



MODEL AR-2000
30 FT. FLAIL SHREDDER

OPERATOR'S MANUAL

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

PART NUMBER 79203563

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79203563

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Manual/79203563

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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 is fully aware, 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.



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.

Additional copies of this manual are available from your Hiniker Dealer

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

All photos in this manual refer to paragraph(s) preceding the photo.

3 COPIES OF THE DELIVERY REPORT ARE 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.

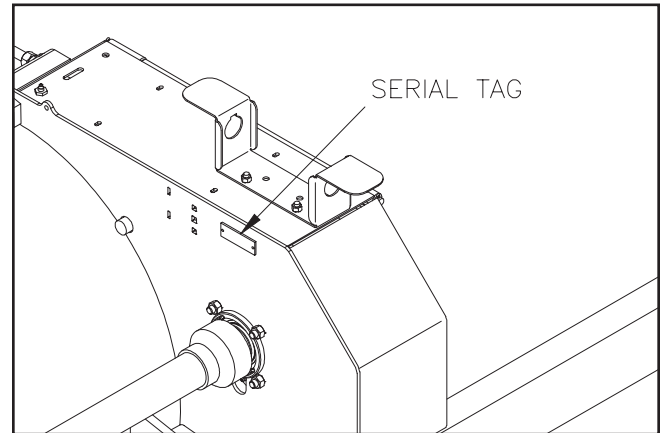


FIGURE 1

DWG NO. 6864

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 not readable, 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, and copy, 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. Additional copies of this operator's manual are available 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, keep others off, and insure everyone is clear before starting, actuating hydraulics, and during equipment operation.

4 Safety

8. Do not service, or otherwise handle, a shredder in a raised position unless it is securely blocked against unexpected falling.
9. Keep all front flipper shields in place and free swinging.
10. Never shred in areas littered with glass, rocks, metal, etc. Use cab tractor if operating in unfamiliar areas. 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.

Stop tractor and relieve pressure before connecting/disconnecting lines.

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 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 substantially operate tractor in a closed building.
17. Ag chemicals can be dangerous. Always follow the manufacturer's label safety precautions when using them.
18. 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 a 1000 RPM shredder 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 PTO.
7. Clear area of people, and debris, before engaging tractor PTO. Be alert for blind areas of operator. Slow down PTO and "feather" into engagement to prevent unnecessary stress on shredder's 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.

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. 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.
 - Dismounting from the tractor seat and parking the equipment.
 - Placing any part of your body in dangerous proximity to shredder.
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:
 - Use a safety chain between the shredder hitch and the towing vehicle (The 10,000# safety chain is part number 85501539).
 - Be sure end transport hydraulic cylinder locks are in place.
 - Use a tractor of sufficient size, and weight, required for field operation.
 - Do not tow faster than 25 MPH (40 kph).
 - BE AWARE THE TRAIL HITCH WIDTH, WITH END TRANSPORT KIT, IS 138" (11 1/2') WIDE. THESE WIDTHS ARE WITH THE PTO REMOVED. If these widths are not permitted, or advisable, under your circumstances, the hitch must be removed.
 - Check local regulations on towing width and warning lights.
2. Never tow trailing shredders in field mode with the PTO detached from the tractor and hooked to the gearbox.
3. Ensure ASAE SMV (slow moving vehicle) is visible when towing down public roadways.
4. At sundry locations, RED (rear facing) and AMBER (forward facing) reflectors are provided. Insure these do not become defaced or covered with debris.

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.
3. Do not service, or otherwise handle, a shredder in a raised position unless it is securely blocked against unexpected falling.
4. Stalk shredders operate in a naturally vibratory environment. 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.
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 ensure 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.



PHOTO NO. ARS004A

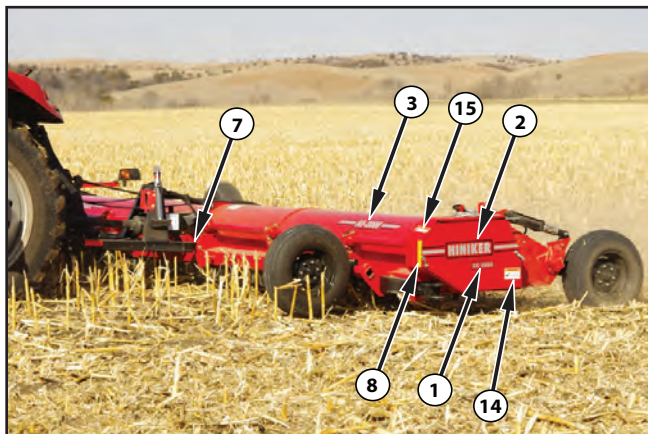


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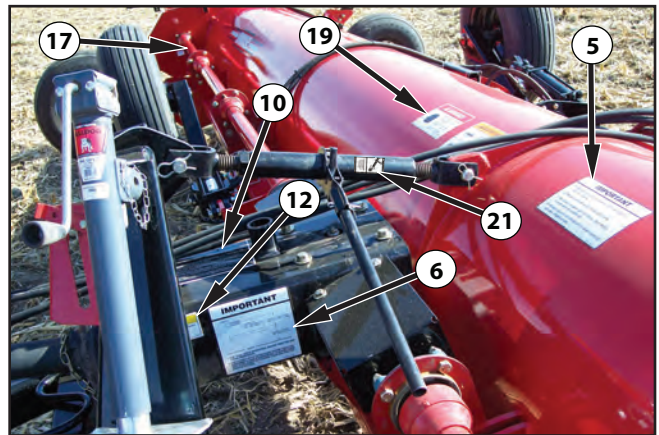


PHOTO NO. 100-4282A

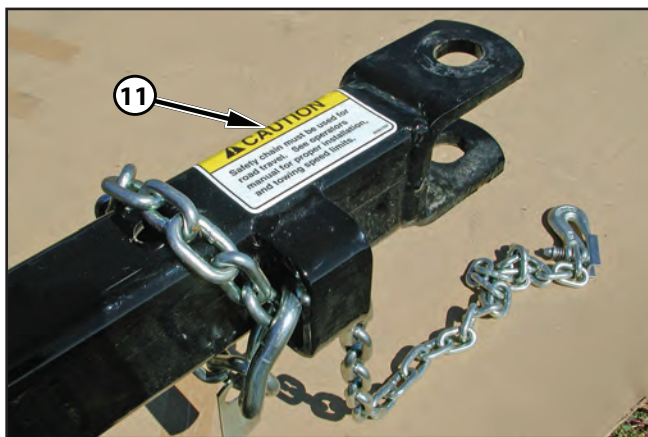


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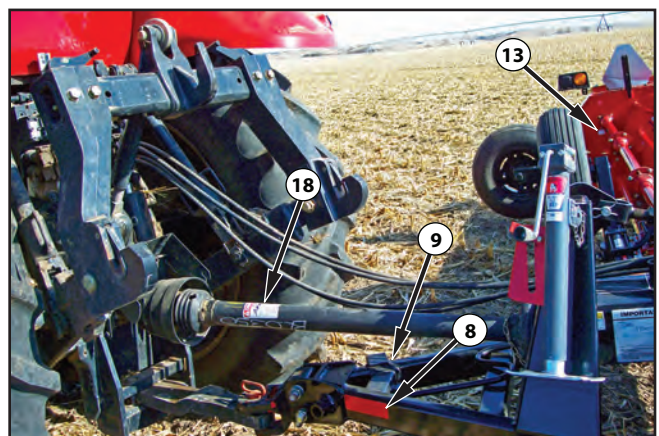
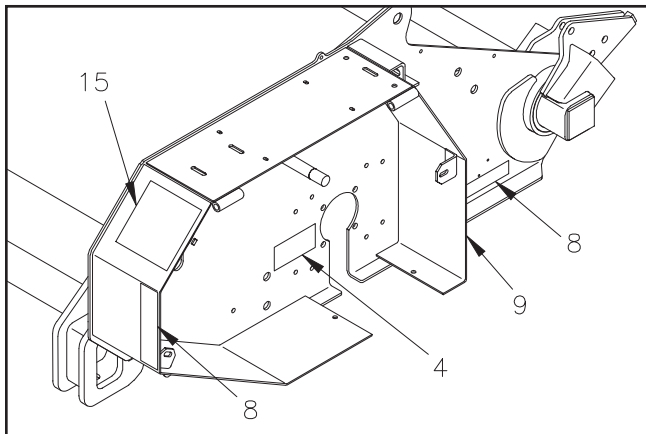


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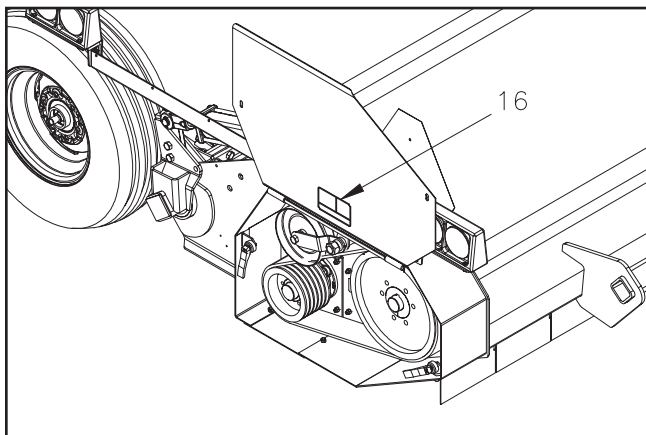
DWG NO. 6865

IMPORTANT

1. OPERATE MACHINE WITH KNIVES AT LEAST 3" ABOVE RIDGES.
2. NEVER OPERATE WITH MISSING KNIVES.
3. MAINTAIN PROPER BELT TENSION. SEE DECAL INSIDE END ENCLOSURES.
4. RAISE 3-POINT MOUNTED UNITS WHEN TURNING ACROSS RIDGED ENDS.

71504126

FIGURE 5 71504126 IMPORTANT: OPERATE MACHINE...



DWG NO. 6866

IMPORTANT

TRACTOR

1. FOR TRAIL HITCH OPERATION, INSURE TRACTOR HAS THESE DIMENSIONS.
2. FOR 3-POINT HITCH OPERATION, INSURE TRACTOR CONFORMS TO ASAE STANDARDS S217.10 (3-POINT LINKS) AND S278.6 (QUICK ATTACHING COUPLER) FOR CAT. II AND III HITCHES.

71504133

FIGURE 6 71504133 IMPORTANT: HITCH...



FIGURE 1 79202299 LOGO AR-2000



FIGURE 2 71505168 LOGO HINIKER



FIGURE 3 79202337 LOGO AR-2000

IMPORTANT: Maintain Belt Tension
 Stop unit completely for maintenance. No Rotation. Read Operators Manual.

Compress spring until washer can be seen through sight hole

PART NO. 79203548

FIGURE 4 79203548 IMPORTANT: MAINTAIN BELTS...



FIGURE 7 715-03174 IMPORTANT: LIFT...

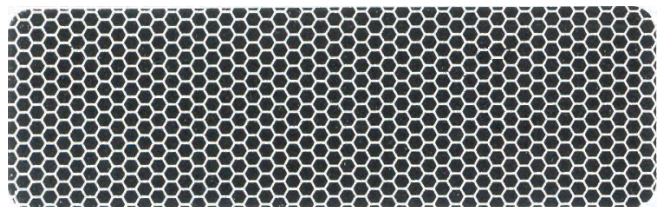


FIGURE 8 850-001-285 TAPE YELLOW REFLECTOR

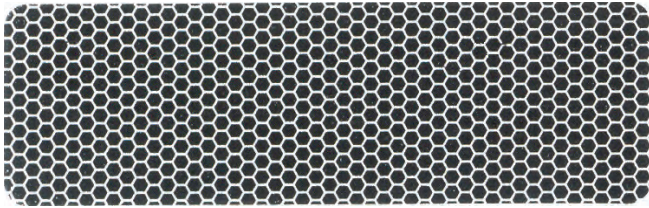


FIGURE 9 850-001-305 TAPE RED REFLECTOR



FIGURE 10 715-04132 CAUTION: READ MANUAL...



FIGURE 11 85501787 CAUTION: SAFETY CHAIN...



FIGURE 12 71504129 CAUTION: 1000 RPM

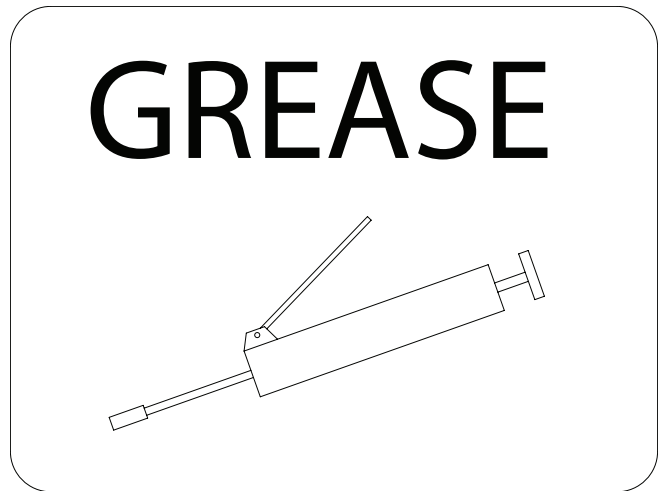


FIGURE 13 79203259 GREASE:



FIGURE 14 71505169 WARNING: LOOK AND LISTEN...



FIGURE 15 71505171 WARNING: KEEP HANDS, ETC...



FIGURE 16 71505170 WARNING: DO NOT OPERATE...



FIGURE 17 520-03138 DANGER: ROTATING DRIVE...



FIGURE 21 520-03138 WARNING: DO NOT EXCEED...



FIGURE 18 520-03139 DANGER: SHIELD MISSING...

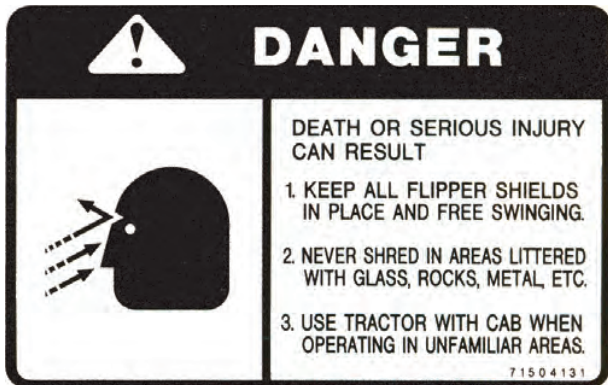


FIGURE 19 71504131 DANGER: KEEP FLIPPERS...



FIGURE 20 71504136 IMPORTANT: MAINTAIN TIRES...

FIELD PREPARATION



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

TRACTOR-GENERAL

IMPORTANT: IT IS CRITICAL TO KNOW WHAT SHREDDER CONFIGURATION IS INVOLVED BEFORE TRACTOR HOOKUP. TRACTOR MUST HAVE 1 3/4-20 SPLINE OUTPUT SHAFT.

Hiniker shredders are only available with a PTO output option of: 1000 RPM 1 3/4"-20 spline Part# 79202277

All units use ONLY CV (constant velocity) PTO's. These are identified by extended front yokes separated by a large guide hub between them.

SHREDDER-TRAILING HITCH

Trailing shredders have an adjustable hitch height adjustment (Item 1) to match various tractor drawbar heights. Refer to Photo 100-4282B.

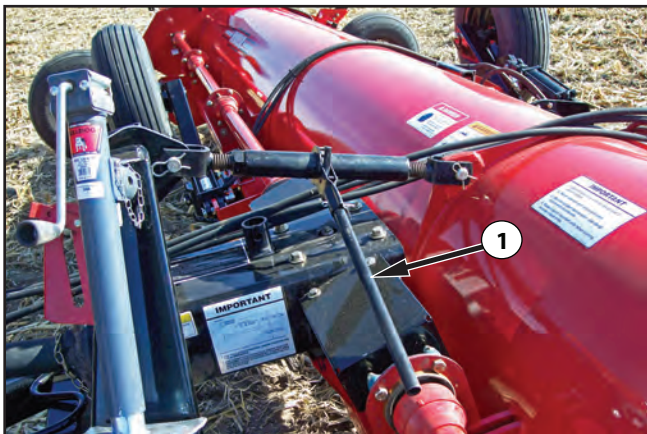


PHOTO NO. 100-4282B

IMPORTANT: CORRECT TRAILING HITCH DRAFT LINK LENGTH ADJUSTMENT CANNOT BE MADE UNTIL AFTER THE SHREDDER IS INITIALLY FIELDED.

Raise the shredder with hitch jack until the hitch yoke corresponds with the tractor's drawbar and insert hitch pin. Always store the hitch jack (arrow 1) as shown in Photo DCP0603.

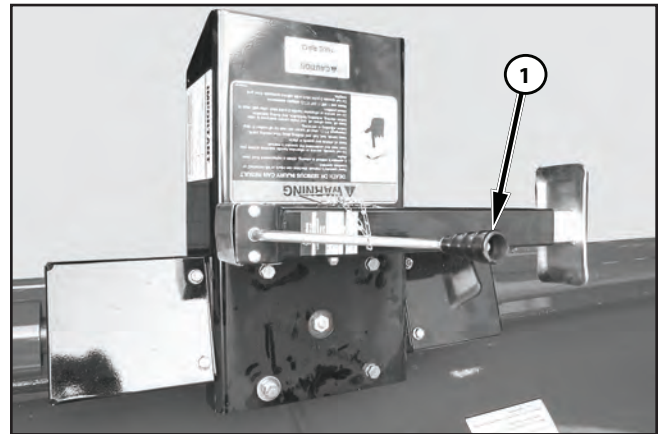


PHOTO NO. DCP0603

IMPORTANT: ALWAYS USE A 1" DIAMETER HITCH PIN.



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

SHREDDER-PTO's

IMPORTANT: IT IS CRITICAL TO KNOW WHAT TRACTOR CONFIGURATION IS INVOLVED BEFORE HOOKUP. THE PROPER SHREDDER PTO MUST BE USED, OTHERWISE UNSATISFACTORY PERFORMANCE WILL RESULT. TRACTOR MUST HAVE 1 3/4-20 SPLINE OUTPUT SHAFT.

All shredder PTO's have similar sliding yoke couplers at the tractor and gearbox ends. GEARBOX ENDS ARE IDENTIFIED BY AN OVERRUNNING CLUTCH (Item 1).

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

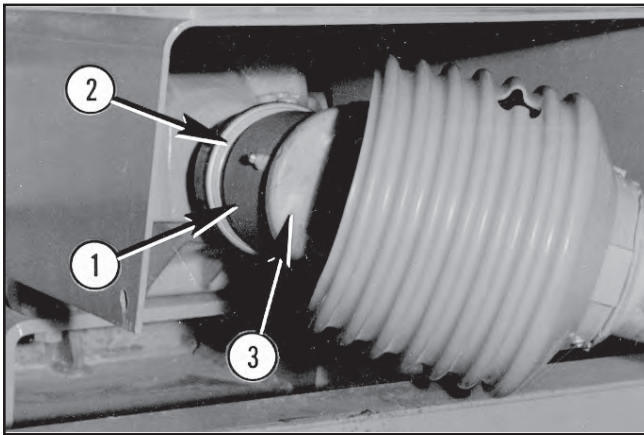


PHOTO NO. 2969A

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

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

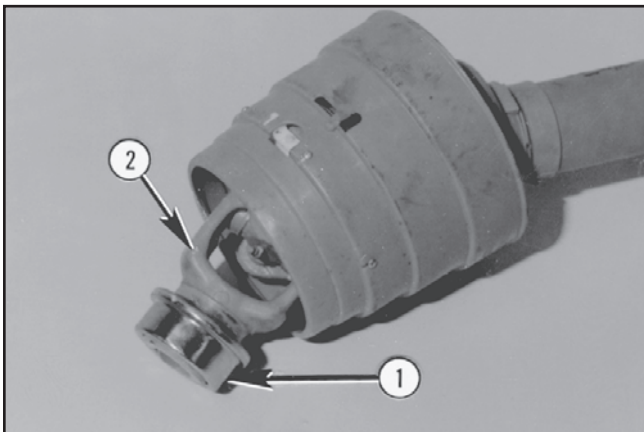


PHOTO NO. 2966A

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

Check the decal on gearbox shield to insure proper tractor/shredder RPM matching.



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 TOW A TRAILING SHREDDER UNLESS THE PTO IS PROPERLY HOOKED UP TO BOTH TRACTOR AND SHREDDER. OTHERWISE, IT CAN BE DAMAGED. IF NECESSARY TO OTHERWISE TOW, DETACH ENTIRE PTO ASSEMBLY (1) FROM GEARBOX AND SECURE IT BEHIND A DRIVE SHAFT SHIELD (2).

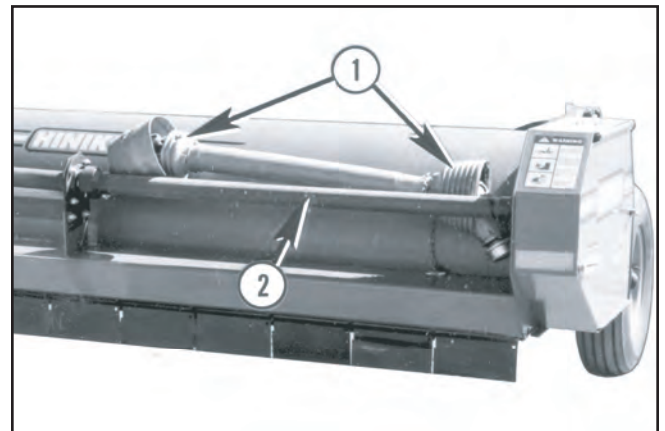
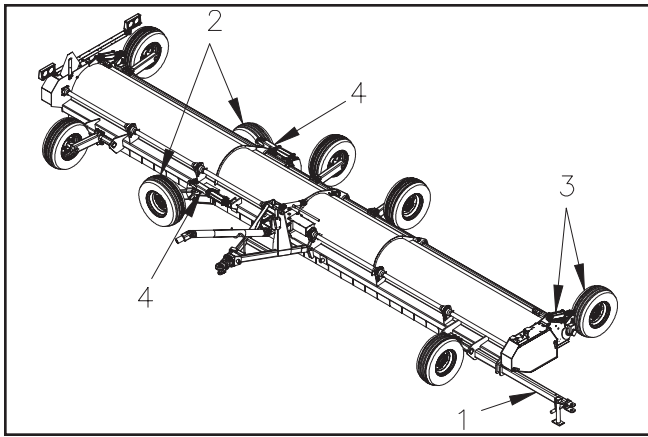


PHOTO NO. 3547

SHREDDER ROCKSHAFT & WHEELS

To adjust the rock shaft field wheel spacing the end transport wheels can be used. Insert tractor quick couplers to give machine a downward movement when tractor hydraulic lever is pushed forward.

12 Field Preparation

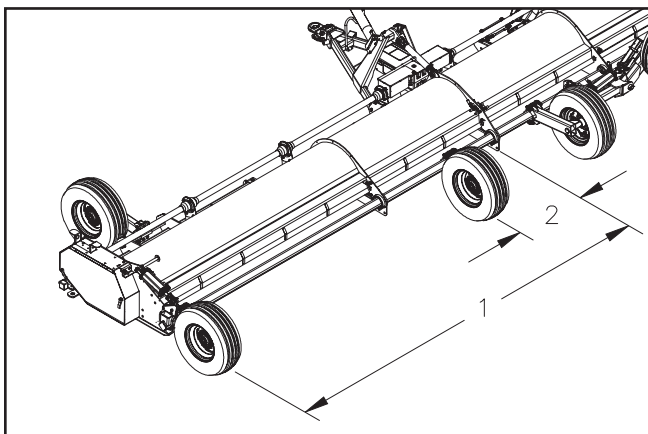


DWG NO. 6668

To adjust wheel spacing on rear rock shaft wheels, attach a tractor of adequate size to operate unit to the field hitch. Slide end transport hitch out and pin in position (arrow 1). Attach jack to spud on hitch. Using tractor hydraulics lower end transport wheels (arrow 2) and raise field wheels (arrow 3). Rotate locking channels (arrow 4) over end transport hydraulic cylinder shafts to prevent cylinder contracting.

Loosen wheel bolt clamps and slide wheels into correct dimensions for field operation. The correct spacing for 30" and 36" row and is provided in the table below.

		Dimns.	30" Rows	36" Rows
30 foot units	(outer)	(1)	180"	180"
	(inner)	(2)	30"	36"



DWG NO. 6667

For other row spacings, adjust the above settings accordingly. Torque up each wheel leg clamping bolts by uniformly tightening the lower bolts to a snug fit. Then, torque, and re-torque top bolts to 146-206 Ft/lbs.

Once correct spacing is set up unlock end transport cylinder locks. Lower field wheels all the way down. Raise end transport cylinders and slide end transport hitch in and re-pin in position. Store jack in its storage position.

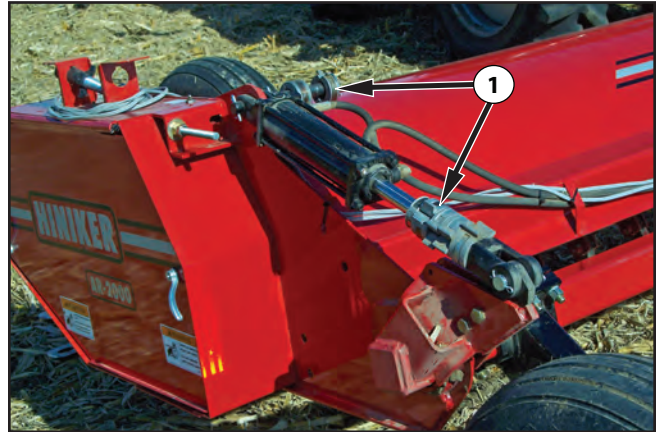


PHOTO NO. 1000-4284A

Hydraulic cylinder control segments (arrow 1) are provided to hold machine at desired cutting height.

SHREDDER TIRES

Recommended tires are 9.5L x 15 8 ply (implement) tires with 8" rims. The shredder will perform better, especially under ridged conditions, if tire pressures are kept no greater than recommended. (If the shredder tends to "yaw", or climb ridged rows, decrease pressure in the outside tires to the lower range cited and recheck that tire centerlines are running in the row middles.

SHREDDER-END TRANSPORT TOWING

Hiniker 30 Ft. shredders are designed for end transport only down public roadways. Implement lights (arrow 1) and SMV sign (arrow 2) are standard equipment and mounted on rear of machine.

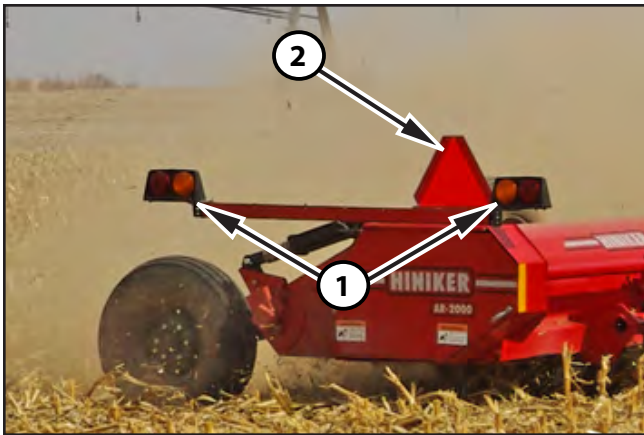


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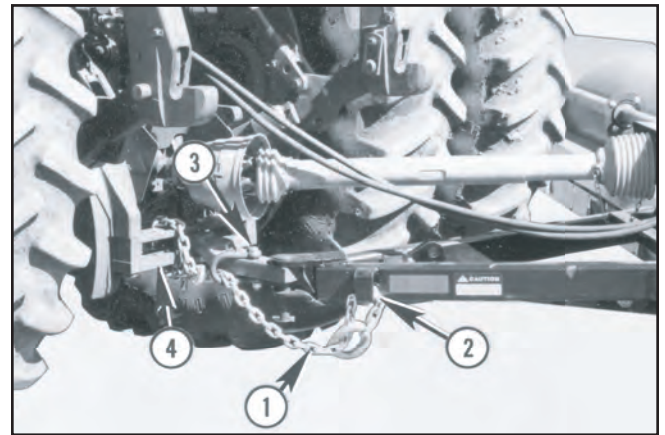


PHOTO NO. 3550



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 KM/H).

USE A TOWING CHAIN BETWEEN TOWING VEHICLE AND SHREDDER.

THE SMV'S REFLECTIVE SURFACE MUST BE VISIBLE FROM THE REAR OF UNIT.


CHECK LOCAL REGULATIONS ON TOWING WIDTH AND WARNING LIGHTS.

THE FRONT HITCH, PTO AND PTO HOLDER MAY BE REMOVED TO REDUCE THE END TRANSPORT WIDTH IF REQUIRED.

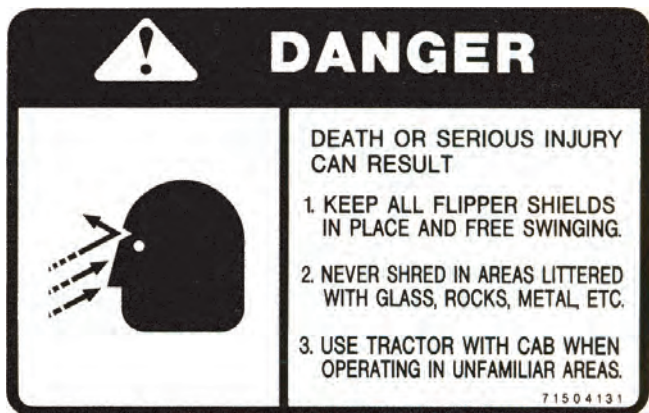
Use a safety towing chain (Item 1) between the shredder and towing vehicle. Hook chain around bracket (Item 2) and pass forward through after-market clevis (Item 3). Fix chain's forward end (Item 4) to tractor.

Check the lights to be sure they are connected properly so that turn signal flashers operate correctly.

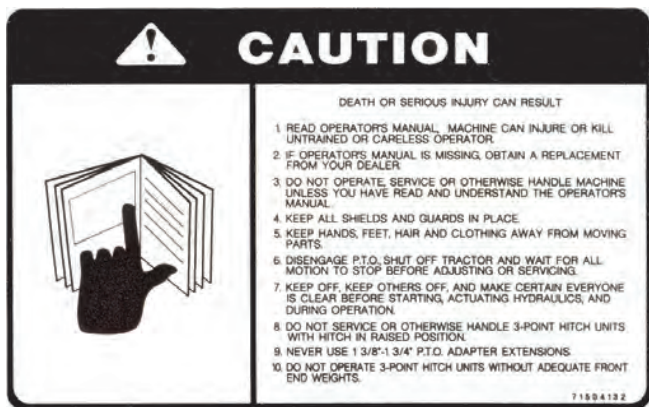
OPERATION

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

GENERAL



DWG. NO. 71504131




DWG. NO. 71504132

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

Avoid “jackrabbit” PTO engagement at full speed because it overstresses the shredder’s driveline. Engage PTO at slow speed and throttle up to operating speed.

Insert quick couplers to give shredder a **DOWNWARD** movement when tractor hydraulic lever is shoved **FORWARD** and vice versa.

IMPORTANT: FOR TRAILING HITCH END TURNS ACROSS RIDGED ROWS, SLOW FORWARD SPEED AND RAISE MACHINE TO MINIMIZE EXCESSIVE BOUNCING AND SCALPING.

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

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

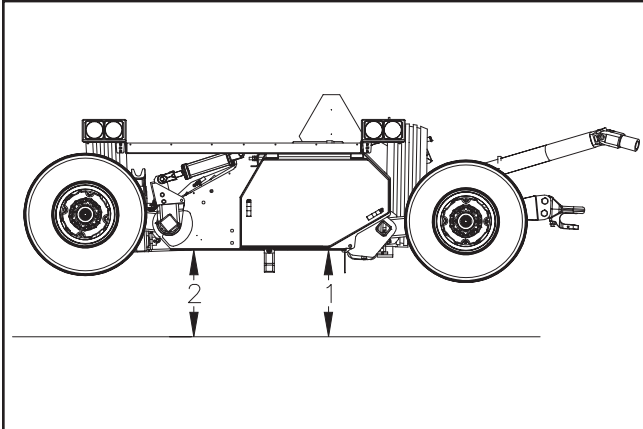
Shred a short distance and check performance. The higher knife/row clearance may not give satisfactory results; therefore, lower unit and check again. Progressively lower unit until good results are obtained. **DO NOT OPERATE WITH LESS THAN 3” KNIFE CLEARANCE TO HIGHEST GROUND POINT WITHIN SHREDDED WIDTH.**

Once optimum height is set, insert equal amount of hydraulic cylinder stop segments over the rods of the lift cylinders to hold machine at desired height.

IMPORTANT: “SCALPING” ROWS WASTES FUEL AND RAPIDLY AGGRAVATES KNIFE WEAR. THIS IS PARTICULARLY TRUE IN ROCKY FIELDS. IF YOUR FIELD HAS PROTRUDING ROCKS, KEEP UNIT’S HEIGHT SUFFICIENT FOR KNIVES TO CLEAR THEM. STALK SHREDDERS ARE NOT INTENDED TO BE USED AS A “ROCK PICKER”, OR A “ROTILLER”.

Operate the shredder approximately **LEVEL**. That is, front (Item 1) of main frame should clear ground about the same as the rear (Item 2).

CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. EXCESSIVE FRONT FRAME/GROUND CLEARANCE CAUSES MORE DEBRIS TO THROW FORWARD UNDER THE TRASH SHIELDS. NEVER STAND NEAR, AND AHEAD OF, A RUNNING MACHINE.



DWG NO. 6869

TRAILING HITCH HEIGHT ADJUSTMENT

1. Position unit astraddle rows and insure wheels are centered in row middles before making any adjustments. Rotate rockshaft/wheels until knives clear rows by GREATER than 3".



PHOTO NO. 100-4277A

With unit attached to tractor, adjust turnbuckle (arrow 1) to raise machine front up or down to desired height.

2. Recheck knives/row clearance and readjust rockshaft/wheels, as well as draft link length, if necessary.

3. Shred a short distance, stop and check stubble to insure knives are properly clearing rows and satisfactory performance is obtained. If necessary, reset rockshaft/wheels and drawbar's underneath draft link.
4. Ensure cylinder stop collars, are of equal height on lift cylinders.

END TRANSPORT TOWING

The 30 Ft. AR shredder can only be towed down public highways in 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:

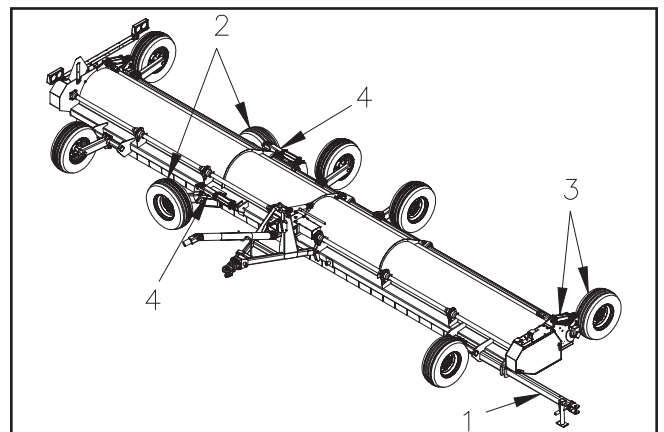
USE A TRACTOR OF SUFFICIENT SIZE, AND WEIGHT, REQUIRED FOR FIELD OPERATION.

DO NOT TOW AT SPEEDS IN EXCESS OF 25 MPH (40 KM/H).

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.

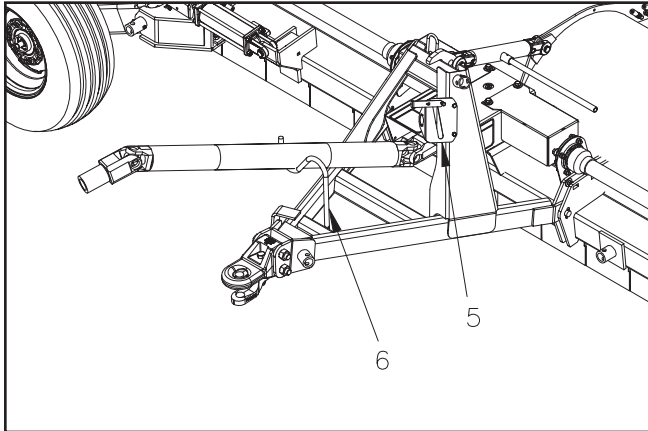


DWG NO. 6868

To put the machine in end transport. With tractor attached to the field hitch Slide out end transport tongue (arrow 1) and pin in position.

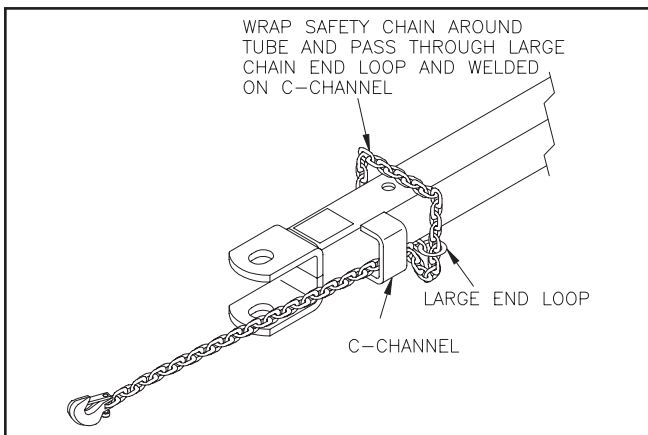
16 Operation

Rotate jack into position. Lower end transport wheels all the way down (arrow 2). Raise field wheels all the way up (arrow 3). Rotate hydraulic cylinder channel locks (arrow 4) into position to hold cylinders in the fully extended position. Using jack raise front end of tractor until the cast hitch on shredder comes off the draw bar of the tractor.



DWG NO. 6870

Disconnect hydraulic lines and store in hydraulic tip holder (arrow 5). Flip up PTO holder (arrow 6). Disconnect PTO and lay in PTO holder. Raise or lower end transport hitch so it can be attached to tractor drawbar. Attach tractor of sufficient size for operation to end transport tongue. Store jack on field hitch storage location.



DWG NO. 6871

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

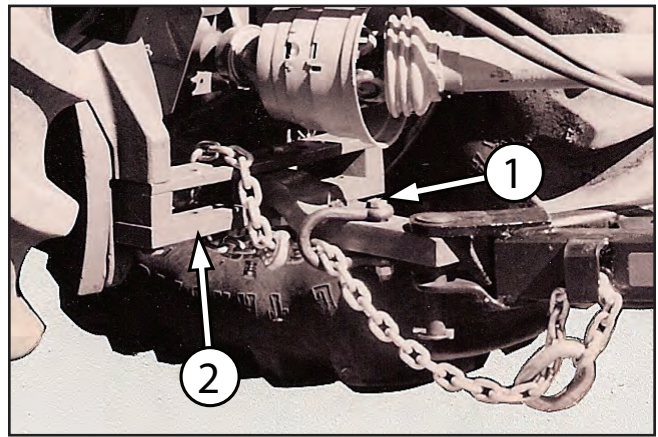


PHOTO NO. 3550B

Attach safety chain on end transport hitch to tractor.

Insert electrical connector into tractor. Verify warning lights and turn indicators all work correctly. Verify SMV sign is visible from rear of machine.

STORAGE



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.

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 surface requiring it. Also check for any loose hardware.
6. Inspect both rotor assemblies for lost, broken, or worn out knives. Replace these as required. Also, replace any other deteriorated parts, especially decals and reflectors.

LUBRICATION



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



CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. 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. SECURELY BLOCK UNIT BEFORE SERVICING TO PREVENT UNEXPECTED FALLING.

HINIKER shredders have been factory checked and lubricated. However, re-check and relubricate a unit prior to first field operation.

Shredders operate in an extremely dirty (fine dust) environment. Proper maintenance attention to the anti-friction bearings will save money!

IMPORTANT: WIPE ALL ZERKS AND GUN TIPS BEFORE LUBRICATING.

IMPORTANT: WHEN LUBRICATING BEARINGS ADHERE TO 1 PUMP PER FITTING ON A DAILY INTERVAL.

When lubricating, couplers, pivots, and PTO lubricate until you see grease. Items (8 & 15) CV double yoke needs 15 to 20 pumps.

IMPORTANT: INNER ROTOR COUPLER (ITEM 29) NEEDS 20-25 PUMPS DAILY FOR PROPER OPERATION.

Replace any damaged fittings and use a good grade of lithium base grease.

Gearbox should be checked at least seasonally. After 300 hours operation, drain and refill.

A 1000 rpm gearbox is checked by measuring 3 7/8" to 4" depth to lube level below fill hole thread top or use check plug at rear. Clean plug before removing. Use a.P.I. 80W90 synthetic extreme pressure lubricant.

Lubrication Chart		
Ref. No.	Description	Interval
1.	Front Cross & Bearing	Daily
2.	Front Shield Bearing	Daily
3.	Sliding Tube	Daily
4.	Rear Shield Bearing	Daily
5.	Rear Cross & Bearing	Daily
6.	Overrunning Clutch	Daily
7.	Front Shield Bearing	Daily
8.	CV Cross	Daily
9.	CV Cone Shield & Bearing	Daily
10.	Front Cross & Bearing	Daily
11.	End Transport Pivot	Daily
12.	Overrunning Clutch	Daily
13.	Rear Cross & Bearing	Daily
14.	Rear Shield Bearing	Daily
15.	CV Flange (15-20 Pumps)	Daily
16.	Line Shaft Coupler (15-20 Pumps)	Daily
17.	Outer Rotor Bearing	Daily
18.	Rockshaft Bearing	Weekly
19.	Center Bearings	Daily
20.	Wheel Hub	Weekly
21.	Ratchet Jack	Seasonal
22.	Gearbox Drain	300 Hours
23.	Center Rotor Bearings	Daily
24.	Outer Lineshaft Bearing	Daily
25.	Mid Lineshaft Bearing	Daily
26.	Idler Pivot	Weekly
27.	Gearbox Breather	-----
28.	Gearbox Oil Level Check Plug	-----
29.	Rotor Coupler (20-25 Pumps)	Daily

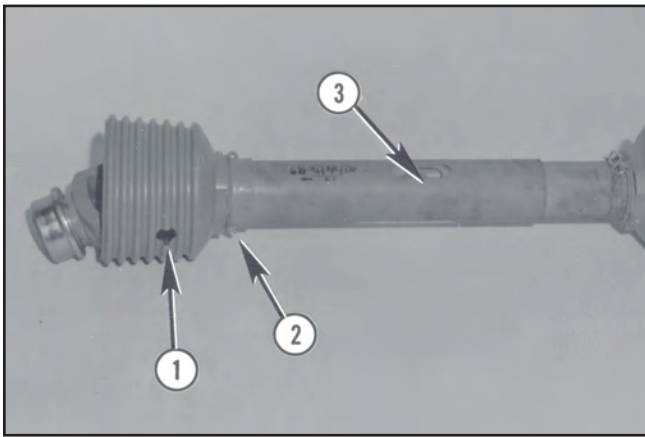


PHOTO NO. 2964

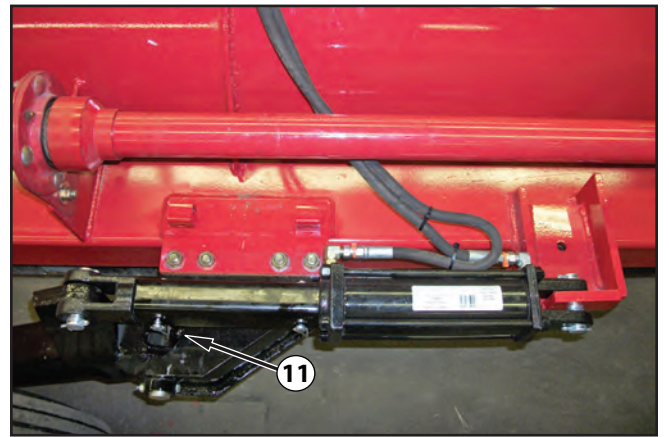


PHOTO NO. 100-1334

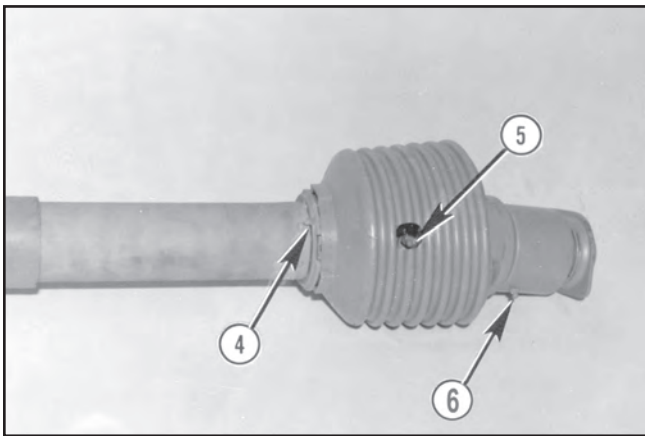


PHOTO NO. 2968B

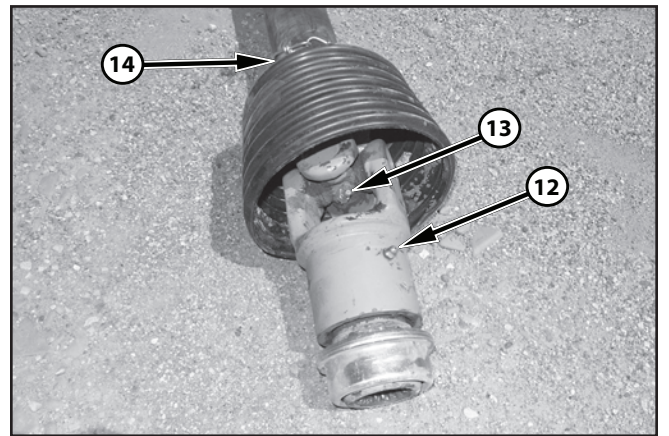


PHOTO NO. DCP0569

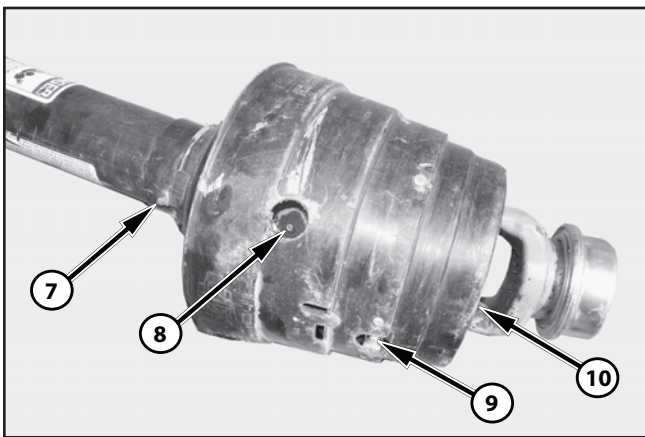


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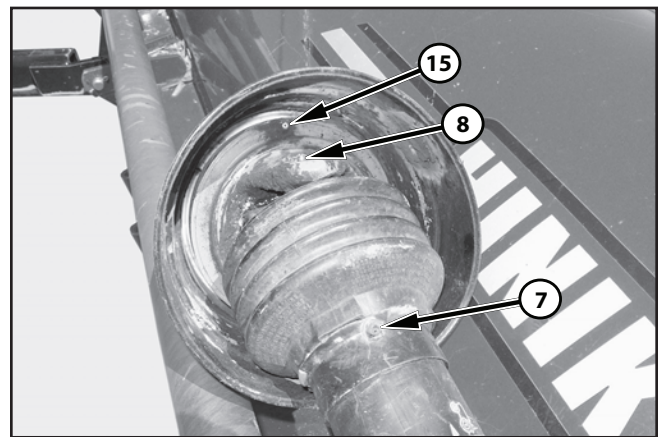
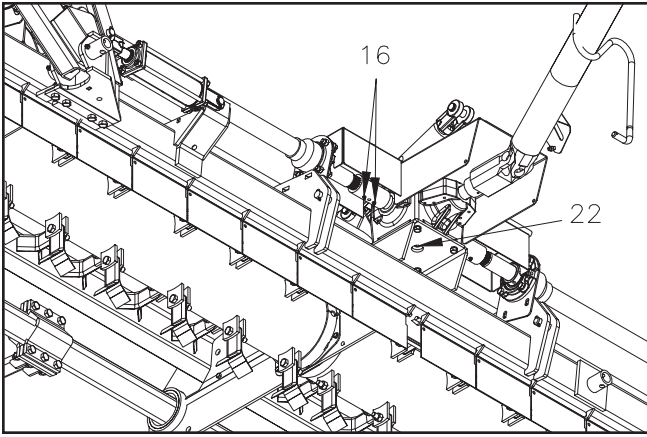


PHOTO NO. DCP0571

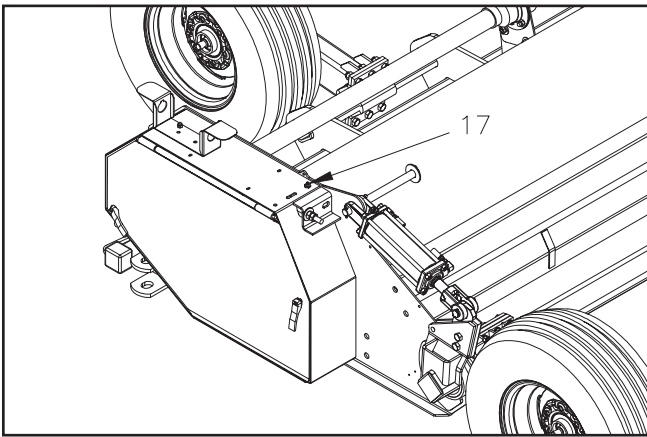
20 Lubrication



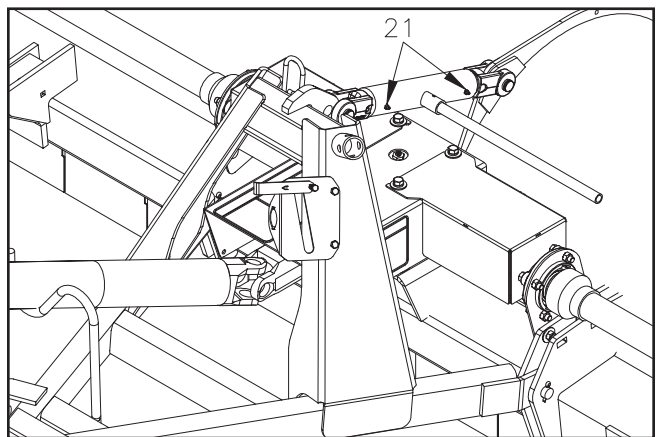
DWG NO. 6877



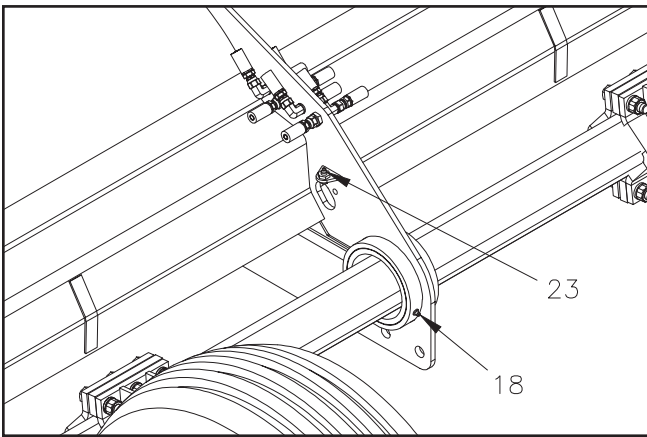
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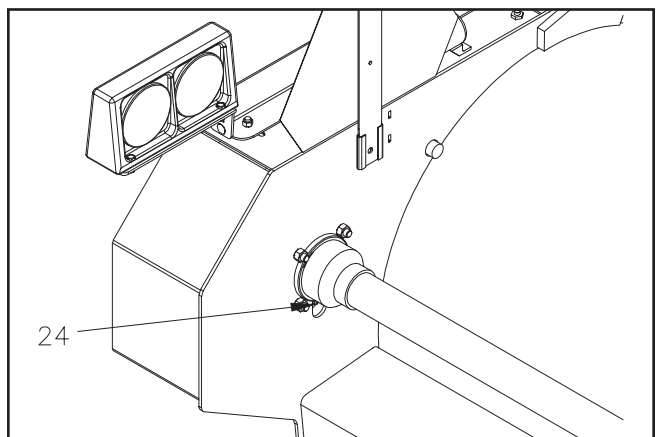
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DWG NO. 6872



DWG NO. 6876



DWG NO. 6875

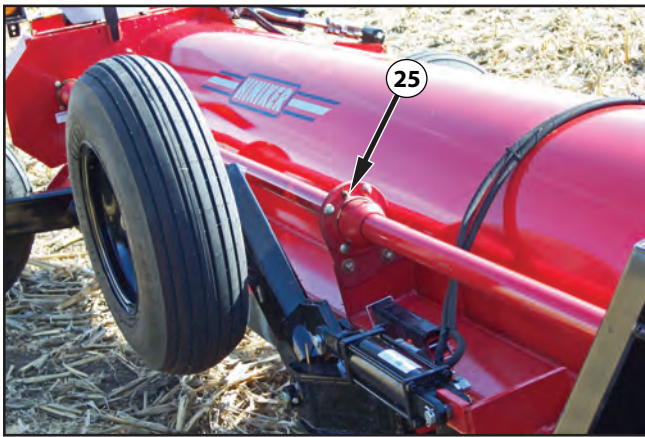


PHOTO NO. 100-4281A

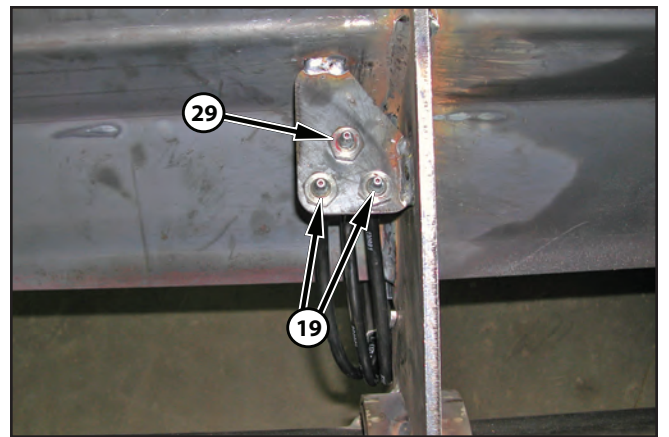
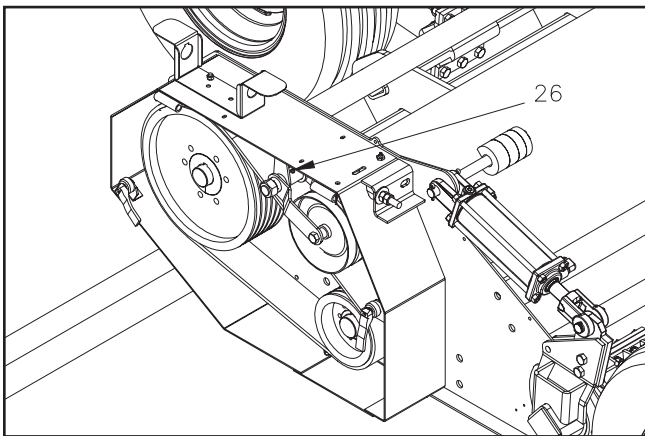


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DWG NO. 6873

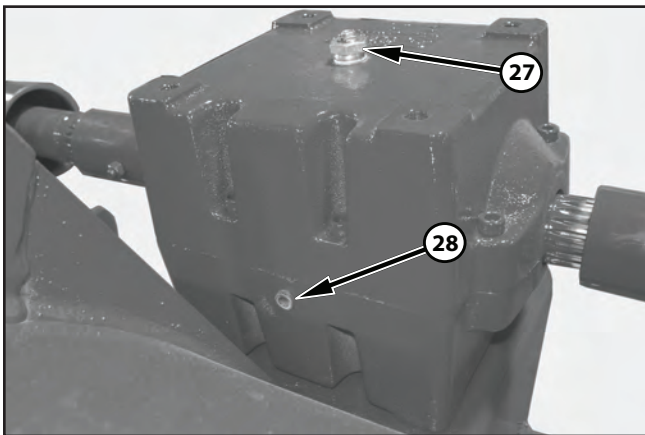


PHOTO NO. DCP0647

TROUBLE SHOOTING

CONDITION	POSSIBLE CAUSE	CORRECTION
Poor shredding.	<ol style="list-style-type: none"> 1. Missing, or broken knives. 2. Knives worn out. 3. Under speed PTO. 4. Slipping belts. 5. Worn out belts. 6. Shredder bouncing. 7. Operating too high. 8. Excessive ground speed. 	<ol style="list-style-type: none"> 1. Inspect and replace. See SERVICE section. 2. Same as above. 3. Check tractor for 1000 PTO RPM. 4. Check belts backwrap idler adjustment. See SERVICE Section 5. Inspect belts for wear or mismatching. Replace only in banded sets. 6. Deflate tires to 15-20 psi. Slow down ground speed. 7. Decrease knives operating height to approximately 3" above rows. 8. Slowdown.
Excessive row knife wear.	<ol style="list-style-type: none"> 1. Operating too low. 	<ol style="list-style-type: none"> 1. Raise knives operating height to approximately 3" above rows.
Excessive knife stone damage	<ol style="list-style-type: none"> 1. Running too low. 	<ol style="list-style-type: none"> 1. Raise knives operating height to approximately 3" above rows, or to clear rocks.
Entire shredder crosswise "yawing".	<ol style="list-style-type: none"> 1. Wheel not exactly centered on middles. 2. Different tire sizes on same unit. 	<ol style="list-style-type: none"> 1. Readjust wheel spacings. 2. Correct.
Excessive shredder vibration.	<ol style="list-style-type: none"> 1. Missing or broken knives. 2. Rock damaged rotor. 3. Worn or loose rotor bearings. 4. Loose or misaligned end sheaves. 5. Deteriorated belts. 6. High tire air pressure. 	<ol style="list-style-type: none"> 1. Inspect and replace. See SERVICE section. 2. Replace. 3. Inspect and maintain. See SERVICE section. 4. Inspect and maintain. See SERVICE section. 5. Replace belts. 6. Bleed to 15-20 PSI.
Too rapid belt wear.	<ol style="list-style-type: none"> 1. Belts too loose or too tight. 	<ol style="list-style-type: none"> 1. Backwrap idler tension not properly maintained. See SERVICE section.
Crossways tilted operation.	<ol style="list-style-type: none"> 1. Unequalized ratchet jacks or hydraulic cylinder stops. 	<ol style="list-style-type: none"> 1. Equalize ratchet jacks or hydraulic cylinder stops.
Excessive power required for available tractor.	<ol style="list-style-type: none"> 1. Cutting to low. 2. Excessive ground speed. 	<ol style="list-style-type: none"> 1. Raise knives operating height to approximately 3" above rows. 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 MACHINE, IN A RAISED POSITION UNLESS IT IS SECURELY BLOCKED AGAINST UNEXPECTED FALLING.

DO NOT SERVICE END DRIVE BELTS WHEN TRACTOR IS RUNNING.

REPLACE ALL SHIELDS REMOVED FOR SERVICE BEFORE OPERATING THIS EQUIPMENT.

HARDWARE

Shredders operate in an inherently vibratory environment. Discipline yourself to regularly check suspect bolt torques and lost, worn out, or broken parts. Replace these promptly.

HINIKER shredders are EQUIPPED ONLY WITH GRADE 5 BOLTS (3 marks on heads) and retained with TYPE B or F LOCKNUTS (except on wheel legs, sheaves, backwrap idler inside nut, and the gearbox which have lock washers). Type B locknuts are PLAIN hex. Type F locknuts are FLANGED hex.

IMPORTANT: DO NOT REPLACE HARDWARE WITH LOWER GRADE ITEMS. EXCEPT ON SHEAVES, ALL BOLT TORQUE VALUES ARE FOR GRADE 5. HARDWARE OVER, OR UNDER, TORQUING, CAN RESULT IN UNSATISFACTORY DURABILITY.

Diameter	Ft/lbs.	N/m.
5/16"	13-18	17-25
3/8"	23-33	31-44
7/16"	38-54	51-73
1/2"	58-82	79-112
5/8"	117-165	158-223
3/4"	206-292	280-396
1"	500-708	678-960

GRADE 5 TYPE B & F LOCKNUT TORQUE VALUES

Diameter	Ft/lbs.	N/m.
3/8"	29-41	39-56
1/2"	73-103	99-140
5/8"	146-206	198-279
* applications without locknuts		

GRADE 5 BOLT TORQUE VALUES*

It is a good idea to recheck critical bolt torque values 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 those so indicated because they will cause the rotor to run out of balance. Partially worn out SIDE SLICER knives may be removed and reversed to give a fresher cutting edge. 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.

Shredders are factory shipped with SIDE SLICER knives, per Photo 1575A.

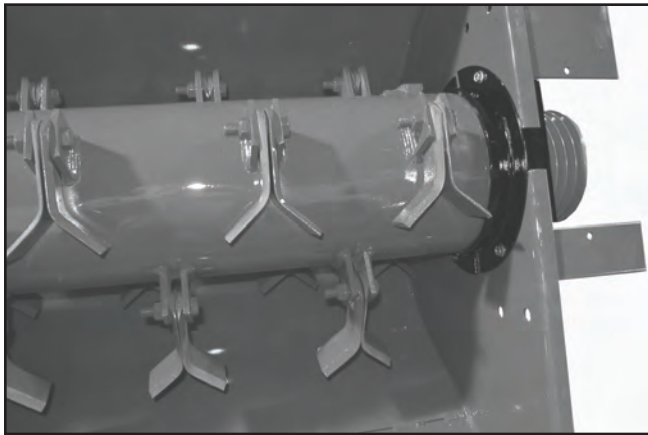


PHOTO NO. 1575A

Shredder side slicer knife Service

To rotate side slicer knives loosen the 5/8" x 2 3/4" Gr. 8 bolt and lock nut. Remove the bolt from the ears on the shredder rotor and pull out the two side slicer knives and the bushing. See Photo DCP0594.



PHOTO NO. DCP0594

Rotate the knives so that the edge of the side slicer knives that is not worn is facing in the direction of travel. Put the knives and bushing back between the same ears that they came from on the shredder rotor. Secure them by torquing the 5/8 x 2 3/4" Gr. 8 bolt and lock nut to 95 -110 lb. ft.

To replace side slicer knives loosen the 5/8" x 2 3/4" Gr. 8 bolt and lock nut.

Remove the bolt from the ears on the shredder rotor and pull out the two side slicer knives and the bushing. See Photo DCP0594.

Examine the side slicer knives (Item 1), bushing (Item 2), 5/8 x 2 3/4" Gr. 8 bolt (Item 3) and the 5/8" lock nut (Item 4). Replace the worn knives and the bushings if worn or cracked. Always replace knives in opposite (180 degree apart) sets. Also, replace corresponding knives at the other end of the same rotor. This will help to keep the rotors balanced. See Photo DCP0597.

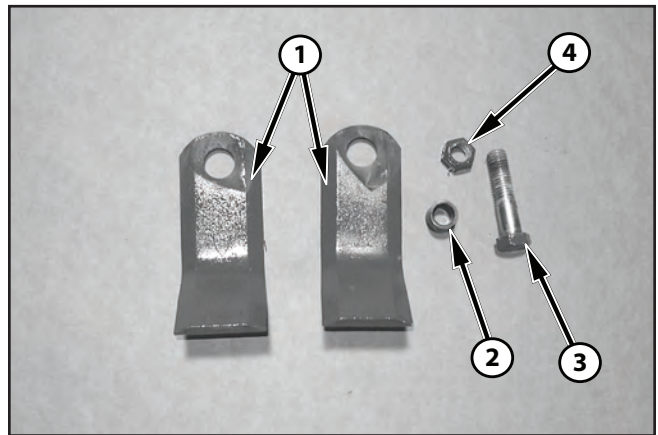


PHOTO NO. DCP0597

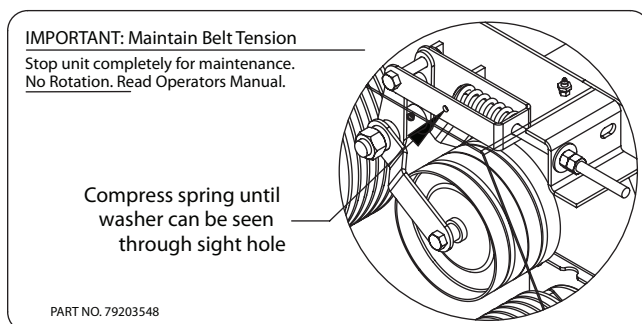
Knives hardware should be torqued to 95-110 ft/lbs (128-149 N/m).

BELTS

HINIKER shredders are EQUIPPED ONLY WITH PREMIUM GRADE BANDED BELTS. Do not replace these with “garden variety” belts because their power transmission capability, and durability, will be degraded.

NOTICE: ADEQUATE TENSION IS NECESSARY FOR FULL POWER TRANSMISSION AND SATISFACTORY BELT PERFORMANCE.

1. Belt tension is obtained by following instructions on decal located on endplates inside each end shield.



DWG. NO. 3543

2. 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 evidence exists of belts overheating and/or excessive side wrapper wear, check sheave alignment. See Photo DCP0618, page 28.

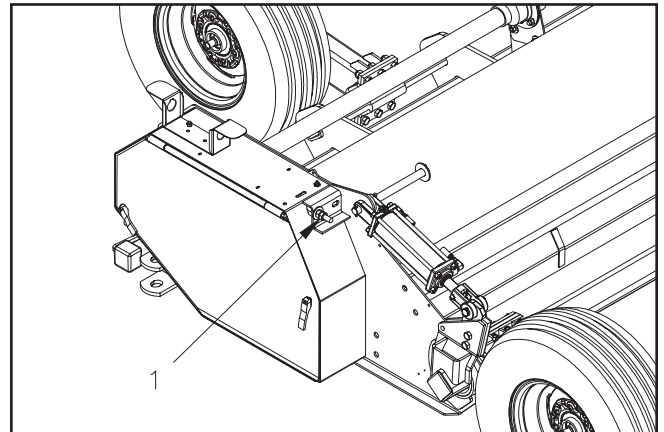
3. Replacement belts should only be ordered by specific HINIKER part number. The correct belt part numbers are:

(6/5VL794 banded belt) Part No. 79203528

4. Install new belts as follows:
 - a. Loosen double nut on outside of drive shield to remove tension on belt idler.
 - b. Remove old belts.
 - c. Roll (DO NOT PRY) the new belt into the pulley grooves working back and forth between the large and small pulley.

OUTER ROTOR BEARINGS

All rotor 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 from their inner races. Because of high vibration associated with shredders, these set screws are retained with an anaerobic threadlock (eg. Loctite 242 (blue) or Perma-Lok HM 118 (red)). **Important:** Use only grade 5 bolts and type B lock nuts with thread lock when replacing.



DWG NO. 6879

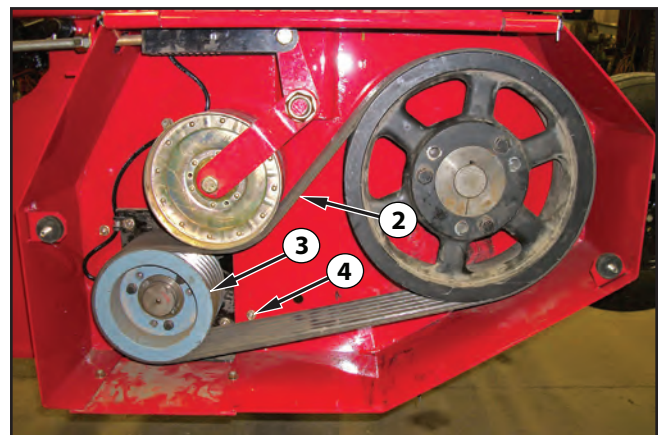


PHOTO NO. 100-1311A

1. Loosen spring tension (Item 1) and remove belt (Item 2) and driveN sheave (Item 3). See Photo 110-1311A.



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 (Item 4) and the (2) inside anti-wrap shields. This allows wrench access to the bearing mounting bolt heads. See Photo 100-1311A and Photo DCP0659B.
3. Loosen outer end zerk hex nut of lube tube and detach tube from bearing. Circumferentially polish shaft (Item 5). Remove (3) 3/8 bolts (Item 6) securing the bearing support plate to the shredder end panel. See Photo DCP0659B.
4. Remove (2) 3/8" Allen set screws from the inner race of the outer rotor bearing which are factory retained with anaerobic thread lock Perma-Lok HM118 (red) or Loctite 242 (blue).

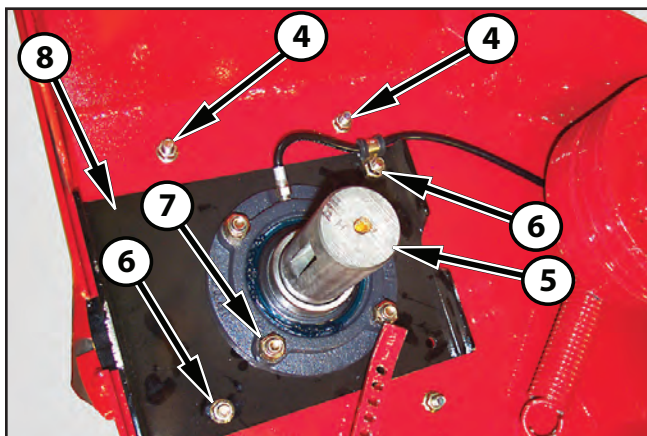


PHOTO NO. DCP0659B

5. Remove (4) 1/2" locknuts (Item 7) which are factory retained with anaerobic threadlock (eg. Lock-tite 242 (blue) or Perma-Lok HM 118 (red)). Modestly pry plate (Item 8) outward to start bearing off shaft.
6. 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 (Item 8) and bearing 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. 2 3/16 inch nominal I.D. washers are available as part numbers:

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

7. 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.

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

8. Reinstall and realign previously removed sheave and belt.


INNER ROTOR BEARINGS

1. To remove the rotor the shredder must be turned upside down.
2. Raise front and securely block front corners. Remove SMV, PTO, and trailing hitch.
3. Remove belt and sheave or rotor. Fully retract cylinder(s). Loosen both inner and outer bearing's lube tube zerk nuts and detach lube tubes from their supports. Remove lights and light brackets.
4. Temporarily insure end panel shields are latched shut. Reinstall hitch pins and their cotters.

WARNING: DEATH OR SERIOUS INJURY CAN RESULT. DO NOT ATTEMPT TO REMOVE A ROTOR FROM UNDER NEATH A SHREDDER IN ITS OPERATING POSITION.

NEVER ATTEMPT TO REMOVE A ROTOR WITH THE UNIT UPENDED IN A VERTICAL POSITION.

WARNING: DEATH OR SERIOUS INJURY CAN RESULT. USE HOISTING EQUIPMENT CAPABLE OF SAFELY HANDLING NO LESS THAN 4 TON (8000#).

 **WARNING: DEATH OR SERIOUS INJURY CAN RESULT. CLEAR PEOPLE FROM WORK AREA WHEN TIPPING SHREDDER OVER. DO NOT WORK ON SOFT, OR UNEVEN, GROUND. LIFT ONLY FROM MAIN FRAME 1 INCH DIAMETER HITCH PINS.**

- Securely block rear (Item 1) of each wheel and approach shredder from REAR. Use a chain sling (Item 2) approximately 5' long on each run. Fix EACH sling chain hook SECURELY around both 1" diameter hitch pins (Item 3) where shown by decal (Item 4). Lift unit until wheels are about to clear the ground.

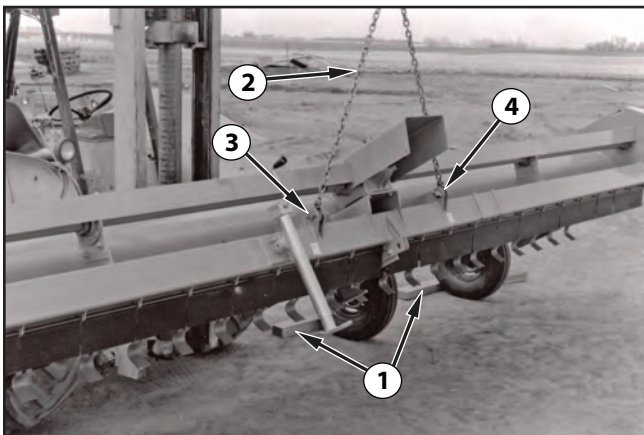


PHOTO NO. 2990B

- Move wheel blocks previously installed to opposite side of wheels (Item 1). Swing unit rearward and overcenter, then slowly lower the unit to the ground. Open end shield (Item 3) and detach bottom enclosure plate (Item 4).

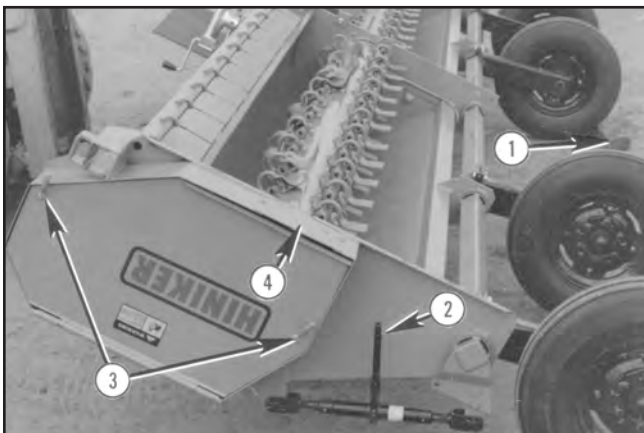


PHOTO NO. 3014

- Loosen outer bearing from its mounting as shown in Photo DCP0659B on page 26.

Unless this bearing is also being serviced, it is not necessary to remove it from the rotor at this time.

- Remove center anti-wrap shields. This allows access, through the rotor's inner end notches to bearing's inner race Allen set screws. Detach shield and lube tube.
- Loosen (2) 3/8" Allen set screws (Item 1) from center bearing (Item 2). These are retained with anaerobic threadlock (eg. Lock-tite 242 (blue) or Perma-lok HM 118 (red)). See Photo DCP0591.

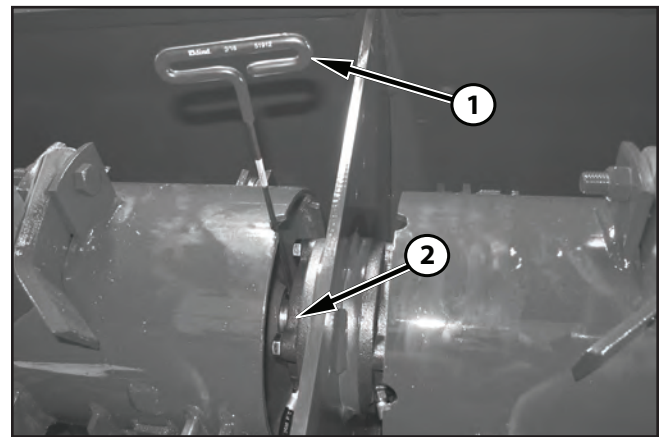
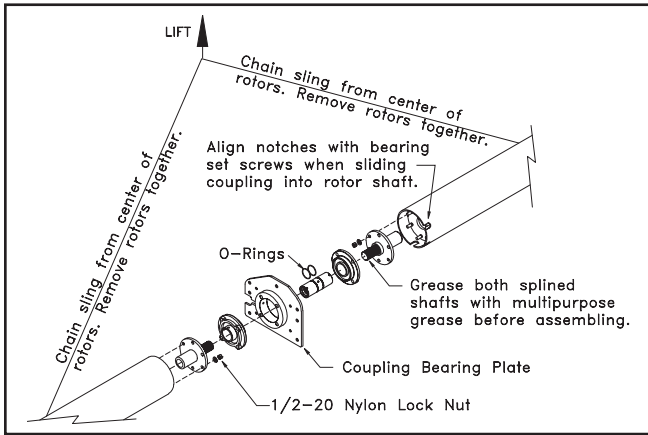


PHOTO NO. DCP0591

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

- Attach chain sling around rotor. Outer end of rotor is lifted above frame to obtain clearance.

Axially pry rotor free of its inner bearing and swing it clear of working area. **NOTE:** Carefully lift both split rotors together on units with four rotors. Sling should be from center of rotors to reduce stress on coupling.



DWG. NO. 6384

11. Circumferentially polish rotor center stub shaft and reinstall it in replaced bearing. In-sure stub shaft shoulder is against bearing inner race. Torque (2) Allen set screws once, loosen and torque them a second time.

IMPORTANT: WHENEVER THESE LOCK NUTS/BOLTS ARE DISCARDED, ONLY GRADE 5 BOLTS AND TYPE B LOCK-NUTS 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 58-82 Ft/lbs. (79-112 N/m.).

12. Temporarily reinstall (4) 3/8" bolts through outer bearing mounting plate and snug them up. Do not reinstall outer anti-wrap shields at this time. Check varying quantity of 2 3/16" nominal I.D. washers between outer bearing's inner race and shoulder of rotor shaft. If these are axially SNUG WITH NO PRE-LOAD, proceed to completely reinstall outer bearing and anti-wrap shields.

13. If washers are not as stated above, it will be necessary to remove outer bearing. See Photo DCP0659B, page 26 and add, or subtract, washers. 2 3/16" nominal I.D. washers are available as part numbers:

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

Check that all previously removed and/or loosened parts are properly reinstalled. Remove hoist and reverse above tipping procedure to return the unit to operating position and reinstall previously removed hitch, etc.

SHEAVES ALIGNMENT

It is unnecessary to realign sheaves unless they have been damaged, removed or loosened. Do not realign sheaves unless they are more than + or - 1/16" misaligned. See Photo DCP0618.

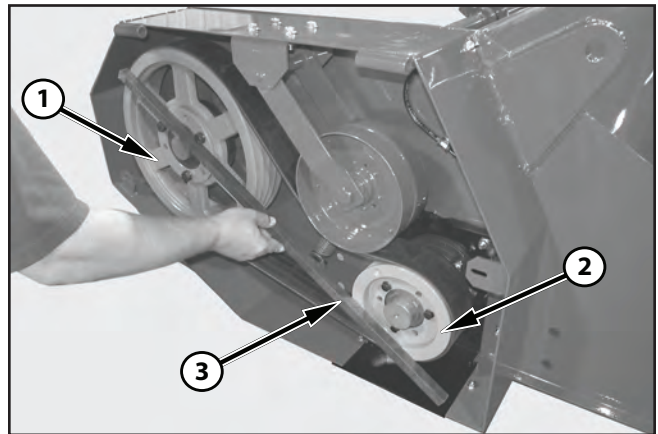


PHOTO NO. DCP0618

1. It is generally best to align driveR (Item 1) to driveN sheave (Item 2); thus, only (1) sheave need be loosened.
2. Determine misalignment by placing a steel straight edge (Item 3) across sheaves as shown. Move sheave in or out to align.

SHEAVES REMOVAL/INSTALLATION

1. Loosen belt's backwrap idler and remove belts.

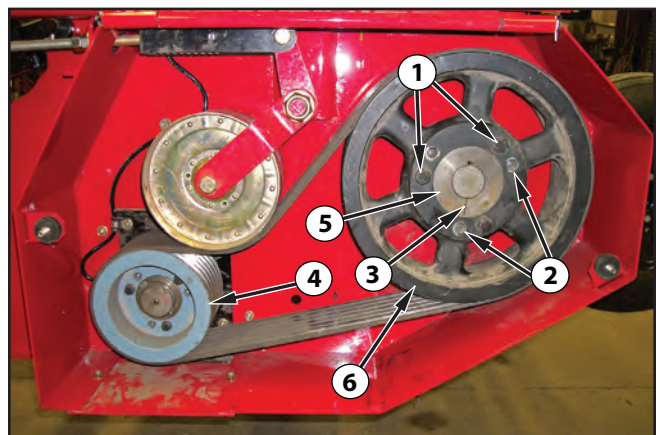


PHOTO NO. 100-1311B

2. Loosen and remove bolts from (3) UNTHREADED holes (Item 1).
3. Insert these bolts in the (3) THREADED holes (Item 2). Start with the bolt furthest from the inner bushing's slot (Item 3) 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 driven sheave (Item 4) is to be removed.

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

4. The inner bushings are retained with 3/8" Allen set screws (Item 1) over their keyways (Item 2). Remove the set screw to enable removal of the inner bushing.

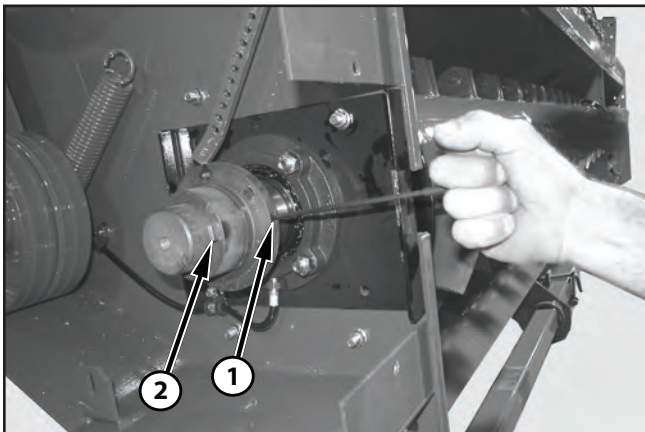


PHOTO NO. DCP0656

5. For installation, insure the tapered mating surfaces of the inner bushing (Item 5) and sheave (Item 6) are free of dirt, paint, rust, metal chips and LUBRICANT.

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

6. 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.

7. Align (3) UNTHREADED bolt holes with THREADED bolt holes in mating sheave or bushing. Inset bolts and lockwashers in these UNTHREADED holes and tighten about (2) turns each.
8. Alternately torque these bolts, in a uniform pattern, until the tapers are seated (approximately 1/2 bolt torque). Check for sheave alignment and possible wobble. Correct if necessary.

IMPORTANT: SHEAVE BOLTS ARE ONLY TORQUED TO VALUES:

Dia.	Ft/lbs.	N/m.
3/8"	30	41
1/2"	75	102

9. Continue bolt torquing until above values 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.

10. Reinstall belts and reposition backwrap idler.

DRIVE SHAFTS BEARINGS

The front drive shafts bearings have set screw lock collars. To loosen these, loosen 3/8" Allen set screw therein.

Servicing these bearings requires removing the driven sheave, See page 28-29 and extract the drive shaft. Paint must be polished off drive shaft to permit stripping it through the bearings.

WHEEL BEARINGS & SEALS

HINIKER shredders are equipped with O.D. riding triplex (3 labyrinths) seals. They also have a replaceable seal riding ring (Item 6) and zerk relube in the hub. This system is highly effective when properly installed and maintained. See Photo 3011 on page 30.

IMPORTANT: WHEEL SEAL AND RIDING RING MUST BE INSTALLED IN THE RIGHT DIRECTION, PROPERLY PRE LUBED AND THE HUB FULLY PACKED WITH LUBE. IGNORING PROCEDURES BELOW WILL RESULT IN PREMATURE CONTAMINATION AND FAILURE.

1. Remove hub, inboard bearing cone (Item 1), outboard bearing cone (Item 2) and seal (Item 3) from spindle. Thoroughly clean hub's interior grease cavity, both bearing cups (Item 4), cones (Item 1 and Item 2), hub cap (Item 5) and pre load hardware.
2. Discard old seal (Item 3) and inspect bearings for deterioration. Replace both cups and cones if necessary. Generally, seal riding ring (Item 6) should be replaced when doing wheel hub maintenance.

IMPORTANT: PRESS SEAL RIDING RING INTO HUB WITH INTERIOR EDGE FLANGE TOWARD INBOARD BEARING CUP. MANUALLY WORK LUBE INWARD BETWEEN (3) SEAL LABYRINTHS BEFORE INSTALLING. CAREFULLY START NEW SEAL (ITEM 3) ONTO SPINDLE WITH BEARING CONE (ITEM 1) WHICH CAN BE SEATED WITH A 3/16" PUNCH OR 1 1/2" I.D. DRIVER. INSURE SEAL IS NOT CROOKED AND IS INSTALLED WITH ITS SHARP EDGED INSIDE FLANGE TOWARD THE OUTBOARD SPINDLE END. THE OPPOSITE (SMOOTH) SEAL FACE IS USUALLY MARKED "OUTSIDE". THIS MUST ALWAYS FACE THE SPINDLE'S INBOARD END, OTHERWISE THE SEAL WILL NOT FUNCTION CORRECTLY.

3. Install hub, outboard bearing cone (Item 2), end washer and adjusting nut. Adjust nut with a HAND WRENCH ONLY. Tighten until seal is seated and bearings substantially drag, then back nut off 1/6 turn to insert and spread cotter.
4. Use zerk to fully lube hub cavity and bearings, while rotating hub, and until lube emerges through outboard bearing. Pack hub cap (Item 5) with lube and drive it home. Continue lubing hub until lube emerges around seal's outside diameter.

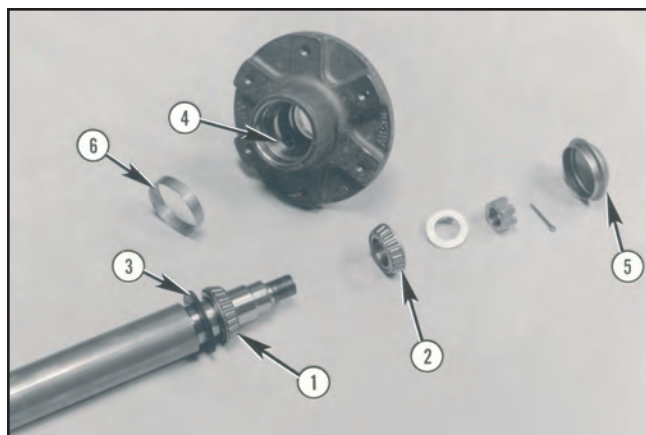


PHOTO NO. 3011

GEARBOX

All Hiniker 1000 RPM shredders are equipped with a common 1.00:1.00 ratio gearbox. Refer to Photo 3008A and DWG. 6088 on page 32.

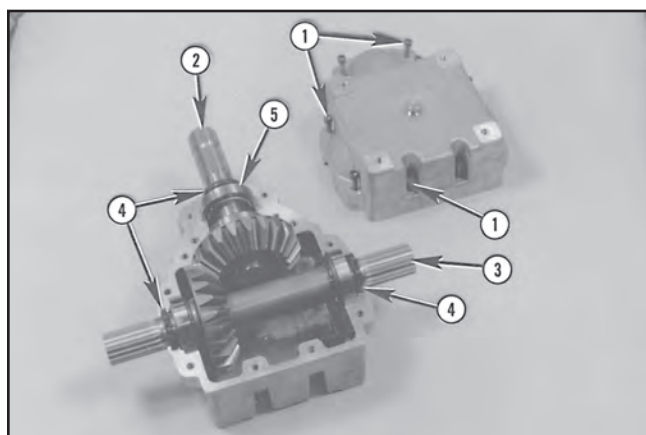


PHOTO NO. 3008A

Gearbox can best be worked on as follows:

1. Detach tractor PTO at gearbox input spline.
2. Remove the left cross drive shaft shield. Loosen and remove left outboard drive shaft bearing flange bolts. This can be done without removing the driveR sheave by slacking off the backwrap idler and removing belts. This permits sliding the entire left drive shaft assembly leftward; thus, allowing room to slide the gearbox loose from its R.H. spline coupling.
3. Remove the (2) right 3/8" bolts nearest the gearbox holding the right cross shaft shield.

4. Remove the top (4) 1/2" bolts holding the gearbox/PTO input shield and remove this shield.
5. Remove the bottom (4) 1/2" gearbox mounting bolts and slide the gearbox leftward sufficient to uncouple it from its right 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.

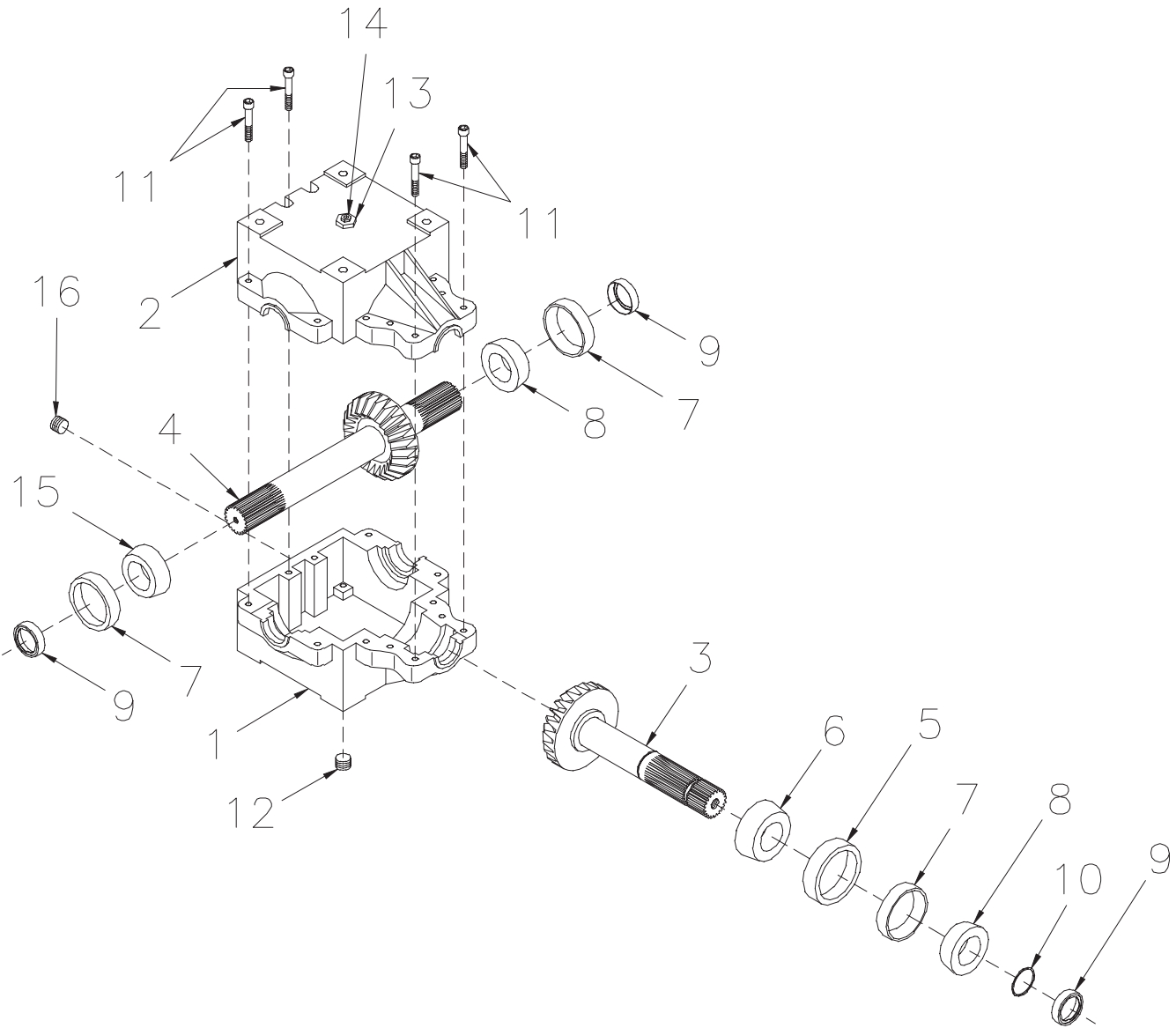
The gearbox has no shims because preload and backlash are factory set. To service this box proceed as follows:

1. Remove (12) 3/8" socket head bolts (Item 1) holding the 2 halves together. Tap input shaft (Item 2) with a soft hammer, while holding the output shaft (Item 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 (Item 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 de-formation. Replace input and through shafts having spline wear or deformation.

5. Whenever shafts are disassembled, make sure the same thickness snap ring (Item 5) are used to maintain backlash and preload. There is (1) external snap ring used. For re-assembly, 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. Loctite 518 (red) or Perma-Lok HH 190 (dark purple) or Permatex silicone sealant 765-1344/1485) to housing top half and reseal 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.

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

ASSEMBLY



WARNING: DEATH OR SERIOUS INJURY CAN RESULT. BEFORE ASSEMBLING, READ SAFETY-GENERAL AT FRONT OF THIS MANUAL.

OFFLOADING



Warning: Death Or Serious Injury Can Result. Use Equipment Capable Of Safely Handling No Less Than: 4 Ton (8000#).



WARNING: 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 AND “JACKRABBIT” MANEUVERING.

HINIKER shredders are shipped vertical with self contained storage and handling dunnage. They may be off-loaded with a forklift or an overhead chain sling.

For forklift off-loading, (2) fork pockets (Item 1), spaced 32” apart, are provided. The forklift may approach the shredder from either the knives, or hood, face. Set forks centerlines 32” apart and position forklift as close as possible to shipping package. Lift off carrier and deposit on a firm, clear and level work area. See Photo 2980.

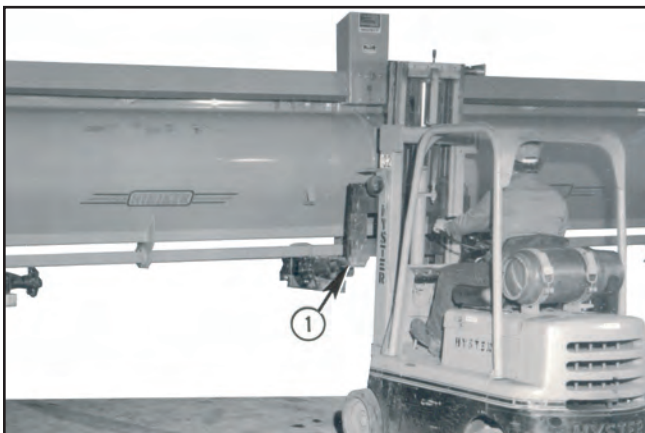
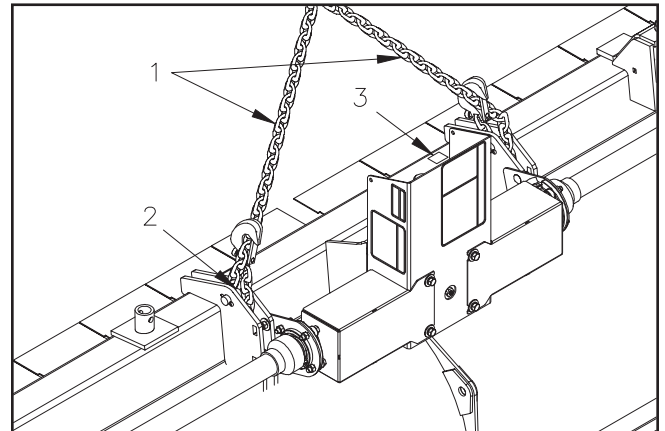


PHOTO NO. 2980

For overhead chain sling off-loading, use a chain sling (Item 1) approximately 5’ long on each run. Fix EACH sling chain hook SECURELY around both 1” diameter hitch pins (Item 2) where shown by decal (Item 3). Lift off carrier and deposit on a firm, clear and level work area. See drawing 6800.



DWG NO. 6880

Shredder hitches are shipped separately along with tires and end transport package.



WARNING: DEATH OR SERIOUS INJURY CAN RESULT. CLEAR PEOPLE FROM ERECTING AREA BEFORE TIPPING SKIDDED UNIT DOWN.

Prepare to tilt the unit down by hooking an approximately 5’ long sling chain (Item 1) securely around both 1” diameter hitch pins (Item 2) the same as in Photo 3137. Securely place solid (do not use hollow concrete) blocks under rear corners of each end of the unit as shown at (Item 3). Blocks should be approximately 8” square.

With either an overhead crane, or forklift, allow a SMALL AMOUNT of slack in the sling chain and slowly tip the unit forward until its downward force is being supported by the sling chain.

IMPORTANT: GROSSLY LOOSE SLING CHAIN SLACK CAN ALLOW THE SHREDDER TO FALL WITH EXCESSIVE FORCE ON THE SUPPORTING EQUIPMENT.

34 Assembly

Slowly lower unit onto the rear corner blocks (Item 3) until its front (Item 4) is approximately 18" above the ground.

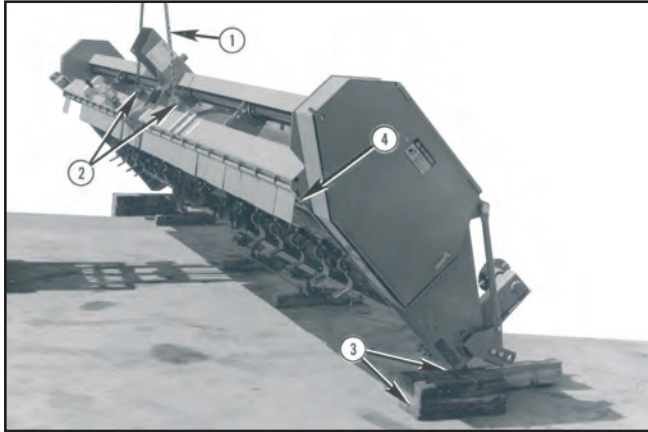


PHOTO NO. 3137

Place blocks under each front corner as at (Item 1) as shown. These blocks should be approximately 8"-10" high and wide enough for stability. Insure they clear the front flipper shields. Continue lowering the unit onto these blocks. Loosen and remove the sling chains. See Photo 2984A.

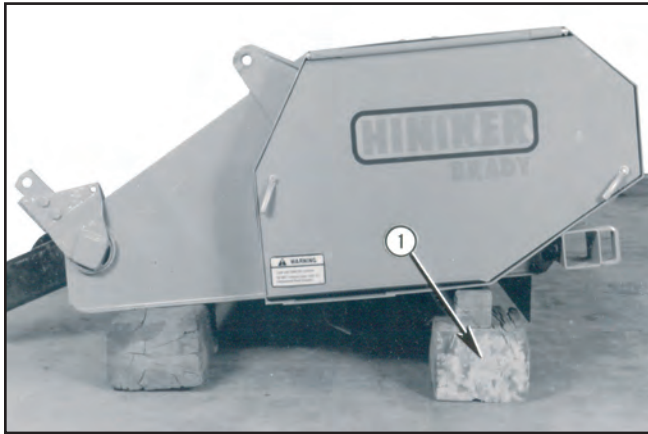
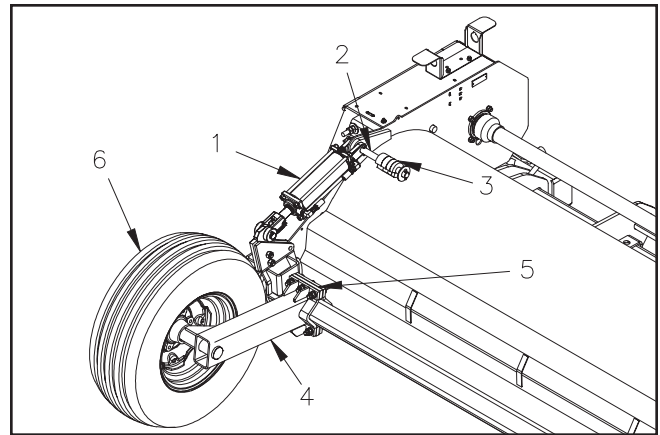


PHOTO NO. 2984A

Remove (6) wheels from rockshaft. Discard all dunnage associated with these.

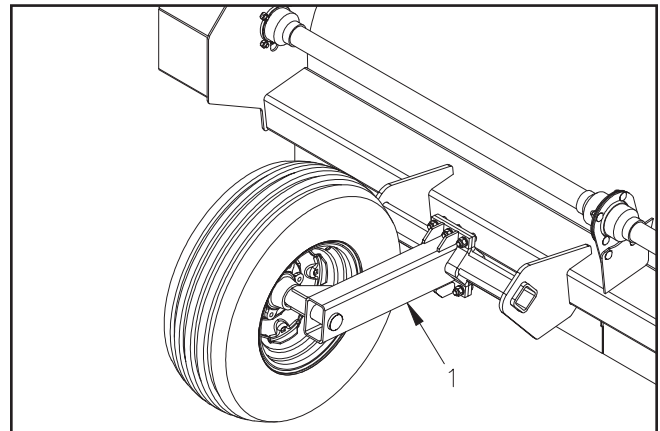


DWG NO. 6881

ROCKSHAFT AND WHEEL LEGS

Remove shipping brace from outside rock shaft brackets. Insert 3 x 8 hydraulic cylinder (arrow 1) as shown. The base end will be assembled on the base machine and the rod end attached to the bolt-in bracket on the rockshaft. Insert an extended pin (arrow 2) in the hole on the shredder weld and base of cylinder. Insert washer over shaft and secure with cotter pins. Insert hydraulic cylinder stops (arrow 3) over extended pin. Attach (4) rock shaft wheel leg welds (arrow 4) using the provided 5/8 hardware at the correct row spacing needed. Make sure to insert the 5/8 spacer (arrow 5) on the (4) rear rock shaft wheels on the back of the machine.

Note: There are (8) 9.5L tires with the machine (6) are 8 ply and (2) are 12 ply. The (8) ply are field wheels and the 12 ply are end transport wheels. Attach the 9.5L x 15 (8) ply tires (arrow 6) to the rock shaft wheel leg hubs.



DWG NO. 6882

Attach (2) front gauge wheels (arrow 1) to front rigid rock shaft. These will be attached the same

as the rear but with out 5/8 spacers. Attach 9.5L x 15 (8) ply tires to hubs on front gauge wheels.

The shredder will perform better, especially under ridged conditions, if tire pressures are kept no greater than recommended.

Contract cylinders to rotate wheel legs sufficiently upward to permit installation of wheels and tires.

The wheels are offset, that is, the wheel “dish” is greater on one side than the other. Install the wheels and tires with the deepest dish TOWARD the wheel leg. This places its loaded centerline between the hub bearings. Torque up the (6) 1/2” wheel bolts on each wheel.

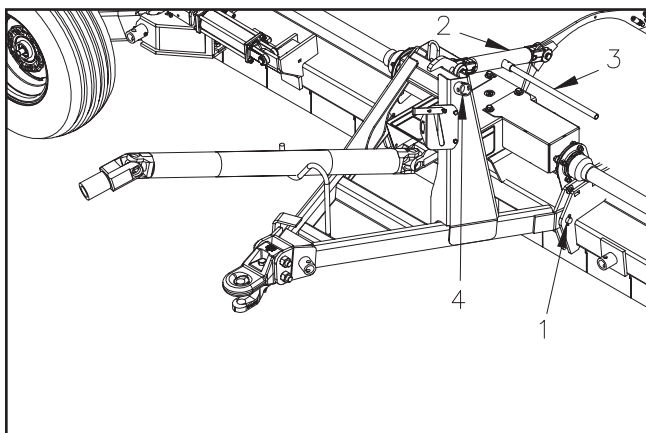
Transversely slide the entire wheel leg and tire assemblies to these recommended tire centerlines (as applicable). Tire centerline spacings should be EQUALIZED on each side of the shredder’s centerline.

	30” rows	36” rows
(2 outboard wheels)	360”	360”
(2 inboard wheels)	60”	72”

For other row spacings, adjust above settings accordingly. Torque up each wheel leg’s (6) clamping bolts by uniformly tightening the lower (3) to snug fit.

Subsequently, torque, and retorque, top 3 to **146-206 Ft/lbs. (198-279 N/m.)**.

TRAILING HITCH



DWG NO. 6883

Attach the trailing hitch to the machine by removing the hitch pins (arrow 1) at the center of the machine. Insert the hitches rear brackets between both sets of ears on the base of the machine. Insure both pairs of cotter pins are spread. Locate the turnbuckle from the pallet of additional components. Install the turnbuckle (arrow 2) at the location shown. Locate the handle extension (arrow 3) from the shipping pallet. Remove old handle and install new longer handle onto turnbuckle using the provided cotter pin. Locate screw jack and attach to its storage location on the hitch (arrow 4).

PTO’s

It is easiest to install the trailing PTO AFTER completing the trailing hitch installation.

Hiniker shredders are only available with:

- 1 3/4” (1000) 20 spline trailing all widths. (55” Telescoped O.A. length)
- Whole goods item 79202277

All shredder PTO’s have C.V. (constant velocity) yokes as standard equipment and have similar sliding yoke couplers at tractor and gearbox ends. GEARBOX ENDS ARE IDENTIFIED BY AN OVERRUNNING CLUTCH (Item 1). See Photo 2969A.

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

IMPORTANT: NEVER TOW A TRAILED SHREDDER IN FIELD MODE UNLESS THE PTO IS PROPERLY HOOKED UP TO BOTH TRACTOR AND SHREDDER. OTHERWISE, IT CAN BE DAMAGED. IF TOWED WITHOUT FULL HOOKUP, DETACH ENTIRE PTO FROM GEARBOX AND SECURE IT BEHIND CROSS DRIVE SHAFT SHIELD.

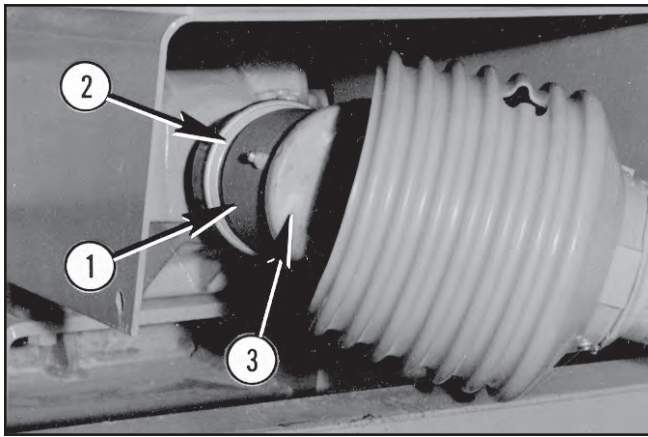
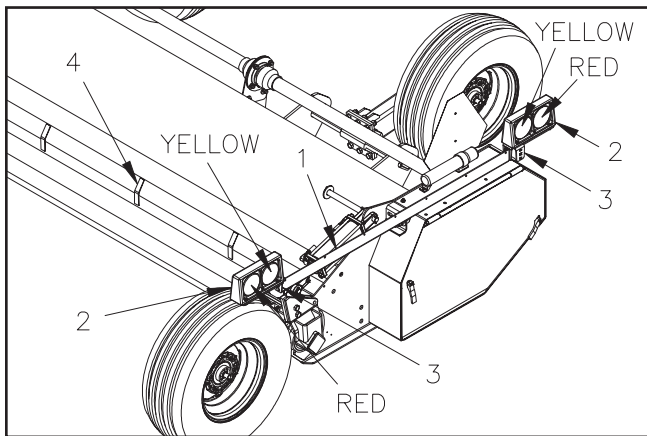


PHOTO NO. 2969A

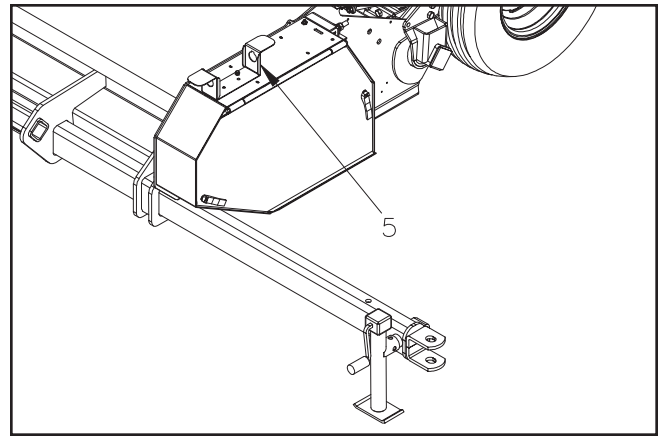
LIGHTS



DWG NO. 6884

From the pallet of shipping components locate the light bar, (2) lights, wiring, and (2) light brackets. Attach the light bracket (arrow 1) to the base machine using the 3/8 carriage bolts and lock nuts.

Attach each light (arrow 2) to a light bracket using the provided 1/4" hardware. Attach the light brackets (arrow 3) to each side of the light bar using the provided 5/16 carriage bolts and hardware. The lights need to be installed so at the rear of the machine the yellow and red light are facing rearward and the single yellow light is facing forward. Run the wiring along the hydraulic cylinder towards rear of machine and inside the formed bar (Arrow 4) at the rear of the machine.

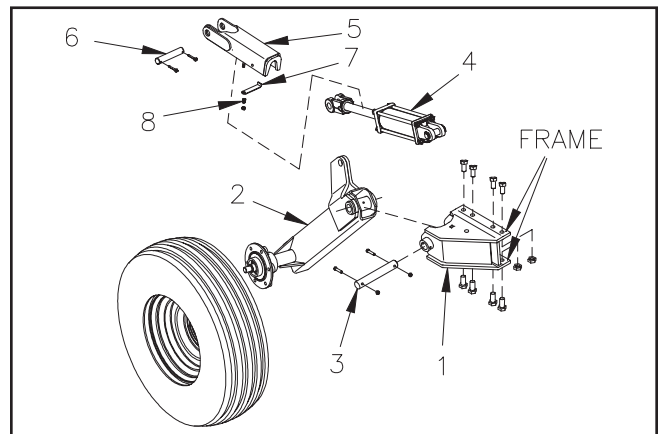


DWG NO. 6885

Wind up excess wiring onto the wire holder (arrow 5) on top of drive shield by end transport hitch.

END TRANSPORT

Attach a tractor to the A-Frame hitch for stability.



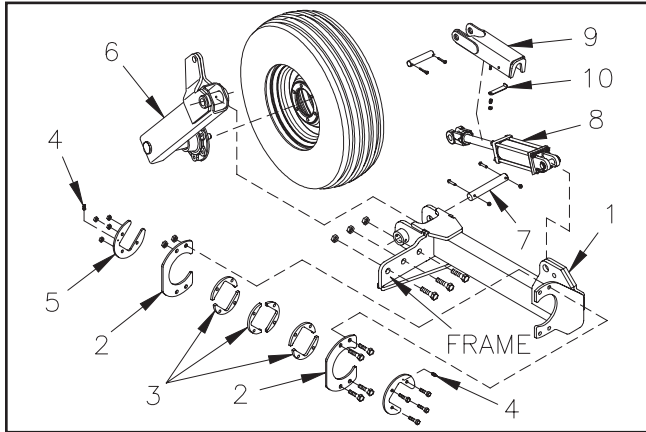
DWG NO. 6886

From the shipping pallet Attach the front frame weld (arrow 1) to the machine using the provided 5/8 hardware and lock nuts.

IMPORTANT: FRONT WELDMENT BRACKETS WITH 4 HOLES (ARROW 1) MUST BE BELOW BRACKETS WELDED ON SHREDDER BODY.

Attach tire and rim assembly to the front wheel leg (item 2) and then to front frame bracket with 1 1/4 diameter pin (arrow 3) and hardware. Secure pin in position using 5/16 hardware. Tighten all bolts.

Install hydraulic cylinder (arrow 4) and cylinder stop (arrow 5) on wheel assembly with rod end towards tire and ports pointing towards main shredder body. Rod end will use longer 1" diameter x 5 1/2" pin (arrow 6). Install cylinder latch (arrow 7) with compression spring (arrow 8) and secure with 5/16 hardware.



DWG NO. 6890

Attach rear transport pivot (arrow 1) to rear center plate with 3/4 x 2 bolts and lock nuts. Install two pivot clamp brackets (arrow 2) with 1/2 x 1 1/2 bolts and lock nuts.

Slide rockshaft bearing segments (arrow 3) into pivot brackets (from previous step). **NOTE:** Middle segments are turned 90 degrees. Thread grease zerks (arrow 4) into bearing cap (Arrow 5).

Secure (arrow 5 and arrow 3) with 3/8 bolts as illustrated **NOTE:** Turn one set of (arrow 3) 90 degrees. Tighten all bolts.

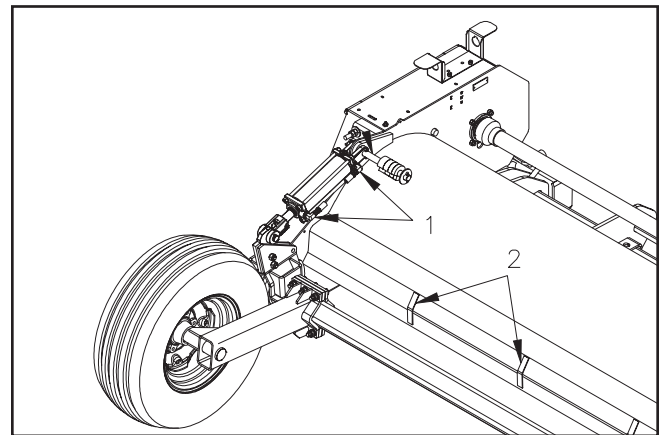
Attach tire and rim assembly to rear wheel leg (arrow 6) hub. Assemble rear wheel leg and tire assembly to rear transport pivot (arrow 1) using a 1 1/4" pivot pin (arrow 7) and 5/16 hardware.

Install hydraulic cylinder (arrow 8) and cylinder stop (Arrow 9) on wheel assembly with rod end towards tire and ports toward main shredder body. Install cylinder latch (arrow 10) with compression spring in the same way as front cylinder lock.

On the rock shaft lift cylinders unscrew the port plugs. Insert a 90 degree ORB fitting into both ports on the cylinder. In the front end transport cylinder unscrew the port plugs and insert a 90 degree ORB fitting into both ports.

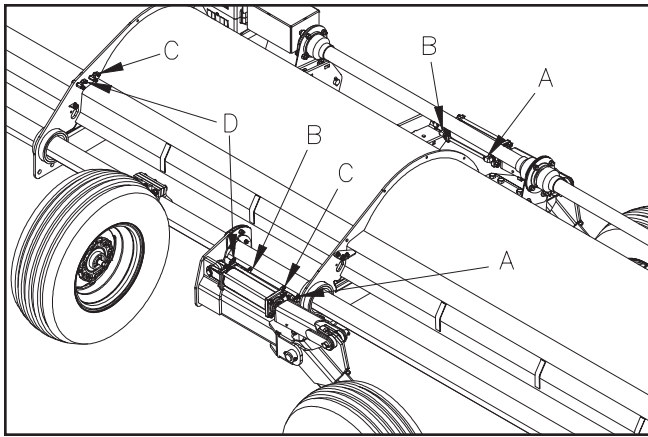
On the rear end transport cylinder unscrew port plugs and insert ORB tee fitting into both ports. Install (4) 90 degree male to female elbows onto both ends of each tee fitting.

From the hydraulic fitting box locate (2) bulkhead tee fittings and (2) bulkhead 90 elbow fittings. Install these into the (4) holes located in the center panel at the rear of the machine.



DWG NO. 6887

From the hose box locate (4) 3/8 x 186" long hydraulic hose assemblies. Attach matching colored zip ties to both ends of each hose assembly. Attach one hose assembly to each elbow (arrow 1) of the rear rock shaft lift cylinders. Run hydraulic lines together and underneath welded in bar (arrow 2) on shredder machine. Run hydraulic lines on other lift cylinder in a similar fashion. Attach the hydraulic lines from both base ends into one tee fitting at the center of the machine. Attach the hydraulic lines from the rod ends of both cylinders onto the tee fitting at the center of the machine.



DWG NO. 6888

From the hose box locate the (4) 3/8 x 72" long hydraulic hose assemblies. Attach matching colored zip ties to both ends of each hose assembly. Attach one end (arrow A) to the rod end port of the front end transport cylinder. Attach the other end to one side of the tee fitting (arrow A) on the rod end port of the rear end transport cylinder. Attach another hose assembly onto the 90 degree elbow (arrow B) on base end port of the front end transport cylinder. Attach the other end to one side of the tee fitting (arrow B) on the base end of the rear end transport cylinder.

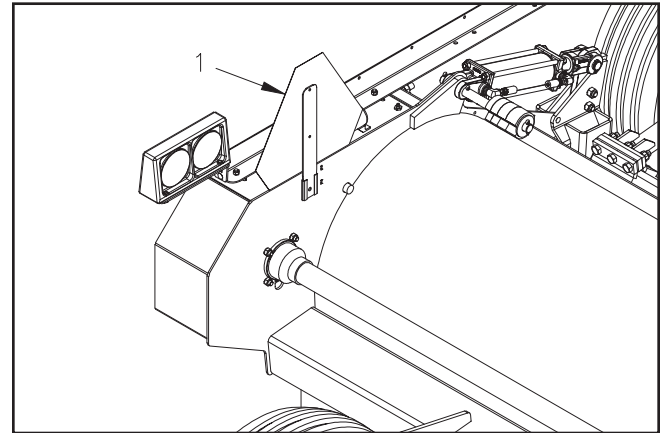
Assemble the next hose assembly to the 90 elbow on the tee fitting (arrow C) on the rod end of the rear end transport cylinder. Run the hose assembly to the center of the machine under neath the welded in bar on the hood of the shredder. Attach the other end of the hose assembly to 90 bulkhead elbow (arrow C) at the center of the machine. Attach the last hose similarly between the base end of the end transport cylinder and the last 90 bulkhead elbow fitting (arrow D). Colored zip ties will help to keep rod and base ends apart.

Locate the (4) 3/8 x 150" long hydraulic hose lines. Attach matching colored zip ties to both ends of each hose assembly. Attach one end of each hose to the bulkhead fittings at the rear center of the machine. Make sure to keep the lift and end transport functions together. Run the lines along the front center of the machine thru the loop at the top of the hitch. Attach the tractor couplers to the ends of the hydraulic lines. Insert the hydraulic couplers into the hydraulic coupler holder.

Attach tractor to field hitch. Insert hydraulic couplers into tractor. Cycle the end transport and lift wheels to purge all air out of system. Check the hydraulic level on the tractor and refill as needed.

MISCELLANEOUS

The SMV (slow moving vehicle) emblem and spade bracket are shipped inside an end enclosure.



DWG NO. 6889

Insert spade connector into socket (arrow 1) located on RH side of machine. Make sure SMV emblem will be facing machine rear in end transport mode.

Check the gearbox lube level. See LUBRICATION SECTION.

PREDELIVERY RUN IN

Refer to delivery check list and routinely preform relevant checks. Verify hitch, PTO, and wheel settings are configured to customers stated requirements. Refer to machine operation to configure machine in end transport mode.

OPTIONAL SKID SHOES

Hiniker offers an optional skid shoe package that will help with keeping the shredder knives from contacting the ground. The skid plates extend approximately 1/2" below the shredder knives.

1. Break the bands securing the skid shoes with hardware together.

2. Remove the (4) 3/4 x 1 3/4" long bolts and 3/4 inch lock nuts in each skid shoe and save them for assembly to the shredder.
3. Raise the shredder as high as the hydraulic lift will allow it while attached to tractor and block it in this position with stands.
4. The Skid shoes are mounted to the inside of the shredder end panels.

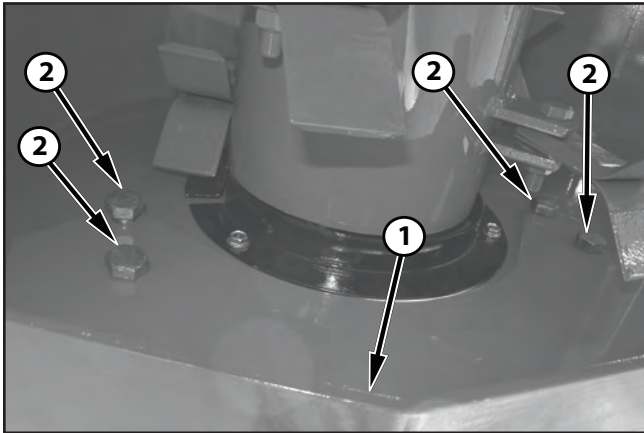


PHOTO NO. DCP0669

5. Secure the skid shoes (Item 1) to the end panels using the (4) 3/4 x 1 3/4 bolts (Item 2) provided, making sure the head of the bolt is on the rotor side of the end panel. Use the 3/4 locknuts (Item 3) provided on the out side of the end panel as shown in Photo DCP0669 and DCP0677.

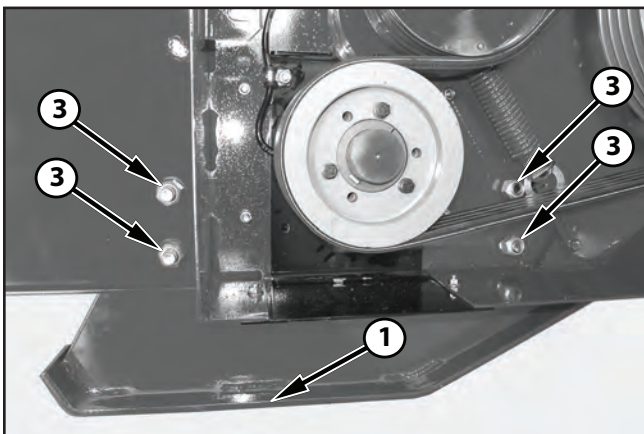


PHOTO NO. DCP0677

OPTIONAL CENTER GRASS DIVIDER ASSEMBLY

This is used to reduce center "streaking" when shredding/clipping grass, etc. Remove the (2) 1/2" bolts and Mac-lock nuts from the grass divider assembly (Item 1). Insert the flat bar between the base unit ears and secure in the front 5/8" hole with 1/2 x 2 1/4" bolt and 1/2" Mac-lock nut (Item 2). Swing the grass divider up and secure to the hole provided in the center plate with the 1/2 x 1 1/2 bolt and 1/2" Mac-lock nut (Item 3). Tighten both bolts at this time. The grass divider is just in front of the center bearing weed ring (Item 4). See Photo DCP0695.

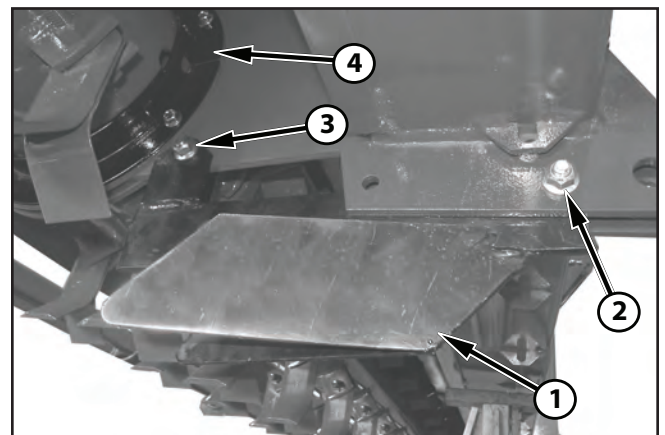


PHOTO NO. DCP0695

SPECIFICATIONS

NOMINAL CUTTING WIDTH	360" (30')
Field Overall Width	380"
Field Overall Length (Trail Hitch)	11' 5"
End Transport Overall Width (Trail Hitch)	11' 5"
End Transport Overall Length	422"
Standard Knife Type	5/16" x 2 1/2" Dura Faced Side Slice
The. Knife Tip Speed @ 1000 RPM (Side Slicer)	12,700 Feet Per Minute
Number Knives	320
1 3/4" (1000) 20 Spline PTO (Trailing)	Standard
5V Banded Drive Belts	6 Groove
Rim Width	8" Wide
Tires Field	9.5L x 15 - 8 Ply
Tires End Transport	9.5L x 15 - 12 Ply
Approximate Trail Hitch Weight (W/Tires)	7650 lbs. / 3470 kgs.
Hydraulic Cylinders	3 x 8 ASME Cylinders
ACCESSORY EQUIPMENT	
Grass Divider	Optional
Skid Plate Kit	Optional

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.

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