



FLAIL CHOPPER SHREDDER MODEL 5710

(WITH IDENTIFICATION No.'s ENDING 100 AND HIGHER)

OPERATOR'S MANUAL

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

PART NUMBER 79202099

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 is intended. Never allow anyone to operate this equipment until they fully understand the complete contents of this manual. It is the responsibility of owner's, who do not operate this equipment, to insure the operator is properly instructed and is fully aware, and understands, the contents of this manual. It is also the owner's responsibility to insure that anyone operating this equipment is mentally and physically capable of so doing.

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

If you have any questions about this manual, or the equipment discussed therein, contact your HINIKER dealer.



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

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

This Operator's Manual is shipped with this equipment. If it has not been supplied to you, contact your HINIKER dealer for a replacement.

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

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

A TRIPLICATE (3 COPIES) 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).

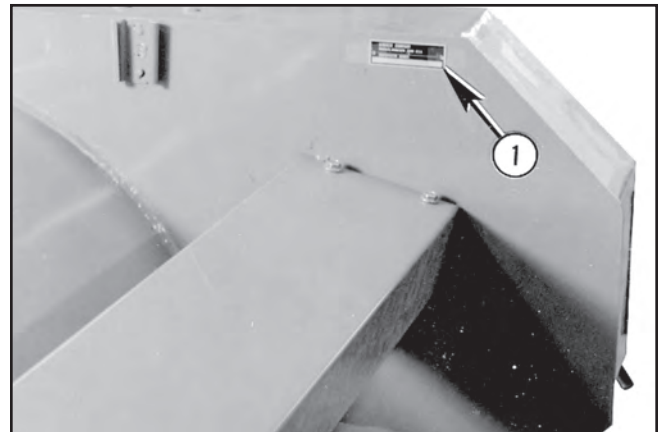


FIGURE 1

PHOTO NO. 2979A

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

Purchase Date: _____

Purchaser's Name: _____

Dealer's Name: _____

Machine Serial #: _____

TABLE OF CONTENTS

79202099

12/05

Manual/79202099

ASSEMBLY

Aftermarket Hydraulics.....	45-46
Basic Machine	39-42
W/Loading Chute	42-45
W/Shredding Plate	42
Offloading.....	39

FIELD PREPARATION

Chopper/Shredder	
Hitch	11
PTO.....	11-12
Rockshaft & wheels	12-13
Towing.....	14
Tractor.....	11

GENERAL

Specifications	47
To Purchaser.....	1
Storage.....	18

LUBRICATION

19-21

OPERATION

General.....	16-17
Height Adjustment.....	17
Shredding or Chopping	18

SAFETY

Before Operation	4
Decal Location	7-10
During Operation	5
General.....	3-4
Service	6
Towing.....	5

SERVICE

Belts	24-25
Drive Shaft Bearing	28
Gearbox	29-30
Hardware	23
Knives	23-24
PTO.....	30-38
Rotor Bearings.....	25-26
Shearbar.....	24
Sheaves	26-28
Wheel Bearings	28-29

TROUBLESHOOTING

22

WARRANTY

49

SAFETY



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

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

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

Replace any decals that are not readable, or missing. Their ordering numbers and proper location are shown in the DECAL LOCATION section of this manual. Keep decals free of dirt, grease, etc.

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



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



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



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

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

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

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

GENERAL

1. 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.

4 Safety

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 CHOPPER/SHREDDER WITH A 1000 RPM TRACTOR. THIS WILL SERIOUSLY OVERSPEED THE ROTOR.
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 chopper/shredder 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 chopper/shredder.

DURING OPERATION

1. Gradually bring unit up to operating speed and check for any abnormal vibration, or performance. IF ABNORMAL VIBRATION IS PRESENT AT ANY TIME, IMMEDIATELY DISENGAGE PTO, STOP TRACTOR ENGINE, REMOVE KEY AND DETERMINE/CORRECT CAUSE BEFORE PROCEEDING.
2. Disengage PTO, stop tractor engine, remove key and allow EQUIPMENT TO COME TO A COMPLETE STOP before:
 - Cleaning, unclogging, lubricating, inspecting, or otherwise servicing, any part of this equipment.
 - Connecting or disconnecting the chopper/shredder from the tractor.
 - Allowing anyone else near the equipment.
 - Dismounting from the tractor seat and parking the equipment.
 - Placing any part of your body in dangerous proximity to chopper/shredder.
3. When parking this equipment, lower it to full “down” position. Set the tractor brakes and block wheels if on an extreme slope.
4. Never stand behind loading spout, or in trailing wagon, where flying material impacts.
5. Be fully aware that a loading trailing wagon will exert high force and/or momentum on the chopper/shredder. These can cause dangerous “jackknifing”, or loss of steering control, under certain circumstances:
 - Inadequate tractor size and/or ballasting.
 - Excessive towing speed.
 - Poor tractor brakes.
 - Hilly operation in combination with any of the above.

TOWING

1. When towing on public highways:
 - Use an aftermarket safety towing chain between the trail hitch and the towing tractor.
 - Use a tractor of sufficient size, and weight, required for field operation.
 - Do not tow faster than 25 MPH (40 kph).
 - Check local regulations on towing width and warning lights.
2. Never tow machine in field mode with the PTO detached from the tractor and hooked to the gearbox.
3. HINIKER choppers/shredders are provided with an ASAE SMV (slow moving vehicle) emblem and a mounting socket therefor.
4. At sundry locations, RED (rear facing) and AMBER (forward facing) reflectors are provided. Insure these do not become defaced or covered with debris.
5. If towing with a trailing wagon, apply above safety rules to the trailing wagon, such as:
 - Local width warning lights regulations.
 - Using an aftermarket safety towing chain between the chopper/shredder and the wagon.
 - Keeping a SMV (slow moving vehicle) emblem visible at the rear of the wagon.
 - Be especially aware of Item 5 under **DURING OPERATION** in previous column.

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 chopper/shredder.
3. Do not service, or otherwise handle, a chopper/shredder in a raised position unless it is securely blocked against unexpected falling.
4. Chopper/shredders operate in a naturally vibratory environment. Discipline yourself to always visually inspect this equipment for any excessively worn, damaged, or cracked parts before starting. 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.

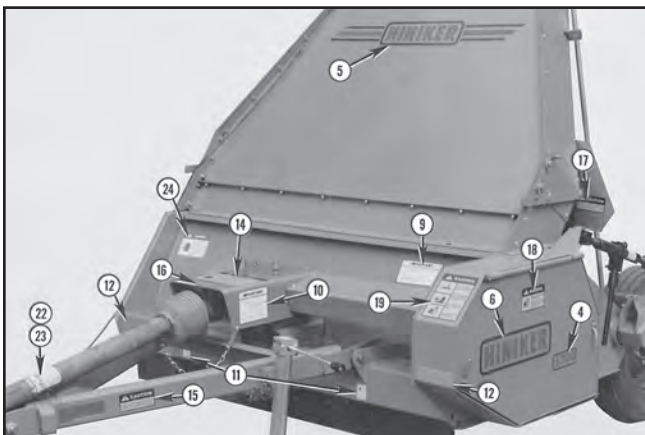


FIGURE 2 PHOTO NO. 3219

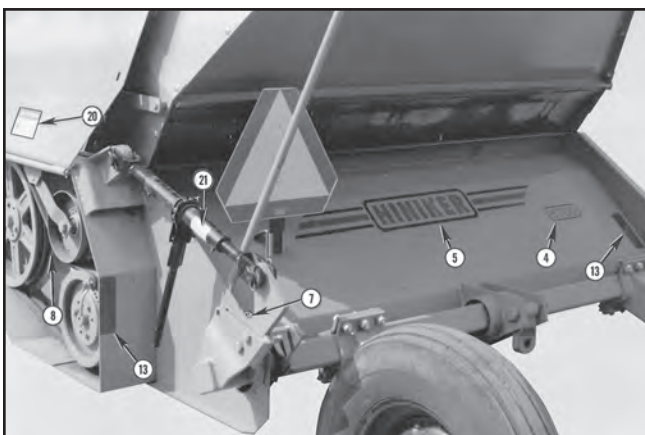


FIGURE 3 PHOTO NO. 3220



FIGURE 4 71505166 LOGO 5700



FIGURE 5 71505168 LOGO Hiniker



FIGURE 6 71505168 LOGO Hiniker



FIGURE 7 71504136 Important: Maintain Tires...

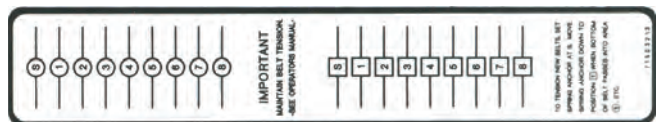


FIGURE 8 71503213 Important: Maintain Belts...

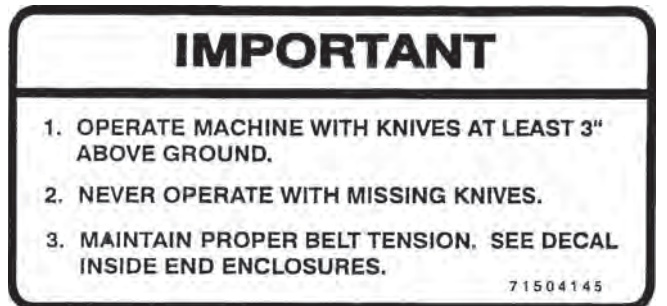


FIGURE 9 71504145 Important: Operate...

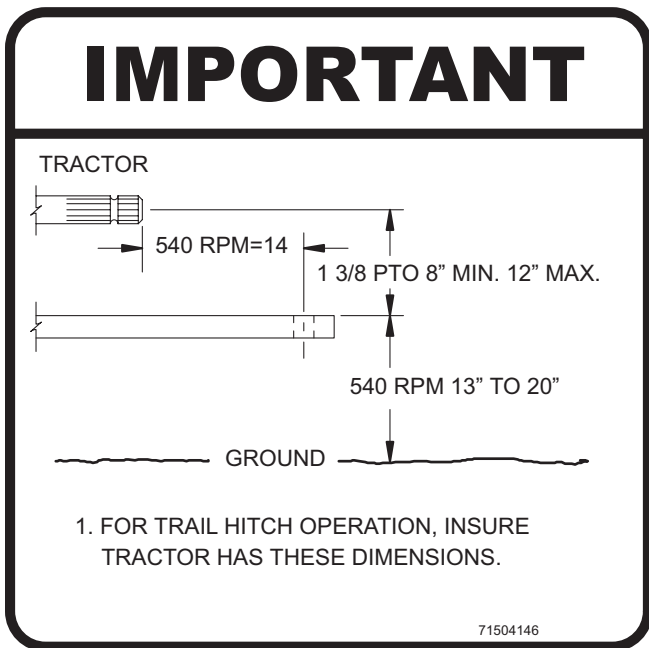


FIGURE 10 71504146 Important: Hitch...

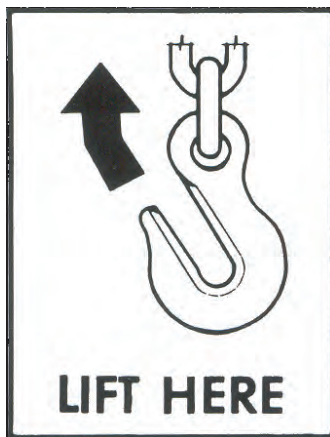


FIGURE 11 715-03174 Lift...

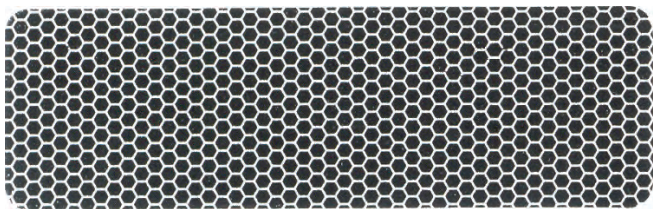


FIGURE 12 850-001-285 Tape - Yellow Reflector

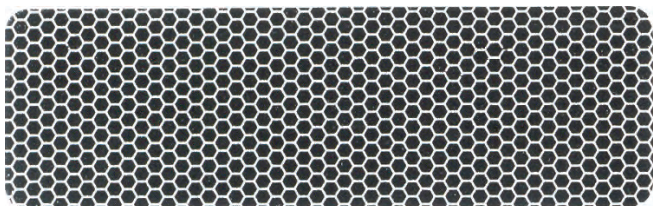


FIGURE 13 850-001-305 Tape - Red Reflector

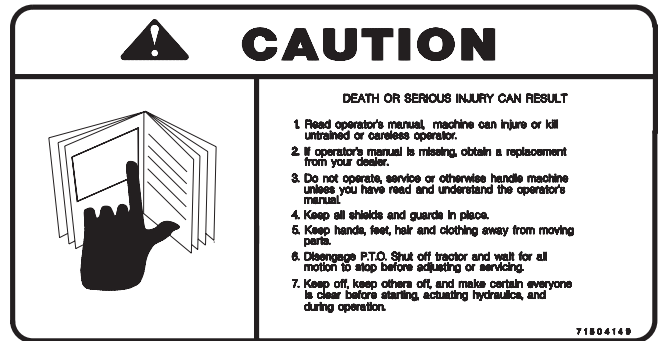


FIGURE 14 71504149 Caution Read Manual...



FIGURE 15 71504135 Caution: Safety Chain...

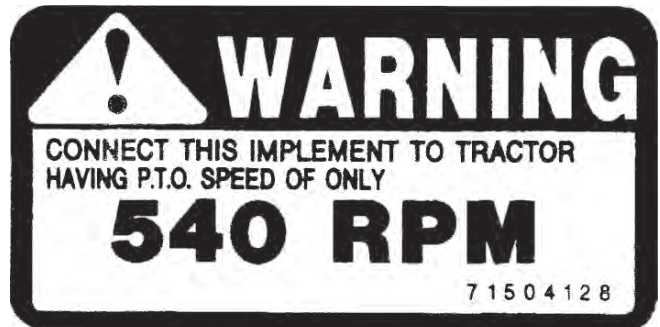


FIGURE 16 71504128 Caution: 540 RPM...

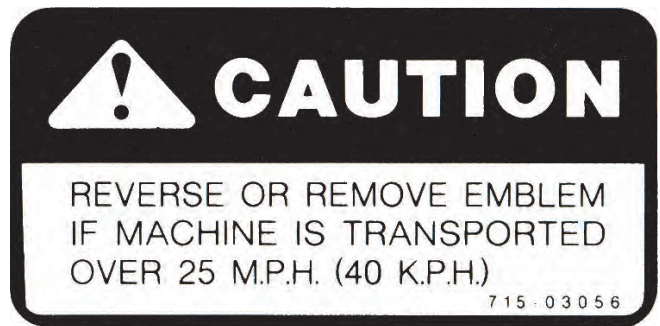


FIGURE 17 715-03056 Caution: Reverse 25 MPH...



FIGURE 18 71505169 Warning: Look and Listen...



FIGURE 19 71505171 Warning: Keep Hands, etc...



FIGURE 20 71505170 Warning: Do Not Operate...



FIGURE 21 D11-82 Warning: Do Not Exceed...



FIGURE 22 520-03138 Danger: Rotating Drive...



FIGURE 23 520-03139 Danger: Shield Missing...

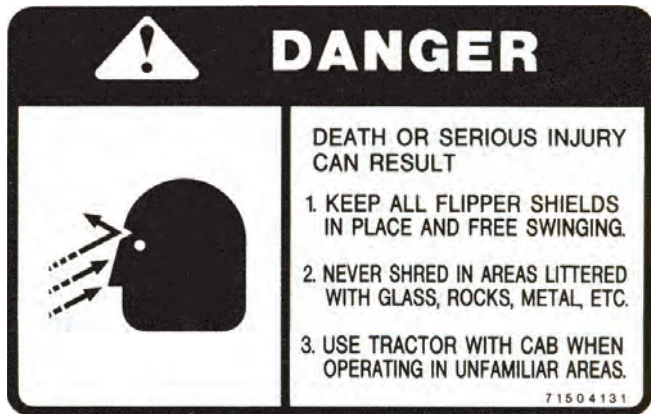


FIGURE 24 71504131 Danger: Keep Flippers...

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

IMPORTANT: ENSURE TRACTOR P.T.O., AND DRAWBAR CONFORM TO DIMENSIONS BELOW.

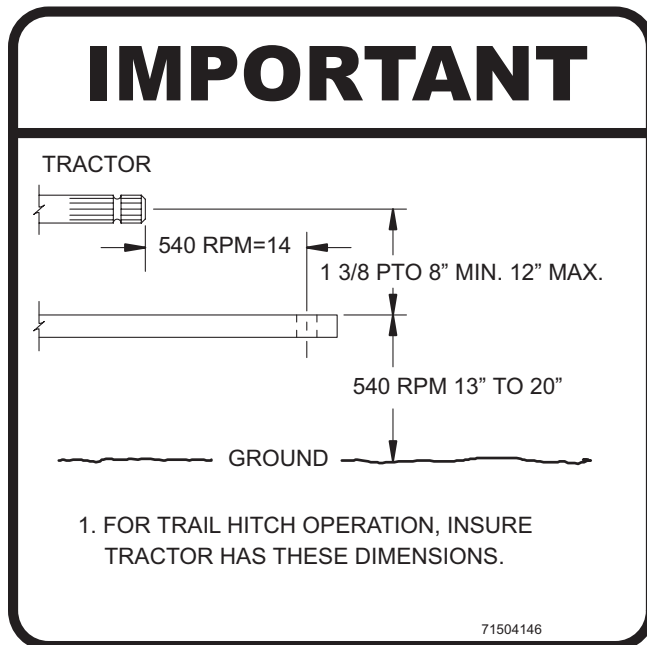


FIGURE 25

DWG. NO. 71504146

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

HITCH

Chopper/shredders have an adjustable link hitch height adjustment Item 1 as shown in Photo 3555A to match various tractor drawbar heights.

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

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

IMPORTANT: ALWAYS USE A 1\"/>

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

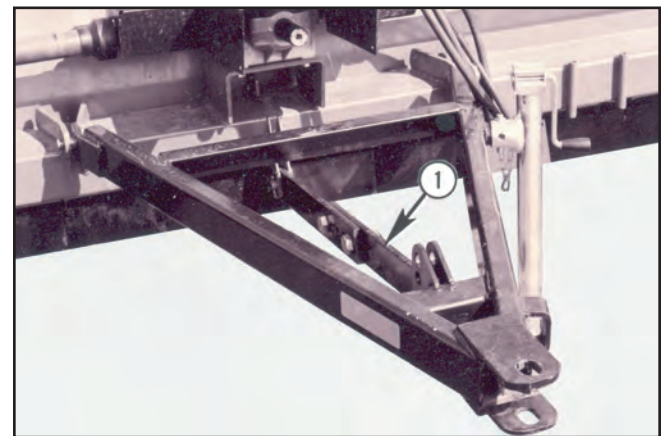


FIGURE 26

PHOTO NO. 3555A

PTO

The PTO has similar sliding yoke couplers at the tractor and gearbox ends. GEARBOX ENDS ARE IDENTIFIED BY FRICTION CLUTCH (1).

Clean gearbox spline of any encrusted dirt or grease and lightly oil it. Slide out PTO collar Item 2 in Photo 2969A toward its adjacent yoke Item 3 and slide PTO over the gearbox spline.

Reverse the sliding collar to lock the assemblies together.

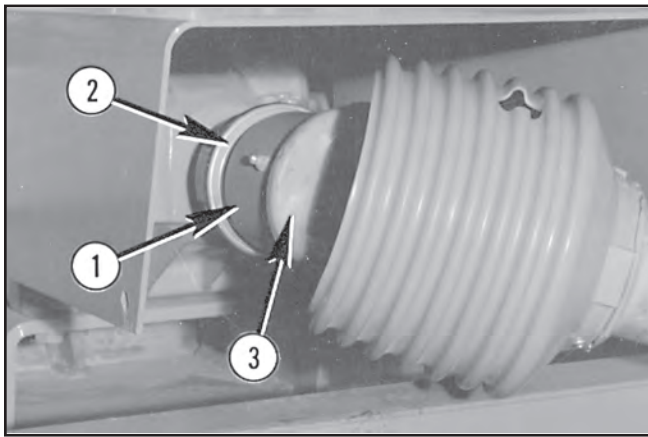


FIGURE 27

PHOTO NO. 2969A

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

The tractor PTO spline engages similar to above. Slide outer collar Item 1 in Photo 2966A toward its adjacent yoke Item 2 and slide PTO over the tractor spline. Reverse the sliding collar to lock the assemblies together.

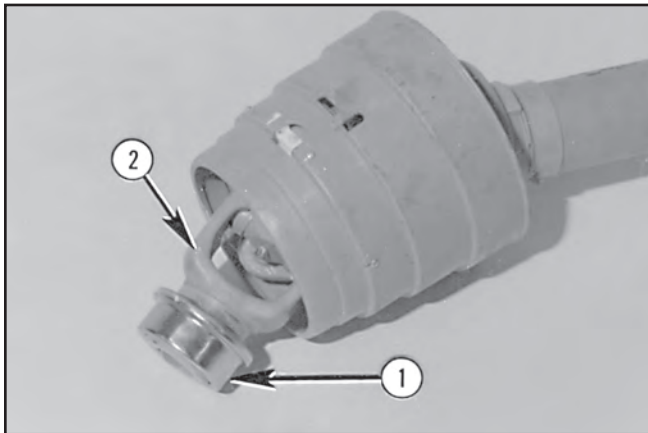


FIGURE 28

PHOTO NO. 2966A



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



FIGURE 29

DWG. NO. 71504128



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 CHOPPER/SHREDDER. OTHERWISE, IT CAN BE DAMAGED. IF NECESSARY TO OTHERWISE MOVE, DETACH ENTIRE PTO ASSEMBLY ITEM 1 FROM GEARBOX ITEM 2 AND SECURE IT BEHIND A DRIVE SHAFT SHIELD ITEM 3 AS SHOWN IN PHOTO 3232.

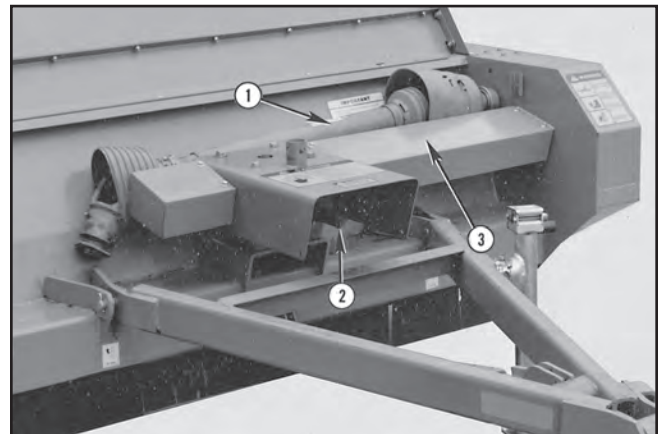


FIGURE 30


PHOTO NO. 3232


ROCKSHAFT & WHEELS

If the unit has been delivered without accessory ratchet jack, or aftermarket hydraulics, install either at this time. See Assembly, page 40 or 45.

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 HYDRAULIC RAISED UNIT UNLESS IT HAS BEEN SECURELY BLOCKED AGAINST UNEXPECTED DROPPING.

1. To adjust transverse wheel spacing, move lock-up bolt Item 1 as shown in Photo 3234 from operating holes Item 2 to rearmost holes Item 3 in rockshaft arm.

IMPORTANT: AFTER COMPLETING WHEEL ADJUSTMENT, ALWAYS RETURN BOLT ITEM 1 TO OPERATING HOLES ITEM 2. ENSURE BOLT HEAD IS TOWARD MACHINE CENTERLINE.

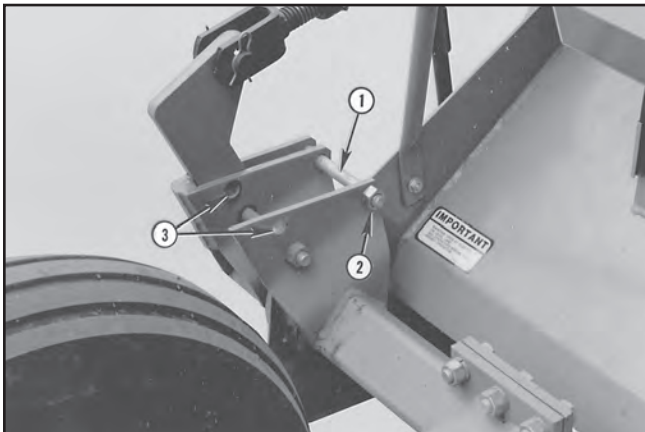



FIGURE 31

PHOTO NO. 3234

2. With ratchet jack or hydraulics, raise unit sufficiently to insert approximately 12" high 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.**

3. Loosen the 6 5/8" leg bolts in each wheel and transversely slide the entire wheel assembly.

FOR ROW CROPS ONLY, position wheel legs to center each tire 34" right or left of the machine's centerline. This "compromise" is satisfactory for 30" thru 38" row spacings.

FOR SOLID SEEDED CROPS, adjust R.H. wheel leg to place tire's outside vertical plane about 3" inside the machine's R.H. end panel. This will keep the tire from running over uncut material. The L.H. tire may be positioned maximum leftward.

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.

4. Raise the unit, remove blocks, RETURN LOCKUP BOLT TO ITS NORMAL OPERATING HOLE and lower the machine.

TIRES

Hiniker recommends aftermarket 7.60 x 15-4PR11 (implement), or equivalent, tires. INFLATE TIRES TO LESS THAN NORMALLY USED IMPLEMENT PRESSURES because wheel loadings are light. The machine performs better if tire pressures are kept no greater than 15-20 psi.



FIGURE 32

DRG. NO. 71504136

SPOUT DEFLECTOR

The deflector's Item 1 in Photo 3235 angularity is controlled by a rope Item 2 actuated ratchet Item 3. A retention spring Item 4 holds the ratchet in any given position until overridden by the rope.

Depending on the tractor used, it may be desirable to pass rope Item 2 thru hose ring Item 5.

Do not have enough slack in the control rope to permit it becoming entangled with the PTO.

IMPORTANT: ALWAYS REMEMBER TO DETACH CONTROL ROPE FROM TRACTOR BEFORE UNHOOKING CHOPPER/SHREDDER. OTHERWISE, ROPE BREAKAGE AND/OR OTHER DAMAGE WILL OCCUR.

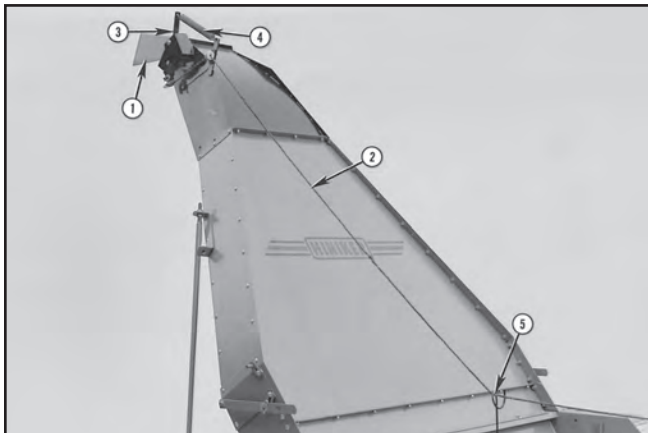


FIGURE 33

PHOTO NO. 3235

TOWING

Chopper/Shredders are furnished with an SMV emblem Item 1 in Photo 3233A and socket Item 2. If it is to be towed on public highways, install SMV emblem in socket. The SMV's reflective surface should face the rear

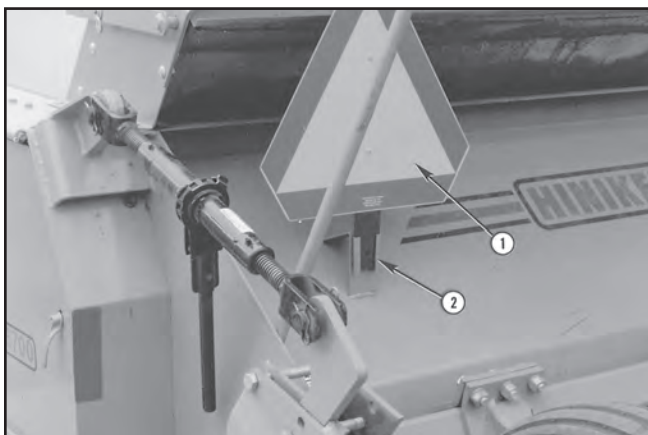


FIGURE 34

PHOTO NO. 3233A



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 AN AFTERMARKET SAFETY TOWING CHAIN BETWEEN TOWING VEHICLE AND SHREDDER.

USE THE SMV EMBLEM AS SPECIFIED ABOVE.

CHECK LOCAL REGULATIONS ON TOWING WIDTH AND WARNING LIGHTS.

Use an aftermarket safety towing chain Item 1 as shown in Photo 3550 between the shredder and towing vehicle. Hook chain around bracket Item 2 and pass forward through aftermarket clevis Item 3. Fix chain's forward end Item 4 to tractor.

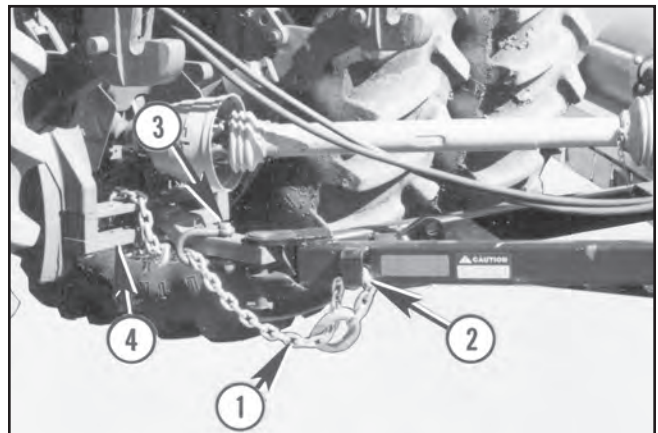


FIGURE 35

PHOTO NO. 3550

The unit can be towed, or stored, with either the ratchet jack or hydraulic cylinder removed, provided the lockup bolt is kept in the operating hole.



DANGER: DEATH OR SERIOUS INJURY CAN RESULT. A TRAILING WAGON (ESPECIALLY IF LOADED) WILL EXERT HIGH FORCE AND/OR MOMENTUM ON THE CHOPPER/SHREDDER. LOSS OF STEERING CONTROL, AND STOPPING DISTANCE, CAN RESULT. THIS IS MOST PROBABLE IN HILLY OPERATION. ADHERE TO:

CONSERVATIVE SPEEDS, DILIGENT TRACTOR BRAKES MAINTENANCE, ADEQUATE TRACTOR WEIGHT AND/OR BALLASTING.



CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. WHEN TOWING A CHOPPER/SHREDDER AND TRAILING WAGON ON PUBLIC HIGHWAYS OBSERVE PRIOR TOWING SAFETY GUIDELINES, AND IN ADDITION:

USE AN AFTERMARKET SAFETY TOWING CHAIN BETWEEN CHOPPER/SHREDDER AND TRAILING WAGON.

KEEP A SMV EMBLEM ON THE TRAILING WAGON.

OPERATION

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

GENERAL

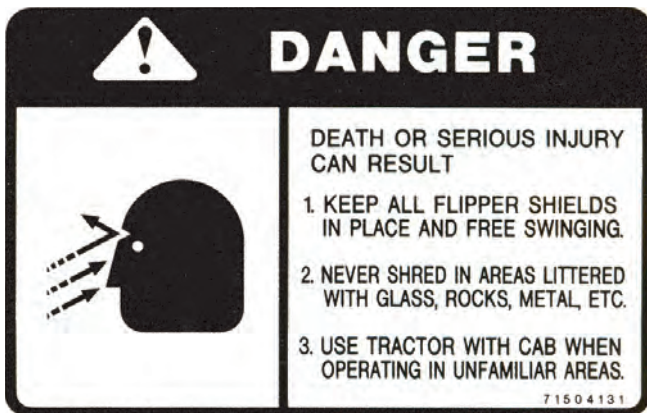


FIGURE 36

DWG. NO. 71504131

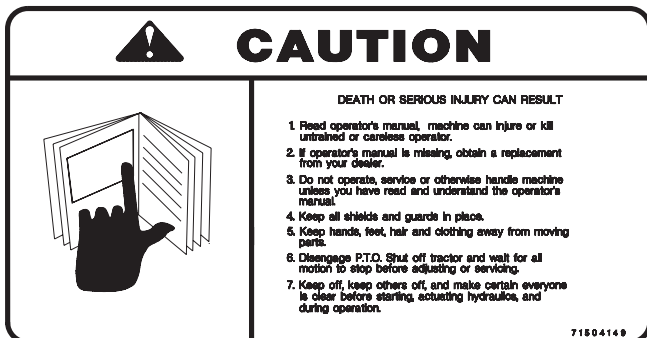


FIGURE 37

DWG. NO. 71504149

Always operate tractor at standard 540 RPM PTO Use transmission up, or down, shift to vary forward speed. CONSISTENTLY HIGH OVERSPEEDING THE PTO WASTES FUEL AND AGGRAVATES KNIFE WEAR. Particularly when chopping/loading, always enter and leave the crop at full PTO speed.

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

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

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

CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. NEVER STAND BEHIND LOADING SPOUT, OR IN TRAILING WAGON, WHEN FLYING MATERIAL IS IMPACTING.

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

Go a short distance and check performance. The higher knife/ground 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 OPERATING WIDTH.

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

Operate the unit approximately LEVEL. That is, front (Item 1) in Photo 4014 of main frame should clear ground about the same as the rear (Item 2.)



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

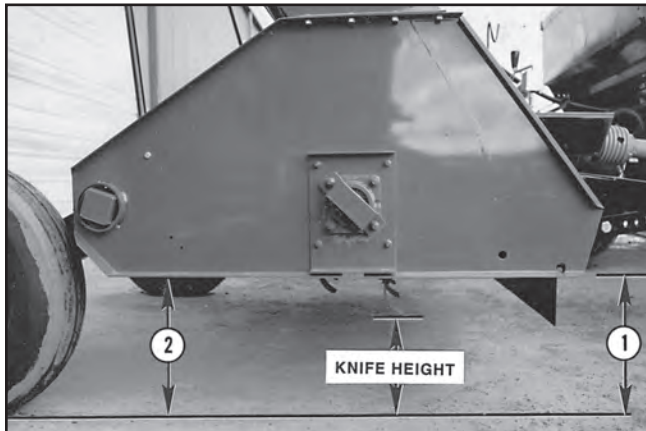


FIGURE 38

PHOTO NO. 4014

HITCH HEIGHT ADJUSTMENT

1. Rotate rockshaft/wheels until knives clear ground by GREATER than 3 inches.

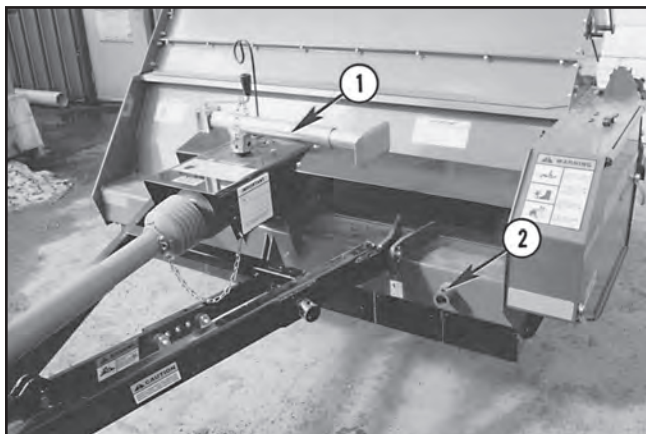


FIGURE 38A

PHOTO NO. 4013

With unit attached to tractor, remove hitch jack from storage position on top of gearbox at Item 1 and insert on pivot provided on left side of unit at Item 2 (see figure 38A). Adjust jack to remove unit weight from hitch and tractor drawbar.



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.

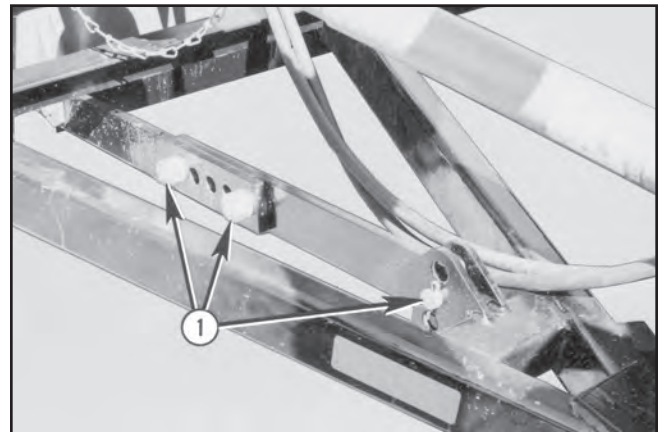


FIGURE 52C

PHOTO NO. 3548

At this time remove bolts and or pin adjustment from draft link (see figure 52C) and proceed to adjust jack in combination with wheel arms to achieve desired unit profile (see figure 38). Reattach draft link and remove hitch jack and return to storage position on top of gearbox.

2. Recheck knives/ground clearance and re-adjust rockshaft/wheels, as well as draft link length, if necessary.
3. Chop/shred a short distance, stop and check stubble to insure knives are properly clearing ground and satisfactory performance is obtained. If necessary, reset rockshaft/wheels and drawbar's underneath draft link.

A direct throw flail chopper is NOT A PRECISION CUT MACHINE! Do not expect it to perform the same as a cylinder cut/precision shearbar harvester.

Successful chopping and loading depends on numerous variables, among which are:

- Maintaining a uniform 540 (or slightly higher) PTO speed.
- Matching forward speed to crop density, available tractor power and chopper capability.
- Proper awareness of trailing wagon draft load in hilly operation as it affects overall system performance.

If an operator does not properly manage the above, it will result in erratic PTO speeds. This may cause the machine to plug and /or “dribble” material at the delivery deflector. Also, less satisfactory shredding will result.



WARNING: DEATH OR SERIOUS INJURY CAN RESULT. NEVER STAND BEHIND THE DISCHARGE SPOUT, OR IN THE TRAILING WAGON WHEN THE MACHINE IS RUNNING. NEVER REACH INTO ANY PART OF THE DISCHARGE PATH WHEN THE MACHINE IS RUNNING.



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, OR OTHERWISE SERVICING, ANY PART OF THIS EQUIPMENT.

The Hiniker 5710 chopper/shredder can be easily switched from CHOPPING/LOADING to SHREDDING ONLY by pulling each side Q.A. hairpin Item 1 in Photo 3224 from control arm retention post Item 2. Then swing control arm Item 3 upward and snap it over retention post Item 4. Replace Q.A. hairpin Item 1 in each side retention post Item 4. Remove the SMV emblem from the socket and store it for use when traveling on the road.

Reverse this procedure for switching from SHREDDING ONLY to CHOPPING/LOADING.

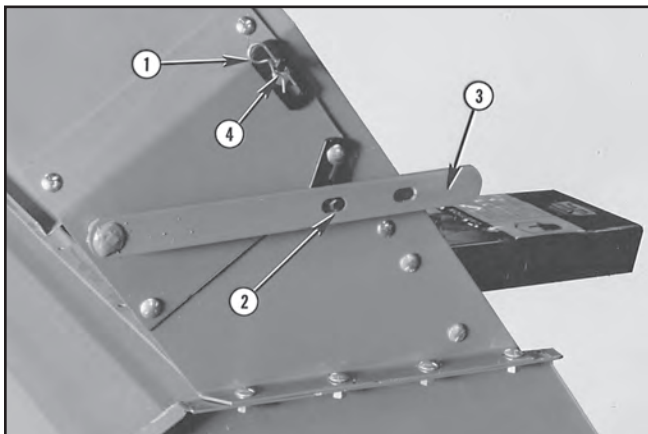


FIGURE 39

PHOTO NO. 3224

STORAGE



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, OR OTHERWISE SERVICING, ANY PART OF THIS EQUIPMENT.

Do not store the chopper/shredder 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 shield 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 idler 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 rotor assembly for lost, broken, or worn out knives. Replace these as required. Also, replace any other deteriorated parts, especially decals and reflectors.
7. Ensure rockshaft lockup bolt is in its operating position. See Figure 31 on page 12. This permits ratchet jack, or aftermarket hydraulics, to be used elsewhere.

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 re-check and relubricate a unit prior to first field operation.

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

IMPORTANT: WIPE ALL ZERKS AND GUN TIPS BEFORE LUBRICATING. ADHERE TO 1 PUMP PER FITTING ON AN 8 HOUR (DAILY) INTERVAL, EXCEPT AS SHOWN.

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

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

Item 3 Photo 2967A - C.V. double yoke: REQUIRES 15 TO 20 PUMPS.

Items 10, 11 and 12 Photo 2973A - 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. 85W-140 GL5 (extreme pressure) lube.

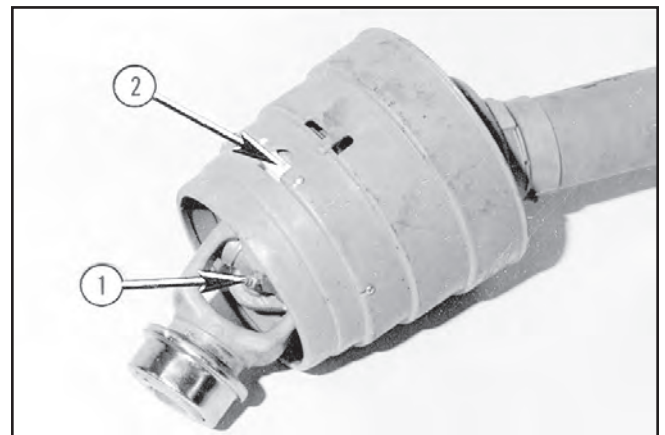


FIGURE 40

PHOTO NO. 2966B

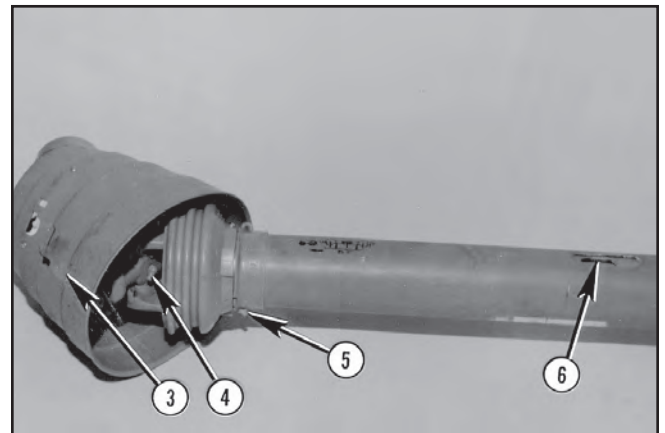


FIGURE 41

PHOTO NO. 2967A

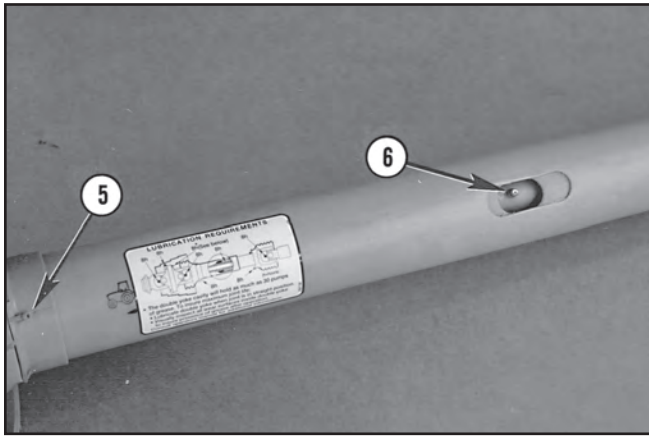


FIGURE 42

PHOTO NO. 4016

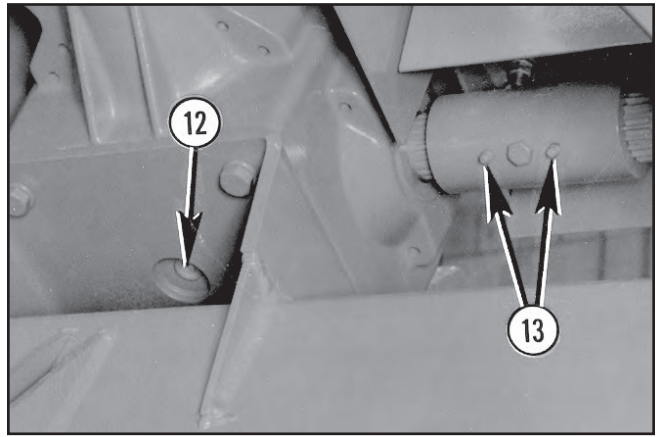


FIGURE 45

PHOTO NO. 2973A

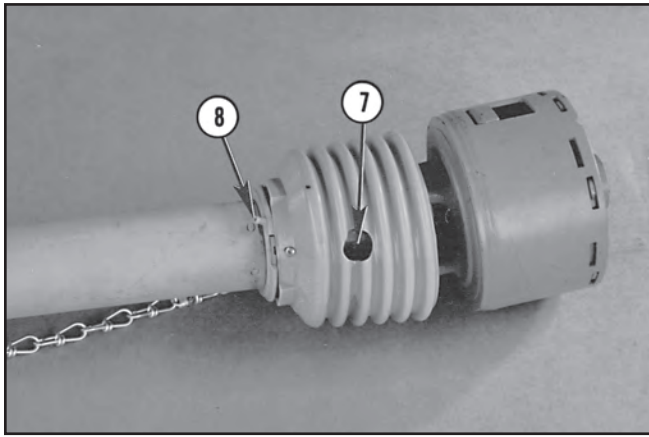


FIGURE 43

PHOTO NO. 4017

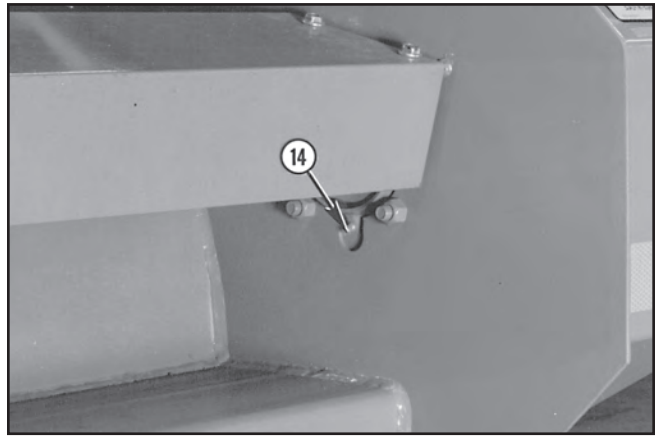


FIGURE 46

PHOTO NO. 2975B

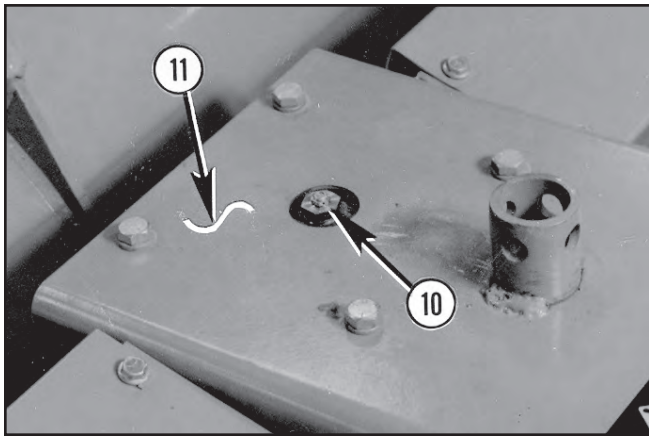


FIGURE 44

PHOTO NO. 2978A

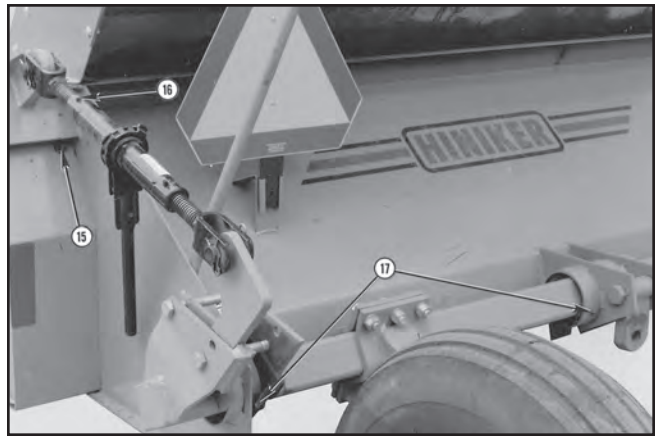


FIGURE 47

PHOTO NO. 3233

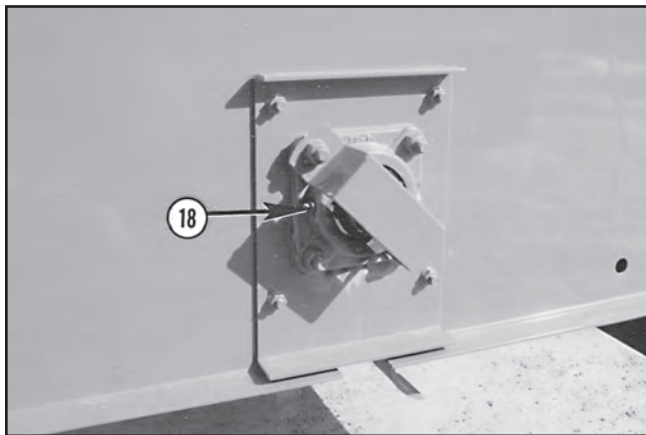


FIGURE 48

PHOTO NO. 4015

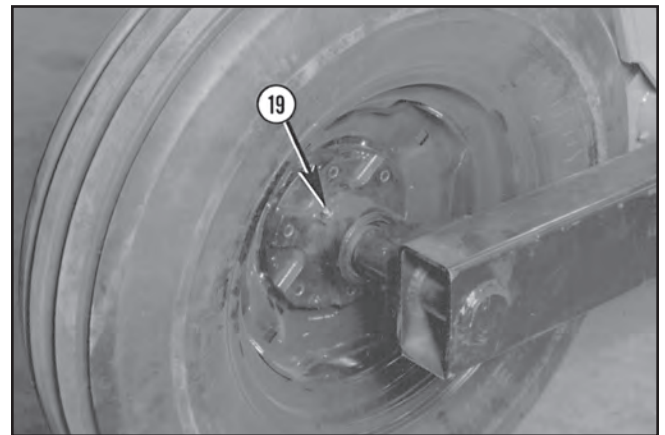


FIGURE 49

PHOTO NO. 2976B


LUBRICATION			
ITEM	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	N.A.
10	Gearbox Fill Plug	1	SEASONAL*
11	Gearbox Check Plug	1	SEASONAL*
12	Gearbox Drain Plug	1	300 HR. *
13	Cross Shaft Connection	2	8 Hr.
14	Cross Shaft Outer Bearings	1	8 Hr.
15	L.H. Rotor Bearing	1	8 Hr.
16	Ratchet Jack	2	PERIODIC
17	Rockshaft Bearings	4	WEEKLY
18	R.H. Rotor Bearing	1	8 Hr.
19	Wheel Bearings	2	WEEKLY


* SEE PRIOR SPECIFIC INSTRUCTIONS

TROUBLE SHOOTING

CONDITION	POSSIBLE CAUSE	CORRECTION
Poor chopping/shredding.	<ol style="list-style-type: none"> 1. Missing, or broken knives. 2. Knives worn out. 3. Under speed PTO 4. Slipping belts. 5. Worn out belts. 6. Stationary shearbar set too far forward. 7. Operating too high. 8. Excessive ground speed. 	<ol style="list-style-type: none"> 1. Inspect and replace. See SERVICE section. 2. Same as above. 3. Check tractor for 540 PTO RPM. 4. Check belts backwrap idler adjustment. See SERVICE Section 5. Inspect belts for wear or mismatching. Replace only in matched sets 6. Decrease clearance from rotor knives. See SERVICE section. 7. Decrease knives operating height to approximately 3" above rows. 8. Slow down.
Excessive knife wear and/or stone damage.	<ol style="list-style-type: none"> 1. Operating too low. 	<ol style="list-style-type: none"> 1. Raise knives operating height to approximately 3" above ground.
Excessive shredder vibration.	<ol style="list-style-type: none"> 1. Missing or broken knives. 2. Rock damaged rotor. 3. Worn or loose rotor bearings. 4. Loose or misaligned end sheaves. 5. Deteriorated belts. 	<ol style="list-style-type: none"> 1. Inspect and replace. See SERVICE section. 2. Replace. 3. Inspect and maintain. See SERVICE section. 4. Inspect and maintain. See SERVICE section. 5. Replace belts.
Too rapid belt wear.	<ol style="list-style-type: none"> 1. Belts too loose or too tight. 	<ol style="list-style-type: none"> 1. Backwrap idler tension not properly maintained. See SERVICE section.
Excessive power for available tractor.	<ol style="list-style-type: none"> 1. Excessive ground speed. 2. Stationary shearbar set too far rearward. 	<ol style="list-style-type: none"> 1. Slow Down. 2. Increase clearance from rotor knives. See SERVICE section.

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 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

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

HINIKER machines are EQUIPPED ONLY WITH GRADE 5 BOLTS (3 marks on heads). Many are retained with TYPE B or F LOCKNUTS. Type B locknuts are PLAIN hex. Type F locknuts are FLANGED hex.

IMPORTANT: DO NOT REPLACE HARDWARE WITH LOWER GRADE ITEMS. EXCEPTING ON SHEAVES (PAGE 27), ALL BOLT TORQUE VALUES ARE GRADE 5. HARDWARE OVER OR UNDER TORQUING CAN RESULT IN UNSATISFACTORY DURABILITY.

GRADE 5 TYPE B & F LOCKNUT TORQUE VALUES

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


GRADE 5 BOLT TORQUE VALUES*

Size	Ft./lbs.	N/m
5/16"	16-23	22-31
3/8"	29-41	39-56
1/2"	73-103	99-140
5/8"	146-206	198-279
* applications without locknuts		

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

KNIVES

HINIKER chopper/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 the rotor assembly for broken or missing knives. Immediately replace those so indicated because they will cause the rotor to run out of balance. HINIKER knives are sold individually, however to maintain balance.

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

Shredder/choppers are equipped with 32 cup knives Item 1 in Photo 3215. They are retained with an equal number of 1/2" x 3" grade 5 carriage bolts Item 2, 1/2" x 1 1/4" grade 5 carriage bolts Item 3 and 64 type B locknuts.

IMPORTANT: WHEN SERVICING KNIVES, ALWAYS DISCARD ANY LOCKNUT THAT HAS BEEN LOOSENED. DO NOT REPLACE HARDWARE WITH ORDINARY BOLTS AND NUTS. INSURE THEY ARE RETORQUED TO 58-82 FT/IBS. (79-112 N/M.). CARRIAGE BOLTS WITH HEADS ITEM 4, AND NUTS ITEM 5, SHOULD ALWAYS LEAD DIRECTION OF ROTOR ROTATION.

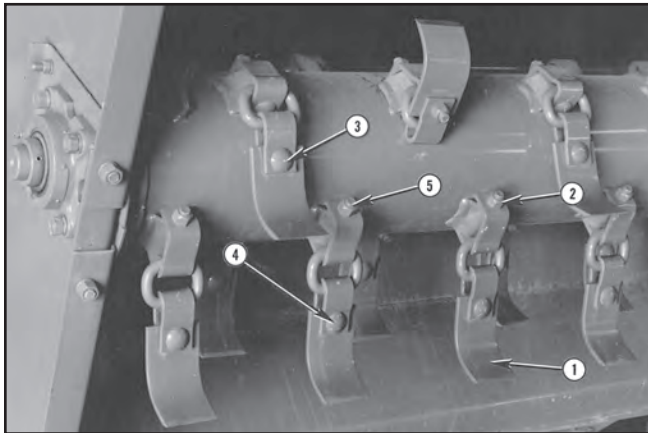


FIGURE 50

PHOTO NO. 3215

SHEARBAR

Shearbar Item 1 in Photo 3216 has slots sufficient to give 3/4" fore/aft adjustment. It is factory adjusted to the furthestmost FORWARD position Item 2. This provides 3/4" theoretical clearance from the rotor knives. As rotor knives wear, or better chopping/shredding is needed, move the shearbar rearward. If knives are worn unevenly, hold LONGEST knife out toward cutterbar to check clearance. It is not recommended to adjust the shearbar closer than 1/4" to the rotor knives.

CLOSER SHEARBAR/ROTOR CLEARANCE INCREASES POWER REQUIREMENTS.

IMPORTANT: THE SHEARBAR IS RETAINED WITH (6) 1/2" X 1" GRADE 5 CARRIAGE BOLTS ITEM 3 AND TYPE F LOCKNUTS. AFTER ANY ADJUSTMENT, INSURE THESE BOLTS ARE RETORQUED TO 58-82 FT/IBS. (79-112 N/M.).

Failure to maintain factory bolt torque may cause loosening and subsequent shearbar entanglement with rotor knives.

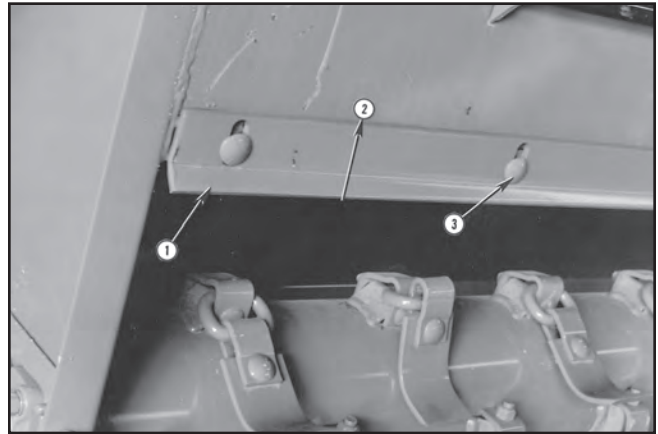


FIGURE 51

PHOTO NO. 3216

BELTS

HINIKER chopper/shredders are EQUIPPED ONLY WITH PREMIUM GRADE MATCHED BELTS. Do not replace these with "garden variety" UNMATCHED belts because their power transmission capability, and durability, will 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 endplate inside end shield.

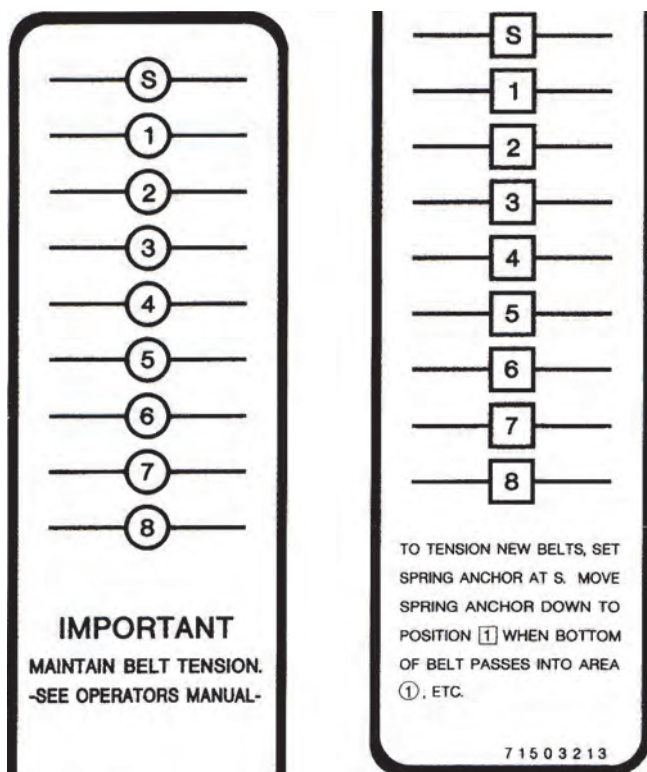


FIGURE 52

DWG. NO. 71503213

1. New belts are initially tensioned by moving spring anchor downward until outer inside of spring loop (1) in Photo 3004A is horizontally level with position [S] on the decal.
2. Horizontally sight across lower edge (2) of upper belt run. If this edge has stretched into position (1) on decal, move spring anchor downward to position [1] on decal.
3. Washer (3) and adjusting bar slots (4) permit levering spring into desired position with a screwdriver.
4. Roll the belts through a partial revolution to recheck operating tension.
5. For subsequent adjustments, if the lower edge (2) of upper belt run has moved to position (2), (3), etc. on decal, move spring loop (1) to position [2], [3], etc. on decal.

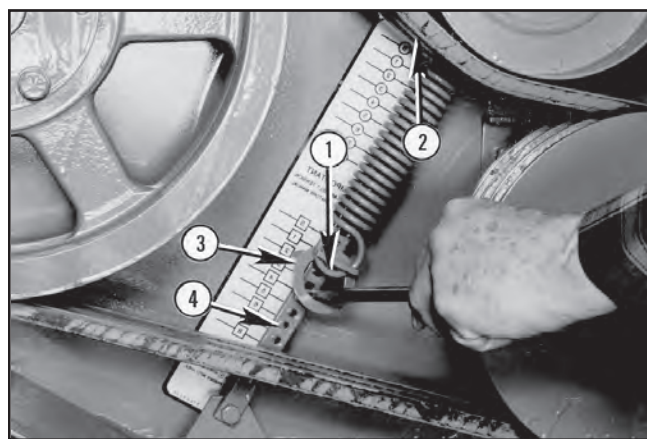


FIGURE 53

PHOTO NO. 3004A

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

If evidence exists of belts overheating and/or excessive side wrapper wear, check belt alignment. See Figure 55, page 27.

When purchasing/installing matched belt sets, take care to **NOT MIX BELTS FROM DIFFERENT SETS.** Also, loosen backwrap idler spring to provide adequate installation slack. **NEVER PRY “V” BELTS OVER SHEAVE RIMS!**

Replacement belt sets should only be ordered by specific HINIKER part number. Do not measure around a belt set's length. The correct belt set part number is: 516-15001 or use (2) 79201571 belts.

ROTOR BEARINGS

Rotor bearings are identical. They have no eccentric locking collars and are loosened from their shafts by removing (2) 5/16” Allen set screws (1) from their inner races. Because of high vibration associated with shredders, these set screws are factory retained with an anaerobic threadlock (eg. Loctite 242 (blue) or Perma-Lok HM 118 (red)).

Instructions herein are for L.H. bearing removal. R.H. bearing removal is similar, however, much simpler.

1. Loosen and remove belts and driven sheave. See Fig. 56, page 27.



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

2. Remove (4) 3/8" bolts Item 2 in Photo 3005A and the (2) inside antiwrap shields. This allows wrench access to the bearing mounting bolt heads.
3. Loosen outer end zerk hex nut tube (Item 3) and detach tube from bearing (Item 4). Polish around the shaft (Item 5) with emery cloth.
4. Remove (4) 1/2" locknuts (Item 6) which are factory retained with anaerobic threadlock (eg. Locktite 242 (blue) or Perma-Lok HM 118 (red)). Modestly pry plate (Item 7) outward to start bearing off shaft.
5. A varying quantity of 1 1/2" nom. I.D. washers are factory installed between the inner end of bearing (Item 6) and the shoulder on the rotor shaft. Because replacement bearings vary in axial dimensions, care must be exercised to FULLY WASHER THE SPACE BETWEEN THE BEARING AND SHAFT SHOULDER.

Reinstall plate Item 7 and bearing Item 6 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. One and one half inch nominal I.D. washers are available as part numbers:

Washer	Part Number
3/64" Thick	710-05321
5/64" Thick	952-004-041

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 antiwrap shields and torque support plate bolts.

IMPORTANT: WHEN EVER THESE LOCKNUTS/BOLTS ARE DISCARDED, ONLY GRADE 5 BOLTS AND TYPE B LOCKNUTS SHOULD BE REINSTALLED. THE PREVIOUSLY CITED (OR SIMILAR) ANAEROBIC THREADLOCK SHOULD BE USED IN REASSEMBLY OF BEARING MOUNTING BOLTS AND ALLEN SET SCREWS. TORQUE ALL BEARING MOUNTING BOLTS TO 58-82 Ft/lbs. (79-112 N/m).

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 belt.

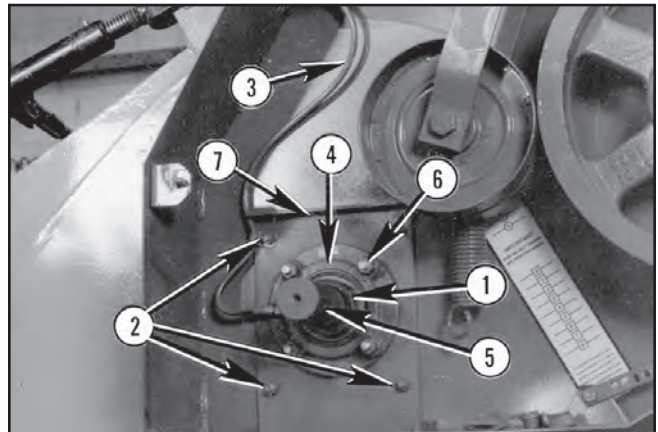


FIGURE 54

PHOTO NO. 3005A

SHEAVES ALIGNMENT

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

1. It is generally best to align driveR Item 1 in Photo 3009A to driveN sheave Item 2; thus, only 1 sheave need be loosened.
2. Determine misalignment by placing a steel straight edge Item 3 across sheaves as shown.
3. Fully relieve belts tension by removing all tension on backwrap idler spring Item 4. The spring anchor Item 5 can be released by gripping it with locking pliers, pulling outward and simultaneously twisting downward.

- Refer to Figure 56, for sheave loosening procedure and adjust driveR sheave's inner bushing Item 6 in Photo 3009A in or out as required for realignment. Then reinstall sheave per Figure 57, page 28.

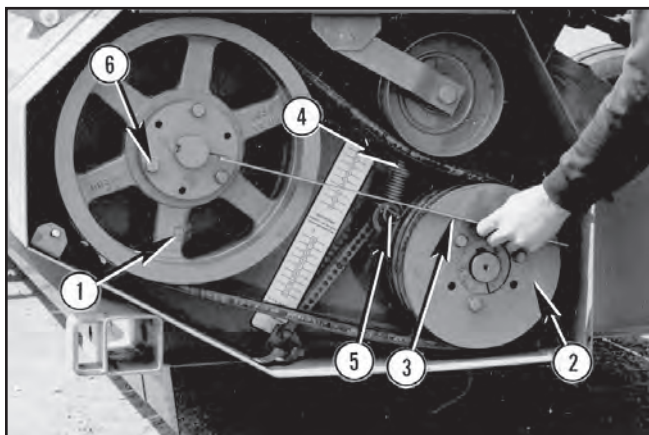


FIGURE 55

PHOTO NO. 3009A

SHEAVES REMOVAL/INSTALLATION

- Loosen belt's backwrap idler Item 1 in Photo 3010B and remove belts.
- Loosen and remove bolts from 3 UNTHREADED holes Item 2.
- Insert these bolts in the 3 THREADED holes Item 3. Start with the bolt furthest from the inner bushing's slot Item 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 Item 5 is to be removed.

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

- 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.
- For installation refer to Figure 57 page 28, insure the tapered mating surfaces of the inner bushing Items 1 or 2 in Photo 3010C and sheave Items 3 or 4 are free of dirt, paint, rust, metal chips and LUBRICANT.

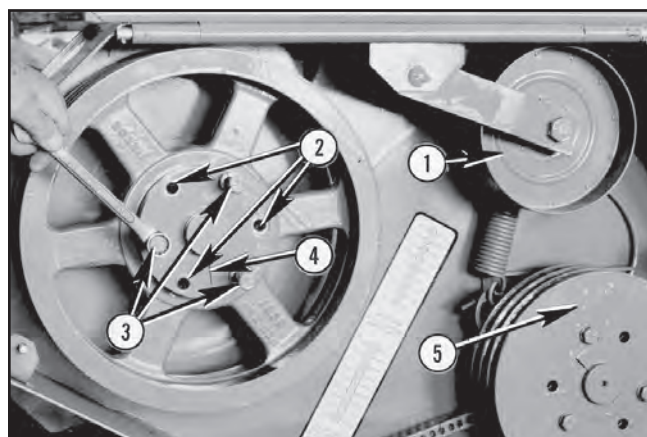


FIGURE 56

PHOTO NO. 3010B

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

- Install driveN sheave Item 4 in Photo 3010C OUTBOARD of bushing's Item 2 flange. Install driven sheave Item 3 in photo 3010C INBOARD of bushing's Item 1 flange.
- 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.
- Align 3 UNTHREADED bolt holes Items 5 or 6 with THREADED bolt holes in mating sheave or bushing. Insert bolts and lockwashers in these UNTHREADED holes and tighten about 2 turns each.
- Alternately torque these bolts, in a uniform pattern, until the tapers are seated (approximately 1/2 bolt torque). Check for sheave alignment and possible wobble. Correct if necessary.

IMPORTANT: SHEAVE BOLTS ARE ONLY TORQUED TO GRADE 2 VALUES OF 18-24 Ft./Lbs. (24-33 N/m.).

- 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.

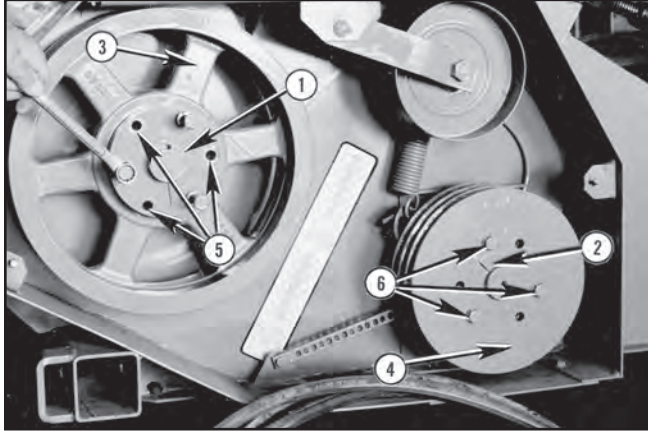


FIGURE 57

PHOTO NO. 3010C

DRIVE SHAFT BEARING

The front drive shaft bearing Item 1 may have an eccentric lock collar Item 2. To loosen, remove 3/8" Allen set screw therein. With a drift, drive collar Item 2 OPPOSITE to direction of rotation of shaft Item 3. When reinstalling bearing, drive collar Item 2 in SAME DIRECTION as rotation of shaft Item 3 and retighten set screw. If the front drive bearing has two set screws, remove set screws. When reinstalling, tighten both set screws.

Servicing this bearing requires removing the driver sheave. See Figure 56, page 27. Paint must be polished off drive shaft to permit bearing removal.

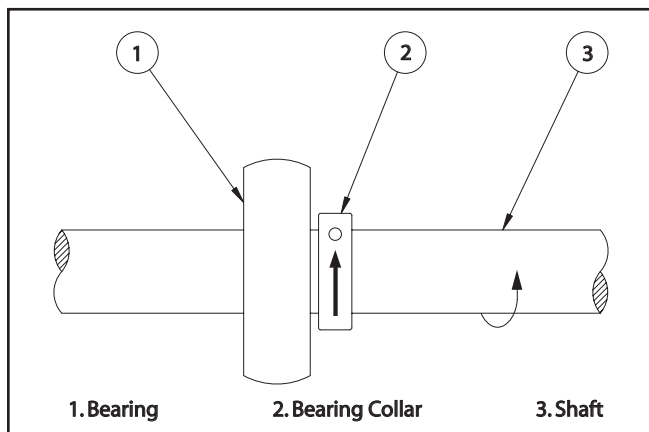


FIGURE 58

DWG. NO. 2256A

WHEEL BEARINGS & SEALS

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

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

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

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

4. Install hub, outboard bearing cone Item 2, end washer and adjusting nut. Adjust nut with a HAND WRENCH ONLY. Tighten until seal is seated and bearings substantially drag, then back nut off 1/6 turn to insert and spread cotter.
5. Use zerk to fully lube hub cavity and bearings, while rotating hub, and until lube emerges through outboard bearing.

Pack hub cap Item 5 with lube and drive it home. Continue lubing hub until lube emerges around seal's outside diameter.

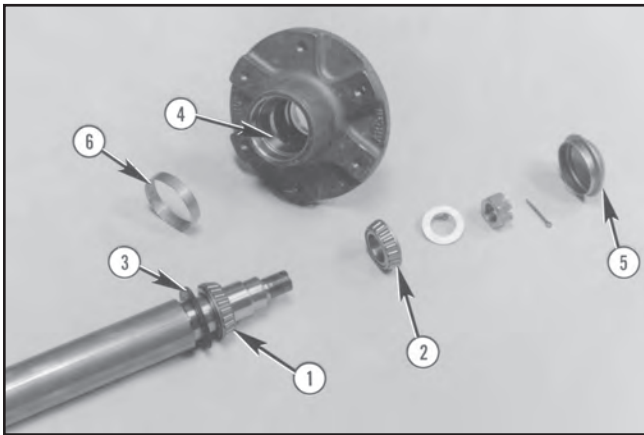


FIGURE 59

PHOTO NO. 3011

GEARBOX

A Gearbox can best be worked on as follows:

1. Detach tractor PTO at gearbox input spline and remove cross drive shaft shield.
2. Remove the top 4 1/2" bolts holding the gearbox/PTO input shield and remove it.
3. Remove the bottom 4 1/2" gearbox mounting bolts and slide the gearbox rightward sufficient to uncouple it from its left splined coupler. Then slide the gearbox forward and place it on a workbench.
4. Remove the gearbox drain plug and discard the lube.

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

1. Remove (12) 3/8" socket head bolts Item 1 in Photo 3008A holding the (2) halves together. Tap input shaft Item 2 with a soft hammer, while holding the output shaft Item 3 off the work table. Be careful to not damage the case's mating surfaces by prying them apart.
2. The input and output shafts and gears are precision fitted. Do not separate them by prying on an individual set. Lift them apart together.

3. Remove old anaerobic sealant and complete necessary maintenance. Whenever a gearbox is opened, all (3) oil seals Item 4 should be replaced. Lube the seal's inside diameters before reinstalling and insure their spring garters are toward the gearbox's inside.
4. Clean gearbox of all dirt and metal particles. Inspect all removed parts for wear. Replace any bearing showing signs of pitting, inability to rotate freely and discoloration. Clean any bearings to be reused and coat with gear lube. Replace gears showing pitting, breaks or deformation. Replace input and through shafts having spline wear or deformation.
5. Whenever shafts are disassembled, make sure the same thickness snap rings Item 5 are used to maintain backlash and preload. There is one external snap ring used. 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 resealed, apply anaerobic sealant (eg. Loctite 518 (red) or Perma-Lok HH 190 (dark purple) or Permatex silicone sealant 765-1344/1485) to housing top half and reseat it on bottom half. Apply pressure, or tap lightly, until top half is firmly in place. Replace, and retorqued the 12 previously removed socket head bolts.

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

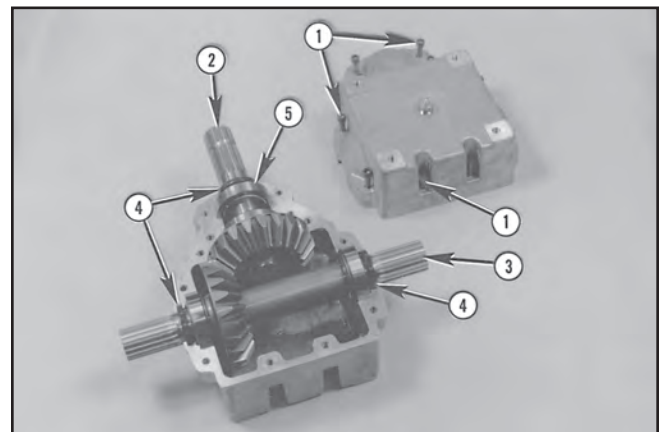


FIGURE 60

PHOTO NO. 3008A

Reinstall gearbox in reverse order of removal.

Insure gearbox mounting bolts have their lockwashers installed and they are brought to full torque.

Insure drain plug is installed. Fill gearbox to level specified in LUBRICATION, page 19 with A.P.I. 85W-140 GL 5.

PTO OVERRUN CLUTCH

The PTO has an overrun clutch at its juncture with the gearbox input shaft. This includes a sliding lock collar similar to the lock collar at the tractor end.

1. Depress collar Item 1 in Photo 3349 and extract external snap ring Item 2, allowing collar to slide off.

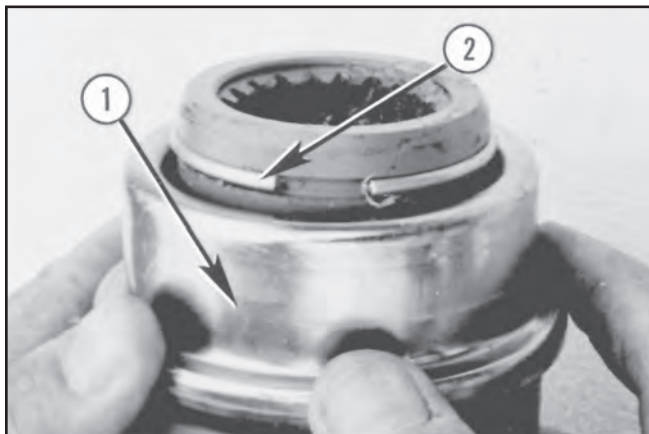


FIGURE 61

PHOTO NO. 3349

2. Insure balls in 3 holes Item 1 in Photo 3034 are preserved for reinstallation. Contract internal snap ring Item 2 and at same time axially withdraw clutch hub Item 3, along with 2 driving keys and 2 leaf springs from the external enclosure.

IMPORTANT: PARTICULARLY NOTE DIRECTION OF ORIGINAL FACTORY CLUTCH KEYS AND LEAF SPRINGS INSTALLATION. INSURE CLUTCH IS REASSEMBLED THE SAME WAY, OTHERWISE IT WILL NOT FUNCTION.

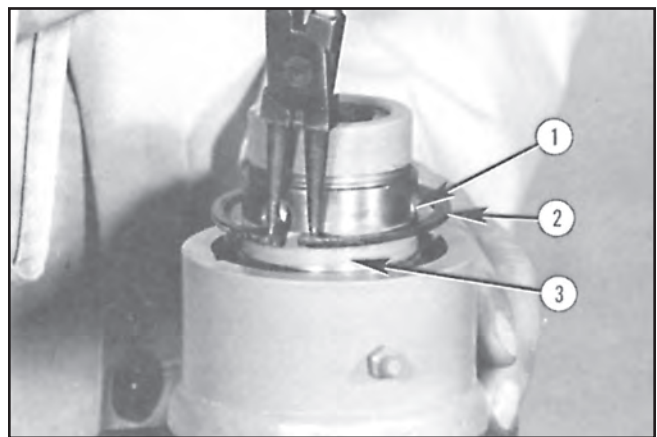


FIGURE 62

PHOTO NO. 3034

3. Clean entire clutch and lock collar assembly. Replace broken or worn parts and reassemble with leaf springs between internal "step" of driving keys and clutch hub. OBSERVE "STEP" AND LEAF SPRING ARE ASSEMBLED AWAY FROM DIRECTION OF ROTATION.
4. Reinstall 3 balls previously removed and reassemble lock collar with snap ring. Thoroughly lubricate overrun clutch while rotating it.

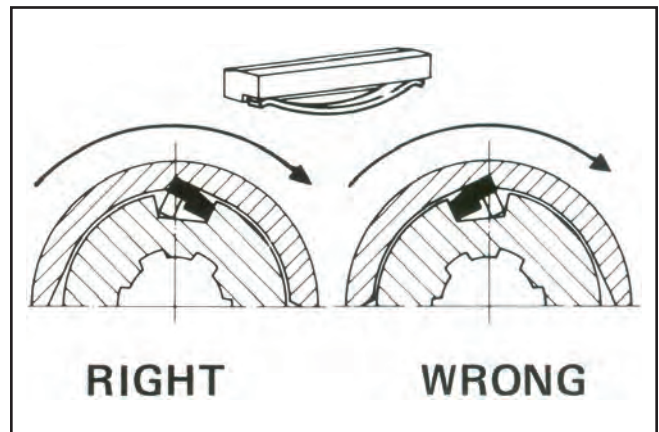


FIGURE 63

PHOTO NO. 3035

PTO SHIELDS

Front (CV), or rear (conventional), shields are serviced in a similar manner. These illustrations show a constant velocity (CV) PTO shield servicing.

1. Remove (6) Phillips screws Item 1 in Photo 3036 and axially slide large double yoke cone Item 2 off large plastic bearing ring in direction Item 3.

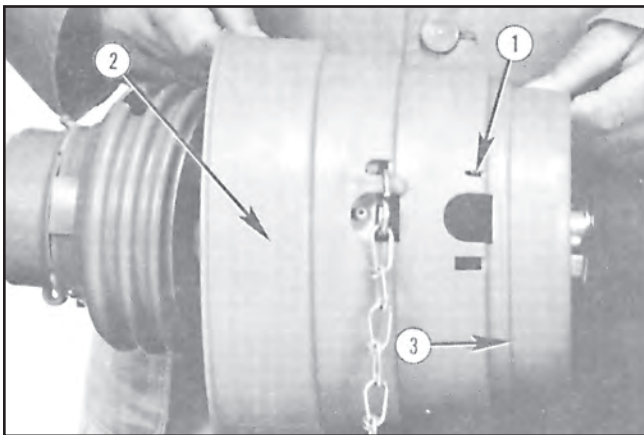


FIGURE 64

PHOTO NO. 3036

2. Remove, clean and inspect large bearing ring Item 1 in Photo 3037. Replace if worn or damaged. Clean ring track Item 2 and thoroughly relube it, as well as bearing ring, before reassembly.

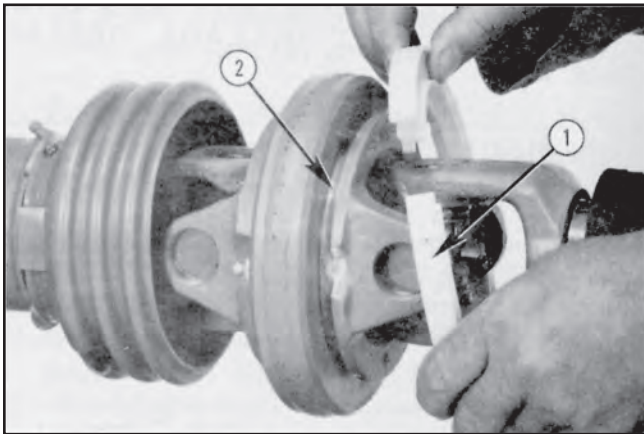


FIGURE 65

PHOTO NO. 3037

3. Remove Phillips locking screw Item 1 in Photo 3038 and rotate shield cone Item 2 to disassembly position Item 3. Snap cone and tube shield free of small plastic bearing ring. Shield cone Item 2 and tube shield Item 4 can be pryed apart with a flat screwdriver applied along area Item 5.

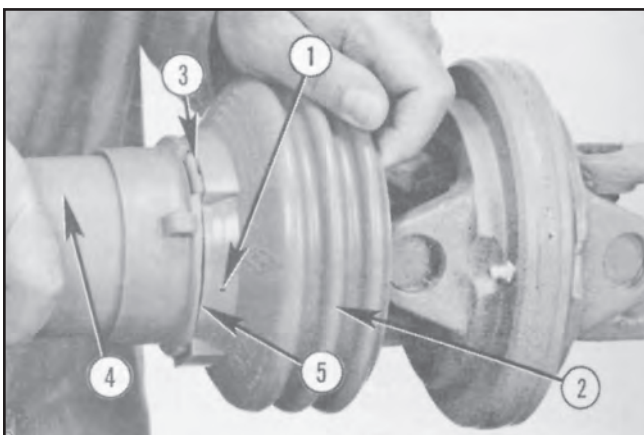


FIGURE 66

PHOTO NO. 3038

4. Remove, clean and inspect small bearing ring Item 1 in Photo 3039. Replace if worn or damaged. Clean ring track Item 2 and thoroughly relube it, as well as bearing ring, before reassembly. When reinstalling bearing ring, insure recesses and tabs Item 3 are AWAY from "U" joint Item 4. Reinstall shield cone in original locked position and reinsert Phillips screw.

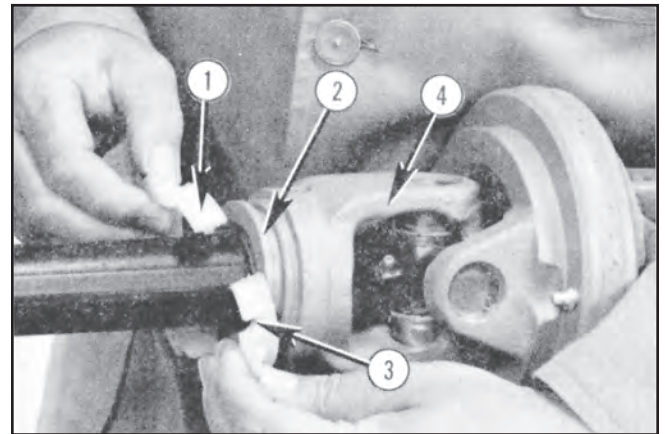


FIGURE 67

PHOTO NO. 3039

5. Reinstall double yoke cone Item 1 in Photo 3040 over large bearing ring. Insure zerk is aligned with cone cut out Item 2. Check that 6 holes for previously removed Phillips screws are aligned with recesses Item 3 provided and reinstall screws.

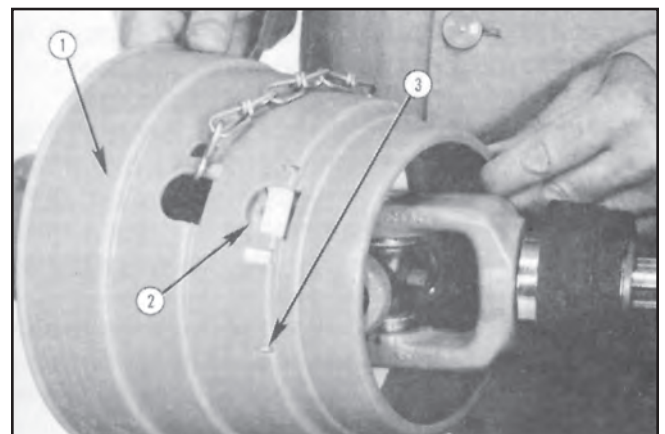


FIGURE 68

PHOTO NO. 3040

PTO CONVENTIONAL JOINT

Following pertains to the “conventional” (ie. not C V) joint used on the rear of the PTO.

1. Refer to Figures 66 and 67, for removal of necessary PTO shields.
2. Relieve radial drag on the internal snap ring Item 1 in Photo 3041 in yoke Item 2 by circumferentially tapping it with a drift. With snap ring pliers, remove it. Repeat this for the other side of the yoke.
3. With a good solvent, thoroughly remove all paint around inner and outer surfaces of both needle bushings. This is necessary to facilitate their removal.
4. Rest joint assembly in a vice with yoke Item 3 across top of vice jaws. Use CAREFUL hammer blows to drive center cross needle bushing Item 4 upward.

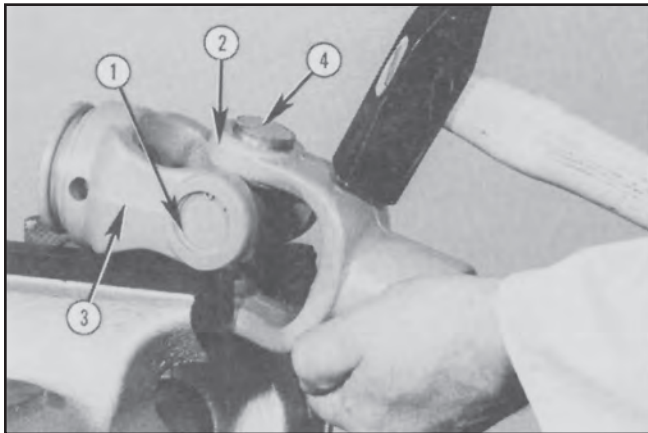


FIGURE 69

PHOTO NO. 3041

5. The partially extracted needle bushing Item 1 can be removed with a Walterscheid tool SW23 Item 2. This tool inserts between vice jaws Item 3 and radially clamps the partially extracted bushing.
6. LIGHTLY tap yoke at position shown until bushing is fully out. Repeat this for other side of the yoke and separate it from center cross remaining in undisturbed yoke Item 4.

NOTICE: WALTERSCHEID TOOL SW23 IS NOT SERVICED BY HINIKER. PROCURE DIRECT FROM VENDOR AT:

**GKN Walterscheid Inc.
275 Davey Road
Woodridge, IL 60517
Phone: (630) 972-9300
Fax: (630) 972-9392**

7. Repeat above steps to remove both needle bushings and center cross from yoke (4), except rest the “bare” center cross ends on the vice jaws because it will be discarded.

IMPORTANT: NEVER POUND, OR OTHERWISE ABUSE, ANY NEEDLE BUSHING'S REPLACEMENT INTERNAL SHAFTS. AVOID UNINTELLIGENT BEATING ABUSE OF PTO YOKES.

8. The joint repair kit is serviced complete with: center cross, 4 needle bushings and 4 snap rings.

IMPORTANT: DIRT IS A PRIME ENEMY OF NEEDLE BUSHINGS. INSURE YOKES ARE CLEAN BEFORE REASSEMBLING NEW BUSHINGS. KEEP REPAIR KIT COMPONENTS THOROUGHLY CLEAN DURING INSTALLATION.

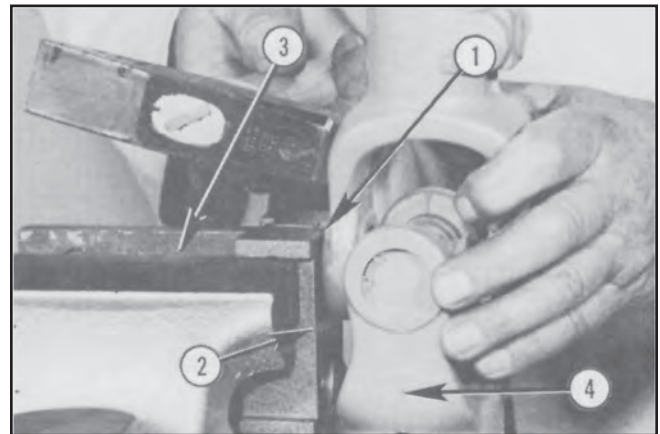


FIGURE 70

PHOTO NO. 3042

9. For reassembly, insert replaced center cross Item 1 in Photo 3043 into yoke and start replaced needle bushings Item 2 into yoke. With a 1 3/8" O.D. driver Item 3, continue seating both bushings inward. Insure both center cross shafts are correctly piloting into needle bushings.

10. Seat needle bushings until both snap rings can be reinserted. Before mounting other yoke, insure center cross zerk is aligned for gun access.
11. After completion of yokes and center cross assembly, hammer strike all 4 yoke ears at Item 4 for stress relief. Thoroughly lube joint assembly before reinstalling shields and placing on unit.

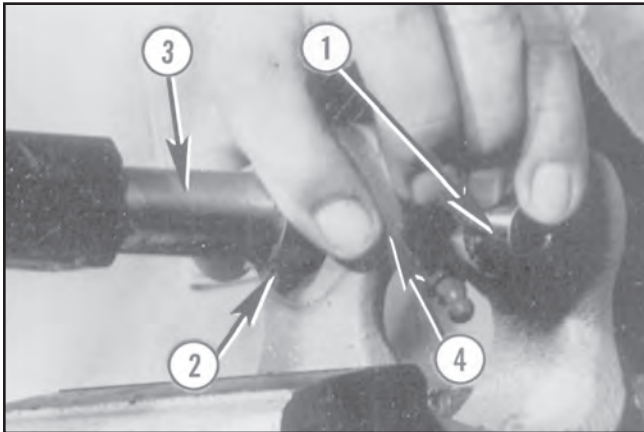


FIGURE 71

PHOTO NO. 3043

PTO CONSTANT VELOCITY JOINT

Following pertains to the "CV" (ie. not conventional) joint used on tractor end of the PTO. Service procedures are similar to that previously covered under the conventional joint.

1. Refer to Figures 64 and 66, page 31 for removal of necessary PTO shields.
2. Relieve radial drag on the internal snap ring Item 1 in Photo 3044 in flange yoke Item 2 by circumferentially tapping it with a drift. With snap ring pliers, remove it. Repeat this for the opposite side of the flange yoke.
3. With a good solvent, thoroughly remove all paint around inner and outer surfaces of both needle bushings. This is necessary to facilitate their removal.
4. Rest joint assembly in a vice with outer yoke Item 3 across top of vice jaws. Use CAREFUL hammer blows to drive center cross needle bushing Item 4 upward. Vertically rocking yoke Item 5, as bushing is driven out, provides ear clearance between yokes Item 2 and Item 3.

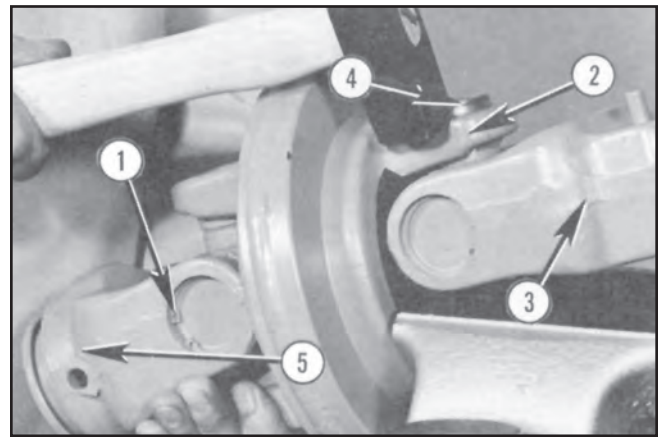


FIGURE 72

PHOTO NO. 3044

5. The partially extracted needle bushing Item 1 in Photo 3045 can be removed with a Walterscheid tool SW23 Item 2. This tool inserts between vice jaws Item 3 and radially clamps the partially extracted bushing.
6. Carefully rock flange assembly Item 4 in direction of arrows Item 5 until bushing is fully out. Repeat this for other side of flange yoke and separate it from center cross remaining in undisturbed outer yoke Item 6.

NOTICE: WALTERSCHEID TOOL SW23 IS NOT SERVICED BY HINIKER. PROCURE DIRECT FROM VENDOR AT:

GKN Walterscheid Inc.
275 Davey Road
Woodridge, IL 60517
Phone: (630) 972-9300
Fax: (630) 972-9392

7. Repeat above steps to remove both needle bushings and center cross from opposite end Item 7 of flange assembly. Refer to Figures 74 and 75, page 34 for removal of needle bushings and center crosses from both outer yokes. Rest their "bare" center crosses on the vice jaws because they will be discarded.

IMPORTANT: NEVER POUND, OR OTHERWISE ABUSE, ANY NEEDLE BUSHING'S REPLACEMENT INTERNAL SHAFTS.

8. Joint repair kits are serviced complete with center cross, (4) needle bushings and (4) snap rings.

IMPORTANT: DIRT IS A PRIME ENEMY OF NEEDLE BEARINGS. INSURE YOKES ARE CLEAN BEFORE REASSEMBLING NEW BEARINGS. KEEP REPAIR KIT COMPONENTS THOROUGHLY CLEAN DURING INSTALLATION.

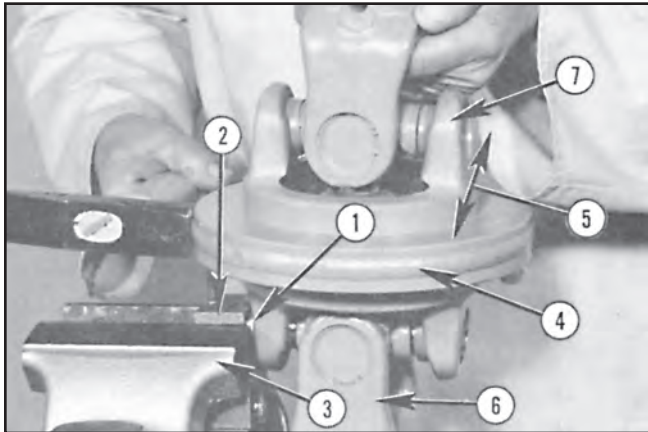


FIGURE 73

PHOTO NO. 3045

9. Before reassembly, clean and inspect both outer yoke's ball Item 1 in Photo 3046. If more than 1/8" play in relation to its centering disc socket, or noticeable wear around Item 2 exists, replace the yoke.
10. For reassembly, insert replaced center cross Item 3 in Photo 3046 into outer yoke Item 4. Start replaced needle bushings Item 5 into yoke. With a 1 3/8" O.D. driver (not shown), continue seating both bushings inward. Insure both center cross shafts are correctly piloting into needle bushings.
11. Seat needle bushings until both snap rings can be reinserted. Repeat above steps for installing center cross, and needle bushings, in remaining outer yoke. Before mounting either outer yoke to flange yokes assembly, insure center cross zerk are aligned for gun access.

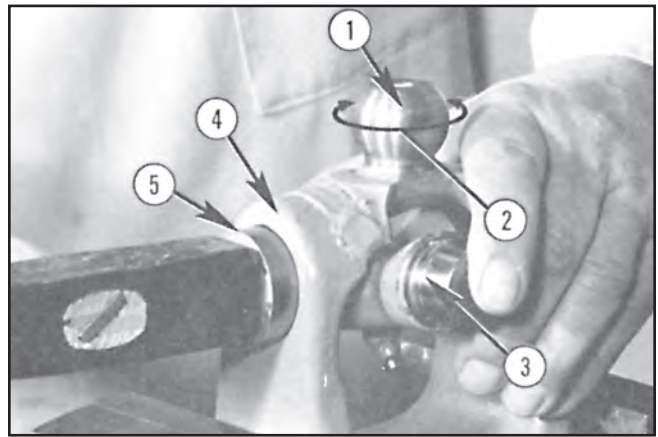


FIGURE 74

PHOTO NO. 3046

12. Clamp flange yokes assembly Item 1 in Photo 3047 between vice jaws as shown. Insert outer yoke and replaced center cross assembly Item 2 into yoke Item 3. Start needle bushing Item 4 into yoke. With a 1 1/4" O.D. driver (not shown), continue seating both bushings inward. Insure both center cross shafts are correctly piloting into needle bushings. Seat needle bushings until both snap rings can be reinserted.
13. After completion of yokes and center crosses assembly, hammer strike all (8) yoke ears at Item 5 for stress relief. Thoroughly lube both joint assemblies and flange zerk before reinstalling shields and placing on unit. Align yokes straight when lubing flange zerk. Pump until substantial lube shows around centering disc.

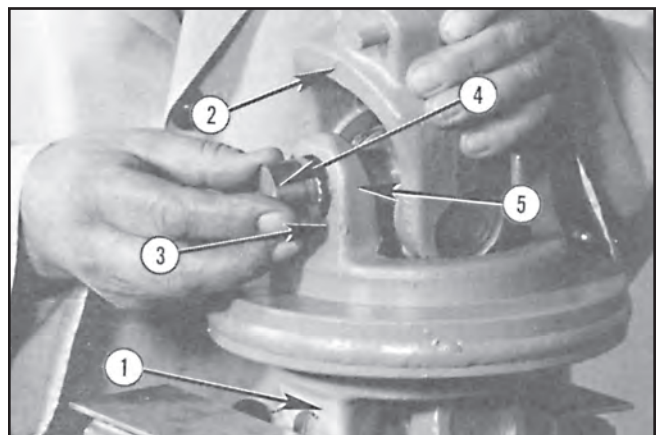


FIGURE 75

PHOTO NO. 3047

FRICITION AND OVERRUNING CLUTCH



PHOTO NO. 3999

1. See dismantling and assembly instructions for QC-lock on page 30.



PHOTO NO. 4000

2. It is not necessary to remove the torsional spring when replacing the friction disks.



PHOTO NO. 4001

3. Tighten the 6 nuts of the spring pack to relieve the setting ring.



PHOTO NO. 4002

4. Mark assembly position of the setting ring in relation to the housing. Then remove setting ring.

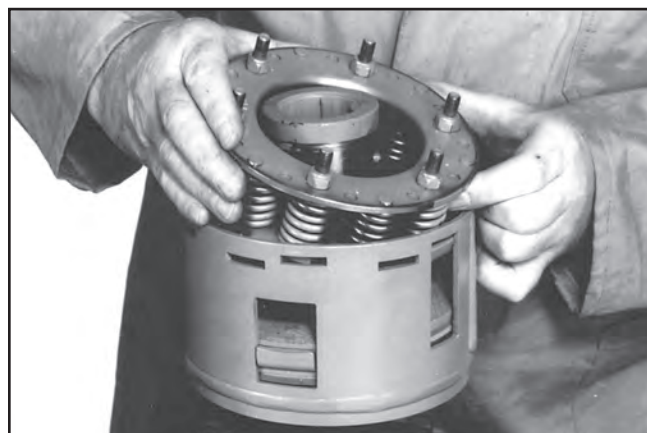


PHOTO NO. 4003

5. Take spring pack out of housing.



PHOTO NO. 4004

6. Remove flange hub together with friction disks and drive plates.

REASSEMBLY



PHOTO NO. 4005

1. Fit friction disks and drive plates on flange hub in the correct sequence. The friction surfaces must be clean and free of any grease. Refer to DWG. 3676 on page 37.



PHOTO NO. 4006

2. Insert flange hub with friction disks and drive plates into clutch housing.

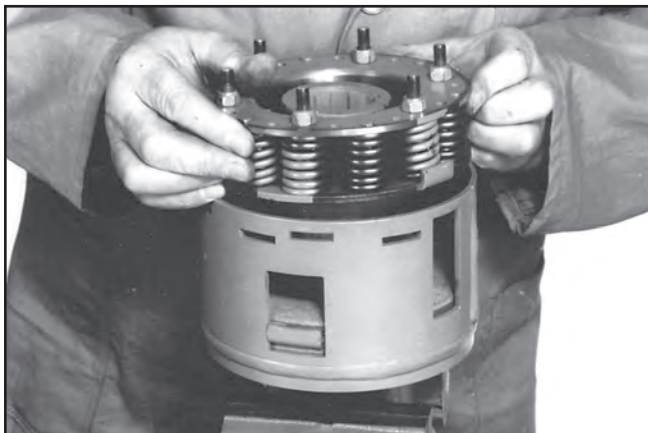


PHOTO NO. 4007

3. Insert spring pack into clutch housing.



PHOTO NO. 4008

4. Fit setting ring (make sure that it is in the correct position).

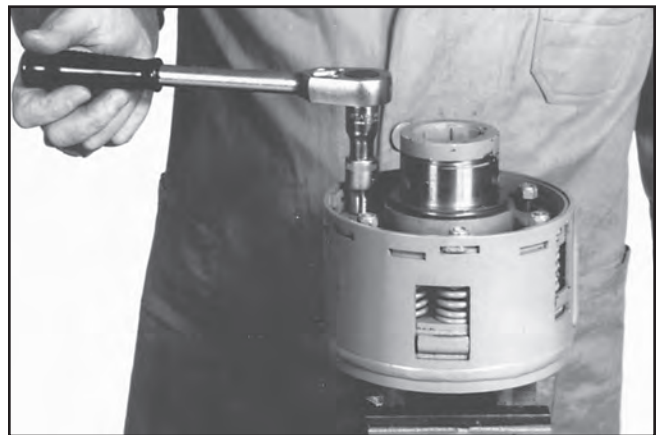


PHOTO NO. 4009

5. Loosen the 6 nuts at the spring pack to end of thread. The clutch is now ready for use.

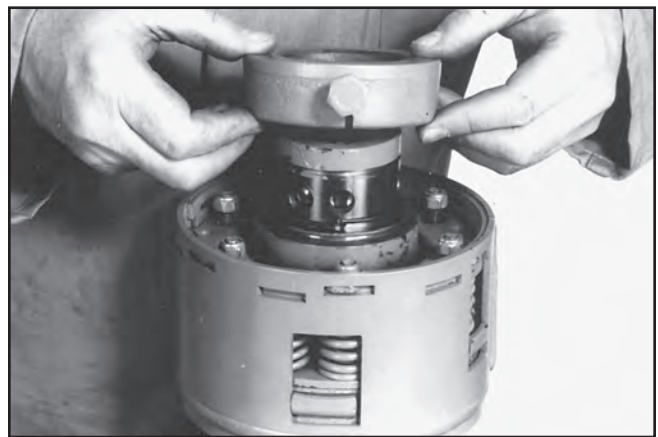
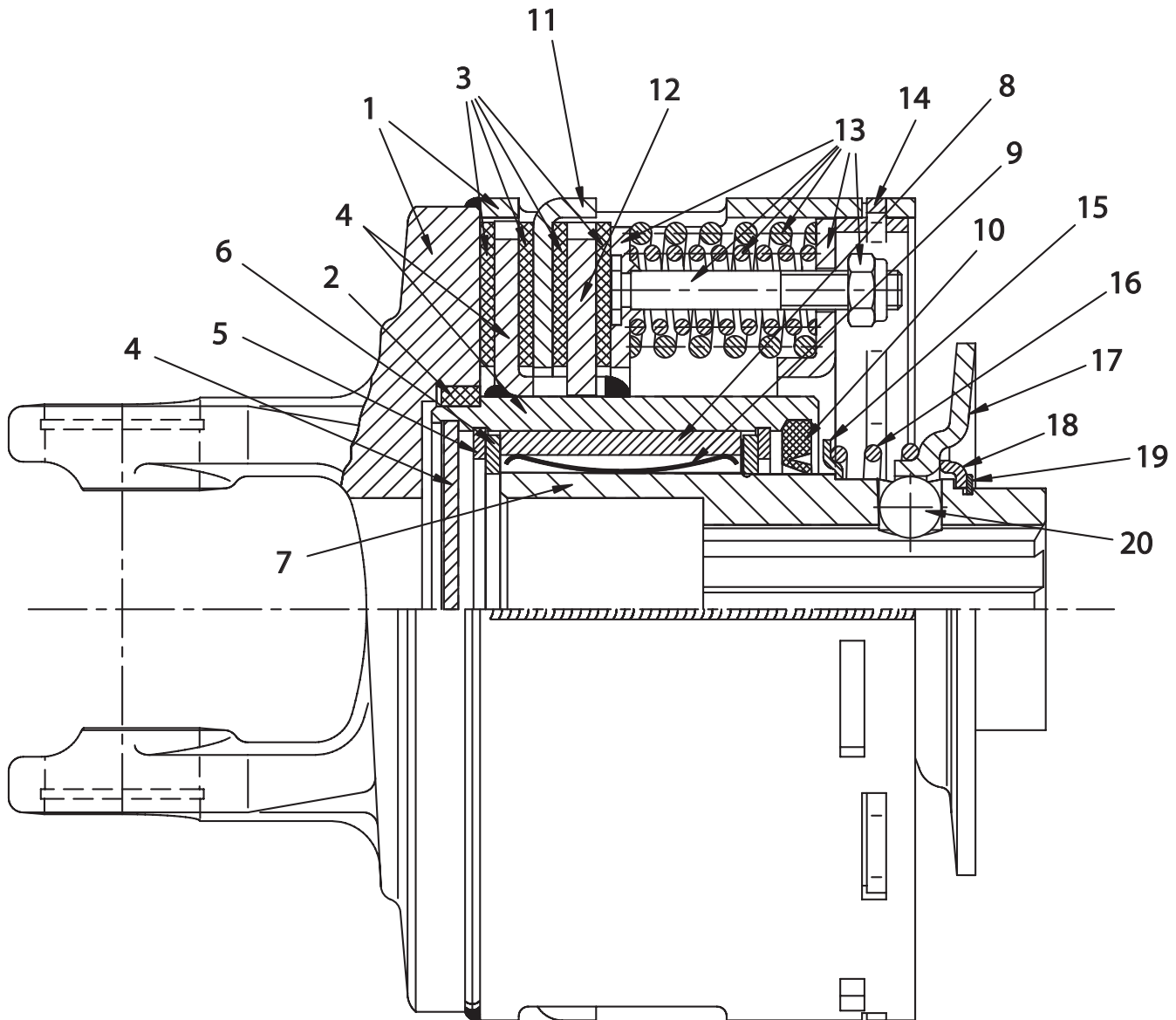


PHOTO NO. 4010

6. Fit QC-lock (see page 30).

CLUTCH ASSEMBLY



DWG. NO. 3676

REF. NO.	PART NUMBER	DESCRIPTION	QTY.	REF. NO.	PART NUMBER	DESCRIPTION	QTY.
1	52003198	Clutch Housing	1	12	52003202	Drive Plate	1
2	52003199	Ring	1	13	52003200	Spring Pack	1
3	52003201	Friction Disk	4	14	52003204	Setting Ring	1
4	52003203	HSG & Drive Plate WA	1	15	52003213	Back-Up-Ring	1
5	52003210	Retaining Ring	2	16	52003214	Compression Spring	1
6	52003209	Washer	2	17	52003215	Lock Ring	1
7	52003211	Hub 1 3/8"-6SPL QD	1	18	52003216	Flanged Ring	1
8	52003208	Key 50mm	2	19	52003217	Retaining Ring	1
9	52003207	Leaf Spring	2	20	52003218	Ball	3
10	52003206	Sealing Ring	1		52003219	Locknut M8-In (Included in Item 3)	6
11	52003205	Drive Plate	1		52003212	QD FLG Kit (Includes Item 15-20)	1

Torque Setting: Please take instructions on page 38 into account.

TORQUE SETTING

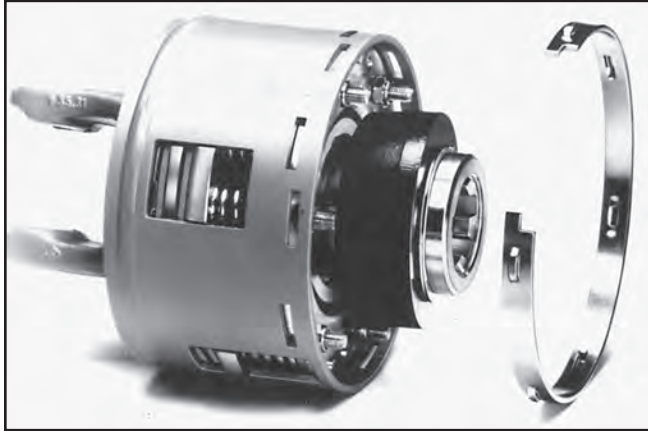


PHOTO NO. 4011

TORQUE IN daNm

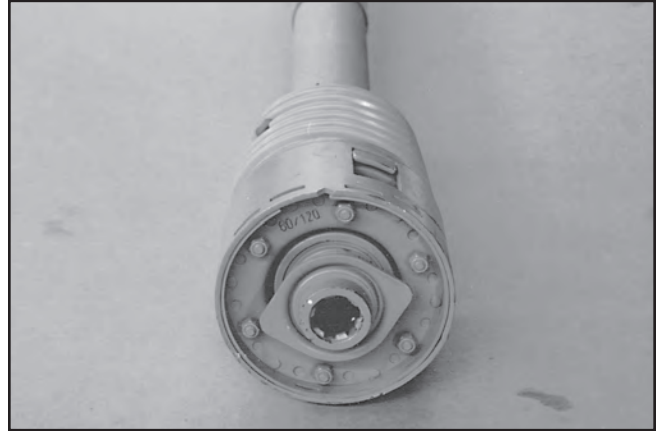


PHOTO NO. 4018

The torque setting can be modified with the aid of a setting ring and two alternative location slots in the clutch housing.

1. The setting ring provides for a minimum position and a maximum position.
2. The clutch housing incorporates two locating positions for the setting ring (1 and 2) which are situated at different levels.

For each spring pack, four torque settings are possible (see table).

SETTING RING

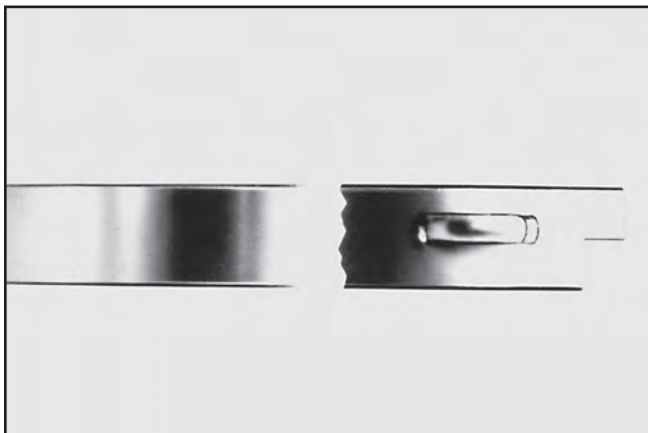


PHOTO NO. 4012

Clutch /Types K96/4 (4 Friction Disks) Level				Spring Pack Marking	Part Number
1	2*	3	4		
35	40	45	50	20/40	171283
53	60	68	75	30/60	171284
70	80	90	100	40/80	171285
80	90	105	115	/90	171286
88	100	115	128	50/100	377677
95	110	125	140	/100	377676
105	120	138	153	60/120	377675
120	135	155	173	/135	377674
133	150	173	190	75/150	377673
145	165	190	210	/165	175022
158	180	208	230	90/180	377671
170	195	225	247	/195	175023
180	210	235	260	105/210	377672

***Preferred Torque**

Torque	%	Setting Ring	Clutch Housing Pos.
1	70	min.	1
2*	80	max.	1
3	90	min.	2
4	100	max.	2

*Preferred Torque

ASSEMBLY

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 1,400# (635 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 chopper/shredders are shipped vertical with self contained storage and handling dunnage. They must be offloaded with an overhead chain sling.

Use a chain sling Item 1 in Photo 3212 approximately 5' long on each run. Fix EACH sling chain hook SECURELY around both 1" diameter hitch pins Item 2 where shown by decals Item 3. Lift off carrier and deposit on a firm, clear and level work area.

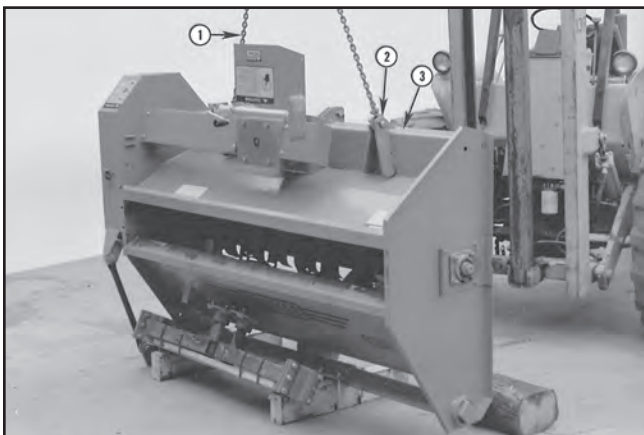


FIGURE 76

PHOTO NO. 3212

Discharge chute components and hitch are shipped in separate bundles.

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

1. The drive enclosure Item 1 as shown in Photo 3212A holds an Operator's Manual and SMV. Remove these.
2. Remove PTO Item 2, wheels Item 3 and wheel legs Item 4. Remove dunnage associated therewith.

DANGER: DEATH OR SERIOUS INJURY CAN RESULT. MAINTAIN OVERHEAD SLING ITEM 5 SNUG TO PREVENT SKIDDED UNIT FROM UNEXPECTEDLY TIPPING DOWN.

3. Remove (8) nuts holding 4 "U" clamps Item 6. The "U" clamps and their dunnage will eventually be discarded.
4. SECURELY place a solid block approximately 12" high under each rear corner of the machine as at Item 7.

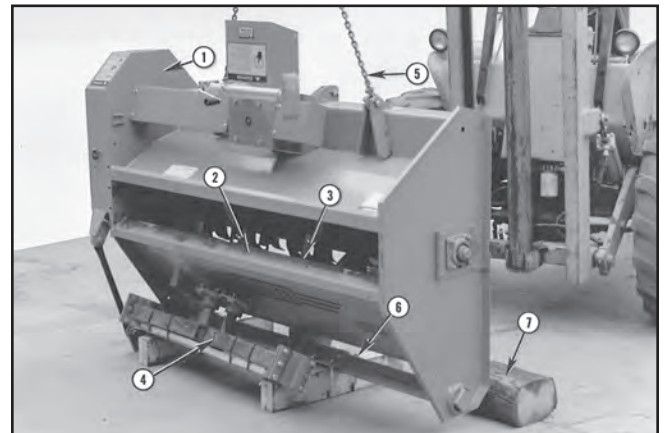


FIGURE 77

PHOTO NO. 3212A

40 Assembly

1. Allow a SMALL AMOUNT of slack in the sling and slowly tip the unit forward until its downward force is being supported by the sling chains.

IMPORTANT: GROSSLY LOOSE SLING CAN ALLOW MACHINE TO FALL WITH POTENTIALLY DAMAGING FORCE.

2. After allowing unit to rotate toward the ground, insert a solid block Item 1 in Photo 3221 approximately 12" high under the machine's center. Allow unit to rest on this block and both blocks Item 2. Do not use hollow concrete for machine blocking and ensure everything is STABLE before unhooking sling chains.
3. Remove rockshaft dunnage Item 3 and any remaining dunnage.

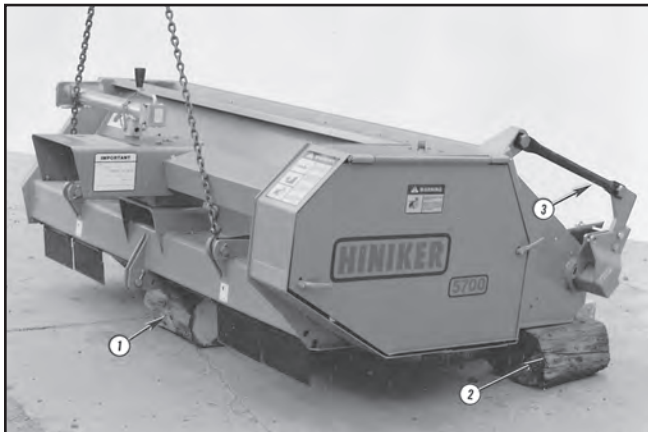


FIGURE 78

PHOTO NO. 3221

ROCKSHAFT & WHEEL LEGS

1. Allow both 5/8" x 6" bolts and nuts to remain in shipping holes Items 1 & 2 as shown in Photo 3236.

IMPORTANT: AFTER COMPLETING WHEEL LEGS AND WHEEL/TIRE INSTALLATION, 5/8" X 6" BOLT SHIPPED IN HOLES ITEM 2 SHOULD BE MOVED TO HOLES ITEM 3 FOR OPERATION AND TOWING. ENSURE BOLT HEAD IS TOWARD MACHINE CENTERLINE.

2. Install either an accessory ratchet jack Item 4 or an aftermarket hydraulic cylinder. (See AFTERMARKET HYDRAULICS, page 45.)

3. Contract either ratchet jack or hydraulics to minimum length. This permits wheel and tire installation.
4. Each wheel leg is clamped to the rockshaft with (6) 5/8" bolts, lockwashers and nuts Item 5. Install wheel legs in their approximate transverse position; however, do not torque up their bolts until desired wheel spacing is determined.
5. The unit is furnished with (2) 15 x 5 wheels, less tires. The recommended aftermarket tire size is 6.70 x 15-4PR I1 (implement) or equivalent. After installing tires on wheels, it is not desirable to inflate to normally used implement pressure because wheel loadings are light. The machine performs best if tire pressures are kept no greater than 15-20 psi, as recommended by decal Item 6.

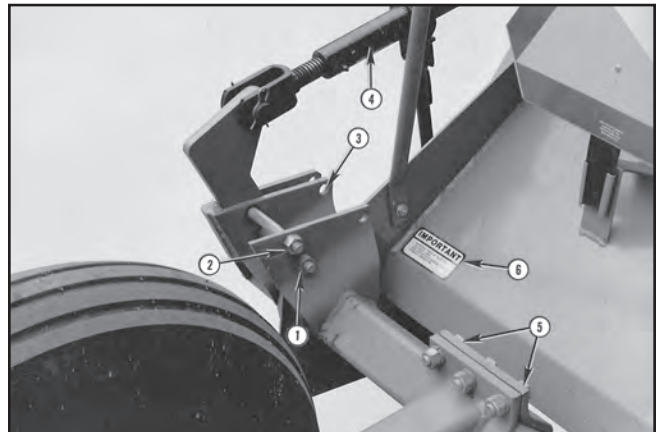


FIGURE 79

PHOTO NO. 3236

1. 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 Item 1 in Photo 3214. This places its loaded centerline between the hub bearings. Torque up the (6) 1/2" wheel bolts on each wheel.

2. FOR ROW CROPS ONLY Item 2 in Photo 3214, position wheel legs to center each tire 34" right or left of the machine's centerline. This "compromise" is quite satisfactory for 30" through 38" row spacings.
3. FOR SOLID SEEDED CROPS Item 3, in Photo 3214 adjust R.H. wheel leg to position tire's outside vertical plane about 3" inside the unit's R.H. end panel. This ensures the tire will not run over uncut crop. The L.H. tire may be positioned maximum leftward.
4. Torque up each wheel leg's 6 clamping bolts by uniformly tightening the lower 3 to snug. Then torque and retorquer, top 3 to **146-206 Ft/Lbs. (198-279 N/m.)**
5. Extend the ratchet jack, or hydraulics, to raise the machine. Remove both previously inserted rear blocks.
6. Refer to Figure 79, Item 2 and extract 5/8" x 6" lockup bolt and nut from its shipping position and insert thru holes Item 3. Ensure the bolt head faces toward the machine's centerline.

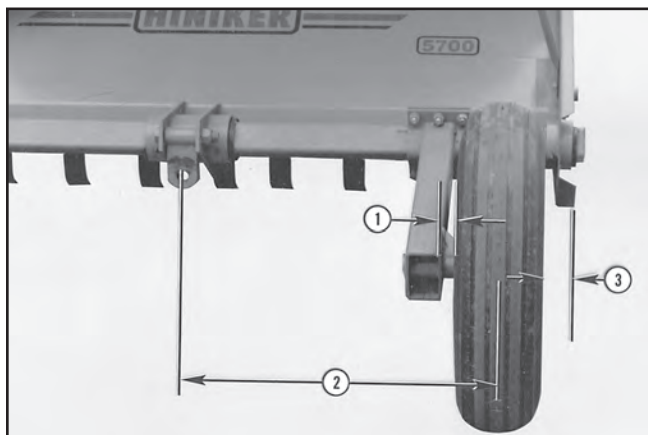


FIGURE 80

PHOTO NO. 3214

FRONT HITCH

The front hitch bundle consists of the "A" frame Item 1 as shown in Photo 3555 and a lower adjustable draft link Item 2.

Remove both base unit draft pins Item 3 and position hitch Item 1 with thicker hitch clip on top Item 4. Insert hitch's rear brackets Item 5 between both sets of base unit ears Item 6 and reinstall pins Item 3. Insure cotters on each end of both pins are spread.

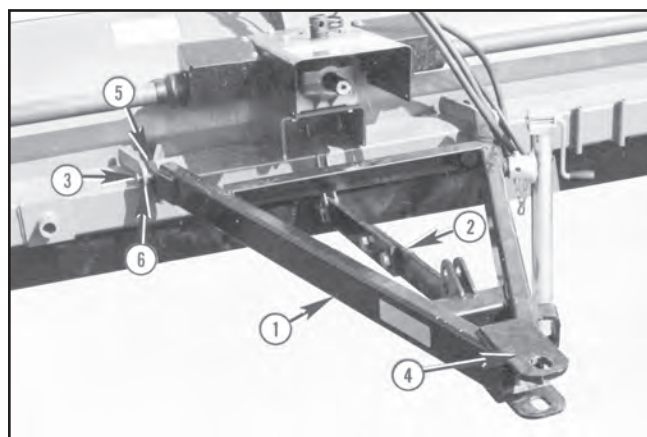


FIGURE 81

PHOTO NO. 3555

Attach the lower adjustable draft link Item 2 to the base unit using the pin and cotter pins provided. Put the adjustable draft link into the second hole from the top of the "A" frame. Secure using the pin and cotter pins provided. See Photo 3555.

Adjustable draft link is pre-set for an approximate 16" drawbar height. This will leave a 3" stubble height with a ASAE standard hydraulic cylinder fully closed. However, final adjustment to a customer's tractor drawbar height, must await actual field operation. See Photo 3556.

Move hitch jack Item 5 from shipping position Item 6 to "use" position Item 7 and raise it sufficient to loosen front center block and remove it.

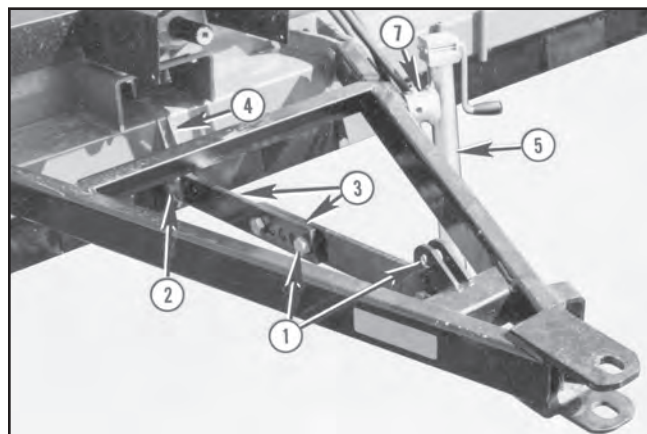


FIGURE 82

PHOTO NO. 3556

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

PTO

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

The PTO has similar sliding yoke couplers at tractor and gearbox ends. GEARBOX ENDS ARE IDENTIFIED BY A FRICTION CLUTCH Item 1. (Not shown, 5700 overrunning clutch shown in Photo 2969C).

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

Hook snap ring for PTO shield anti-rotation chain in hole Item 4.

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

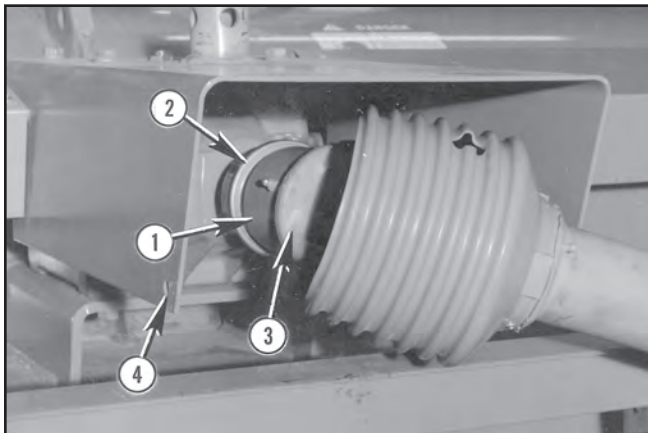


FIGURE 83

PHOTO NO. 2969C

SHREDDER PLATE ONLY

The HINIKER 5710 chopper/shredder has 2 optional “completing” packages that provide:

5702 Shredder plate only for stalk shredding

5701 Chopper/shredder wagon loading chute

If the shredder plate is being assembled; lay flat plate Item 1 in Photo 3218 on base unit Item 2. Align holes and fasten each end with a total of (6) 3/8” x 1” hex bolts, flat washers, lockwashers and nuts as at Item 3. Finish assembly by inserting total of (16) 5/16” x 3/4” hex bolts, flat washers, lockwashers and nuts along front and rear edges as at Item 4.

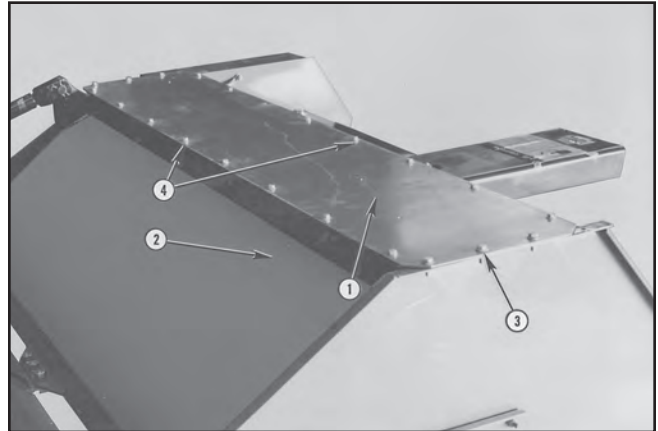


FIGURE 84

PHOTO NO. 3218

WAGON LOADING CHUTE

BOLTS FOR WAGON LOADING CHUTE SHOULD BE NO MORE THAN LIGHTLY SNUGGED UNTIL INDICATED FOR FULL TORQUING.

The largest hardware type is (56) 5/16” bolts, flat washers, lockwashers and nuts. These have been bagged separately. Also, (20) 3/8” bolts, lockwashers and nuts are bagged separately. Keep their contents segregated for easy selection.

1. Attach lower front panel Item 1 in Photo 3213 to base unit Item 2 with (8) 5/16” x 3/4” carriage bolts, lockwashers and nuts as along Item 3.
2. Attach R.H. and L.H. long side panels Items 4 & 5 to base unit with (4) 3/8” x 3/4” carriage bolts, lockwashers and nuts Item 6 on R.H. side. Use (1) 3/8” x 3/4” and (3) 3/8” x 1” carriage bolts, lockwashers and nuts Item 7 on L.H. side.

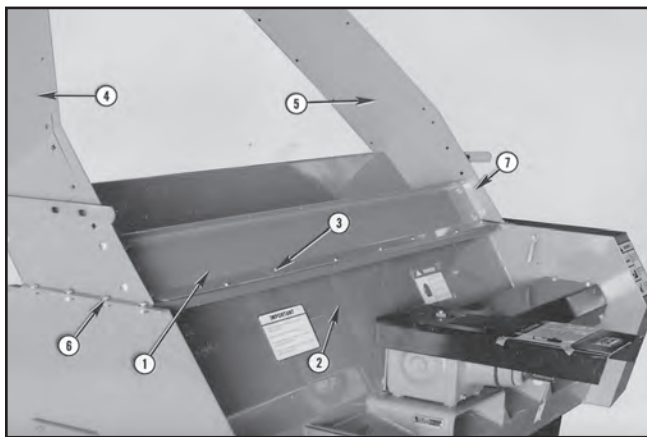


FIGURE 85

PHOTO NO. 3213

1. Insert (2) 3/8" x 1" carriage bolts, flat washers, lock washers and nuts into each end of the lower front panel as at Item 1 in Photo 3213A.
2. Attach R.H. and L.H. support plates Item 2 with a 3/8" x 3/4" carriage bolt, lock washer and nut as at Item 3 on each side.
3. Insert R.H. and L.H. control arms Item 4 through hole Item 5 and into deflector Item 6.

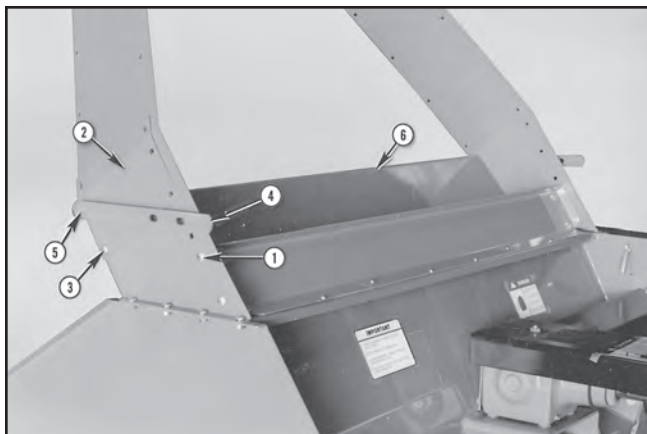


FIGURE 86

PHOTO NO. 3213A

Align (2) 1/4" holes Item 1 in each end of control arms Item 2 with matching holes in deflector Item 3. Drive total of (4) 1/4" x 1 3/8" roll pins through these holes.

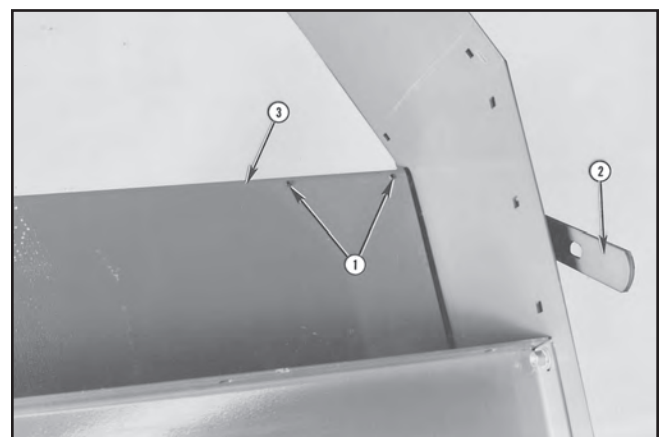


FIGURE 87

PHOTO NO. 3229



CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. DO NOT ATTEMPT TO "MANHANDLE" UPPER AND LOWER HOOD PANELS INTO PLACE WITHOUT A SECOND PERSON TO ASSIST.

Position upper chute panel Item 1 as shown in Photo 3226 to permit aligning with drifts through R.H. and L.H. holes Items 2 & 3. Insert a 5/16" x 3/4" carriage bolt, flat washer, lock washer and nut in these holes.

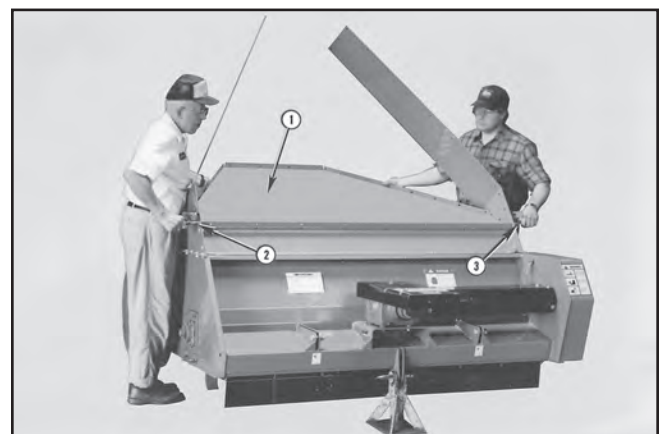


FIGURE 88

PHOTO NO. 3226

1. Swing panel up and securely pin with drifts thru R.H. and L.H. holes Items 1 & 2 as shown in Photo 3228. Insert a 5/16" x 3/4" carriage bolt, flat washer, lock washer and nut through holes Items 3 & 4.
2. Remove drifts and insert (6) 5/16" x 3/4" carriage bolts, flat washers, lock washers and nuts in each side as along Item 5 as shown in Photo 3228. Leave top most hole on each side open for the hood-deflector assembly.

3. Install (8) 5/16" x 3/4" carriage bolts, lock washers, and nuts along bottom (6) of upper chute panel.



FIGURE 89

PHOTO NO. 3228

1. With drifts on each side at Items 1 & 2 as shown in Photo 3223, align lower chute panel Item 3, and its holes, with side panels Items 4 & 5. Ensure drifts are securely seated. Lift panel up and install a 5/16" x 3/4" carriage bolt, flat washer, lock washer and nut on each side as at Item 6.
2. Leave 3rd and 4th holes from top of lower chute panel open. Install (3) 5/16" x 3/4" carriage bolts, flat washers, lock washers and nuts on each side as along Item 7.
3. Extract drifts Items 1 & 2 and install a 5/16" x 3/4" carriage bolt, flat washer, lock washer and nut in those open holes.

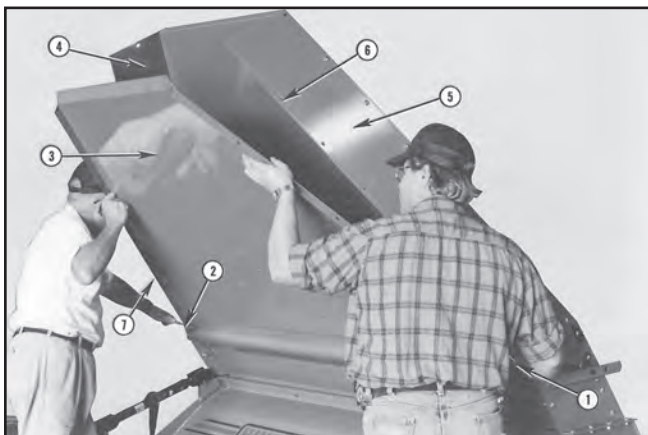


FIGURE 90

PHOTO NO. 3223

1. Install a chute brace bracket Item 1 in Photo 3225 on each side. Use (2) 5/16" x 1" carriage bolts, flat washers, lock washers and nuts for each.

The bracket's topmost hole coincides with the 3rd hole down Item 2 from side panel's top hole. Brackets are identical and should be installed with their lower edge flush with the side panel's edge. Torque up these bolts.

2. Thread a 5/8" nut Item 3 most of the way on each chute brace Item 4. Insert braces in brackets as shown and add a 5/8" nut Item 5 on top of each. Leave both nuts loose at this time.
3. Fix lower end of braces to inside of the base unit's side sheets as at Item 6. Use 3/8" x 1" hex bolts, lock washers and nuts. Torque up these bolts.
4. Firmly snug each nut Item 3 against each bracket Item 1. Then add 1 1/2 turns more brace compression. Torque up both nuts Item 5.

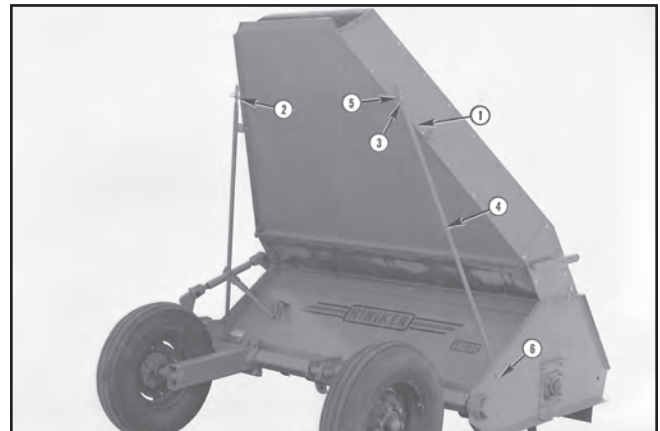


FIGURE 91

PHOTO NO. 3225

Install control arm stops Items 1 & 2 as shown in Photo 3227 on each side with total of (4) 3/8" x 1 1/4" carriage bolts, flat washers, lock washers and nuts. Adjust the stops, within their slots, to permit lower deflector shifting and locking. Torque up these bolts and pop each control arm over the same stop pin on each side. Install a Q.A. hairpin outside each arm.

Torque up all bolts previously left only snug. Progressively count the bolts as completed and 66 should now be torqued up in total.

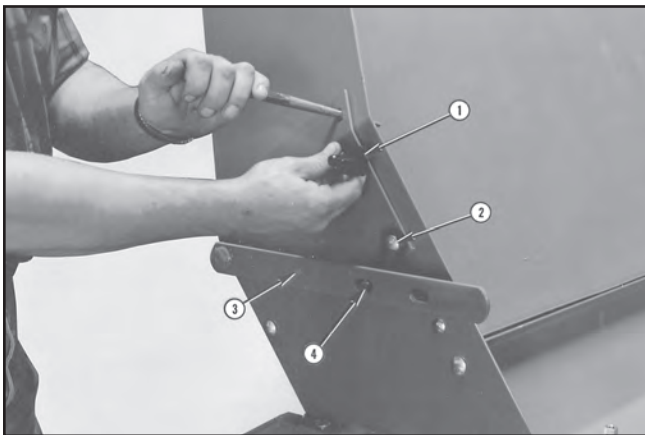


FIGURE 92

PHOTO NO. 3227

Lay hood Item 1 as shown in Photo 3231 and deflector Item 2 assembly on handy work surface.

Knot nylon rope Item 9 on arm Item 4 and thread thru porcelain eyelet.

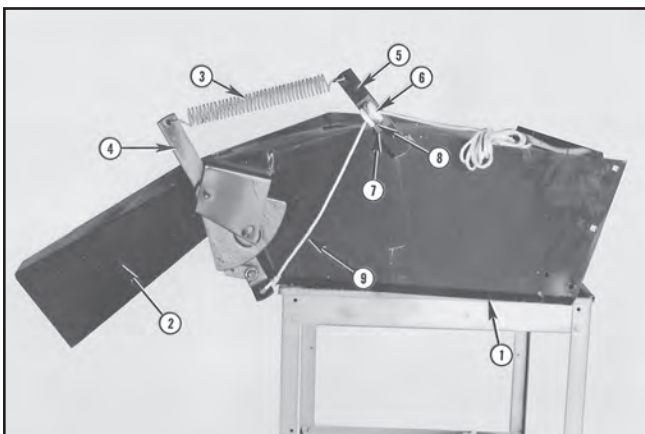


FIGURE 93

PHOTO NO. 3231

Mounting the hood-deflector assembly on the proper assembled wagon delivery chute is EITHER A 2 PERSON, OR AN OVERHEAD SLING TASK



CAUTION: DEATH OR SERIOUS INJURY CAN RESULT. DO NOT ATTEMPT TO "MANHANDLE" THE HOOD-DEFLECTOR ASSEMBLY INTO PLACE WITHOUT PROPER EQUIPMENT, OR A SECOND PERSON TO ASSIST.

With drifts, align hole Item 1 as shown in Photo 3230 at each top corner. Insert (4) 5/16" x 3/4" carriage bolts, flat washers, lock washers and nuts along Item 2. Remove drifts and insert (3) 5/16" x 3/4" carriage bolts, flat washers, lock washers and nut on each side as at Item 3. Torque up the 10 hood-deflector bolts.

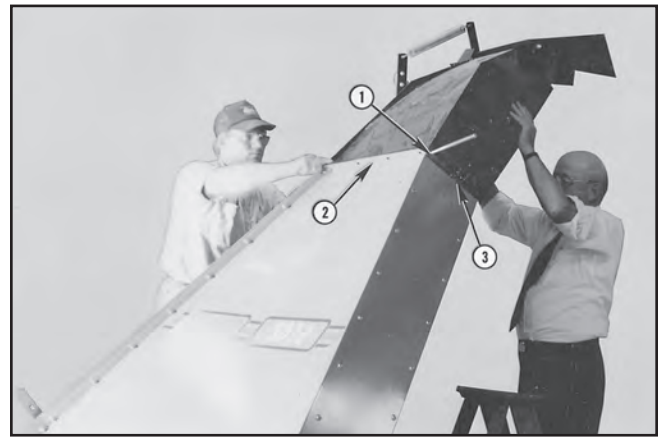


FIGURE 94

PHOTO NO. 3230

AFTERMARKET HYDRAULICS

Standard equipment for the unit includes a hose support Item 1 as shown in Photo 3217 on page 46 and a hose clamp Item 2. HINIKER supplies hydraulic cylinders, hoses and fittings as optional equipment. Hydraulic couplers are not provided.

1. Install hose support to the rear R.H. gear-box shield at bolt Item 3. Ensure the original flat washer is BETWEEN the bolt head/lock washer and the hose support.
2. Prepare 2 hydraulic hoses each with a minimum recommended length of 14' (depending on tractor). Optional hoses are 156" and 172" long. DO NOT use teflon tape on 37° JIC and O-ring fittings provided in optional hydraulic package.
3. The unit accepts an ASAE S201.4 standard (20 1/4" retracted and 28 3/8" extended) 8" stroke cylinder. Recommended minimum cylinder bore is 2 1/2" Install cylinder with anchor end Item 4 on the unit's frame and the rod end on the rockshaft lost motion link.

IMPORTANT: IF NPT FITTINGS AND CYLINDER PORTS ARE USED, WRAP ALL MALE THREADS WITH TEFLON TAPE TO PREVENT LEAKS.



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

4. Route hoses through hose support and install quick couplers appropriate for tractor use. Insert couplers to give machine a DOWNWARD movement when tractor hydraulic lever is shoved FORWARD.

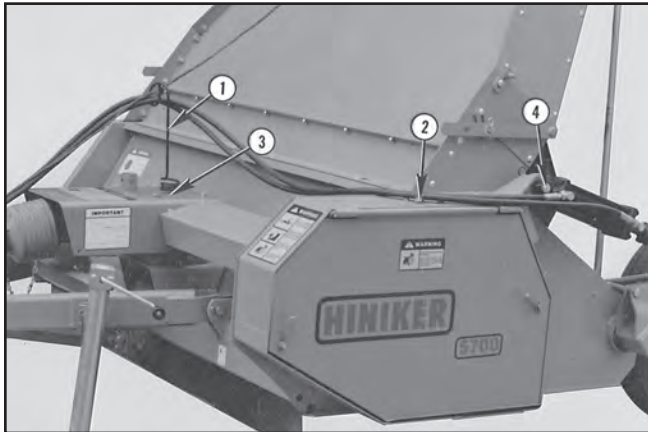


FIGURE 95

PHOTO NO. 3217

PREDELIVERY

Install S.M.V. in its receptacle. After hooking to a tractor, move hitch jack to its storage pedestal above gearbox shield.

Refer to DELIVERY check list, page 1 and routinely perform all relevant checks thereon.



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 INSPECT AND/OR SERVICE A CHOPPER/SHREDDER IN A RAISED POSITION UNLESS IT HAS BEEN SECURELY BLOCKED FROM UNEXPECTED FALLING.

KEEP OFF, KEEP OTHERS OFF AND MAKE CERTAIN EVERYONE IS CLEAR BEFORE STARTING, ACTUATING HYDRAULICS, AND DURING OPERATION.

SPECIFICATIONS

Nominal Swept Width	68 1/2"
Field Overall Width	82"
Field Overall Length (w/loading spout)	135"
Field Overall Height (w/loading spout)	107"
Standard Knife Type	1/4" x 2 1/2" Cup
Knife Tip Speed @ 540 RPM	9542 FPM
Number Of Knives	32
Theoretical Cuts/Minute @ 540 RPM	48096
Stationary Shearbar Adjustment	3/4"
1 3/8-6B Constant Velocity PTO w/Friction OVR Clutch	Standard
Premium Matched "C" Drive Belts	2
Recommended Tires	Standard
15 x 5KB 6 Bolt Wheels	7.60 x 15-4PR I1 or equal
Approx. Weight (W/Loading Spout, Tires & Ratchet Jack)	1850# 839 kg
Approx. Weight (W/Shredding Plate, Tires & Ratchet Jack)	1550# 703 kg
Spout Deflector Control	Rope
Optional Equipment:	5710 Basic W/O Loading Spout
	805-001-154 7.60 x 15 6 Ply Tires
	000-04097 Ratchet Lift Jack
	5701 Conversion Loading Spout
	5702 Conversion Shredding Plate
	79201616 Hydraulic Cylinder Lift
	85501539 Safety Chain 10,000 lbs.
	627233 Safety Chain 20,000 lbs.

HINIKER WARRANTY 5710 CHOPPER/SHREDDER

The only warranty the company gives and the only warranty the dealer is authorized to give is as follows:

We warranty products sold by us 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, 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 installation or any liability for direct, indirect or consequential damage or delay. If requested by us, 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, reasonable intended use, substitution of parts not approved by us, 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, alter features, specifications, options and standard equipment on any of our products without notice and incurrence of obligation on prior manufactured machines.

Warranty does not apply to any machine or part which has been repaired or altered in any way so as in the company's judgement to affect its reliability, or which has been subject to misuse, negligence or accident.

Warranty may be **LIMITED and/or NOT APPLICABLE** to machines and/or components where damage is incurred from ingestion of foreign material other than crops intended.

A DELIVERY REPORT FORM must be filled out and received by HINIKER COMPANY to initiate the warranty coverage.

**HINIKER COMPANY
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Fax: (507) 625-5883**