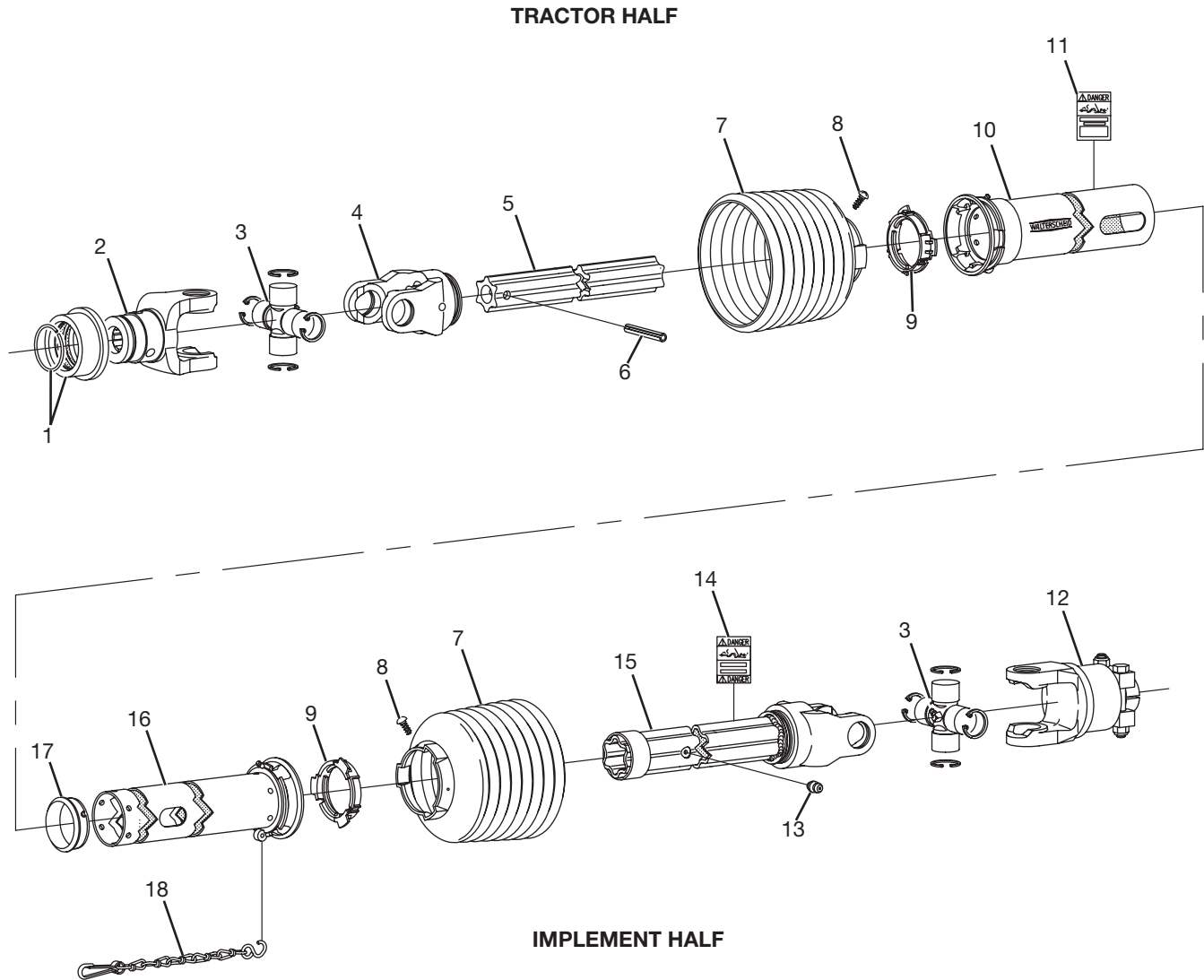
To order the complete PTO, use part number 8173.

PTO, 1-3/8" Walterscheid w/Overrunning Clutch (8173)

#	QTY.	PART #	DESCRIPTION
1	1	N10360	KIT, 1-3/8" YOKE SLIDE LOCK (INCLUDED W/N10346)
2	1	N10346	YOKE, PTO 1-3/8"-21 SPLINE ASG
3	2	N10347	KIT, PTO CROSS & BEARING
4	1	N10364	YOKE, PTO INBOARD
5	1	N10866	SHAFT, PTO PROFILE & SLEEVE
6	1	N10342	PIN, PTO SPRING (10MM X 90MM)
7	2	N10367	SHIELD, PTO CONE 7-RIB
8	2	N11750	SCREW, PTO RIBBED SHIELD (W/N10367)
9	2	N10348	RING, PTO BEARING (SC25)
10	1	N10867	GUARD, PTO SHAFT OUTER
11	1	N/A	DECAL, PTO SHAFT GUARD (INCLUDED W/N10867)
12	1	8192	CLUTCH, PTO OVERRUNNING
13	1	N10359	ZERK, PTO GREASE (INCLUDED W/N10865)
14	1	N/A	DECAL, PTO TUBE GUARD (INCLUDED W/N10865)
15	1	N10865	TUBE, PTO PROFILE W/SLEEVE & YOKE
16	1	N10868	GUARD, PTO INNER TUBE
17	1	N10355	BEARING, PTO TUBE GUARD SUPPORT
18	1	N10356	CHAIN, PTO SAFETY

Parts Identification

PTO, 1-3/4" Walterscheid w/Overrunning Clutch (8174)



Refer to page 114 for the complete parts breakdown of the overrunning clutch (Item 12), part number 8192.

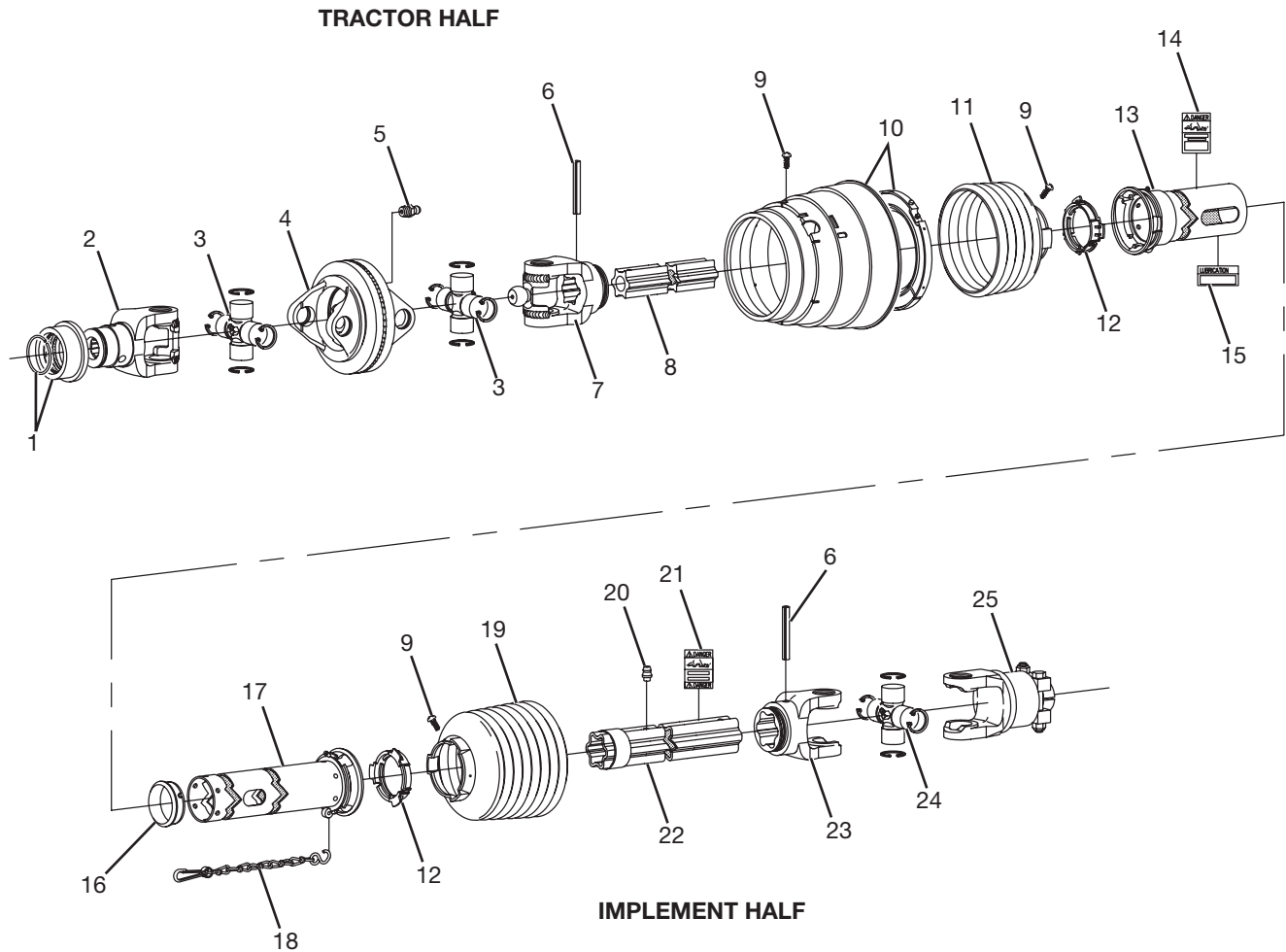
To order the complete PTO, use part number 8174.

PTO, 1-3/4" Walterscheid w/Overrunning Clutch (8174)

#	QTY.	PART #	DESCRIPTION
1	1	N10362	KIT, 1-3/4" YOKE SLIDE LOCK (INCLUDED W/N10370)
2	1	N10370	YOKE, PTO 1-3/4"-20 SPLINE AS
3	2	N10347	KIT, PTO CROSS & BEARING
4	1	N10364	YOKE, PTO INBOARD
5	1	N10866	SHAFT, PTO PROFILE & SLEEVE
6	1	N10342	PIN, PTO SPRING (10MM X 90MM)
7	2	N10367	SHIELD, PTO CONE 7-RIB
8	2	N11750	SCREW, PTO RIBBED SHIELD (W/N10367)
9	2	N10348	RING, PTO BEARING (SC25)
10	1	N10867	GUARD, PTO SHAFT OUTER
11	1	N/A	DECAL, PTO SHAFT GUARD (INCLUDED W/N10867)
12	1	8192	CLUTCH, PTO OVERRUNNING
13	1	N10359	ZERK, PTO GREASE (INCLUDED W/N10865)
14	1	N/A	DECAL, PTO TUBE GUARD (INCLUDED W/N10865)
15	1	N10865	TUBE, PTO PROFILE W/SLEEVE & YOKE
16	1	N10868	GUARD, PTO INNER TUBE
17	1	N10355	BEARING, PTO TUBE GUARD SUPPORT
18	1	N10356	CHAIN, PTO SAFETY

Parts Identification

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



Refer to page 114 for the complete parts breakdown of the overrunning clutch (Item 25), part number 8192.

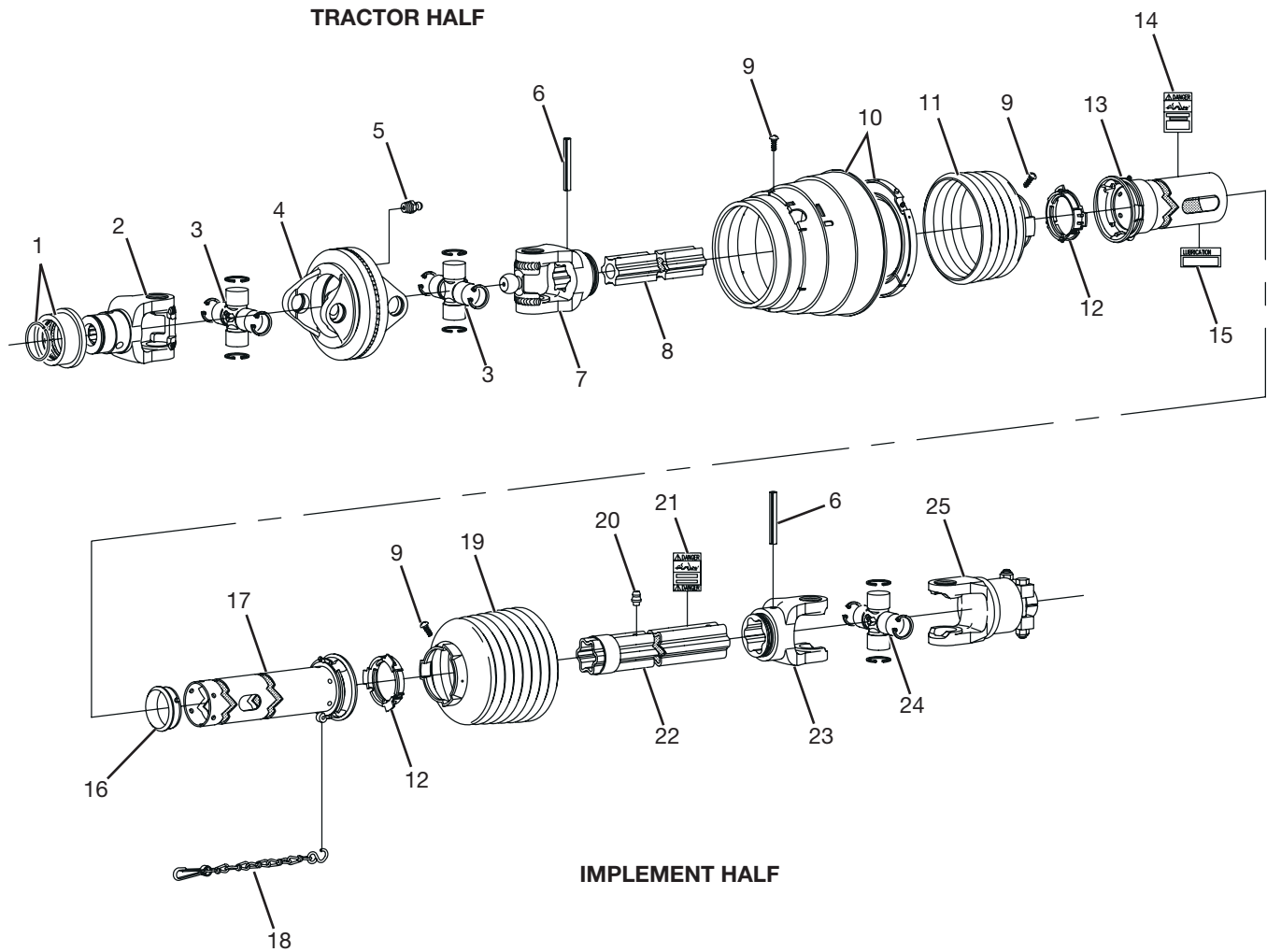
To order the complete PTO, use part number 8175.

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

#	QTY.	PART #	DESCRIPTION
1	1	N10360	KIT, 1-3/8" YOKE SLIDE LOCK(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, N10352 & 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	N/A	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	N/A	DECAL, PTO TUBE GUARD (INCLUDED W/N10861)
22	1	N10861	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

Parts Identification

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



Refer to page 114 for the complete parts breakdown of the overrunning clutch (Item 25), part number 8192.

To order the complete PTO, use part number 8176.

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

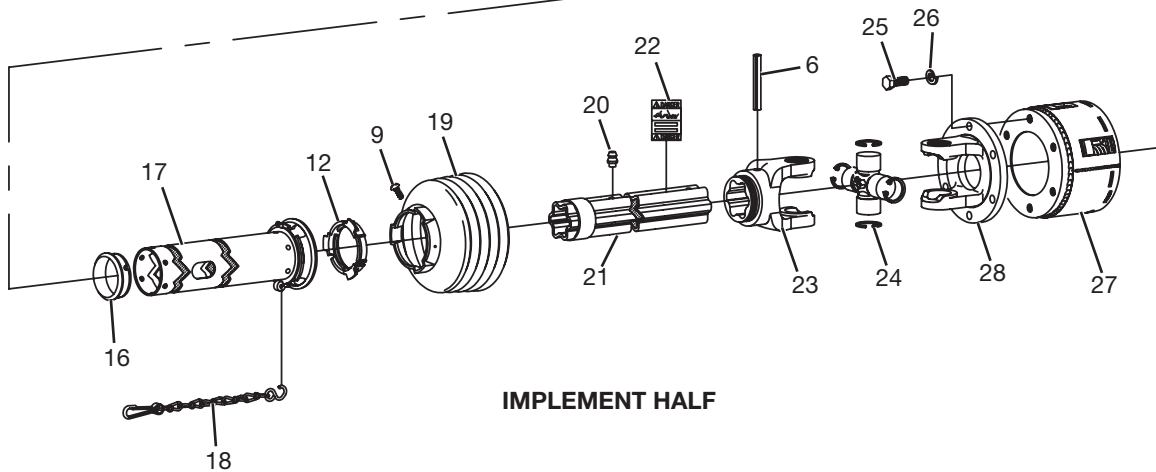
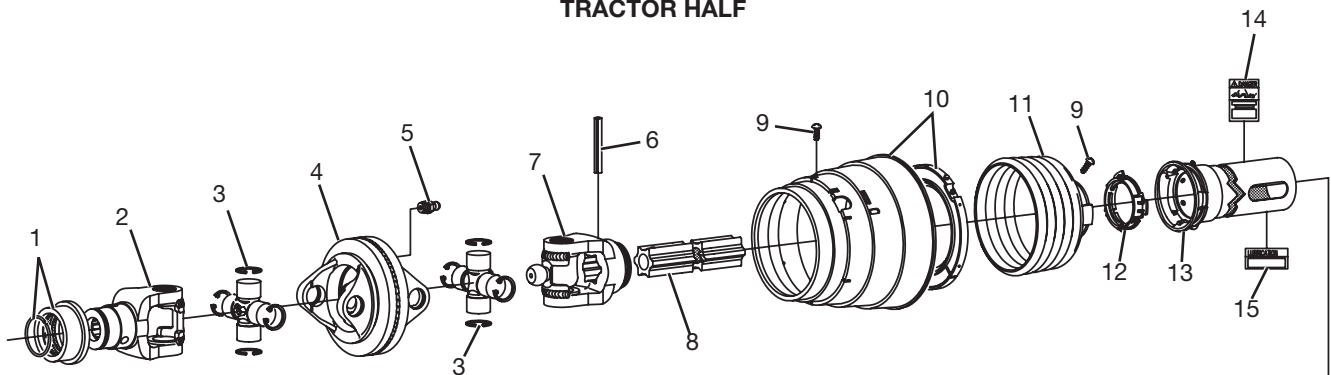
#	QTY.	PART #	DESCRIPTION
1	1	N10362	KIT, 1-3/4" YOKE SLIDE LOCK (INCLUDED W/N10361)
2	1	N10361	YOKE, PTO 1-3/4"-20 SPLINE AS
3	2	N10341	KIT, PTO CROSS & BEARING
4	1	N10338	YOKE, PTO DOUBLE
5	1	N10339	ZERK, PTO GREASE (INCLUDED W/N10338)
6	2	N10342	PIN, PTO SPRING (10MM X 90MM)
7	1	N10340	YOKE, PTO INBOARD (S4)
8	1	N10343	SHAFT, PTO PROFILE (S4GA)
9	8	N11750	SCREW, PTO RIBBED SHIELD (W/N10351, N10352 & 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	N/A	DECAL, PTO LUBRICATION (INCLUDED W/N10349)
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	N/A	DECAL, PTO TUBE GUARD (INCLUDED W/N10861)
22	1	N10861	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

Parts Identification

PTO, 1-3/4" Walterscheid W/97 Friction Overrunning Clutch (N10512)

PULL TYPE SHREDDER

TRACTOR HALF



IMPLEMENT HALF

Refer to page 116 for the complete parts breakdown of the friction/overrunning clutch (Item 27), part number N10856.

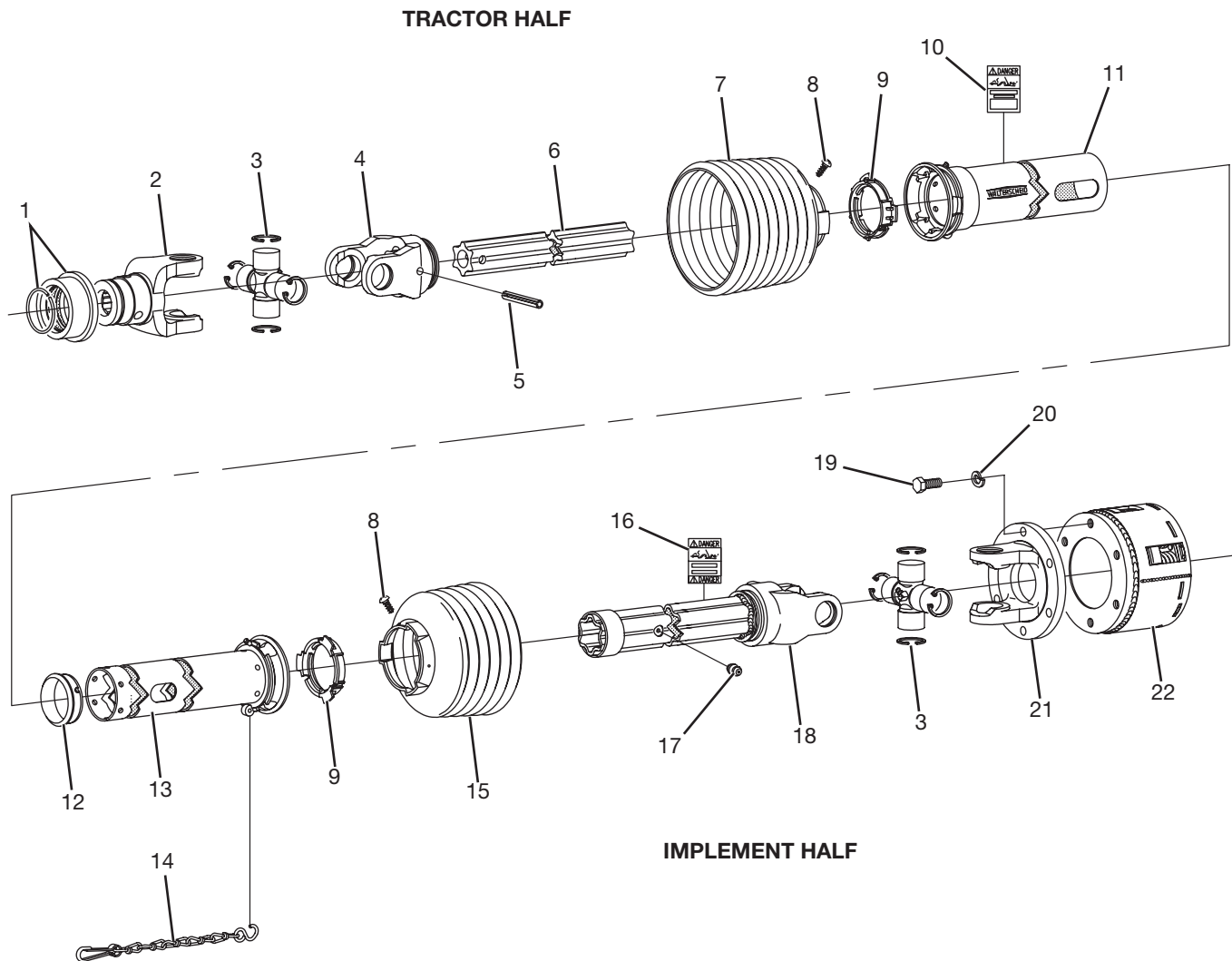
To order the complete PTO, use part number N10512.

PTO, 1-3/4" Walterscheid W/97 Friction Overrunning Clutch (N10512)

#	QTY.	PART #	DESCRIPTION
1	1	N10362	KIT, 1-3/4" YOKE SLIDE LOCK (INCLUDED W/N10361)
2	1	N10361	YOKE, PTO 1-3/4"-20 SPLINE ASS'Y
3	2	N10341	KIT, PTO CROSS & BEARING
4	1	N10338	YOKE, PTO DOUBLE
5	1	N10339	ZERK, PTO DOUBLE YOKE 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, N10352 & N10353)
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	N/A	DECAL, PTO SHAFT GUARD
15	1	N10862	DECAL, PTO GUARD LUBRICATON (INCLUDED W/N10349)
16	1	N10355	BEARING, PTO TUBE GUARD SUPPORT
17	1	N10350	GUARD, PTO TUBE INNER
18	1	N10356	CHAIN, PTO SAFETY
19	1	N10353	SHIELD, PTO CONE 6-RIB
20	1	N10359	ZERK, PTO GREASE
21	1	N10861	TUBE, PTO PROFILE W/SLEEVE
22	1	N/A	DECAL, PTO TUBE GUARD
23	1	N10345	YOKE, PTO INBOARD (S5)
24	1	N10347	KIT, PTO CROSS & BEARING
25	6	N10859	BOLT, M12 X 30MM
26	6	N10860	WASHER, M12 LOCK
27	1	N10856	CLUTCH, PTO 97 FRICTION/OVERRUNNING
28	1	N10858	YOKE, PTO FLANGE

Parts Identification

PTO, 1-3/4" Walterscheid w/97 Friction Overrunning Clutch (N10515)



Refer to page 116 for the complete parts breakdown of the friction/overrunning clutch (Item 27), part number N10856.

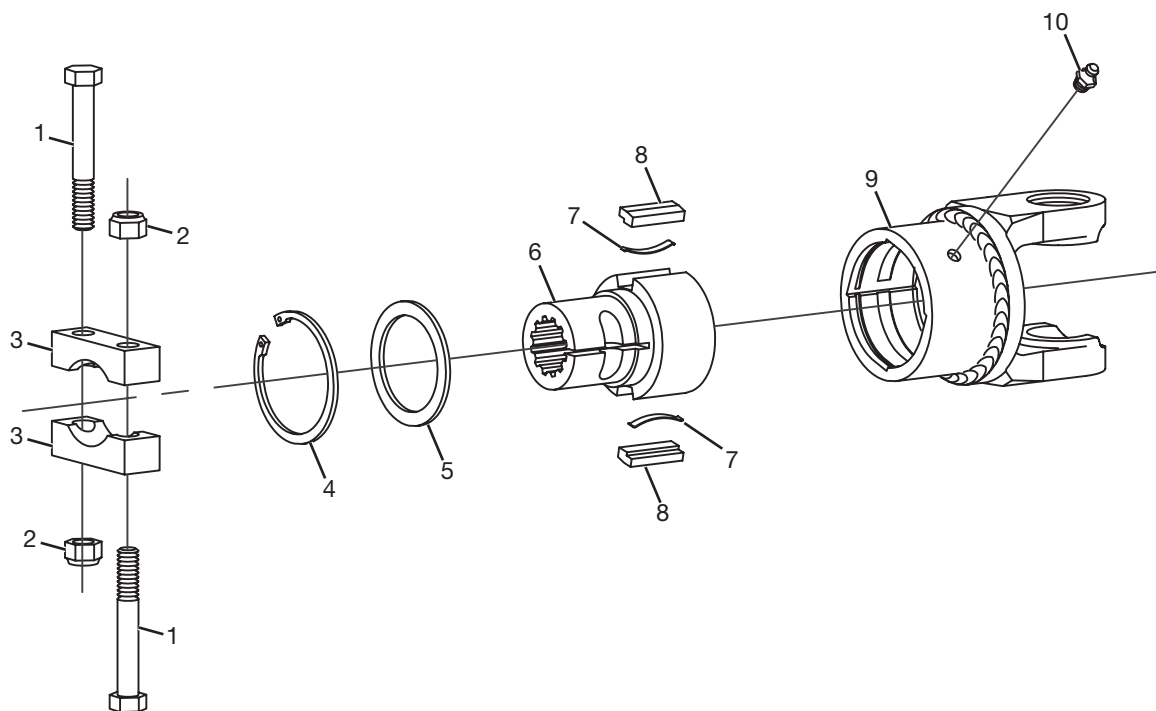
To order the complete PTO, use part number N10515.

PTO, 1-3/4" Walterscheid w/97 Friction Overrunning Clutch (N10515)

#	QTY.	PART #	DESCRIPTION
1	1	N10362	KIT, 1-3/4" YOKE SLIDE LOCK (INCLUDED W/N10370)
2	1	N10370	YOKE, PTO 1-3/4"-20 SPLINE AS
3	2	N10347	KIT, PTO CROSS & BEARING
4	1	N10364	YOKE, PTO INBOARD
5	1	N10342	PIN, PTO SPRING (10MM X 90MM)
6	1	N14075	SHAFT, WALTERSCHIED PTO PROFILE (S4GA)
7	1	N10367	SHIELD, PTO CONE 7-RIB
8	2	N11750	SCREW, PTO RIBBED SHIELD (INCLUDED W/N10367 & N10353)
9	2	N10348	RING, PTO BEARING (SC25)
10	1	N/A	DECAL, PTO SHAFT GUARD (INCLUDED W/N13068)
11	1	N10368	GUARD, PTO SHAFT OUTER
12	1	N10355	BEARING, PTO TUBE GUARD SUPPORT
13	1	N10369	GUARD, PTO TUBE INNER
14	1	N10356	CHAIN, PTO SAFETY
15	1	N10353	SHIELD, PTO CONE 6-RIB
16	1	N/A	DECAL, PTO TUBE GUARD (INCLUDED W/N10857)
17	1	N10359	ZERK, PTO GREASE (INCLUDED W/N10857)
18	1	N10857	TUBE, PTO PROFILE W/SLEEVE & YOKE
19	6	N10859	BOLT, M12 X 30MM
20	6	N10860	WASHER, M12 LOCK
21	1	N10858	YOKE, PTO FLANGE
22	1	N10856	CLUTCH, PTO 97 FRICTION/OVERRUNNING

Parts Identification

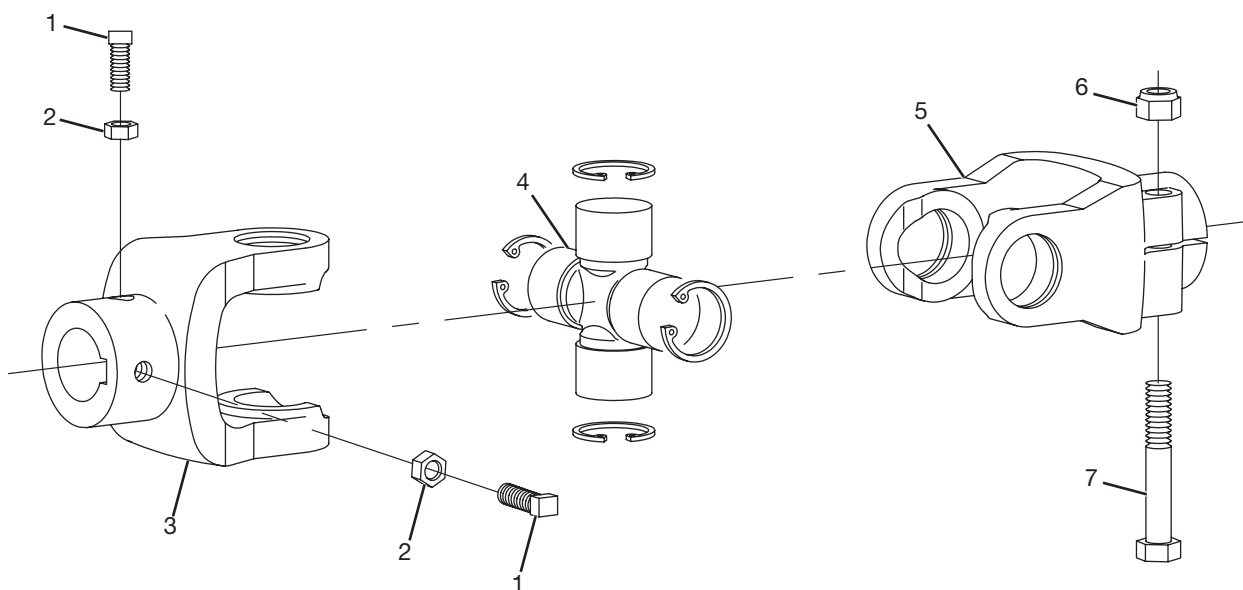
Clutch, 1-3/4" Walterscheid Overrunning (8192)



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)

U-Joint, 1-3/4" RB X 1-3/4"- 20 Spline (N12440)

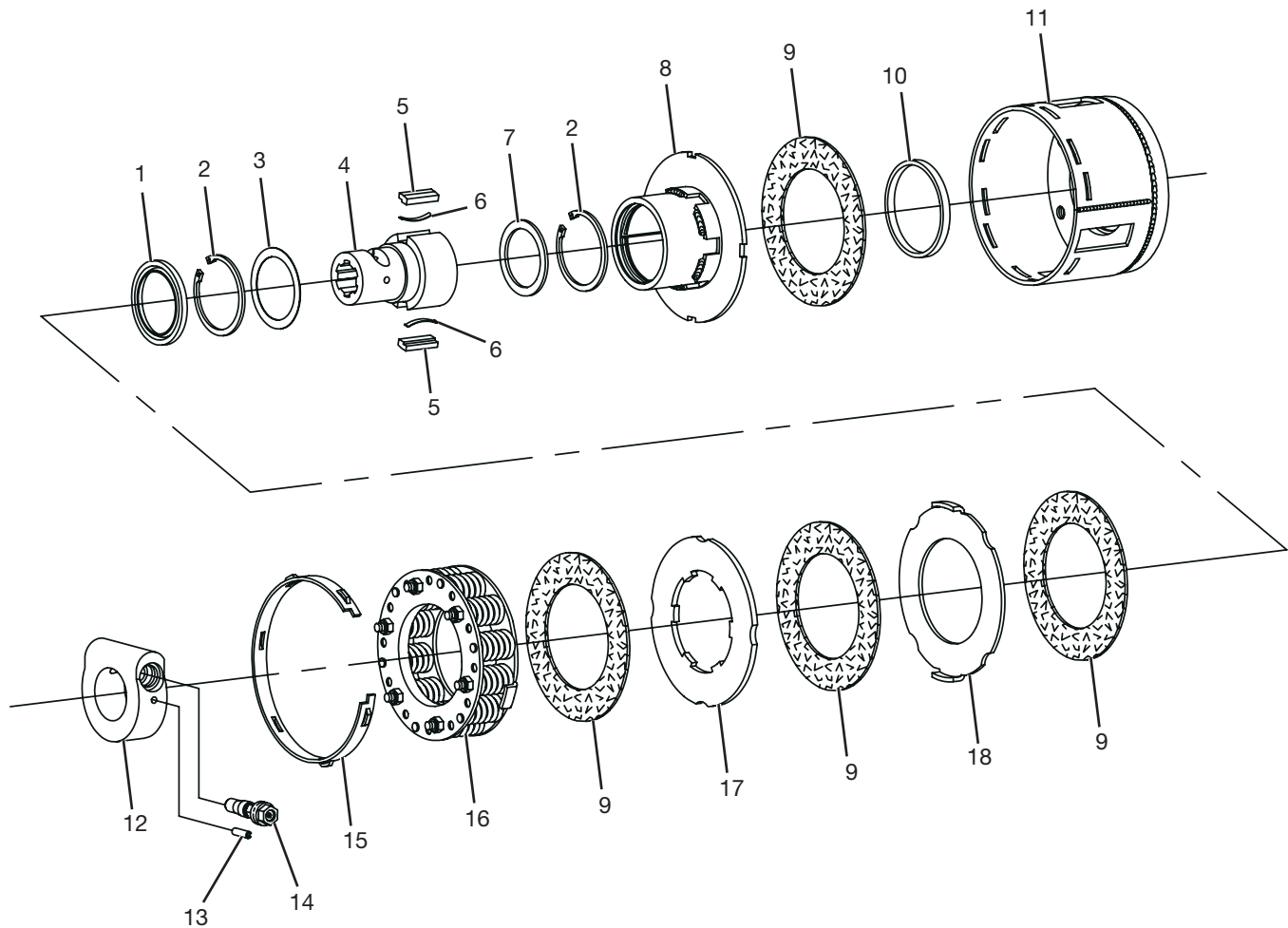


To order a complete overrunning clutch (items 3, 4, 5, 6, 7), use part number N12440.

#	QTY.	PART #	DESCRIPTION
1	2	4082	SCREW, SQ HD SET 3/8" X 1-1/4"
2	2	4061	NUT, 3/8" JAM
3	1	N14072	YOKE, 1-3/4" RB W/3/8" KEYWAY
4	1	N10347	KIT, CROSS & BEARING
5	1	N14073	YOKE, 1-3/4"-20 SPLINE IC
6	1	4449	NUT, M16 LOCK
7	1	4500	BOLT, M16 X 90MM HEX HD

Parts Identification

Clutch, PTO 97 Friction/Overrunning (N10856)



To order a complete 97 Friction/
Overrunning Clutch, use part
number N10856.

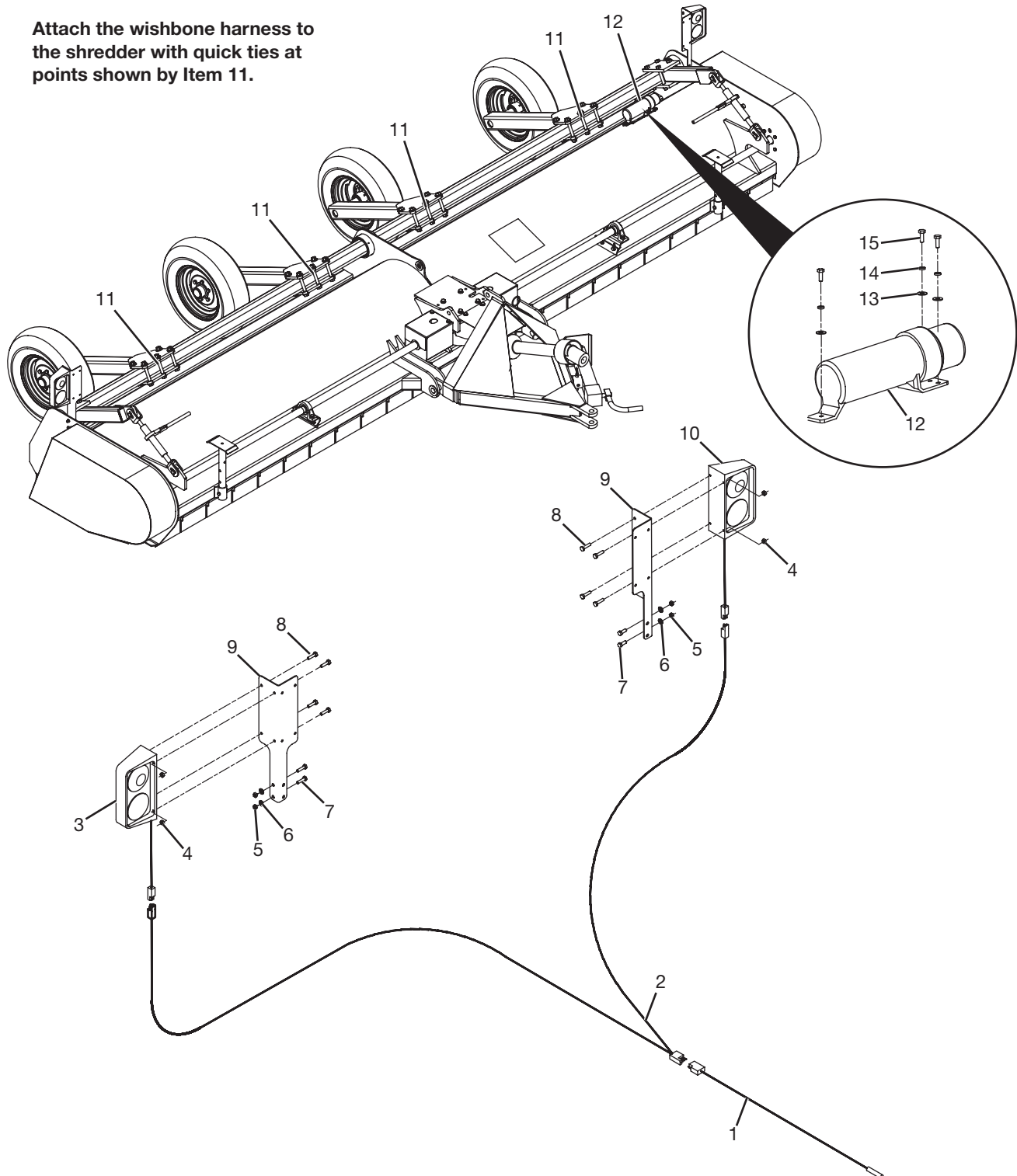
Clutch, PTO 97 Friction/Overrunning (N10856)

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

Parts Identification

12' - 18' Light Kit and Manual Holder

Attach the wishbone harness to the shredder with quick ties at points shown by Item 11.



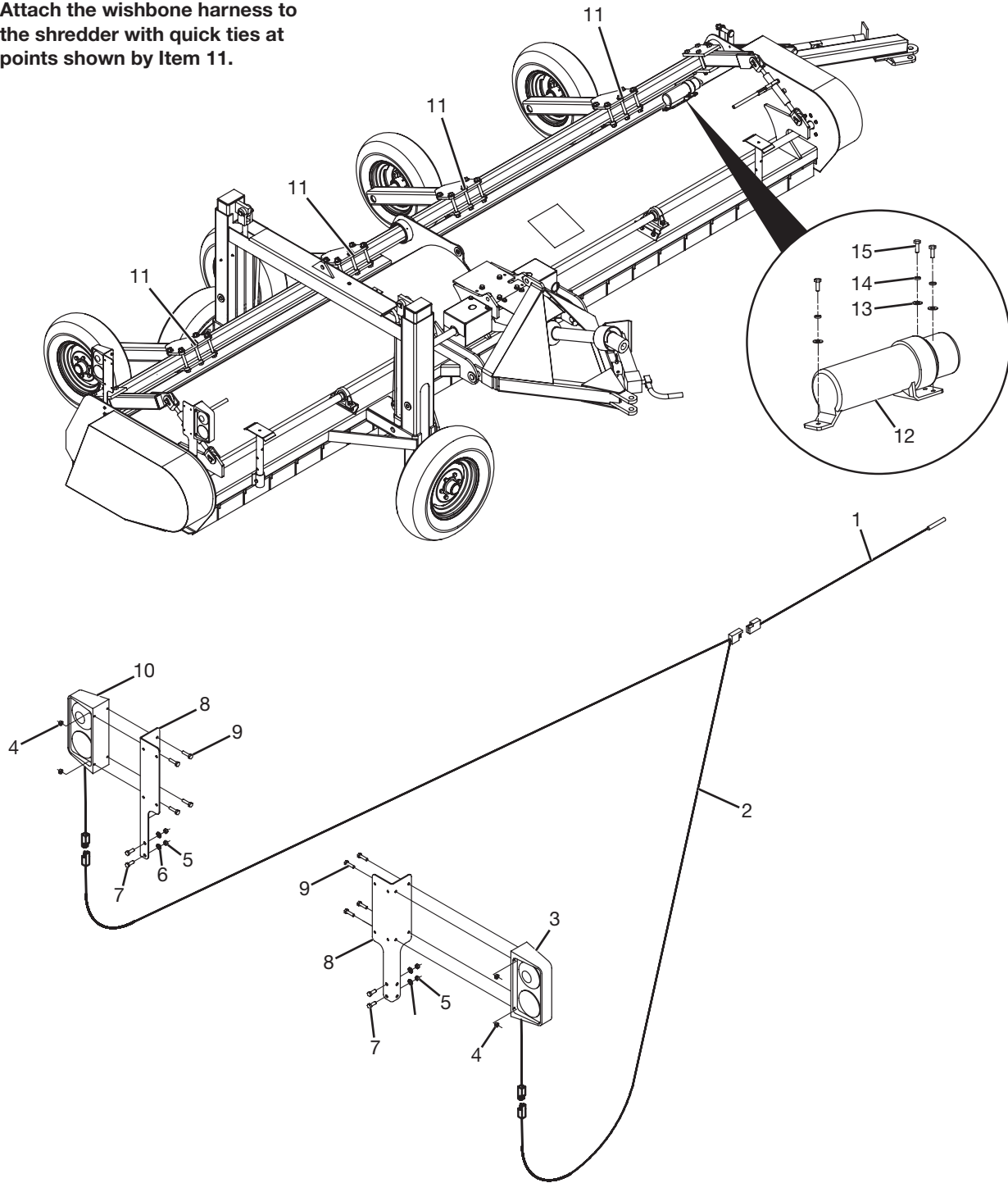
12' - 18' Light Kit and Manual Holder

#	QTY.	PART #	DESCRIPTION
1	1	N16285	HARNESS, 15' BRAIDED TONGUE
2	1	N16286	HARNESS, 15' REAR WISHBONE BRAIDED
3	1	N16290	LIGHT, DUAL AG RIGHT
4	8	4050	NUT, LOCK 1/4"
5	4	4233	NUT, STD 3/8"
6	4	4065	WASHER, LOCK 3/8"
7	4	4195	BOLT, 3/8" X 1" GRADE 5
8	8	4000	BOLT, 1/4" X 1" GRADE 5
9	2	N16182	MOUNT, LIGHT
10	1	N16289	LIGHT, DUAL AG LEFT
11	Varies		TIE, QUICK (ZIP - NOT SHOWN)
12	1	N19600	HOLDER, LG. OPERATORS MANUAL
13	3	4460	WASHER, FLAT 1/4"
14	3	4231	WASHER, LOCK 1/4"
15	3	4340	BOLT, 1/4" X 3/4" GRADE 5

Parts Identification

20' - 30' Light Kit and Manual Holder

Attach the wishbone harness to the shredder with quick ties at points shown by Item 11.



20' - 30' Light Kit and Manual Holder

#	QTY.	PART #	DESCRIPTION
1	1	N16287	HARNESS, 30' BRAIDED TONGUE
2	1	N16288	HARNESS, 25' REAR WISHBONE BRAIDED
3	1	N16290	LIGHT, DUAL AG RIGHT
4	8	4050	NUT, LOCK 1/4"
5	4	4233	NUT, STD. 3/8'
6	4	4065	WASHER, LOCK 3/8"
7	4	4195	BOLT, 3/8" X 1" GRADE 5
8	2	N16182	MOUNT, LIGHT
9	8	4000	BOLT, 1/4" X 1" GRADE 5
10	1	N16289	LIGHT, DUAL AG LEFT
11	Varies		TIE, QUICK (ZIP - NOT SHOWN)
12	1	N19600	HOLDER, LG. OPERATORS MANUAL
13	3	4460	WASHER, FLAT 1/4"
14	3	4231	WASHER, LOCK 1/4"
15	3	4340	BOLT, 1/4" X 3/4" GRADE 5

Parts Identification

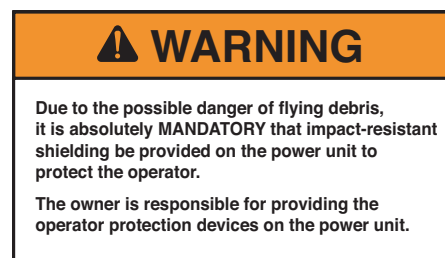
Machine Decals and Signs

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

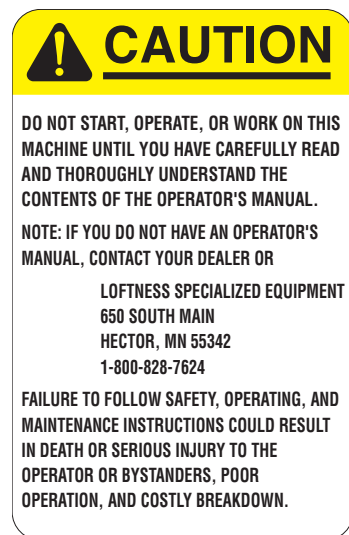
Check and replace any worn, torn, hard to read or missing decals on your machine.

NOTE: To order a complete Standard Crop Shredder Decal Kit use part number N32358.

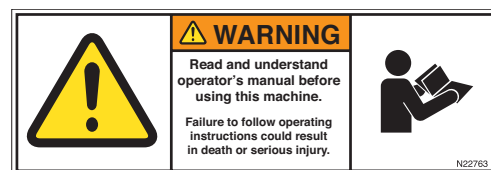
Part No. N17013



Part No. 4256



Part No. N22763



Part No. 4334



Part No. 4189



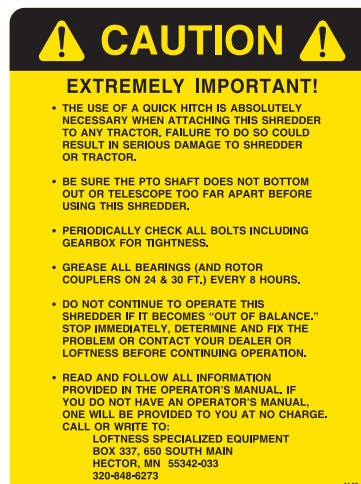
Part No. N23931



Part No. 4135

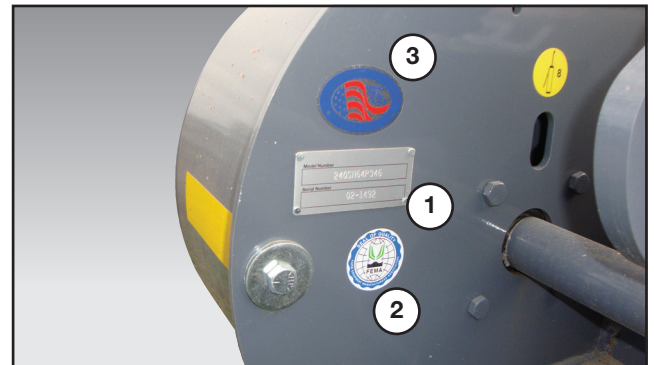
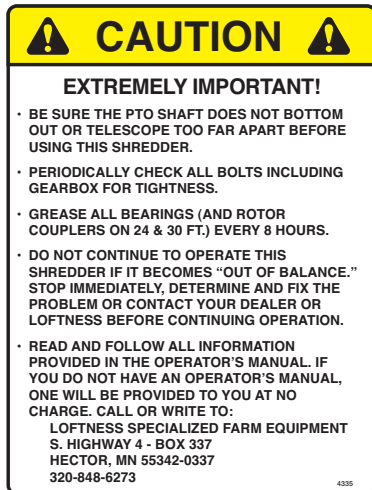


Part No. 4142



Machine Decals and Signs (Cont'd)

Part No. 4335



1

Model Number	
Serial Number	

Part No. N13721

Part No. 4141



2



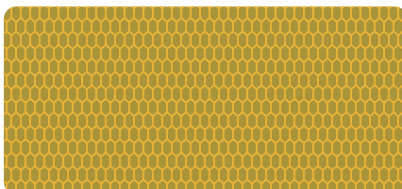
Part No. 4138

3



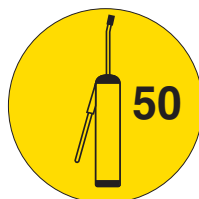
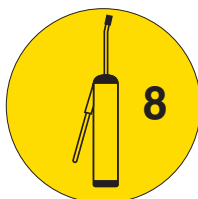
Part No. N13517

Part No. 4140



NOTE: Grease point decals N28010 and N28012 are shown in their locations in the Lubrication section. See "Grease Point Locations" on page 28 through page 32 .

Part No. N28010 Part No. N28012



4



Part No. 4136

Parts Identification

Machine Decals and Signs (Cont'd)



Specifications

DESCRIPTION	Standard Shredder			
Width	Cutting Width		Overall Width	
	12' Model - 144 in. (365 cm)		12' Model - 163 in. (414 cm)	
	13' Model - 156 in. (396 cm)		13' Model - 175 in. (444.5 cm)	
	15' Model - 180 in. (457 cm)		15' Model - 199 in. (505.5 cm)	
	18' Model - 216 in. (549 cm)		18' Model - 235 in. (597 cm)	
	20' Model - 240 in. (610 cm)		20' Model - 259 in. (657.9 cm)	
	22' Model - 264 in. (671 cm)		22' Model - 283 in. (718.8 cm)	
	24' Model - 288 in. (732 cm)		24' Model - 307 in. (779.8 cm)	
	25' Model - 300 in. (762 cm)		25' Model - 319 in. (810.2 cm)	
	8m Model - 315 in. (800 cm)		8m Model - 334 in. (848.4 cm)	
	30' Model - 360 in. (915 cm)		30' Model - 379 in. (962.7 cm)	
Knives	Model	Cupped Cupped / High Residue	Side-Slice	Combination Cupped/High Residue
	12'	64/8	136	32/36
	13'	72/8	152	36/40
	15'	84/8	176	42/46
	18'	100/8	208	50/54
	20'	112/8	232	56/60
	22'	124/8	256	62/66
	24'	132/8	272	68/72
	25'	132/8	272	68/72
	8m	148/8	304	76/80
	30'	168/8	344	84/92
Weight	12' Model - approx. 4,000 lbs. (1,815 kg)			
	13' Model - approx. 4,100 lbs. (1,860 kg)			
	15' Model - approx. 4,500 lbs. (1,996 kg)			
	18' Model - approx. 5,400 lbs. (2,450 kg)			
	20' Model - approx. 6,000 lbs. (2,722 kg)			
	22' Model - approx. 6,600 lbs. (2,994 kg)			
	24' Model - approx. 7,500 lbs. (3,402 kg)			
	25' Model - approx. 7,800 lbs. (3,538 kg)			
	8m Model - approx. 8,200 lbs. (3,720 kg)			
	30' Model - approx. 9,300 lbs. (4,219 kg)			
Rotor	1450 RPM Computer Balanced			
	1700 RPM Computer Balanced			
	2000 RPM Computer Balanced			
Drive	7 1/2 in. (19.05 cm) Tube Diameter			
	2 3/16 in. (5.55 cm) Shaft Diameter			
	1,000 RPM PTO			
	Bondioli 280 HP			

Appendix

Torque Specifications

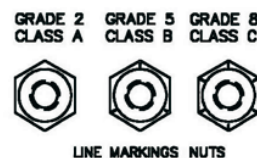
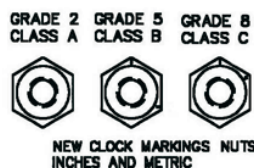
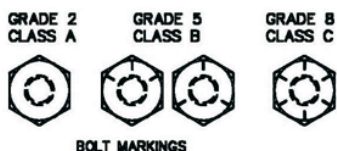
Inches Hardware and Lock Nuts

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)

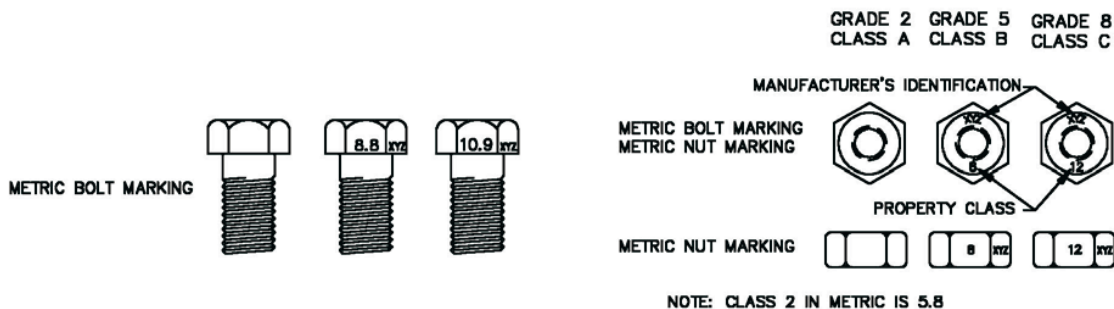
Metric Hardware and Lock Nuts

TORQUE CHARTS

Minimum Hardware Tightening Torques

Normal Assembly Applications
(Metric Hardware and Lock Nuts)

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







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