HINIKER

FLAIL SHREDDER/WINDROWER 30 FT

MODEL 5630/5630H/5630HL/5631

OPERATOR'S MANUAL

DO NOT USE OR OPERATE THIS EQUIPMENT UNTIL THIS MANUAL
HAS BEEN READ AND THOROUGHLY UNDERSTOOD

PART NUMBER 79202950 Rev. D

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79202950 Rev. D **4/14** **Manual/79202950RevD**

TO THE PURCHASER

This product is designed and manufactured to give years of dependable service, when properly maintained and used for the purpose for which it is intended. Never allow anyone to operate this equipment until they fully understand the complete contents of this manual. It is the responsibility of owner's, who do not operate this equipment, to insure the operator is properly instructed and understands the contents of this manual. It is also the owner's responsibility to insure that anyone operating this equipment is mentally and physically capable of so doing.

Important information is contained in this manual to help insure safe and efficient operation.

If you have any questions about this manual, or the equipment discussed therein, contact your HINIKER dealer. Additional copies of this manual may be obtained through your Hiniker dealer.

THIS IS THE SAFETY ALERT SYMBOL. IT ALERTS AN OPERATOR TO INFORMATION CONCERNING PERSONAL SAFETY. ALWAYS OBSERVE, AND HEED, THESE INSTRUCTIONS, OTHERWISE DEATH, OR SERIOUS INJURY CAN RESULT!

All references to LEFT or RIGHT means viewing the equipment from the rear and facing the tractor.

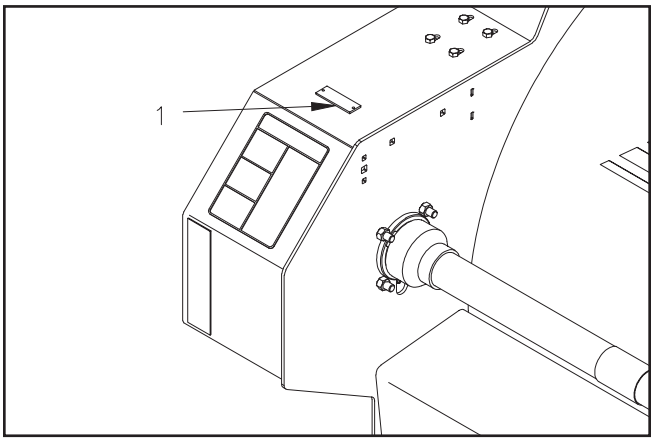
ALWAYS OBTAIN ORIGINAL HINIKER SERVICE PARTS BECAUSE SUBSTITUTE PARTS COULD ADVERSELY AFFECT EQUIPMENT PERFORMANCE AND WARRANTY.

All photos/drawings in this manual refer to paragraph(s) after the photo/drawing.

A DELIVERY REPORT IS TO BE FILLED OUT BY YOUR HINIKER DEALER WHEN YOU ACCEPT THIS EQUIPMENT. ONE COPY IS TO BE GIVEN TO YOU. DO NOT ACCEPT THIS EQUIPMENT UNTIL YOU ARE SATISFIED ALL ITEMS THEREON HAVE BEEN CHECKED, AND YOU UNDERSTAND THEM.

Check that your dealer has forwarded the HINIKER delivery report copy, along with the machine serial number, because it helps maintain maximum service and warranty benefits. This does not put you on any mailing list and information thereon is not available to others.

Your machine's serial number plate is at (arrow 1).



DWG. NO. 7105

Record the following information for later reference when obtaining service parts:

Purchase Date:_____

Purchaser's Name:_____

Dealer's Name:_____

Machine Serial #:_____

SAFETY

THIS IS THE SAFETY ALERT SYMBOL. IT ALERTS AN OPERATOR TO INFORMATION CONCERNING PERSONAL SAFETY. ALWAYS OBSERVE, AND HEED, THESE SYMBOLS AND INSTRUCTIONS, OTHERWISE DEATH, OR SERIOUS INJURY CAN RESULT!

Operator safety is a principle concern in equipment design and distribution. However, many accidents occur because a few seconds of thought, and a more careful approach to handling, were ignored.

ACCIDENTS CAN BE AVOIDED BY KNOWING, AND FOLLOWING, THE PRECAUTIONS CITED IN THIS MANUAL.

For better viewing, certain photos may show a safety shield open or removed. This equipment should never be operated without factory installed shields in place.

Replace any decals that are unreadable, or missing. Their ordering numbers and proper location are shown in the DECAL LOCATION section of this manual. Keep decals free of dirt, grease, etc.

Throughout this manual, and on all safety related decals, a safety alert symbol, along with the signal word **CAUTION, WARNING** or **DANGER** will be found. These are defined as follows:

CAUTION: A reminder for proper safety practices and directs attention to following them. Decals of this class are yellow and black.

WARNING: A reminder for proper safety practices and what can happen if they are ignored. This has a more serious consequence than CAUTION. Decals of this class are orange and black.

DANGER: Denotes a most serious safety hazard. It is a reminder for observing the stated precautions and what can happen if they are ignored. Decals of this class are red and white.

There are other decals in this manual that pertain to protecting the equipment. They are not directly related to operator safety. These have black letters on a white background to distinguish them from safety decals. They lack the safety alert symbol, but carry the words NOTICE or IMPORTANT defined as follows:

NOTICE: INFORMS THE READER OF SOMETHING THAT CAN CAUSE MINOR MACHINE DAMAGE, OR POOR PERFORMANCE, IF IGNORED.

IMPORTANT: WARNS THE READER OF POTENTIALLY MORE SERIOUS MACHINE DAMAGE, OR POOR PERFORMANCE IF IGNORED.

GENERAL

1. If the Operator's Manual is missing from this equipment, obtain a replacement from your HINIKER dealer. If you sell this equipment, insure the new owner acknowledges receipt of this manual.

2. Read this manual thoroughly. Make sure the operator understands it and knows how to operate this equipment safely. Farm equipment can kill or injure an untrained, or careless, operator.

3. Do not attempt to handle and service this equipment, or direct others to do the same, unless you know how to do it safely.

4. Keep all shields and guards in place.

5. Keep hands, feet, hair and clothing away from moving parts.

6. Disengage PTO, stop tractor engine, set brakes and wait for all motion to stop before adjusting, or servicing, this equipment.

7. Keep off the machine, and insure everyone is clear before starting, actuating hydraulics, and during equipment operation.

8. Do not service, or otherwise handle, a unit in a raised position unless it is securely blocked against unexpected falling and the (4) provided hydraulic cylinder stops are in place.

9. Keep all front flipper shields in place and free swinging.

10. Never operate in areas littered with glass, rocks, metal, etc. Keep cab windows clean to maintain good visibility.

11. Escaping hydraulic/diesel fluid under pressure can penetrate the skin causing serious injury.

DO NOT use your hand to check for leaks. Use a piece of cardboard.

Tighten all connections before pressurizing hydraulic lines.

If fluid is injected into the skin, get medical attention to prevent serious infection.

12. Discipline yourself to always visually inspect this equipment for any excessively worn, damaged, or cracked parts before starting use. Replace these with genuine HINIKER parts.

13. Stalk shredding/windrowing often involves a combustible environment. Carry a fire extinguisher and first aid kit with tractor.

14. OSHA requires farm employers to meet certain safety standards. Become familiar with, and comply with them.

15. Do not alter this equipment to the extent of compromising safety and performance.

16. Do not assume everyone is as safety conscious as yourself.

BEFORE OPERATION

1. Insure unit's PTO assembly is fully engaged with gearbox and tractor shafts and SLIDING COLLARS ARE RETURNED TO THEIR LOCKED POSITIONS.

2. NEVER allow improperly supervised minors, or anyone else, to operate this equipment. It is your responsibility to insure that any operator is mentally and physically capable of so doing.

3. Do not operate the shredder/windrower with a 540 RPM tractor.

4. Do not "jump start" the tractor from along side it. Start tractor only from seat.

5. Lock any swinging tractor drawbar before hooking up. Use a cross retainer in end of the hitch pin.

6. Disengage PTO, stop tractor engine, and remove key before hooking up shredder/windrower PTO.

7. Clear area of people, and debris, before engaging tractor PTO. Be alert for blind areas of operation. Slow down PTO and "feather" into engagement to prevent unnecessary stress on driveline.

8. DO NOT OPEN MACHINE SHIELDS WITH TRACTOR ENGINE RUNNING.

9. Do not stand close to, immediately behind or in front of, a running shredder/windrower.

DURING OPERATION

1. Gradually bring unit up to operating speed and check for any abnormal vibration, or performance. IF ABNORMAL VIBRATION IS PRESENT AT ANY TIME, IMMEDIATELY DISENGAGE PTO, STOP TRACTOR ENGINE, REMOVE KEY AND DETERMINE/CORRECT CAUSE BEFORE PROCEEDING.

2. Stop tractor engine, remove key and allow EQUIPMENT TO COME TO A COMPLETE STOP then disengage PTO before:

- Cleaning, unclogging, lubricating, inspecting, or otherwise servicing, any part of this equipment.

- Connecting or disconnecting the shredder/windrower from the tractor.

- Allowing anyone else near the equipment.

- Dismounting from the tractor seat and parking the equipment.

- Placing any part of your body in dangerous proximity to shredder/windrower.

3. When parking this equipment, lower it to full “down” position. Set the tractor brakes and block wheels if on an extreme slope.

TOWING

1. When towing on public highways:

- Always tow the machine in end transport mode with the machine raised and hydraulic cylinder stops in place.

- Verify the rear wheels during end transport are locked and the front wheels are unlocked. Refer to end transport mode on page 17.

- Insure that the safety towing chain is between the end transport hitch and the towing tractor.

- Use a tractor of sufficient size, and weight, required for field operation.

- Do not tow faster than 25 MPH (40 kph).

- Check local regulations on towing width and warning lights.

2. Make sure the field hitch and PTO shaft are locked in transport position. The hitch needs to be raised high enough so the tractor portion of the PTO shaft is at a slight upward angle and will not slide out and become lost or damaged during transport.

3. Assemble the provided ASAE SMV (slow moving vehicle) emblem in the proper location.

4. At required locations, RED (rear facing) and AMBER (forward facing) reflectors are provided. Insure these do not become defaced or covered with debris.

5. When towing, insure PTO shaft and hydraulic hoses are secured in the correct holders so they are not damaged during transport.

SERVICE

1. Service information herein is intended for dealers and others correspondingly competent. If you are not experienced and/or capable of handling such service, do not attempt it.

2. Disengage PTO, stop tractor engine, remove key and allow EQUIPMENT TO COME TO A COMPLETE STOP before:

- Cleaning, unclogging, lubricating, inspecting, or otherwise servicing, any part of this equipment.

- Connecting or disconnecting the shredder from the tractor.

- Allowing anyone else near the equipment.

- Placing any part of your body in dangerous proximity to shredder/windrower.

3. Do not service, or otherwise handle, a shredder/windrower in a raised position unless it is securely blocked against unexpected falling and the provided (4) hydraulic cylinder stops are in position.

4. Shredders/windrowers operate in a naturally vibratory environment. Discipline yourself to always visually inspect this equipment for any excessively worn, damaged, or cracked parts before starting. Replace these with genuine HINIKER parts.

5. DO NOT SERVICE END DRIVE BELTS WHEN TRACTOR IS RUNNING!

6. Replace all shields removed for service, and check PTO shield for free rotation, before operating this equipment.

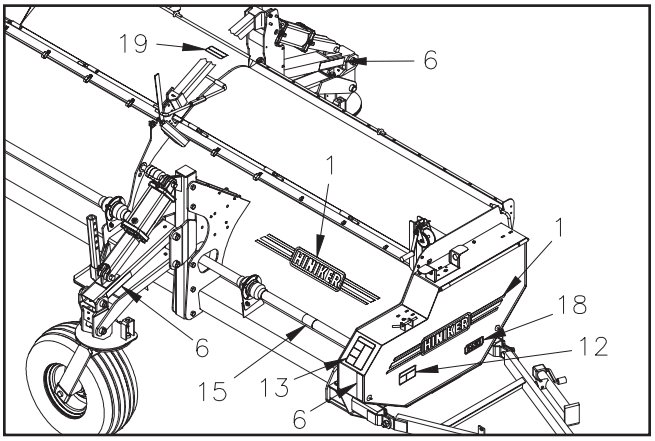
REMEMBER - ACCIDENT PREVENTION IS PART OF YOUR JOB!

DECAL LOCATION

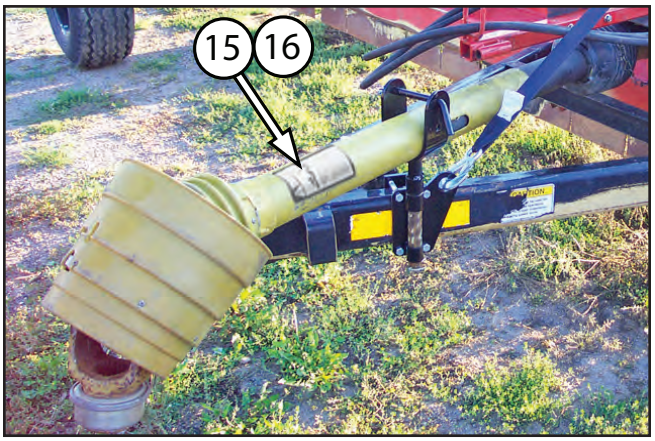
It is an owner's, and dealer's, responsibility to insure clear, complete decals are maintained on equipment, whether operating or offered for sale.

Information herein is provided for proper decal ordering and placement.

Decal surfaces should be free of dirt, grease, etc. Temperatures should be above 50° F. To apply, remove the smaller part of the decal backing paper and apply this part of the exposed adhesive to the desired location. Peel the other part of the backing paper slowly off and smooth out the entire decal.



DWG. NO. 6335



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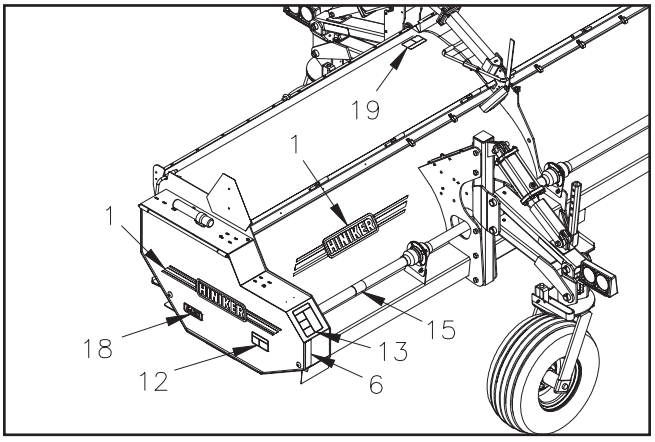

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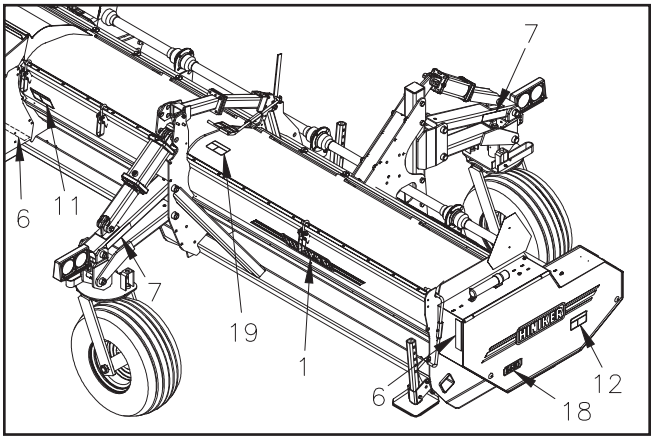

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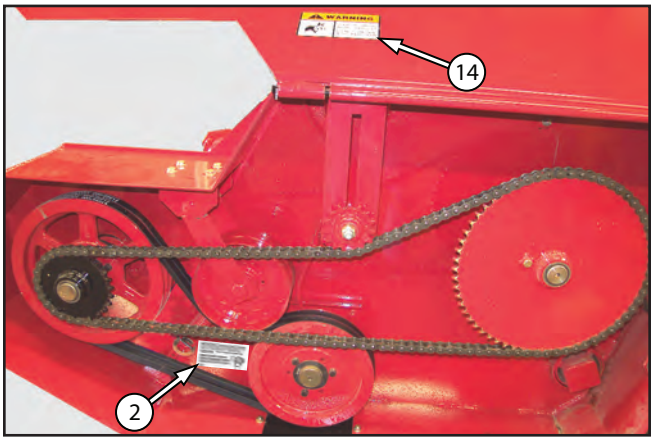
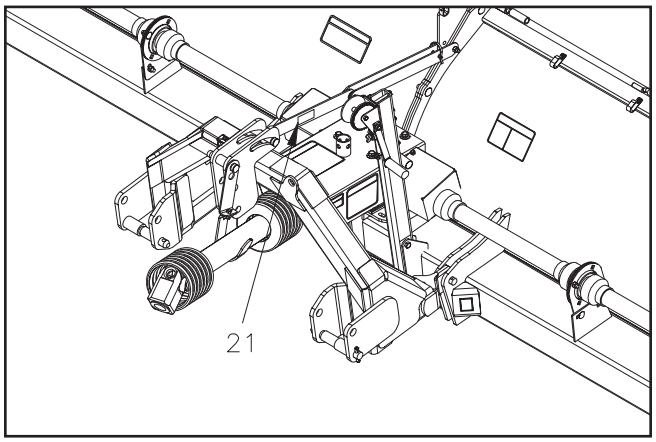


PHOTO NO. 9115F



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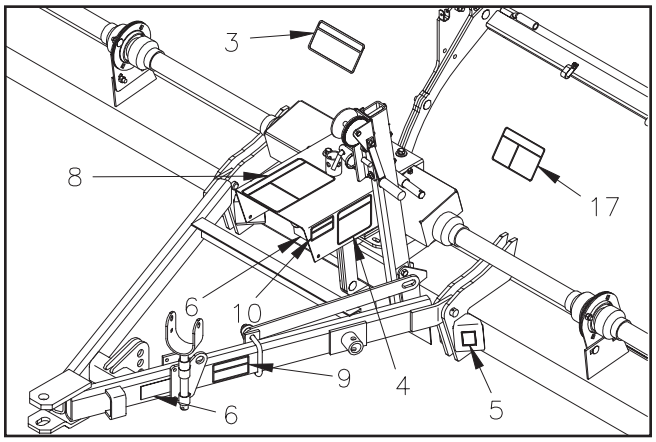

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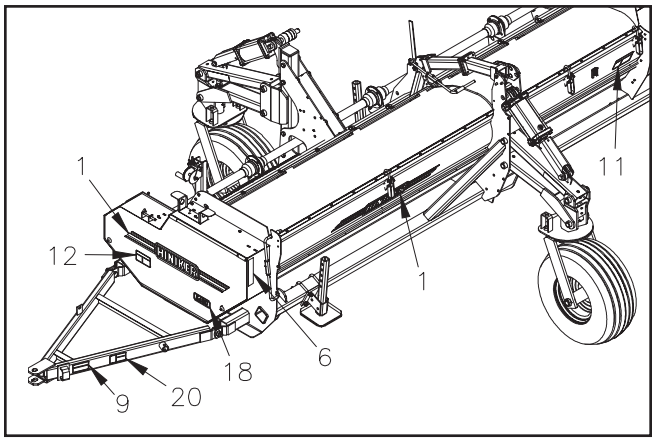

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HINIKER

FIGURE 1 71505168 LOGO Hiniker

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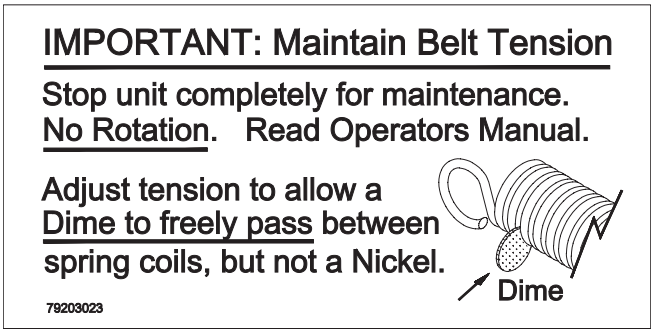


FIGURE 2 79203023 Important: Belt Tension..

FIGURE 3 71504142 Important: Operate...

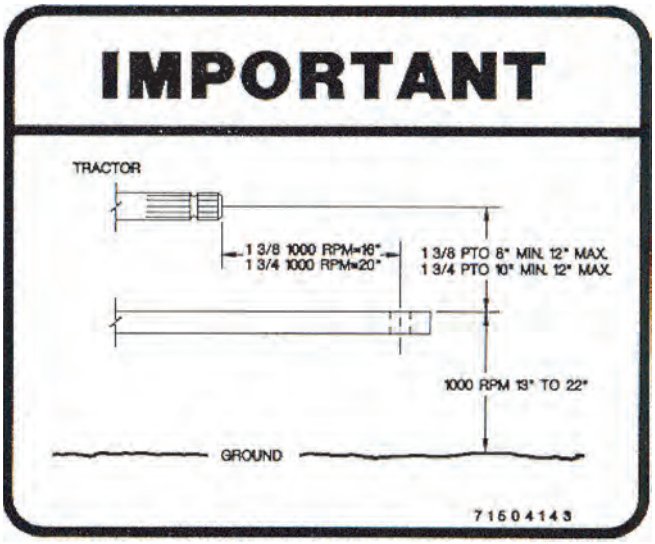


FIGURE 4 71504143 Important: Hitch...

FIGURE 5 715-03174 Lift...

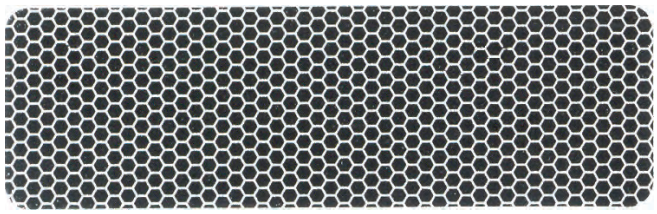


FIGURE 6 850-001-285 Amber Reflector

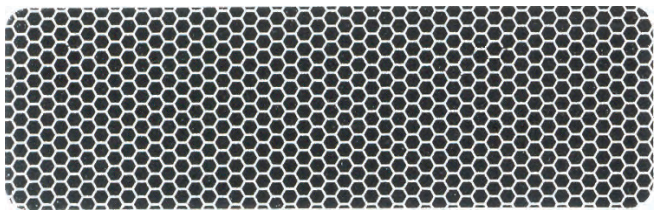


FIGURE 7 850-001-305 Red Reflector

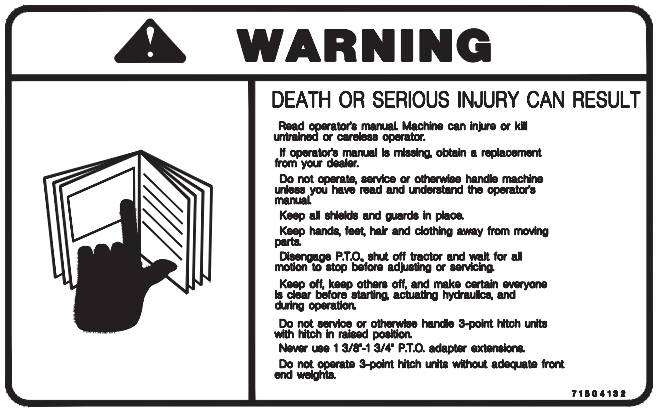


FIGURE 8 71504132 Warning: Read Manual...

FIGURE 9 85501787 Caution: Safety Chain...

FIGURE 10 71504129 Caution: 1000 RPM...

FIGURE 11 71504144 Danger: Keep Clear...

FIGURE 12 71505169 Warning: Look and Listen...

FIGURE 13 71505171 Warning: Keep Hands etc...

FIGURE 14 71505170 Warning: Do Not Operate...

FIGURE 15 520-03138 Danger: Rotating Drive...

FIGURE 16 520-03139 Danger: Shield Missing...

FIGURE 17 71504131 Danger: Keep Flippers...

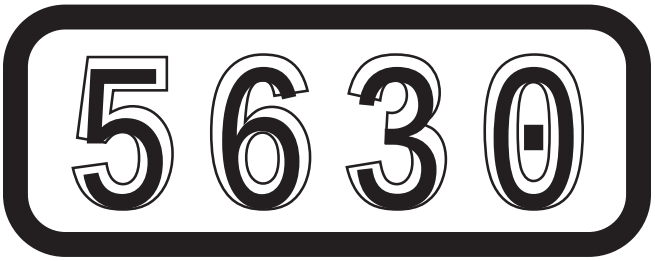


FIGURE 18 79202756 Logo: 5630

FIGURE 19 71504127 Warning: Look And Listen...

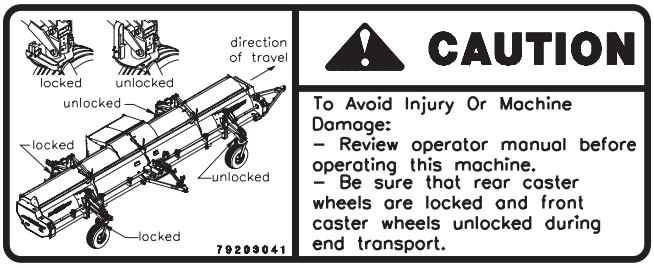


FIGURE 20 79203041 Caution: Review Operator...

FIGURE 21 79203485 Caution: End Transport...

OPERATION

WARNING: DEATH OR SERIOUS INJURY CAN RESULT. BEFORE FIELD PREPARING, READ SAFETY-GENERAL, BEFORE OPERATION, DURING OPERATION AND TOWING AT FRONT OF THIS MANUAL.

GENERAL

IMPORTANT: THIS MACHINE IS INTENDED AS A DRY RESIDUE MATERIAL SHREDDER-WINDROWER FOR 30" ROW SPACING. IT IS NOT INTENDED AS A PRIMARY HAY (DENSE GREEN MATERIAL) MOWER/CONDITIONER/ WINDROWER.

Attempting to mow/condition/windrow under most "hay" situations may result in substantial internal material congestion. Aggravation from frequent plugging, shearbolt failure, etc., is a likely result.

IT IS NOT RECOMMENDED FOR 36 TO 38 INCH ROW SPACING RIDGED CROPS BECAUSE TIRE SPACING PROHIBITS WHEELS FROM TRAILING IN BETWEEN ROWS.

WARNING: DEATH OR SERIOUS INJURY CAN RESULT. BEFORE OPERATING, READ SAFETY-GENERAL, BEFORE OPERATION, DURING OPERATING AND TOWING AT FRONT OF THIS MANUAL.

Always operate tractor at standard 1000 RPM PTO. Use transmission up, or down, shift to vary forward speed. CONSISTENTLY OVERSPEEDING OR UNDERSPEEDING THE PTO WASTES FUEL AND ACCELERATES KNIFE WEAR.

Avoid PTO engagement at full speed because it overstresses the machine's driveline. Engage PTO at slow speed and throttle up to operating speed.

IMPORTANT: FOR END TURNS ACROSS ROWS, SLOW FORWARD SPEED TO MINIMIZE EXCESSIVE BOUNCING AND SCALPING BUT MAINTAIN 1000 PTO RPMS.

CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. SOME TRACTOR MASTER PTO SHIELD'S MAY CONTACT FRONT PTO SHIELD ON TURNS. BE ALERT FOR THIS AND MAXIMIZE TURNING RADII. REPLACE FRONT PTO SHIELD IF IT BECOMES DAMAGED.

TRACTOR-GENERAL

IMPORTANT: IT IS CRITICAL TO KNOW WHAT TRACTOR PTO IS INVOLVED. THE SHREDDER/WINDROWER MUST CONFORM TO IT. TRACTOR MUST HAVE 1000 RPM 1 3/4"-20 SPLINE.

CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. NEVER USE 1 3/8" TO 1 3/4" PTO "ADAPTER" EXTENSIONS.

TRACTOR-TRAILING GEOMETRY

IMPORTANT: INSURE TRACTOR PTO, AND DRAWBAR CONFORM TO DIMENSIONS SHOWN IN THE PROCEEDING FIGURE.

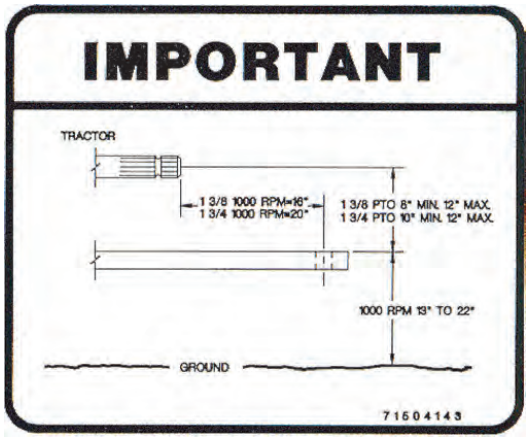
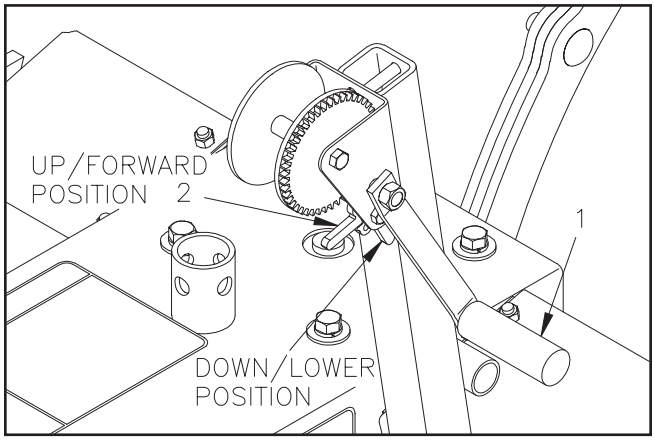
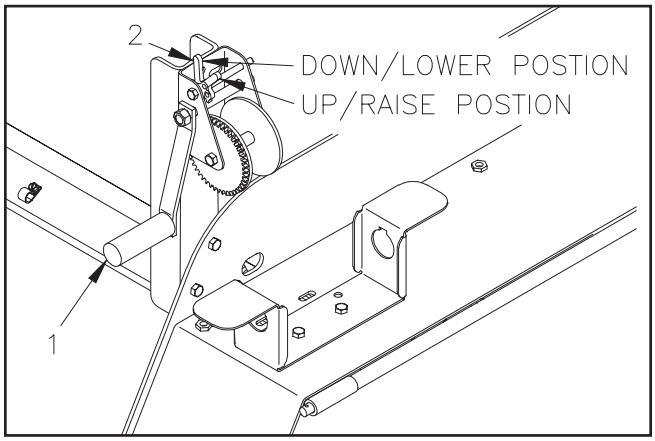


FIGURE 30 DWG. NO. 71504143

WINCH



Field Hitch DWG. NO. 6341

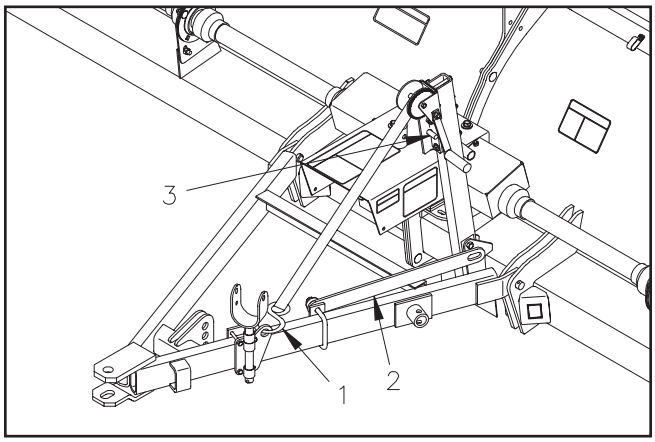


End Transport Hitch DWG. NO. 6801

To lower the hitch, grip the winch handle (arrow 1) securely and disengage the pawl latch (arrow 2). Move the pawl latch to the down/lower position and turn the handle slowly to let line out and lower the hitch. If you must stop before the hitch is completely down be sure the pawl latch is moved to the up/forward or loading position and gradually release the winch handle to make sure the winch is holding the load. To raise the hitch, grip the handle securely and move the pawl latch to the up/forward or loading position. As you turn the handle verify that the strap is winding onto the drum properly.

TRAILING HITCH

The field position is equipped with a winch for raising and lowering the hitch to match various draw bar heights.



DWG. NO. 6780

To raise or lower the hitch, first attach the hook (arrow 1) on the end of the strap through the eye of the bolted on plate on the hitch. Raise the hitch and remove transport strap (arrow 2) from peg on bolted angle (arrow 3) attached to winch tube.

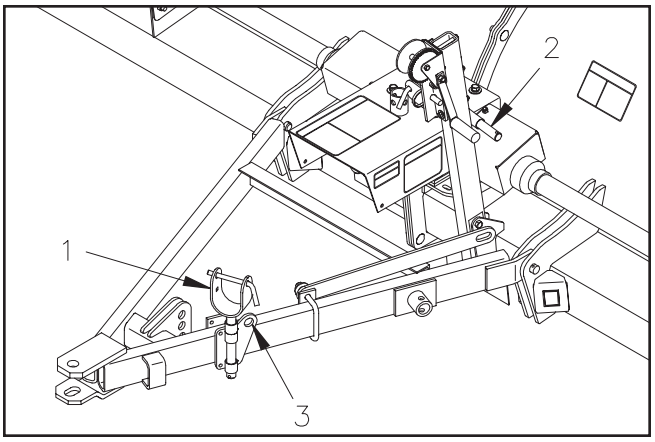
Raise or lower the hitch with the winch until the hitch clevis corresponds with the tractor's draw bar.

Remove the hitch pin from its storage location and insert it through the hitch and tractor draw bar.

CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. ALWAYS INSERT THE HITCH PIN POINTING DOWN WITH A CROSS LOCKING PIN THROUGH ITS LOWER END.

The trailing hitch has a 3" opening which allows up to a 2 3/8" draw bar.

IMPORTANT: IF TRACTOR DRAWBAR IS LESS THAN 2 1/8" THICK, INSERT 1 OR MORE FLAT WASHERS BETWEEN DRAW BAR TOP AND UNDERNEATH TOP HITCH YOKE (SUGGESTED WASHER SIZE IS 1 1/16" I.D. X 2 1/2" O.D. X 1/8" THICK.) THIS GREATLY REDUCES HITCH YOKE WEAR. ALWAYS USE A 1" DIAMETER HITCH PIN.



DWG. NO. 6783

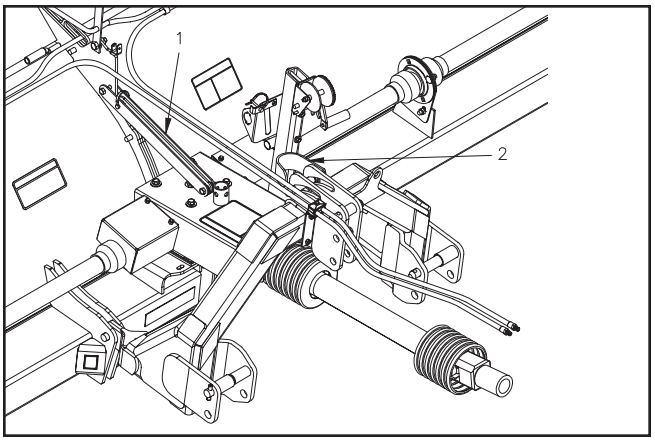
Once the hitch, PTO shaft, and hydraulic lines are attached to the tractor. Remove the PTO shaft holder (arrow 1), from the hitch and insert it into its storage position (arrow 2). Remove the winch hook from the eye (arrow 3) on the hitch and attach it to the pin of the PTO holder. Wind the excess strap up and secure all removed pins.

3-POINT SEMI MOUNT HITCH

IMPORTANT: IF OPERATING A SEMI-MOUNT MACHINE IN FIELDS WITH PIVOT TRACKS, ONCE THE OPERATIONAL HEIGHT IS DETERMINED, ADJUST THE TRACTOR'S 3-POINT HITCH TO POSITION CONTROL LOCKING THE 3-POINT LIFT ARMS AT THAT HEIGHT TO ALLOW THE TRACTOR TO CARRY THE FRONT OF THE MACHINE ACROSS THE PIVOT TRACKS. (DO NOT USE DRAFT CONTROL ON THE 3-POINT HITCH.) THIS WILL PREVENT THE FRONT CASTOR WHEELS FROM DROPPING INTO THE PIVOT TRACK AND DAMAGING THE MACHINE. THE TRACTOR WILL CARRY THE FRONT OF THE UNIT ACROSS THE PIVOT TRACKS.

Raise and lower machine using the cylinders on the machine, not the tractor 3- point hitch.

For 3-point semi mounted machines attach tractor quick hitch to 3-point pins. Lift hitch up so transport lock (arrow 1) can be removed.



DWG. NO. 6861

Lower hitch to desired field position. Attach PTO and hydraulic lines to tractor. Flip PTO holder out of the way (arrow 2).

PTO's

NOTICE: IT IS CRITICAL TO KNOW WHAT TRACTOR CONFIGURATION IS INVOLVED BEFORE HOOKUP. THE PROPER SHREDDER PTO MUST BE USED. DEPENDING ON THE HITCH CONFIGURATION (TRAILING OR 3-POINT). This will be 1 of 2 choices:

REFERENCE: COMPRESSED O.A. LENGTH			
SIZE	**RPM**	**TYPE & PART NO.***	**LENGTH**
1 3/4"	(1000)	20 Spline 3-Point 520-02159 *	39"
1 3/4"	(1000)	20 Spline Trailing 79202277 *	55"
*** Accessory**			

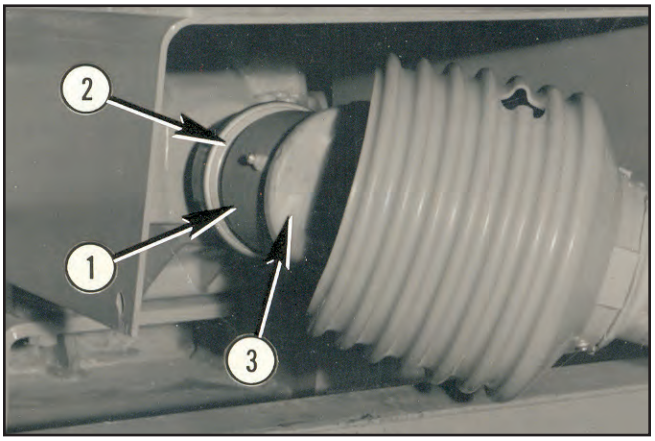


PHOTO NO. 2969A

PTO shafts have similar sliding yoke couplers at the tractor and gearbox ends. GEARBOX ENDS ARE IDENTIFIED BY AN OVERRUNNING CLUTCH (arrow 1).

Clean gearbox spline of any encrusted dirt or grease and lightly oil it. Slide outer PTO collar (arrow 2) toward its adjacent yoke (arrow 3) and slide PTO over the gearbox spline as shown in photo 2969A. Reverse the sliding collar to lock the assemblies together.

NOTICE: TO FACILITATE PTO HOOK UPS, CHECK TRACTOR SPLINE FOR BURRS, OR OTHER DAMAGE. IF SHREDDER/WINDROWER'S LOCKING COLLAR IS DIFFICULT TO PROPERLY ENGAGE, CLEAN AND LIGHTLY OIL SPLINE.

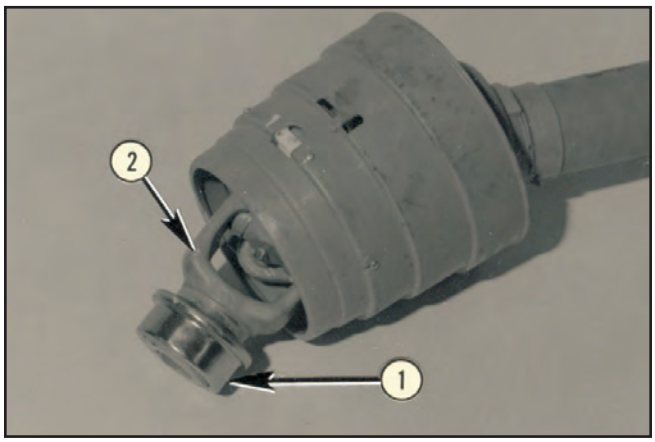


PHOTO NO. 2966A

The tractor PTO spline engages similar to above. Slide outer collar (arrow 1) toward its adjacent yoke (arrow 2) (see photo 2966A) and slide PTO over the tractor spline. Reverse the sliding collar to lock the assemblies together.

WARNING: DEATH OR SERIOUS INJURY CAN RESULT. NEVER OPERATE A SHREDDER/WINDROWER UNLESS BOTH ENDS OF THE PTO ARE PROPERLY LOCKED TO THEIR INTENDED SPLINES.

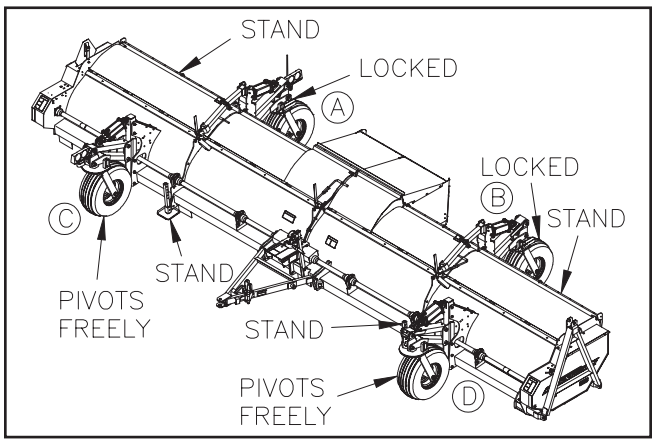
FIGURE 34 DWG. NO. 71504129

DANGER: DEATH OR SERIOUS INJURY CAN RESULT. KEEP AWAY AND KEEP OTHERS AWAY FROM AN OPERATING PTO. DO NOT OPERATE WITHOUT ALL SHIELDS IN PLACE. INSURE PTO SHIELDS FREE WHEEL AND BOTH PTO'S ENDS ARE SECURELY ATTACHED.

IMPORTANT: NEVER MOVE UNIT UNLESS THE PTO IS PROPERLY HOOKED UP TO BOTH TRACTOR AND SHREDDER/WINDROWER.

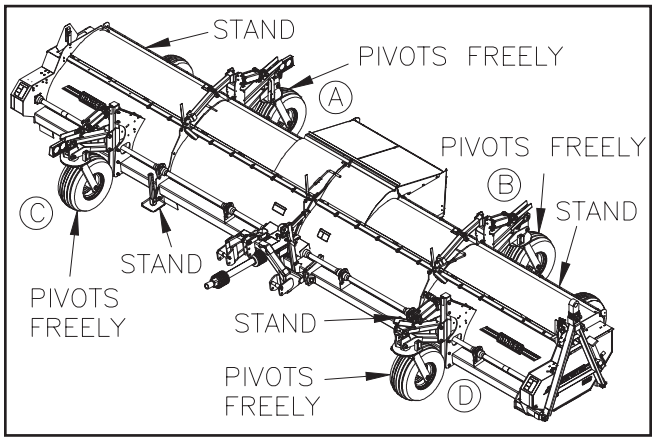
MACHINE CONFIGURATIONS

The 5630 is designed for (2) different configurations: Field mode and end transport mode. The caster wheels need to be put in different configurations for each mode.



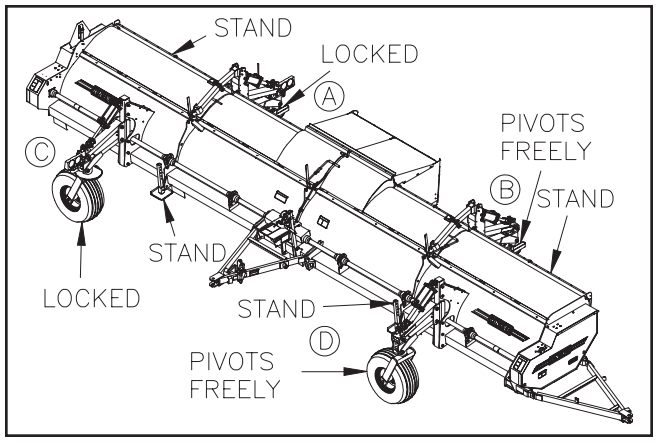
Field Mode Drawbar Hitch DWG. NO. 6342

For a drawbar hitch in field mode wheels (A) and (B) are locked in the forward position facing the field hitch and wheels (C) and (D) are free to pivot.



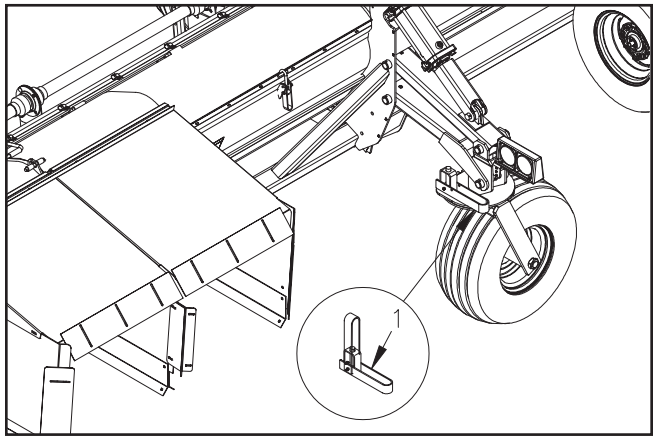
Field Mode Semi Mount Hitch DWG. NO. 6813

For a semi mount hitch machine in field mode all (4) wheels are free to pivot.



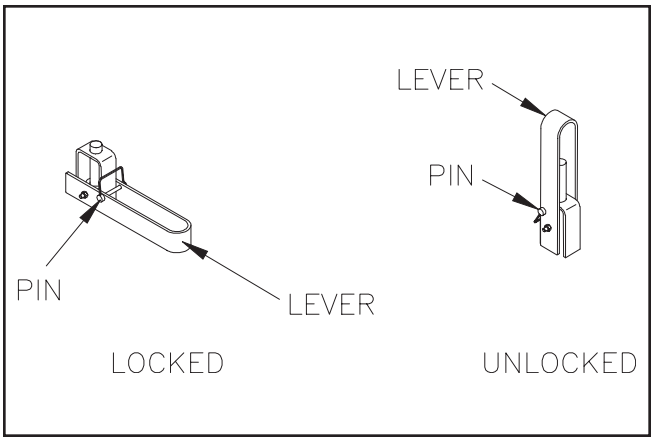
End Transport Mode DWG. NO. 6343

In end transport mode the machine is in the same configuration for both a pull type or a semi mount hitch. The machine is raised all the way and wheels (A) and (C) are locked facing the end transport hitch and wheels (B) and (D) are free to pivot.



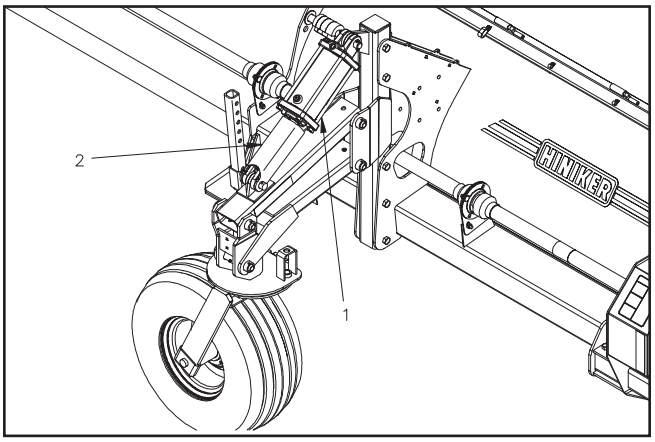
DWG. NO. 6344

To change wheel configurations the wheels can be unlocked by removing the tab lock pin and pulling up the spring loaded lever (arrow 1) until it stays vertical. Reinsert the tab lock pin into the hole provided in the lever to prevent the wheel from relocking (refer to DWG 6393).



DWG. NO. 6393

The wheels then lock when the tab lock pin is removed and the lever is pushed down. The spring pushes the pin into the bottom caster wheel weldment hole.



DWG. NO. 6812

The hydraulic lift cylinders on the 5630 are all in series causing the machine to lift uniformly. The cylinder attached to wheel (D) (arrow 1) is the master cylinder and the other (3) cylinders are subject to that cylinder.

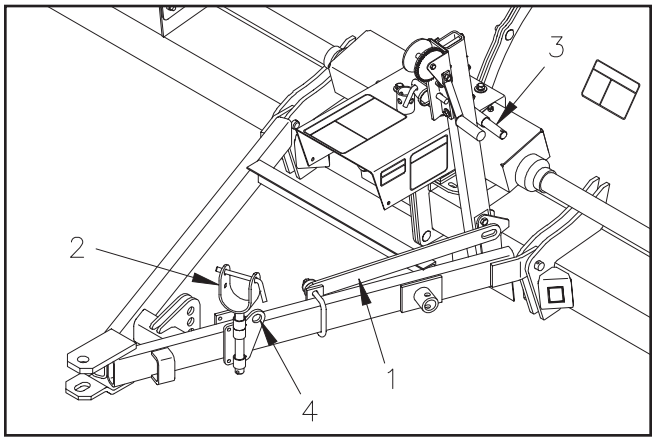
There are cylinder stops (arrow 2) provided to go over the cylinder rods preventing collapse of the cylinder and lowering of the machine. These should be used at all times when end transporting or working on the machine.

FIELD MODE (DRAWBAR HITCH)

The first step to making the 5630 field mode ready is to verify that the caster wheels are in the correct position.

To be in field mode with a drawbar hitch wheels (A) and (B) need to be pointed forward and locked in line with the field hitch (refer to DWG 6342 page 13). Wheels (C) and (D) need to be free to pivot.

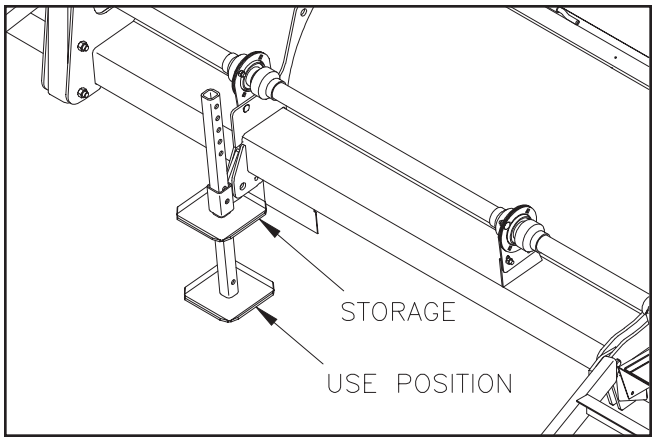
To change to field mode with a drawbar hitch raise the end transport hitch with the winch until the hitch can be unhooked from the tractor. Unhook the tractor from the end transport hitch. Next put the end transport hitch and jack in their storage positions.



DWG. NO. 6784

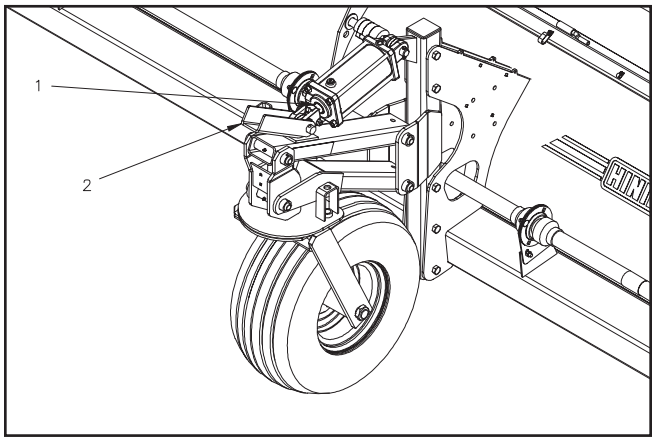
To lift the machine first raise the drawbar hitch slightly with winch and unlatch transport bar (arrow 1) from peg on bolted angle attached to winch mount. Next lower the hitch with the winch until the hitch clevis is in the correct height to line up with the tractor draw bar. Attach the tractor to the field hitch.

For a drawbar type hitch, lift the PTO shaft from the PTO holder (arrow 2) and attach it to the tractor. Next remove the PTO holder from the hitch and secure in its storage position (arrow 3) remove the winch strap hook from the eye in the bolt on plate (arrow 4) and secure the hook to the PTO holder pin. Wind up the excess strap on the winch. Remove the hydraulic couplers from the mount plate and insert the hydraulic couplers into the tractor.



DWG. NO. 6713

Raise the machine all the way up. Lower the (4) stands and pin them in their lowest position.



DWG. NO. 6807

Pivot hydraulic cylinder stops (arrow 2) out of cylinders.

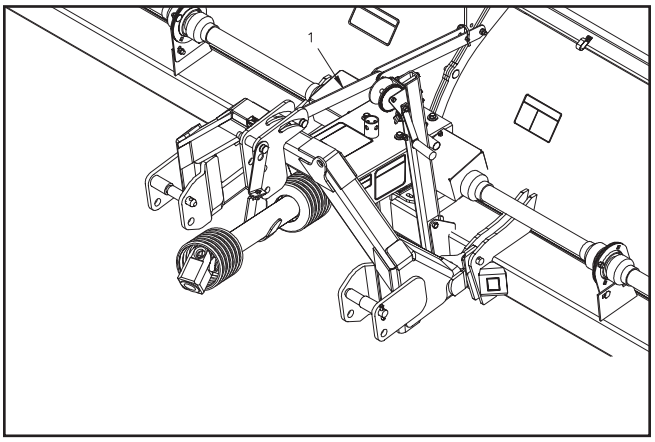
Lower the machine onto the stands until all (4) wheels are off of the ground. Manually turn wheels (A) and (B) into field position. Lower the spring loaded latch to lock them in position. If the wheels turn extremely hard, loosen the nuts on the caster wheel stem until the wheels can be turned by hand. Unlock wheel (C) by lifting up on the spring loaded latch until it is vertical. Once the rear field wheels are locked in position raise the machine all the way up. Raise the stands into the storage position.

If machine height is known insert enough hydraulic cylinder stop blocks (arrow 1) around left front cylinder shaft to hold machine at required height. Lower machine onto stop blocks.

FIELD MODE (SEMI MOUNT HITCH)

To be in field mode with a semi mount hitch, all wheels need to be free pivot.

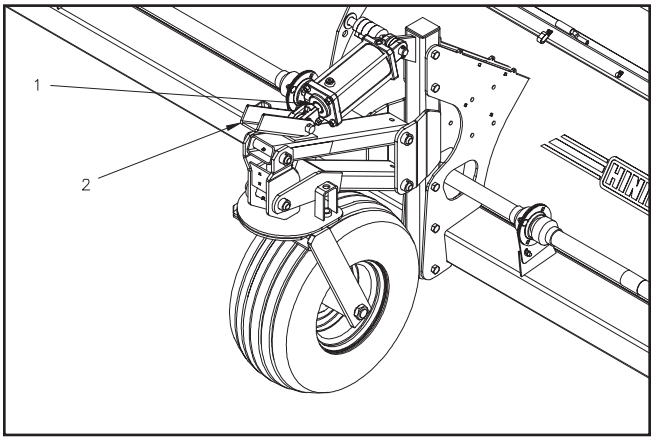
To change to field mode raise the end transport hitch with the winch until the hitch can be unhooked from the tractor. Unhook the tractor from the end transport hitch. Next put the end transport hitch and jack in their storage position.



DWG. NO. 6804

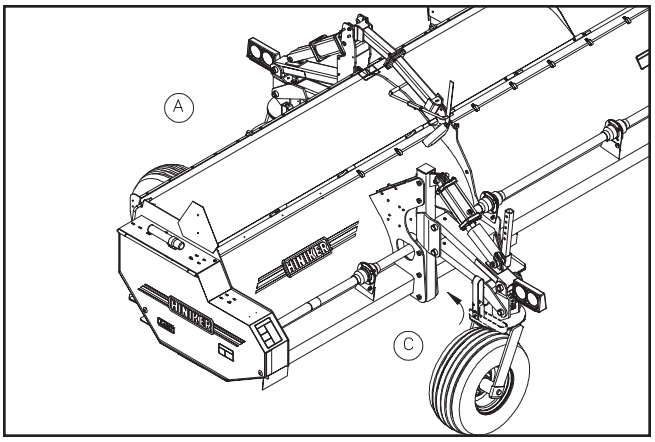
Attach tractor quick hitch to semi mount hitch pins. Raise semi mount hitch with tractor until safety strap (arrow 1) can be unlatched from 3-point hitch slot.

Lower hitch to field mode. Raise machine all the way up.



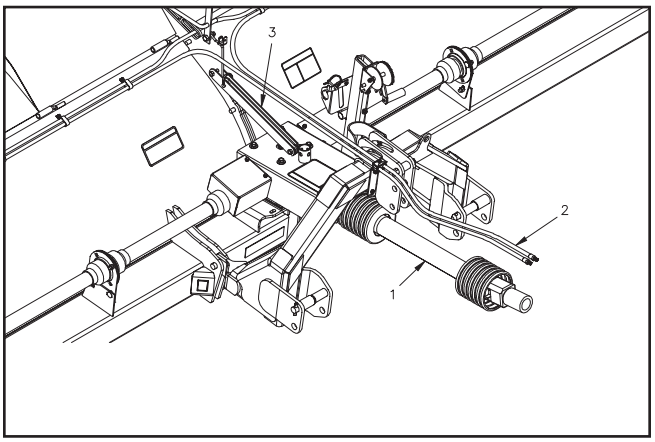
DWG. NO. 6807

Pivot hydraulic cylinder stops (arrow 2) out of cylinders. If machine height is known insert enough hydraulic cylinder stop blocks (arrow 1) around left front cylinder shaft to hold machine at required height. Lower machine onto stop blocks.



DWG. NO. 6802

Unlatch wheel locks on wheels (A) and (C). This can be done by removing the tab lock pin and pulling up on the wheel lock lever. All (4) wheels will be free to pivot.



DWG. NO. 6806

Hook up PTO (arrow 1) and hydraulic lines (arrow 2) to tractor. Fold up safety lock (arrow 3) straps and store close to machine. Raise machine with tractor.

For all machines the optimum height needs to be found.

IMPORTANT: INITIALLY START WITH UNIT SET SUBSTANTIALLY HIGHER THAN THE RECOMMENDED MINIMUM KNIFE ROW CLEARANCE OF 3".

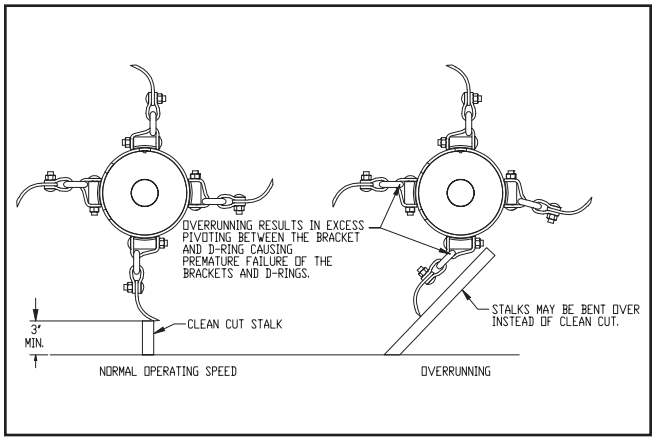
Shred/Windrow a short distance and check performance. The higher knife/row clearance may not give satisfactory results; therefore, lower unit and check again. Progressively lower unit until good results are obtained. **DO NOT OPERATE WITH LESS THAN 3" KNIVES CLEARANCE TO HIGHEST GROUND POINT WITHIN TRAVERSED WIDTH.**

Best retrieval of residue from the windrow in the field requires that the material is LESS FINELY SHREDDED than with conventional shredding only. Thus, the HINIKER shredder/windrower uses lower rotor tip speed than on comparable HINIKER shredders. Sufficiently aggressive suction is provided by configuring only with cup knives.

Obviously, GROUND SPEED is a major determinant of windrow material fineness. Within reasonable limitations, ground speed ought to Balance

SHREDDING FINENESS AND GROUND CLEAN UP EFFICIENCY. Since terrain, moisture and crop density also enter the equation, it is impossible to suggest ground speed specifics.

IMPORTANT: "SCALPING" ROWS WASTES FUEL AND RAPIDLY ACCELERATES KNIFE AND D-RING WEAR. THIS IS PARTICULARLY TRUE IN ROCKY FIELDS. IF YOUR FIELD HAS PROTRUDING ROCKS, KEEP UNIT'S HEIGHT SUFFICIENT FOR KNIVES TO CLEAR THEM. THIS UNIT IS NOT INTENDED AS A "ROCK PICKER", OR A "ROTOTILLER".



DWG. NO. 6414

IMPORTANT: DO NOT OVERRUN THE MACHINE OR RUN THE MACHINE IN OR TOO CLOSE TO THE GROUND. DO NOT TRAVEL AT EXCESSIVE GROUND SPEED FOR YOUR CROP CONDITION OR UNDER SPEED THE PTO. OVERRUNNING THE MACHINE RESULTS IN EXCESSIVE D-RING AND BRACKET WEAR.

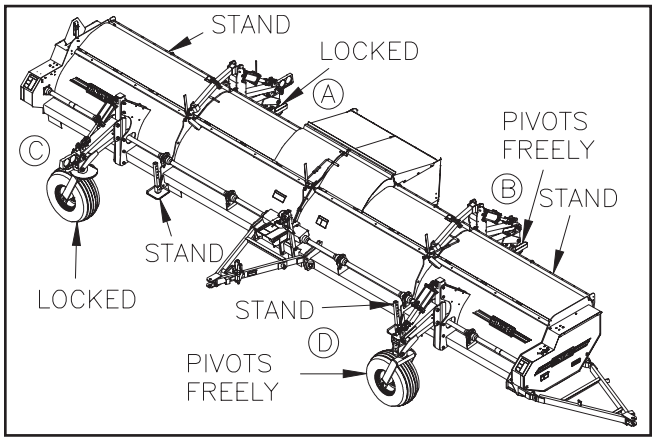
Overrunning the machine results in tipping or bouncing back of the knives. This results in pivoting between the D-ring and bracket causing unnecessary D-ring wear which causes premature failure of the D-rings. Damp or heavy crop conditions require much slower ground speed. Stalks that are cut at different lengths or bent over not clean cut are signs of overrunning the machine.

Once the optimal height is found insert enough cylinder spacer sleeves around the shaft of the master cylinder attached to wheel (D) between the cylinder body and clevis where the cylinder stop was removed to prevent the cylinder from collapsing further and lowering the machine.

END TRANSPORT MODE

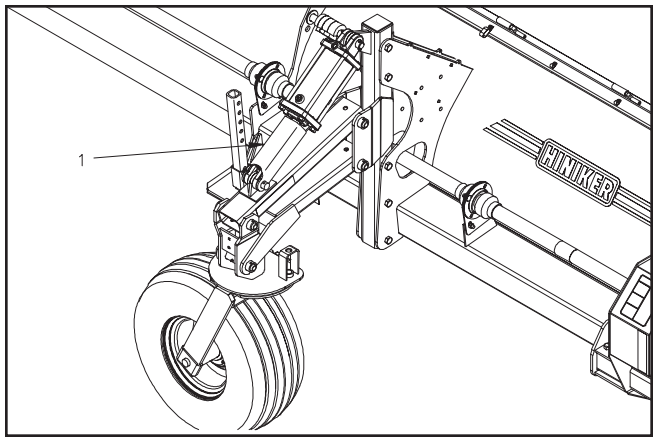
For end transport mode the machine configuration is the same for both a drawbar or semi mount hitch.

During end transport wheels (A) and (C) must be locked into position. To lock the wheels in position raise the machine all the way up.



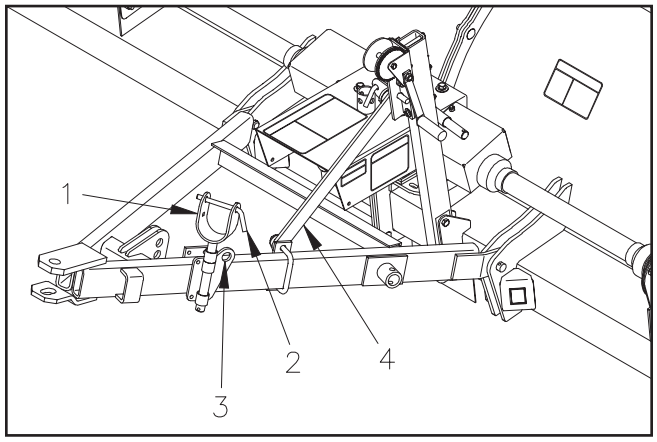
DWG. NO. 6343

Lower the (4) stands and pin them in their lowest position. Lower the machine onto the stands until all (4) wheels are off of the ground. Manually turn wheels (A) and (C) into the end transport position. Lower the spring loaded latch to lock them in position. If the wheels turn extremely hard, loosen the nuts on the caster wheel stem until the wheels can be turned by hand. If the machine has a drawbar hitch, unlock wheel (B) at this time. Once the rear end transport wheels are locked in position raise the machine all the way up. Raise the stands into the storage position.



DWG. NO. 6810

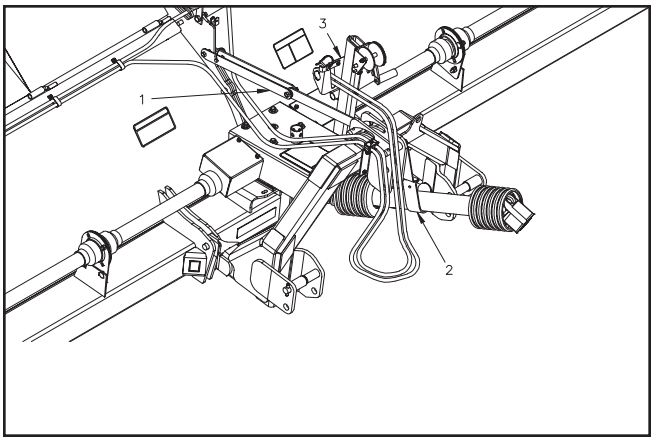
Rotate (4) hydraulic cylinder stops (arrow 1) into place.



DWG. NO. 6788

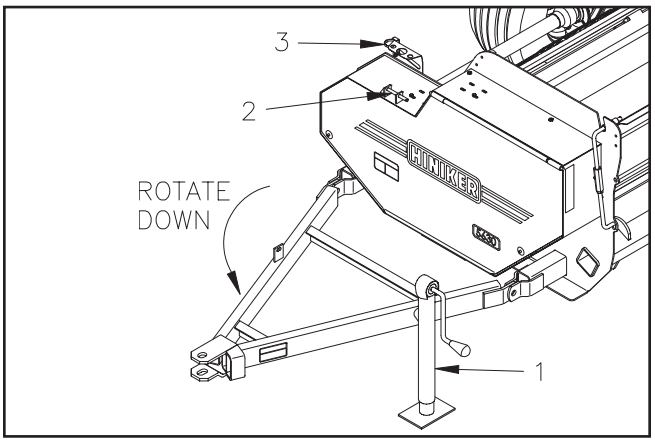
For a drawbar field type hitch remove PTO holder from storage position and install on hitch.

Unhook the PTO shaft from the tractor. Set the PTO shaft in the PTO holder (arrow 1) use the provided pin (arrow 2) to prevent the PTO from coming out of the PTO shaft holder. Uncouple hydraulic hoses and insert them into the hydraulic hose holder. Attach the winch hook to the eye (arrow 3) on the bolted plate on the hitch. Raise the hitch clevis from the tractor drawbar. Unhook tractor from field hitch. Raise the hitch and PTO shaft using the winch, until they can be locked in position using the transport lockbar (arrow 4). Unhook winch strap from hitch and wind up excess strap material.



DWG. NO. 6811

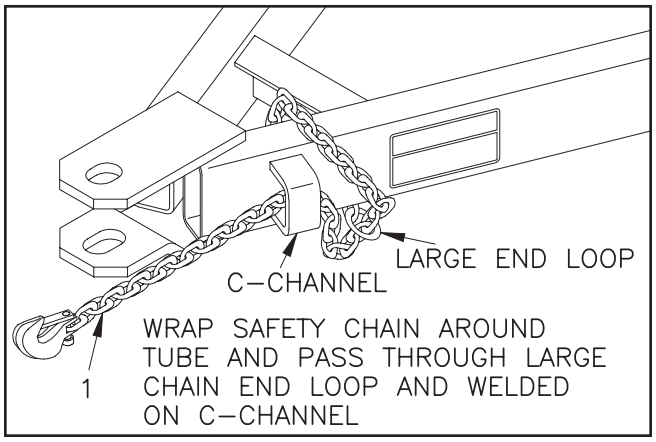
For a semi mount hitch unhook tractor PTO and hydraulic lines from tractor. Put PTO shaft (arrow 2) and hydraulic couplers (arrow 3) in their respective holders for storing. Hook up end transport hitch straps (arrow 1) into 3-point hitch slots to hold the hitch in position when machine is towed.



DWG. NO. 6345

Attach winch strap around angle on front of hitch. Pull the pin (arrow 2) securing the end transport hitch in the up position. Rotate the hitch down slightly with winch.

Attach the jack (arrow 1) to the tube mount on the hitch so that the pad will touch the ground when the jack is in its working position. Lower the end transport hitch until the jack pad touches the ground. Using the jack raise or lower the hitch so the hitch clevis will be at the correct height for the tractor draw bar. Unhook winch and wind up strapping. If machine has end transport hydraulic hoses, store at this time.



DWG. NO. 6397

Attach the tractor to the end transport hitch and move the jack to the tube mount on top of the gear box. Make sure to attach the safety chain (arrow 1) to the tractor and A frame hitch channel as described in DWG 6397.

Insert the electrical connector into the corresponding receptacle on the tractor. Verify all tail, turn, and warning lights work. Verify the SMV sign is in the correct position (arrow 1 DWG 6815 on page 20).

END TRANSPORT TOWING

The 5630 windrow shredder can only be towed down public highways in end transport mode. Refer to END TRANSPORT MODE section on page 17 for converting the machine into end transport mode. Towing the shredder in field mode down public highways will violate local regulations and is prohibited.

CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. WHEN TOWING ON PUBLIC HIGHWAYS:

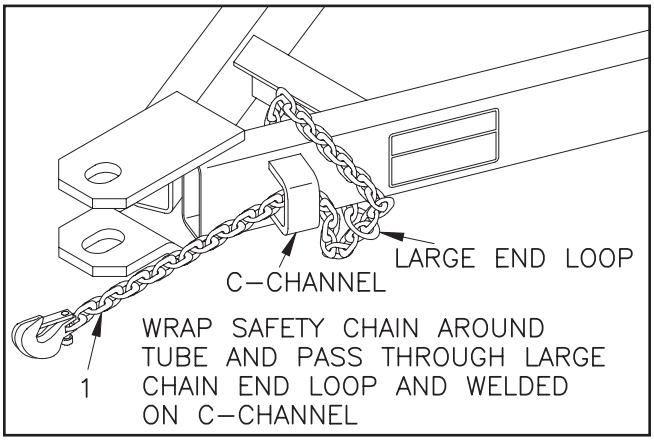
USE A TRACTOR OF SUFFICIENT SIZE, AND WEIGHT, REQUIRED FOR FIELD OPERATION.

DO NOT TOW AT SPEEDS IN EXCESS OF 25 MPH (40 KPH).

USE THE PROVIDED SAFETY TOWING CHAIN BETWEEN TOWING VEHICLE AND SHREDDER/WINDROWER.

USE THE SMV EMBLEM AS SPECIFIED AND STORE PTO SHAFT IN PTO HOLDER.

CHECK LOCAL REGULATIONS ON TOWING WIDTH AND WARNING LIGHTS.



DWG. NO. 6397

Attach the safety towing chain between machine and towing vehicle. Wrap safety chain (arrow 1) around the hitch tube then pass chain through the large chain end loop and welded on C-channel.

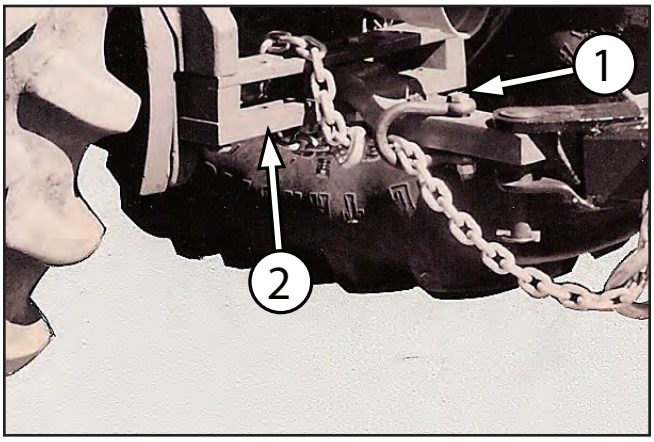
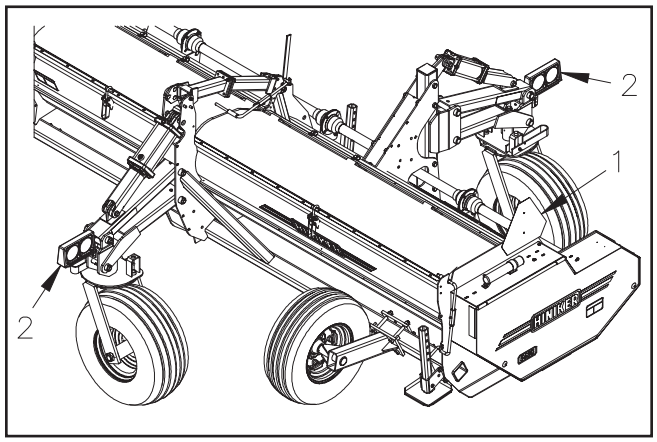


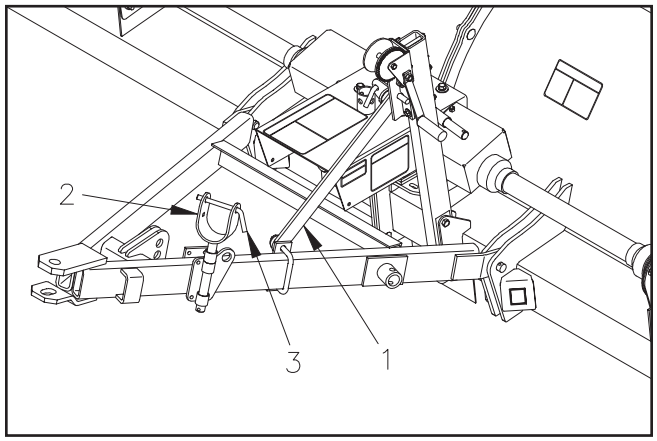
PHOTO NO. 3550B

Pass chain forward through aftermarket clevis (arrow 1). Fix chain's forward end (arrow 2) to tractor.



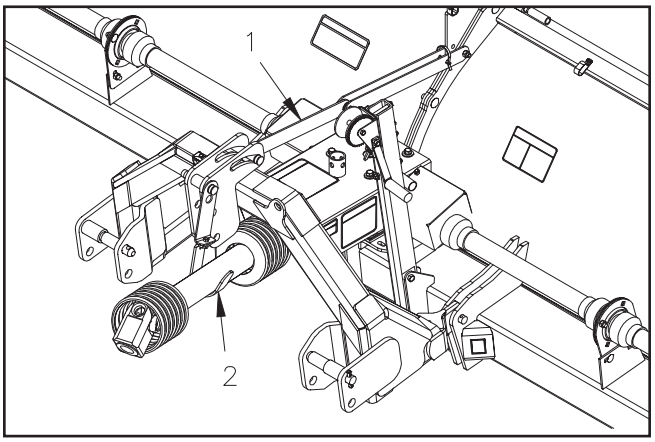
DWG. NO. 6815

Check that the SMV sign is in the correct location (arrow 1). Insert the 7 pin electrical connector into the tractor. Verify that the warning lights, tail lamps, and turn indicators (arrow 2) all work correctly.



DWG. NO. 6789

When end transporting the 5630 make sure the hitch is securely held in transport position. For a drawbar hitch verify the hitch is locked with the transport lock bar (arrow 1). Verify that the PTO holder (arrow 2) is locked in position. The PTO shaft must be in the PTO holder and cross pin (arrow 3) is inserted preventing the PTO shaft from bouncing out during transport.



DWG. NO. 6816

For a semi mount hitch make sure the hitch is securely held in transport position. Verify the hitch is locked with the transport lock bar (arrow 1). Verify that the PTO is in its holder (arrow 2) and hydraulic lines are in their respective holder.

AUGER CLEANOUT (MODEL 5630/5630H ONLY)

The 5630 machine is equipped with a clean out feature if the auger trough ever becomes clogged. The auger trough should be checked if a shear bolt is ever sheared. To clean out or check the auger trough area first verify that all motion in the machine has come to a complete stop.

WARNING: DEATH OR SERIOUS INJURY CAN RESULT. DISENGAGE PTO. STOP TRACTOR ENGINE, REMOVE KEY AND ALLOW EQUIPMENT TO COME TO A COMPLETE STOP BEFORE ADJUSTING, CLEANING, UNCLOGGING, LUBRICATING, INSPECTING, OR OTHERWISE SERVICING, ANY PART OF THIS EQUIPMENT.

DWG. NO. 71504127

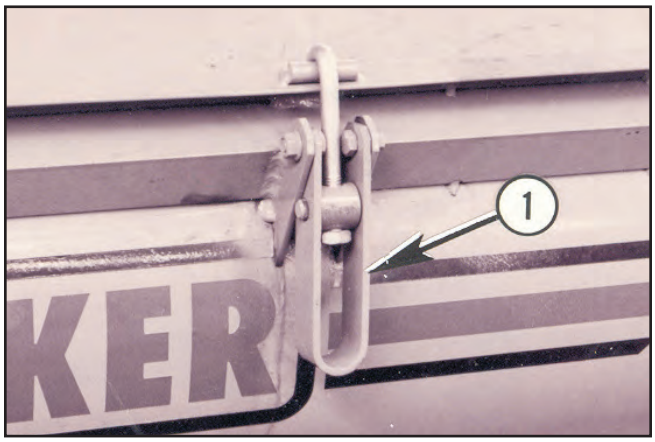
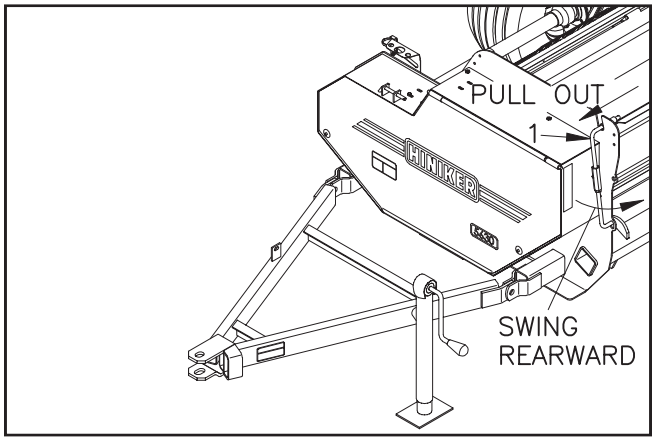


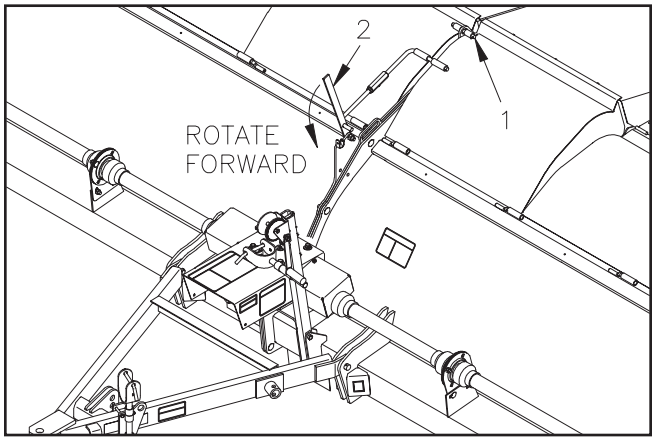
PHOTO NO. 3530

First unclamp the (6) latches at the rear of the machine (arrow 1).



DWG. NO. 6350

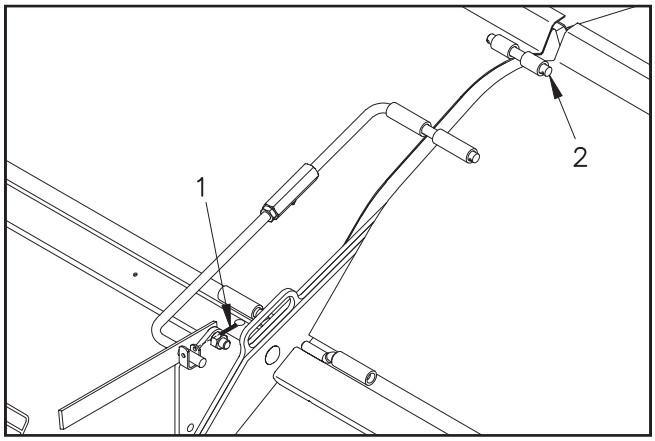
At both ends of the machine an end rod secures the covers in position. Remove hair pin cotter from both rods. Pull each end rod (arrow 1) out of its slot and swing upwards and towards the rear of the machine.



DWG. NO. 6352

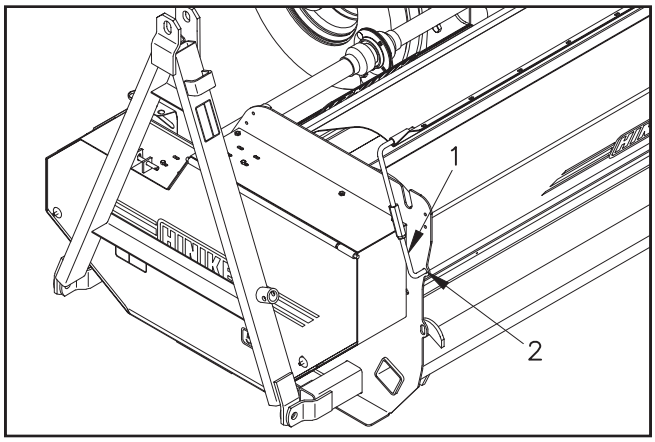
At the center of the machine remove the center pin (arrow 1) securing the inner covers to the center of the machine.

Raise the covers with the (3) levers (arrow 2) provided at the center of the machine and between each set of covers. Pull the levers forward.



DWG. NO. 6351

Secure each lifting lever with a lynch pin (arrow 1). Put the center locking pin in its storage position (arrow 2).



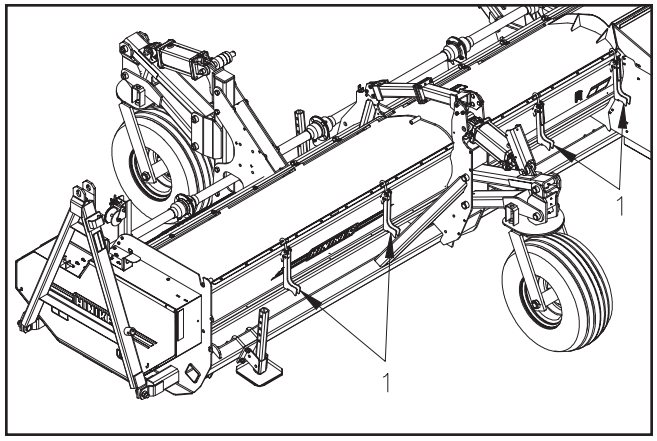
DWG. NO. 6353

Insert the ends of the rods (arrow 1) into the appropriate holes (arrow 2) on both ends of the machine and secure them with the removed hair pin cotter.

Once the auger trough is checked and unclogged reverse the above steps to close and lock the covers.

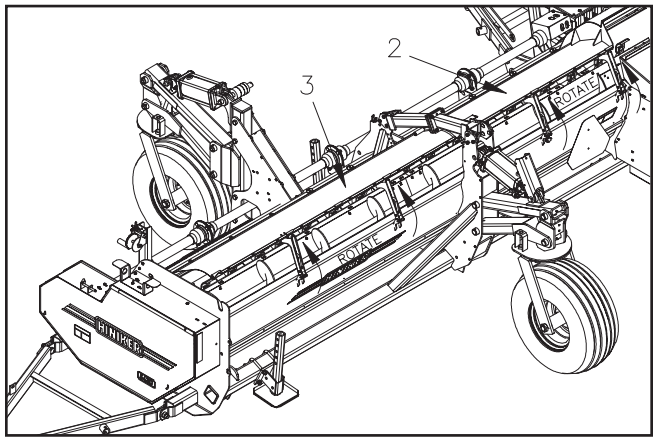
AUGER CLEANOUT (MODEL 5630HL/5631 ONLY)

If an auger on a 5630HL/5631 becomes clogged during operation the auger cover needs to be opened. To open these covers first unlatch the latches (arrow 1) at the back of the machine.



DWG. NO. 7107

Lift the inside cover up (arrow 2) an simultaneously flip both cover latches up into position. Now open the outer cover (arrow 3) and rotate the cover latches into position. Both pairs of covers on a machine half can be opened this way and opened independently of the other half of the machine. Reveres the previous steps once all material is removed from auger trough area to close covers.



DWG. NO. 7106

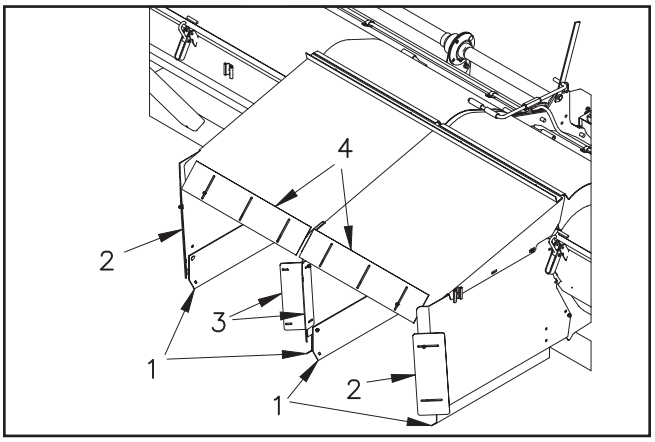
DISCHARGE ADJUSTMENT

The Hiniker 5630 windrower shredder makes “double swath” windrows in a single pass. The windrow is about 5 1/2 feet wide. This permits longer pattern tractor weaving; thus, giving a dense bale that is not “barrel shaped”. It is not recommended to try to create windrows as wide as a baler’s pickup.

Optimum windrow building is HIGHLY DEPENDENT ON SPECIFIC CROP, FORWARD SPEED AND MOISTURE. Generally, only small chute adjustments may be necessary.

To facilitate this, adjustments are provided in the discharge chute deflectors by adjusting these deflectors a level uniform windrow can be achieved.

The discharge chute has (4) adjustments per side on the 5630.



DWG. NO. 6355

- The RH/LH side plate each have a reversible bottom deflector (arrow 1). The deflector can be bolted to either the long or short side.

- The outside panels have an adjustable slotted deflector (arrow 2) that can be adjusted by loosening the (2) 5/16” carriage bolts.

- The inner panel has a reversible and adjustable deflector (arrow 3) on both sides.

- The top panels have slotted deflectors (arrow 4) that can be adjusted by loosening the (3) 5/16” carriage bolts per deflector.

- Any adjustable deflector can be completely removed.

STORAGE

The following will insure equipment is in top operating condition at start of next season.

1. Open end shields and thoroughly clean out dirt and trash. Clean out any other trash hanging on unit. Check drive shaft and gearbox bearing seals for trash entanglement.

2. Back off backwrap belt idlers to relax tension on “V” belts. Inspect belts for wear.

3. Clean debris from PTO ends and insure safety shield freely rotates.

4. Relube machine and check gearbox lube level.

5. Clean rust off exposed surfaces and repaint any requiring it.

6. Inspect all rotor assemblies for lost, broken, or worn out knives. Replace these as required.

7. Ensure auger trough is clear of dirt and trash.

8. Check machine for loose hardware and deteriorating parts.

9. Remove auger drive chain and thoroughly wash in diesel fuel or degreaser solvent. Let soak over night in light machine oil before reinstalling.

10. Remove auger drive sprocket shearbolts and spin each sprocket to ensure shear flanges are not frozen. Lightly wipe shear arm area on sprocket with grease. Replace shearbolt with head outward. Also lube sprocket bushing with a few drops of oil.

11. Store PTO shaft and hydraulic hoses in the correct holders.

LUBRICATION

HINIKER machines have been factory checked and lubricated. However, it is a good idea to re-check and relubricate a unit prior to first field operation.

Shredders/windrowers operate in an extremely dirty (fine dust) environment. Proper maintenance and lubrication will increase the life of the machine.

IMPORTANT: WIPE ALL ZERKS AND GUN TIPS BEFORE LUBRICATING. ADHERE TO 1 PUMP PER FITTING ON A WEEKLY INTERVAL, EXCEPT AS SHOWN.

DO NOT OVER LUBRICATE. OVER LUBRICATION IS A MAJOR CAUSE OF BEARING SEAL AND BEARING FAILURE. USE ONLY ONE PUMP PER FITTING DAILY UNLESS OTHERWISE NOTED.

Replace any damaged fittings. Use a good grade of lithium base grease, except as shown.

Asterisk (*) notations on the lubrication table should be followed.

Item 4 - C.V. double yoke: REQUIRES 15 TO 20 PUMPS. See photo 100-1764A.

Item 19 - inner coupling (2) per machine requires 20 to 25 pumps. See DWG 6363.

Gearbox fill (arrow 10), check (arrow 11) and drain plugs (arrow 12): CHECK BY MEASURING 3 7/8" - 4" TO LUBE LEVEL THRU PLUG (10), OR USE CHECK PLUG (11) AT REAR OF GEARBOX. BLOW DEBRIS FROM PLUG (10) AREA BEFORE REMOVING IT. See drawings 6357 and 6358.

Use Mobile SHC 80 w 90 lube or equivalent.

Auger drive chain (arrow 23) photo 9104C: LIGHTLY OIL WITH NO HEAVIER THAN 10W-30 OIL, OR AEROSOL CHAIN LUBE AT END OF DAY WHEN CHAIN IS HOT. ON FOLLOWING DAY, BEFORE STARTING MACHINE, WIPE OFF EXCESS OIL.

IMPORTANT: DO NOT OVER LUBE CHAIN TO EXTENT OF INDUCING BELT OR SHEAVE OIL CONTAMINATION.

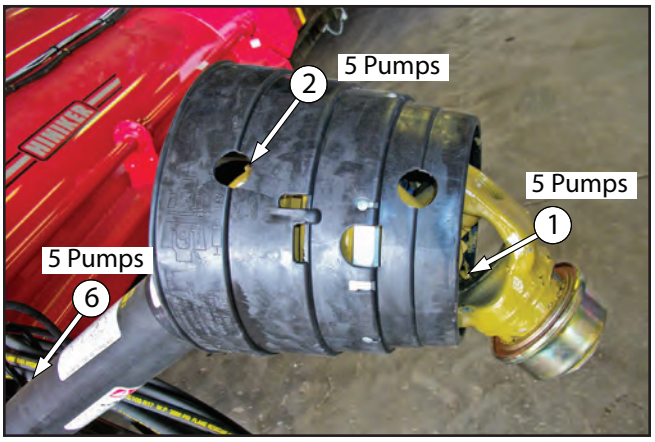
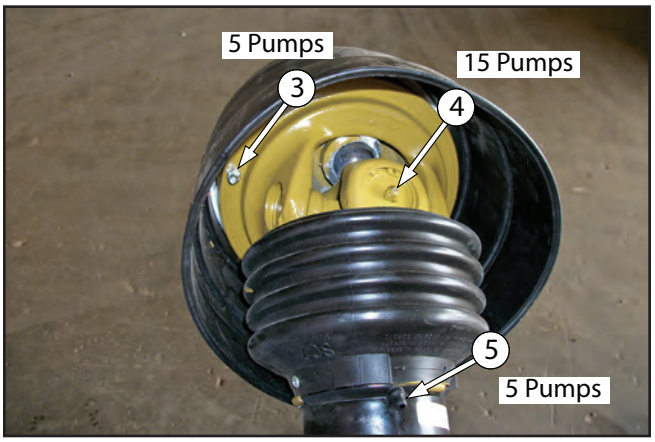


PHOTO NO. 100-1762A



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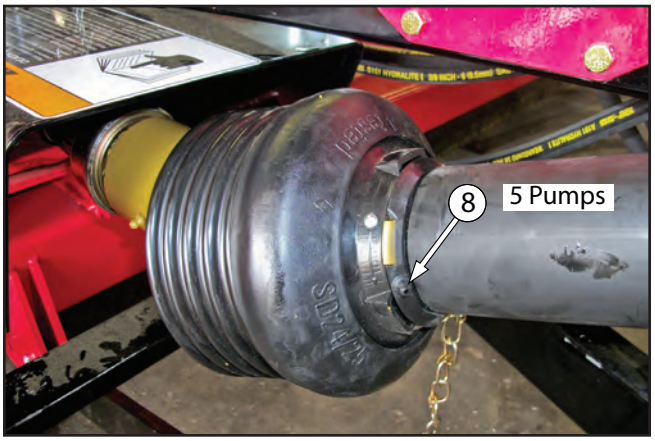

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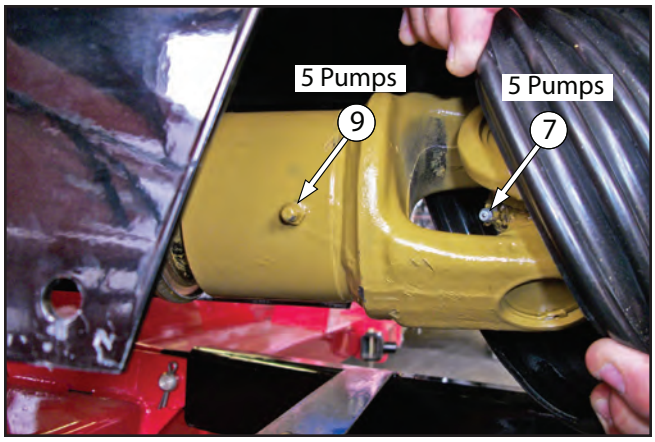

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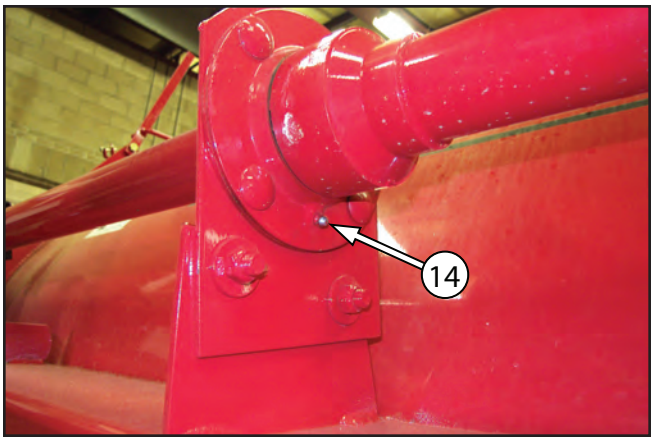

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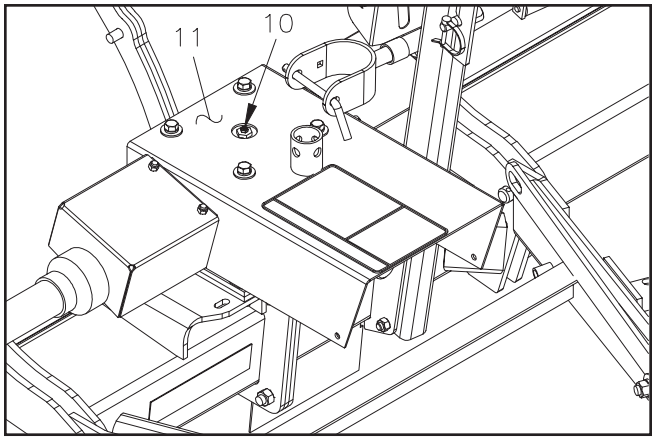


DWG. NO. 6358

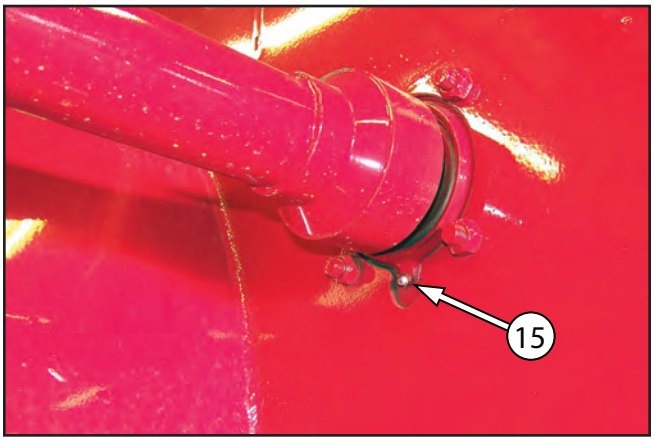
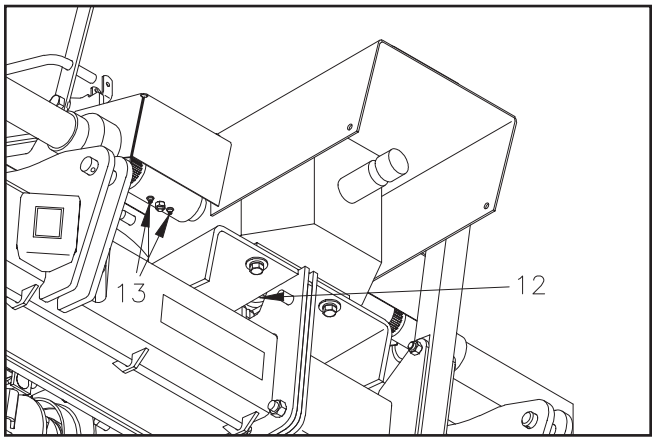


PHOTO NO. 9121A



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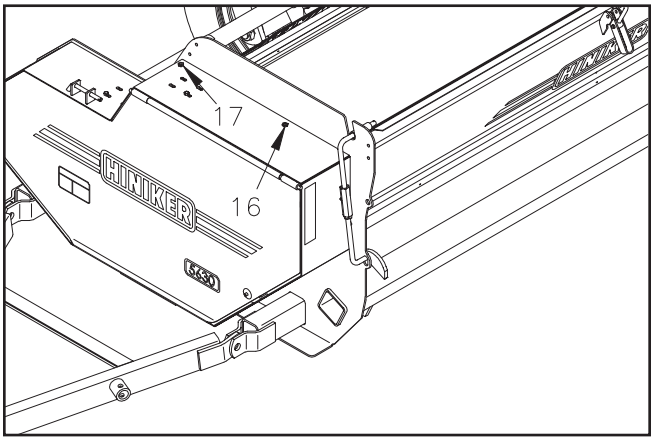

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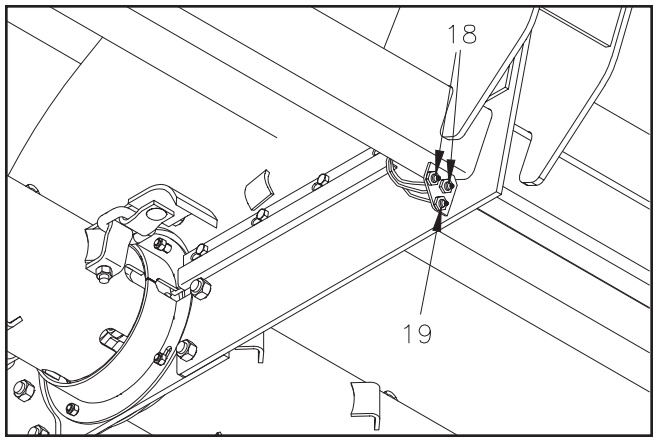

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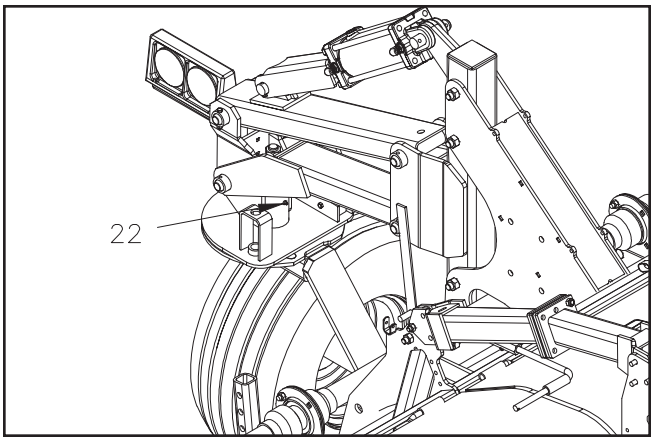

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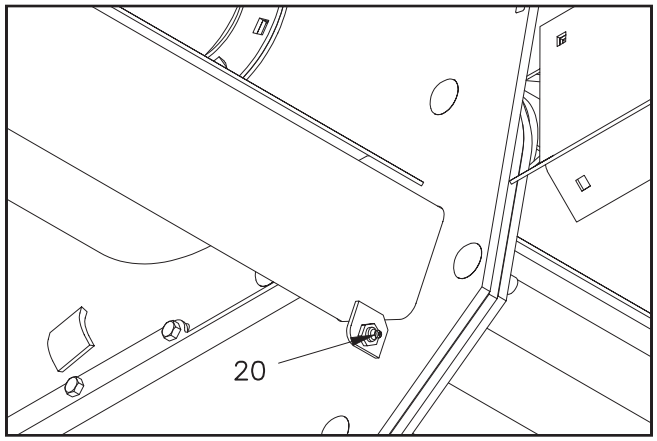

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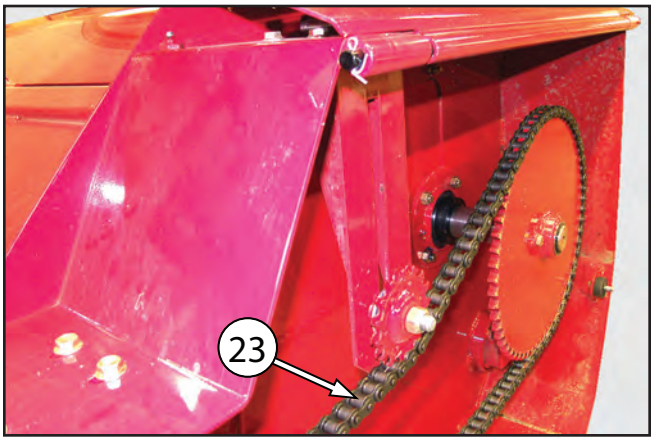

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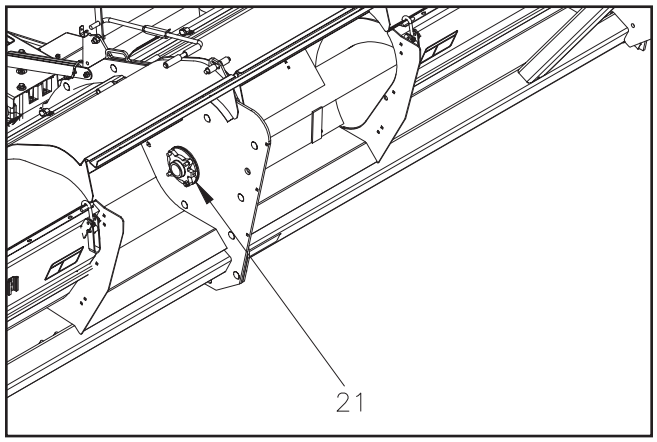

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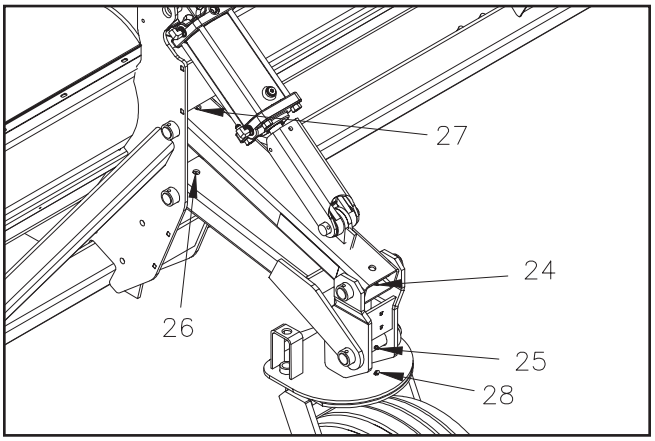


DWG. NO. 6360

LUBRICATION			
ITEM	**IDENTIFICATION**	**NO.**	**INTERVAL**
1	C.V. PTO Front Cross	1	Daily
2	C.V. PTO Shield	1	Daily
3	C.V. PTO Double Yoke	1	Daily
4	C.V. PTO Rear Cross	1	Daily*
5	PTO Front Rotating Shield	1	Daily
6	PTO Sliding Engagement	1	Daily
7	PTO Rear Center Cross	1	Daily
8	PTO Rear Rotating Shield	1	Daily
9	Overrun Clutch	1	Daily
10	Gearbox Fill Plug	1	Seasonal*
11	Gearbox Check Plug	1	Seasonal*
12	Gearbox Drain Plug	1	300 Hr.*
13	Cross Shaft Connection	4	Weekly
14	Cross Shaft Center Bearings	6	Weekly
15	Cross Shaft Outer Bearings	2	Weekly
16	R.H./L.H. Outer Auger Bearings	2	Weekly
17	R.H./L.H. Outer Rotor Bearings	2	Weekly
18	Center Rotor Bearings	4	Weekly
19	Inner Couplings	2	Weekly*
20	R.H./L.H. Inner Rotor Bearings	2	Weekly
21	Inner Auger Bearings	2	Weekly
22	Main Caster Wheel Pivot	4	Weekly
23	Auger Drive Chain	2	Weekly
24	Outer Top Parallel Link	4	Weekly
25	Outer Bottom Parallel Link	4	Weekly
26	Inner Bottom Parallel Link	4	Weekly
27	Inner Top Parallel Link	4	Weekly
28	Caster Wheel Plate Pivot	4	Weekly

* SEE PRIOR SPECIFIC INSTRUCTIONS

TROUBLE SHOOTING

CONDITION	POSSIBLE CAUSE	CORRECTION
Poor shredding.	1. Missing, or broken knives.	1. Inspect and replace. See SERVICE section.
	2. Knives worn out.	2. Same as above.
	3. Under speed PTO.	3. Check tractor for 1000 PTO RPM.
	4. Slipping belts.	4. Check belts backwrap idler adjustment. See SERVICE Section
	5. Worn out belts.	5. Inspect belts for wear. Replace as needed.
	6. Shredder bouncing.	6. Deflate tires slightly. Slow down ground speed.
	7. Operating too high.	7. Decrease knives operating height to approximately 3” above rows.
	8. Excessive ground speed.	8. Slowdown.
Excessive knife wear and damage.	1. Operating too low.	1. Raise knives operating height to approximately 3” above rows.
	2. Running too low.	2. Raise knives operating height to approximately 3” above rows, or to clear rocks.
Excessive shearbolt failure.	1. Overloading auger.	1. Slow ground speed.
	2. Tough, damp crop.	2. Let dry.
	3. Wrong shearbolt.	3. Use Grade 8, head out.
	4. Material wedging.	4. Check auger and trough for damage and correct.

CONDITION	POSSIBLE CAUSE	CORRECTION
Entire shredder crosswise “yawing”.	1. Rear caster wheels not locked.	1. Lock caster wheels.
Excessive shredder vibration.	1. Missing or broken knives.	1. Inspect and replace. See SERVICE section.
	2. Rock damaged rotor.	2. Replace.
	3. Worn or loose rotor bearings.	3. Inspect and maintain. See SERVICE section.
	4. Loose or misaligned end sheaves.	4. Inspect and maintain. See SERVICE section.
	5. Deteriorated belts.	5. Replace belts.
	6. High tire air pressure.	6. Bleed to tire recommended PSI.
	7. Damaged auger.	7. Inspect and maintain. See SERVICE Section.
Too rapid belt wear.	1. Belts too loose or too tight.	1. Backwrap idler tension not properly maintained. See SERVICE section.
Excessive power required for available tractor.	1. Excessive ground speed.	1. Slow Down
Shredder not picking up material.	1. Too high.	1. Decrease knife operating height to a minimum of 3 inches.
	2. Excessive ground speed.	2. Slow down.

SERVICE

WARNING: DEATH OR SERIOUS INJURY CAN RESULT. BEFORE SERVICING, READ SAFETY-GENERAL, BEFORE OPERATION, DURING OPERATION AND SERVICE AT FRONT OF THIS MANUAL.

CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. DISENGAGE PTO, STOP TRACTOR ENGINE, SET BRAKES, REMOVE KEY AND ALLOW EQUIPMENT TO COME TO A COMPLETE STOP BEFORE:

CLEANING, UNCLOGGING, LUBRICATING, INSPECTING, OR OTHERWISE SERVICING, ANY PART OF THIS EQUIPMENT.

DO NOT SERVICE OR OTHERWISE HANDLE A HYDRAULIC RAISED UNIT IN A RAISED POSITION UNLESS IT IS SECURELY BLOCKED AGAINST UNEXPECTED FALLING AND THE (4) PROVIDED HYDRAULIC CYLINDER STOPS ARE IN POSITION.

DO NOT SERVICE END DRIVE BELTS WHEN TRACTOR IS RUNNING.

REPLACE ALL SHIELDS REMOVED FOR SERVICE BEFORE OPERATING THIS EQUIPMENT.

HARDWARE

Shredder/windrowers operate in an inherently vibratory environment. Discipline yourself to regularly check suspect bolt torque values and lost, worn out, or broken parts. Replace these promptly.

TABLE 1 - RECOMMENDED TORQUE VALUES FOR INCH FASTENERS (ZINC PLATING & LUBRICATED)**

Nominal Size	SAE 5 120 000 psi Min Tensile lb - ft		SAE 8 150 000 psi Min Tensile lb - ft	
	Dry	Lubricated	Dry	Lubricated
1/4-20 1/4-28	8 10	6 7	12 14	9 10
5/16-18 5/16-24	17 19	13 14	25 25	18 20
3/8-16 3/8-24	30 35	23 25	45 50	35 35
7/16-14 7/16-20	50 55	35 40	70 80	55 60
1/2-13 1/2-20	75 90	55 65	110 120	80 90
9/16-12 9/16-18	110 120	80 90	150 170	110 130
5/8-11 5/8-18	150 170	110 130	220 240	170 180
3/4-10 3/4-16	260 300	200 220	380 420	280 320
7/8-9 7/8-14	430 470	320 350	600 660	460 500
1-8 1-12	640 700	480 500	900 1000	680 740
1 1/8-7 1 1/8-12	800 880	600 660	1280 1440	960 1080
1 1/4-7 1 1/4-12	1120 1240	840 920	1820 2000	1360 1500
1 3/8-6 1 3/8-12	1460 1680	1100 1260	2380 2720	1780 2040
1 1/2-6 1 /1/2-12	1940 2200	1460 1640	3160 3560	2360 2660

HINIKER shredders are EQUIPPED ONLY WITH GRADE 5 BOLTS (3 marks on heads) or higher and generally retained with TYPE B or F LOCK NUTS. Type B lock nuts are PLAIN hex. Type F lock nuts are FLANGED hex.

IMPORTANT: DO NOT REPLACE HARDWARE WITH LOWER GRADE ITEMS.

EXCEPT ON SHEAVES, ALL BOLT TORQUES ARE GRADE 5. HARDWARE OVER, OR UNDER, TORQUING, CAN RESULT IN UNSATISFACTORY DURABILITY.

GRADE 5 BOLT TORQUE VALUES*
See Previous Page

It is a good idea to recheck critical bolt torques after the first 2 or 3 hours of operation.

KNIVES

HINIKER shredder rotors are factory dynamically balanced.

WARNING: DEATH OR SERIOUS INJURY CAN RESULT. SHOULD ABNORMAL ROTOR VIBRATION OCCUR AT ANY TIME, IMMEDIATELY DISENGAGE PTO, STOP TRACTOR ENGINE, SET BRAKES, REMOVE KEY AND DETERMINE/CORRECT CAUSE BEFORE PROCEEDING.

Periodically inspect rotor assemblies for broken or missing knives. Immediately replace because they will cause the rotor to run out of balance. HINIKER knives are marketed singularly; however,

IMPORTANT: REPLACE KNIVES IN OPPOSITE (180° APART) SETS. ALSO, REPLACE CORRESPONDING IDENTICAL KNIVES AT OTHER END OF SAME ROTOR HALF.

Shredder/Windrowers are factory shipped with CUP knives.

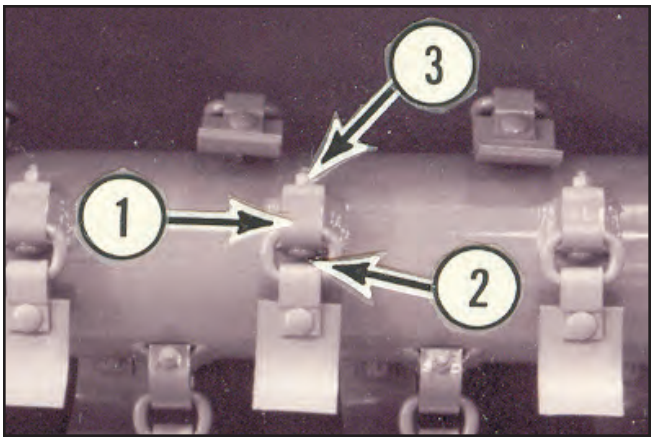


PHOTO NO. 3240

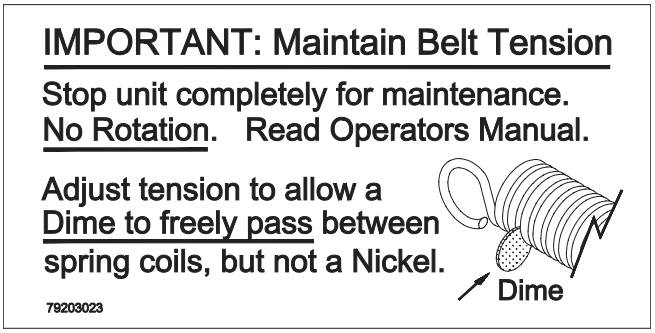
IMPORTANT: WHEN SERVICING KNIVES, ALWAYS DISCARD ANY LOCK NUT THAT HAS BEEN LOOSENED. NEVER REPLACE THESE TYPE B LOCK NUTS WITH ORDINARY NUTS. INSTALL KNIFE HANGERS (ARROW 1) AND MOUNTING BOLTS (ARROW 2) SO CARRIAGE HEADS ALWAYS TRAIL DIRECTION OF ROTOR ROTATION. LOCK NUT (ARROW 3) SHOULD ALWAYS LEAD DIRECTION OF ROTOR ROTATION.

Knife hardware should be torqued to 75-82 ft/lb (102-112 N/m).

BELTS

HINIKER shredder/windrowers are EQUIPPED ONLY WITH PREMIUM GRADE BANDED BELTS. Obtain replacement belts from local Hiniker dealer.

NOTICE: ADEQUATE TENSION IS NECESSARY FOR FULL POWER TRANSMISSION AND SATISFACTORY BELT PERFORMANCE.
This is obtained by following instructions on decal located on endplates inside each end shield.



DWG. NO. 79203023

New belts are initially tensioned by sliding the adjusting bar (arrow 1) through the extension spring (arrow 2). Insert the end of a screwdriver through the washer (arrow 3) into the nearest adjusting bar slot and push down on the screw driver. The spring anchor (arrow 4) will move down and extend the spring tightening the belt. Continue this procedure through successive slots in the adjustment bar until the desired tension is found. There should be enough space to insert a dime between each spring coil but not a nickel. Refer to decal and DWG 79203023.

Roll the belts through a partial revolution to recheck operating tension.

If necessary to remove belts, the auger drive chain must first be removed.

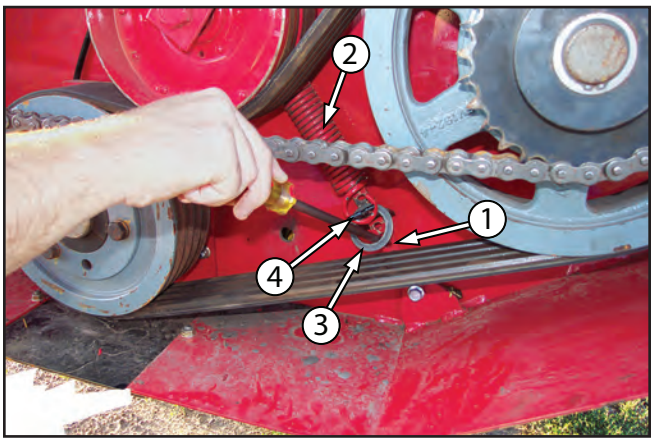


PHOTO NO. DPC2071

Recheck initial belt tension after first hour and first day of operation. Loose belts can “glaze” and contribute to slippage. DO NOT USE BELT DRESSING ON “V” BELTS. This will aggravate poor belt function.

If belts overheat and/or have excessive side wrapper wear, check sheaves alignment. See DWG 6391 on page 39.

When purchasing/installing new belts loosen backwrap idler spring to provide adequate installation slack. NEVER PRY “V” BELTS OVER SHEAVE RIMS!

Replacement belts should only be ordered by specific HINIKER part number. Refer to Hiniker website for correct drive belt part number.

AUGER CHAIN AND SHEARBOLT

IMPORTANT: WHENEVER ASSEMBLING AUGER DRIVE CHAIN, ENSURE CLOSED END OF SIDE PLATE CLIP, AT BREAK LINK, LEADS DIRECTION OF CHAIN TRAVEL.

The auger chain is protected by a standard 3/8” x 2 1/2” grade 8 hex bolt (arrow 1) in driven sprocket (arrow 2). The chain is standard # 60 roller chain.

IMPORTANT: THE SHEARBOLT MUST BE INSERTED WITH HEAD OUTWARD. DO NOT USE GRADE 2 REPLACEMENTS.

A bronze bushing (arrow 3) prevents shaft/sprocket seizure. Annually, a few drops of oil here is a good idea.

To properly tension the auger chain, hand reverse driven sprocket (arrow 2). This removes slack from bottom chain run (arrow 4). Hand lower idler sprocket (arrow 5) and torque up its bolt.

NOTICE: NEW ROLLER CHAIN MAY INITIALLY “STRETCH” DURING ITS SEATING. IT IS A GOOD IDEA TO CHECK THIS AFTER A HALF DAY OF RUNNING.

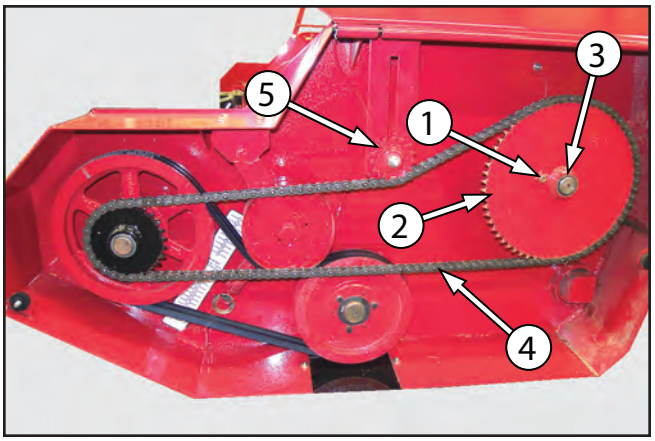


PHOTO NO. 9091A

OUTER ROTOR BEARINGS

The outer bearings are flange mounted and piloted. They have no eccentric locking collars and are loosened from their shafts by removing (2) 3/8” Allen set screws (arrow 1) from their inner races, see DWG 6395. Because of high vibration, these set screws are factory retained with an anaerobic threadlock

(eg. Locktite 242 (blue) or Perma-Lok HM 118 (red). Removal procedure DIFFERS BETWEEN THE INNER, CENTER, AND OUTER ROTOR BEARINGS.

1. Loosen and remove belts and driven sheave. Remove the auger drive chain.

CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. ROTORS ARE HEAVY AND SUBJECT TO UNEXPECTED MOVEMENT. SECURELY UNDERNEATH BLOCK ROTOR END BEING SERVICED AGAINST DROPPING OR SHIFTING BEFORE THE END BEARING IS REMOVED FROM ITS PILOT HOLE.

2. Remove (4) 3/8” bolts (arrow 2) and the (2) inside antiwrap shields. This allows wrench access to the bearing mounting bolt heads. Remove (4) 3/8” bolts from bottom leg of bearing plate.

3. Loosen outer end zerk hex nut of lube line (arrow 3) and lube line from bearing. Circumferentially polish shaft (arrow 5).

4. Remove (4) 1/2” hex bolts (Item 6) which are factory retained with anaerobic threadlock (eg. Locktite 242 (blue) or Perma-Lok HM 118 (red). Modestly pry plate (arrow 7) outward to start bearing off shaft.

5. A varying quantity of 2 3/16” nominal I.D. washers are factory installed between the inner end of bearing and the shoulder on shaft. Because replacement bearings vary in axial dimensions, care must be exercised to FULLY WASHER THE SPACE BETWEEN THE BEARING AND SHAFT SHOULDER.

   Reinstall plate (arrow 7) and new bearing (arrow 4) by temporarily snugging up (2) each of their bolts (without anti-wrap shields). Visually check above cited washers to insure no looseness, or substantial axial preload, exists. The 2 3/16” nominal I.D. washers are available as part numbers:

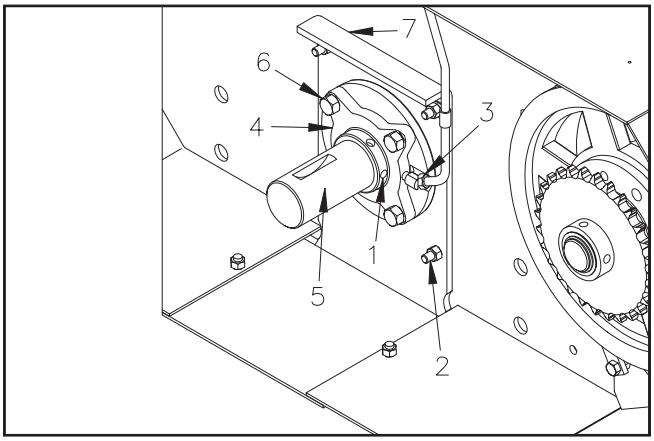
Washer	Part Number
1/16” Thick	79202329
1/8” Thick	79202328

6. After the washers have been checked, torque bearing mounting bolts and Allen set screws. Torque the Allen screws once, loosen and torque a second time. Reinstall anti-wrap shields and torque support plate bolts. Reattach bearing lube line.

IMPORTANT: WHENEVER THESE LOCK NUTS/BOLTS ARE DISCARDED, ONLY GRADE 5 BOLTS AND TYPE B LOCKNUTS SHOULD BE REINSTALLED. THE ABOVE CITED (OR SIMILAR) ANAEROBIC THREADLOCK SHOULD BE USED IN REASSEMBLY OF BEARING MOUNTING BOLTS AND ALLEN SET SCREWS. TORQUE ALL BEARING MOUNTING BOLTS TO 75-82 Ft/Lbs. (102-112 N/m).

Commercial anaerobic threadlocks have installation instructions, and SAFETY CAUTIONS, on their containers. These should be adhered to.

7. Reinstall and realign previously removed sheave and belts. Reinstall auger drive chain.



DWG. NO. 6395

INNER ROTOR BEARINGS

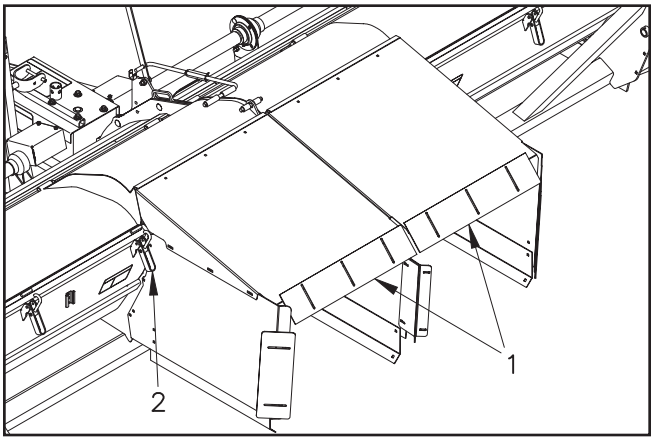
Service information herein is intended for dealers and others correspondingly competent. If you are not experienced and/or capable of handling such service, do not attempt it.

The entire affected rotor assembly must be removed. To extract the rotor assembly the machine

must be rotated onto its back. Two forms of hoisting equipment are required. Do not attempt changing the inner bearings without (2) forms of hoisting equipment.

WARNING: DEATH OR SERIOUS INJURY CAN RESULT. DO NOT ATTEMPT TO REMOVE A ROTOR FROM UNDERNEATH A MACHINE IN ITS OPERATING POSITION. NEVER ATTEMPT TO REMOVE A ROTOR WITH THE UNIT UPENDED IN A VERTICAL POSITION. IT IS INHERENTLY UNSTABLE.

1. Remove the complete discharge chute (arrow 1). Ensure all auger cover latches (arrow 2) are secured and both end enclosures are secured. Verify the end transport hitch is up and secured.



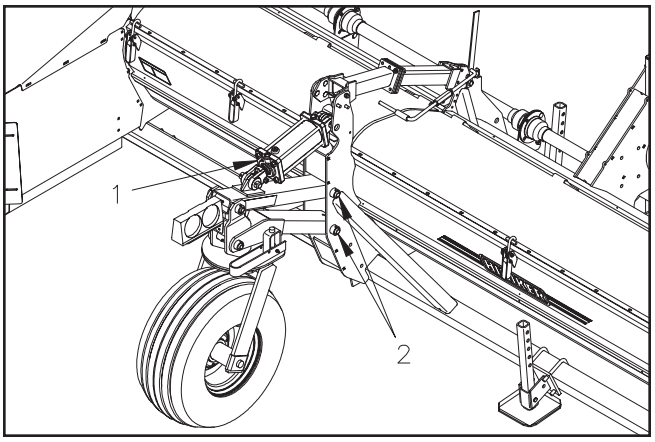
DWG. NO. 6364

2. Remove PTO and field hitch.

DANGER: DEATH OR SERIOUS INJURY CAN RESULT. CLEAR PEOPLE FROM WORK AREA WHEN RAISING UNIT. DO NOT WORK ON SOFT, OR UNEVEN GROUND. AVOID HIGH WORK SPEEDS AND "JACKRABBIT" MANEUVERING.

USE HOISTING EQUIPMENT CAPABLE OF SAFELY HANDLING NO LESS THAN 10,500 Lbs. (4763 Kg.).

3. Securely block the front (2) tires (this prevents machine movement). Raise the rear portion of the unit slightly with hoisting equipment so blocking can be put under it. Block the unit under the rear tube so it is secure from falling. Lower Machine onto blocking.

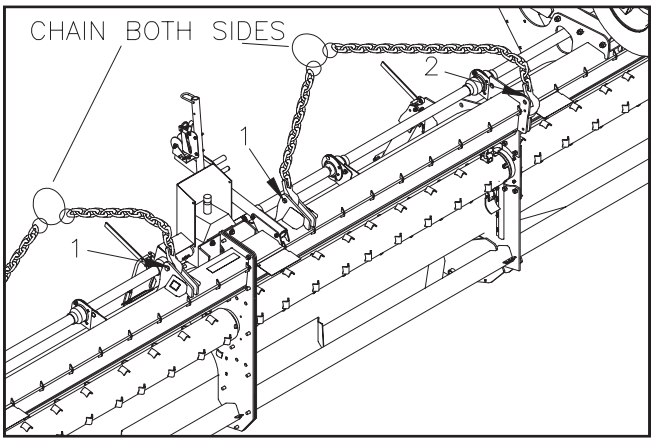


DWG. NO. 6365

4. The rear caster wheels need to be removed. Attach hoisting equipment to the rear caster wheel being removed and snug up the chain but do not lift on the machine.

   Remove the cylinder (arrow 1) by removing its two pins. Make sure to plug all hydraulic lines so they do not become contaminated. Remove the upper and lower parallel link pins (arrow 2). Lift the entire caster wheel and set aside in a place it will not be damaged. Remove left rear caster wheel assembly similarly.

5. Verify the front two tires are blocked from moving. Raise the rear of the machine slightly with hoisting equipment. Remove blocking previously inserted under the machine assembly. Slowly lower the rear of the machine to the ground.

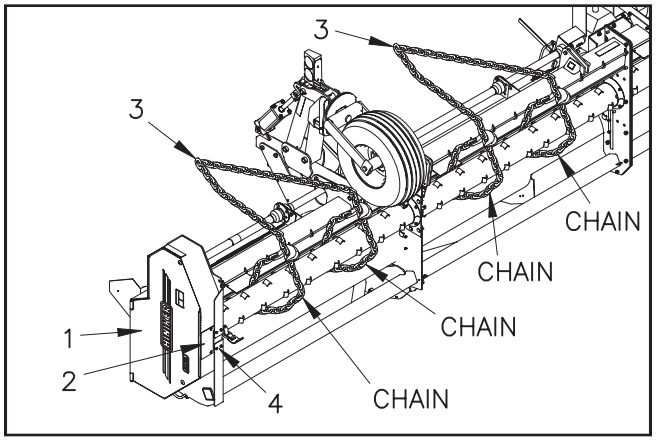


DWG. NO. 6369

6. At the front of the machine attach hoisting equipment with (2) separate chains to the hitch lugs at the center of the machine (arrow 1) and at the two center lugs on each machine half (arrow 2).

DANGER: DEATH OR SERIOUS INJURY CAN RESULT. CLEAR PEOPLE FROM WORK AREA WHEN ROTATING UNIT ONTO ITS BACK. DO NOT WORK ON SOFT, OR UNEVEN GROUND. AVOID HIGH WORK SPEEDS AND "JACKRABBIT" MANEUVERING.

7. Raise the unit until the machine lays securely on its back. The machine should be rotated slightly rear ward of center.



DWG. NO. 6372

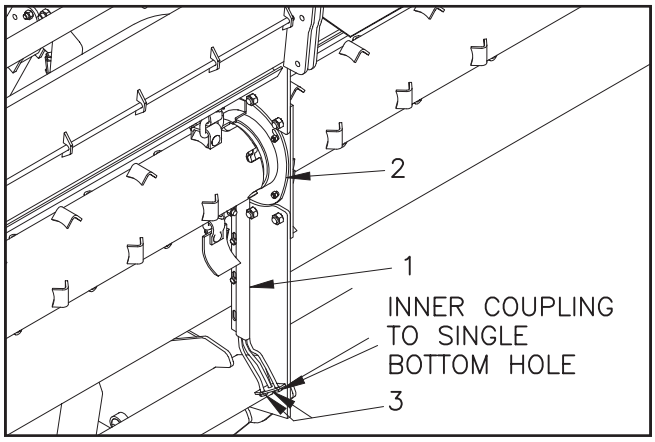
8. Open the concerned end shield (arrow 1). Remove bottom plate (arrow 2). Remove belt and auger drive chain. Remove driven sheave refer to SHEAVE REMOVAL/ INSTALLATION section on page 39 for assistance.

DANGER: DEATH OR SERIOUS INJURY CAN RESULT. CLEAR PEOPLE FROM WORK AREA. DO NOT ATTEMPT TO REMOVE ROTOR ASSEMBLY WITHOUT TWO LIFTING DEVICES. AVOID HIGH WORK SPEEDS.

9. For removing the rotors, two forms of hoisting equipment are required. Wrap (2) chains with about a 4 ft. span around each rotor assembly at the approximate location shown (arrow 3). Snug up both chains but do not over tighten them.

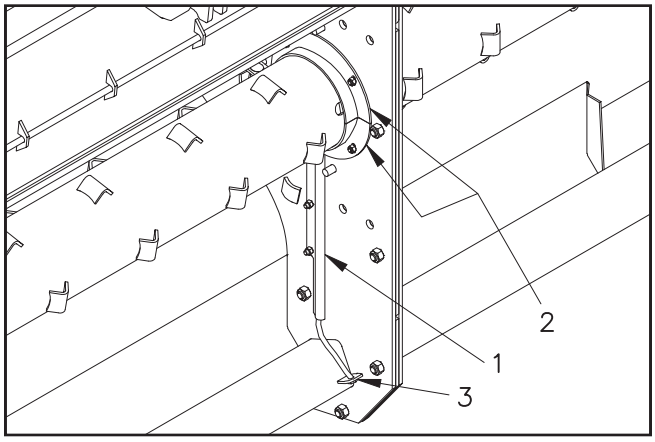
IMPORTANT: AVOID USING EITHER ROTOR'S TRANSVERSE CENTERS FOR SHREDDER LIFTING OR OTHER STRUCTURAL REPAIRS. POSSIBLE ROTOR DAMAGE MAY OCCUR.

10. Loosen and remove outer bearing as shown in DWG 6395, and as described on pages 32 and 33. Remove bearing mounting plate (arrow 4).



DWG. NO. 6370

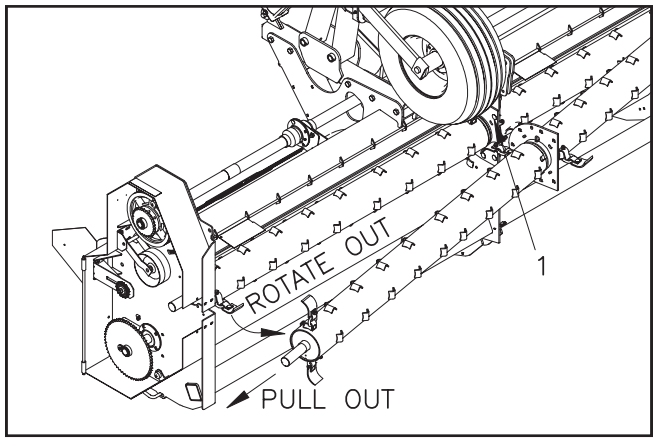
11. At the center of the machine half remove the 3/8" mounting bolts holding the center hose shield (arrow 1). Loosen and remove the 3/8" bolts holding the (4) center anti-wrap shields (arrow 2). Loosen the (3) nuts (arrow 3) securing the grease lines to the back of the machine.



DWG. NO. 6371

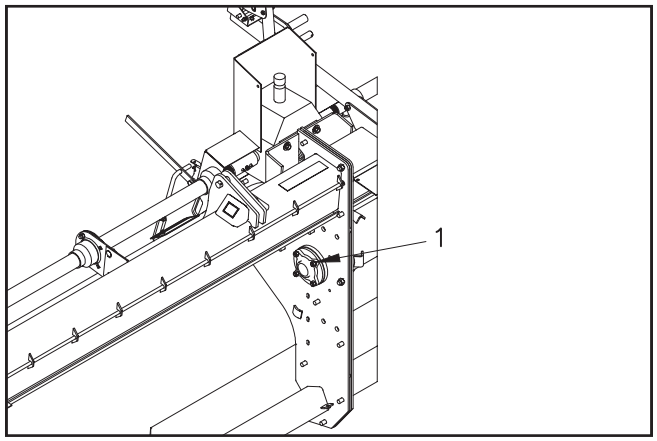
12. At the center of the machine remove inner hose shield (arrow 1). Remove the inner anti-wrap shields (arrow 2). Remove the nut (arrow 3) holding the grease line to the back of the machine. The anti-wrap shields and hose shield from the opposite side will also come off.

13. Loosen the (2) 3/8” Allen set screws on the inner piloted bearing by aligning the end notches in the rotors with the Allen set screw heads. These are factory retained with anaerobic threadlock (eg. Loctite 242).



DWG. NO. 6367

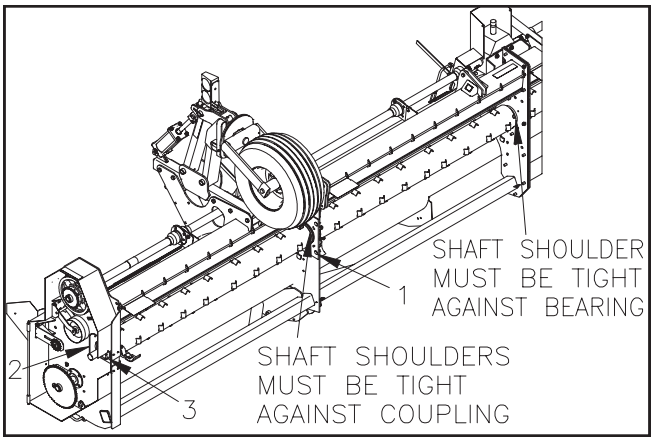
14. Loosen the (7) 5/8” carriage bolts (arrow 1) at the center of the machine half. Using the (2) forms of hoisting equipment, slowly pull the whole rotor assembly slightly outward and then rotate the whole assembly away from the machine. Rotate bearing plate so grease hoses are not damaged. Once the outer rotor is outside of the machine slowly pull the rotor assembly outward and out of the inner bearing. Move rotor assembly out of the working area.



DWG. NO. 6368

15. Loosen (4) 1/2” lock nuts securing inner rotor bearing (arrow 1). Remove and replace bearing coating the 1/2” threads with a commercially available thread lock (Loctite 242 or equivalent) before tightening nut.

16. Polish around the rotor center stub shaft. Now is a good time to check/service the inner rotor bearings and coupling. Refer to the MIDDLE BEARING/INNER COUPLING section (on page 37). Reinsert the rotor assembly into the machine.



DWG. NO. 6366

17. Tighten the (7) 5/8” bolts at the center of the machine (arrow 1). Use a commercial threadlocker to help retain these nuts. LOOSEN THE BEARING SET SCREWS ON BOTH CENTER BEARINGS HOLDING THE INNER COUPLING IN PLACE. This can be done by aligning the notches in the ends of the rotors with the bearing set screws. Since dimensions vary slightly between bearings the inner coupling needs to be able to float to adjust for this slight variance in axial dimension. A varying quantity of 2 3/16” nominal I.D. washers are factory installed between the inner end of the outer rotor bearing and the shoulder on the drive shaft. Because replacement bearings vary in axial dimensions, care must be exercised to FULLY WASHER THE SPACE BETWEEN THE BEARING AND SHAFT SHOULDER.

18. Temporarily install the (4) 3/8” bolts holding the outer bearing mount plate (arrow 2). Do not install anti-wrap shields at this time. Install (2) of the outer bearing mounting bolts (arrow 3) to check the varying quantity of 2 3/16” I.D. washers between outer bearing race and shoulder of outer rotor drive shaft. Check that these are axially snug without substantial preload. Using a flashlight, and check through the end notches in the rotors, verify that the inner rotor stub shaft shoulder is tight against the bearing inner race and the center rotor assembly splined shaft shoulders are tight against the inner coupling, refer to DWG 6366. If the whole assembly is axially snug with no substantial preload, torque all bearing set screws that have been loosened once, then loosen and torque a second time using the above threadlocker. Proceed to completely reinstall all previously removed items. Follow reverse steps for reassembly of the machine. Use threadlocker on all bearing set screws and mounting bolts.

IMPORTANT: WHENEVER BEARING LOCK NUTS/ BOLTS ARE DISCARDED, ONLY GRADE 5 BOLTS AND TYPE B LOCKNUTS SHOULD BE REINSTALLED. THE ABOVE CITED (OR SIMILAR) ANAEROBIC THREADLOCK SHOULD BE USED IN REASSEMBLY OF MOUNTING BOLTS AND ALLEN SET SCREWS. TORQUE ALL BEARING MOUNTING BOLTS TO 75-82 Ft/lbs. 102-112N/m.).

If 2 3/16" washers are needed to axially snug the assembly they can be purchased from your dealer. The part numbers for the washers are:

Washer	Part Number
1/16" Thick	79202329
1/8" Thick	79202328

19. Check that all previously removed and/or loosened parts are properly reinstalled. Reverse the above tipping procedure to return the operating unit to its operating position and reinstall/assemble previously removed components.

MIDDLE ROTOR BEARINGS/INNER COUPLING

Service information herein is intended for dealers and others correspondingly competent. If you are not experienced and/or capable of handling such service, do not attempt it.

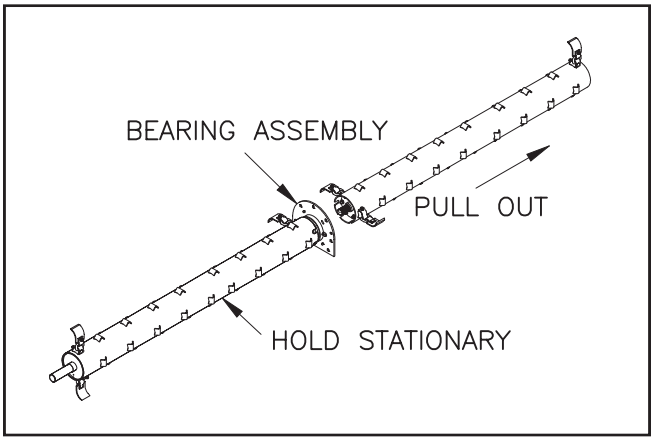
To replace the middle rotor bearings the complete rotor assembly needs to be removed. To remove the rotor assembly two separate pieces of hoisting equipment are required. Do not attempt this service without two different pieces of hoisting equipment.

WARNING: DEATH OR SERIOUS INJURY CAN RESULT. DO NOT ATTEMPT TO REMOVE A ROTOR FROM UNDERNEATH A MACHINE IN ITS OPERATING POSITION. NEVER ATTEMPT TO REMOVE A ROTOR WITH THE UNIT UPENDED IN AN INHERENTLY UNSTABLE POSITION.

Refer to INNER ROTOR BEARING section (on page 33) for the procedure on laying the machine on its back and removing the complete rotor assembly.

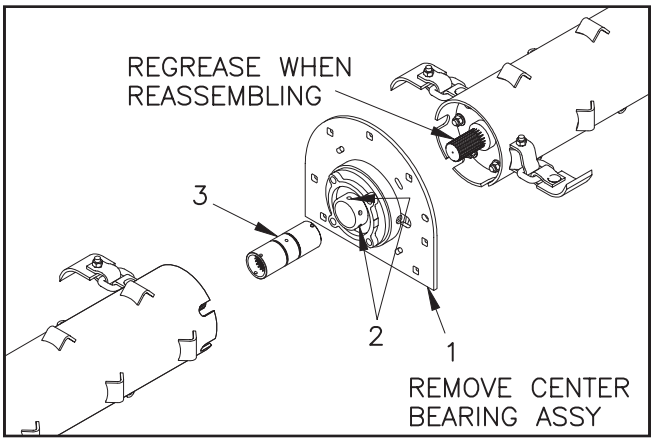
DANGER: DEATH OR SERIOUS INJURY CAN RESULT. CLEAR PEOPLE FROM WORK AREA WHEN ROTATING UNIT ONTO ITS BACK. DO NOT WORK ON SOFT, OR UNEVEN GROUND. AVOID HIGH WORK SPEEDS AND "JACKRABBIT" MANEUVERING.

USE HOISTING EQUIPMENT CAPABLE OF SAFELY HANDLING NO LESS THAN 10,500Lbs. (4763 Kg.).



DWG. NO. 6373

4. Once the rotor assembly has been removed from the assembly, set the assembly on a clean flat working surface with the hoisting equipment but do not unhook the equipment from the rotors. Hold one rotor and the bearing assembly stationary then pull the other rotor away from the stationary one. Be careful to not let bearing assembly slide off the rotor splined shaft and become damaged during disassembly. Set the extracted rotor on a clean flat working surface. Be careful to not damage the external splines on the rotor assemblies or they will need to be replaced.



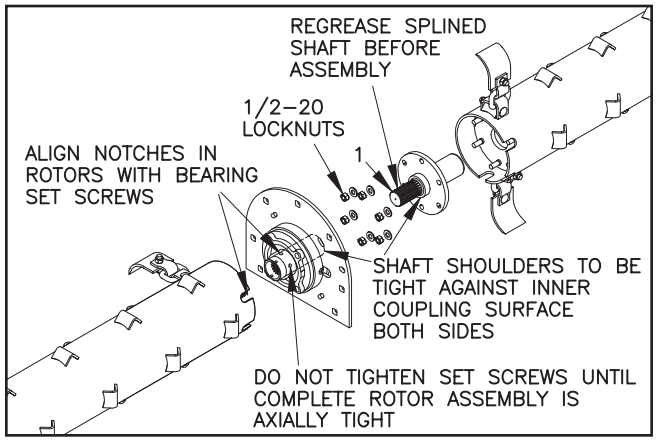
DWG. NO. 6375

5. Remove the center bearing assembly (arrow 1) from the rotor assembly. Loosen the bearing set screws on both bearings (arrow 2). Remove the inner coupling (arrow 3) from the bearings by tapping on one side with a rubber hammer. Take care not to damage machined shoulder or splined surfaces. Sometimes removing one center bearing aids in removal of inner coupling.

6. Unbolt the bearing mounting bolts. Replace affected bearings with new piloted flanged bearings. Secure bearings to center bearing weldment using the removed bolts. Replace the lock nuts adding anaerobic threadlocker to the bolt threads before tightening.

IMPORTANT: WHENEVER THESE LOCK NUTS/ BOLTS ARE DISCARDED, ONLY GRADE 5 BOLTS AND TYPE B LOCKNUTS SHOULD BE REINSTALLED. THE ABOVE CITED (OR SIMILAR) ANAEROBIC THREADLOCK SHOULD BE USED IN REASSEMBLY OF MOUNTING BOLTS AND ALLEN SET SCREWS.

7. Check for wear on the loose inner splined coupling. Check O-rings on inner coupling for damage, replace as needed. Reinsert or replace the inner coupling into the middle bearing assembly. Tap the inner coupling into place using a rubber hammer until there is about 1/2" between the machined coupling surface and the bearing race. DO NOT TIGHTEN BEARING SET SCREWS at this time. They will be tightened when the rotor is completely assembled in the machine and all rotor shaft shoulders are axially snug. Tightening set screws at this time may cause a rotor to be loose in the machine and will cause premature wear and damage to the machine and rotor.



DWG. NO. 6374

8. Check both rotor splined shafts (arrow 1) for wear. Replace if significant wear is observed on either shaft. To replace loosen the (6) 1/2" lock nuts and remove the splined shaft. Reinsert the new splined shaft and replace the 1/2" lock nuts for new ones. These lock nuts are 1/2-20 fine thread nuts. Make sure replacement nuts are fine thread. Apply a coating of anaerobic 262 Loctite or equivalent and retighten nuts.

9. Reverse procedure for removing rotors to reassemble the rotor assemblies and bearing plate assembly. Before inserting the splined shafts into the inner coupling, grease the new splined shafts or the splined shafts to be reused by hand or brush on a coating of high quality lithium grease. (Refer to DWG 6375 on page 37). Grease shafts immediately before inserting into the inner coupling to prevent contamination on the splines or the inner coupling.

10. When sliding the center bearing assembly onto the rotor spline shaft make sure the end notches in the rotor line up with the set screws on the inner bearings, refer to DWG 6374. The set screws will have to be tightened when the whole rotor assembly is axially snug. Do not tighten set screws at this time. Reverse procedure for assembling complete rotor assembly into machine. Once the rotor assembly is in the machine verify the set screws of all (4) bearings are loose. Using a flashlight check that the whole assembly is axially snug and that all bearing races are tight against shaft shoulders and inner coupling surfaces. Refer to page 36 step 16 for procedure to verify rotor assembly is axially snug and check 2 3/6" I.D. shim washers.

    Check that all previously removed and/or loosened parts are properly reinstalled. Reverse the above tipping procedure to return the operating unit to its operating position and reinstall/assemble previously removed components.

SHEAVES ALIGNMENT

It is unnecessary to realign sheaves unless they have been damaged or loosened. Do not realign sheaves unless they are more than + or - 1/16" misaligned.

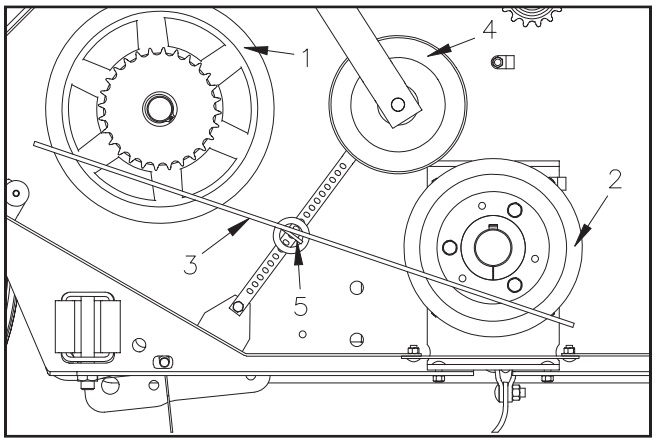
DWG 6391 and DWG 6392 show L.H. sheaves. R.H. sheaves are aligned similarly.

1. It is easiest to align the driven sheave (arrow 2) on the rotor to the driver sheave on the line shaft (arrow 1). Thus, the auger drive chain need not be removed.

2. Determine misalignment by placing a steel straight edge about three feet long (arrow 3) across sheaves as shown.

3. Fully relieve belt tension by removing all tension on backwrap idler spring (arrow 4). The spring anchor (arrow 5) can be released by gripping it with locking pliers, pulling outward and simultaneously twisting downward.

4. Refer to DWG 6392 for sheave loosening procedure and adjust driven sheave's inner bushing in or out as required for realignment. Then reinstall sheave reversing the preceding steps.



DWG. NO. 6391

SHEAVES REMOVAL/INSTALLATION

1. If a driver sheave (arrow 1) is being serviced, it is necessary to loosen auger chain idler and remove chain.

   That sheave's corresponding driver sprocket must also be removed. This sprocket is retained with a Woodruff key and snap ring.

2. Loosen backwrap idler (arrow 2) and remove belts.

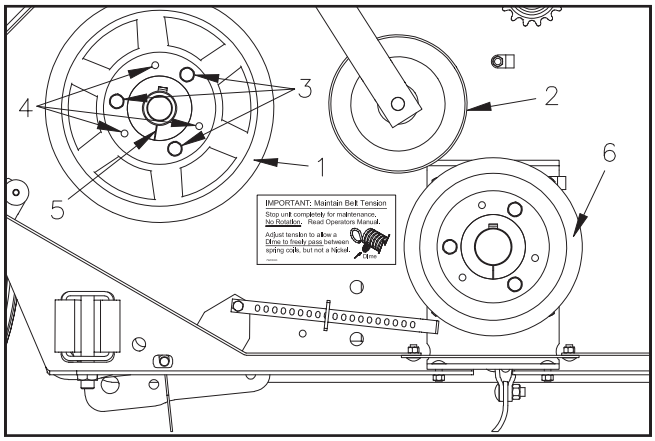
3. Loosen and remove 1/2" bolts from 3 UNTHREADED holes (arrow 3).

4. Insert these bolts in the 3 THREADED holes (arrow 4). Start with the bolt furthest from the inner bushing's slot (arrow 5) and gradually alternately torque bolts in a uniform pattern. Continue torquing in small increments until the tapered surfaces disengage.

   The same procedure is used if a driven sheave (arrow 6) is to be removed. Both sheaves disengage away from machine.

NOTICE: EXCESSIVE AND/OR UNEQUAL BOLT TORQUES CAN BREAK THE INNER BUSHING'S FLANGE.

5. The inner bushings are retained with 3/8" Allen set screws over their keyways. Loosen the set screw to enable removal of the inner bushing.



DWG. NO. 6392

6. For installation, insure the tapered mating surfaces of the inner bushing and sheave are free of dirt, paint, rust, metal chips and LUBRICANT.

IMPORTANT: DO NOT USE LUBRICANTS, ANTI SEIZE, AND/OR EXCESSIVE BOLT TORQUES WHEN ASSEMBLING Q.D. SHEAVES. THESE CAN BREAK THE ASSEMBLY.

7. Insure Woodruff key is in place before sliding inner bushing on shaft. Align (in/out) the Allen set screw hole of the bushing being installed with existing witness marks on its shaft and torque the set screw.

8. Align 3 UNTHREADED bolt holes in sheave with THREADED bolt holes in mating bushing. Insert bolts and lockwashers in these UNTHREADED holes and tighten about 2 turns each.

9. Alternately torque these bolts, in a uniform pattern until the tapers are seated. Check for sheave alignment and possible wobble. Correct if necessary.

IMPORTANT: SHEAVE BOLTS ARE TORQUED TO 60 FT/LBS. (81 N/m)

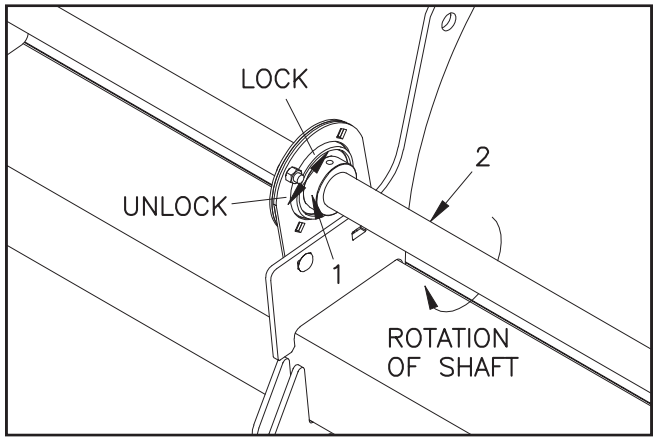
10. Continue bolt torquing until above value occur or NO LESS THAN 1/8" HUB FLANGE TO SHEAVE CLEARANCE EXISTS. There will always be a gap in the inner bushing hub when proper procedure is followed.

NOTICE: INDIVIDUAL BOLT TORQUES SHOULD BE ACHIEVED NO MORE THAN 2 TIMES IN THE TIGHTENING CYCLE.

11. Reinstall belts and reposition backwrap idler.

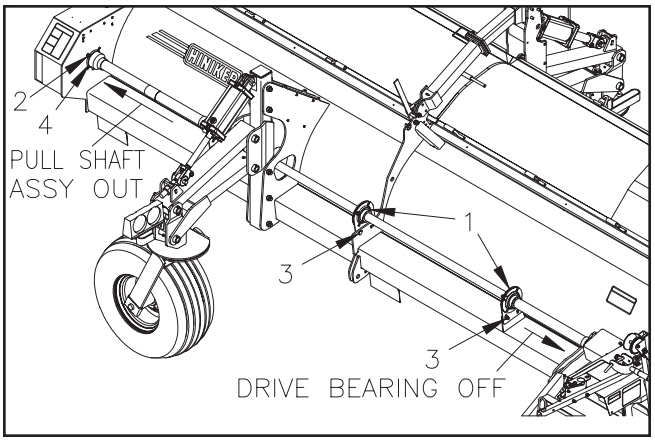
DRIVE SHAFT BEARINGS

The (8) drive shaft bearings have either eccentric lock collars (arrow 1) or set screws. To loosen these, remove 3/8" Allen set screw in the lock collar.



DWG. NO. 6377

For eccentric lock collar bearings use a drift, drive collar (arrow 1) OPPOSITE to direction of rotation of shaft (arrow 2). When reinstalling bearing, drive collar (arrow 1) in SAME DIRECTION as rotation of shaft (arrow 2) and retighten set screw. Refer to drawing 6377.



DWG. NO. 6376

If the (3) inner bearing assemblies (arrow 1) need to be serviced, remove belts and auger drive chain. Loosen the bolts (arrow 2) holding the outer bearing to the end panel. Loosen the 1/2" bolts (arrow 3) securing the (3) bearing hangers to the main body. Pull the entire shaft assembly partially out of the machine. The drive sheave, sprocket, and outer bearing can all come out of the machine about 3 feet. The center bearing being serviced and its proceeding bearing must be driven off. Strip paint and rust and emery the shaft, if necessary, to move the center bearings. Reverse above steps for reassembly. If the outer bearing (arrow 4) needs to be serviced the drive sheave and sprocket must be removed. Reference is made to the prior heading SHEAVE REMOVAL/INSTALLATION (Page 39). Loosen the outer 1/2" bolts (arrow 2) securing the outer bearing flanges to the machine. Modestly pry the bearing flanges toward the outside of the machine. Strip paint and rust and emery the shaft, if necessary, to aid in removal of the bearing. Reverse above steps for reinstalling the new outer bearing.

GEARBOX

The shredder/windrower is equipped with a 1.00:1.00 ratio gearbox. The gearbox can best be worked on as follows:

1. Detach tractor PTO at gearbox input spline.

2. Remove the right drive shaft shield. Loosen and remove right outboard drive shaft bearing flange bolts (arrow 2 DWG 6376). Loosen and remove (6) right center bearing plate bolts (arrow 3 DWG 6376). Remove belt and auger drive chain.

Slide the entire right drive shaft assembly rightward; thus, allowing room to slide the gearbox loose from its L.H. spline coupling.

3. Remove the (2) left 3/8" bolts nearest the gearbox holding the left cross shaft shield.

4. Remove the top (4) 1/2" bolts holding the gearbox/PTO input shield with components and remove this shield.

5. Remove the bottom (4) 1/2" gearbox mounting bolts and slide the gearbox rightward sufficient to uncouple it from its left splined coupler. Then slide the gearbox forward to remove it for placing on a workbench.

6. Remove the gearbox drain plug and discard the lube.

The gearbox has no shims because preload and backlash are factory set. To service this box proceed as follows: Refer to photo 3008 and drawing 6088 on page 42.

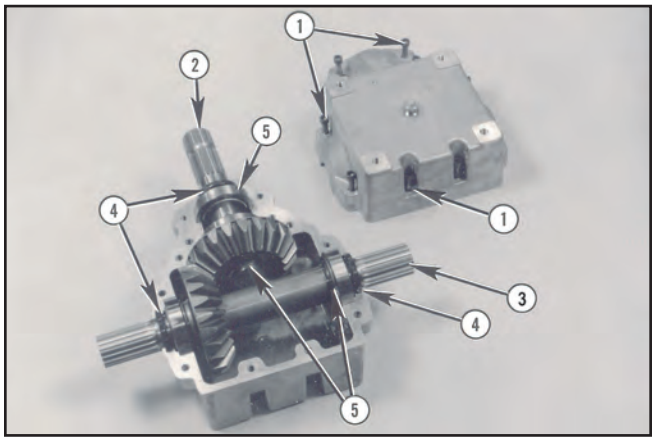


PHOTO NO. 3008

1. Remove (12) 3/8" socket head bolts (arrow 1) photo 3008 holding the 2 halves together. Tap input shaft (arrow 2) with a soft hammer, while holding the output shaft (arrow 3) off the work table. Be careful to not damage the case's mating surfaces by prying them apart.

2. The input and output shafts and gears are precision fitted. Do not separate them by prying on an individual set. Lift them apart together.

3. Remove old anaerobic sealant and complete necessary maintenance. Whenever a gearbox is opened, all 3 oil seals (arrow 4) should be replaced. Lube the seal's inside diameters before reinstalling and insure their spring garters are toward the gearbox's inside.

4. Clean gearbox of all dirt and metal particles. Inspect all removed parts for wear. Replace any bearing showing signs of pitting, inability to rotate freely and discoloration. Clean any bearings to be reused and coat with gear lube. Replace gears showing pitting, breaks or deformation. Replace input and through shafts having spline wear or deformation.

Note: Gears must be replaced as sets. Gears are pressed on the shafts at the factory and <u>cannot</u> be replaced in the field.

5. Whenever shafts are disassembled, make sure the same thickness snap rings (arrow 5) are used to maintain backlash and preload. Currently the gearbox (P/N 51700216) uses (1) external snap ring on the input shaft. For reassembly, capture bearings and seals in appropriate machined areas. Tap gently with a soft hammer to seat, being careful to not damage seals.

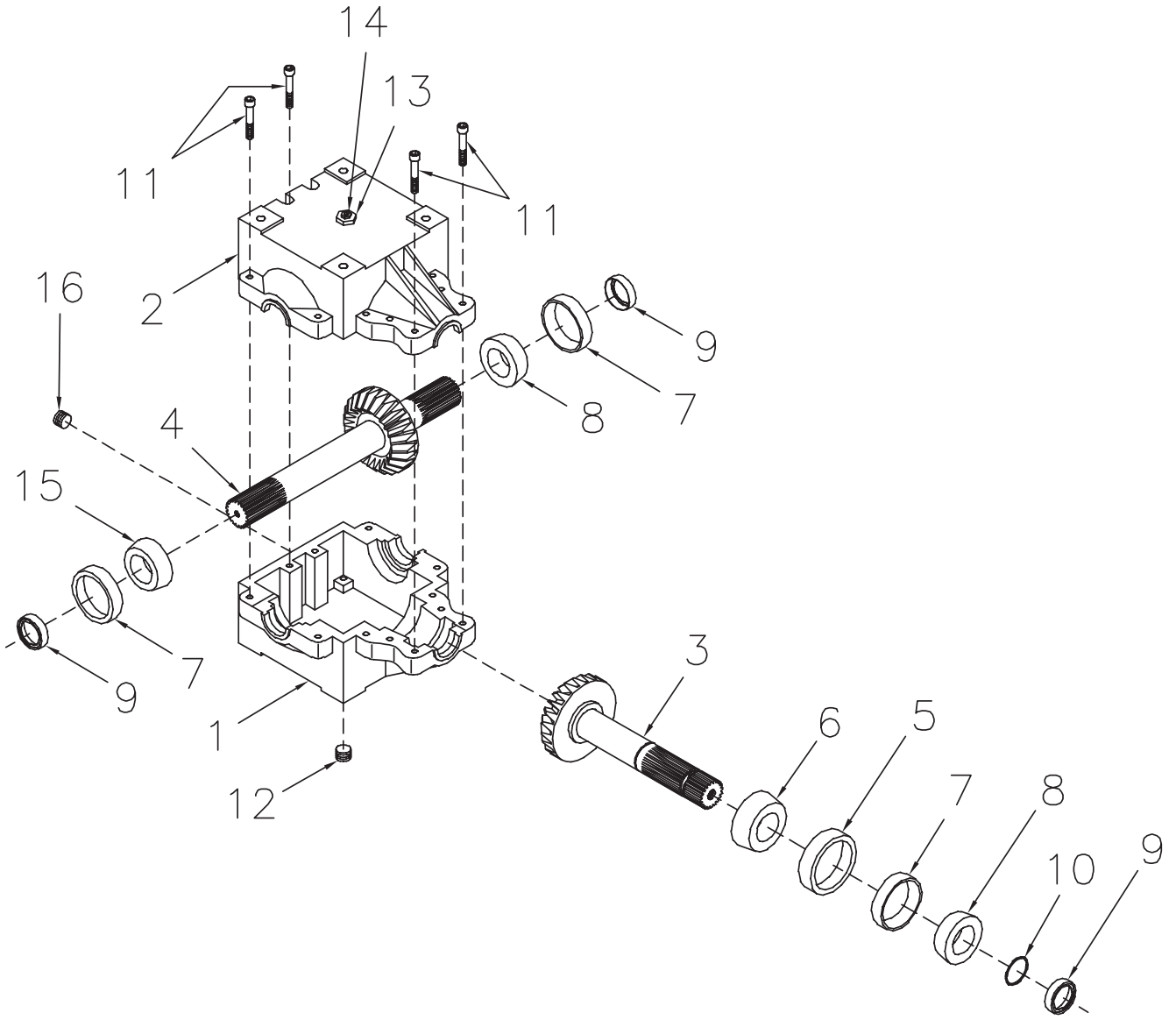
6. After both shafts have been reseated, apply anaerobic sealant (eg. Locktite 518 (red) or Perma-Lok HH 190 (dark purple) or Permatex silicone sealant 765-1344/1485) to housing top half and reseat it on bottom half. Apply pressure, or tap lightly, until top half is firmly in place. Replace, and retorque the (12) previously removed socket head bolts.

Commercial anaerobic sealants have installation and SAFETY CAUTIONS on their containers. These should be adhered to.

Reinstall gearbox in reverse order of removal. Ensure mounting bolts are brought to full torque. Reinstall/assemble previously removed components.

Ensure drain plug is installed. Fill gearbox to level specified in LUBRICATION, page 24 with Mobil SHC 80 w 90 lube or equivalent.

1000 RPM GEARBOX ASSEMBLY

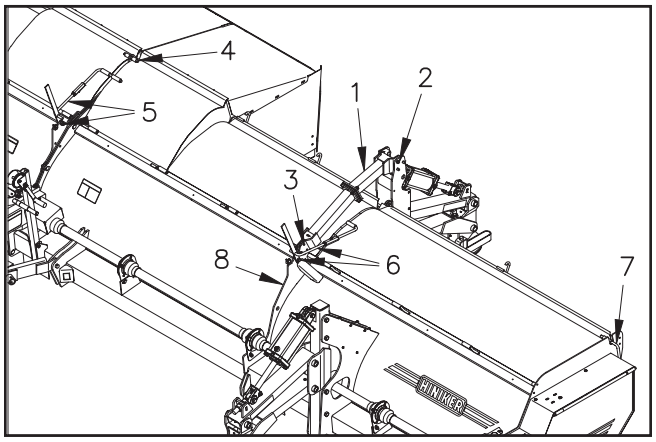


Gearbox Assembly 51700216 DWG. NO. 6088

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	400-17205	Casting (Tapped Holes)	1	9	650-06056	Seal (1 3/4 Shaft)	3
2	400-17206	Casting (Thru Holes)	1	10	702-05093	Retaining Ring (1 3/4 Shaft)	1
3	50106488	Pinion Shaft/Gear	1	11	950-011-032	Socket Head Cap Screw 3/8-16 x 2 1/4	12
4	50106489	Cross Shaft/Gear	1	12	203-51156	Plug, 1/2 NPT Sock Head Hex	1
5	601-05002	Bearing Cup (Large)	1	13	203-51074	Bushing, 1/2 NPT - 1/8 NPT	1
6	601-02075	Bearing Cone (Large)	1	14	203-50308	Pressure Relief	1
7	601-05001	Bearing Cup (Small)	3	15	601-02001	Bearing Cone 625580	1
8	601-03003	Bearing Cone (Small)	2	16	79201412	Plain Plug 1/4 NPT #200300	1

AUGER

1. To extract and service the auger, both auger covers must be opened fully forward.



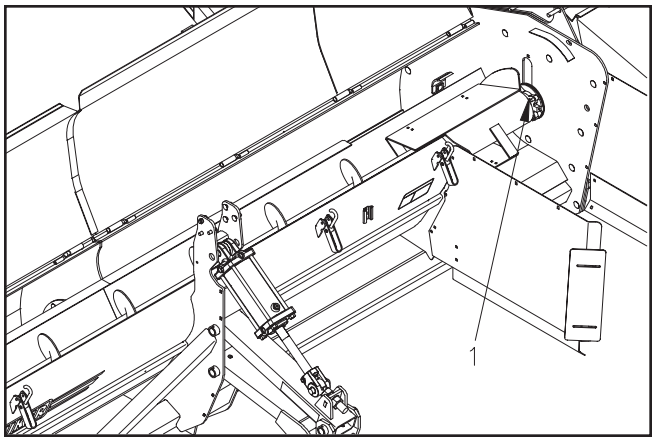
DWG. NO. 6378

2. First unbolt the top middle support (arrow 1) by loosening the top and the bottom 1/2" lock nuts (arrow 2 & 3). Remove the center locking pin (arrow 4) if equipped. Unbolt the center rods (arrow 5 & 6) if equipped, at the front of the machine by loosening the 5/8" lock nut holding the lever to the body. Pull the end rod (arrow 7) if equipped, out of the slot and swing it up and rearward. Open the individual covers all the way so they are resting against the center support plate (arrow 8).

3. Securely hook a double chain hoist around the auger assembly. Use a spreader bar to obtain about 6 foot chain spread. NO MORE THAN SNUG UP the hoist.

⚠ CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. DO NOT ATTEMPT TO "MANHANDLE" THE AUGER WITHOUT PROPER EQUIPMENT. THE AUGER ASSEMBLY WEIGHS 475 lbs. (215 Kg.).

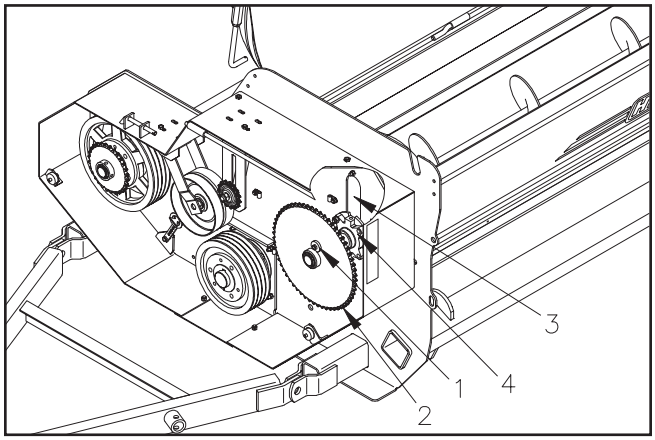
4. Loosen the 1/2" nuts securing the bearing flanges to the center of the machine (arrow 1).



DWG. NO. 6379

5. Loosen drive chain idler, break and remove drive chain.

6. Remove shearbolt (arrow 1), driven sprocket (arrow 2), and shear plate. Remove outer cover plate (arrow 3) and outer bearing assembly (arrow 4).



DWG. NO. 6380

7. Shift auger assembly as far to the outside of the machine as possible. Start snugging up hoist chains to raise the auger's inner end until it is free. Extract auger's outer end and safely deposit it. Reverse steps for assembling new auger.

SPROCKET ALIGNMENT

It is unnecessary to realign sprockets unless their shafts have been shifted. Do not realign sprockets unless they are more than + or - 1/4" misaligned. See photo 9119A.

1. Determine misalignment by placing a steel straight edge ACROSS driven sprocket (Item 1) to driver sprocket (Item 2). The larger sprocket is the measuring datum.

2. Both sprockets are retained with snap rings on shaft shoulders; thus, REALIGNMENT REQUIRES SHAFT SHIFTING. This is different than for sheave alignment. Driver shaft (arrow 3) manipulation is difficult; thus, align sprockets by shifting auger driven shaft (arrow 4).

3. Loosen lock collars on BOTH auger shaft end bearings. With a LEAD HAMMER, OR WOOD BLOCK, transversely drive the auger assembly as required to achieve sprocket alignment.

4. After sprocket alignment, reassemble loosened and removed parts and relock bearing lock collars.

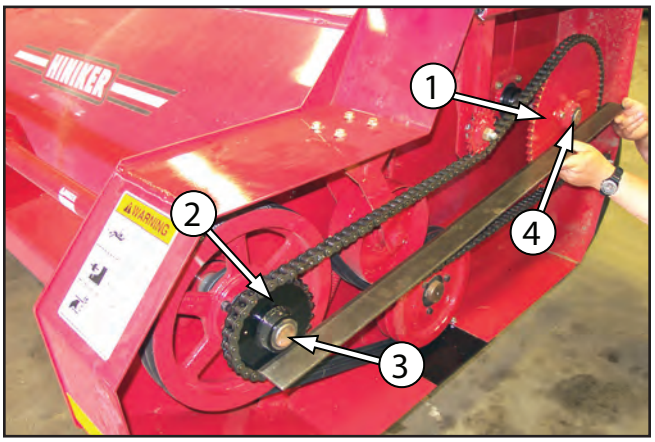


PHOTO NO. 9119A

ASSEMBLY

RECOMMENDED TORQUE VALUES

The torque values given in Table 1 are valid for standard zinc coated and lubricated fasteners assembled in rigid joints.

Fasteners which are waxed or phosphate coated or cadmium coated or specially lubricated should be torqued to lubricated torque values below.

A ±20 percent tolerance is to be used when a single value torque is specified.

TABLE 1 - RECOMMENDED TORQUE VALUES FOR INCH FASTENERS (ZINC PLATING & LUBRICATED)**

Nominal Size	SAE 5 120 000 psi Min Tensile lb - ft		SAE 8 150 000 psi Min Tensile lb - ft	
	Dry	Lubricated	Dry	Lubricated
1/4-20 1/4-28	8 10	6 7	12 14	9 10
5/16-18 5/16-24	17 19	13 14	25 25	18 20
3/8-16 3/8-24	30 35	23 25	45 50	35 35
7/16-14 7/16-20	50 55	35 40	70 80	55 60
1/2-13 1/2-20	75 90	55 65	110 120	80 90
9/16-12 9/16-18	110 120	80 90	150 170	110 130
5/8-11 5/8-18	150 170	110 130	220 240	170 180
3/4-10 3/4-16	260 300	200 220	380 420	280 320
7/8-9 7/8-14	430 470	320 350	600 660	460 500
1-8 1-12	640 700	480 500	900 1000	680 740
1 1/8-7 1 1/8-12	800 880	600 660	1280 1440	960 1080
1 1/4-7 1 1/4-12	1120 1240	840 920	1820 2000	1360 1500
1 3/8-6 1 3/8-12	1460 1680	1100 1260	2380 2720	1780 2040
1 1/2-6 1 /1/2-12	1940 2200	1460 1640	3160 3560	2360 2660

** Machine Design Fastener and Joint Reference Issue.

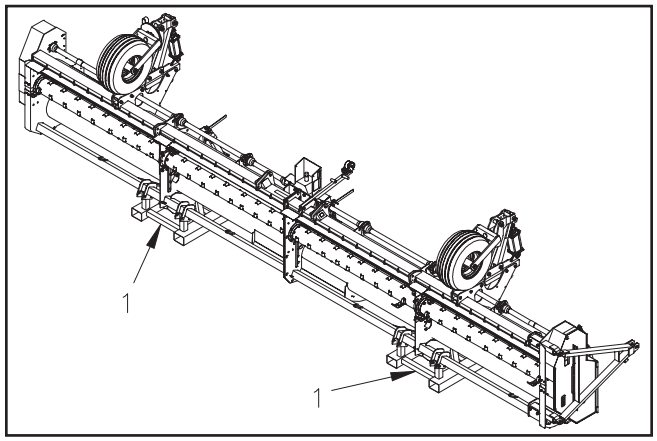
OFFLOADING

DANGER: DEATH OR SERIOUS INJURY CAN RESULT. USE EQUIPMENT CAPABLE OF SAFELY HANDLING A COMBINED LOAD NO LESS THAN 11,000 Lbs. (4,900 KG.).

DANGER: DEATH OR SERIOUS INJURY CAN RESULT. CLEAR PEOPLE FROM CARRIER AND OFFLOADING AREA. DO NOT OFFLOAD ON SOFT OR UNEVEN GROUND. AVOID HIGH WORK SPEEDS.

Hiniker windrow shredders are shipped vertical with shipping/handling racks. The unit must be offloaded in an area where the unit can be set down and the remaining (2) caster wheels assembled immediately. It is not recommended to offload and move the machine since maneuverability is limited.

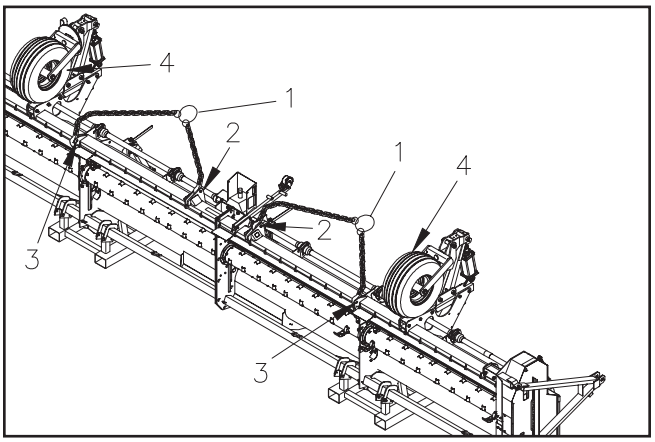
The machine can be offloaded using (2) forklifts. The combined equipment must be capable of lifting 11,000 Lbs. (4,900 KG.). Each forklift must be rated to lift at least 5500 Lbs at 24 inches from start of fork. The fork pocket tubes on the shipping racks are positioned at 30” centers.



DWG. NO. 6406

Position the carrier in a place where there is a firm, clear, and level work area. Approach the machine with (2) fork lifts, from the bottom of the machine the rotor knives will be visible. Position each fork lift as close to the shipping package/ rack (arrow 1) as possible. Lift unit off carrier and deposit onto the firm, clear and level work area.

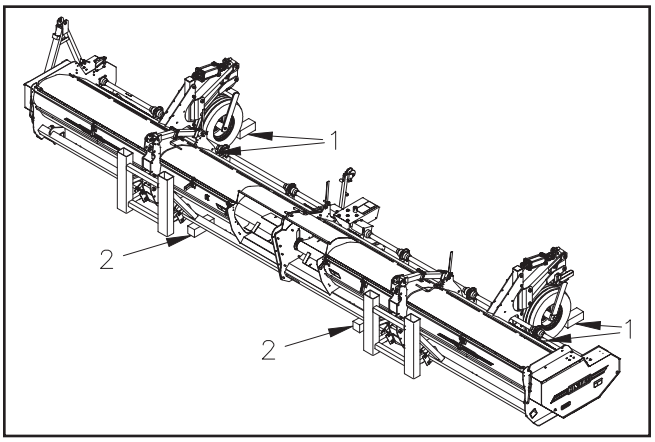
The hitch, rear RH and LH wheel legs, and the windrow package are shipped separate from the basic machine. The SMV sign is located under the LH enclosure. Remove the PTO that is banded to the underside of the machine. Offload the above components and set them aside for assembly later.



DWG. NO. 6407

Again using the (2) fork lifts approach the machine from the bottom. Prepare to tilt the unit down by attaching a set of chains (arrow 1) to each hitch clevis (arrow 2) and the center clevis of each machine half (arrow 3). Allow a SMALL AMOUNT of slack in the chain and slowly tip the unit forward until its downward force is being supported by the chain. Continue slowly tipping the machine onto the front (2) assembled caster wheels (arrow 4).

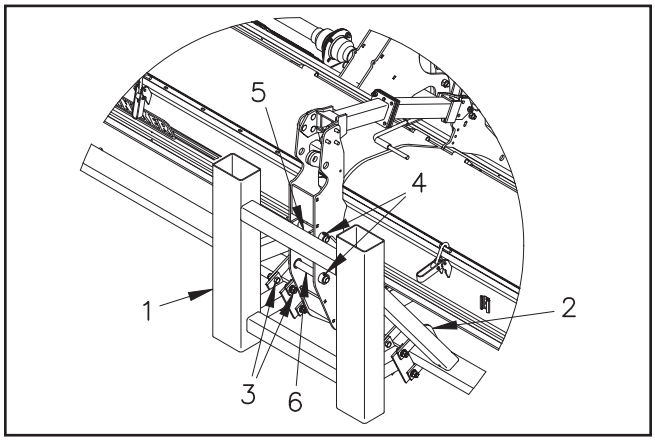
IMPORTANT: EXCESS SLACK IN THE CHAIN CAN ALLOW MACHINE TO FALL WITH POTENTIALLY DAMAGING FORCE.



DWG. NO. 6408

Block the front two caster wheels on the ground from moving front to back (arrow 1). Raise the rear of the machine so that the rear of the machine is slightly higher than the front. Insert blocks under the rear tube (arrow 2) at the back of the machine in (2) places to stabilize the machine. Verify that the assembly is stable.

CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. DUNNAGE WEIGHS 140 LBS. (63 KG.). DO NOT ALLOW IT TO FALL ON YOUR BODY.

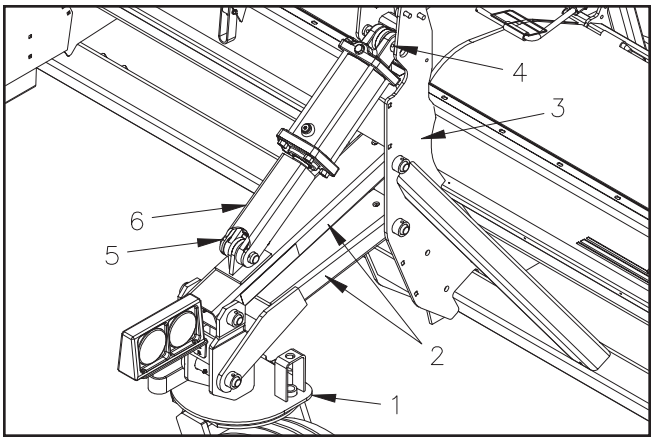


DWG. NO. 6409

Attach a chain around each shipping rack (arrow 1) before removing. Carefully remove each shipping rack individually from each machine half. Remove the (4) horseshoe shaped shipping brackets (arrow 2) per shipping rack by removing the 5/8 hex bolts (arrow 3). Remove the 5/16 hex bolts (arrow 4) holding the 1 1/4 pin (arrow 5) in place and drive the pin out. Drive the remaining lower 1 1/4 pin similarly (arrow 6) set the pins and 5/16 hardware aside for reassembly.

BASIC MACHINE

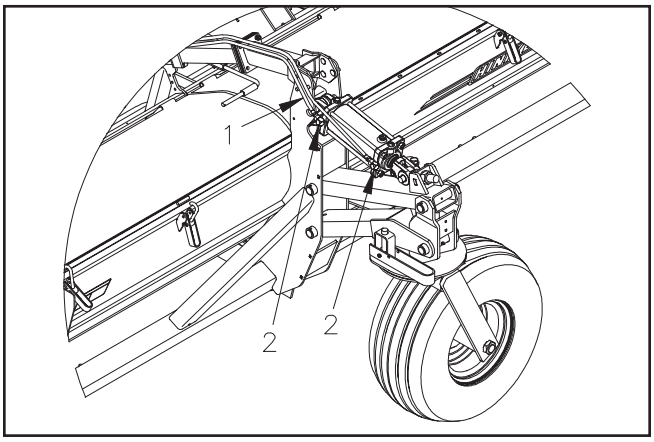
Locate the parts box from under the hinged auger covers in the outlet portion of the left side of the machine. Remove and set aside for later.



DWG. NO. 6863

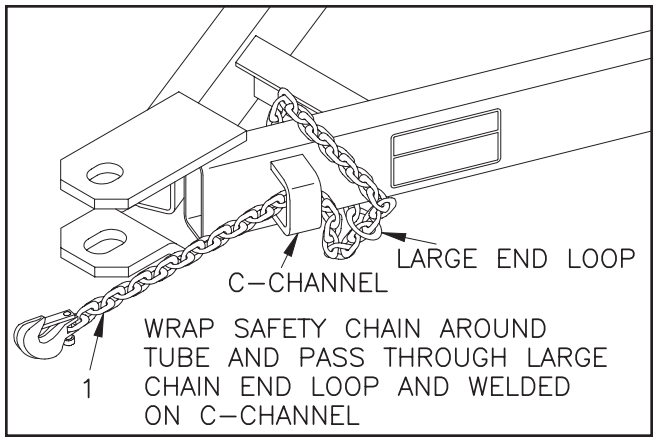
Locate the (2) rear caster wheels. Using some form of hoisting equipment carefully pick up the RH rear caster wheel assembly (arrow 1). This assembly will have the 4 1/2" x 8" hydraulic cylinder with 2" cylinder shaft attached to it. Carefully insert the top and bottom parallel links (arrow 2) in between the RH rear caster wheel mount (arrow 3). Secure each link with the (2) removed 1 1/4 pins and 5/16 bolts and lock nuts. Cut the band securing the hydraulic cylinder to the top parallel link. Remove the 1 1/4" pin in the base of the hydraulic cylinder assembly.

Secure the clevis on the base of the hydraulic cylinder (arrow 4) to the machine lug using the removed pin and 1/4 bolts with lock nuts. Remove 1 1/4 pin in clevis of cylinder (arrow 5). Attach cylinder lock (arrow 6) and reinsert pin.



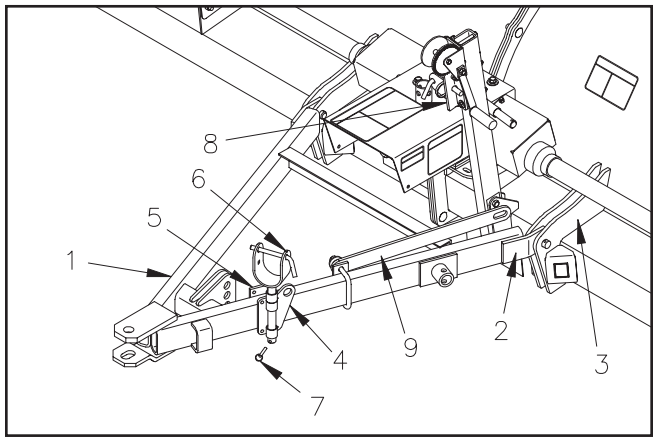
DWG. NO. 6791

Attach the hydraulic lines (arrow 1) to the fittings in the hydraulic cylinder (arrow 2). Match the corresponding colored zip ties on the hoses to the colored zip ties on the fittings of the cylinders. Attach the left hand rear caster wheel assembly similarly.



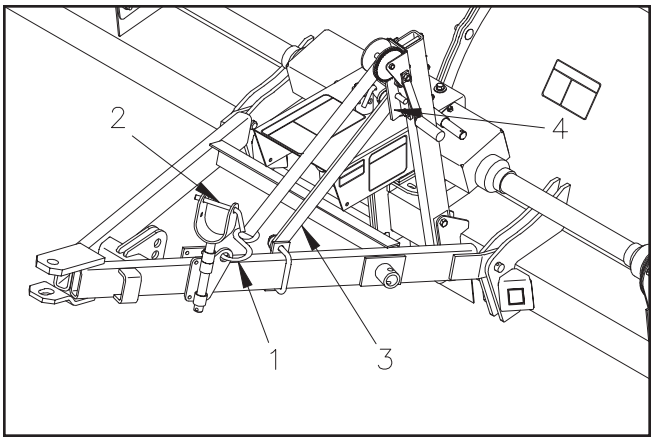
DWG. NO. 6397

Wrap safety chain around the end transport hitch tube and pass through large chain end loop and welded on C-channel.



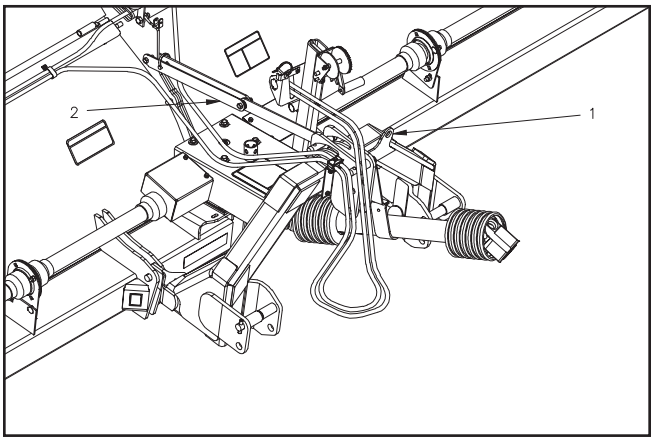
DWG. NO. 6787

If a drawbar is required attach the hitch (arrow 1) to the machine by inserting the rear hitch brackets (arrow 2) between both sets of base unit ears (arrow 3) and reinstall the pins. Attach the winch hook eye weldment (arrow 4) and the opposing plate (arrow 5) to the hitch using the 3/8" x 3 1/4" hex bolts and 3/8" lock nuts. Insert the PTO holder (arrow 6) through the bushings of item 4. Lock the PTO holder in place using the 1/4" locking pin (arrow 7). Attach mount angle (arrow 8) to winch tube using provided hardware . Assemble transport lock bar (arrow 9) onto hitch using the provided U-bolt, strap, bushings, and 5/8 locking hardware.



DWG. NO. 6790

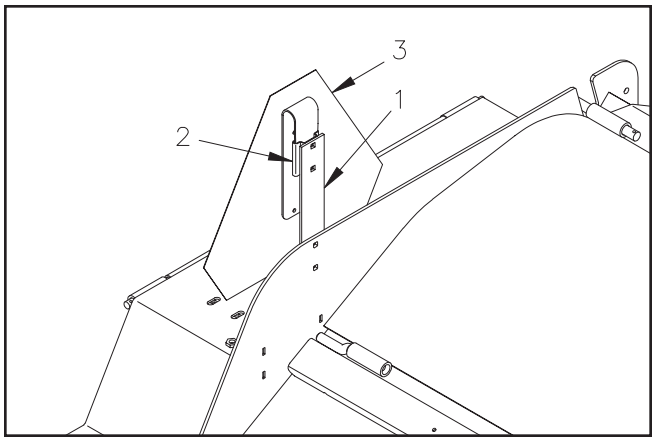
Attach the winch hook to the eye (arrow 1) of the bolted on weldment on the hitch. Refer to DWG 6341 on page 11 for winch operating instructions. Using the winch raise or lower the hitch to its approximate working position. Attach the PTO shaft to the windrow shredder gear box and set the tractor portion of the PTO shaft in the PTO holder. Insert the 1/2" x 5" angled pin (arrow 2) into the PTO shaft holder and secure it in place with the provided hair pin cotter. This prevents the PTO shaft from bouncing out during transport. Raise the hitch until the transport lock (arrow 3) can be latched on the peg of the bolted on angle (arrow 4) on the winch tube. Unhook winch strap and wind up excess strap material.



DWG. NO. 6862

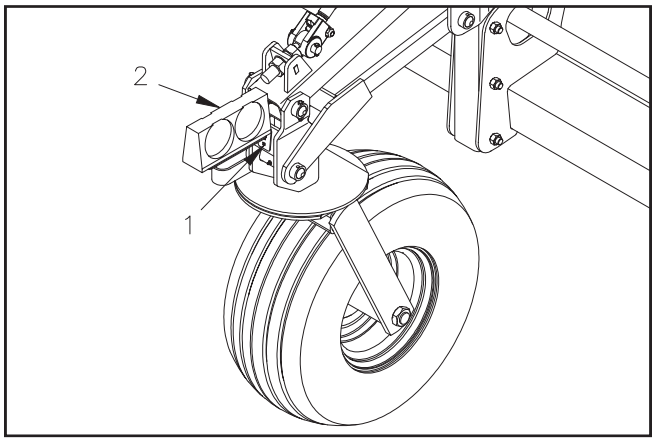
For a semi mount hitch attach the semi mount hitch to the shredder assembly in the clevis of the base machine. Reinsert the removed pins to secure the hitch to the machine.

Attach winch hook to hitch eye (arrow 1). Raise machine with winch until transport lock (arrow 2) can be attached. Attach PTO to gearbox and lay PTO shaft into holder as shown.



DWG. NO. 6390

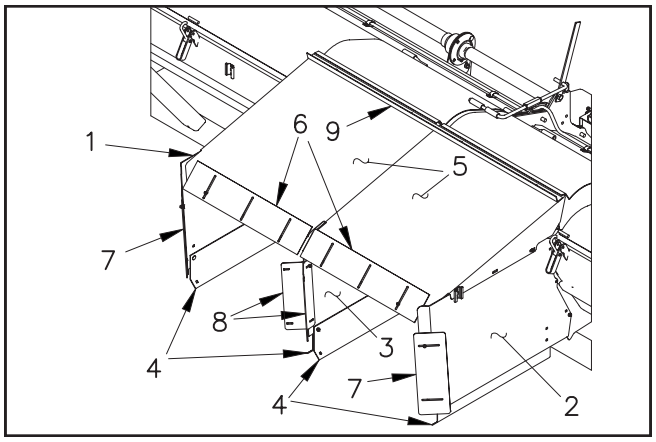
Attach the 3/16” x 2” flat bar (arrow 1) to the rear of the machine using (2) 5/16-18 x 3/4” carriage bolts and lock nuts. Attach the SMV bracket (arrow 2) to the flat bar using (2) 5/16-18 x 3/4” carriage bolts and lock nuts. Insert the SMV sign (arrow 3) into the assembled bracket as shown.



DWG. NO. 6389

Secure a light bracket (arrow 1) to the front right caster wheel in the location shown using (2) 5/16-18 x 1” carriage bolts and lock nuts. Attach RH light assembly (arrow 2) to the light bracket using (4) 1/4” x 1” hex bolts and 1/4” lock nuts provided. From the right hand of the machine facing the direction of end transport travel the yellow and red light should be visible. Attach the other light bracket and LH light assembly to the rear right hand caster wheel at the same location using the same hardware. Again the yellow and red light should be visible from the left hand side of the machine.

Insert the (3) 5/16” x 2 3/4” tab lock pins into the caster wheel levers. Refer to DWG 6393 on page 14 for lever location.



DWG. NO. 6394

Locate the bundle of discharge chute panels. When attaching discharge chute panels make sure, where possible, the heads of the carriage bolts are on the inside of the chute enclosure and the nuts are on the outside. Attach the LH and RH (arrows 1&2) end panels of the discharge chute onto the outside of the welded end ribs on both sides using (5) 3/8” x 3/4” carriage bolts and lock nuts per panel. Attach the center panel to the right hand side of the left hand center panel of the machine (arrow 3) using (3) 3/8” x 1” carriage bolts and lock nuts.

Install the (4) bottom deflectors (arrow 4) short or long side to the previously installed end panels using (6) 3/8” x 3/4” carriage bolts and lock nuts. Attach the (2) top covers (arrow 5) on the outside of the outer end panels and on the right hand side of the center panel. Secure the covers using (9) 3/8” x 3/4” carriage bolts and lock nuts. Attach the top deflectors (arrow 6) using (3) 5/16” x 3/4” carriage bolts and lock nuts per deflector. Secure the outside deflectors (arrow 7) on the outside of the end panels using (2) 5/16” x 3/4” carriage bolts and lock nuts per deflector. Attach the center deflectors (arrow 8) to the center panel using (2) 5/16” x 3/4” carriage bolts and lock nuts. Attach the top angle iron (arrow 9) using (4) 5/16” x 3/4” carriage bolts and 5/16” lock nuts.

Refer to Operation Section starting on page 10 for attaching machine to tractor and machine operation.

Refer to delivery check list on warranty registration form and routinely perform all relevant checks there on. Verify all lubrication points in the Lubrication Section starting on page 24 have been greased.

SPECIFICATIONS

Field Overall Width	386”
Field Overall Length	144”
Standard Knife Type	1/4” x 3” Cup
Theoretical Rotor Speed	1525 RPM
Number Knives	144
Cross Auger Speed	467 RPM
Cross Auger Shearbolt	3/8-16 x 2 1/4 Grade 8
Discharge Chute	Lateral & Vertical
1 3/4” (1000) 20 Spline PTO	Optional
1 3/8” (1000) 21 Spline PTO	Optional
Constant Velocity PTO	Standard
Premium Banded End Drive Belts	2
15” x 10” 6 Bolt Wheels	4
Recommended Tires	11Lx15-12 Ply Stub Guard
Approximate Field Weight	10,100 lbs./4,581 kg.

HINIKER WARRANTY

The only warranty Hiniker Company (Hiniker) gives and the only warranty the dealer is authorized to give is as follows:

We warranty new products sold by Hiniker or authorized Hiniker dealers to be in accordance with our published specifications or those specifications agreed to by us in writing at time of sale. Our obligation and liability under this warranty is expressly limited to repairing or replacing, at our option, within one year after date of retail delivery, to the original purchaser, any product not meeting the specification. **WE MAKE NO OTHER WARRANTY, EXPRESS OR IMPLIED AND MAKE NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE.** Our obligation under this warranty shall not include any transportation charges or costs or any liability for direct, indirect or consequential damage or delay. If requested by Hiniker Company, products or parts for which a warranty claim is made are to be returned freight prepaid to our factory. Any improper use, operation beyond rated capacity, substitution of parts not approved by Hiniker Company, or any alteration or repair by others in such manner as in our judgement affects the product materially and adversely shall void this warranty. **NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY.**

HINIKER reserves the right to make improvement changes on any of our products without notice.

HINIKER does not warrant the following:

1. Used products

2. Any product that has been repaired modified or altered in a way not approved by Hiniker Company.

3. Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow Operator Manual Instructions, misuse, lack of proper protection during storage, or accident.

4. Parts replacement and service necessitated by normal wear or maintenance including, but not limited to, belts, cutting parts, and ground engaging parts.

5. Damage or breakage caused by rocks.

A DELIVERY REPORT FORM and warranty registration form must be filled out and received by HINIKER COMPANY to initiate the warranty coverage. Failure to complete the forms will void the warranty.

HINIKER COMPANY
58766 240TH ST.
P. O. Box 3407
MANKATO, MN 56002-3407
PHONE (507) 625-6621
FAX (507) 625-5883
www.hiniker.com