HARDEE

BY EVH MFG CO

# OPERATOR'S AND MAINTENANCE MANUAL

## Rotary Cutter Series

## RW60 RW72

4895 RED BLUFF RD, LORIS, SC-29569 (843) 756-2555

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# TO OUR CUSTOMER

Take the time NOW to read this entire manual before using the cutter.

We at EVH Manufacturing thank you. We feel you have made an excellent choice in your purchase of a Hardee Rotary Cutter.

We have tried hard to build a Cutter to do the work you have in mind. Many hours of engineering, field testing and improvement have gone into the design and workmanship. We will continue this, always keeping in mind the customer's needs.

The best performance of your Cutter will depend on you. Proper lubrication, maintenance, hookup, adjustments and operation are essential for it to give you long and dependable service. However, as with any type of equipment, your Cutter is designed to perform specific functions. It is best used on tractors between 35 and 75 H.P.

In this manual, you will find instructions on all features, including maintenance and operation. Should replacement parts or service be needed, your Hardee Dealer will be able to provide prompt and efficient service. PLEASE SPECIFY MODEL AND SERIAL NUMBER WHEN ORDERING PARTS.

Thank You,
EVH Manufacturing Co.

# SPECIFICATIONS

| | PT | | LT | |
|---|---|---|---|---|
| | 60 Inch Models | 72 Inch Models | 60 Inch Models | 72 Inch Models |
| **DIMENSIONS** | | | | |
| Width (in) | 64 (1626mm) | 76 (1930mm) | 64 (1625mm) | 76 (1930mm) |
| Length (in) | 96 (2438mm) | 110 (2794mm) | 96 (2438mm) | 110 (2794mm) |
| **CUTTING** | | | | |
| Width (in) | 60 (1524mm) | 72 (1828mm) | | |
| Height (in) | 2-12 (51-305mm) | 2-12 (51-305mm) | 2-12 (51-305mm) | 2-12 (51-305mm) |
| **SKIDS (in)** | 3/8x3 (9.5x76mm) | 3/8x3 (9.5x76mm) | 3/8x3 (9.5x76mm) | 3/8x3 (9.5x76mm) |
| **BLADES** | | | | |
| 900 Series (in) | 1/2x3 (13x76mm) | 1/2x3-1/2 (13x89mm) | 1/2x3 (13x76mm) | 1/2x3-1/2 (13x89mm) |
| 800 Series (in) | 1/2x3-1/2 (13x89mm) | 1/2x3-1/2 (13x89mm) | 1/2x3-1/2 (13x89mm) | 1/2x3-1/2 (13x89mm) |
| **DECK** | 7GA. | 7GA. | 7GA. | 7GA. |
| **WEIGHT** | | | | |
| 900 Series (lbs) | 950 (432kg) | 1085 (493kg) | 825 (375kg) | 960 (436kg) |
| 800 Series (lbs) | 1035 (470kg) | 1195 (543kg) | 915 (416kg) | 1074 (488kg) |
| **RATING HP** | | | | |
| 900 Series | 35-85 | 35-85 | 35-85 | 35-85 |
| 800 Series | 40-120 | 40-120 | 40-120 | 40-120 |
| **PTO RPM** | 540 | 540 | 540 | 540 |
| **GEARBOX HP** | | | | |
| 900 Series | 90 | 90 | 90 | 90 |
| 800 Series | 125 | 125 | 125 | 125 |

# SAFETY PRECAUTIONS

**⚠ DANGER ⚠**

**INCORRECT OPERATION OF THE CUTTER MAY PRODUCE HAZARDOUS SITUATIONS THAT CAN LEAD TO SERIOUS INJURY OR DEATH. THE CUTTER HAS BEEN DESIGNED TO MINIMIZE THE RISKS OF ACCIDENTS, BUT THERE IS NO SUBSTITUTE FOR A CAREFUL OPERATOR.**

- All shielding, guards and safety decals must be in place at all times while the cutter is in operation Consult OSHA Regulation 1928.57 for further details.
- NEVER allow an UNQUALIFIED OR UNDERAGE person to operate the cutter.
- NEVER allow any person under the influence of drugs or alcohol, or who is otherwise impaired, to operate the cutter.
- NEVER operate the cutter when bystanders are in the immediate vicinity.
- NEVER direct the discharge of the cutter at bystanders or at the tractor.
- NEVER operate the cutter in an area where objects can be thrown by the cutter. Clear areas to be cut of all foreign objects before cutting.
- NEVER allow passengers to ride on the cutter or the tractor while the cutter or any other implement is operating.
- NEVER dismount the tractor from the rear.
- NEVER allow HORSEPLAY in the vicinity of the tractor while the cutter is operating.
- NEVER check the hydraulic system for leaks with bare hands.

## SAFETY PRECAUTIONS

- NEVER attempt, or have others attempt, to remove wire, weeds, cuttings, or any other foreign objects from the cutter while tractor engine is running or PTO is engaged.
- ALWAYS disengage the PTO, set parking brake, turn off the tractor engine, remove key and wait for all rotary motion to stop BEFORE dismounting the tractor.
- ALWAYS dismount the tractor from the side.
- ALWAYS keep blade holder and bolts tight.
- ALWAYS keep hands and feet clear of rotating parts.
- ALWAYS stay alert for signs of danger and possible hazards.
- ALWAYS wear safety goggles when operating the cutter.

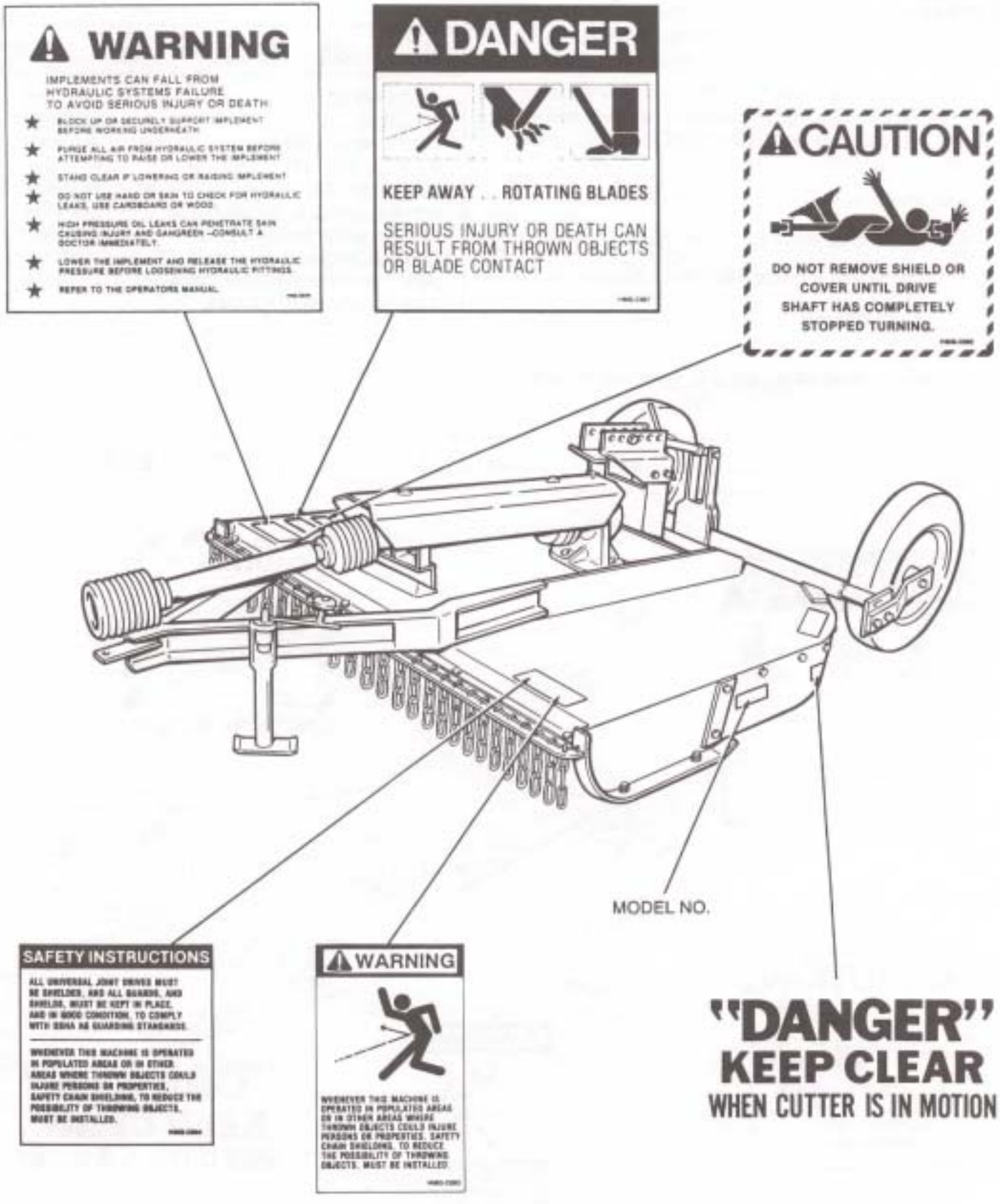
### HYDRAULIC SYSTEM

**⚠ CAUTION ⚠**

**HYDRAULIC FLUID CAN LEAK FROM THE HYDRAULIC SYSTEM IN AN ALMOST INVISIBLE STREAM WITH ENOUGH PRESSURE TO PENETRATE THE SKIN, CAUSING SERIOUS PERSONAL INJURY. NEVER CHECK HYDRAULIC SYSTEM FOR LEAKS WITH BARE HANDS. HOLD A PIECE OF CARDBOARD OR LIGHT COLORED WOOD NEXT TO THE FITTING OR HOSE TO CHECK FOR HYDRAULIC LEAKS.**

## SAFETY DECALS AND LOCATIONS — LIFT TYPE CUTTERS

# SAFETY DECALS AND LOCATIONS — PULL TYPE CUTTERS



# SECTION 1
# PREPARATION FOR USE
# VISUAL INSPECTION

## CHECK

**⚠ DANGER ⚠**

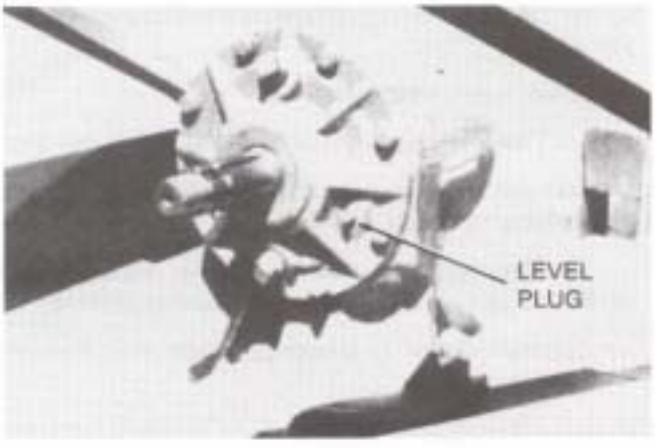
**NEVER ATTEMPT ANY CHECKS, REPAIRS OR ADJUSTMENTS WITH THE TRACTOR ENGINE RUNNING OR THE POWER TAKE-OFF ENGAGED. ADJUSTMENT OF ROTATING PARTS WHILE THE TRACTOR ENGINE IS RUNNING CAN RESULT IN SERIOUS PERSONAL INJURY OR DEATH IF THE PTO ACCIDENTALLY ENGAGES.**

### Gearbox Lube Level

The gearbox is filled with lubricant at the factory. If a shaft seal or cover gasket is damaged, the lubricant will leak. After periods of heavy use (at least every 10 hours of operation) or if lubricant leaks are observed, check the lubricant level.

- Position cutter on a level surface.
- Disconnect driveshaft from gearbox.
- Remove gearbox lubricant level inspection plug and check lubricant level. Lubricant should be at or near the hole.
- If lubricant is low, remove gearbox filler plug and add SAE 85-140 lubricant until the lubricant starts to flow from level inspection hole. DO NOT OVERFILL.
- Replace lubricant level inspection plug and filler plug.

**Note:** DO NOT OPERATE THE CUTTER WHEN LUBRICANT LEVEL IS LOW. Replace damaged seals or gasket and add lubricant to the correct level. DO NOT OVERFILL.




Checking Gearbox Lubricant Level

### Blade and Blade Holder Condition

- Lift and support cutter by an approved means.

**⚠ DANGER ⚠**

**LIFT AND SUPPORT CUTTER BY APPROVED MEANS ONLY. THE CUTTER WEIGHS OVER 800 POUNDS AND CAN CAUSE SEVERE INJURY OR DEATH IF IT FALLS ON THE OPERATOR DURING MAINTENANCE. SUPPORT THE CUTTER WITH A SUPPORTING DEVICE RATED FOR AT LEAST 1200 POUNDS.**

- Check cutting blades for sharpness and condition. Replace worn cutter blades in pairs only. Sharpen dull cutter blades in pairs only.

**Note:** It is good practice to weigh blades after sharpening to ensure balance.

**⚠ WARNING ⚠**

**EXCESSIVELY WORN OR DULL CUTTER BLADES, OR THE REPLACEMENT OR SHARPENING OF ONLY ONE CUTTER BLADE, CAN CAUSE EXCESSIVE CUTTER VIBRATION, RESULTING IN DAMAGE TO THE GEARBOX AND STRUCTURAL DAMAGE TO THE CUTTER. EXCESSIVE VIBRATION CAN CAUSE ROTATING PARTS TO BREAK AND FLY OFF THE CUTTER, CAUSING SERIOUS INJURY OR DEATH TO THE OPERATOR OR BYSTANDERS.**

- Lock blade holder so it will not turn.
- Remove blade holder shaft cotter pin.
- Check blade holder nut for tightness. Tighten as required.

**⚠ WARNING ⚠**

**A LOOSE BLADE HOLDER SHAFT NUT CAN CAUSE THE SHAFT TO BREAK, CAUSING THE HOLDER TO FLY OUT, DAMAGING THE CUTTER AND CAUSING SERIOUS PERSONAL INJURY OR DEATH TO THE OPERATOR OR BYSTANDERS. ENSURE THAT THE NUT IS TIGHT ON THE SHAFT AND THE COTTER PIN IS SECURELY IN PLACE.**

- Replace blade holder shaft cotter pin.
- Remove supporting means and lower cutter.

## Blade Attaching Hardware

- Rotate blade bolt access cover (on top cutter deck in front of gearbox) from over access hole.
- Turn blade holder to position blade bolt under access hole.
- Tighten blade bolt.
- Turn blade holder to position second blade bolt under access hole.
- Tighten blade bolt.
- Rotate blade bolt access cover over access hole.

Checking Blade Bolts

## Skid Condition

- Check skids for wear and tightness. Replace skids less than 1/16 inch thick.

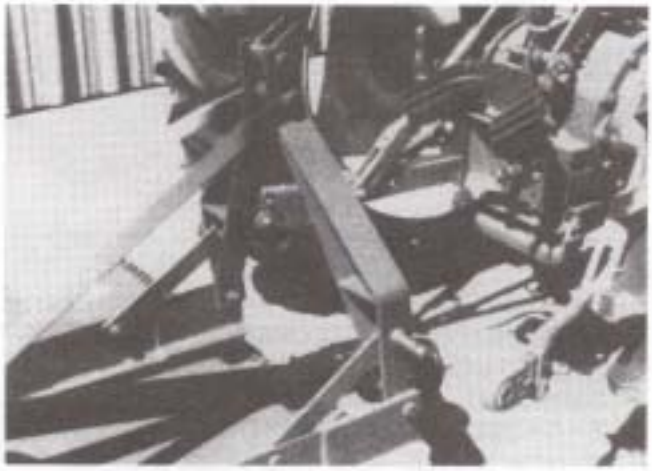
## Decal Condition

Check all decals for position and legibility before attaching the cutter to the tractor. Replace all decals that have been removed, damaged or destroyed. See the Safety section for decal locations.

# ATTACHMENT

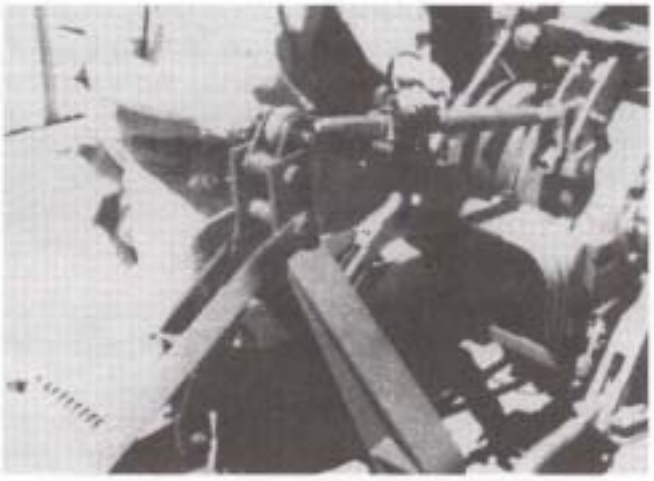
## Three-Point Hitch (Lift Type Cutter)

- Position tractor in front of cutter so that tractor hitch arms are in line with cutter hitch.
- Connect tractor lower hitch arms to cutter hitch points and lock pins in place.



Positioning Tractor for Hitching

- Connect tractor top hitch link to floating linkage on cutter hitch. Adjust linkage to a 45° angle.



Positioning Hitch Upper Arm

## Drawbar (Pull Type Cutter)

Adjust the tractor drawbar so that the hole is 14 inches behind the end of the PTO shaft and parallel to the tractor centerline. The vertical distance for the drawbar centerline to the driveshaft centerline should be 8 to 15 inches.

- Lower cutter front jack all the way down.
- Back tractor until drawbar is in line with cutter hitch.
- Connect cutter hydraulic system (if used) to tractor auxiliary hydraulic system.
- Position cutter tongue by turning elevation turnbuckle or operating hydraulic cylinder (if used).
- Connect cutter to tractor drawbar with a 1 inch drawbar pin.

## HYDRAULIC SYSTEM (OPTIONAL)

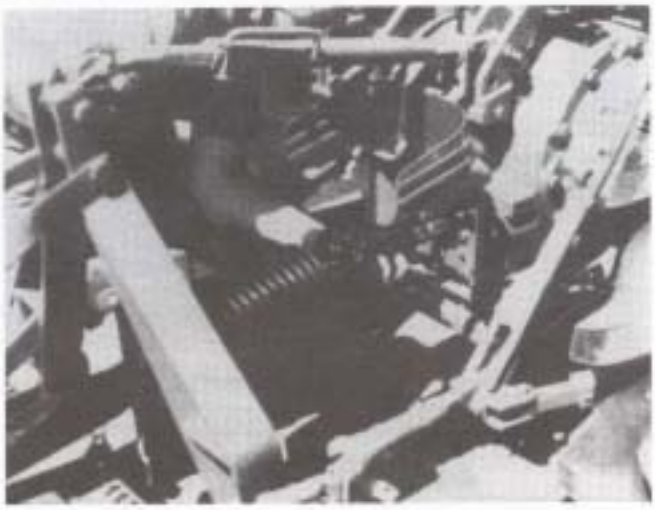
- Ensure that all hydraulic connections are tight before connecting cutter to tractor.
- Ensure all hydrauic lines and hoses are in good condition before pressurizing hydraulic system.

### Driveshaft

**⚠ WARNING ⚠**

**NEVER ATTACH THE CUTTER TO A 1000 RPM PTO. THE CUTTER IS RATED FOR 540 RPM ONLY. OPERATING THE CUTTER AT OVER 540 RPM COULD RESULT IN SEVERE DAMAGE TO THE CUTTER, AND IN PARTS FLYING OFF THE CUTTER RESULTING IN SEVERE PERSONAL INJURY OR DEATH TO THE OPERATOR OR BYSTANDERS.**

- Lift tractor PTO guard.
- Pull U-joint guard back along driveshaft.
- Press driveshaft yoke plunger in and slip driveshaft U-joint yoke onto splined PTO shaft. Check that plunger returns to locked position.



Installing Driveshaft on Tractor Power Take-off

- Position U-joint guard over driveshaft U-joint.
- Lower tractor PTO guard.

## ADJUSTMENT

### Slip Clutch (Earlier Models)

Cutters are equipped with a slip clutch on the driveshaft to protect the tractor and cutter drivetrain parts from sudden overloads. When properly adjusted, the clutch will slip to relieve excess loads and automatically reset itself without interrupting the cutting operation.

To compensate for clutch plate face wear and to maintain capacity during continuous use, the slip clutch must be adjusted periodically. Adjust the slip clutch at the beginning of each use, and when the cutter has been idle for extended periods.

**⚠ DANGER ⚠**

**NEVER ATTEMPT ANY REPAIRS OR ADJUSTMENTS WITH THE TRACTOR ENGINE RUNNING OR THE POWER TAKE-OFF ENGAGED. ADJUSTMENT OF ROTATING PARTS WHILE TRACTOR ENGINE IS RUNNING CAN RESULT IN SERIOUS PERSONAL INJURY OR DEATH IF THE PTO ACCIDENTALLY ENGAGES.**

- Remove slip clutch safety shield by removing retaining clip and sliding shield back along driveshaft.

Removing Slip Clutch Safety Shield

- Loosen slip clutch adjusting nuts.
- Check clutch plate assembly. Free plates by lightly tapping on flat edges of drive plates if required.

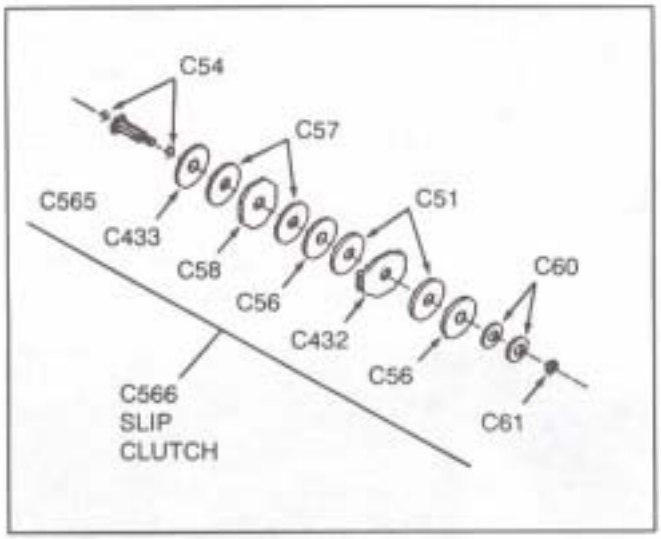
**NOTE:** Slip clutches have a tendency to seize if left idle for extended periods.

- Replace slip clutch safety shield.

**⚠ WARNING ⚠**

**ENSURE THAT ALL BYSTANDERS ARE CLEAR OF THE CUTTER BEFORE THE TRACTOR ENGINE IS STARTED. OBJECTS THROWN BY THE CUTTER CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.**

- Start tractor engine and engage power take-off at low rpm for one or two seconds to remove any rust or other foreign material between the slip clutch plates.
- Disengage PTO and turn off tractor engine. Ensure that all rotary motion has stopped, set brake and remove key before dismounting tractor.
- Remove clutch safety shield.
- Tighten clutch adjusting nut (C61) 1/2 turn at a time.




Adjusting Slip Clutch

- Scribe a chalk line across clutch drive plate and driven plate to mark their position relative to one another.

**NOTE:** The drive plate is on the U-joint side of the slip clutch. The driven plate is on the gearbox side.

- Replace clutch safety shield.
- Operate rotary cutter for three or four minutes under normal load.
- Disengage PTO, turn off tractor engine, set brake and remove key. Ensure that all rotary motion has stopped before dismounting tractor.
- Remove clutch safety shield.
- Observe chalk lines on clutch plates. If clutch is not slipping under normal load, chalk marks will still be aligned. Clutch is correctly adjusted. If clutch is slipping, chalk lines will be misaligned.

**NOTE:** If chalk is not available, the following method may be used to check for clutch slippage.

- Carefully check if clutch is overheating by holding hand near clutch. If slipping has occurred, allow clutch to cool before adjusting.

**⚠ CAUTION ⚠**

**DO NOT TOUCH THE SLIP CLUTCH WITH BARE HANDS IMMEDIATELY AFTER OPERATION. SEVERE SKIN BURNS AND COMPONENT DAMAGE MAY RESULT IF THE CLUTCH IS ADJUSTED WHILE HOT.**

- Tighten slip clutch adjusting nuts 1/6 to 1/3 turn and repeat above procedure until heating and slippage are eliminated.
- Replace clutch safety shield.

## 2200 Series Clutch

The following procedures should be performed at the beginning of each use and when the cutter has been idle for an extended period of time. The clutch should be INSPECTED and field adjusted. To do so, temporarily remove safety shield from clutch.

Removing Slip Clutch Safety Shield

**⚠ WARNING ⚠**

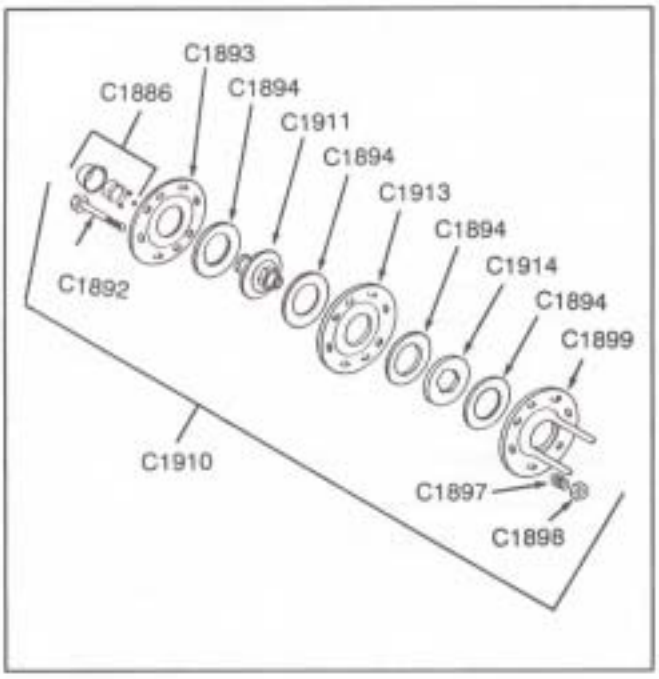
**MAKE SURE NO ONE IS NEAR CUTTER WHEN IN OPERATION.**

Engage Power Take-off (PTO) quickly at a low RPM to allow clutch to operate briefly (1 - 2 seconds) to remove buildup material from plates.

**⚠ DANGER ⚠**

**DISENGAGE PTO, TURN OFF TRACTOR, SET EMERGENCY BRAKE, REMOVE KEY AND MAKE SURE ALL MOTION HAS STOPPED.**

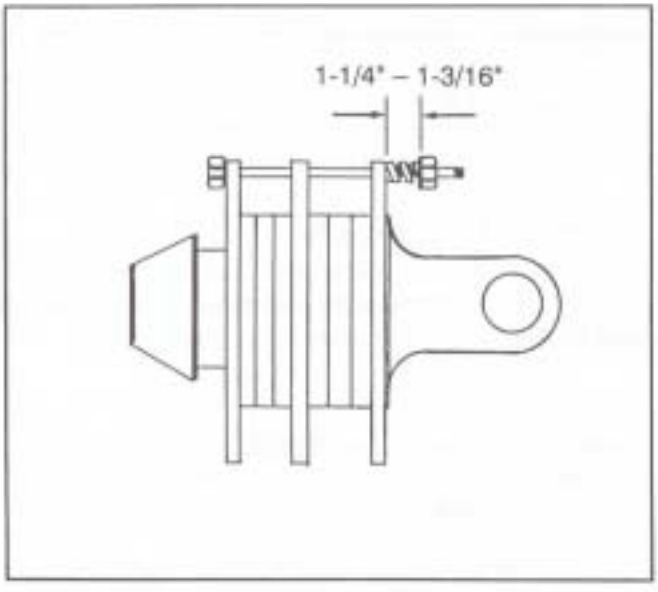
Loosen adjusting nuts, (C1896).




2200 Series Slip Clutch

If necessary, free plates by lightly tapping on the flat edges of the drive plates. After drive plates have been freed, loosen adjustment nuts until the plates can be turned by hand.

Tighten adjustment nuts until springs (C1897) have compressed to between 1-1/4" – 1-3/16" in length. If plates can be rotated by hand when springs are compressed to this limit, new plates must be installed.




Clutch Plate Adjustment Detail

**NOTE:** Replace shield after adjustments are complete. Hitch rotary cutter to tractor.

## Cutting Height

**⚠ WARNING ⚠**

**THE CUTTER MUST BE OPERATED LEVEL AT ALL TIMES TO MINIMIZE THE RISK OF OBJECTS BEING THROWN OUT FROM UNDER THE CUTTER. OBJECTS THROWN BY THE CUTTER CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.**

Safety chain shielding is highly recommended to minimize the danger of objects being thrown out from under the cutter. Safety chain shielding is available from Hardee Mfg. and authorized Hardee dealers and distributors. Safety belting comes standard on all cutters.

Front Safety Chain Accessory Installed

## Lift Type Cutter

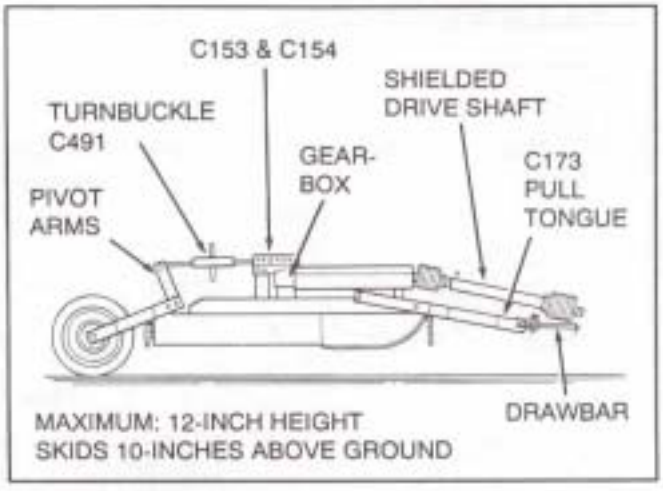
Use the tractor hitch leveling arms to adjust the cutting height of the front of the cutter. Adjust the tail wheel arm positioner to level the cutter.

## Pull Type Cutter

Adjust cutting height by removing bolts from the pull tongue and inserting them in the holes in the cutter deck runners that provide the desired gap between the skids and the ground. Height should be such that the skids are near the ground but not quite touching.

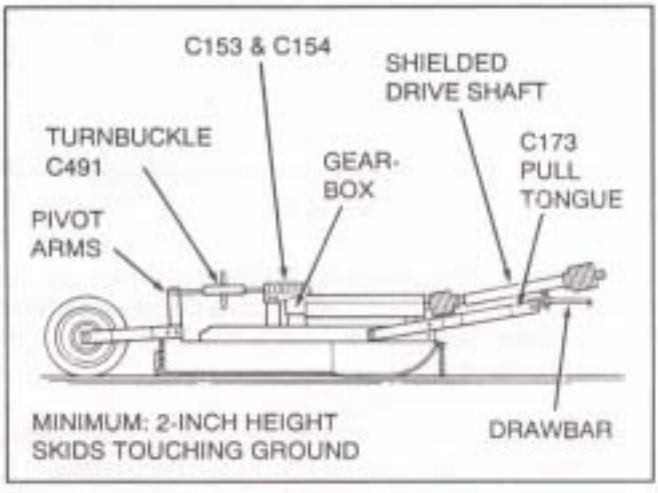
Level the cutter using the turnbuckle and the adjusting bracket (standard) or the hydraulic cyinder (optional).

Front Height Adjustment (Lift Type Cutter)




Height Adjustment – Maximum (Pull Type Cutter)

Rear Height Adjustment (Lift Type Cutter)




Height Adjustment – Minimum (Pull Type Cutter)

# SECTION 2
# OPERATION

## CAUTIONS

**⚠ DANGER ⚠**

**INCORRECT OPERATION OF THE CUTTER MAY PRODUCE HAZARDOUS SITUATIONS THAT CAN LEAD TO SERIOUS INJURY OR DEATH. THE CUTTER HAS BEEN DESIGNED TO MINIMIZE THE RISKS OF ACCIDENTS, BUT THERE IS NO SUBSTITUTE FOR A CAREFUL OPERATOR.**

**Note:** See SAFETY PRECAUTIONS in the introduction section for a list of safety related cautions to be observed while operating the cutter.

## Lights, SMV Emblems

If operating along public roads, warning lights or slow moving vehicle emblems should be used unless prohibited by law. Check local and state codes.

## Low Speed

Slow the tractor down when approaching trees, fences, ditches or other obstacles. The flywheel effect of the blade rotation will move some tractors forward after the main drive clutch has been disengaged. To stop forward movement, apply tractor brakes and throttle the engine back to allow the engine to slow the rotor before disengaging the PTO or drive clutch.

## NORMAL PROCEDURES

### Travelling (Lift Type Cutter)

Raise the cutter to its maximum height when travelling. Additional ground clearance can be obtained by shortening the tractor hitch center arm. NEVER engage PTO while cutter is in travelling position WITHOUT a cutting load.

**⚠ WARNING ⚠**

**TRANSPORTING THE CUTTER AT MAXIMUM HEIGHT CHANGES THE CENTER OF GRAVITY OF THE TRACTOR. DO NOT TRAVEL AT HIGH RATES OF SPEED WITH THE CUTTER IN TRAVELLING POSITION, ESPECIALLY OVER ROUGH OR BUMPY TERRAIN. TRACTOR INSTABILITY DURING HIGH SPEED TRAVEL CAN CAUSE A ROLLOVER, RESULTING IN SERIOUS PERSONAL INJURY OR DEATH.**

Lift Type Cutter Travelling Position

Lift Type Cutter Operating Position

### Travelling (Pull Type Cutter)

See Travelling (Lift Type Cutter).

## CUTTING

- Watch for holes, rocks, roots or other hidden hazards.
- Keep away from dropoffs.
- Do not cut near the edge of a gully or bank.
- Slow down before turning.
- Engage PTO as directed by tractor manufacturer.

### Reverse Operation

Do not operate the cutter in reverse unless absolutely essential.

**⚠ CAUTION ⚠**

**DO NOT OPERATE CUTTER IN REVERSE UNLESS ABSOLUTELY ESSENTIAL AND IT IS ALLOWED BY THE TRACTOR MANUFACTURER. REVERSE PTO OPERATION MAY DAMAGE TRACTOR DRIVETRAIN. MATERIAL MAY BE THROWN OUT THE FRONT OF THE CUTTER DURING REVERSE OPERATION, POSING A HAZARD TO THE OPERATOR AND BYSTANDERS. CUT IN REVERSE ONLY IF OPTIONAL SAFETY CHAIN SHIELDING IS INSTALLED ON THE CUTTER.**

- Look behind cutter before putting tractor in reverse gear
- Back tractor at lowest speed available.
- Watch back of cutter at all times while backing.

### Slopes

Cut down, not across, steep slopes. Avoid sudden starts and stops. Avoid cutting up steep slopes. Slow down before changing direction on steep slopes.

### Sharp Turns

When turning with a pull type cutter, ensure that the rear tractor wheels do not strike any part of the cutter. Extremely short turns should be avoided to prevent excessive U-joint wear.

## HEIGHT ADJUSTMENT

**⚠ WARNING ⚠**

**THE CUTTER MUST BE OPERATED LEVEL AT ALL TIMES TO MINIMIZE THE RISK OF OBJECTS BEING THROWN OUT FROM UNDER THE CUTTER. OBJECTS THROWN BY THE CUTTER CAN CAUSE SEVERE PERSONAL INJURY OR DEATH.**

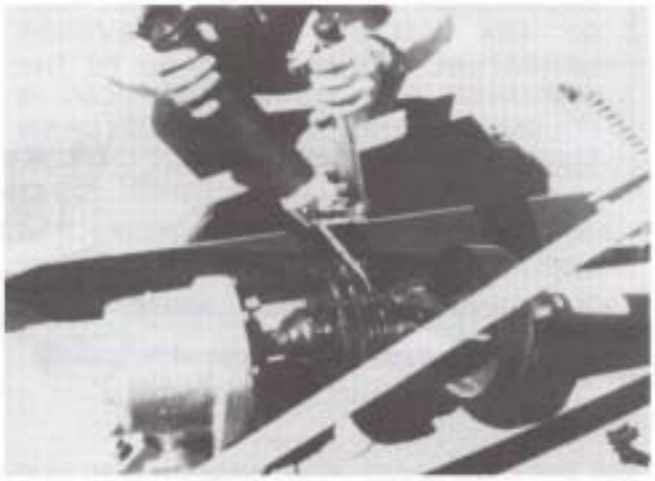
See CUTTING HEIGHT in Section 1.

# SECTION 3
# LUBRICATION

Visually inspect the cutter at least once a week. Lubricate parts with a good lithium EP grease at the intervals specified. If heavy, long-duration operation is expected, lubricate more frequently. Wipe off excess grease after lubricating.

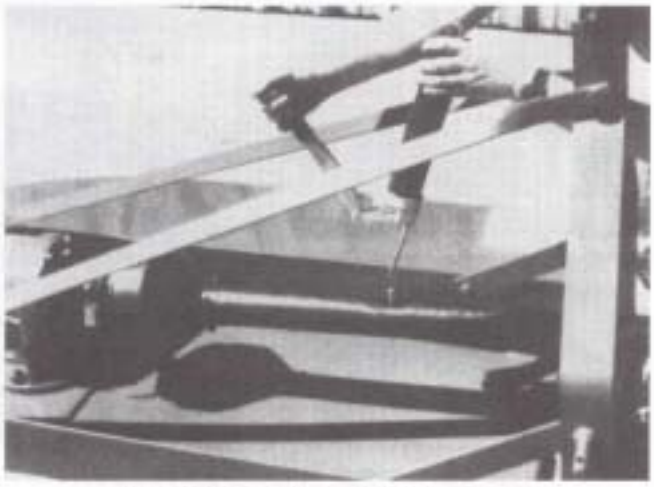
| Interval | Lift Type | Pull Type |
|---|---|---|
| 4 hours | U-joints | U-joint |
| 10 hours | Driveshaft Slip Joint<br>Tail Wheel Bearings<br>Tail Wheel Pivot | Driveshaft Slip Joint<br>Tailwheel Lift Tube |
| Yearly | | Ratchetjack<br>Wheel Bearings |

**U-JOINTS**



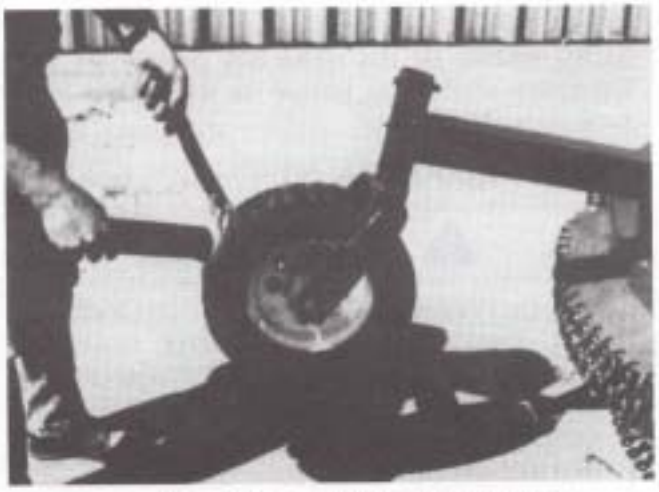
Lubricating Universal Joints

**DRIVESHAFT**



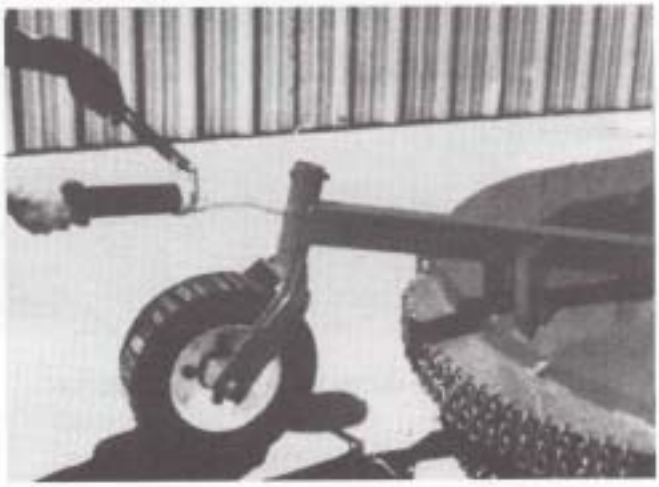
Lubricating Driveshaft Slip Joints

**TAIL WHEEL**



Lubricating Tail Wheel Bearings

**TAIL WHEEL**



Lubricating Tail Wheel Pivot

# SECTION 4
# MAINTENANCE

**⚠ DANGER ⚠**

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## BLADES

### Check Blade Condition

**⚠ WARNING ⚠**

**EXCESSIVELY WORN OR DULL CUTTER BLADES, OR REPLACEMENT OR SHARPENING OF ONLY ONE CUTTER BLADE CAN CAUSE EXCESSIVE CUTTER VIBRATION, DAMAGE TO THE GEARBOX AND STRUCTURAL DAMAGE TO THE CUTTER. EXCESSIVE VIBRATION CAN CAUSE ROTATING PARTS TO BREAK AND FLY OFF THE CUTTER, RESULTING IN SERIOUS INJURY OR DEATH TO THE OPERATOR OR BYSTANDERS.**

- Lift and support cutter by an approved means.

**⚠ DANGER ⚠**

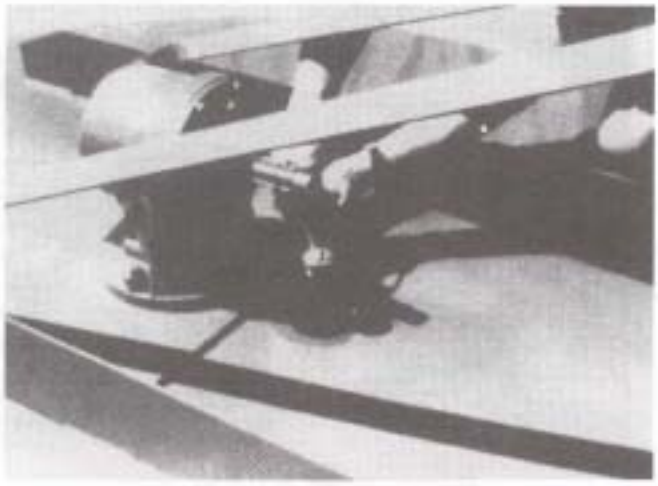
**LIFT AND SUPPORT CUTTER BY APPROVED MEANS ONLY. THE CUTTER WEIGHS OVER 800 POUNDS AND CAN CAUSE SEVERE INJURY OR DEATH IF IT FALLS DURING MAINTENANCE. SUPPORT THE CUTTER WITH A SUPPORTING DEVICE RATED FOR AT LEAST 1200 POUNDS.**

Properly Supported Cutter

- Check cutting blades for sharpness and condition. Replace worn cutter blades in pairs only. Sharpen dull cutter blades in pairs only.

### Remove Blades

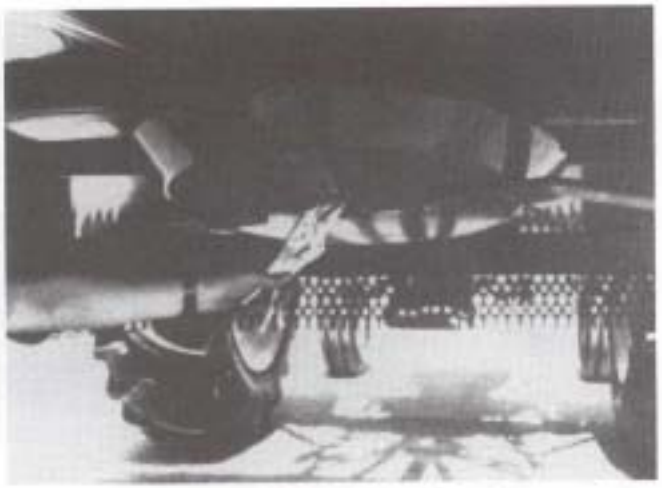
- Disconnect driveshaft from gearbox.
- Rotate blade bolt access cover (on top cutter deck in front of gearbox) from over access hole.
- Turn blade holder to position blade bolt under access hole.
- Remove blade bolt and blade.



Removing Blade Bolt

### Remove Blade Holder

- Lock gearbox shaft by an approved means.
- Remove cotter pin from shaft.
- Back off set bolt.

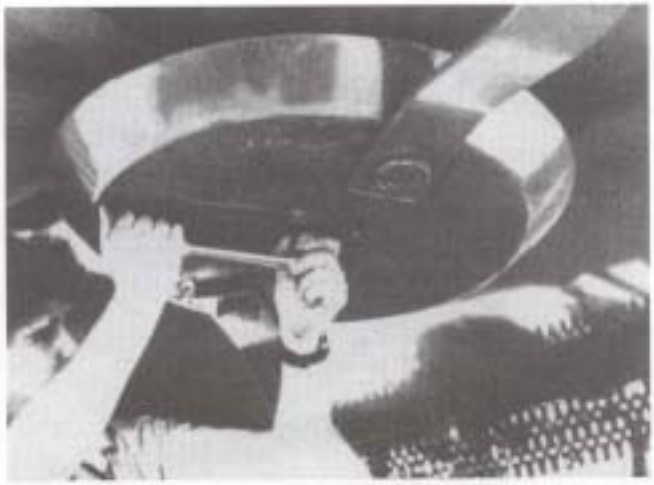


Removing Blade Holder Cotter Pin

**⚠ WARNING ⚠**

**THE BLADE HOLDER IS HEAVY AND CAN CAUSE SERIOUS PERSONAL INJURY OR DEATH IF IT FALLS ON THE OPERATOR. SUPPORT THE HOLDER BY AN APPROVED MEANS BEFORE PROCEEDING TO THE NEXT STEP.**

- Remove set bolt and nut.
- Remove slotted nut, washer and blade holder.



Removing Blade Holder Nut

## Replace Blade Holder

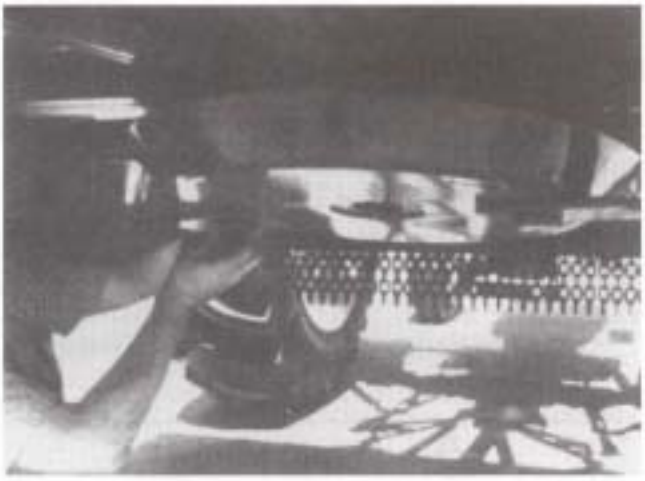
- Lift blade holder onto gearbox shaft.
- Install set bolt and nut.
- Install washer and slotted nut. Tighten the nut.
- Install cotter pin on gearbox shaft.

**⚠ DANGER ⚠**

**A LOOSE BLADE HOLDER COULD CAUSE THE GEARBOX SHAFT TO BREAK UNDER LOAD, CAUSING THE HOLDER TO FLY OUT FROM UNDER THE CUTTER. THIS COULD CAUSE DAMAGE TO THE CUTTER AND SERIOUS PERSONAL INJURY OR DEATH TO THE OPERATOR OR BYSTANDERS. ENSURE THAT THE SLOTTED NUT IS TIGHT AGAINST THE HOLDER AND THAT THE COTTER PIN IS IN GOOD CONDITION.**

## Replace Blades

- Rotate blade bolt access cover away from access hole in cutter deck.
- Position holder so that a blade mounting hole is directly beneath access hole.
- Position blade on holder.



Positioning Blade on Holder

- Install and tighten blade bolt.
- Turn blade holder to position second blade mounting hole under access hole.
- Install and tighten blade bolt.
- Rotate blade bolt access cover over access hole.
- Install driveshaft.
- Remove supporting means and lower cutter.

## Gearbox Lube Level

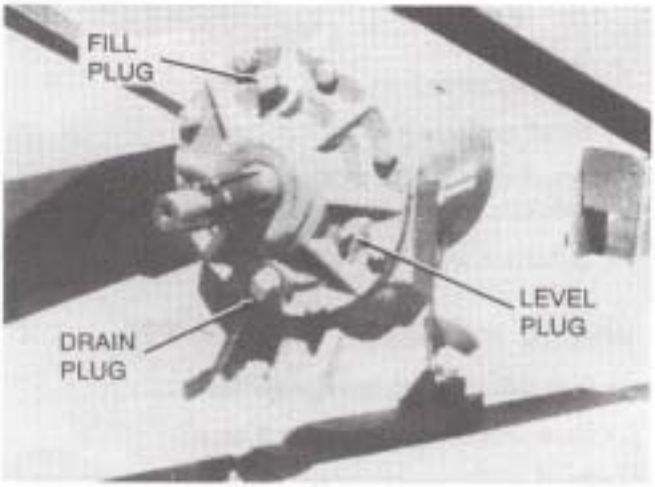
After periods of heavy use (at least every 10 hours of operation), or after repairing the gearbox, or if lubricant leaks are observed, check gearbox lubricant levels.

**⚠ CAUTION ⚠**

**DO NOT OPERATE THE CUTTER IF LUBRICANT LEVEL IS LOW. REPLACE DAMAGED SEALS OR GASKET AND ADD LUBRICANT TO THE CORRECT LEVEL. DO NOT OVERFILL.**

- Position cutter on a level surface.
- Visual check, look for leak at shaft and open plate cover and check for oil in blade pan.
- Remove gearbox lubricant level inspection plug and check lubricant level. Lubricant should be at or near bottom of hole.
- If lubricant is low, remove gearbox filler plug and add SAE 85-140 lubricant until lubricant starts to flow from level inspection hole. DO NOT OVERFILL.

  Overfilling will induce leakage and cause damage to seals and gaskets.
- Replace lubricant level inspection plug and filler plug.



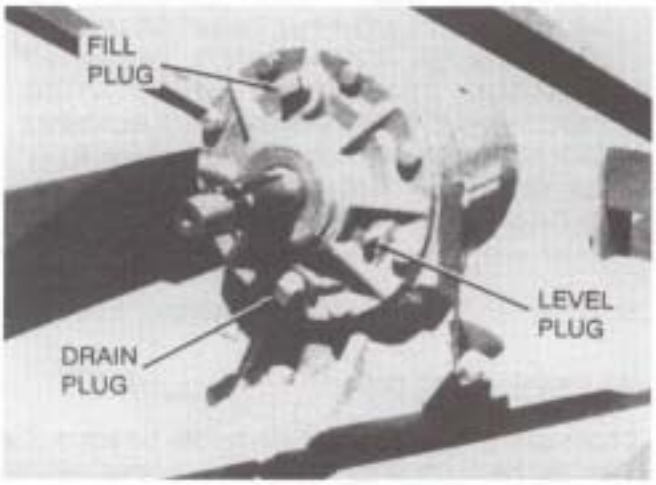

Checking Gearbox Lubricant Level

# GEARBOX

## Gearbox Seals and Gasket

Check the gearbox for leaks around the seals and gasket daily when the cutter is in use. If a shaft seal or gasket is damaged, lubricant will leak out of the gearbox.

- Disconnect driveshaft from gearbox.
- Remove lubricant drain plug and allow all lubricant to drain.




Lubricant Drain Plug

## Input Shaft Seal and Cover Gasket

- Remove gearbox cover.
- Replace shaft seal and cover gasket.
- Replace gearbox cover.
- Replace drain plug and refill with lubricant.

## Output Shaft Seal

- Remove blade holder.
- Remove gearbox from top deck. Drain lubricant.
- Replace shaft seal.
- Install gearbox on top deck.
- Replace drain plug and refill with lubricant.
- Install blade holder.

## Gearbox Mounting Hardware

Check that the gearbox is tight to the cutter top deck each day the cutter is in use. If it becomes loose, tighten the mounting bolts.

## SLIP CLUTCH

**⚠ DANGER ⚠**

**NEVER ATTEMPT ANY REPAIRS OR ADJUSTMENTS WITH THE TRACTOR ENGINE RUNNING OR THE POWER TAKE-OFF ENGAGED. ADJUSTMENT OF ROTATING PARTS WHILE TRACTOR ENGINE IS RUNNING CAN RESULT IN SERIOUS PERSONAL INJURY OR DEATH IF THE PTO ACCIDENTALLY ENGAGES.**

See SLIP CLUTCH adjustment procedure in Section 1.

## SAFETY SHIELDS

Check safety shields before each use. Check that all attaching hardware is tight. Replace any length of chain that has missing or damaged links. Replace rubber belting if damaged. If cutter has a haygate, after cutting hay, replace gate making sure all nuts and bolts are in place and tight. To keep haygate bolts in good condition when operating without gate, replace nuts and bolts and tighten.

## TAIL WHEEL (LIFT TYPE)

### Replace Wheel

**⚠ CAUTION ⚠**

**ADEQUATELY SUPPORT THE CUTTER AND THE WHEEL BEFORE REMOVING THE AXLE. BOTH THE WHEEL AND THE CUTTER ARE HEAVY AND COULD CAUSE DAMAGE TO THE CUTTER OR SERIOUS INJURY IF DROPPED.**

- Remove wheel axle nuts and axle.
- Remove wheel.
- Position wheel in pivot yoke.
- Install wheel axle and nuts.

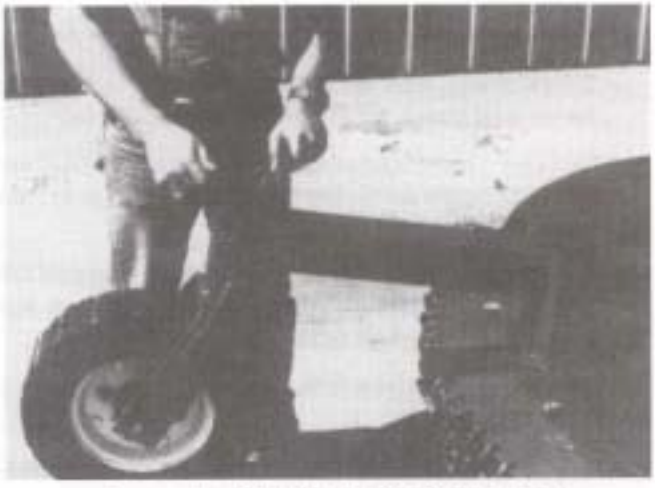
### Replace Pivot

- Raise and support cutter using approved means. Support cutter high enough so that pivot shaft can be removed from tail wheel pivot bracket.

**⚠ CAUTION ⚠**

**ADEQUATELY SUPPORT THE CUTTER AND THE TAIL WHEEL ASSEMBLY BEFORE REMOVING BOLT. BOTH THE TAIL WHEEL AND THE CUTTER ARE HEAVY AND COULD CAUSE DAMAGE TO THE CUTTER OR SERIOUS INJURY IF DROPPED.**

- Remove collar bolt, nut, and collar on top of pivot bracket.



Removing Tail Wheel Pivot Collar Bolt

- Remove pivot from pivot bracket.
- Install replacement pivot in bracket.
- Install collar, collar bolt, and nut on pivot on top of pivot bracket.
- Lubricate with lithium EP grease (See LUBRICATION, Section 3).

## WHEEL BEARINGS (PULL TYPE)

- Remove dustcap from wheel hub.
- Clean out old grease from dustcap.
- Pack dustcap with clean wheel bearing grease.
- Install dustcap.

# HARDEE LIMITED WARRANTY

Hardee warrants its **Equipment** (* Except Hydraulic Mowers) for one year to the original non-commercial, non-governmental, or non-municipal purchaser. And warrants for 90 days to the original commercial, industrial or municipal purchaser, that the goods are free from defects in material or workmanship.

Special OMNI Gearbox Warranty:
OMNI Gearboxes are warranted for a total of
**3 years** to the original non-commercial user and,
**1 year** to the commercial user.

This limited warranty does not apply to any part of the goods which has been subjected to improper or abnormal use, negligence, alteration, modification, or accident, damaged due to lack of maintenance, wrong oil or lubricants, or which has served its normal life.

The Warranty Card **must** be filled out and returned **within** 30 days of purchase. **NO** warranty will be allowed without a properly completed and returned warranty card.

"Our obligation under this warranty shall be limited to repair or replacement of any part or parts of this implement which in our judgement shows evidence of such defect and provided further that said parts shall be removed and returned by the owner at the owner's expense to Hardee by EVH Manufacturing Co. LLC, Loris, SC, through an authorized dealer, transportation prepaid, free and clear of liens or encumbrances.

**This warranty shall not include normal wear items.**

Changes or alterations to the implement made without the **written** authorization of the manufacturer, will render this warranty void.

This warranty does not obligate this company to bear any labor costs in replacement of defective parts.

Hardee by EVH Manufacturing Co., LLC. reserves the right to make changes or improvements in its equipment at any time, with the express understanding that such changes or improvements do not impose any obligation of the company to install such changes or improvements on implements previously manufactured.

**IMPLIED WARRANTIES:** You may have some implied warranties. For example, you may have an implied warranty of merchantability (that the unit is reasonably fit for the general purpose for which it was sold) or an implied warranty of fitness for a particular purpose (that the unit is suitable for your special purposes). This special purpose must be specifically disclosed to Hardee itself, and not merely to the dealer before your purchase, and Hardee itself, not just the dealer must approve, in writing that the special purpose is warrantable.

**These implied warranties do not apply at all if you use your equipment for business or commercial use.**

*See separate Hydraulic Mower Limited Warranty for Hydraulics

# Notes


HARDEE

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