HINIKER

FLAIL SHREDDER/WINDROWER

MODEL 5600

WITH IDENTIFICATION No.'s ENDING 102 - 104

MODEL 5610/5610L

OPERATOR'S MANUAL

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

PART NUMBER 79201528 REV. G

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79201528 Rev. G **3/14** **Manual/79201528RevG**

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. 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.

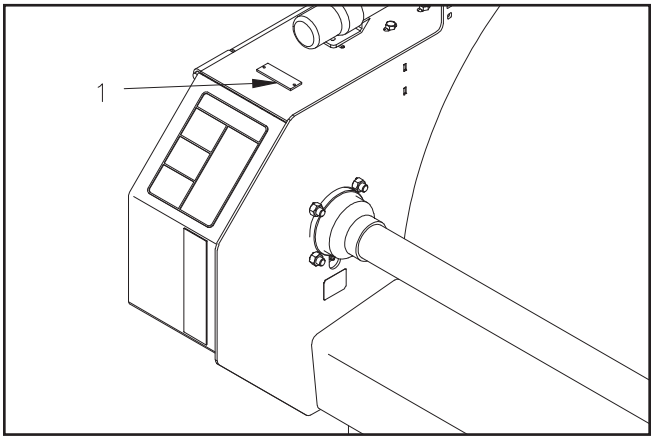
ALWAYS OBTAIN ORIGINAL HINIKER SERVICE PARTS BECAUSE SUBSTITUTE PARTS COULD ADVERSELY AFFECT EQUIPMENT PERFORMANCE AND WARRANTY.

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

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 (1).



5610/5610L DWG. NO. 7046

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 plac**e.**

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 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, keep others off, 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.

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

10. Never operate 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.

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 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 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. 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/ 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:

- Use an aftermarket safety towing chain between the trail hitch and the towing tractor. (The 10,000# safety chain is part number 85501539).

- 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. Never tow machine in field mode with the PTO detached from the tractor and hooked to the gearbox.

3. HINIKER shredders/windrowers are provided with an ASAE SMV (slow moving vehicle) emblem and a mounting socket.

4. At designated 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/windrower.

3. Do not service, or otherwise handle, a shredder/windrower in a raised position unless it is securely blocked against unexpected falling.

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.

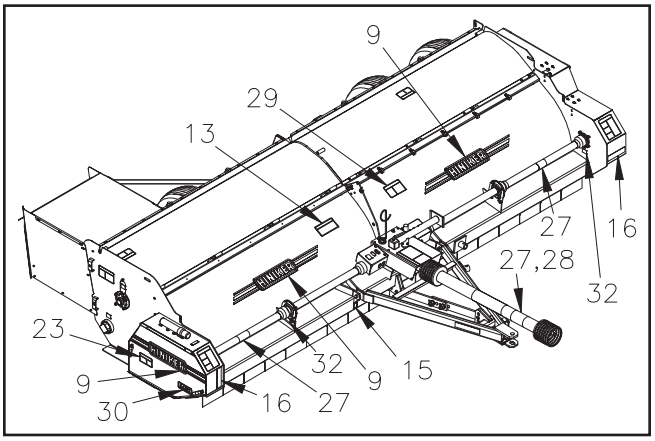
REMEMBER - ACCIDENT PREVENTION IS PART OF YOUR JOB!

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. 7099

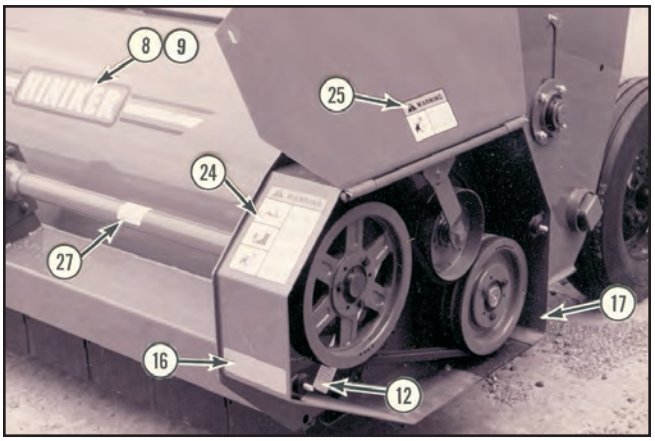
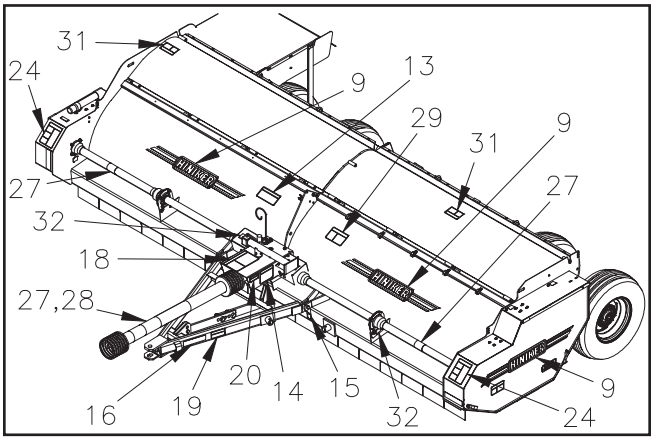


PHOTO NO. 3529



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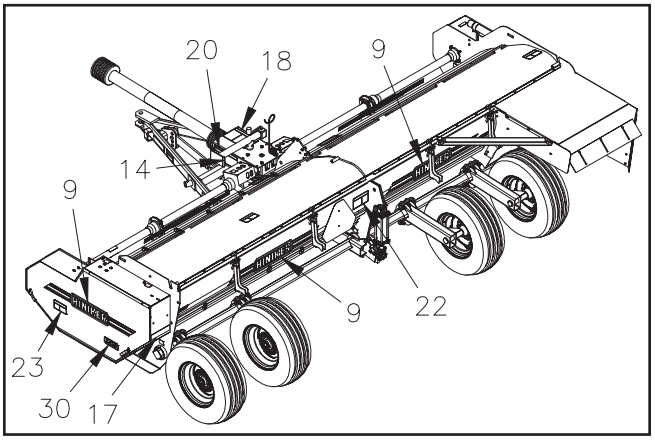

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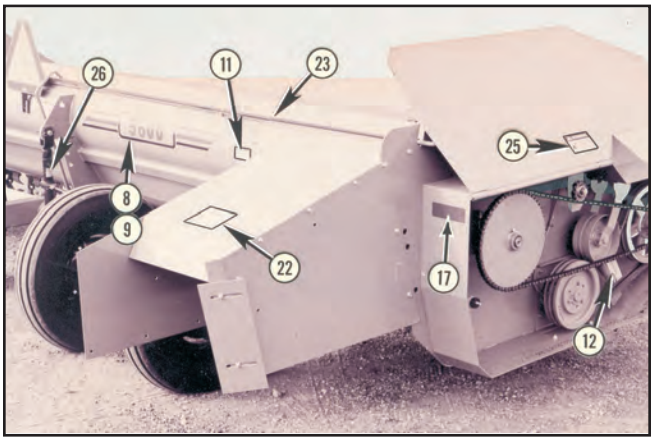
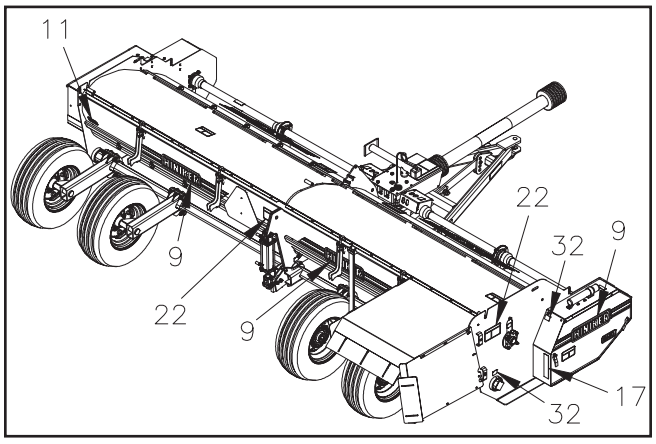


PHOTO NO. 3356



DWG. NO. 7102

5600

FIGURE 8 71505164 (Thru S/N-102) LOGO 5600

HINIKER

FIGURE 9 71505168 LOGO Hiniker

HINIKER

FIGURE 10 71505163 (Thru S/N-102) LOGO Hiniker

IMPORTANT

MAINTAIN TIRES AT 15-20 PSI
ON LEVEL LAND.
SEE OPERATOR'S MANUAL FOR
RIDGED OPERATION.

71504136

FIGURE 11 71504136 Important: Maintain Tires...

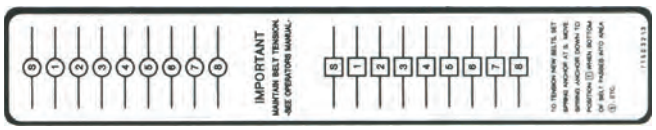


FIGURE 12 71503213 Important: Maintain Belts...

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.

71504142

FIGURE 13 71504142 Important: Operate...

IMPORTANT

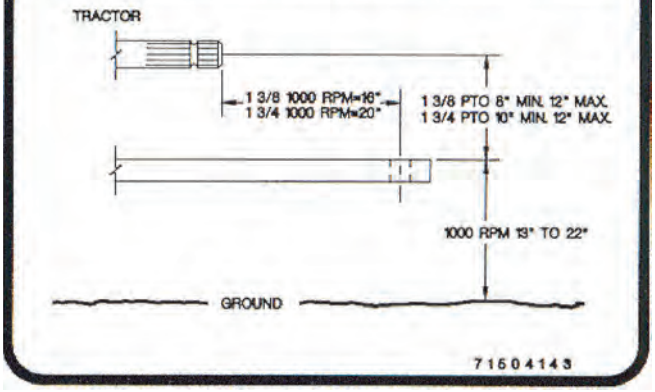


FIGURE 14 71504143 Important: Hitch...

FIGURE 15 715-03174 Lift...

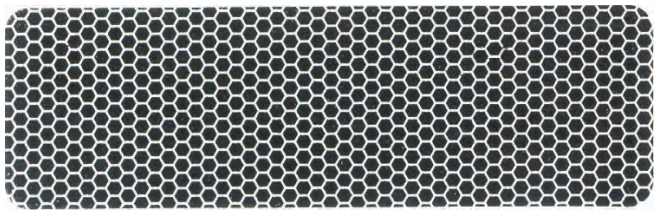


FIGURE 16 850-001-285 Amber Reflector

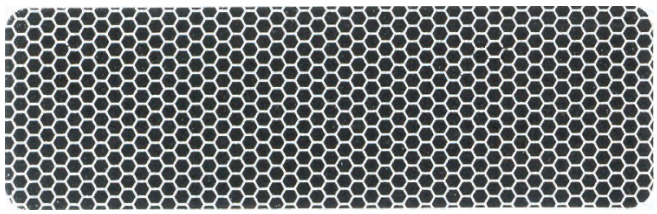


FIGURE 17 850-001-305 Red Reflector

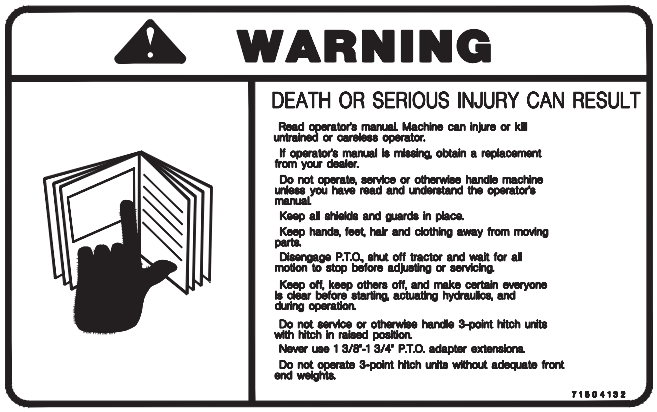


FIGURE 18 71504132 Warning: Read Manual...

FIGURE 19 85501787 Caution: Safety Chain...

FIGURE 20 71504129 Caution: 1000 RPM...

FIGURE 21 715-03056 Caution: Reverse 25 mph...

FIGURE 22 71504144 Danger: Keep Clear...

FIGURE 23 71505169 Warning: Look and Listen...

FIGURE 24 71505171 Warning: Keep Hands etc...

FIGURE 25 71505170 Warning: Do Not Operate...

FIGURE 26 Warning: Do Not Exceed...

FIGURE 27 520-03138 Danger: Rotating Drive...

FIGURE 28 520-03139 Danger: Shield Missing...

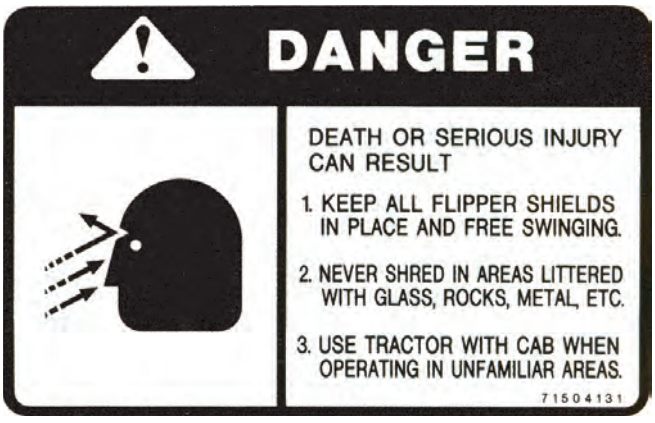


FIGURE 29 71504131 Danger: Keep Flippers...

FIGURE 30 71505175 5610 (S/N-103) Logo: 5610

FIGURE 31 71504127 Warning: Look and Listen...

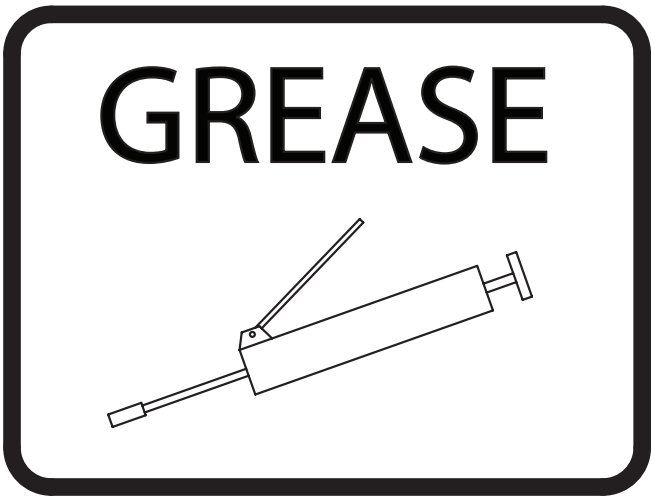


FIGURE 32 79203259 Grease...

FIELD PREPARATION

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

TRACTOR-GENERAL

IMPORTANT: IT IS CRITICAL TO KNOW WHAT TRACTOR PTO IS INVOLVED. THE SHREDDER/WINDROWER MUST CONFORM TO IT.

HINIKER shredders/windrowers are available with:

1000 RPM 1 3/8”-21 spline

1000 RPM 1 3/4”-20 spline

REFERENCE: COMPRESSED O.A. LENGTH			
SIZE	**RPM**	**TYPE & PART NO.**	**LENGTH**
1 3/8”	(1000)	21 Spline Trailing 79202278	55”
1 3/4”	(1000)	20 Spline Trailing 79202277	55”

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 BELOW.

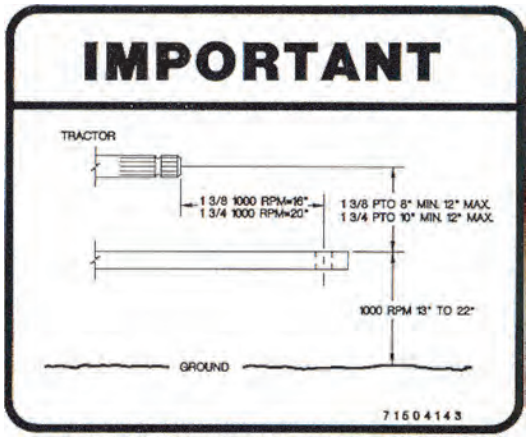


FIGURE 30 DWG. NO. 71504143

IMPORTANT: AFTER TRACTOR HOOKUP, ALWAYS STORE HITCH JACK ON PEDESTAL AT TOP OF GEARCASE.

TRAILING HITCH

Trailing units have an adjustable hitch height adjustment (arrow 1) photos 2987, 9165A, and 3555A on page 12 to match various tractor drawbar heights.

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

The pivotable hitch yoke (arrow 2) (5600) conforms to up to 2 1/8” thick drawbars. It has a hitch pin storage (non operating) hole (arrow 3) photo 2987 that also is a yoke positioning stop when the shredder is being hooked up.

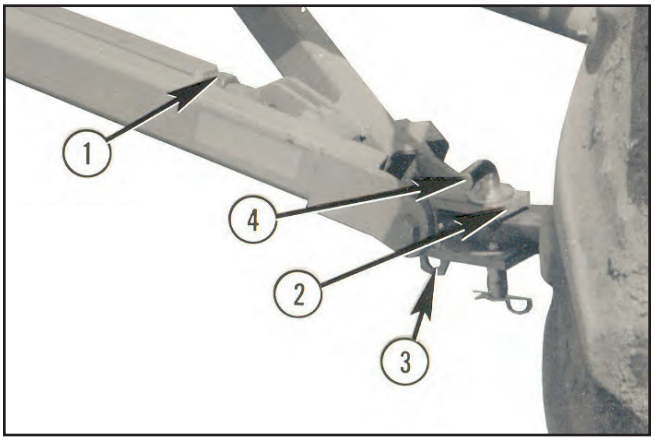
The rigid hitch (5610) photo 9165A or 3555A has a 3” opening which allows up to a 2 3/8” thick drawbar.

Raise the unit with hitch jack until the hitch yoke corresponds with the tractor’s drawbar.

IMPORTANT: IF TRACTOR DRAWBAR IS LESS THAN 2 1/8” THICK, INSERT 1 OR MORE FLAT WASHERS BETWEEN DRAWBAR 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 (ARROW 4).

Remove the hitch pin from its storage hole and insert it through hitch yoke and tractor drawbar (Model 5600). Insert the hitch pin (Model 5610).

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



5600 PHOTO NO. 2987

5610 PHOTO NO. 9165A

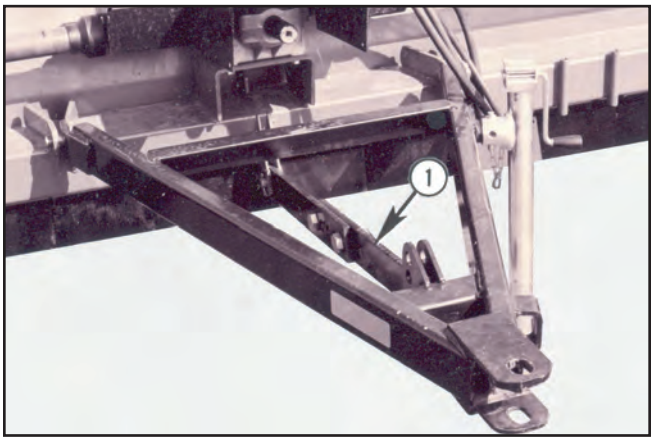


PHOTO NO. 3555A

PTO's

NOTICE: IT IS CRITICAL TO KNOW WHAT TRACTOR CONFIGURATION IS INVOLVED BEFORE HOOKUP. THE PROPER SHREDDER PTO MUST BE USED. DETERMINE THE TRACTOR'S PTO OUTPUT. This will be 1 of 2 choices:

1000 RPM	1 3/8"-21 spline
1000 RPM	1 3/4"-20 spline

PTO's. 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.

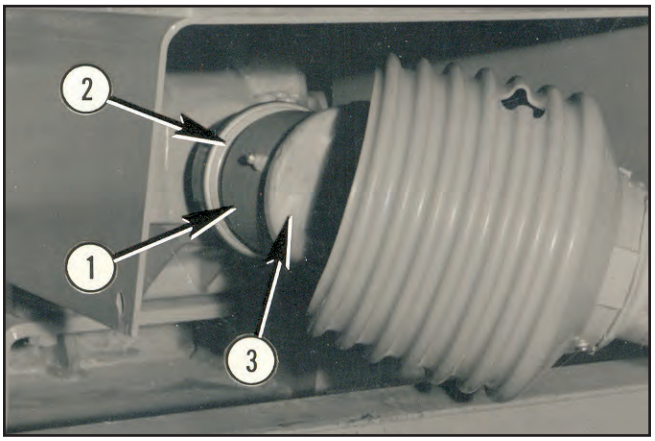


PHOTO NO. 2969A

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

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.

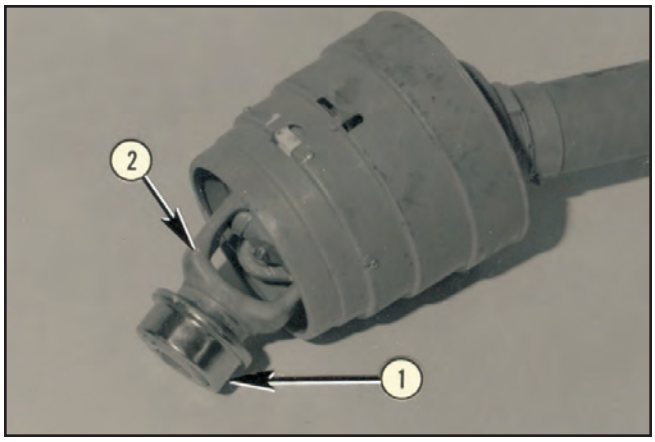


PHOTO NO. 2966A

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. OTHERWISE, IT CAN BE DAMAGED. IF NECESSARY TO OTHERWISE MOVE, DETACH ENTIRE PTO ASSEMBLY (ARROW 1) FROM GEARBOX AND SECURE IT BEHIND A DRIVE SHAFT SHIELD (ARROW 2).

WHENEVER MOVING THE MACHINE, ALWAYS MOVE THE HITCH JACK TO PEDESTAL (ARROW 3) ON TOP OF THE GEARBOX SHIELD.

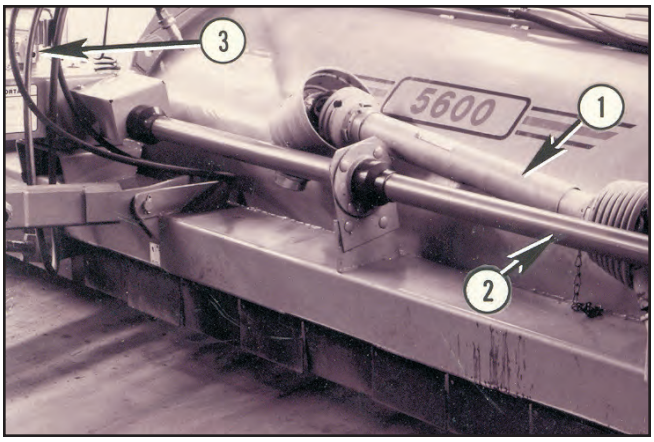


PHOTO NO. 3536

ROCKSHAFT & WHEELS

If the unit has been delivered without an accessory ratchet jack, or hydraulic lift option, install either at this time.

If aftermarket hydraulics are used, pass hoses through the hose support ring and engage hose couplers with tractor's remote hydraulic outlets.

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

CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. DO NOT USE YOUR HAND TO CHECK FOR HYDRAULIC LEAKS. HIGH PRESSURE FLUID CAN PENETRATE THE SKIN.

WARNING: 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 INSPECT AND/OR SERVICE A MACHINE IN A RAISED POSITION UNLESS IT HAS BEEN SECURELY BLOCKED FROM UNEXPECTED DROPPING.

1. To adjust transverse wheel spacing, raise unit sufficient to insert approximately 12” high blocks. SECURE blocks under each side of the unit at its rear. Lower machine onto these blocks and retract lift sufficient for tires to clear the ground. Do this with unit hitched to a tractor of adequate size to stabilize it.

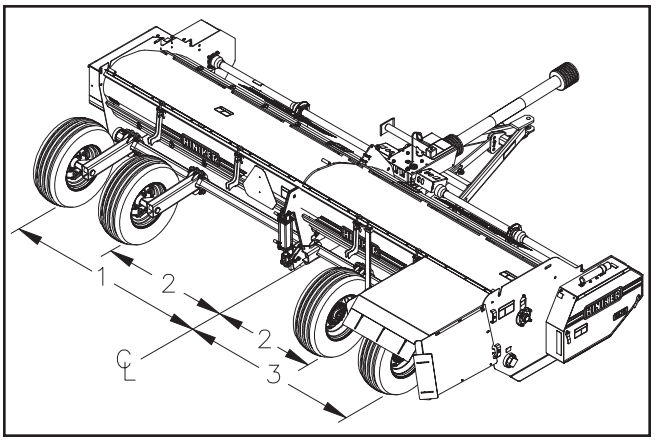
CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. MAKE ADJUSTMENTS ONLY ON A LEVEL SURFACE. SET TRACTOR’S BRAKES AND SHUT OFF THE ENGINE BEFORE PROCEEDING.

2. Loosen the (6) 5/8” leg bolts in each wheel and transversely slide the entire wheel assembly.

The machine is primarily intended for (6) row 30” crop spacing. However, it works equally well for (4) row 36/38” crop spacing or (5) row 36/38” crop spacing. These are recommended tire CENTERLINE SPACINGS:

	6 row 30”	4 row 36”	5 row 36”
LH outer Dimension (1)	87” *	72”	87” *
Inner Pair Dimensions (2)	30”	36”	24”
RH outer Dimensions (3)*	60”	60”	60”
* IMPORTANT: IF TIRES LARGER THAN RECOMMENDED ARE USED, REDUCE SPACINGS TO ENSURE MUD AND MACHINE CLEARANCE IS MAINTAINED.			

For other row spacings, adjust the 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.)**. Raise the shredder, remove blocks and lower the unit.



DWG. NO. 7047

TIRES

HINIKER recommends aftermarket 9.5L x 15-8 Ply I1 (implement), or equivalent, tires. INFLATE TIRES TO LESS THAN NORMALLY USED IMPLEMENT PRESSURES because wheel loadings are comparatively light. The machine will perform better if tire pressures are kept no greater than 15-20 psi.

DWG. NO. 71504136

FIELD MODE TOWING

Shredder/Windrowers are furnished with a SMV emblem (arrow 1) and socket (arrow 2) as shown in photo 9179B. If it is to be towed on public highways.

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 A SAFETY TOWING CHAIN BETWEEN TOWING VEHICLE AND SHREDDER/WINDROWER.

USE THE SMV EMBLEM AS SPECIFIED ABOVE.

CHECK LOCAL REGULATIONS ON TOWING WIDTH AND WARNING LIGHTS.

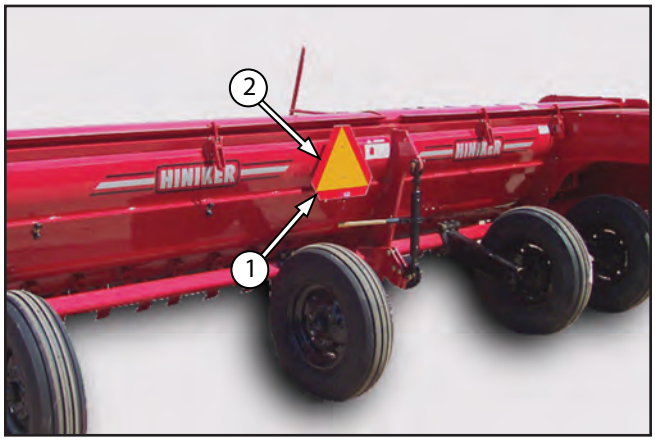
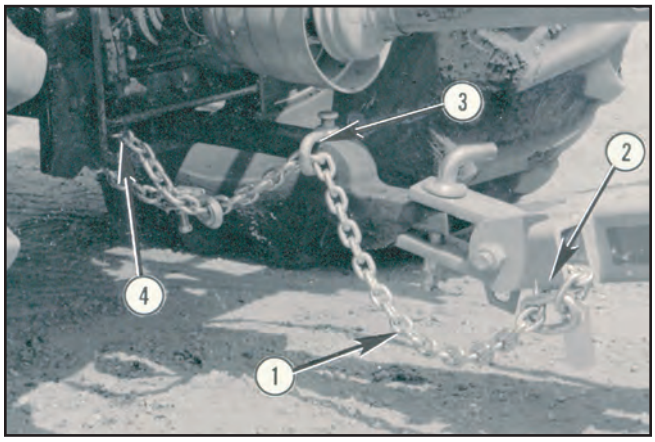
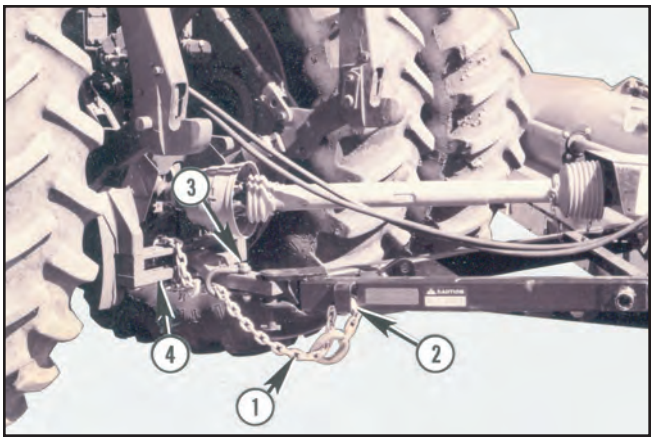


PHOTO NO. 9179B

Use an aftermarket safety towing chain (arrow 1) between machine and towing vehicle see photo to 2997 and 3550. Hook chain around bracket (arrow 2) and pass forward through aftermarket clevis (arrow 3). Fix chain's forward end (arrow 4) to tractor.



5600 (S/N 104 and Below) PHOTO NO. 2997



5610 PHOTO NO. 3550

OPERATION

IMPORTANT: THIS MACHINE IS INTENDED AS A RESIDUE MATERIAL SHREDDER-WINDROWER. 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.

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.

If aftermarket hydraulics are used, insert quick couplers to give shredder/windrower a DOWNWARD movement when tractor hydraulic lever is shoved FORWARD and vice versa.

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.

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

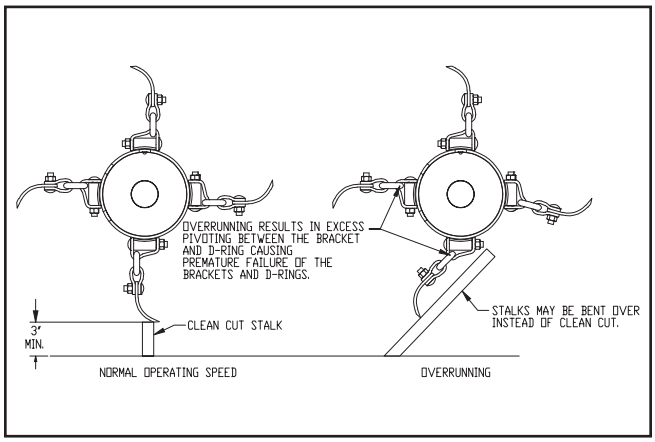
Shred/windrow a short distance and check performance. The higher knife/row clearance may not give satisfactory results; therefore, lower unit and check again. Progressively lower unit until good results are obtained. DO NOT OPERATE WITH LESS THAN 3" KNIVES CLEARANCE TO HIGHEST GROUND POINT WITHIN TRAVERSED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

DANGER: 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.

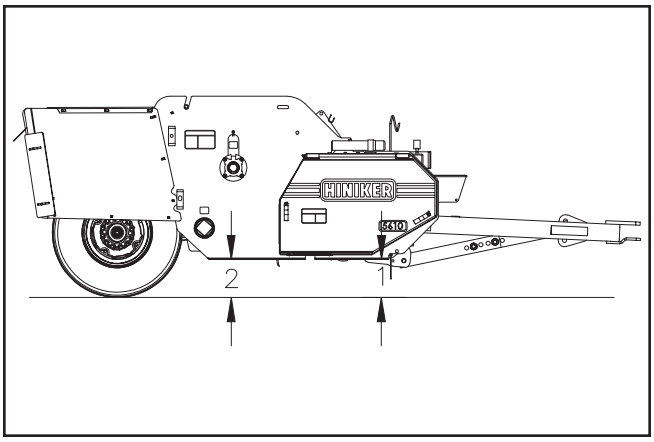


DWG. NO. 6414

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.

Operate the unit approximately LEVEL. That is, front (1) of main frame should clear ground about the same as the rear (2) as shown in drawing 7048.



DWG. NO. 7048

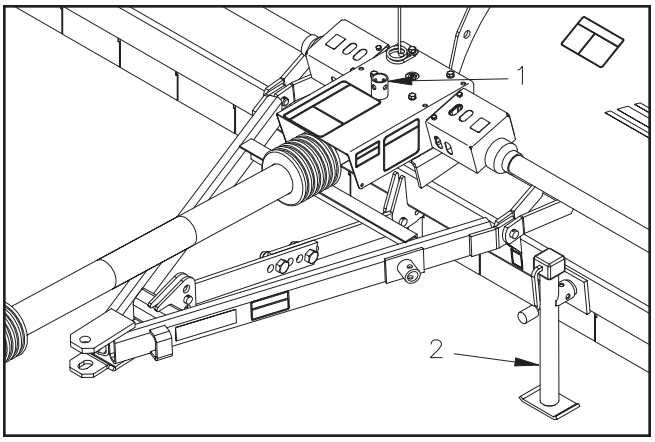
HITCH HEIGHT ADJUSTMENT

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

PHOTO NO. 9165A

On hitches with turn buckles loosen jam nut on drawbar's underneath draft link and adjust draft link's length until unit is approximately level. (A 1 3/4" across flats wrench is required).

Hitches with adjustable bars (arrow 1 photo 3548) are adjusted by bolt and pin placement (arrow 1 photo 3548).



DWG. NO. 7049

With unit attached to tractor, remove hitch jack from storage position on top of gearbox at (arrow 1) and insert on jack spud provided on left side of unit at (arrow 2). Adjust jack to remove unit weight from hitch and tractor drawbar. See drawing 7049.

WARNING: DEATH OR SERIOUS INJURY CAN RESULT. NEVER ATTEMPT TO ADJUST DRAFT LINK WITHOUT FIRST SUPPORTING THE WEIGHT OF SHREDDER WITH HITCH JACK AT PIVOT PROVIDED.

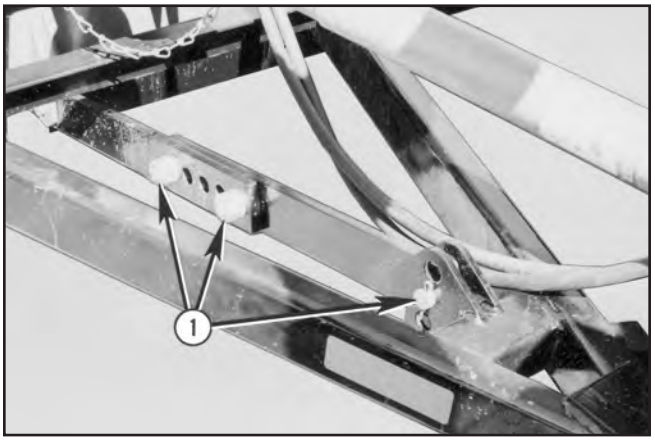


PHOTO NO. 3548

At this time remove bolts and or pin adjustment from draft link (See Photo 3548) and proceed to adjust jack in combination with wheel arms to achieve desired unit profile. Reattach draft link and remove hitch jack and return to storage position on top of gearbox.

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. Lock jam nut on thread of draft link.

DISCHARGE ADJUSTMENT

The HINIKER 5600/5610 shredder/windrower permits (2) distinctly different windrow types:

- Conventional "single swath" windrows, or

- "Double swathed" windrows.

Customer choice depends on quantity of residue encountered. Voluminous material generally should be single swathed. Average material can be double swathed; thus, reducing baling passes by half.

To facilitate this, adjustments are provided in the discharge chute.

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

A desirable round baler windrow is "boxy" and UP TO ABOUT 3 FT. 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.

If average crop conditions indicate double swath windrows, each should be laid BESIDE the other. That is, generally not laid one on top of the other. If double swathing results in a single, large "heaped" windrow cross section, it is hard to create dense uniform bales.

The discharge chute on Model 5600 S/N - 104 and below has (5) adjustments as shown in photo 3360B:

- The RH side plate (arrow 1) has a removable bottom deflector (arrow 2).

- This deflector can be reversed giving a small effect, or it can be completely removed.

- This side plate has a slotted tail deflector (arrow 3).

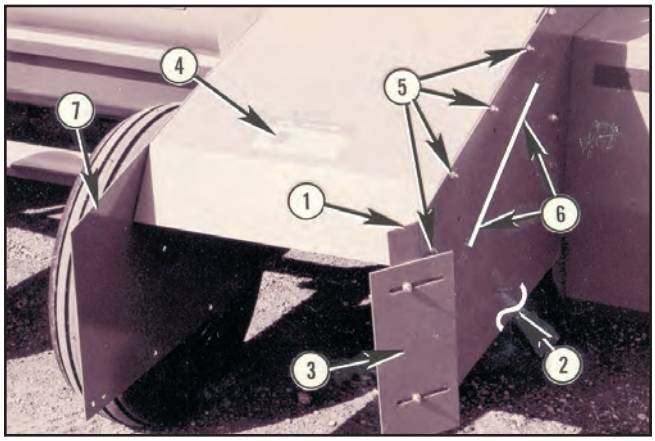
- The top deflector (arrow 4) has alternate positions, via (8) 5/16” carriage bolts as at (arrow 5) and (arrow 6).

The discharge chute LH side plate (arrow 7) has no adjustment.

The RH slotted tail deflector narrows the discharge stream and shifts it leftward.

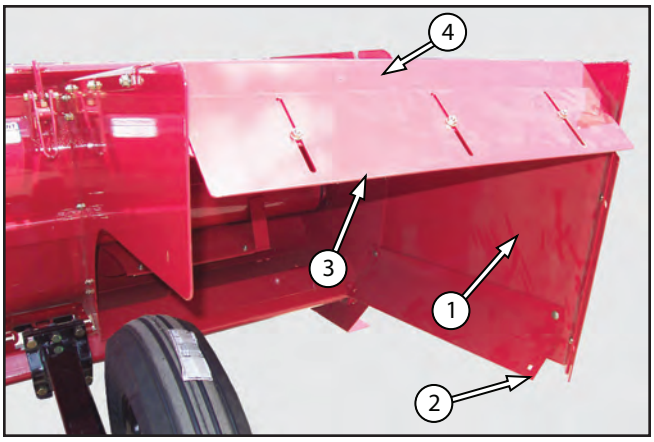
The bottom deflector controls rightward fines “spraying” and assists the tail deflector.

Raising the top deflector allows a longer rearward discharge stream. Usually, this results in a more widely distributed windrow. Lowering the top deflector generally confines the discharge stream turbulence with the windrow becoming more boxy and less “streamlined”.

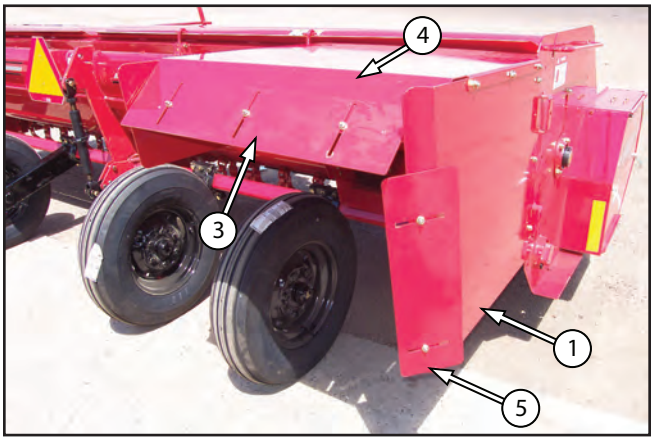


5600 PHOTO NO. 3360B

The discharge chute has (3) adjustments on Model 5610 as shown in photo 9148A and 9149A.



5610 PHOTO NO. 9148A



5610 PHOTO NO. 9149A

- The RH side plate (arrow 1) has a reversible bottom deflector (arrow 2).

- The deflector (arrow 2) can be removed.

- The top panel (arrow 4) has a slotted deflector (arrow 3) that can be adjusted with 5/16 carriage bolts.

- The RH side plate (arrow 1) has an adjustable slotted deflector (arrow 5) that can be adjusted with 5/16 carriage bolts.

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.

Do not store the machine outside between seasons of use. That lowers resale/trade in value.

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. 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.

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

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

9. Remove auger drive sprocket shearbolt and spin 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.

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.

DO NOT SERVICE OR OTHERWISE HANDLE A HYDRAULICALLY RAISED TRAIL UNIT, IN A RAISED POSITION UNLESS IT HAS BEEN SECURELY BLOCKED FROM UNEXPECTED FALLING.

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

Shredders/windrowers operate in an extremely dirty (fine dust) environment. Proper maintenance will save money!

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 AND BEARING SEAL FAILURE. ONLY ONE PUMP PER FITTING 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.

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

Arrows 10, 11 and 12-Gearbox fill, check and drain plugs: 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.

Use a good A.P.I. 80 W 90 gear lube.

Arrow 23-Auger drive chain: 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 BELTS AND SHEAVES OIL CONTAMINATION.

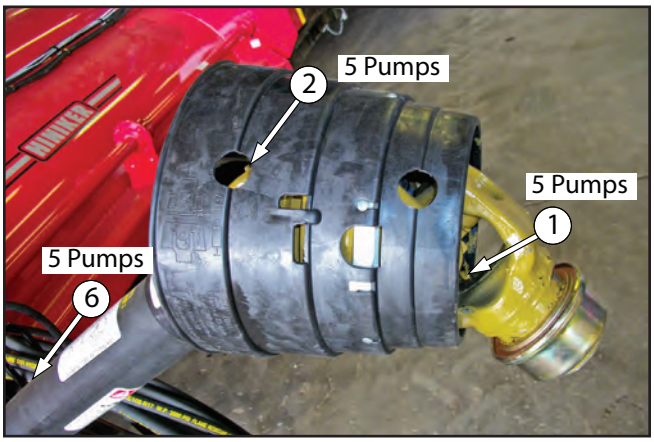


PHOTO NO. 100-1762A

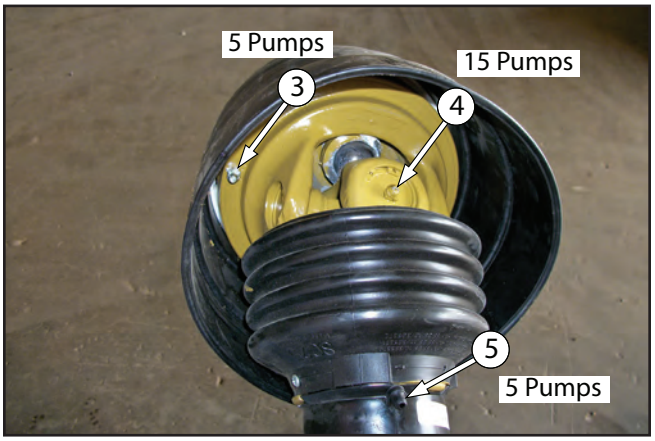


PHOTO NO. 100-1764A

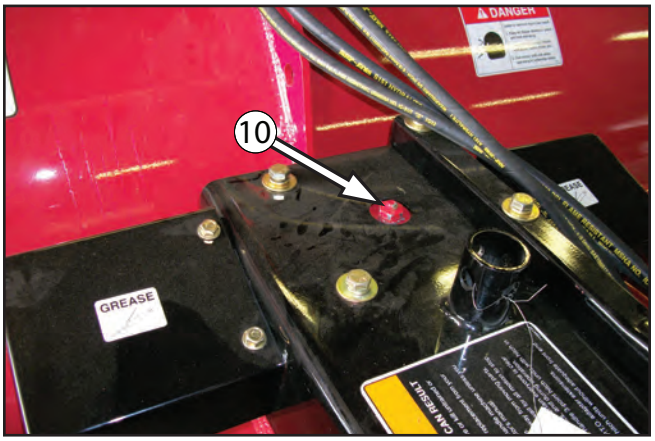


PHOTO NO. 100-1773A

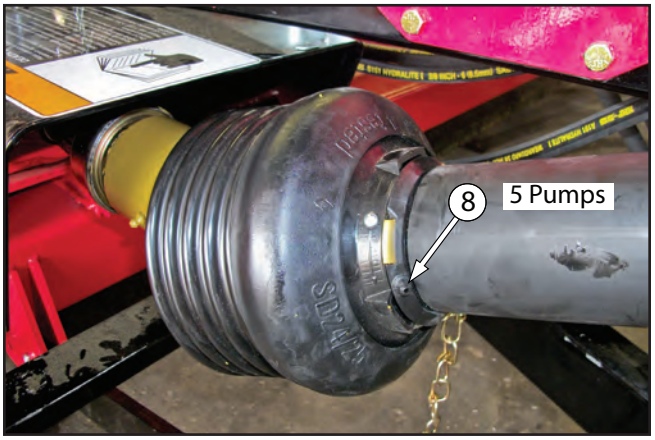


PHOTO NO. 100-1771A

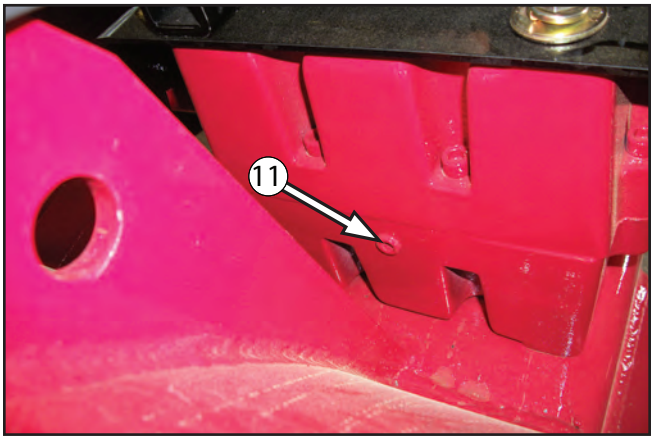


PHOTO NO. 100-1783A

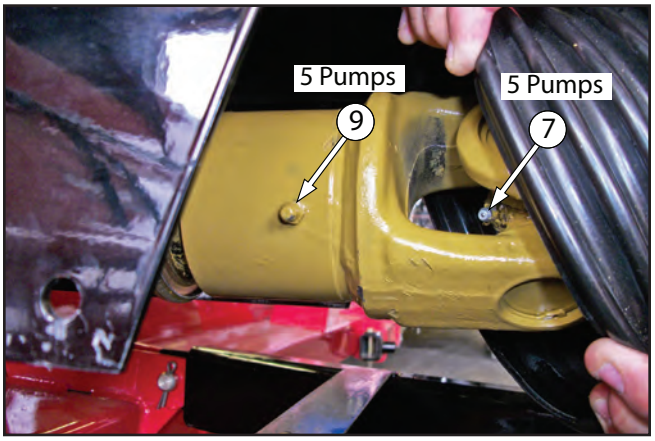


PHOTO NO. 100-1770A

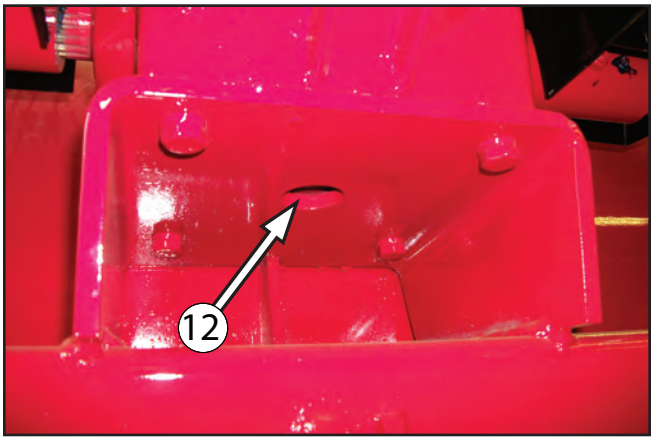


PHOTO NO. 100-1775A

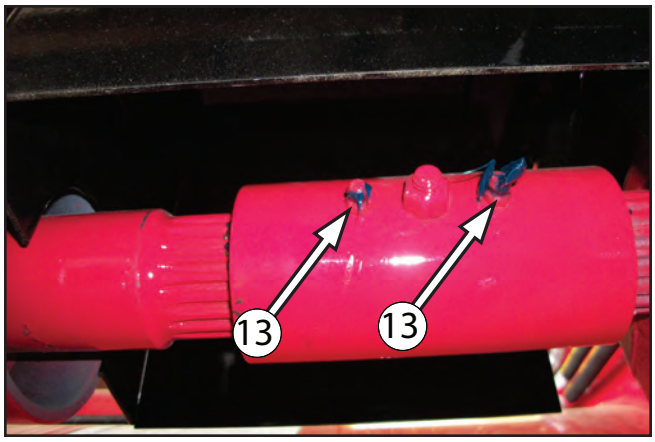
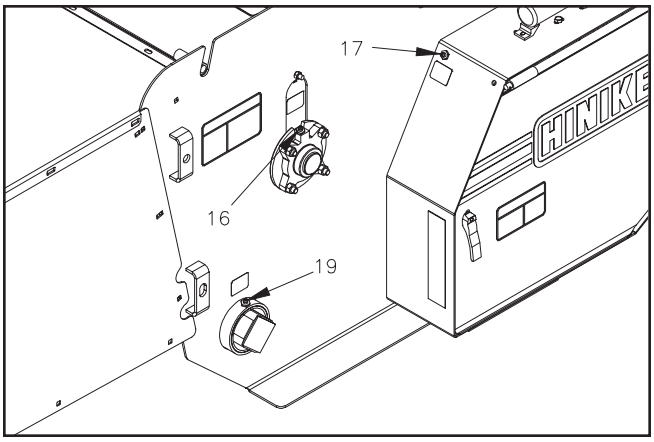


PHOTO NO. 100-1780A



5610 DWG. NO. 7052

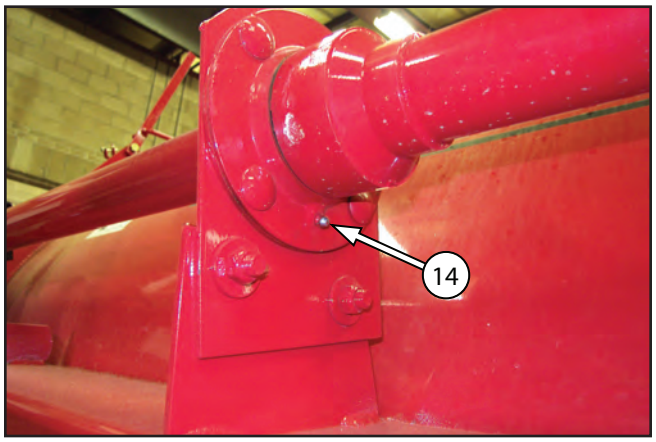
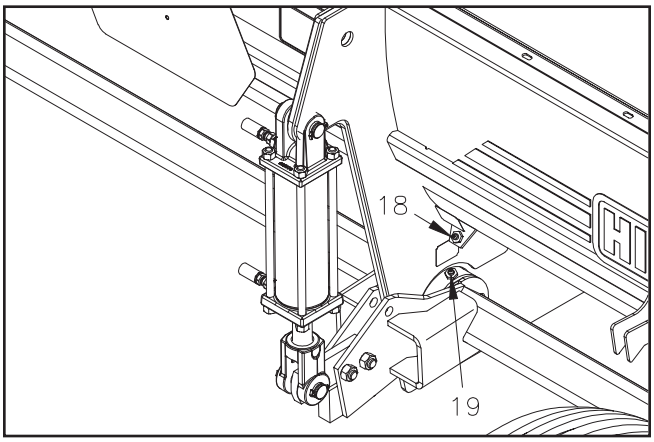


PHOTO NO. 9094A



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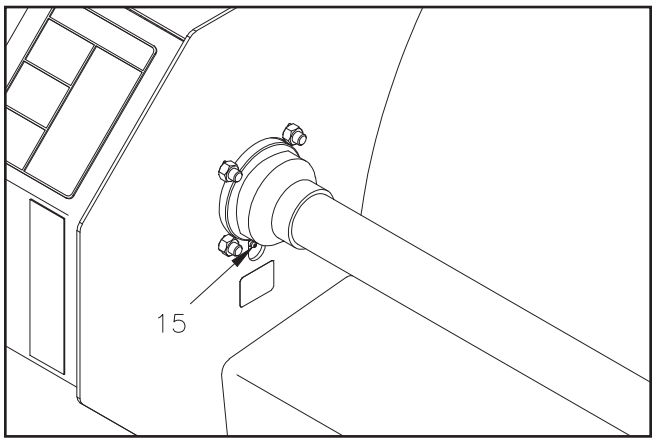

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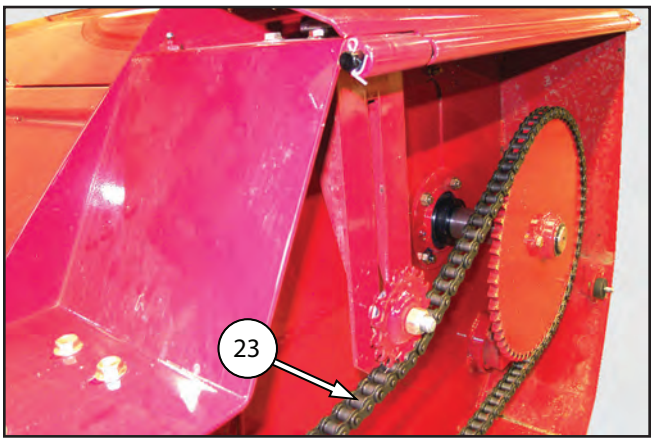
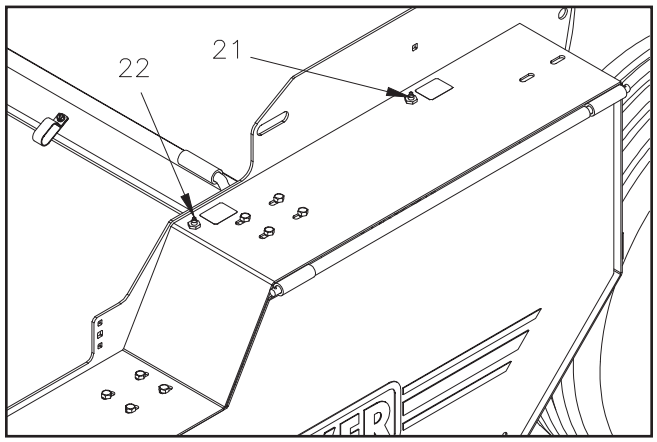


PHOTO NO. 9104D



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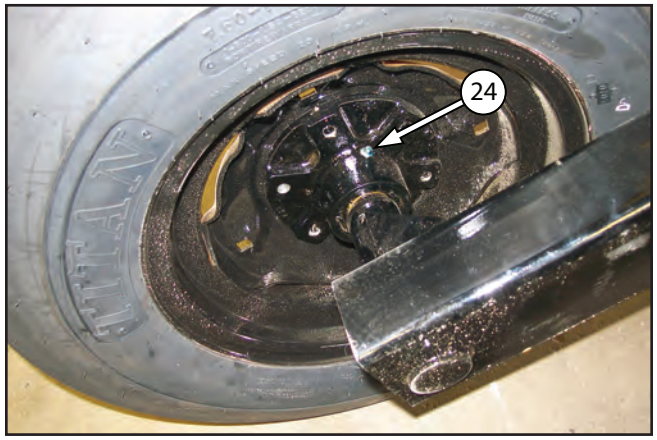


PHOTO NO. 9114A

LUBRICATION			
ARROW	**IDENTIFICATION**	**NO.**	**INTERVAL**
1	C.V. PTO Front Cross	1	8 Hr.
2	C.V. PTO Shield	1	8 Hr.
3	C.V. PTO Double Yoke	1	8 Hr.
4	C.V. PTO Rear Cross	1	8 Hr.*
5	PTO Front Rotating Shield	1	8 Hr.
6	PTO Sliding Engagement	1	8 Hr.
7	PTO Rear Center Cross	1	8 Hr.
8	PTO Rear Rotating Shield	1	8 Hr.
9	Overrun Clutch	1	8 Hr.
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	2	WEEKLY
15	Cross Shaft Outer Bearings	2	WEEKLY
16	R.H. Auger Bearing	1	WEEKLY
17	R.H. Rotor Bearing	1	WEEKLY
18	Center Rotor Bearings	2	WEEKLY
19	Rockshaft Bearings	3	WEEKLY
20	Ratchet Jack	2	PERIODIC
21	L.H. Auger Bearing	1	WEEKLY
22	L.H. Rotor Bearing	1	WEEKLY
23	Auger Drive Chain	1	WEEKLY
24	Wheel Bearings	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 or mismatching. Replace only in matched sets.
	6. Shredder bouncing.	6. Deflate tires to 15-20 psi. 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 row knife wear.	1. Operating too low.	1. Raise knives operating height to approximately 3” above rows.
Excessive knife stone damage	1. Running too low.	1. 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.
	5. Binding stripper (If equipped).	5. Inspect and maintain. See SERVICE Section.

CONDITION	POSSIBLE CAUSE	CORRECTION
Entire shredder crosswise "yawing".	1. Wheel not exactly centered on middles.	1. Readjust wheel spacings.
	2. Different tire sizes on same unit.	2. Correct.
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 15-20 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

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.

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 torques and lost, worn out, or broken parts. Replace these promptly.

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

Nominal Size	SAE 2 74 000 psi Min Tensile lb - ft		SAE 5 120 000 psi Min Tensile lb - ft		SAE 8 150 000 psi Min Tensile lb - ft	
	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated
1/4-20 1/4-28	6 6	4 5	8 10	6 7	12 14	9 10
5/16-18 5/16-24	11 12	8 9	17 19	13 14	25 25	18 20
3/8-16 3/8-24	20 23	15 17	30 35	23 25	45 50	35 35
7/16-14 7/16-20	30 35	24 25	50 55	35 40	70 80	55 60
1/2-13 1/2-20	50 55	35 40	75 90	55 65	110 120	80 90
9/16-12 9/16-18	70 80	55 60	110 120	80 90	150 170	110 130
5/8-11 5/8-18	100 110	75 85	150 170	110 130	220 240	170 180
3/4-10 3/4-16	175 195	130 145	260 300	200 220	380 420	280 320
7/8-9 7/8-14	165 185	125 140	430 470	320 350	600 660	460 500
1-8 1-12	250 270	190 200	640 700	480 500	900 1000	680 740
1 1/8-7 1 1/8-12	350 400	270 300	800 880	600 660	1280 1440	960 1080
1 1/4-7 1 1/4-12	500 550	380 420	1120 1240	840 920	1820 2000	1360 1500
1 3/8-6 1 3/8-12	660 740	490 560	1460 1680	1100 1260	2380 2720	1780 2040
1 1/2-6 1 /1/2-12	870 980	650 730	1940 2200	1460 1640	3160 3560	2360 2660

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

IMPORTANT: DO NOT REPLACE HARDWARE WITH LOWER GRADE HARDWARE. EXCEPT ON SHEAVES (PAGE 35), ALL BOLT TORQUES ARE GRADE 5. HARDWARE OVER, OR UNDER, TORQUING, CAN RESULT IN UNSATISFACTORY DURABILITY.

GRADE 5 BOLT TORQUES*

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 those so indicated 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.

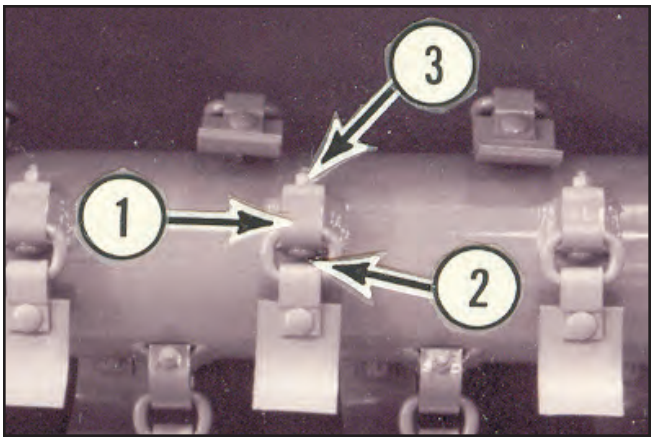


PHOTO NO. 3240

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.

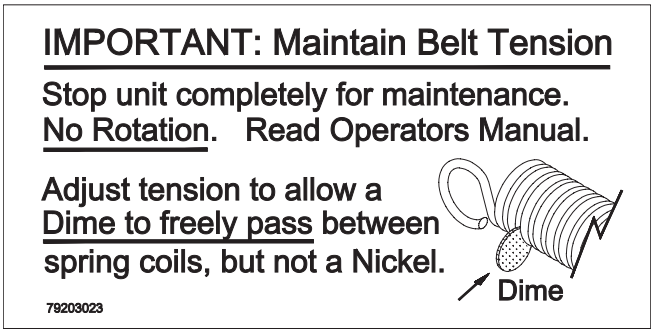
Knife hardware should be torqued to 75-82 ft/lb (102-112 N/m).

BELTS

HINIKER shredder/windrowers are EQUIPPED ONLY WITH PREMIUM GRADE MATCHED BELTS. Do not replace these with “garden variety” belts because their power transmission capability, and durability, may be degraded.

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

This is obtained by following instructions on decal located on end plates 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.

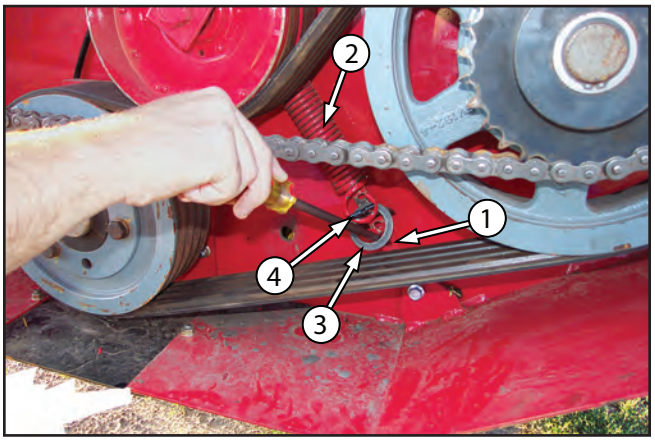


PHOTO NO. DPC2071

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 3009A on page 34.

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

Refer to parts book online for replacement 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.

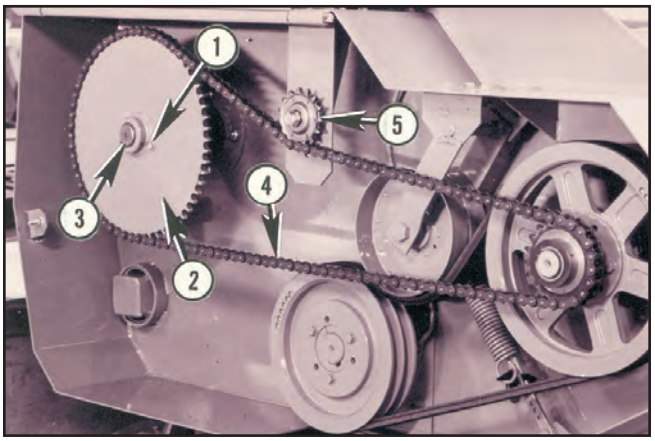
The auger chain is protected by a standard 3/8” x 2 1/4” grade 8 hex bolt (arrow 1) in driveN sprocket (arrow 2). The chain is standard #60 roller chain.

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

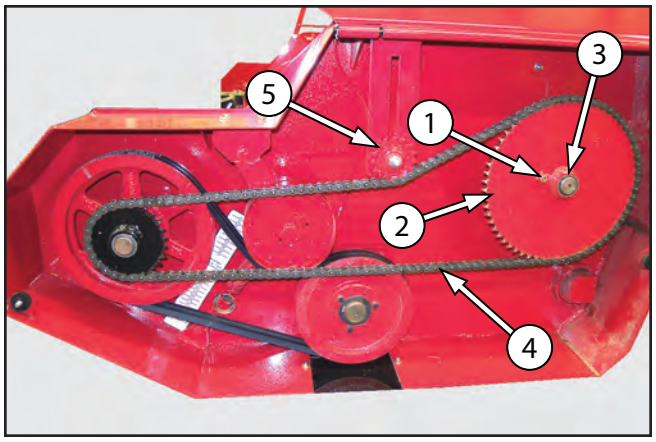
A bronze bushing (arrow 3) prevents shaft/sprocket seizure. Annually, a few drops of oil here is a good idea.

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.



5600 Shown PHOTO NO. 3350A



5610 Shown PHOTO NO. 9091A

OUTER ROTOR BEARINGS

All (4) rotor bearings are identical. Each is 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 photo 3005A. 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 AND OUTER ROTOR BEARINGS.

1. Loosen and remove belts and driveN sheave. Photo 3005A.

   If a R.H. rotor bearing is being serviced, demounting the auger drive chain facilitates working access.

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.

3. Loosen outer end zerk hex nut of lube tube (arrow 3) and detach tube from bearing (arrow 4). Circumferentially polish shaft (arrow 5).

4. Remove (4) 1/2" lock nuts (arrow 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" nominal I.D. washers are factory installed between the inner end of bearing (arrow 4) and the shoulder on shaft (arrow 5). 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 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. Two inch nominal I.D. washers are available as part numbers:

Washer	Part Number
1/16" Thick	710-05333
1/8" Thick	710-05332

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.

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/IBS. (79-112 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 if necessary.

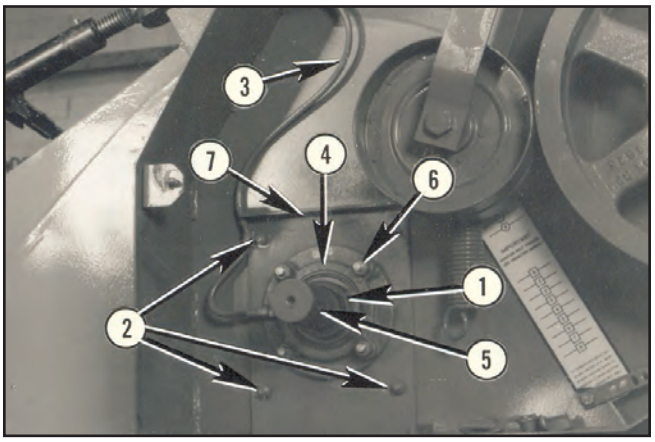


PHOTO NO. 3005A

INNER ROTOR BEARINGS

The entire affected rotor must be removed; thus, the unit must be turned upside down.

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) and its top shroud (arrow 2). Ensure both auger covers (arrow 3) are latched and both end enclosures (arrow 4) are secured. See photo 3360A and 9150A.

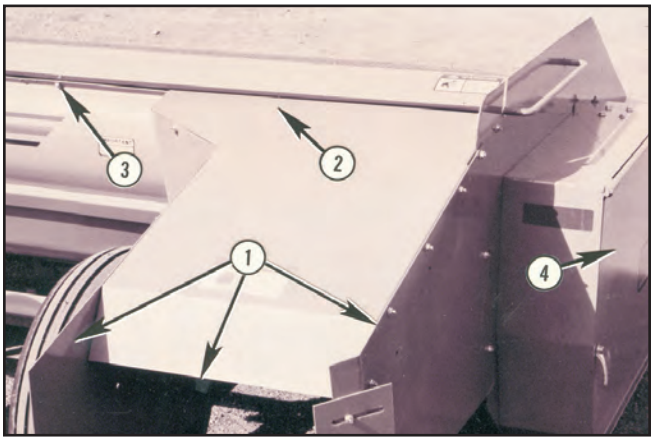


PHOTO NO. 3360A

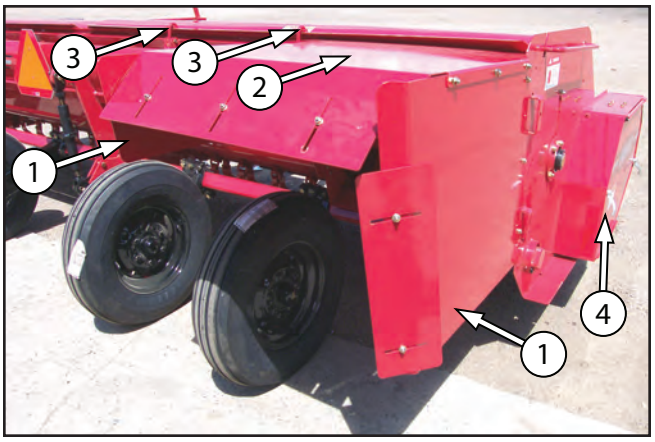


PHOTO NO. 9150A

2. If a ratchet jack is in use, lock its handle from dropping down as machine is rotated.

3. Remove PTO, also SMV, if present.

DANGER: DEATH OR SERIOUS INJURY CAN RESULT. CLEAR PEOPLE FROM WORK AREA WHEN TIPPING UNIT UP-SIDE DOWN. 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 4300 Lbs. (1950 Kg.).

4. Insert a 1" x 4 1/2" bolt thru hitch clevis arrow 1) and snug up its nut. SECURELY hook a sling chain (arrow 2) around this bolt and raise unit a short distance. See photo 3372.

5. SECURELY BLOCK REAR OF ALL (4) TIRES as at (arrow 3). (This prevents backward machine movement.) Continue raising/rotating machine, with a modest rearward bias, until unit is SLIGHTLY rearward of vertical. See photo 3372.

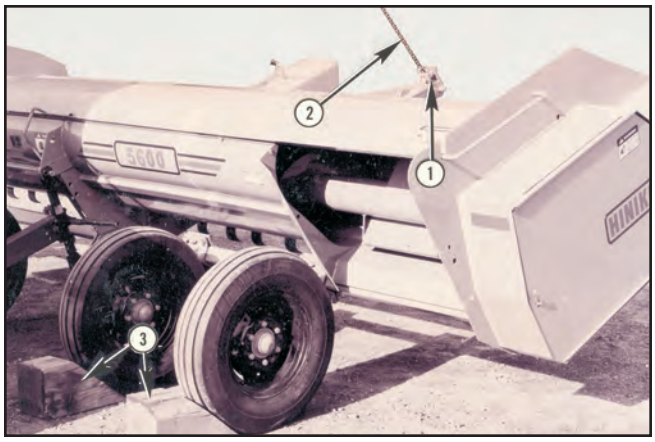


PHOTO NO. 3372

6. Move all (4) blocks previously behind tires TO THE FRONT OF THE TIRES (arrow 1) and SECURELY BLOCK them. (This prevents forward machine movement.) See photo 3373.

7. Slowly slacken hoist and allow unit to rotate backwards to flat ground contact around base machine corners as at (arrow 2).

8. Open concerned end shield (arrow 3) and remove bottom plate (arrow 4). Depending on center rotor bearing to be serviced, remove affected rotor drive belts. If servicing a R.H. center bearing on Model 5600, also remove the auger drive chain. On Model 5610 if you are servicing the LH center bearing, also remove the auger drive chain.

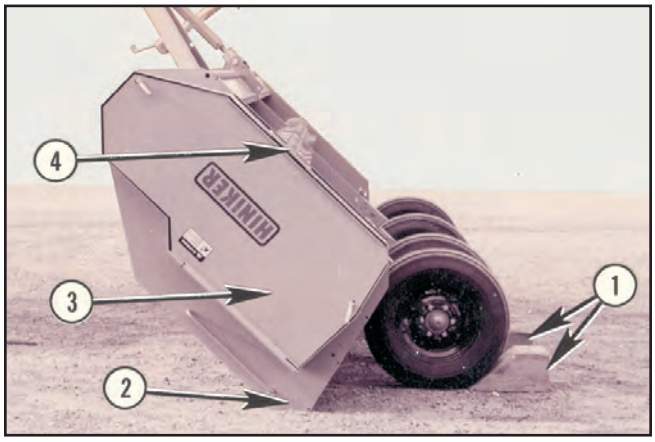


PHOTO NO. 3373

9. Attach sling (arrow 1) hooks through 2 outside “D” rings (arrow 2) on 1 knife row. Snug up hoist, but do not overly tighten it.

IMPORTANT: AVOID USING EITHER ROTOR’S TRANSVERSE CENTERS FOR SHREDDER LIFTING OR OTHER STRUCTURAL REPAIR. POSSIBLE ROTOR DAMAGE CAN OCCUR.

10. Loosen outer bearing from its mounting as shown in photo 3005A, page 32. Unless this bearing is also being serviced, it is not necessary to remove it from the rotor at this time.

11. Remove (4) 3/8” bolts (arrow 3) and center antiwrap shields (arrow 4). This allows access, through the rotor’s inner end notches to bearing’s inner race Allen set screws. Detach shield (arrow 5) and lube tube (arrow 6) from bearing. Refer to photo 3019.

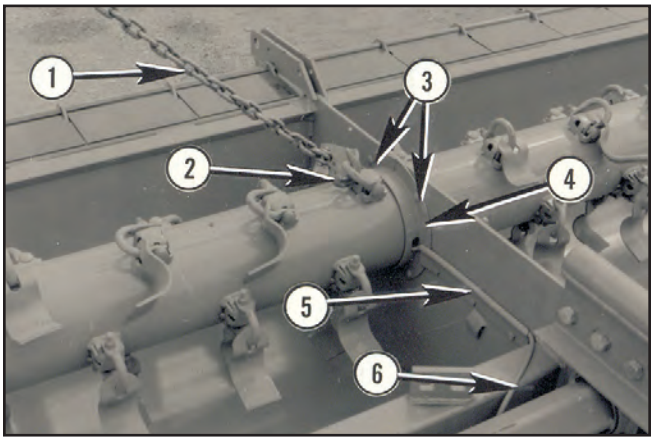


PHOTO NO. 3019

12. Remove (2) 3/8” Allen set screws (arrow 1). These are factory retained with anaerobic threadlock (eg. Locktite 242 (blue) or Perma-lok HM 118 (red). Refer to photo 3015.

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

13. Remove (4) 1/2 bolts (arrow 3) using a thin box, or open end, wrench as in (arrow 4). By axially prying and “jarring” the rotor, edge it and associated bearing free. NOTICE: REMOVING BOLTS IN THIS SEQUENCE PRECLUDES POSSIBLE BEARING HOUSING DAMAGE. See photo 3015.

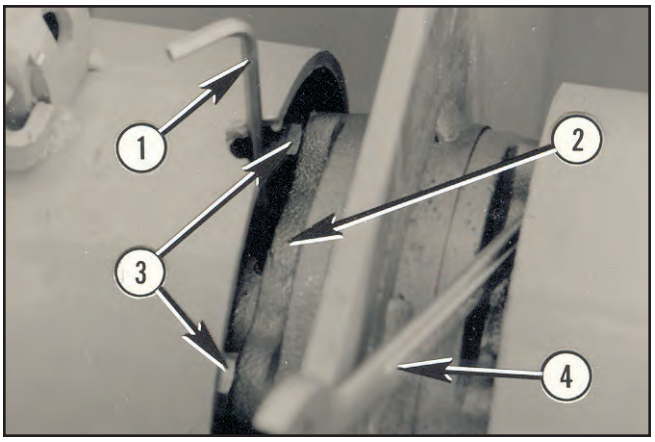


PHOTO NO. 3015

14. Polish around the rotor center stub shaft and reinstall it in replaced bearing. Insure 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 MOUNTING BOLTS AND ALLEN SET SCREWS. TORQUE ALL BEARING MOUNTING BOLTS TO 58-82 Ft/lbs. 979-112N/m.).

15. 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 inch nominal I.D. washers between outer bearing’s inner race and shoulder of rotor shaft. If these are axially SNUG WITH NO PRELOAD, proceed to completely reinstall outer bearing and anti-wrap shields.

16. If washers are not as stated above, remove outer bearing and add, or subtract, washers. Two inch nominal I.D. washers are available as part numbers:

Washer	Part Number
1/16” Thick	710-05333
1/8” Thick	710-05332

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 PTO, etc.

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.

Photo 3009A and photo 3010B show L.H. sheaves. R.H. sheaves are aligned similarly.

1. Particularity on the auger drive side, it is easiest to align the driveN sheave (arrow 2) to the driven sheave (arrow 1). Thus, the auger drive chain need not be demounted.

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

3. Fully relieve belts 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 photo 3010B on this page for sheave loosening procedure and adjust driveN sheave’s inner bushing in or out as required for realignment. Then reinstall sheave per photo 3010C, page 35.

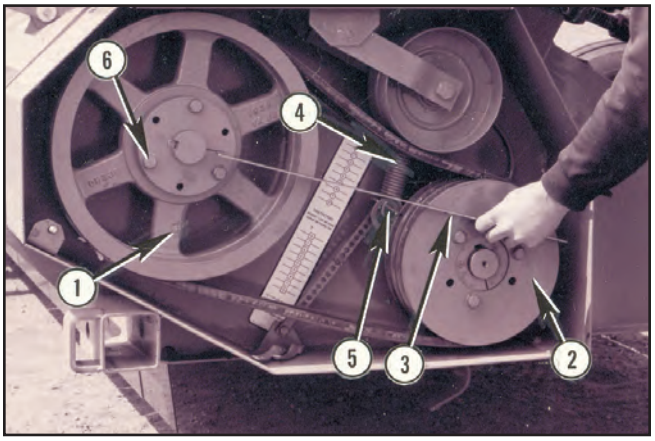


PHOTO NO. 3009A

SHEAVES REMOVAL/INSTALLATION

1. If a driven sheave on the auger drive side is being serviced, it is necessary to loosen auger chain idler and remove chain.

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

2. Loosen backwrap idler (arrow 1) and remove belts.

3. Loosen and remove 3/8" bolts from UNTHREADED holes (arrow 2).

4. Insert these bolts in the THREADED holes (arrow 3). Start with the bolt furthest from the inner bushing's slot (arrow 4) 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 (arrow 5) 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. Remove the set screw to enable removal of the inner bushing.

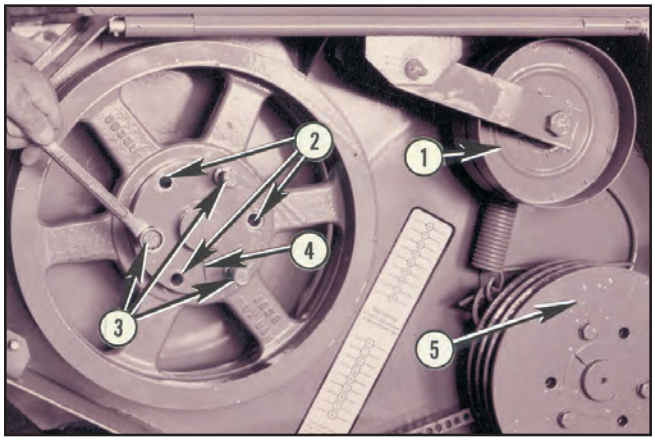


PHOTO NO. 3010B

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 UNTHREADED bolt holes with THREADED bolt holes in mating sheave or bushing. Insert bolts and lock washers in these UNTHREADED holes and tighten about (2) turns each.

9. Alternately torque these bolts, in a uniform pattern, until the tapers are seated (approximate 1/2 bolt torque). Check for sheave alignment and possible wobble. Correct if necessary.

IMPORTANT: SHEAVE BOLTS ARE TORQUED TO 30 FT/LBS. (41 N/m)

10. 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.

11. Reinstall belts and reposition backwrap idler.

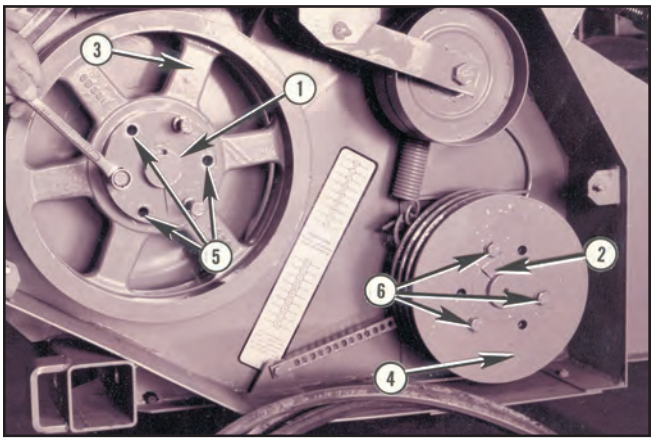


PHOTO NO. 3010C

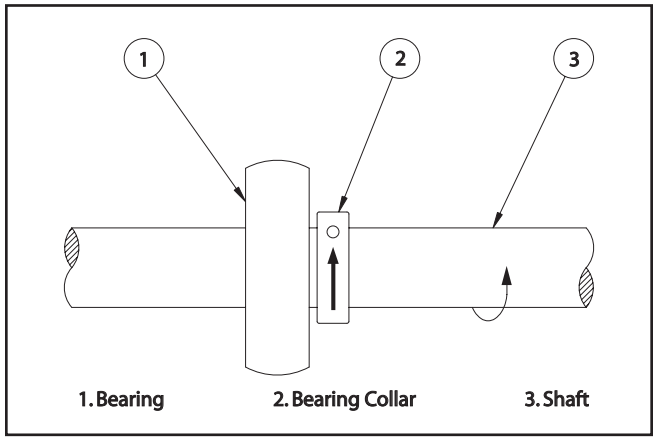
DRIVE SHAFTS BEARINGS

The drive shaft bearings (arrow 1) have eccentric lock collars (arrow 2) or (2) set screws. To loosen these, remove 3/8" Allen set screw in the lock collar or bearing race.

For bearings with an eccentric collar use a drift to drive collar (arrow 2) OPPOSITE to direction of rotation of shaft (arrow 3). When reinstalling bearing, drive collar (arrow 2) in SAME DIRECTION as rotation of shaft (arrow 3) and retighten set screw. Refer to drawing 2256A.

Servicing these bearings requires removing the driven sheave. On the R.H. side, it also requires removing the auger driven sprocket. Reference is made to the prior heading SHEAVE REMOVAL/ INSTALLATION.

Loosen the center bearing holder and the outboard bearing. The outboard bearing may be taken out of the machine along with the shaft. The center bearing must be driven off the shaft before either can be removed from the machine. Strip paint and rust and emery the shaft, if necessary to move the center bearing.



DWG. NO. 2256A

WHEEL BEARINGS & SEALS

HINIKER shredders/windrowers are equipped with O.D. riding triplex (3 labyrinths) seals. They also have a replaceable seal riding ring (arrow 6) and zerk relube in the hub. This system is highly effective when properly installed and maintained. Refer to photo 3011.

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

1. Remove hub, inboard bearing cone (arrow 1), outboard bearing cone (arrow 2) and seal (arrow 3) from spindle. Thoroughly clean hub's interior grease cavity, both bearing cups (arrow 4), cones, hub cap (arrow 5) and preload hardware.

2. Discard old seal (arrow 3) and inspect bearings for deterioration. Replace both cups and cones if necessary. Generally, seal riding ring (arrow 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 (ARROW 3) ONTO SPINDLE WITH BEARING CONE (ARROW 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 MUST ALWAYS FACE THE SPINDLE'S INBOARD END, OTHERWISE THE SEAL WILL NOT FUNCTION CORRECTLY.

4. Install hub, outboard bearing cone (arrow 2), end washer and adjusting nut. Adjust nut with a HAND WRENCH ONLY. Tighten to 50 Ft-Lbs while rotating hub. Back off one turn and retorque to 17 1/2 Ft-Lbs. Back off to assemble cotter pin in next available hole.

5. Use zerk to fully lube hub cavity and bearings, while rotating hub, and until lube emerges through outboard bearing. Pack hub cap (arrow 5) with lube and drive it home. Continue lubing hub until lube emerges around seal's outside diameter.

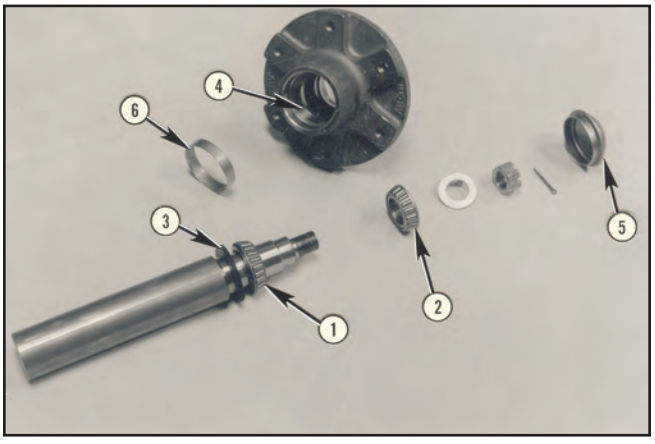


PHOTO NO. 3011

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 left cross drive shaft shield. Loosen and remove left outboard drive shaft bearing flange bolts. This can be done without removing the driven 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: Refer to photo 3008 on page 39 and drawing 2505 on page 38.

1. Remove (12) 3/8" socket head bolts (arrow 1) 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.

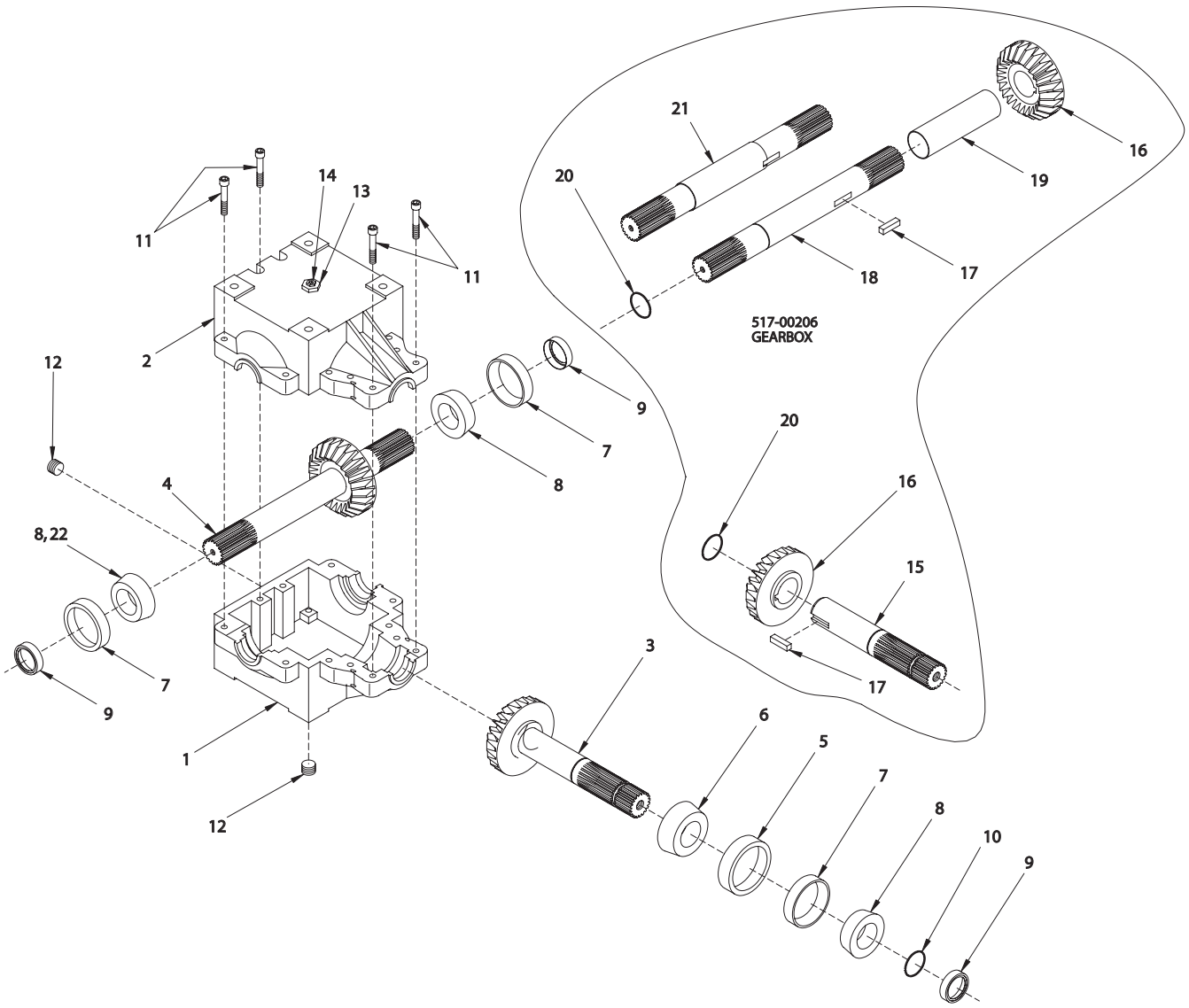
Note: Gears must be replaced as sets. Gears are pressed on the shafts at the factory and <u>cannot</u> be replaced in the field.

5. Whenever shafts are disassembled, make sure the same thickness snap rings (arrow 5) are used to maintain backlash and preload. There were 3 external snap rings used. Currently the gearbox (P/N 51700216) uses (1) external snapring 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.

1000 RPM GEARBOX ASSEMBLY



DWG NO. 2505

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	400-17205	Casting (Tapped Holes)	1	12	203-51156	Plug, 1/2 NPT SKHD HEX	2
2	400-17206	Casting (Thru Holes)	1	13	203-51074	Bushing, 1/2 NPT - 1/8 NPT	1
3	50106488	Pinion Shaft/Gear (Replaces 15,16,17,20) S/N -103)	1	14	203-50308	Pressure Relief	1
4	50106489	Cross Shaft/Gear (Replaces 16, 17,21) S/N -103)	1	15	501-06483	Pinion Shaft	1
5	601-05002	Bearing Cup (Large)	1	16	517-11099	Gear 1:1 Ratio	2
6	601-02075	Bearing Cone (Large)	1	17	702-53219	3/8 Square x 1.45 Long Keys	2
7	601-05001	Bearing Cup (Small)	3	18	501-06484	Cross Shaft	1
8	601-03003	Bearing Cone (Small)	3	19	710-16110	Spacer Sleeve	1
9	650-06056	Seal (1 3/4 Shaft)	3	20	702-05093	Retaining Ring (1 3/4 Shaft)	2
10	702-05093	Retaining Ring (1 3/4 Shaft)	1	21	79201419	Cross Shaft (Replaces 18,19,20)	1
11	950-011-032	Socket Head Cap Screw 3/8-16 x 2 1/4	12		51700216	Gearbox Assembly (Replaces 517-00206)	1

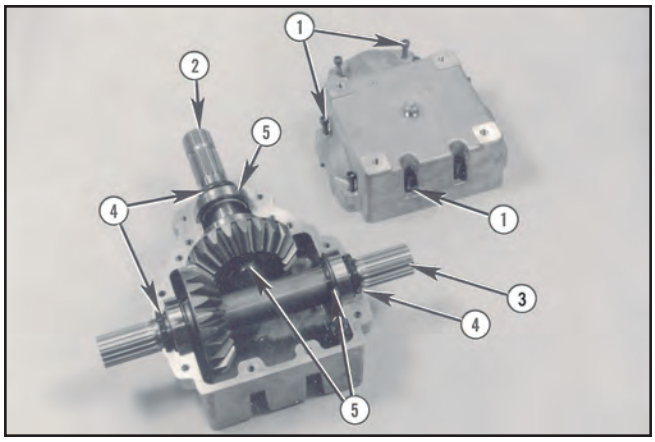


PHOTO NO. 3008

Reinstall gearbox in reverse order of removal. Ensure mounting bolts have their lock washers installed and they are brought to full torque.

Ensure drain plug is installed. Fill gearbox to level specified in LUBRICATION, page 21 with A.P.I. 80W-90 gear lube

AUGER AND STRIPPER (5600)

1. Because of the auger's length, and manufacturing variations, some radial run out can occur. The auger stripper (arrow 1) is retained by (6) 3/8" carriage bolts and flat washers (arrow 2) in slotted adjustment holes. Keep these bolts with nuts up. See photo 3362.

2. Clearance between the stripper and auger flighting should be more than 1/4" throughout its entire length. After adjustment, revolve the auger to ensure this minimum clearance is attained. (Model 5600 S/N - 104 and below)

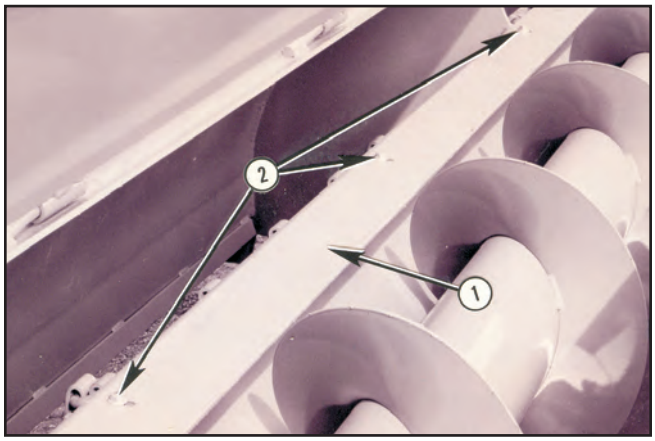


PHOTO NO. 3362

1. To extract and service the auger, open both auger covers (arrow 1) fully forward. Loosen all stripper bolts as at (arrow 2) and slide stripper (arrow 3) maximum forward. (Model 5600 S/N - 104 and below). Refer to photo 3370.

2. Remove the complete discharge chute and its top shroud at (arrow 4). (Model 5600 S/N - 104 and below).

3. Securely hook a double chain hoist around the auger assembly as shown. Use a spreader bar to obtain about 6' chain spread (arrow 5). 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 400 lbs. (181 Kg.).

4. Remove L.H. cover plate (arrow 6) and L.H. flange bearing (arrow 7). (Model 5600) Remove R.H. cover plate (arrow 8) and R.H. flange bearing (arrow 9). (Model 5610) as shown in photo 9129A.

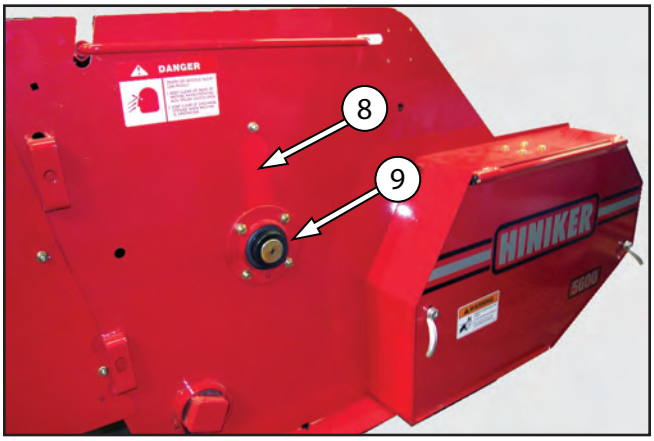
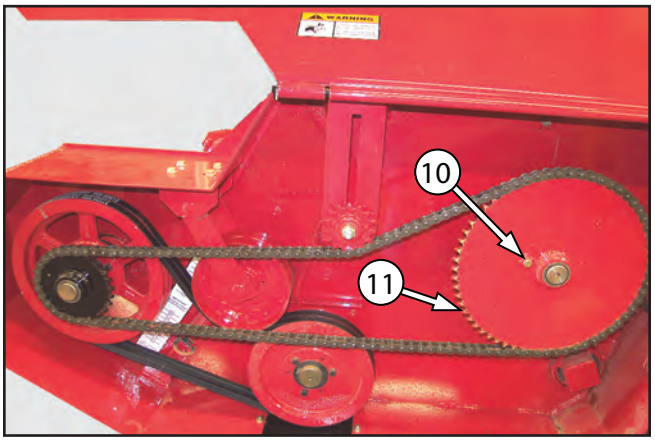


PHOTO NO. 9129A

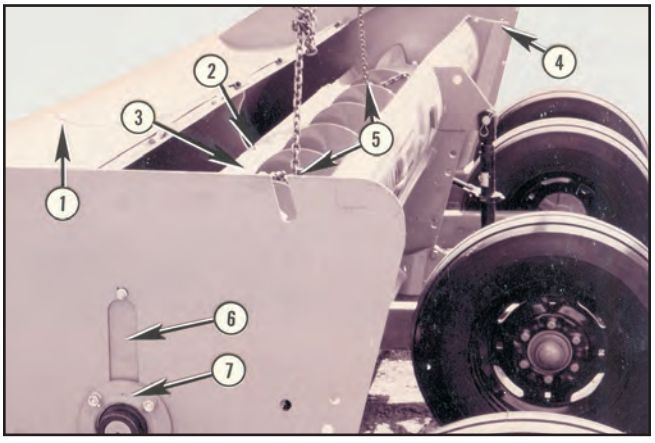
5. Loosen drive chain idler, break and remove drive chain at R.H. end. L.H. end on Model 5610.

6. Remove shearbolt (arrow 10) and demount driveN sprocket (arrow 11) and shear plate. Remove R.H. flange bearing. Remove L.H. cover plate and L.H. bearing. (Model 5610)



MODEL 5610 SHOWN PHOTO NO. 9115B

7. Shift auger assembly as far to the drive side as possible. Start snugging up hoist chains to raise the auger's L.H. end until it is free. Extract auger's R.H. end and safely deposit it.



5600 Shown PHOTO NO. 3370

SPROCKET ALIGNMENT

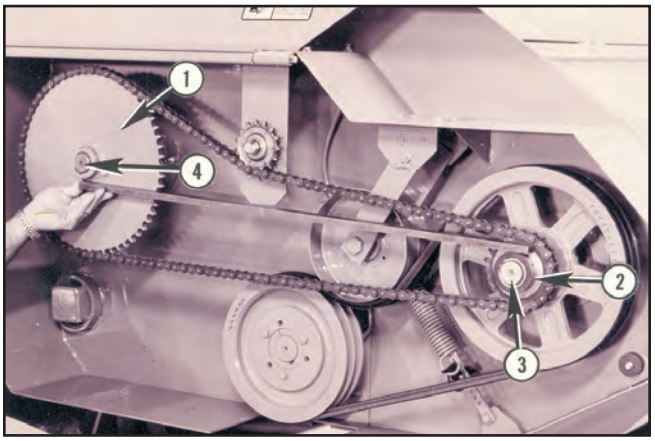
It is unnecessary to realign sprockets unless their shafts have been shifted. Do not realign sprockets unless they are more than + or - 1/4" misaligned. See photo 3371.

1. Determine misalignment by placing a steel straight edge ACROSS driveN sprocket (arrow 1) to driven sprocket (arrow 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. Driven shaft (arrow 3) manipulation is difficult; thus, align sprockets by shifting auger driveN shaft (arrow 4).

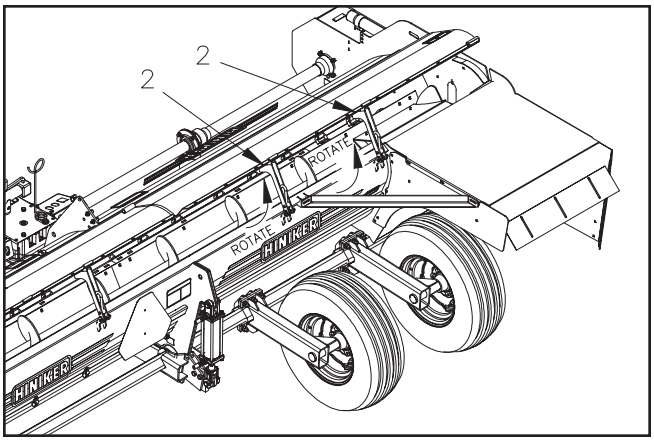
3. Loosen lock collars on BOTH auger shaft end bearings. With a LEAD HAMMER, OR WOOD BLOCK, on either end, transversely drive the auger assembly as required to achieve sprocket alignment.

4. After sprocket alignment, reassemble loosened and demounted parts.



5600 PHOTO NO. 3371

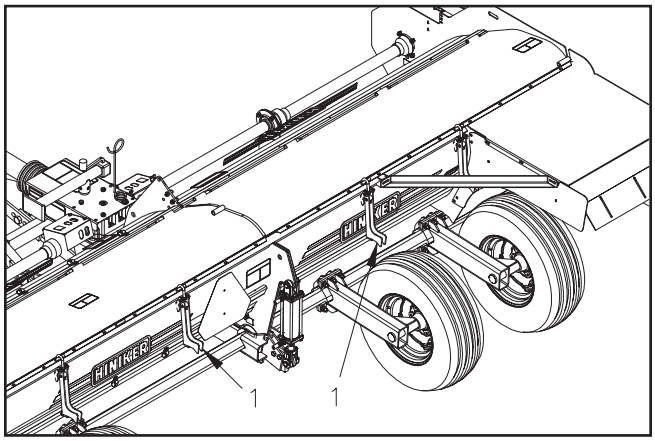
5610 PHOTO NO. 9119



DWG. NO. 7055

Auger Cleanout (5610L Only)

If an auger on a model 5610L becomes clogged during operation. First open the auger covers by unlatching the (4) latches (arrow 1) at the back of the machine.



DWG. NO. 7054

Lift the right hand cover up and simultaneously flip both cover latches (arrow 2) up into position. Now open the left hand side and rotate the cover latches into position. Reverse steps once all material is removed from auger trough area.

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 2 74 000 psi Min Tensile lb - ft		SAE 5 120 000 psi Min Tensile lb - ft		SAE 8 150 000 psi Min Tensile lb - ft	
	Dry	Lubricated	Dry	Lubricated	Dry	Lubricated
1/4-20 1/4-28	6 6	4 5	8 10	6 7	12 14	9 10
5/16-18 5/16-24	11 12	8 9	17 19	13 14	25 25	18 20
3/8-16 3/8-24	20 23	15 17	30 35	23 25	45 50	35 35
7/16-14 7/16-20	30 35	24 25	50 55	35 40	70 80	55 60
1/2-13 1/2-20	50 55	35 40	75 90	55 65	110 120	80 90
9/16-12 9/16-18	70 80	55 60	110 120	80 90	150 170	110 130
5/8-11 5/8-18	100 110	75 85	150 170	110 130	220 240	170 180
3/4-10 3/4-16	175 195	130 145	260 300	200 220	380 420	280 320
7/8-9 7/8-14	165 185	125 140	430 470	320 350	600 660	460 500
1-8 1-12	250 270	190 200	640 700	480 500	900 1000	680 740
1 1/8-7 1 1/8-12	350 400	270 300	800 880	600 660	1280 1440	960 1080
1 1/4-7 1 1/4-12	500 550	380 420	1120 1240	840 920	1820 2000	1360 1500
1 3/8-6 1 3/8-12	660 740	490 560	1460 1680	1100 1260	2380 2720	1780 2040
1 1/2-6 1 /1/2-12	870 980	650 730	1940 2200	1460 1640	3160 3560	2360 2660

** Machine Design Fastener and Joint Reference Issue.

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

OFFLOADING

DANGER: DEATH OR SERIOUS INJURY CAN RESULT. USE EQUIPMENT CAPABLE OF SAFELY HANDLING NO LESS THAN 4,300 Lbs. (1,950 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 AND "JACKRABBIT" MANEUVERING.

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

For forklift offloading, (2) fork pockets (arrow 1), spaced 45" apart, are provided. The forklift may approach the machine from either the front or rear. Set forks centerlines 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 3365.

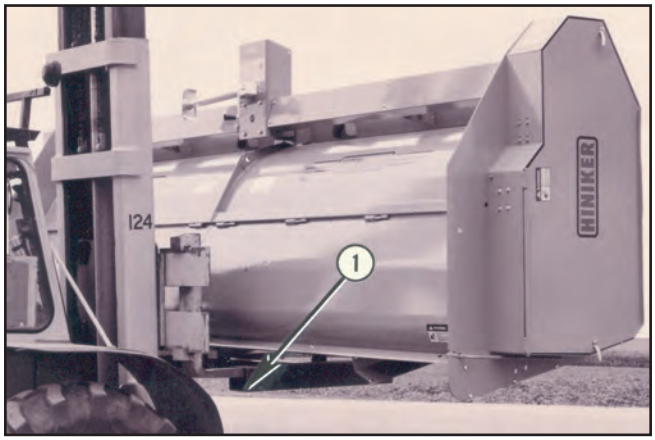


PHOTO NO. 3365

For overhead chain sling offloading, use a chain sling (arrow 1) approximately 5' long on each run. Fix EACH sling chain hook SECURELY around both 1" diameter hitch pins (arrow 2) where shown by decals (arrow 3). Lift off carrier and deposit on a firm, clear and level work area. See photo 3351.

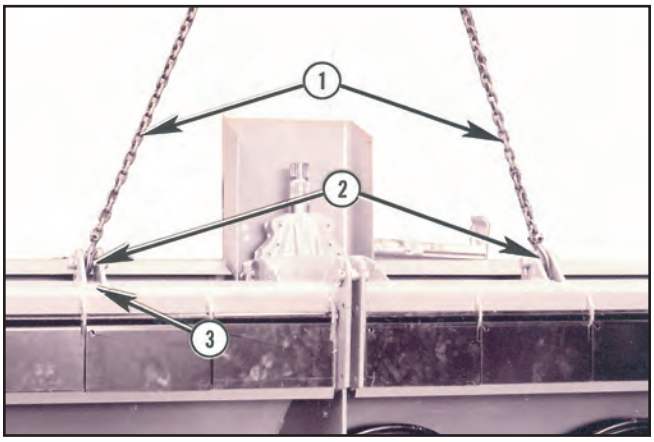


PHOTO NO. 3351

The hitch and chute are shipped separate from the basic machine.

CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. DO NOT ATTEMPT TO "MANHANDLE" THE HITCH WITHOUT PROPER ASSISTANCE. THE HITCH WEIGHS 125 Lbs. (57 Kg.).

1. Remove wheel dunnage and wheels (arrow 1), wheel legs (arrow 2) and PTO (arrow 3).

2. The unit is bolted to the underneath dunnage (arrow 4) with 2 bolts as at (arrow 5). DO NOT UNBOLT THESE UNTIL AFTER THE UNIT HAS BEEN TIPPED DOWN IN THE NEXT STEP.

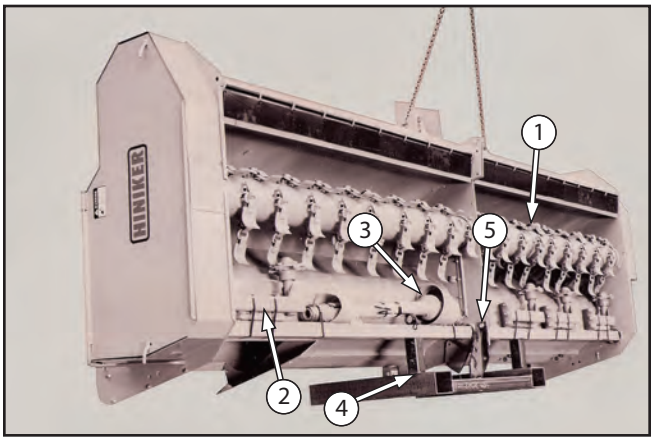


PHOTO NO. 3352A

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

3. Irrespective of the above offloading methods, prepare to tilt the unit down by hooking an approximately 5' long sling chain (arrow 1) SECURELY around both 1" diameter hitch pins (arrow 2). SECURELY place 2 solid blocks approximately 12" high as at (arrow 3) under the machine's each rear corner. See photo 3367.

4. 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 MACHINE TO FALL WITH POTENTIALLY DAMAGING FORCE.

5. After allowing unit to rotate toward the ground, insert a solid block (arrow 4) approximately 12" high under the machine's center. Ensure this block is clear of the flipper shields. Allow unit to rest on the (3) blocks. Do not use hollow concrete for machine blocking and ensure everything is STABLE before unhooking sling chains.

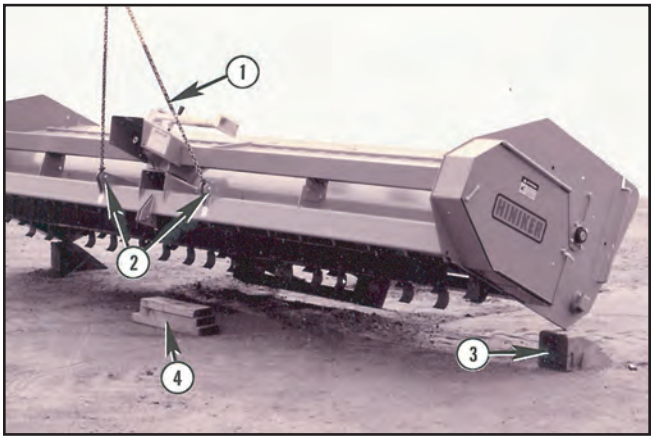


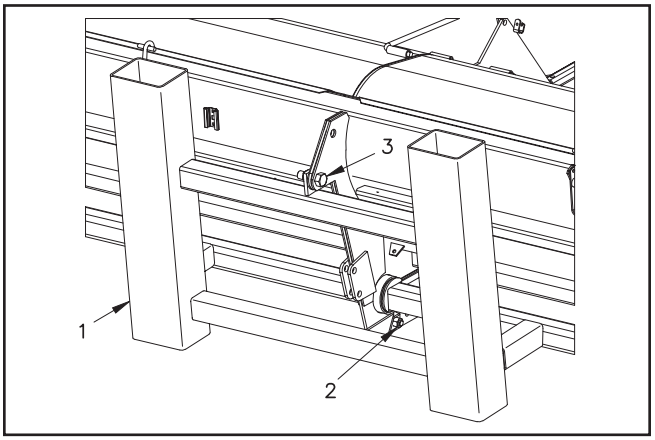
PHOTO NO. 3367

BASIC MACHINE

1. Unbolt underneath dunnage (arrow 1) by removing bolt (arrow 2) first. Secondly, remove bolt (arrow 3) and set dunnage aside. See DWG 6089.

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

2. Remove (2) hardware bags from under the LH end shield. One bag has hardware for the chute, the other bag has components for the main machine. Cut the straps that secure SMV sign and close cover.



DWG. NO. 6089

ROCKSHAFT AND WHEEL LEGS

1. Remove cylinder lug (arrow 1) from bag, along with (2) 5/8" x 2 1/2" bolts and nuts. Install one bolt permanently in hole (arrow 2) and the other in hole (arrow 3). Shim link with (2) 5/8" washer on left side and (1) 5/8" washer on right side of both bolts. See photo 3538A.

2. Install either an accessory ratchet jack or an optional hydraulic cylinder (arrow 4).

3. Contract either ratchet jack, or hydraulics, to minimum length. This permits wheel and tire installation.

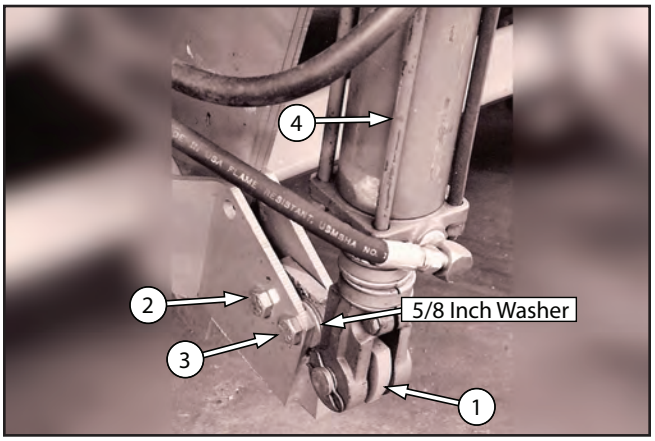


FIGURE 101 PHOTO NO. 3538A

4. Each wheel leg is clamped to the rockshaft with (6) 5/8” bolts, nuts and lock washers (arrow 1). Install wheel legs in their approximate transverse position; however, do not torque up their bolts. See photo 9144B.

5. The unit is furnished with four 15 x 8 wheels, less tires. The recommended aftermarket tire size is 9.5L x 15 8 Ply I1 (implement) or equivalent. After installing tires on wheels, it is not desirable to inflate tires to normally used implement pressures because wheel loading are comparatively light. In fact, the machine will perform better if tire pressures are kept no greater than 15-20 psi, as recommended by decal (arrow 2).

6. The wheels are offset, that is, wheel “dish” is greater on one side than the other. Install wheels and tires with the DEEPEST DISH TOWARD the wheel leg as at (arrow 3). This places its loaded centerline between the hub bearings. Torque up the (6) 1/2” wheel bolts on each wheel.

7. Transversely slide each wheel leg and wheel/tire assembly to tire centerlines for customer’s expected row spacing. Refer to chart and drawing. 7047, page 14 for measurements.

IMPORTANT: IF OTHER THAN RECOMMEND OUTBOARD WHEEL SPACINGS, OR TIRE SIZE, ARE USED, ENSURE ADEQUATE MACHINE AND MUD CLEARANCE AS AT (ARROW 4) IS MAINTAINED.

Torque up two left side wheel leg’s (12) clamping bolts by uniformly tightening the lower (6) to snug. Then torque, and re-torque, top (6) to 146-206 Ft. lbs. (198-279 N/m.).

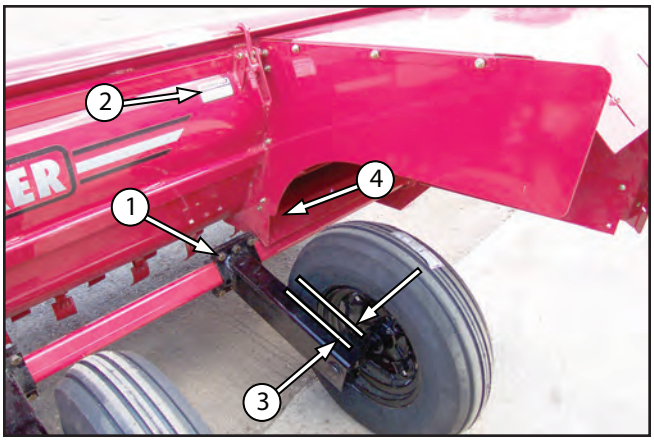


PHOTO NO. 9144B

Do the same on the right side wheel legs.

8. Extend the ratchet jack, or hydraulics, to lower the wheels; thus, raising the machine. Remove both previously inserted rear blocks.

TRAILING HITCH

The trailing hitch bundle consists of the “A” frame hitch (arrow 1) and a lower adjustable draft link (arrow 2).

Remove both base unit draft pins (arrow 3) and position hitch (arrow 1) with thicker hitch clip on top (arrow 4). Insert hitch’s rear brackets (arrow 5) between both sets of base unit ears (arrow 6) and reinstall pins (arrow 3). Insure cotters on each end of both pins are spread. See photo 3555.

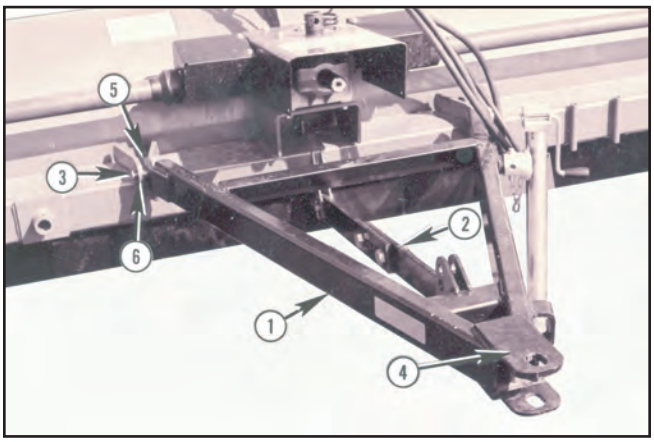


PHOTO NO. 3555

Remove rear draft pin (arrow 1). Install one end of the draft link (arrow 2) between base unit ears (arrow 3) with pin (arrow 1). Install the other draft link end (arrow 2) between hitch unit brackets (arrow 4) and install upper draft pin. Insure both pin cotters are spread. Remove the hose carrier and put it aside.

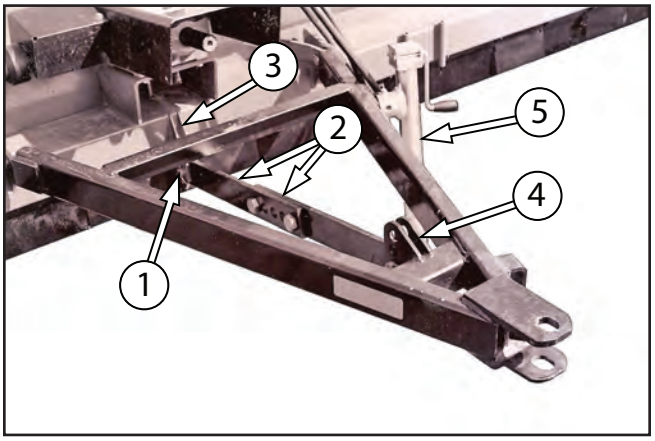


PHOTO NO. 3556A

Adjustable draft link is preset to facilitate an approximate 18 inch draw bar height and yield an acceptable stubble. However, final adjustment to a customers tractor drawbar height, must await actual field operation.

Move hitch jack from shipping position to use position (arrow 5) and raise it sufficient to loosen center blocks and remove them.

IMPORTANT: AFTER TRACTOR HOOKUP, ALWAYS STORE HITCH JACK ON PEDESTAL AT TOP OF GEARCASE. (arrow 1), Photo DCP0603.

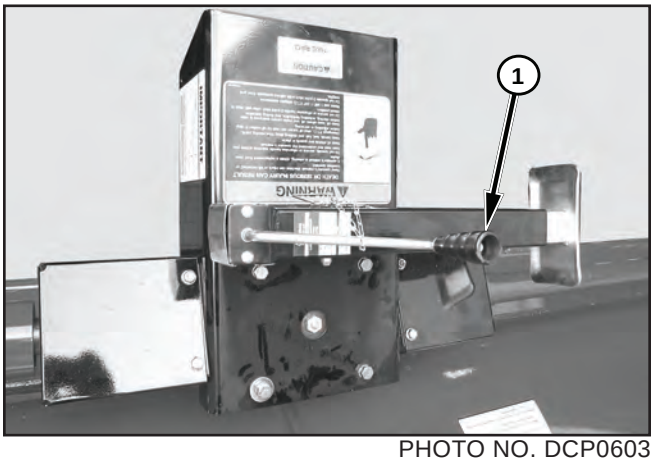


PHOTO NO. DCP0603

PTO

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

TWO DIFFERENT PTO's are available and are variably shipped pursuant to dealer's order:

1 3/8" (1000) 21 spline trailing
(55" Telescoped O.A. length)
Part Number 79202278

1 3/4" (1000) 20 spline trailing
(55" Telescoped O.A. length)
Part Number 79202277

IMPORTANT: IT IS CRITICAL TO KNOW WHAT TRACTOR CONFIGURATION IS INVOLVED BEFORE HOOKUP. THE PROPER PTO MUST BE USED.

IDENTIFY CORRECT PTO, FOR TRACTOR USED, BY CHECKING FORWARD YOKE SPLINE. DO NOT INTERMIX FRONT AND REAR HALVES BETWEEN DIFFERENT PTO's.

All PTO's have similar sliding yoke couplers at tractor and gearbox ends. GEARBOX ENDS ARE IDENTIFIED BY AN OVERRUNNING CLUTCH (ARROW 1). See photo 2969C.

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. Reverse the sliding collar to lock the assemblies together.

Hook snap ring for PTO shield anti rotation chain in hole (arrow 4).

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

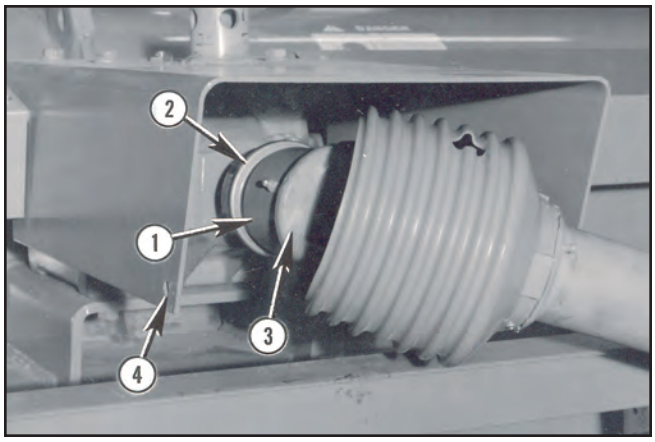


FIGURE 105 PHOTO NO. 2969C

DISCHARGE CHUTE

Install all carriage bolt heads to FACE material flow.

1. All hardware for the windrow package is in the hardware bag except for the two carriage bolts and nuts used in the Windrow Package. Remove the two carriage bolts tying the deflector parts together and cut the steel bands holding the package together.

2. The right hand deflector (arrow 1) can be identified by the two clearance notches cut at the front forward edge of the sheet. The right hand deflector should be installed OUTSIDE the right side end panel. Use (2) 3/8" carriage bolts and Mac-lock nuts (arrow 2) in the top two holes. Refer to photo 9138A.

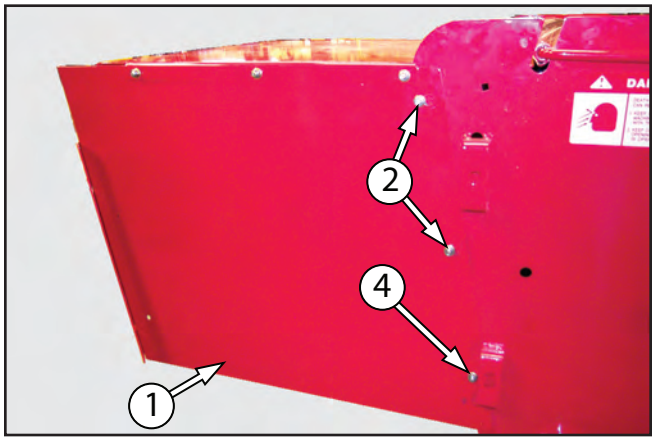


PHOTO NO. 9138A

3. Attach the right hand lower deflector (arrow 3) on the inside of the right hand deflector. Using a 3/8 x 1 carriage bolt (arrow 4).

   Secure the other end of th RH lower deflector using a 3/8 x 3/4 carriage bolt (arrow 5).

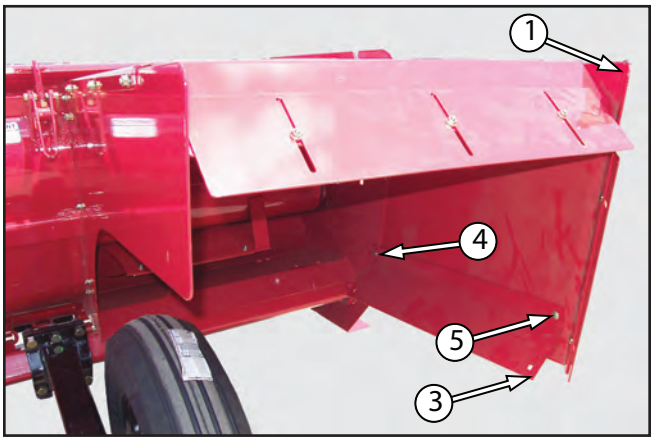
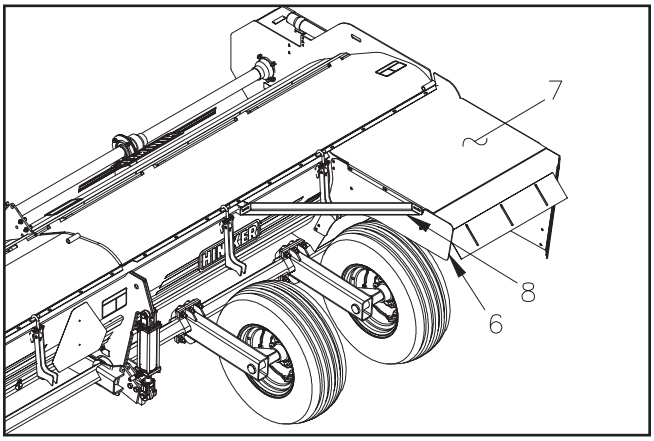


PHOTO NO. 9148C

4. Secure the left hand side sheet (arrow 6) with (5) 3/8" carriage bolts and Mac lock nuts. The rounded cut out will provide clearance over the windrower outer right tire when it is mounted. See drawing 7056. Secure chute brace (arrow 8) as shown using (2) 3/8 x 1 carriage bolts and lock nuts.

5. Place the top cover (arrow 7) over the right and left hand deflectors. The formed down edges will be outside the deflectors and the other formed down edge is to the rear. Use 3/8 x 3/4 carriage bolts and Mac-lock nuts to attach the top cover.

   Slide the cover as far forward as the slots will allow or until the cover contacts the auger cover. See drawing 9149C.



DWG. NO. 7056

6. Torque all 3/8” carriage bolts at this time.

7. Attach the top adjustable deflector (arrow 9) to the top side of the top cover with the holes provided in the rear of the top cover. Use (3) 5/16 carriage bolts and Mac-lock nuts. Refer to photo 9149C. Tighten the bolts securely since adjustment will be done in the field.

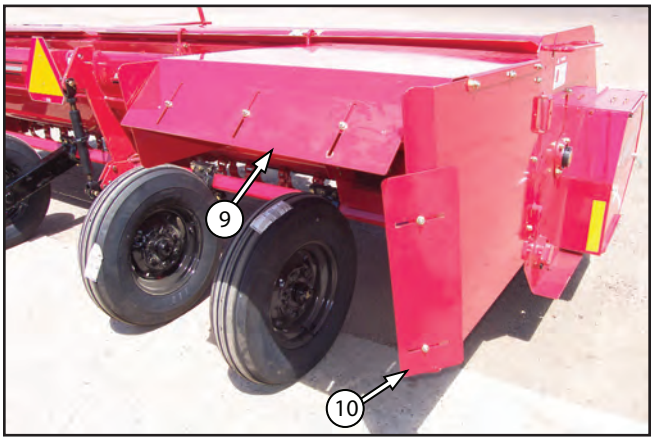


PHOTO NO. 9149C

8. Secure the right hand rear adjustable deflector (arrow 10) to the right hand deflector using (2) 5/16 carriage bolts and Mac-lock nuts. Tighten the bolts securely since adjustment will be done in the field. Refer to photo 9149C.

SPECIFICATIONS

Field Overall Width	200”
Field Overall Length	148”
Standard Knife Type	1/4” x 3” Cup
Rotor RPM	1525 RPM
Number Knives	72
Cross Auger	14” Diameter (5600/5610) 17” Diameter (5610L)
Cross Auger Speed	333 RPM (S/N - 100 to 0026 - 101) 366 RPM (S/N - 027 - 101 to 104) 433 RPM (Model 5610 S/N - 100) 466 RPM (Model 5610L)
Cross Auger Shearbolt	3/8 x 2 1/4 Grade 8
R.H. Delivery C/L to Machine C/L	78” (Adjustable)
Delivery Adjustments	Lateral & Vertical
1 3/4” (1000) 20 Spline PTO	Optional
1 3/8” (1000) 21 Spline PTO	Optional
Constant Velocity PTO	Standard
Premium Matched “C” End Drive Belts	4
15 x 8 6 Bolt Wheels	4
Recommended Tires	9.5L x 15 8 Ply
Approximate Field Weight (W/Tires & Jack)	4300 lbs./1950 kg.
ACCESSORY EQUIPMENT	
Ratchet Lift Jack	1

NOTES:

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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