

\$5.00



Model  
5HD, 7HD, 8HD, 10HD & 12HD  
**Heavy Duty Mower**

Starting w/Serial No. 46284



Center Lift



Offset Lift



Center Pull

# OPERATOR'S & PARTS MANUAL

Form No. HD 278, June 1990  
(Replaces HD 184 Rev. 2, March 1987)

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# INTRODUCTION

## To The Owner

Before operating the mower read the Operating, Adjustment and Maintenance instructions in this manual. Check each item referred to and become familiar with the adjustments and/or settings required to obtain efficient operation and maximum trouble free service.

### Work Safely



This symbol is used to call your attention to instructions concerning your personal safety. Be sure to observe and follow these instructions.

### Warranty Registration

It is important to send in your warranty registration card as soon as your new Heavy Duty Mower is delivered. Not only does the card validate your machine warranty, but it is also our way of knowing who has purchased M-C equipment so that we can keep in touch with you.

## Model and Serial Number Location

The model and serial number of the mower is stamped on a plate located on the left side of the body, see Figure 1. For future reference, record the model and serial number in the blank spaces in Figure 2.

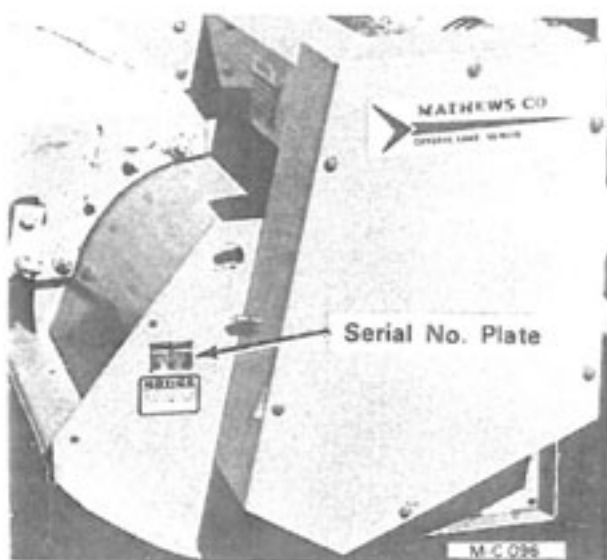


Figure 1

M-C FARM EQUIPMENT	
MODEL NO.	SERIAL NO.
<input type="text"/>	<input type="text"/>
MANUFACTURED BY <b>MATHEWS COMPANY</b> CRYSTAL LAKE, ILLINOIS, U.S.A.	
<b>OTHER PATENTS PENDING</b>	
2,999,346	3,159,957
3,035,393	3,159,959
3,831,359	3,831,357

M-C 011

Figure 2

## Parts Ordering Instructions





1. Order parts from your local M-C dealer or distributor.
2. Always furnish the mower model and serial number. This information is stamped on the serial number plate.
3. Service parts for the mower are listed in the "Parts" section of this manual. When ordering parts be sure to furnish the part number, description and quantity required.
4. Inspect all shipments upon receipt. If any packages and/or boxes are missing, or parts are damaged, file a claim with the carrier immediately. Failure to do so may void a claim. Check the shipment against the packing list carefully. Report any shortages to the shipper immediately.
5. Do not return any parts to the Mathews Company without a "Return Goods Authorization" from the factory. All return parts shipments must be shipped prepaid (COD shipments will not be accepted). Shipments must also include the following:
  - A. A letter of explanation including the "Return Goods Authorization Number," your name and address.
  - B. A list of all parts being returned. List must include part number, description, quantity and original invoice number.

## Capscrew Grade Identification

There are four grades of hex-head capscrews. Grade 1 and 2 are common capscrews, grade 5 and grade 8 are used when greater strength is required. Each grade can be identified by the marking on the head of the capscrew, see chart below.

When servicing the machine and/or replacing capscrews, be sure to use the correct size and grade. If in doubt, refer to the parts list. If a specific grade is not shown as part of the description, the capscrew is a grade 1 or 2.

**CAPSCREW GRADE IDENTIFICATION CHART**

S.A.E. Grade	Description	Capscrew Head Marking*
1	WILL HAVE A PLAIN HEAD - NO RADIAL LINES	
2	Low or Medium Carbon Steel Not Heat Treated	
5	WILL HAVE 3 RADIAL LINES Quenched and Tempered Medium Carbon Steel	
8	WILL HAVE 6 RADIAL LINES Quenched and Tempered Special Carbon or Alloy Steel	

\*The center marking identifies the capscrew manufacturer.

## Metric (SI) Measurements

### (English Units & Metric (SI) Equivalents)

#### Area

1 square inch = 6.4516 square centimeters  
1 square foot = 0.0929 square meters  
1 square yard = 0.8361 square meters  
1 acre = 4047 square meters  
1 acre = 0.4047 hectare

#### Force

1 pound (force) = 4.45 newtons

#### Length

1 inch = 25.4 millimeters  
1 inch = 2.54 centimeters  
1 foot = 304.8 millimeters  
1 foot = 30.5 centimeters  
1 foot = 0.305 meters  
1 yard = 0.9144 meters  
1 mile = 1.6093 kilometers

#### Mass

1 ounce = 28.35 grams  
1 pound = 0.454 kilograms  
1 ton = 907.1848 kilograms

#### Power

1 horsepower = 0.7457 kilowatts

#### Pressure

1 psi = 6.89 kilopascals  
1 psi = 0.00689 megapascals  
1 inch of mercury = 3.377 kilopascals

#### Temperature

1 degree Fahrenheit ( $^{\circ}\text{F} - 32$ )  $\div 1.8 = ^{\circ}\text{Celsius}$

#### Torque

1 inch pound = 0.113 newton meters  
1 foot pound = 1.356 newton meters

#### Velocity

1 mile per hour = 1.61 kilometers per hour

#### Volume

1 bushel = 35.24 liters  
1 bushel = 0.0352 cubic meters  
1 pint = 0.4731 liters  
1 quart = 0.9464 liters  
1 gallon = 3.7854 liters  
1 cubic inch = 16.387 cubic centimeters  
1 cubic foot = 0.0283 cubic meters  
1 cubic yard = 0.7646 cubic meters

**NOTE:** The Mathews Company reserves the right to incorporate any changes in design without obligation to make these changes on units previously sold.

# SET-UP INSTRUCTIONS

## General

Before beginning to set-up the mower, read the set-up instructions carefully to become familiar with the machine.

Check to make sure that you have received all parts listed on your packing list and/or machine order. Make claims for any shortages immediately.

RIGHT or LEFT and FRONT or REAR of the mower is determined by standing behind the mower looking toward the tractor PTO.

Assemble the mower on a solid flat level surface to insure safety and to aid in aligning parts during assembly.

These instructions cover setting-up the mower for field operation and the installation of any optional accessories that were ordered with the mower. Follow the instructions that pertain to your mower.



**CAUTION:** Get help if the parts are too heavy or difficult for you to handle.



**CAUTION:** Always use safety stands or blocking in conjunction with hydraulic jacks or hoists. Do not rely on the jack or hoist to carry the load, they could fail.

**IMPORTANT:** Never lift or handle the mower by the rotor. Also, when shipping, never use the rotor as an anchor point to tie the mower down.

## Gauge Roller

(Optional on Pull Type Mowers)

1. Lift the back of the mower just high enough to install the gauge roller. **DO NOT** lift the mower by the rotor. Place safety stands under the mower body.
2. Install the gauge roller hangers into the ends of the gauge roller and position the gauge roller under the mower, see Figure 3.
3. Install a  $\frac{1}{2}$ -13 x  $1\frac{1}{2}$ " (Grade 5) hex-head capscrew thru the hanger into the lower rear hole on both sides of the mower body, see Figure 4. Secure with lockwasher and hex-nut, do not tighten.
4. Raise the gauge roller to the height you want to cut and install a  $\frac{1}{2}$ -13 x  $1\frac{1}{2}$ " (Grade 5) hex-

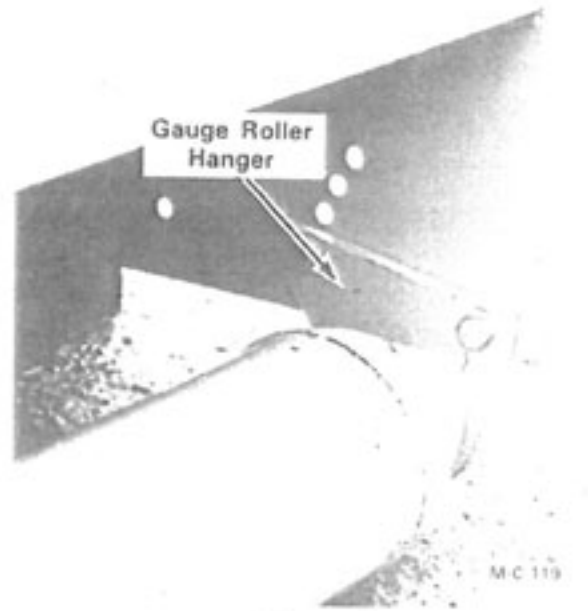


Figure 3

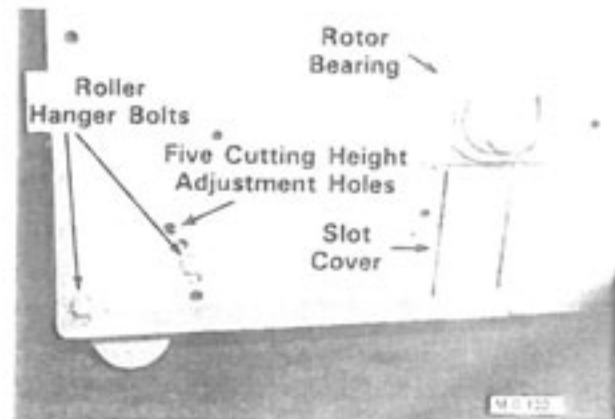


Figure 4

head capscrew thru the hanger into the adjustment hole on both sides of the body, see Figure 4. These capscrews must be in the same hole on each side. Secure with lockwasher and hex-nut.

5. Tighten all four capscrews. Raise the mower, remove the jack stands and lower the mower to the ground.

## Three-Point Hitch

1. Attach the left and right "A" frame brackets to the front four holes in the mower body with  $\frac{3}{8}$ -11 x 2" (Grade 5) hex-head capscrews,





Figure 5 - HDCL and HDOL Models

lockwashers and hex-nuts as shown in Figure 5. Do not use the fifth hole. The capscrews are to be left loose.

2. Install the "A" frame spreader between the "A" frame brackets using  $\frac{1}{2}$ -13 x  $1\frac{1}{2}$ " (Grade 5) hex-head capscrews, lockwashers and hex-nuts.
3. Tighten all capscrews evenly so that the "A" frame is true.
4. Install a hitch link pin (category 2) in each "A" frame bracket and secure them with the hex-nut and lockwasher that come with the pins. It may be necessary to remove the paint from the holes in the "A" frame brackets to make installation easier.

**NOTE:** Hitch link pins for category 2 ( $1\frac{1}{8}$ " OD) three-point hitch tractors are supplied with the mower. Category 1 ( $\frac{7}{8}$ " OD) link pins are available see page 38.

### Pull-Type Hitch

1. Attach the pole mount to the two lower holes on the front wrapper ribs with  $\frac{5}{8}$ -11 x 2" (Grade 5) hex-head capscrews, lockwashers and hex-nuts, see Figure 6.
2. Attach the pole support mount to the outside of the front wrapper ribs (use the second and third hole from the top) with  $\frac{5}{8}$ -11 x 2" (Grade 5) hex-head capscrews, lockwashers and hex-nuts, see Figure 6. Keep the capscrew heads to the outside.

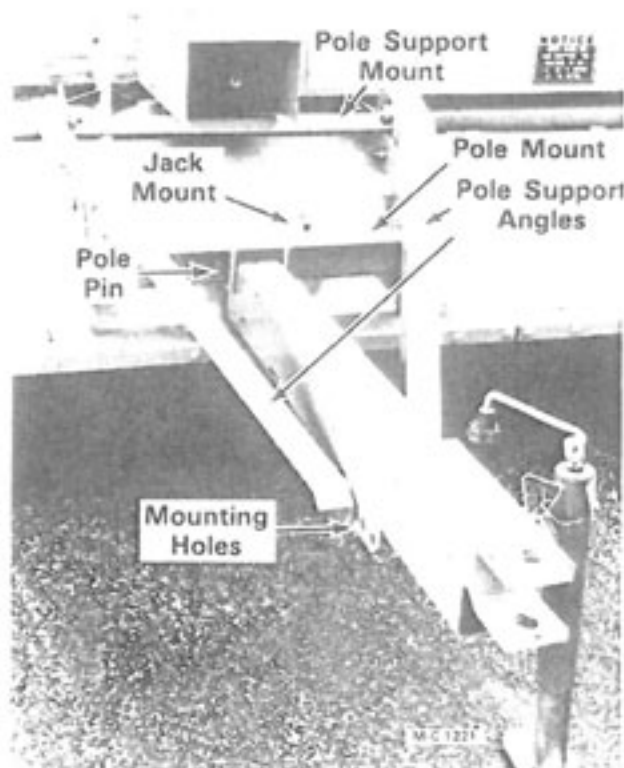


Figure 6 - HDCL Models


3. Attach the pole support angles to the pole support mount with  $\frac{3}{4}$ -10 x 2" (Grade 5) hex-head capscrews, lockwashers and hex-nuts.
4. Lift the front of the mower with a chain hoist just high enough to install the pole. Install the pole and secure with the pole pin and click pin. Be sure the click pin ring is snapped into the locking position.

**IMPORTANT:** Do not lift the mower by the rotor.

5. Raise the front of the mower until the pole is at tractor drawbar height. There are seven pole support angle mounting holes on each side of the pole and three mounting holes in each pole support angle mount. Select the set of holes on each side that will set the pole at the desired height and install the pole support angles. Secure with  $\frac{3}{4}$ -10 x 2" (Grade 5) hex-head capscrews, lockwashers and hex-nuts.
6. Install the jack onto the mount and insert the retaining pin. Lower the jack to transfer the weight of the mower to the pole and frame. Remove the chain hoist.

## Gear Box and PTO Shaft

1. The gear box, has a 1.35:1 gear ratio and is designed to be used for either 540 or 1000 RPM tractor PTO use. The mower was shipped from the factory with gear box mounted in the 540 RPM tractor PTO position.
2. With the gear box mounted in the 540 RPM position, the output shaft speed will be increased to 740 RPM. When the gear box is in the 1000 RPM position, the output shaft speed will be decreased to 740 RPM.
3. If the Mower is to be operated by a tractor with a 1000 RPM PTO the gear box mounting **MUST** be changed as outlined in steps 4 thru 10. If it does not have to be changed proceed to step 11.

 **CAUTION:** Never operate the mower with a 1000 RPM PTO when the gear box is installed in the 540 RPM position. To do so will greatly over-speed the rotor, and possibly cause bodily harm.

4. Remove the input and output shaft guards. Remove the clamp bolt, nut and lockwasher from the splined yoke on the gear box output shaft, see Figure 7.
5. Remove the four gear box mounting capscrews and pull the gear box off of the output shaft splined yoke.
6. Turn the gear box on its side and remove the drain plug. Remove the bushing, with vent, and install the drain plug in this location. Install the bushing, with vent, in the drain plug location.
7. Invert the gear box to exchange the input and output shaft positions. In the 1000 RPM position, the short shaft is the input shaft, see Figure 7.
8. Slide the gear box output shaft (long shaft) into the mower output shaft splined yoke. Install the four gear box mounting capscrews and tighten securely. Install splined yoke clamp bolt, lockwasher and nut. Tighten securely.
9. Check the oil level in the gear box. If it is low, add Mobilfluid 423 multipurpose transmission lubricant or equivalent until it just runs out of the level plug. **DO NOT OVERFILL.**

Mobilfluid 423 is available from M-C in one pint containers. Order M-C part number 000 8991.

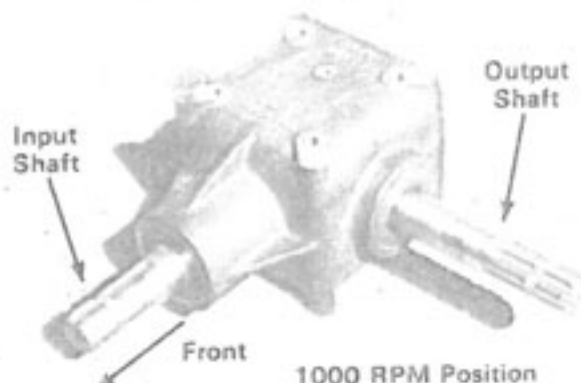
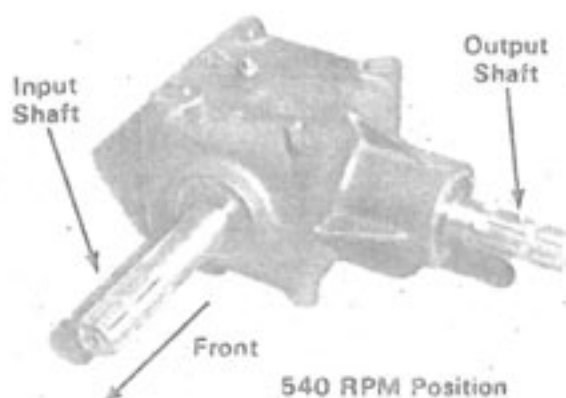


Figure 7

10. Change the yoke assembly at the tractor end of the PTO shaft to a 1 1/8" 21 spline for 1000 RPM operation. Install the input and output shaft guards.

**NOTE:** To convert from 1000 to 540 RPM operation, reverse the above procedure.

11. Remove all paint and foreign material from the gearbox splined input shaft and from both PTO shaft yokes. Be sure the quick disconnect devices on the PTO shaft yokes are working smoothly to ease installation.
12. Apply a small amount of grease to the splines of the gear box input shaft and both PTO shaft yokes. Install the six spline yoke end of the PTO shaft onto the gear box input shaft. Be sure the Saf-T-Pin is fully engaged.



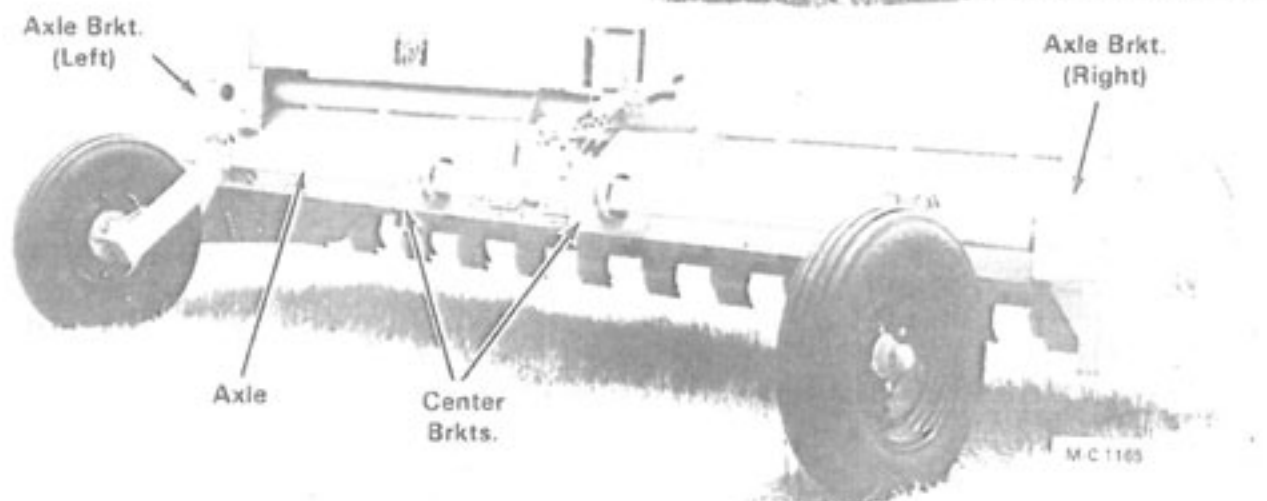


Figure 8 - Model 8 HD Shown

### Rear Axle (Pull Type Mowers)

1. Remove the belt guard cover. Remove and discard the two capscrews securing the belt guard back plate to the rear of the mower body. These two holes will be used to mount the axle bracket.
2. Mount the left axle bracket as shown in Figure 8 with two  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " (Grade 5) hex-head capscrews, lockwashers and hex-nuts.
3. Install the two center brackets on the outside of the rear body ribs, see Figures 8 and 9. Use two  $\frac{5}{8}$ -11 x  $1\frac{3}{4}$ " (Grade 5) hex-head capscrews, lockwashers and hex-nuts on each side. **Do not tighten.**
4. Slide the rear axle through the center brackets and into the axle bracket on the left side. Place the right axle bracket over the end of the axle and mount it to the right side of the mower body with two  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " (Grade 5) hex-head capscrews, lockwashers and hex-nuts, see Figure 8.
5. Carefully tighten all four axle mounting brackets. Check to be sure that the axle does not bind as the capscrews are being tightened. Install the belt guard cover.
6. Mount the axle ram clevis on the axle so it aligns with the ram mount, see Figure 9. Install a mechanical ratcheting or hydraulic ram (to be supplied by the customer). A mechanical ratcheting ram is available, order M-C Part No. 001 8985.

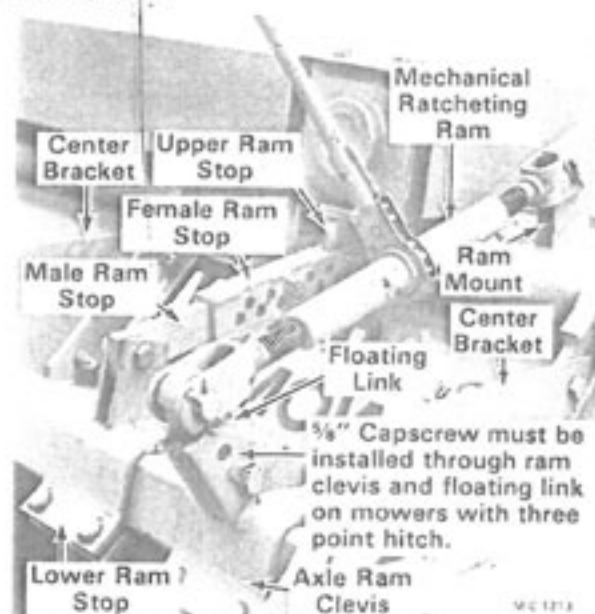


Figure 9

7. Remove the plate under the gear box and replace it with the upper ram stop, see Figure 9.
8. Install the lower ram stop. Be sure it is aligned with the upper ram stop. Install the female and male ram stops as shown in Figure 9. Secure them with  $\frac{5}{8}$ -11 x  $2\frac{1}{2}$ " (Grade 5) hex-head capscrews, lockwashers and hex-nuts.
9. Install the wheels and tires on the wheel mounts. Inflate the tires to 32 lbs. Attach a sling to the mower body. Lift the mower with a chain hoist just high enough to install the wheel mounts and wheels.

**IMPORTANT:** Do not lift the mower by the rotor.

10. Install the wheel mount and hub assemblies to the rear axle, see Figure 8. Tighten the wheel mount clamps so both wheels contact the ground at the same time. The position or spacing on the axle can be adjusted for your specific needs. Additional wheel mount assemblies can be added for increased floatation. See page 36 & 37 for part numbers.

**IMPORTANT:** On lift type mowers secure the axle ram clevis floating link so that the axle cannot rotate when the mower is lifted. Use a  $\frac{3}{8}$ -11 x 2 $\frac{1}{2}$ " (Grade 5) hex-head capscrew, lockwasher and hex nut, see Figure 9.

### Rear Deflector (Optional)

The optional and removable rear deflector will contain and further shred the cut material. Tree prunings and coarse brush are reduced to a fine mulch. **DO NOT** install on mowers that are not equipped with a rear gauge roller.



**CAUTION:** Do not install the rear deflector with the mower connected to the tractor. Disconnect the tractor and move it away until you are ready to check the installation.

1. Bolt the rear deflector to the mower body with  $\frac{1}{2}$ -13 x 1 $\frac{3}{4}$ " (Grade 5) hex-head capscrews, flatwashers and hex-nuts. The heads of the capscrews go to the inside, see Figure 10.
2. Use two hex-nuts on each capscrew to lock the rear deflector in place. Tighten the first hex-nut securely, then hold the first hex-nut and tighten the second one.
3. Connect the mower to the tractor and run the rotor slowly to be sure the knives are not striking the rear deflector.



**CAUTION:** When checking for rotor clearance, do not stand behind the mower. Stay well clear and listen for possible interference.

### Lubrication

1. Remove the oil level plug on the right side (540 RPM) or the rear (1000 RPM) of the gear box, see Figure 11. The oil level should be even with the bottom of the level plug.

If the oil level is low, remove the bushing with vent on top of the gear box and add Mobilfluid 423 multipurpose transmission lubricant or

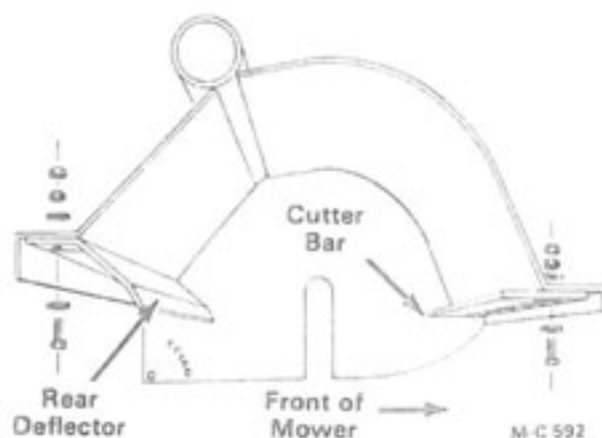


Figure 10

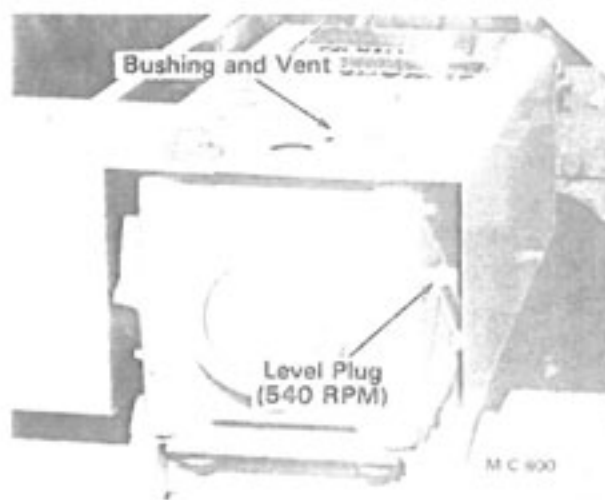


Figure 11

equivalent until it just runs out of the level plug.

Mobilfluid 423 is available from M-C in one pint containers. Order M-C part number 000 8991.

Install the level plug. Check to be sure the vent is not plugged with paint or dirt. Install the bushing with vent.

2. There are eight (8) lubrication fittings on the mower. Also, there is one (1) lubrication fitting on each caster wheel arm on Front Mounted Mowers.
3. For fitting locations refer to "Lubrication" page 14. Lubricate with a hand grease gun. Do not over lubricate. Too much grease may damage the bearing seals.

## Tractor Drawbar Adjustment

(Pull Type Mowers)

1. To get the minimum amount of vibration and prolong the life of the bearings in the PTO shaft, adjust the tractor drawbar so that the distance from the end of the tractor PTO shaft to the center of the hole in the drawbar is 16 inches for 1000 RPM or 14 inches for 540 RPM.
2. Connect the PTO shaft to the tractor PTO. Be sure the Saf-T-Pin or Safety Slide Lock is fully engaged.

### IMPORTANT

NOW THAT YOUR MOWER IS SET UP AND ALL SAFETY EQUIPMENT IS INSTALLED, RUN IT AT A LOW RPM CHECKING TO MAKE SURE THAT ALL DRIVE LINE PARTS ARE MOVING FREELY.

# OPERATION

## Safety Precautions



A safe operator is the best insurance against accidents. The precautions listed below must be observed at all times.

- Do not allow children or bystanders near the mower while it is operating.
- Do not operate the mower without all safety shields in place and secure.
- Do not operate the mower without the stone guard. Operating without the stone guard could cause personal injury.
- Do not make any inspections or adjustments while the mower is operating or while the tractor is running.

## General

1. It takes approximately 10 to 15 acres of mowing to get the inside of the mower and the knives polished to obtain the best performance. As the mower breaks in, performance will improve.
2. **Lift Type Mowers** - When mowing, the tractor hitch lift links must be "free to float". Refer to tractor operator's manual for procedure.
3. Always start and stop the mower slowly to prevent excessive shock loads to the belt drive assembly and rotor. Engage and disengage the tractor PTO at low engine RPM.
4. Rotor rotation is clockwise when standing on the left side of the mower looking at the belt guard cover.
5. On lift type mowers equipped with a rear axle kit, be sure to secure the axle ram clevis floating link so that the axle cannot rotate when the mower is lifted. Use a  $\frac{3}{8}$ -11 x 2 $\frac{1}{2}$ " (Grade 5) hex-head capscrew, lockwasher and hex-nut, see Figure 12.
6. Never operate the mower with missing or broken knives. If any knives are missing or broken, the rotor will be out of balance and the mower will vibrate. Replace missing or

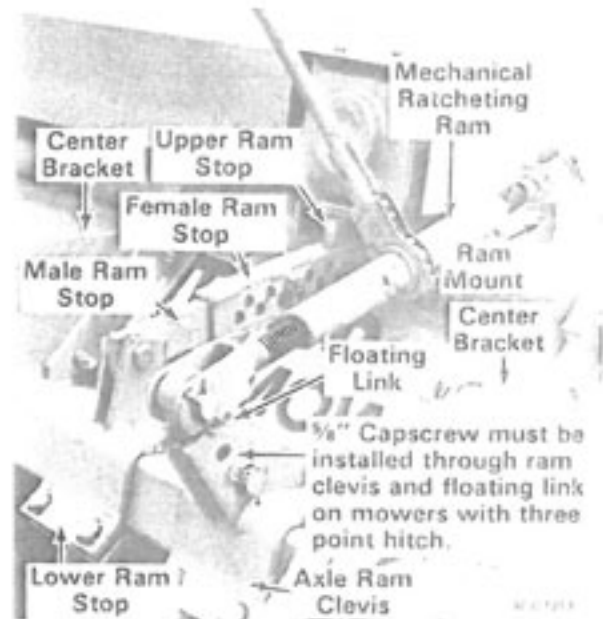


Figure 12

broken knives in sets. See "Knife Replacement" page 16 for procedure.



**CAUTION:** Before attempting to make any inspection, be sure to disengage the PTO and stop the tractor engine.

7. Operating the mower in prunings larger than 2 $\frac{1}{2}$ " in diameter or in rocky conditions will increase maintenance cost and shorten machine life.
8. After 10 to 20 hours of operation check the drive belt adjustment, see page 16.
9. A safety check should be made after the mower has been in operation a few hours.
  - A. Tighten all capscrews and locknuts.
  - B. Inspect knives to be sure they are not damaged.
  - C. Check to be sure that all guards and shields are in place and secure.
  - D. Inspect the wheel mounts, gauge roller, (if equipped), rotor, gear box, output drive shaft, belt drive assembly and PTO shaft for signs of unusual wear or lubrication leaks that could lead to part failure.

## Power Take-Off Shaft

### Lift Type Mowers

1. Attach the mower to the tractor and connect the PTO shaft. Raise the mower slowly (without the PTO running) and watch the PTO shaft to see that it does not pull apart when the mower is completely raised.
2. Most tractors have an adjustable stop on the hydraulic lift control lever that will stop the lift of the tractor hitch at a predetermined height. This stop should be adjusted so that the mower is off of the ground just high enough for transport.
3. Raising the mower higher than necessary can cause the PTO shaft universal joints to be at a severe angle. This could cause premature failure of the universal joints if the tractor PTO is engaged.
4. Lower the mower slowly and watch the PTO shaft telescope. Make sure it does not bottom out.

**IMPORTANT:** Never drop the mower, always lower it slowly. Constant dropping may cause premature gauge roller bearing failure.

5. Position the tractor with the front wheels up on the side of a bank. Lower the mower slowly the full travel of the tractor hitch. Inspect the PTO shaft to be sure it has not bottomed out.

**IMPORTANT:** If the PTO shaft bottoms out damage can occur to the mower gear box and/or PTO shaft.

## Cutting Height

### Lift Type Mowers

1. There are a series of five holes at each end of the gauge roller, see figure 13. Loosen the bottom capscrew in each gauge roller hanger.
2. Lift the mower with the tractor hydraulic system and place safety stands under the mower body. **DO NOT** lift the mower by the rotor. Remove the upper capscrew in each gauge roller hanger.

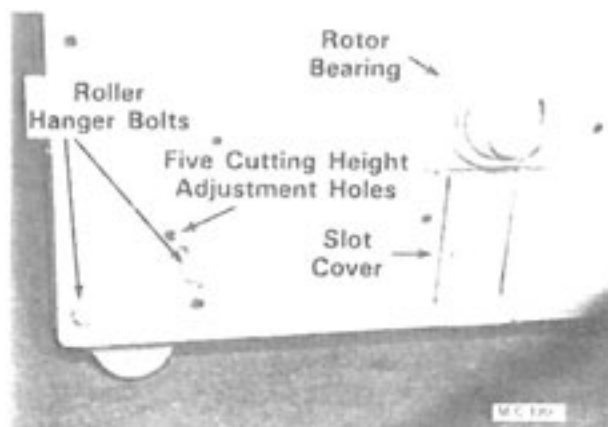


Figure 13



**CAUTION:** Always use safety stands under the mower body when changing the position of the gauge roller. Do not depend on the tractor hydraulic system to hold the mower, it could fail.

3. Rotate the gauge roller up or down to the desired cutting height and install the capscrews in the same hole on each side. Tighten all four capscrews and nuts securely. Remove the safety stands and lower the mower.
4. Additional cutting height adjustment can be made by lengthening or shortening the top link of the tractor three point hitch.
5. For best operation, the mower skids should be parallel to the ground when the mower is on the ground and all tractor hydraulic pressure is released.

### Pull Type Mowers

1. The mower body can be raised or lowered easily and quickly to the desired cutting height by rotating the mower axle.
2. The axle can be rotated with the optional mechanical ram or an owner supplied hydraulic ram. The hydraulic ram is preferred. The operator can quickly raise and lower the mower to avoid contacting the ground or other obstacles when mowing.
3. The mower must be kept as level as possible from front to rear to insure safe operation and proper mowing action. The mower can be leveled by moving the pole support angles

forward or back. There are seven pole support angle mounting holes on each side of the pole and three mounting holes on each side of the pole support mount, see Figure 14.

4. Moving the angles forward will lower the cutting height and moving the angles to the rear will raise the cutting height. For best operation, the mower skids should be parallel to the ground. Be sure to tighten all pole support angle capscrews after the adjustment has been made.

## Cutter Bar

1. The adjustable cutter bar is located under the front stiffner bar of the mower body, see Figure 15. There is one cutter bar on the Model 5HD & 7HD, two on Models 8HD & 10HD and three on Model 12HD.



**CAUTION:** Disengage the PTO and stop the tractor engine before adjusting the cutter bar.

2. Loosen the capscrews and nuts securing the cutter bar(s) to the front stiffner bar just enough to permit the cutter bar(s) to move in the adjusting slots.
3. Slide the cutter bar(s) toward the back of the mower until the desired spacing is obtained between the knives and the cutter bar(s). Adjust evenly and tighten the capscrews and nuts.
4. Before operating the mower, rotate the rotor slowly to be sure the knives do not strike the cutter bar.



**CAUTION:** When checking for clearance, do not stand behind the mower. Stay well clear and listen for possible interference.

## Pole Jack (Pull Type Mowers)

1. To prevent possible damage to the tractor tires when making sharp left turns, remove the pole jack from the pole. Store it on the jack mount located on the pole mount, see Figure 14.

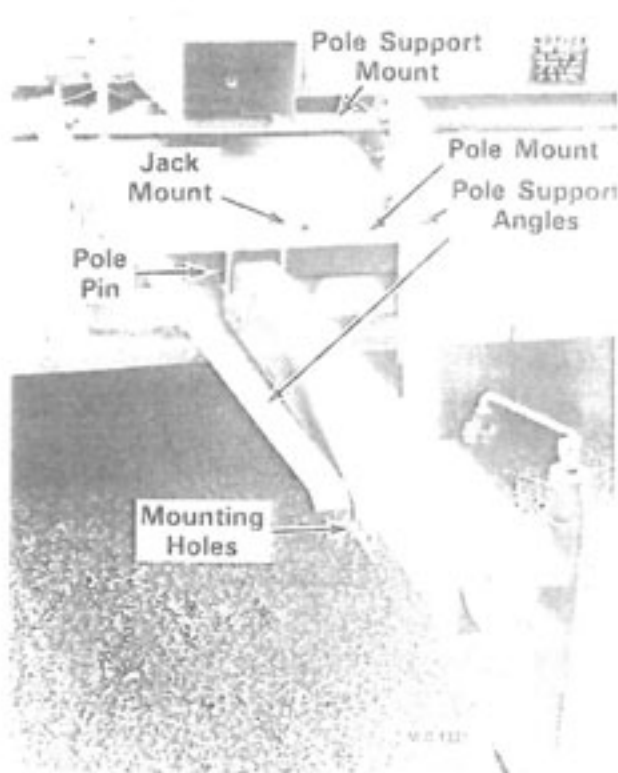


Figure 14

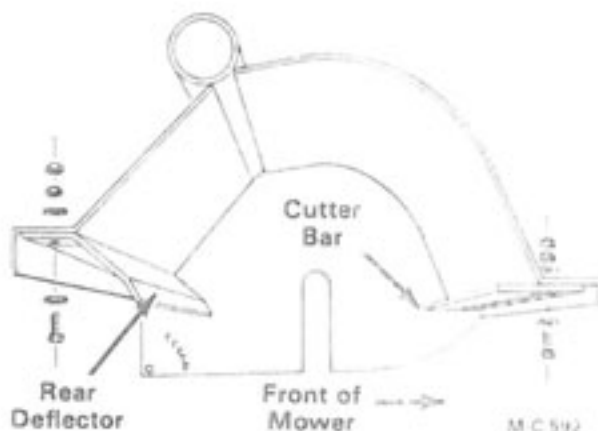


Figure 15



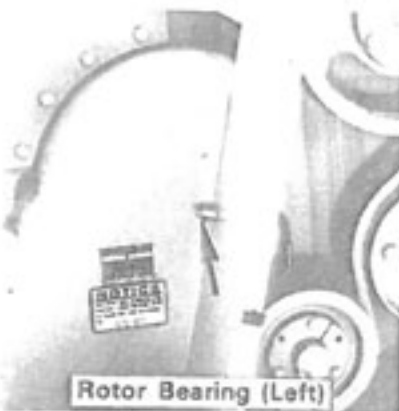
## MAINTENANCE



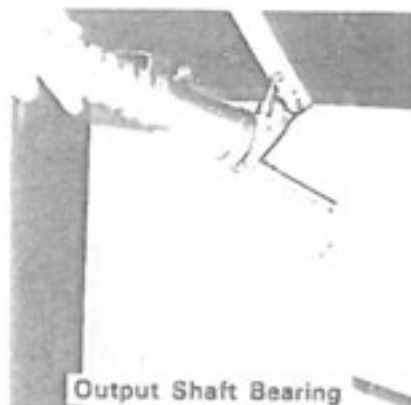
PTO Shaft



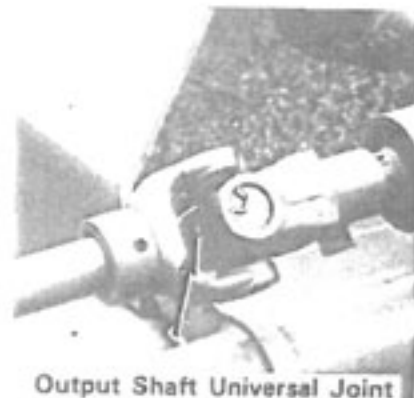
Rotor Bearing (Right)



Rotor Bearing (Left)



Output Shaft Bearing



Output Shaft Universal Joint

Figure 16

M-C 133

### General



**CAUTION:** Do not allow children or bystanders near the mower while it is being adjusted and/or serviced.

#### Periodically During the Season

1. Tighten all capscrews and locknuts.
2. Inspect all knives to be sure they are not damaged.
3. Check to be sure that all the guards and shields are in place and secure.
4. Inspect the wheel mounts, rotor, gear box, output drive shaft, belt drive assembly and PTO shaft for signs of unusual wear or lubrication leaks that could lead to part failure.

### Lubrication

There are 8 lubrication fittings on the mower. Also, there is 1 lubrication fitting on each caster wheel arm on Front Mounted Mowers. Lubricate with a hand grease gun.

Use a good grade of bearing grease. Do not over lubricate. Too much grease may damage the bearing seals.

The two gauge roller bearings and the drive belt idler pulley bearings are sealed units and **DO NOT** require any lubrication.

#### Every 40 Hours

1. Lubricate the 8 lubrication fittings shown in Figure 16 & 16A.

**NOTE:** To locate the PTO spline shaft fitting, compress the PTO shaft until the distance from

the center of one yoke to the center of the other is 67" on pull type mowers and 24 $\frac{3}{4}$ " on lift type mowers. Rotate the male and female guards until the slots in the guards are aligned. Then rotate both guards together until the fitting appears in the slot.

#### Every 200 Hours (or seasonally)

1. Lubricate the idler arm bushings once a season or every 200 hours of operation whichever occurs first, see Figure 17.

#### Periodically During the Season

1. Periodically check the oil level in the gear box. Remove the oil level plug on the right side (540 RPM) or the rear (1000 RPM) of the gear box, see Figure 18.
2. The oil level should be even with the bottom of the level plug hole. If not, remove the bushing and vent on top of the gear box and add Mobilfluid 423 multipurpose transmission lubricant or equivalent until it just runs out of the level plug hole.

Mobilfluid 423 is available from M-C in one pint containers. Order M-C part number 000 8991.

3. Install the level plug and the bushing with vent. Check to be sure the vent is open.

### Knife Sharpening

**CAUTION:** Always use safety stands or blocking in conjunction with hydraulic jacks or hoists. Do not rely on the jack or hoist to carry the load, they could fail.

**IMPORTANT:** Never lift or handle the mower by the rotor.

1. Under normal operating conditions the knives will give you many trouble free hours of service with only occasional maintenance. The knives are mounted so they are free to swing on the rotor. This gives the knives increased cutting action and shock absorbing ability.
2. It is important to check the knives occasionally for sharpness and/or possible damage from hitting rocks or prolonged contact with the ground. Replace any damaged knives. Operating with damaged knives can cause vibration due to rotor imbalance.
3. Knives can be sharpened on the mower with a portable electric grinder or they can be removed



Figure 16A



Figure 17

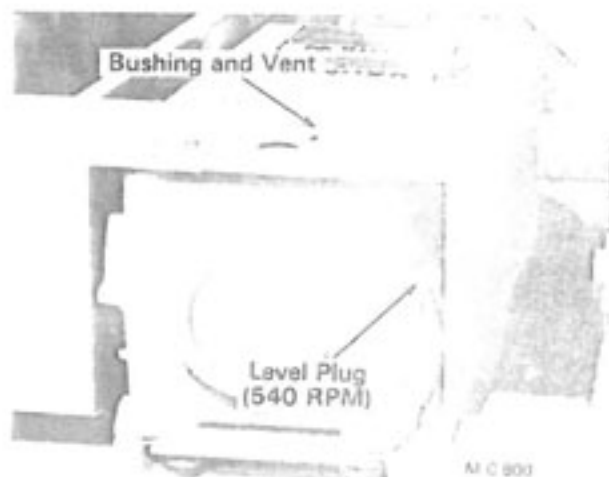


Figure 18

(See "Knife Replacement") and sharpened on a bench grinder. The knives should be sharpened only on the back side.



**CAUTION:** Always wear safety glasses when sharpening knives with a grinder.

## Knife Replacement



**CAUTION:** Always use safety stands or blocking in conjunction with hydraulic jacks or hoists. Do not rely on the jack or hoist to carry the load, they could fail.

**IMPORTANT:** Never lift or handle the mower by the rotor.

1. A complete set of knives on one rotor hanger bar can be removed as follows:

- A. Remove the right slot cover, see Figure 19.
- B. Turn the rotor and line up the rotor hanger bar in the center of the slot in the right side of the body, see Figure 20. Block the rotor in this position.
- C. Loosen the four right rotor bearing mounting bolts and remove the lower half of the anti-wrap.
- D. Remove the two capscrews and locknuts securing the right end locator bracket to the rotor. Turn the locator bracket to a vertical position and pull the bracket and hanger bar out through the slot in the body. The knives will drop off as the hanger bar is pulled out.

2. Installation of the knives and rotor hanger bars is the reverse of the removal procedure. When reassembling pay particular attention to the following:

- A. The dished or concave side of the knives must face the front of the mower when hanging down and swing freely.

**IMPORTANT:** Whenever a knife is replaced, always replace the knife on the opposite side to maintain rotor balance.

## Drive Belt Adjustment

1. Remove the belt guard cover.
2. Measure the compressed length of the idler spring. It should be 5 to 5½ inches long.
3. If not, loosen the locknut and tighten the idler spring adjusting nut, see Figure 21,

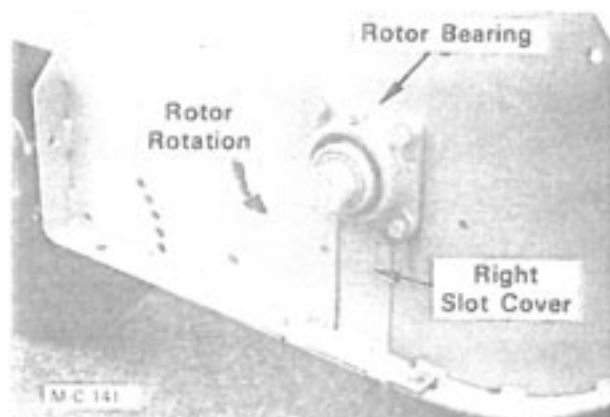


Figure 19

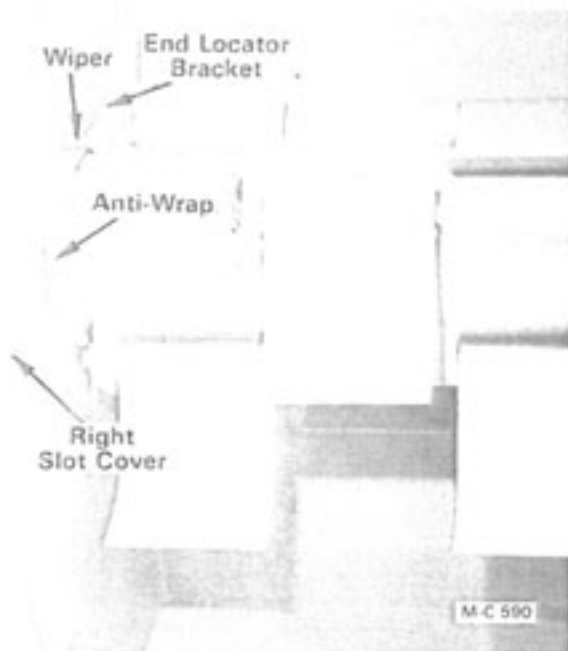


Figure 20 - Front View

until the compressed spring length is 5 to 5½ inches long.

4. Tighten the locknut and install the belt guard cover.

## Drive Belt Replacement

**IMPORTANT:** On model 10HDC, 10HDO and 12HDC the drive belts are a matched set. If just one belt failed, both belts must be replaced.

1. Remove the belt guard cover
2. Before replacing drive belts determine what caused the failure. Three common causes of belt failure are:
  - A. If belts are broken, this indicates a severe shock load or engagement of the tractor

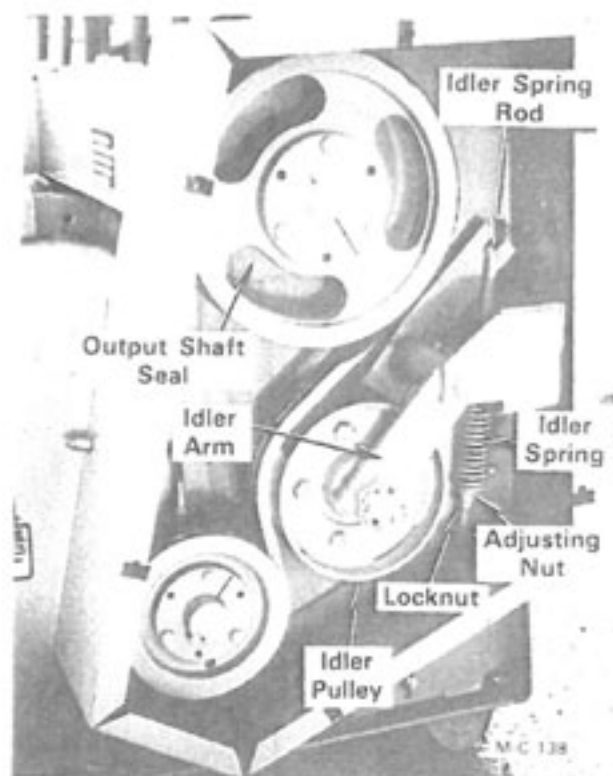


Figure 21

PTO at high engine RPM. Always engage and disengage the tractor PTO at low engine RPM.

- B. If belts are burned in places, this indicates that the belts are slipping. Adjust belt tension. See "Drive Belt Adjustment".
- C. If one belt has turned over, is frayed or there is a great amount of powdered rubber in the belt guard, the drive and rotor pulleys are misaligned or the idler pulley is misaligned. Refer to "Drive and Rotor Pulley Alignment" and "Idler Pulley Alignment" page 18.

To prevent another belt failure, correct the problem before installing new belts.

3. Loosen the idler spring rod locknut and back off the idler spring adjustment nut to relieve all spring tension. Remove the idler spring rod and spring, see Figure 21.
4. Push the idler pulley to the back of the belt guard and remove the old belts.
5. Clean dirt and debris from inside the guard and in the pulley grooves. Dirt build-up in the pulley grooves can ruin the belts.
6. Install new belts.

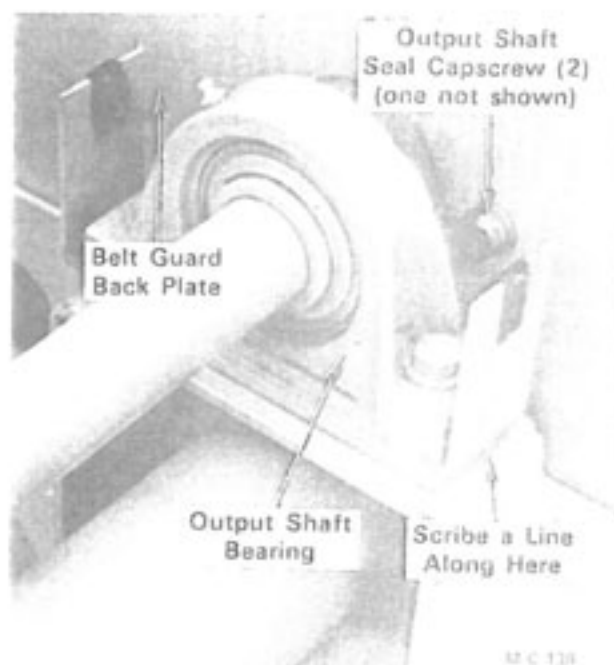


Figure 22

7. If you have difficulty installing the new belts on the pulleys proceed as follows:

- A. Remove the input and output shaft guards.
- B. Remove the two capscrews securing the output shaft seal, see Figure 21 and 22.
- C. If the pulleys are aligned, scribe a line on the output shaft bearing mounting bracket as shown in Figure 22 to establish the location of the bearing when reassembling.
- D. Remove the two capscrews, lockwashers and hex-nuts securing the output shaft bearing. Lift up on the output shaft and remove the spacer, output shaft guard bracket and shims from under the output shaft bearing, see Figure 23.
- E. Lower the output shaft. Install the belts.
- F. Reverse steps "B thru E". Be sure to align the output shaft bearing with the mark made in step "C". Tighten the output shaft bearing capscrews.

**IMPORTANT:** Never run the mower without the bearing spacer in place.

- G. Check the drive and rotor pulley alignment with a straight edge. Refer to

"Drive and Rotor Pulley Alignment" following.

- H. Install the output and input shaft guards.
8. Install the idler spring rod and spring. Tighten the idler spring adjusting nut until the spring is compressed to 5 to 5 1/4 inches long and secure with the locknut. Check the idler pulley alignment. Refer to "Idler Pulley Alignment" below.
9. Install the belt guard cover.

## Drive and Rotor Pulley Alignment

1. To check drive belt pulley alignment, remove the belt guard cover and place a straight edge across the face of the drive and rotor pulley, see Figure 24.
2. If the pulleys are not in alignment, remove the input and output shaft guards, relieve idler spring tension and adjust the output shaft bearing as follows:
  - A. Pulleys are out of alignment vertically. Raise or lower the output shaft and bearing as required by adding or removing shims under the bearing, see Figure 23.
  - B. Pulleys are out of alignment horizontally. Loosen the bearing mounting capscrews and move the output shaft and bearing forward or back as required. The bearing mounting holes are slotted for this purpose, see Figure 23.
3. Check idler pulley alignment, see "Idler Pulley Alignment" following.

## Idler Pulley Alignment

1. The belt idler pulley must run in line with the drive and rotor pulleys so that the belts track flat on the idler pulley.

**IMPORTANT:** The drive belt pulleys must be in alignment before checking idler pulley alignment.

2. To check idler pulley alignment, place a straight edge across the face of the idler pulley up to the drive pulley. Measure the distance from the face of the drive pulley to the straight edge at two places. If the measurements are equal the idler pulley is aligned.
3. If the idler pulley is out of alignment, loosen the idler spring rod locknut and back off the

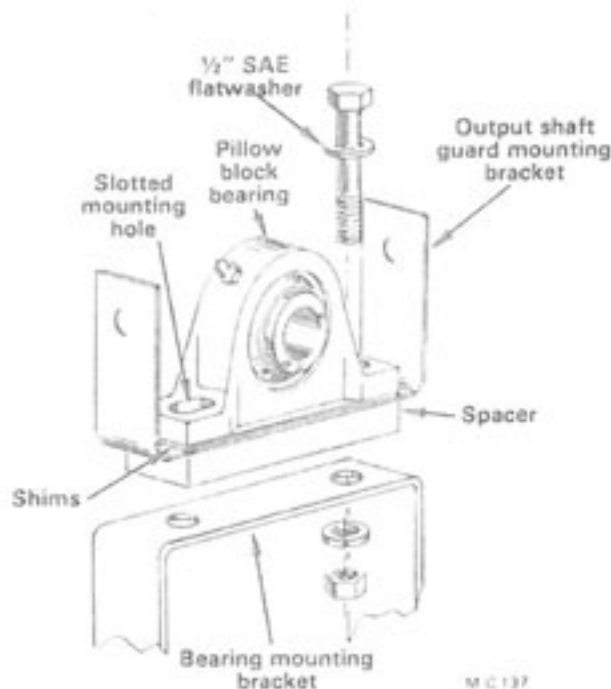


Figure 23

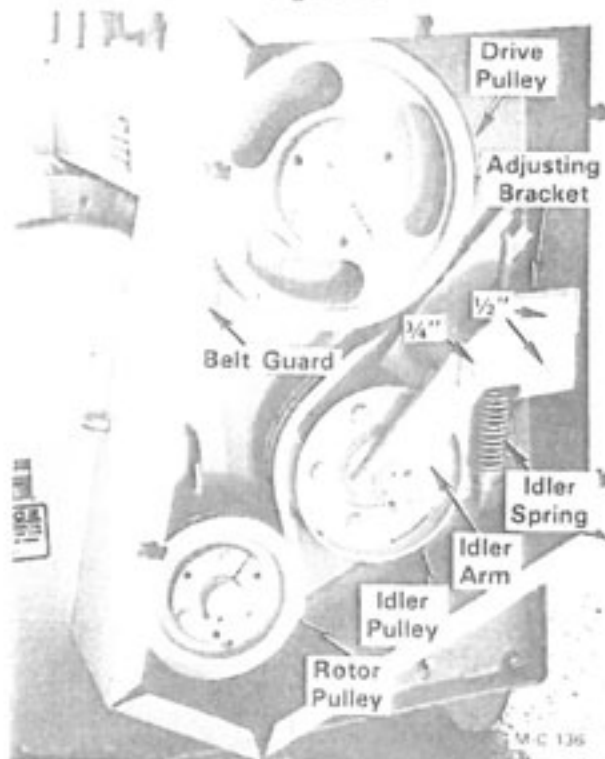


Figure 24 - Model 8HD Shown

idler spring adjustment nut to relieve all spring tension, see Figure 24.

4. Loosen the two 1/2 inch and one 3/4 inch capscrews in the adjusting bracket. Move the adjusting bracket forward, back, up or down as required until the idler pulley is in alignment. The 1/2 inch capscrew holes in the adjusting bracket are

slotted horizontally and the holes in it's mounting are slotted vertically for this purpose.

5. When the idler pulley is aligned, tighten the two  $\frac{1}{2}$ " capscrews first, then the  $\frac{3}{4}$ " capscrew. Tighten the idler spring adjustment nut until the spring is compressed to 5 to 5 $\frac{1}{4}$  inches long and secure locknut. Install the belt guard cover.

## Drive and Rotor Pulley Replacement

**NOTE:** The drive and rotor pulleys are held on the shafts with tapered bushings. The bushings have jack screw holes that are used to remove them. Do not attempt to remove the pulleys with a gear puller as this could result in damage to the pulleys.

1. Remove the belt guard cover. Remove the drive belts. Refer to "Drive Belt Replacement" page 16 for procedure.
2. Remove the three mounting capscrews in the bushing, see Figure 25. Thread the capscrews into the three jack screw holes in the bushing. Tighten the three capscrews progressively and evenly until the bushing is loose on the shaft.
3. Remove the bushing and pulley from the shaft. If the bushing does not slip off of the shaft, wedge a screwdriver blade in the saw cut in the flange of the bushing (not the tapered surface) to spread the bushing.
4. Before installing the pulley and bushing thoroughly inspect the tapered bore of the pulley and the tapered surface of the bushing. Any paint, dirt, oil or grease must be removed.
5. Place the bushing into the pulley from the front so that the bushing flange is to the outside, see Figure 26. The bushing and the bore of the pulley are tapered. Be sure to install the bushing into the large ID of the pulley tapered bore. If the bushing is installed into the small ID of the pulley, the pulley hub will crack when the mounting capscrews are tightened.
6. Place the three capscrews through the open holes in the bushing and thread them into the pulley by hand. Do not tighten the capscrews.

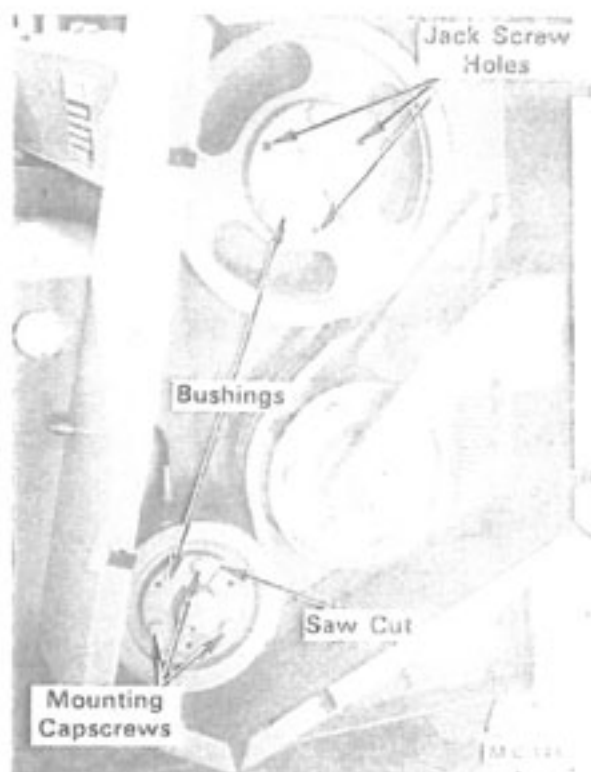


Figure 25

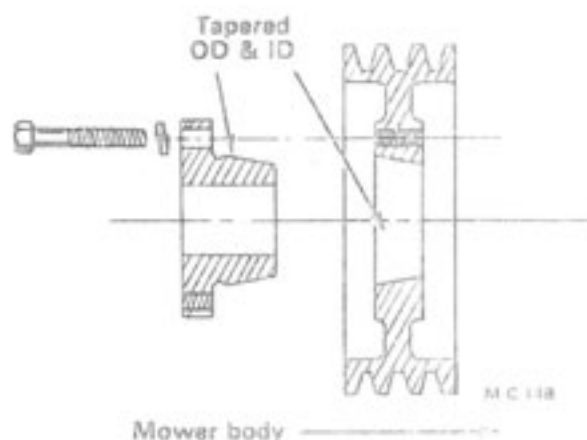


Figure 26

**IMPORTANT:** The capscrew and pulley threads must be clean and dry. Do not lubricate.

7. Install the key in the output drive and/or rotor shaft. Slide the pulley and bushing assembly onto the shaft. If the bushing is too tight on the shaft, wedge a screwdriver blade into the saw cut in the flange (not the tapered surface) to spread the bushing.
8. Install the belts and move the pulley and bushing in or out until the belts are in alignment on the pulleys. Tighten the three



capscrews evenly and progressively. Torque the capscrews as follows:

#### Drive Pulley

Model 5HD, 7HD & 8HD - 60 ft. lbs.

Model 10HD & 12HD - 75 ft. lbs.

#### Rotor Pulley

Model 5HD, 7HD & 8HD - 30 ft. lbs.

Model 10HD & 12HD - 60 ft. lbs.

**IMPORTANT:** The tightening force on the three capscrews is multiplied many times by the wedging action of the bushing tapered surface. Do not exceed the specified torque, or use a lubricant on the capscREW threads. To do so may create bursting pressures in the hub of the pulley.

**NOTE:** There should be a  $\frac{1}{8}$  to  $\frac{1}{4}$  inch gap between the pulley hub and the flange of the bushing. If the gap is closed, the shaft is undersize.

9. Check "Drive and Rotor Pulley Alignment" and "Idler Pulley Alignment" page 18 and adjust if necessary. Adjust the drive belt tension. Refer to "Drive Belt Adjustment" page 16. Install the belt guard cover.

## Gauge Roller Bearing Replacement

1. Heat the end of the gauge roller with a torch and use an internal bearing puller, like those shown in Figure 27, to remove the bearing from the end of the gauge roller.

**NOTE:** If the bearing inner race is broken, weld a bar into the outer race and attach the puller to it.

2. When installing the new bearing, drive or press on the outer race only. Pressing on the inner race will damage the bearing. Press the bearing in until it seats on the shoulder in the gauge roller.

## Rotor Bearing Replacement

### Right Bearing

1. Lift the right side of the mower and block up the rotor so it cannot fall when the bearing is removed. Do not lift the mower by the rotor.

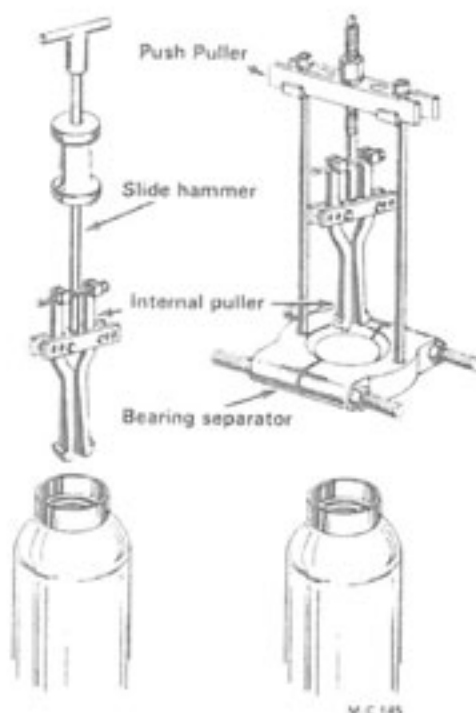


Figure 27



**CAUTION:** Always use safety stands or blocking in conjunction with hydraulic jacks or hoists. Do not rely on the jack or hoist to carry the load, they could fail.

2. Clean the end of the rotor shaft with emery cloth. Remove the two bearing lock collar set screws and four capscrews securing the bearing to the mower body and slide the bearing off of the rotor shaft.
3. Lightly polish the rotor shaft with emery cloth. Lubricate the rotor shaft with motor oil and slide the new bearing onto the shaft with the lubrication fitting on top.
4. Place the four mounting capscrews through the bearing and mower body. Refer to Figure 28. Partially thread the capscrews into the nut bars. Slide the two anti-wrap halves over the capscrews. Tighten the capscrews and bearing collar set screws.
5. Check the position of the two wipers (180° apart) at the end of the rotor, see Figure 29. They should be as close to the anti-wrap as possible without touching it. The wiper prevents material from building up on the anti-wrap. If necessary, loosen the wiper locknut and reposition the wiper in the adjusting slot.

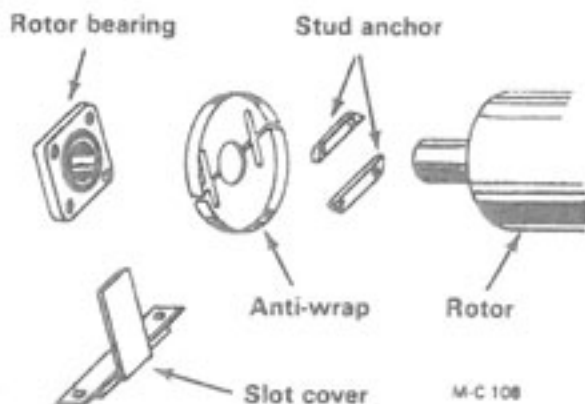


Figure 28

6. Remove the safety stands and lower the mower to the ground. Lubricate the rotor bearing with a hand grease gun. Do not over lubricate. Too much grease may damage the bearing seal.

#### Left Bearing

1. Lift the left side of the mower and block up the rotor so it cannot fall when the bearing is removed. Do not lift the mower by the rotor.



**CAUTION:** Always use safety stands or blocking in conjunction with hydraulic jacks or hoists. Do not rely on the jack or hoist to carry the load, they could fail.

2. Remove the belt guard cover, belt guard and bearing lubrication hose, see Figure 30. Remove the drive belts. Refer to "Drive Belt Replacement" page 16 for procedure.
3. Remove the rotor pulley and key. Refer to "Drive and Rotor Pulley Replacement" page 19 for procedure.
4. Clean the end of the rotor shaft with emery cloth. Remove the two bearing lock collar set screws and four capscrews securing the bearing to the mower body and slide the bearing off of the rotor shaft.
5. Lightly polish the rotor shaft with emery cloth. Lubricate the rotor shaft with motor oil and slide the new bearing onto the shaft with the lubrication fitting on top facing the front of the mower.
6. Place the four mounting capscrews through the bearing and mower body. Refer to Figure 28. Partially thread the capscrews into the nut bars. Slide the two anti-wrap halves over the capscrews. Tighten the capscrews and bearing lock collar set screws.

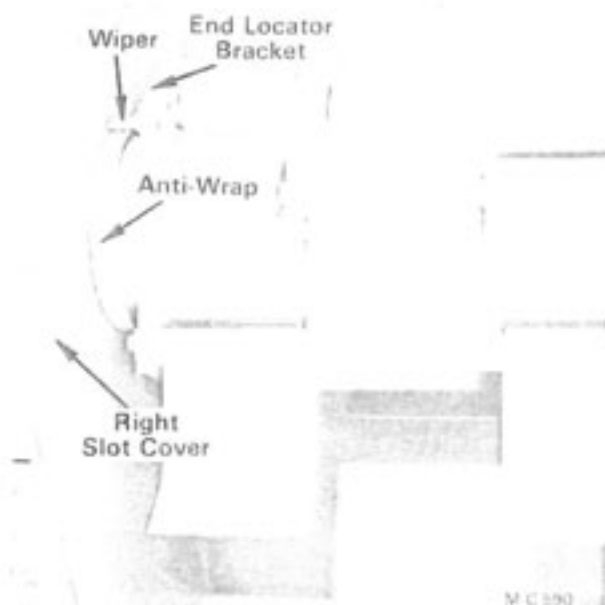


Figure 29 - Front View

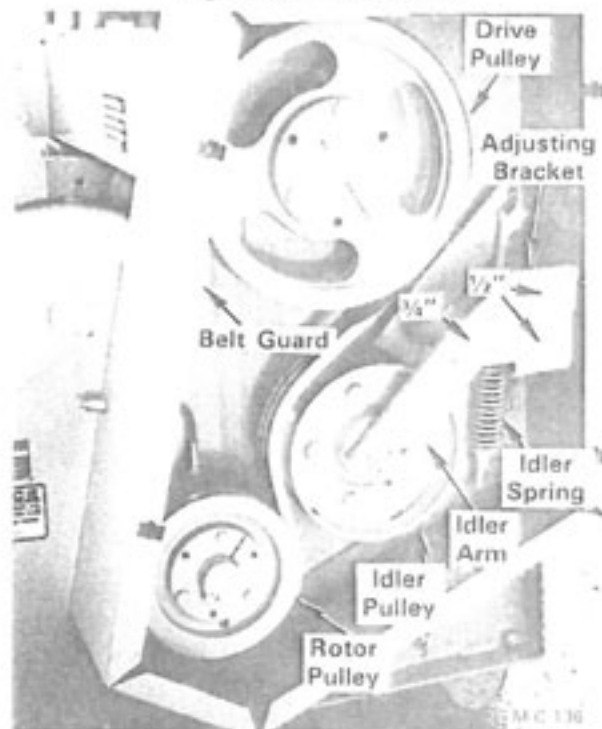


Figure 30 - Model 8HD Shown

7. Check the position of the two wipers (180° apart) at the end of the rotor see Figure 29. They should be as close to the anti-wrap as possible without touching it. The wiper prevents material from building up on the anti-wrap. If necessary, loosen the wiper locknut and reposition the wiper in the adjusting slot.
8. Install the rotor pulley. Refer to "Drive and Rotor Pulley Replacement" page 19 for

procedure. Check "Drive and Rotor Pulley Alignment" and "Idler Pulley Alignment" page 18 and adjust if necessary. Adjust the drive belt tension. Refer to "Drive Belt Adjustment" page 16.

9. Install the belt guard, bearing lubrication hose and belt guard cover. Remove safety stands and lower the mower to the ground.
10. Lubricate the rotor bearing with a hand grease gun. Do not over lubricate. Too much grease may damage the bearing seal.

## Output Shaft Bearing Replacement

1. Remove the input and output shaft guards.
2. Remove the belt guard cover. Remove the drive belts Refer to "Drive Belt Replacement" page 16 for procedure.
3. Remove the drive pulley. Refer to "Drive and Rotor Pulley Replacement" page 19 for procedure.
4. Remove the belt guard, output shaft seal and the belt guard back plate, see Figure 31 and 32.
5. Scribe a line on the output shaft bearing mounting bracket as shown in Figure 32 to establish the location of the new bearing when reassembling.
6. Remove the two bearing lock collar set screws, two capscrews, lockwashers and hex-nuts securing the output shaft bearing. Lift up on the output shaft and remove the spacer, output shaft guard bracket and shims from under the output shaft bearing, see Figure 33.
7. Clean the output shaft with emery cloth. Support the output shaft and pull the bearing off of the output shaft.
8. Lightly polish the output shaft with emery cloth. Lubricate the output shaft with motor oil and slide the new bearing onto the shaft. Be sure that the lubrication fitting faces the rear of the mower.
9. Install the belt guard back plate. Install the drive pulley. Refer to "Drive and Rotor Pulley Replacement" page 19 for procedure. Do not tighten the capscrews in the pulley bushing until the drive belts are installed and pulley alignment has been checked.

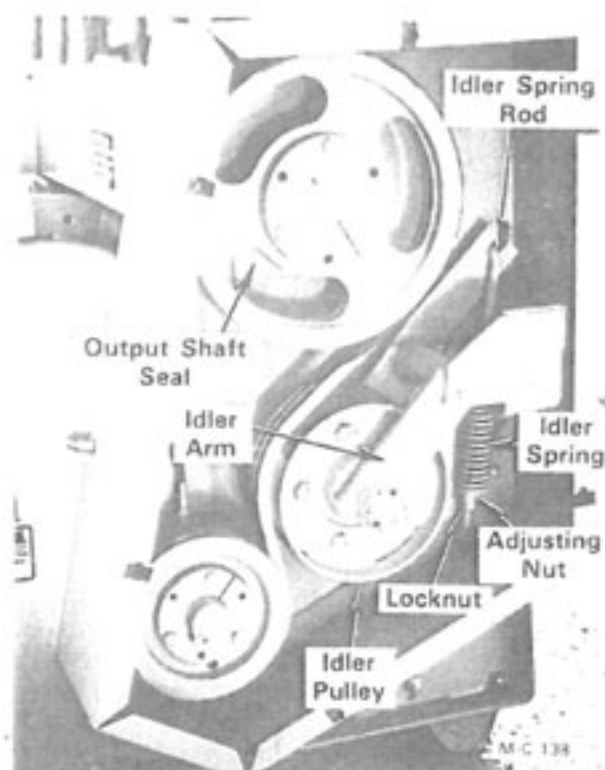


Figure 31

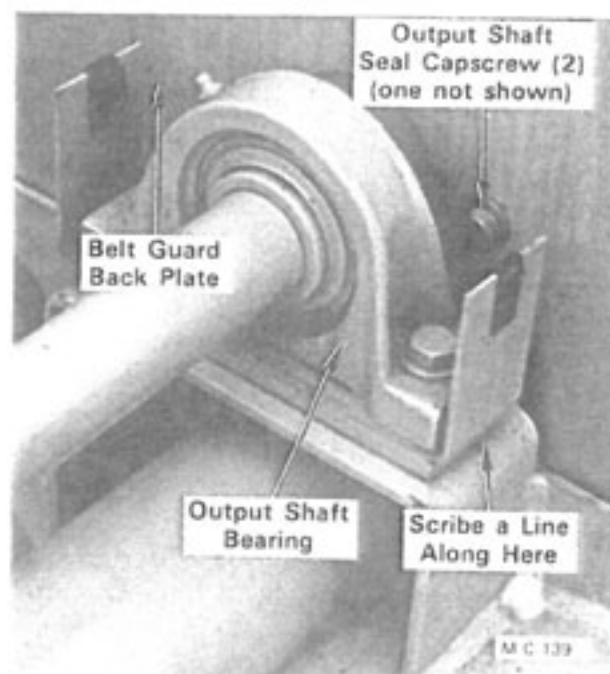


Figure 32

10. Install the drive belts. Install the output shaft seal, see Figure 32.
11. Lift up on the output shaft and place the spacer, output shaft guard bracket and shims on the output shaft bearing mounting bracket, see Figure 33. Install the capscrews, SAE

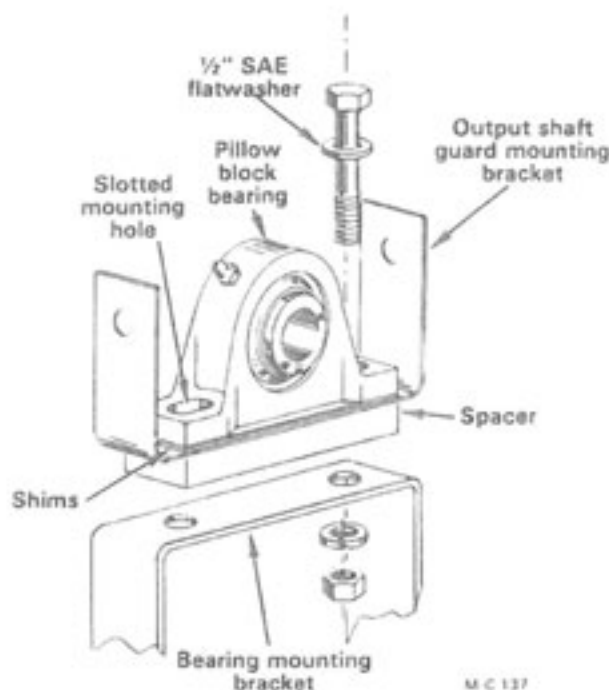


Figure 33

flatwashers, lockwashers and hex-nuts. Align the edge of the output shaft bearing with the mark scribed on the mounting bracket made in step 5, see Figure 32. Tighten the output shaft bearing capscrews and set screws in the bearing collar.

12. Check drive and rotor pulley alignment. Refer to "Drive and Rotor Pulley Alignment" page 18 for procedure. Torque drive pulley bushing capscrews. (Model 5HD, 7HD & 8HD - 60 ft. lbs. and Model 10HD & 12HD - 75 ft. lbs.) Check idler pulley alignment. Refer to "Idler Pulley Alignment" page 18 for procedure. Adjust drive belt tension. Refer to "Drive Belt Adjustment" page 16. Install the belt guard cover.
13. Lubricate the output shaft bearing with a hand grease gun. Do not over lubricate. Too much grease may damage the bearing seal. Install the output and input shaft guards.

## Idler Pulley Bearing Replacement

(Reference Nos. Refer to Figure 34)

1. Remove the belt guard cover. Loosen the idler spring rod locknut and back off the idler spring adjustment nut to relieve all spring tension. Remove the idler spring rod and spring, see Figure 31.

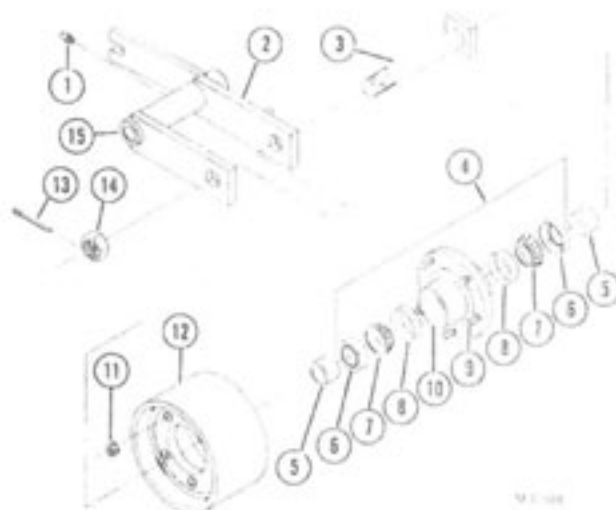


Figure 34

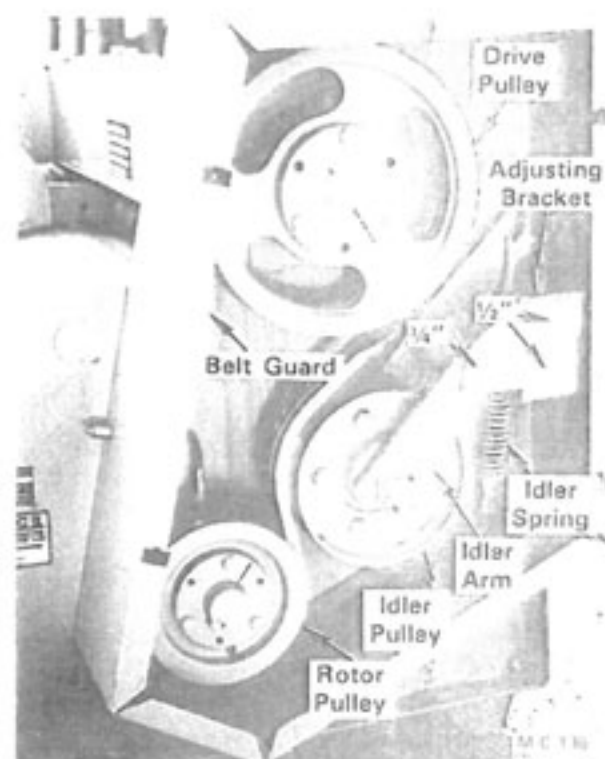


Figure 35 - Model 8HD Shown

2. Remove the two 1/2" and one 3/4" capscrews in the adjusting bracket and remove the idler arm and pulley assembly see Figure 35.
3. Remove cotter pin (12), castellated nut (13) and idler bolt (3) from the idler arm (2).
4. Use an internal puller, see Figure 27, page 20, to remove the bearing seals (6) and bearing cups (8).

5. Pack the new bearing cones (7) with a good grade of wheel bearing grease. Press the bearing cups (8) into the hub, install the bearing cones (7) and press in the bearing seals (6).
6. Put a hub spacer (5) on each side of the hub assembly and place the assembly in the idler arm (2). Install idler bolt (3) and castellated nut (13). Tighten the nut just enough to hold the assembly together.
7. Put the idler pivot bushing (ref. 33, page 29) in the idler arm and install the idler pulley assembly and adjusting bracket, see Figure 35. Do not tighten the two  $\frac{1}{2}$ " and  $\frac{3}{4}$ " capscrews until after the idler pulley alignment has been checked.
8. Tighten the idler bolt castellated nut until it is snug to take all end play out of the bearings. Back off the nut to the next slot that lines up with the cotter pin hole. Hit the end of the idler bolt with a mallet and check to see if there is any end play in the pulley. If there is none, install the cotter pin. If there is end play, repeat the procedure until all end play is taken up and install the cotter pin.
9. Lubricate the idler arm bushings and check idler pulley alignment. Refer to "Idler Pulley Alignment" page 18 for procedure. Install the belt guard cover.

## Storing the Mower

1. When the mower is to be stored for an extended period of time or at the end of the season, lubricate all bearings with enough grease to eliminate any cavities where water

condensation may occur and cause damage. Refer to "Lubrication" page 14 for location of all grease fittings. Be sure the vent on top of the gear box is open.

**IMPORTANT:** Use a hand grease gun. Do not over lubricate. Too much grease may damage the bearing seals.

2. Loosen the idler spring rod locknut and back off the idler spring adjustment nut to relieve all spring tension on the drive belts.

**NOTE:** Before next seasons use, be sure to adjust the drive belt tension. Refer to "Drive Belt Adjustment" page 16 for procedure.

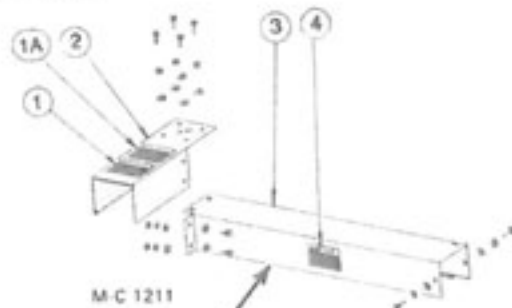
3. Coat all exposed surfaces inside the mower with oil or grease to prevent rusting and pitting during storage.

## Pre-Season Check

1. Check the oil level in the gear box and lubricate all bearings. Refer to "Lubrication" page 14 for location of all grease fittings.
2. Adjust the drive belt tension. Refer to "Drive Belt Adjustment" page 16.
3. Inspect for missing or broken knives. Replace as necessary. Refer to "Knife Replacement" page 16 and "Knife Sharpening" page 15.
4. Be sure all safety shields are in place and secure.
5. If the mower is equipped with a rear axle inflate the tires to 30-35 lbs.
6. Run the mower at a low RPM checking to make sure that all drive line parts are moving freely.

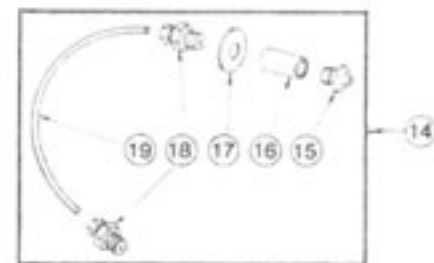
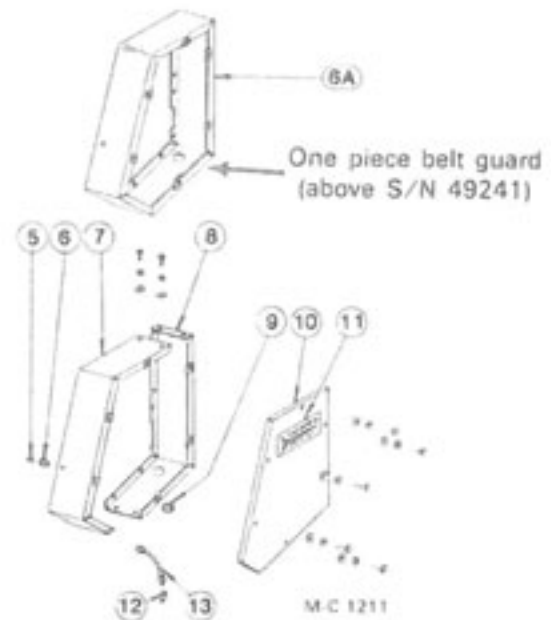
## Guards

**NOTE:** Attaching hardware is listed (but not included) with the main part. It must be ordered separately.



When ordering a new output shaft guard for offset mowers include the length of the old guard.

Ref.	Part No.	Qty.	Description
1	001 8314	1	Caution Decal
1A	000 8301	1	Warning Decal
2	081 4652	1	Input Shaft Guard
	000 8145	4	5/16-18 x 1 1/4" Capscrew - Grd. 5
	000 8181	4	5/16" Lockwasher
	000 8299	4	5/16" SAE Flatwasher
3	-----	---	Output Shaft Guard
	081 4780	1	5 HDC & 8 HDO
	081 4781	1	7 HDO
	081 4771	1	7 HDC & 10 HDO
	081 4770	1	8 HDC
	081 4782	1	10 HDC
	081 4783	1	12 HDC
	001 8119	2	5/16-18 x 3/4" Capscrew - Grd. 5
	000 8108	2	5/16-18 x 1" Capscrew - Grd. 5
	000 8173	6	5/16" Flatwasher
	000 8222	4	5/16" Lockwasher
	000 8159	4	5/16-18 Hex Nut
4	001 8318	2	Shipping Notice Decal
5	002 6604	1	Straight Zerk - 1/8" PT
6	123 7503	1	Coupling - Galv. - 1/8" Std.
6A	081 0066	1	Belt Guard (one piece)
	000 8121	6	5/16-18 x 1" Capscrew
	000 8174	12	5/16" Flatwasher
	000 8179	6	5/16" Lockwasher
	000 8162	6	5/16 Hex Nut
	000 8137	2	1/2-13 x 1 1/4" Capscrew - Grd. 5
	000 8180	2	1/2" Lockwasher
	000 8163	2	1/2-13 Hex Nut
	001 8111	6	5/16-18 Clip Nut
7	See note	1	Belt Guard Wrap - Front
8	See note	1	Belt Guard Wrap-Rear



Grease Tube Kit 112 9029

Ref.	Part No.	Qty.	Description
9	128 6987	1	2" Hole Plug
10	081 4768	1	Belt Guard Cover
	000 8108	6	5/16-18 x 1" Capscrew - Grd. 5
	000 8173	6	5/16" Flatwasher
	000 8222	6	5/16" Lockwasher
11	001 8303	1	M-C Arrow Decal
12	000 8989	1	1/8" NPT 90° Grease Adapter
13	-----	1	Grease Hose - 10" (Order grease tube kit - ref. 14)
14	112 9029	1	Grease Tube Kit (Incl. ref. 15 thru 19)
15	002 6604	1	1/8" PT Straight Zerk
16	123 7503	1	1/8" Galvanized Coupling
17	000 8174	1	5/16" Flatwasher
18	111 8700	2	1/4" Male Connector
19	111 5550	1	Grease Tube (27")

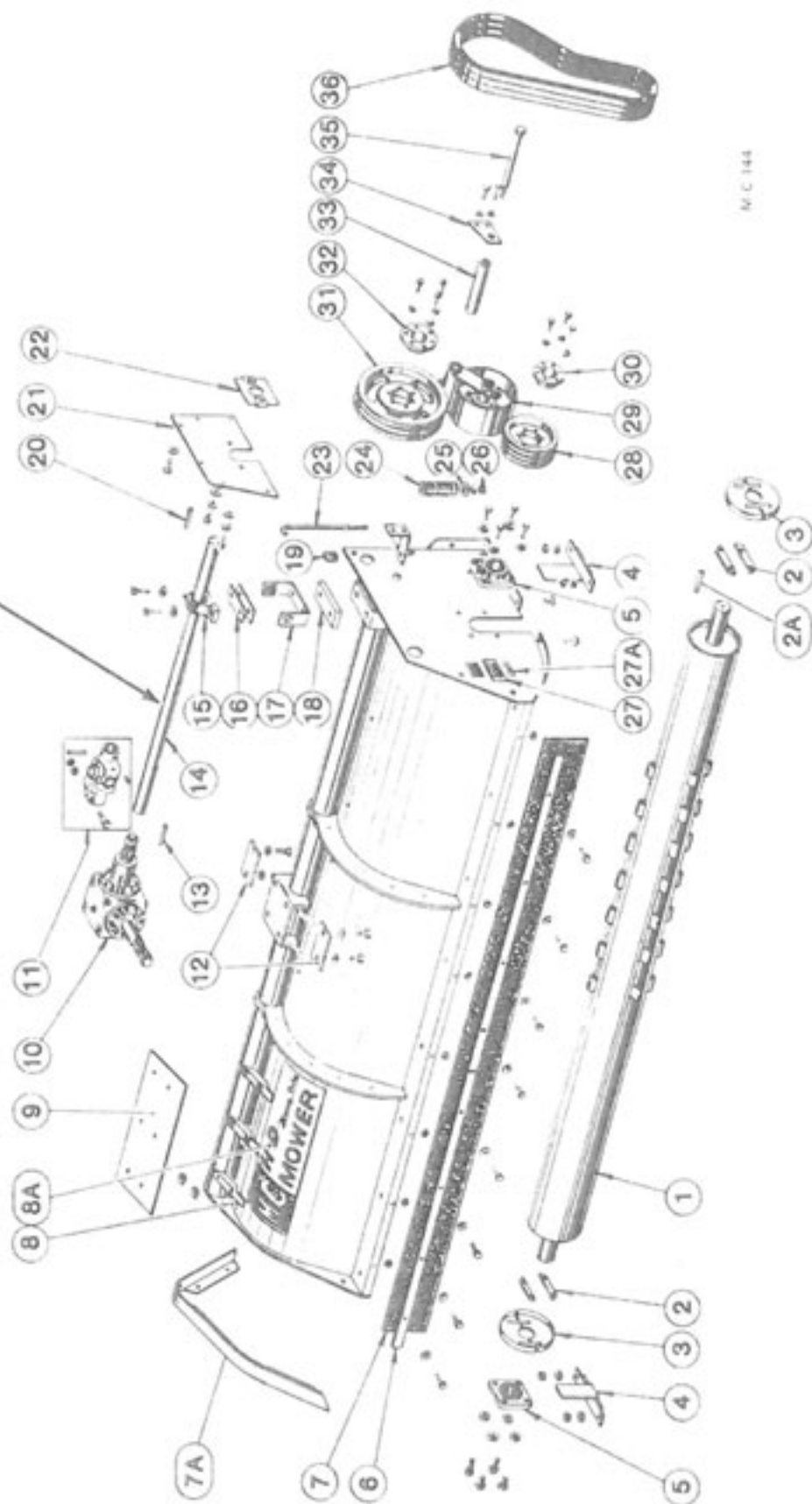
**NOTE:** Not available. Replaced by ref. 6A - one piece belt guard 081 0066.



# Body and Drive Line

NOTE: This illustration and parts list covers all models of Heavy Duty Mowers. Be sure to select the correct part number(s) for the model mower you have. Attaching hardware is listed (but not included) with the main part. It must be ordered separately.

When ordering a new output shaft for offset mowers include the length of the old output shaft.



M/C 144

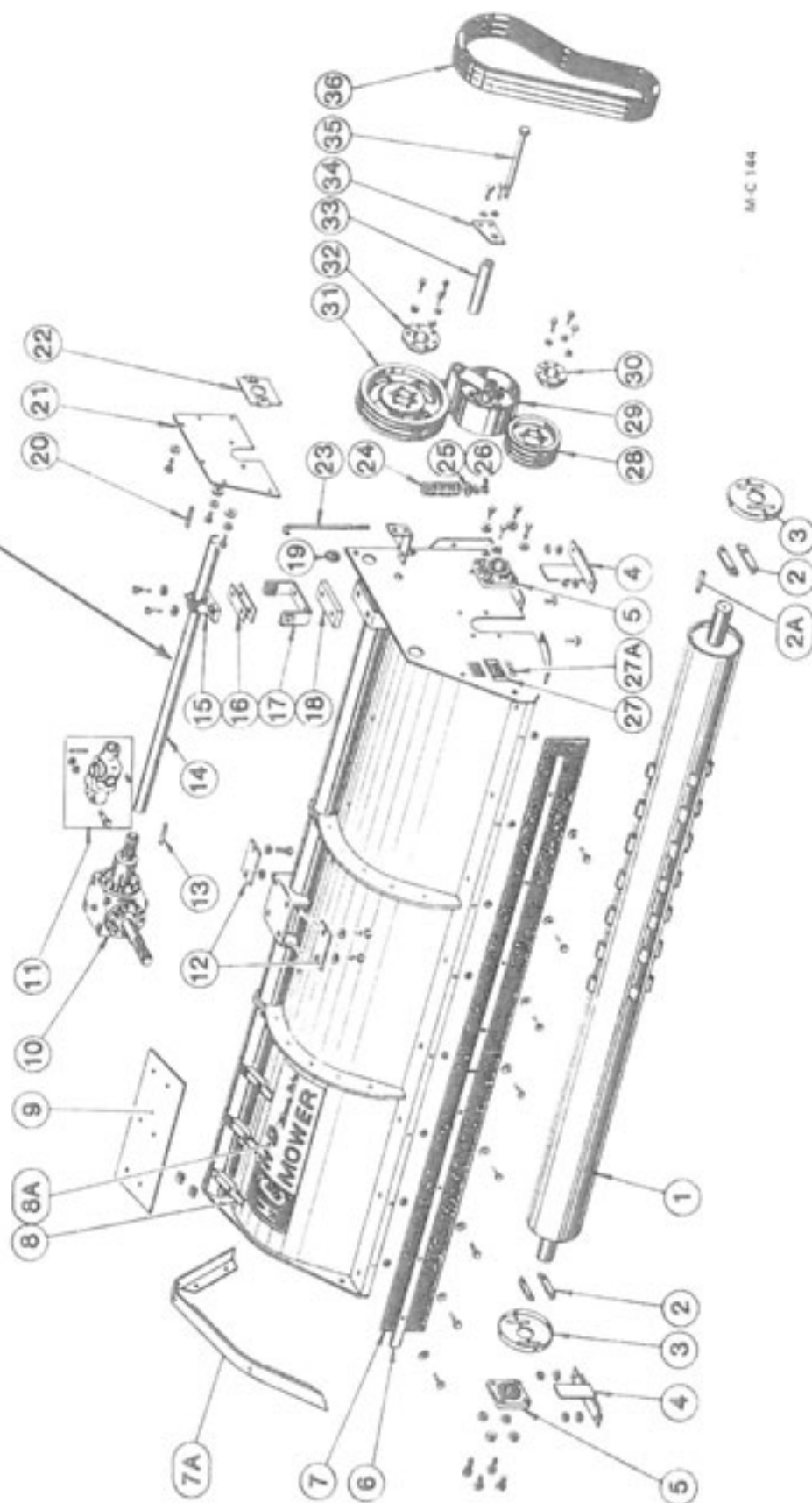
Center Mount Body Shown

# Body and Drive Line

Ref.	Part No.	Qty.	Description	Ref.	Part No.	Qty.	Description
1	---	1	Rotor Ass'y. (see pg. 27 for details)	7A	081-4428	1	Mower Rub Edge (Not used on 5HDC above S/N 48140)
2	001 5175	4	Stud Anchor		000 8135	2	1/2-13 x 1" Capscrew - Grd. 5
2A	001 5147	1	Key 1/2" x 3"		000 8138	2	1/2-13 x 1 1/2" Capscrew
3	001 4652	4	Anti-wrap (half)		000 8180	4	1/2" Lockwasher
4	081 0016	2	Slot Cover		000 8163	4	1/2-13 Hex Nut
	000 8120	4	3/8-16 x 1" Truss Head Screw	8	001 8302	2	M-C Decal (8-3/16" x 9")
	000 8179	4	3/8" Lockwasher	8A	081 8300	2	Heavy Duty Mower Decal
	000 8162	4	3/8-16 Hex Nut	9	-----	---	Brush Deflector (Not Used on 5 HDC)
5	001 6010	2	4 Bolt Flange Bearing w/Zerk (1-15/16" Bore)		081 4431	1	7 HDO, 8 HDC, 8 HDO, 10 HDC, 10 HDO & 12 HDC
	001 8965	4	3/8-24 x 3/8" Knurled Cup Pt. Set Screw		081 4432	1	7 HDC
	001 8261	8	1/2-13 x 1 1/2" Capscrew		001 8111	6	5/16-18 Clip Nut
			Grade 5 w/NY-Patch (Special)		000 8103	6	5/16-18 x 1/2" Truss Head Screw
6	000 8180	8	1/2" Lockwasher	10	-----	---	Gear Box (see pg. 32 & 33 for details)
	111 4207	1	5 HDC Retainer Strip - 5'		091 8170	4	1/8-11 x 1 1/4" Capscrew
	111 4208	1	7 HDC & HDO Retainer Strip - 7'				Grade 5 w/NY Pellet
	111 4210	2	8 HDC & HDO Retainer Strip - 4'		000 8181	4	1/4" Lockwasher
	111 4207	2	10 HDC & HDO Retainer Strip - 5'	11	081 6601	1	Output Shaft Universal Joint (see pg. 31 for details)
	111 4210	3	12 HDC Retainer Strip - 4'				Gear Box Mount Stiffener
	000 8135	---	3/8-16 x 1" Capscrew - Grd. 5	12	127 3404	2	1/2" x 2 1/2" Key
	001 8134	---	3/8" SAE Flatwasher	13	001 5136	1	Output Shaft
	001 8149	---	3/8-16 Two-way Special Locknut	14	-----	---	5 HDC & 8 HDO
7	081 5702	1	5 HDC Rubber Flap - 5'		081 5084	1	7 HDO
	081 5703	1	7 HDC & HDO Rubber Flap - 7'		081 5085	1	7 HDC & 10 HDO
	081 5708	1	8 HDC & HDO Rubber Flap - 8'		081 5082	1	8 HDC
	081 5709	1	10 HDC & HDO Rubber Flap - 10'		081 5081	1	10 HDC
	081 5710	3	12 HDC Rubber Flap - 12'		081 5086	1	12 HDC
					081 5087	1	

NOTE: This illustration and parts list covers all models of Heavy Duty Mowers. Be sure to select the correct part number(s) for the model mower you have. Attaching hardware is listed (but not included) with the main part. It must be ordered separately.

When ordering a new output shaft for offset mowers include the length of the old output shaft.



M-C 144

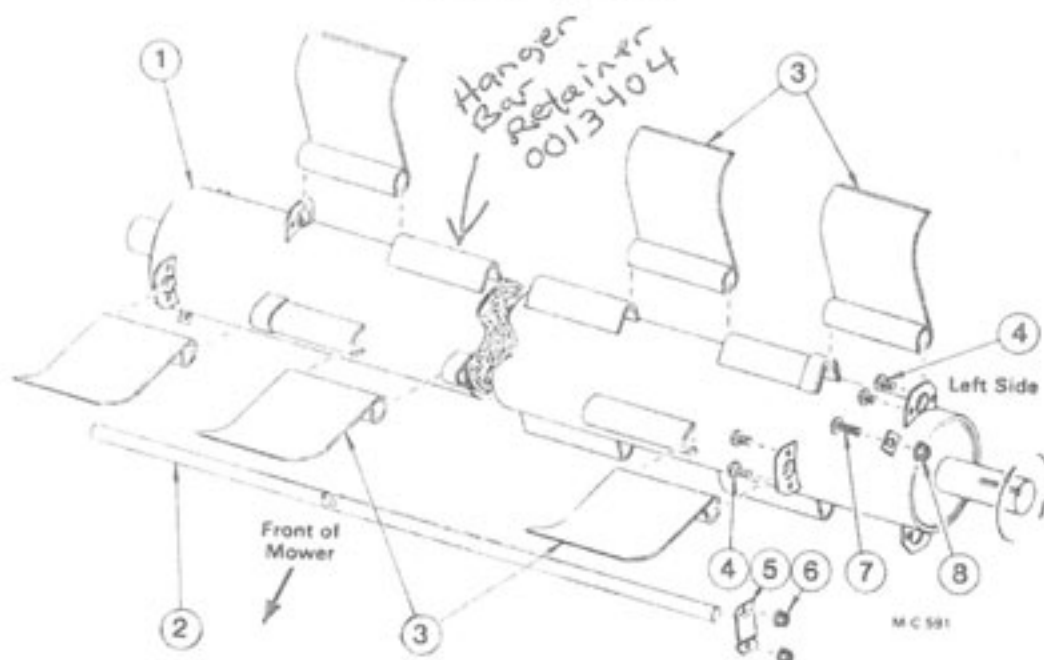
Center Mount Body Shown

# Body and Drive Line

Ref.	Part No.	Qty.	Description	Ref.	Part No.	Qty.	Description
15	091 6001	1	Output Shaft Bearing w/Zerk - 1 1/4" Bore	30	-----	---	Rotor Pulley Bushing
	001 8966	2	5/16-24 x 5/16" Knurled Cup Pl. Set Screw	141 6209	1	5 HDC, 7 HDC, 7 HDO, 8 HDC & 8 HDO	"SF" 1-15/16" Bore (incl. cap screws & lockwashers)
	128 8166	2	1/2-13 x 2 1/2" Capscrew - Grd. 5	111 6209	1	10 HDC, 10 HDO & 12 HDC "E"	1-15/16" Bore (incl. cap screws & lockwashers)
	001 8257	4	1/2" SAE Flatwasher				
	000 8180	2	1/2" Lockwasher				
	000 8163	2	1/2-13 Hex Nut				
16	125 2918	2	Bearing Shim (16 Ga.)	31	-----	---	Drive Pulley
17	081 4427	1	Output Shaft Guard Mtg. Bracket	081 6201	1	5 HDC, 7 HDC, 7 HDO, 8 HDC & 8 HDO	5V/13.2 x 3 Grv. "E"
	001 8111	2	5/16-18 Clip Nut	081 6202	1	10 HDC, 10 HDO & 12 HDC 5V/13.2 x 6 Grv. "F"	
18	081 3576	1	Output Shaft Bearing Spacer				
19	128 6987	1	2" Hole Plug	32	-----	---	Drive Pulley Bushing
20	001 5139	1	3/8" x 3" Key	111 6205	1	5 HDC, 7 HDC, 7 HDO, 8 HDC & 8 HDO	"E" 1 1/4" Bore (incl. cap screws & lockwashers)
21	081 4767	1	Belt Guard Back Plate				
	000 8121	6	3/8-16 x 1" Capscrew	111 6204	1	10 HDC, 10 HDO & 12 HDC "F" 1 1/4" Bore	(incl. cap screws & lockwashers)
	000 8174	12	3/8" Flatwasher				
	000 8162	6	3/8-16 Hex-Nut	33	081 5601	1	Idle Pivot Bushing
22	081 4772	1	Output Shaft Seal	081 3523	1	Adjusting Bracket	
	001 8111	2	5/16-18 Clip Nut	133 8161	2	1/2-13 x 1 1/2" Capscrew - Grd. 5	
	000 8106	2	5/16-18 x 3/4" Capscrew	000 8175	4	1/2" Flatwasher	
	000 8173	2	5/16" Flatwasher	000 8180	2	1/2" Lockwasher	
23	081 5000	1	Idle Spring Rod	000 8163	2	1/2-13 Hex Nut	
24	081 8250	1	Idle Spring 1 1/2" OD x 6"	081 8191	1	3/4-10 x 9" Capscrew - Grd. 5	
25	000 8175	1	1/2" Flatwasher	000 8182	1	3/4" Lockwasher	
26	000 8163	2	1/2-13 Hex Nut	000 8165	1	3/4-10 Hex Nut	
27	001 8310	1	Machine Warranty Notice Decal				
27A	121 8310	1	Made in USA Decal	36	-----	---	Drive Belts
28	-----	---	Rotor Pulley	081 6100	1	5 HDC, 7 HDC, 7 HDO, 8 HDC & 8 HDO	3/5V 750 Banded Belt
	141 6208	1	5 HDC, 7 HDC, 7 HDO, 8 HDC & 8 HDO 5V/8.0 x 3 Grv. "SF"	111 6100	1	10 HDC, 10 HDO & 12 HDC 3/5V 750	Matched Set of 2 Banded Belts
29	-----	---	Idle Ass'y. (see pg. 40 for details)				

46284 + up

## Rotor Assembly



## Model 5 HDC

## Complete Assembly 081 1038

(Consists of ref. 1 thru 6 in quantities shown.)

Ref.	Part No.	Qty.	Description
1	001 0028	1	Balanced Rotor Weldment
2	- - - 6457	4	Hanger Bar 15/16" x 52"
3	081 5204	20	1/4" HD Mower Knife
4	000 8134	16	3/8-16x3/4" Truss Hd. Screw
5	001 2000	4	End Locator Bracket
6	000 8168	16	3/8-16 Flanged Lock Nut
7	000 8125	4	3/8-16 x 1 1/2" Carriage Bolt
8	000 8168	4	3/8-16 Flanged Lock Nut

## Model 8 HDC &amp; 8 HDO

## Complete Assembly 081 1048

(Consists of ref. 1 thru 6 in quantities shown.)

Ref.	Part No.	Qty.	Description
1	001 0023	1	Balanced Rotor Weldment
2	111 8991	4	Hanger Bar 15/16" x 88"
3	081 5204	32	1/4" HD Mower Knife
4	000 8134	16	3/8-16x3/4" Truss Hd. Screw
5	001 2000	4	End Locator Bracket
6	000 8168	16	3/8-16 Flanged Lock Nut
7	000 8125	4	3/8-16 x 1 1/2" Carriage Bolt
8	000 8168	4	3/8-16 Flanged Lock Nut

## Model 7 HDC &amp; 7 HDO

## Complete Assembly 081 1047

(Consists of ref. 1 thru 6 in quantities shown.)

Ref.	Part No.	Qty.	Description
1	001 0005	1	Balanced Rotor Weldment
2	091 8995	4	Hanger Bar 15/16" x 76"
3	081 5204	28	1/4" HD Mower Knife
4	000 8134	16	3/8-16x3/4" Truss Hd. Screw
5	001 2000	4	End Locator Bracket
6	000 8168	16	3/8-16 Flanged Lock Nut
7	000 8125	4	3/8-16 x 1 1/2" Carriage Bolt
8	000 8168	4	3/8-16 Flanged Lock Nut

## Model 10 HDC &amp; 10 HDO

## Complete Assembly 081 1063

(Consists of ref. 1 thru 6 in quantities shown.)

Ref.	Part No.	Qty.	Description
1	001 0022	1	Balanced Rotor Weldment
2	111 8990	4	Hanger Bar 15/16" x 111"
3	081 5204	40	1/4" HD Mower Knife
4	000 8134	16	3/8-16x1 1/4" Truss Hd. Screw
5	001 2000	4	End Locator Bracket
6	000 8168	16	3/8-16 Flanged Lock Nut
7	000 8125	4	3/8-16 x 1 1/2" Carriage Bolt
8	000 8168	4	3/8-16 Flanged Lock Nut

## Rotor Assembly

46284+VP

### Model 12 HDC

#### Complete Assembly 081 1065

(Consists of ref. 1 thru 6 in quantities shown.)

Ref.	Part No.	Qty.	Description
1	001 0018	1	Balanced Rotor Weldment
2	001 8975	4	Hanger Bar 15/16"x134 1/4"
3	081 5204	48	1/4" HD Mower Knife
4	000 8134	16	3/8-16x1 1/4" Truss Hd. Screw
5	001 2000	4	End Locator Bracket
6	000 8168	16	3/8-16 Flanged Lock Nut
7	000 8125	4	3/8-16 x 1 1/2" Carriage Bolt
8	000 8168	4	3/8-16 Flanged Lock Nut

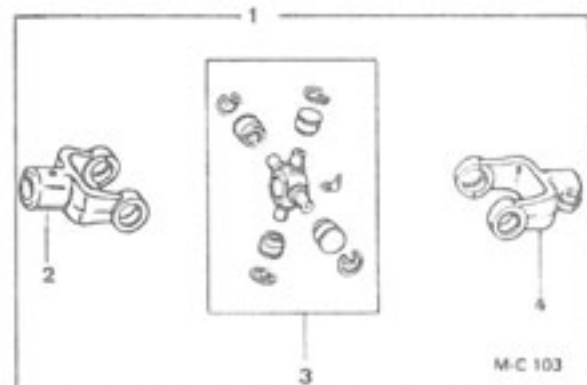
### Heavy Duty Mower Knife Kits

(Kits contain 1/4" HD Mower Knife 081 5204 in quantities shown.)

Model	Kit No.	Knives Per Kit	Model	Kit No.	Knives Per Kit
5 HDC	082 9011	20	10 HDC & 10 HDO	082 9014	40
7 HDC & 7 HDO	082 9012	28	12 HDC	082 9015	48
8 HDC & 8 HDO	082 9013	32			

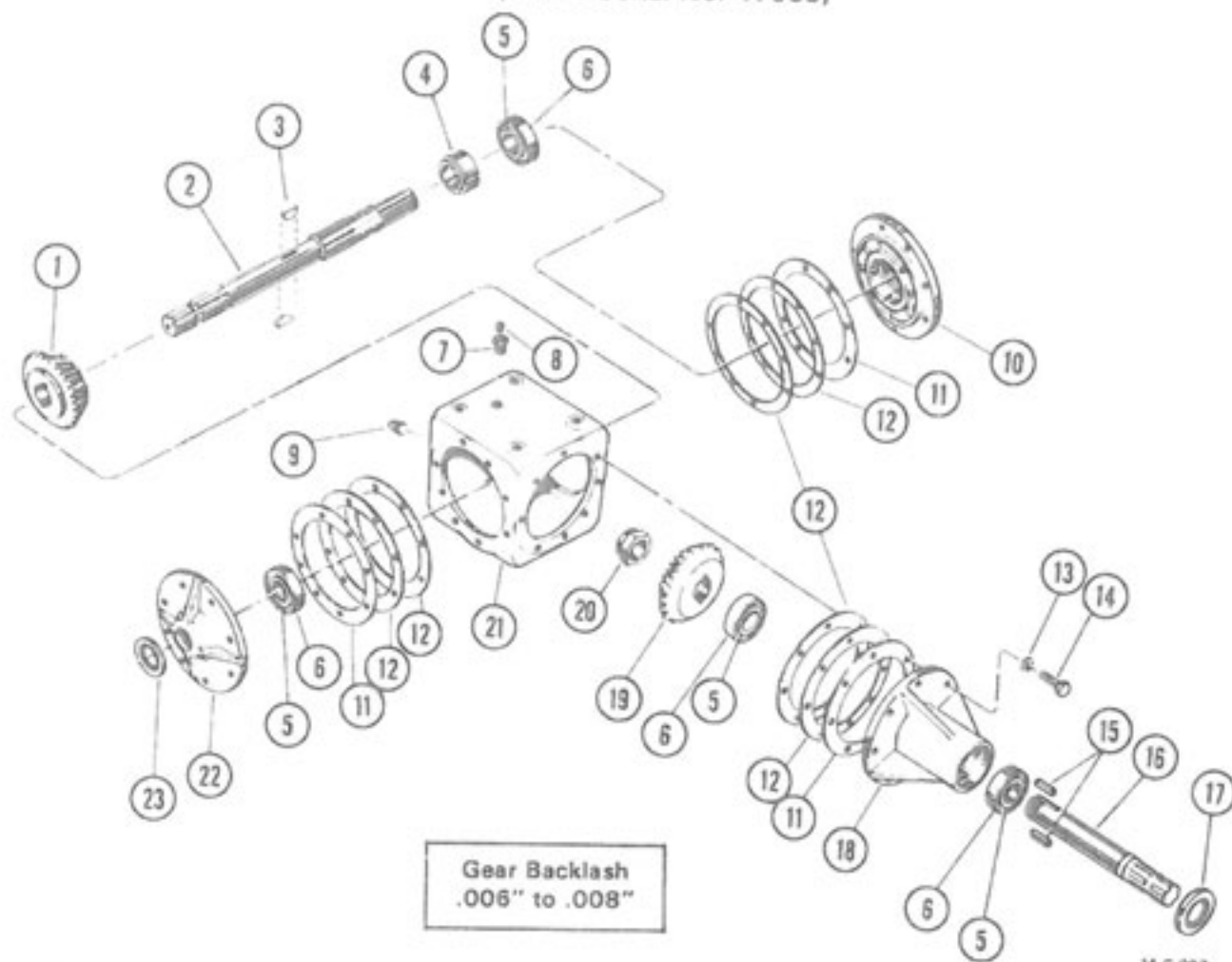
### Output Shaft Universal Joint

Ref.	Part No.	Qty.	Description
1	081 6601	1	Output Shaft Universal Joint Ass'y. (attaching hardware not included, order separately)
2	002 6687	1	End Yoke 1 1/4" Bore
	001 8281	1	3/8" x 3" Roll Pin
	000 8234	1	1/2"-13 x 3/8" Set Screw
3	002 6688	1	Universal Joint Repair Kit
4	002 6641	1	End Yoke 1 1/4"-6B Spline
	000 8268	1	3/8-11 x 3" Capscrew - Grd. 5
	000 8181	1	3/8" Lockwasher
	000 8164	1	3/8-11 Hex Nut





# **Gear Box Assembly 081 6600** (Below Serial No. 47059)



**NOTE:** Repair parts only are available for gear box 081 6600. The complete gear box is replaced by 081 6606 shown on page 33.

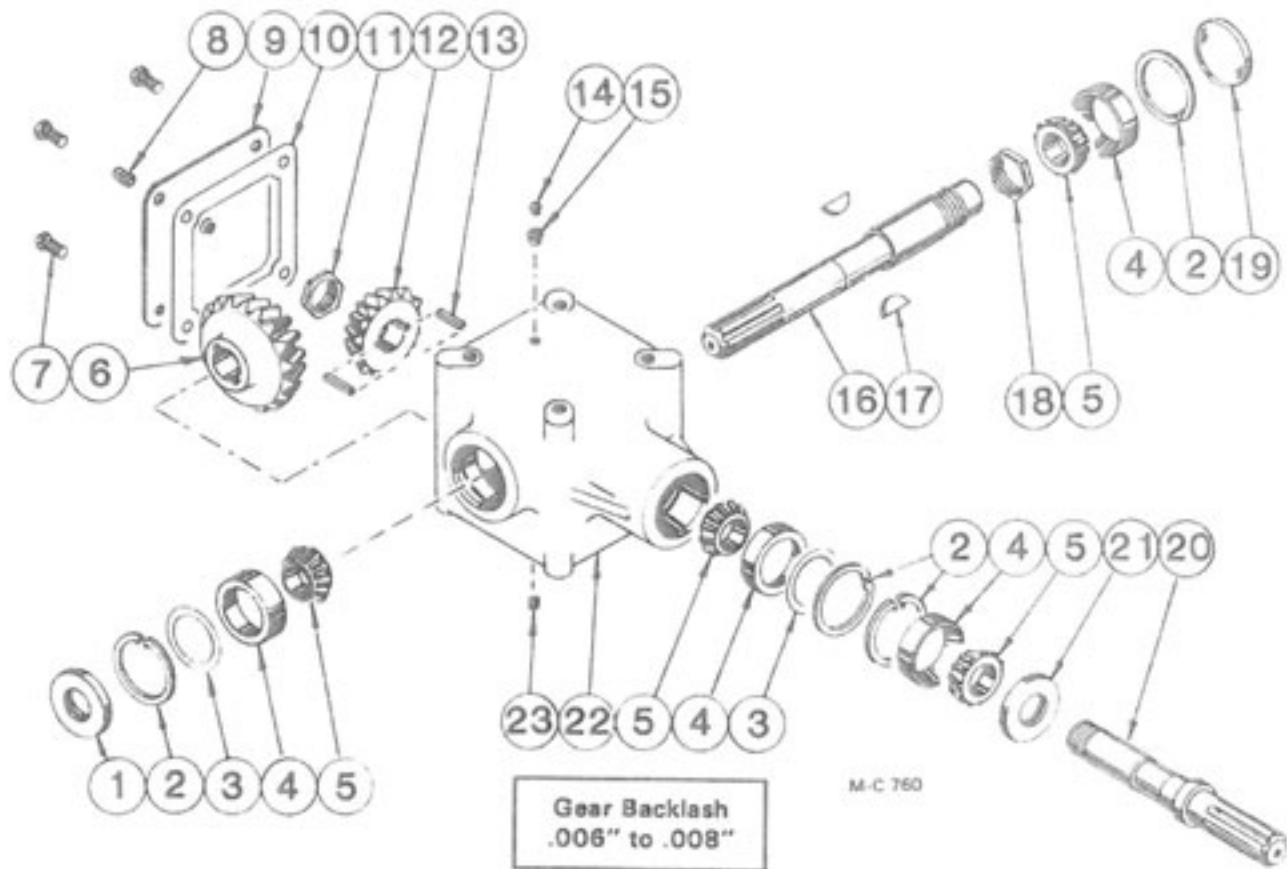
M-C 097

Ref.	Part No.	Qty.	Description
1	082 6610	1	Bevel Gear -23T
2	082 6611	1	Output Shaft (1000 RPM)
		1	Input Shaft (540 RPM)
3	--- 7626	2	Woodruff Key 3/8" x 1 1/4" (hard)
4	112 8252	1	Stake Nut
5	002 6011	4	Bearing Cone
6	002 6010	4	Bearing Cup
7	002 6678	1	Bushing 3/8" - 1/2" NPT
8	002 6677	1	Gear Box Vent
9	002 7500	1	Oil Level Plug 3/8-18 NPT
10	082 6608	1	Gear Box Cover - Solid (incl. 1 of ref. 6)
11	092 6609	3	Gasket 1/32" Thick
12	002 6636	AR	Shim .005"
13	000 8180	24	Lockwasher 1/2"

Ref.	Part No.	Qty.	Description
14	131 8163	24	1/2-13 x 1 1/4" Capscrew - Grd. 5 w/NY- Patch
15	001 8969	2	Key 3/8" x 3/8" x 1 1/4" (hard)
16	002 6638	1	Input Shaft (1000 RPM)
		1	Output Shaft (540 RPM)
17	002 6639	1	Seal
18	002 7656	1	Hub (incl. 2 of ref. 6)
19	082 6609	1	Bevel Gear - 17T
20	002 6668	1	Stake Nut
21	082 6607	1	Gear Box Housing
22	002 7657	1	Gear Box Cover (incl. 1 of ref. 6 & 1 of ref. 23)
23	002 6667	1	Seal
---	122 8001	1	Drain Plug 3/8-18 NPT
---	000 8991	1	Pint of Mobilfluid 423 Lubricant

# **Gear Box Assembly 081 6606** (Serial No. 47059 and Up)

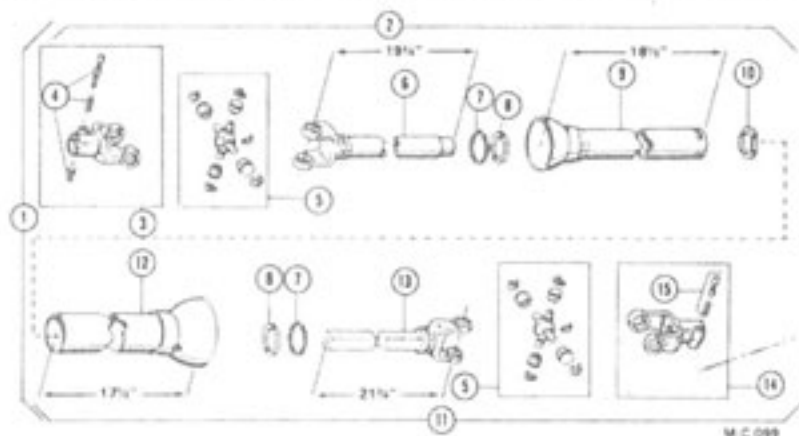
**NOTE:** This gear box replaces 081 6600 shown on page 32.



Ref.	Part No.	Qty.	Description
1	082 6625	1	Seal
2	082 6621	4	Snap Ring
3	082 6627	AR	Shim
4	002 6011	4	Bearing Cone
5	002 6010	4	Bearing Cup
6	082 6610	1	Bevel Gear - 23T
	- - - 7622	4	5/16-18 x 3/8" Hex-Hd Capscrew
8	002 7500	1	Level Plug 3/8-18 NPTF
9	102 6629	1	Cover
10	082 6624	1	Cover Gasket
11	002 6668	1	Stake Nut
12	082 6609	1	Bevel Gear - 17T
13	001 8969	2	Key 3/8" x 1 3/8" (hard)
14	002 6677	1	Vent Plug 1/2-27 NPT

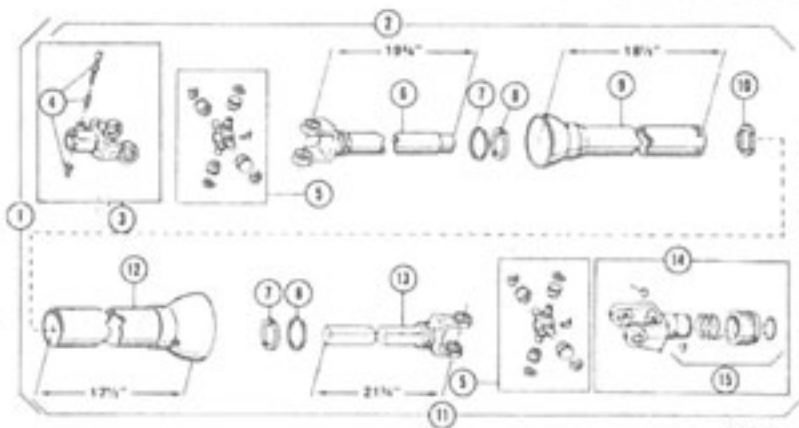
Ref.	Part No.	Qty.	Description
15	002 6678	1	Bushing 3/8" - 1/2" NPT
16	082 6622	1	Input Shaft (540 RPM)
		1	Output Shaft (1000 RPM)
17	- - - 7626	2	Woodruff Key 3/8" x 1 1/4" (hard)
18	112 8252	1	Stake Nut
19	082 6626	1	End Cap
20	082 6623	1	Output Shaft (540 RPM)
		1	Input Shaft (1000 RPM)
21	002 6639	1	Seal
22	082 6620	1	Gear Box Housing
23	122 8001	1	Drain Plug 3/8-18 NPTF
-	000 8991	-	Pint of Mobilfluid 423 Lubricant

## 540 RPM Power Take-Off Shaft for 3 Point Hitch Models



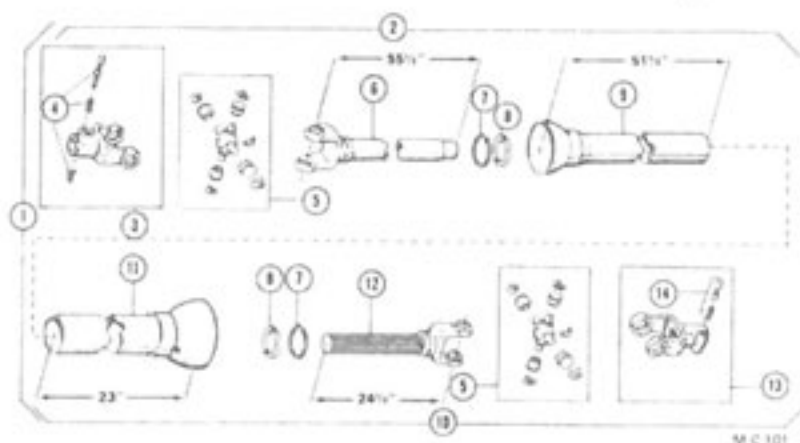
Ref.	Part No.	Qty.	Description	Ref.	Part No.	Qty.	Description
1	081 6602	1	PTO Shaft Complete	10	002 6613	1	Nylon Centralizer
2	082 6600	1	PTO Shaft (Mower Half)	11	082 6603	1	PTO Shaft (Tractor Half)
3	002 6686	1	Q.D. Yoke Ass'y. 1 3/4\"-6B Spline	12	082 6605	1	Female Guard Tube
4	002 6684	1	Saf-T-Pin & Spring Kit	13	082 6606	1	Yoke & Shaft
5	002 6633	2	Universal Joint Repair Kit	14	002 6656	1	Q.D. Yoke Ass'y 1 3/4\"-6B Spline
6	082 6601	1	Yoke & Tube	15	002 6629	1	Saf-T-Pin & Spring Kit
7	002 8250	2	Nylon Bearing Retainer	—	001 8317	1	Danger - Rotating Drive Line-Decal
8	002 6634	2	Nylon Bearing				
9	082 6602	1	Male Guard Tube				

## 1000 RPM Power Take-Off Shaft for 3 Point Hitch Models



Ref.	Part No.	Qty.	Description	Ref.	Part No.	Qty.	Description
1	081 6603	1	PTO Shaft Complete	10	002 6613	1	Nylon Centralizer
2	082 6600	1	PTO Shaft (Mower Half)	11	082 6604	1	PTO Shaft (Tractor Half)
3	002 6686	1	Q.D. Yoke Ass'y. 1 3/4\"-6B Spline	12	082 6605	1	Female Guard Tube
4	002 6684	1	Saf-T Pin & Spring Kit	13	082 6606	1	Yoke & Shaft
5	002 6633	2	Universal Joint Repair Kit	14	002 6674	1	Slide Lock Yoke Ass'y. 1 3/4\"-21 Spline
6	082 6601	1	Yoke & Tube	15	082 6612	1	Slide Lock Repair Kit
7	002 8250	2	Nylon Bearing Retainer	—	001 8317	1	Danger - Rotating Drive Line-Decal
8	002 6634	2	Nylon Bearing				
9	082 6602	1	Male Guard Tube				

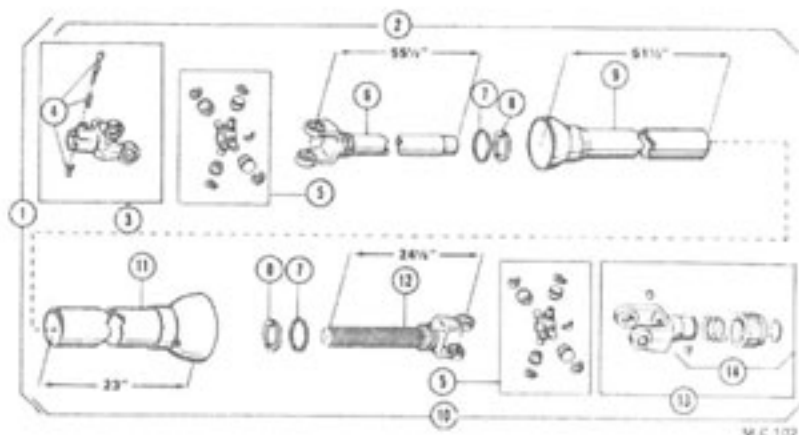
## 540 RPM Power Take-Off Shaft for Pull Type Models



Ref.	Part No.	Qty.	Description
1	081 6604	1	PTO Shaft Complete
2	082 6613	1	PTO Shaft (Mower Half)
3	002 6686	1	Q.D. Yoke Ass'y. 1 1/4\"-6B Spline
4	002 6684	1	Saf-T-Pin & Spring Kit
5	002 6633	2	Universal Joint Repair Kit
6	082 6618	1	Yoke & Tube
7	092 6692	2	Nylon Bearing Retainer
8	092 6693	2	Nylon Bearing

Ref.	Part No.	Qty.	Description
9	082 6614	1	Male Guard Tube
10	082 6619	1	PTO Shaft (Tractor Half)
11	082 6616	1	Female Guard Tube
12	082 6617	1	Yoke & Shaft
13	002 6656	1	Q.D. Yoke Ass'y. 1 1/4\"-6B Spline
14	002 6629	1	Saf-T-Pin & Spring Kit
—	001 8317	1	Danger - Rotating Drive Line-Decal

## 1000 RPM Power Take-Off Shaft for Pull Type Models



Ref.	Part No.	Qty.	Description
1	081 6605	1	PTO Shaft Complete
2	082 6613	1	PTO Shaft (Mower Half)
3	002 6686	1	Q.D. Yoke Ass'y. 1 1/4\"-6B Spline
4	002 6684	1	Saf-T-Pin & Spring Kit
5	002 6633	2	Universal Joint Repair Kit
6	082 6618	1	Yoke & Tube
7	092 6692	2	Nylon Bearing Retainer
8	092 6693	2	Nylon Bearing

Ref.	Part No.	Qty.	Description
9	082 6614	1	Male Guard Tube
10	082 6615	1	PTO Shaft (Tractor Half)
11	082 6616	1	Female Guard Tube
12	082 6617	1	Yoke & Shaft
13	002 6674	1	Slide Lock Yoke Ass'y. 1 1/4\"-21 Spline
14	082 6612	1	Slide Lock Repair Kit
—	001 8317	1	Danger - Rotating Drive Line-Decal

## Rear Axle Kit

(Includes ref. 1, 2, 3A and 5 thru 12 in quantities shown, except ref. 10 not used on 5 HDC)

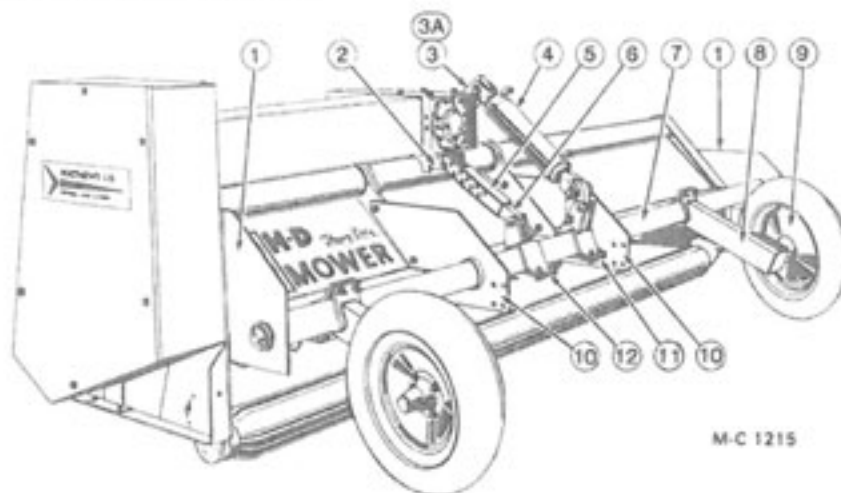
083 9011 for Model 5 HDC

083 9012 for Model 7 HDC & 7 HDO

083 9013 for Model 8 HDC & 8 HDO

083 9014 for Model 10 HDC & 10 HDO

083 9015 for Model 12 HDC



M-C 1215

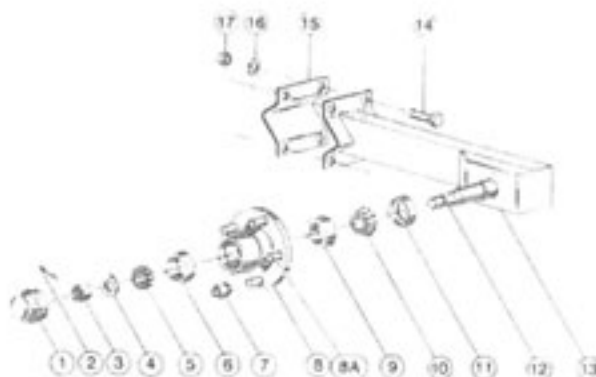
Ref.	Part No.	Qty.	Description	Ref.	Part No.	Qty.	Description
1	081 0029	1	Axle End Bracket-Left	6	091 3675	1	Ram Stop - Male
	081 0057	1	Axle End Bracket-Rt.		128 8172	1	5/16-11 x 2 1/2" Capscrew - Grd. 8
	000 8137	4	1/2-13 x 1 1/4" Capscrew - Grd. 5		000 8181	1	3/8" Lockwasher
	000 8180	4	1/2" Lockwasher		000 8164	1	5/8-11 Hex Nut
	000 8163	4	1/2-13 Hex Nut	7	-----	—	Axle
2	081 0033	1	Upper Ram Stop		083 0016	1	5 HDC
3	083 0006	1	Ram Anchor (Bolt on - below S/N 49242)		083 0002	1	7 HDC & 7 HDO
	001 8279	1	5/8-11 x 2" Capscrew - Grd. 5		083 0003	1	8 HDC & 8 HDO
	128 8172	2	5/8-11 x 2 1/2" Capscrew - Grd. 8		083 0004	1	10 HDC & 10 HDO
	000 8181	3	3/8" Lockwasher		083 0005	1	12 HDC
	000 8164	3	5/8-11 Hex Nut	8	111 1041	2	Wheel Mount & Hub Ass'y. w/Clamp (see pg. 37 for details)
3A	083 0025	1	Ram Mount (Welded on - above S/N 49241)	9	001 8993	2	Wheel - 5 Bolt 15" Rim (less tires see note)
4	-----	1	Standard 8" Stroke Hydraulic Ram (to be supplied by user). An Optional Hand Operated Mechanical Ram (Part No. 001 8985) is available.	10	111 0063	2	Center Bracket (not used on 5 HDC)
	002 8254	2	Ratchet Jack Pin (1" x 2 3/4")		000 8148	4	5/8-11 x 1 1/4" Capscrew - Grd. 5
	002 8253	4	Pin Clip		000 8181	4	3/8" Lockwasher
5	081 0077	1	Ram Stop - Female		000 8164	4	5/8-11 Hex Nut
	128 8172	1	5/8-11 x 2 1/2" Capscrew - Grd. 8	11	081 1013	1	Axle Ram Clevis Ass'y. (see pg. 37 for details)
	000 8181	1	3/8" Lockwasher	12	081 1010	1	Lower Ram Stop Mount Ass'y. (see pg. 37 for details)
	000 8164	1	5/8-11 Hex Nut				

NOTE: 6.40 x 15" 6-ply tubeless tires are available, order separately. Order one set of part number 000 8999 for each tire and tube required.

## Rear Axle Wheel Mount and Hub Assembly

Ref.	Part No.	Qty.	Description
—	111 1041	1	Wheel Mount Ass'y. w/Clamp (Includes ref. 1 thru 17)
—	111 1066	1	Wheel Mount Ass'y. (Includes ref. 1 thru 13)
1	001 8996	1	Hub Cap
2	001 8252	1	Cotter Pin 5/32" x 1"
3	001 8253	1	Spindle Nut
4	001 8254	1	Spindle Washer
5	001 6000	1	Bearing Cone - Outer
6	002 6000	1	Bearing Cup - Outer
7	001 8989	1	1/2-20 NF Lug Nut - 45°
8	001 8992	1	Wheel Hub Ass'y.-5 Bolt (Includes ref. 6, 8A & 9)
8A	002 8152	5	1/2-20 x 1 1/2" Stud
9	002 6001	1	Bearing Cup (Inner)
10	001 6001	1	Bearing Cone (Inner)
11	001 8991	1	Seal
12	001 8990	1	Spindle Only (Must be welded in place)

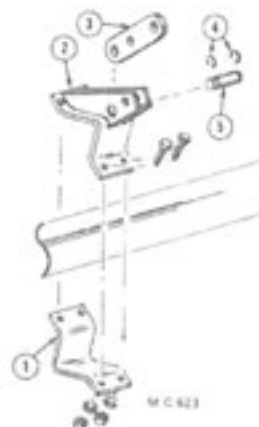
Ref.	Part No.	Qty.	Description
13	111 0130	1	Wheel Mount w/Spindle
14	128 8196	4	3/4-10 x 2 1/2" Capscrew - Grd. 5
15	111 3590	1	Wheel Mount Clamp
16	000 8182	4	3/4" Lockwasher
17	000 8165	4	3/4-10 Hex Nut



## Rear Axle Ram Clevis Assembly 081 1013

(Includes ref. 1 thru 5 in quantities shown)

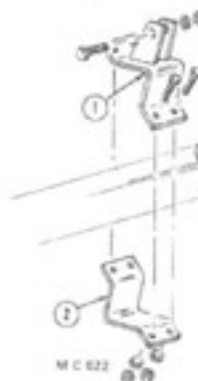
Ref.	Part No.	Qty.	Description
1	111 3590	1	Mount Clamp
	128 8172	4	3/8-11 x 2 1/2" Capscrew - Grd. 8
	000 8181	4	3/8" Lockwasher
	000 8164	4	3/8-11 Hex Nut
2	081 0031	1	Axle Clevis
3	081 3751	1	Ram Floating Link
4	000 8250	2	Ram Pin Snap Ring - 1"
5	000 8230	1	Ram Pin - 1" x 2 3/8"



## Rear Axle Lower Ram Stop Mount Assembly 081 1010

(Includes ref. 1 and 2 in quantities shown.)

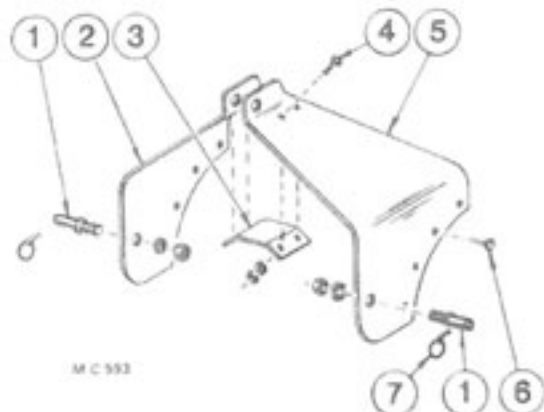
Ref.	Part No.	Qty.	Description
1	081 0032	1	Lower Ram Stop Mount
2	111 3590	1	Mount Clamp
	128 8172	4	3/8-11 x 2 1/2" Capscrew - Grd. 8
	000 8181	4	3/8" Lockwasher
	000 8164	4	3/8-11 Hex Nut





### 3 Point Hitch Kit 081 9012

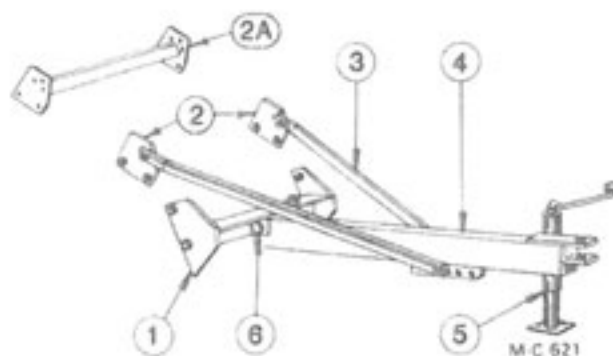
(Includes ref. 1 thru 7 in quantities shown - see note)



Ref.	Part No.	Qty.	Description
1	083 8211	2	Link Pin (Cat. 2) w/Nut and Lockwasher-Below S/N 47059
	083 8213	2	Link Pin (Cat. 2) w/Nut and Lockwasher-Above S/N 47058
2	081 1079	1	"A" Frame Bracket Ass'y (Right)-Below S/N 47059 (incl. bracket 081 0062 & pin 083 8213)
	081 0062	1	"A" Frame Bracket (Right)-Above S/N 47058
3	081 3524	1	"A" Frame Spreader
4	133 8161	4	1/2-13 x 1 1/2" Capscrew - Grd. 5
	000 8180	4	1/2" Lockwasher
	000 8163	4	1/2-13 Hex Nut
5	081 1080	1	"A" Frame Bracket Ass'y. (Left)-Below S/N 47059 (incl. bracket 081 0063 & pin 083 8213)
	081 0063	1	"A" Frame Bracket (Left)-Above S/N 47058
6	001 8279	8	3/8-11 x 2" Capscrew - Grd. 5
	000 8181	8	3/8" Lockwasher
	000 8164	8	3/8-11 Hex Nut
7	000 8993	2	Klick Pin 7/16" Dia.

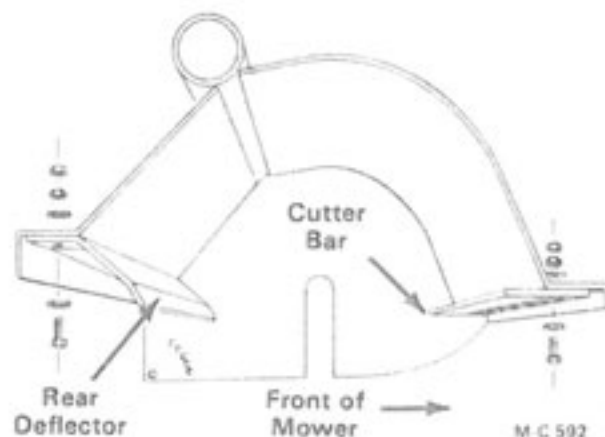
### Pull-Type Hitch Kit 081 9013

(Includes ref. 1, 2A and 3 thru 6 in quantities shown)



Ref.	Part No.	Qty.	Description
1	083 0007	1	Pole Mount
	001 8279	4	3/8-11 x 2" Capscrew - Grd. 5
	000 8181	4	3/8" Lockwasher
	000 8164	4	3/8-11 Hex Nut
2	083 3570	2	Pole Support Angle Mt. (Below S/N 49242)
	000 8279	4	3/8-11 x 2" Capscrew - Grd. 5
	000 8181	4	3/8" Lockwasher
	000 8164	4	3/8-11 Hex Nut
2A	083 0026	1	Pole Support Mt. (Above S/N 49241)
	001 8279	4	3/8-11 x 2" Capscrew - Grd. 5
	000 8181	4	3/8" Lockwasher
	000 8164	4	3/8-11 Hex Nut
3	083 0009	1	Pole Support - Right
	083 0008	1	Pole Support - Left
	128 8195	4	3/4-10 x 2" Capscrew - Grd. 5
	000 8182	4	3/4" Lockwasher
	000 8165	4	3/4-10 Hex Nut
4	111 0105	1	Pole
5	141 8997	1	Pole Jack w/Retaining Pin
6	111 1035	1	Pole Pin w/Roll pin 000 8259
	000 8994	1	Klick Pin - 1/4" Dia.

NOTE: This kit includes two category 2 hitch link pins (see ref. 1). If the tractor is equipped with a category 1 hitch, two category 1 hitch link pins (083 8212) must be ordered separately. Part number of category 1 hitch link pin for mowers below S/N 47059 is 083 8210.



### Front Cutter Bar Kit

#### Kit 113 9021 for Model 5 HDC

Consists of the following:

- 1 of 111 3479 Cutter Bar
- 5 of 000 8278  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " Capscrew - Grd. 5
- 5 of 000 8175  $\frac{1}{2}$ " Flatwasher
- 10 of 000 8163  $\frac{1}{2}$ -13 Hex Nut

#### Kit 113 9014 for Model 7 HDC & 7 HDO

Consists of the following:

- 1 of 111 3480 Cutter Bar
- 8 of 000 8278  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " Capscrew - Grd. 5
- 8 of 000 8175  $\frac{1}{2}$ " Flatwasher
- 16 of 000 8163  $\frac{1}{2}$ -13 Hex Nut

#### Kit 113 9015 for Model 8 HDC & 8 HDO

Consists of the following:

- 2 of 111 3478 Cutter Bar
- 8 of 000 8278  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " Capscrew - Grd. 5
- 8 of 000 8175  $\frac{1}{2}$ " Flatwasher
- 16 of 000 8163  $\frac{1}{2}$ -13 Hex Nut

#### Kit 113 9016 for Model 10 HDC & 10 HDO

Consists of the following:

- 2 of 111 3479 Cutter Bar
- 10 of 000 8278  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " Capscrew - Grd. 5
- 10 of 000 8175  $\frac{1}{2}$ " Flatwasher
- 20 of 000 8163  $\frac{1}{2}$ -13 Hex Nut

#### Kit 113 9017 for Model 12 HDC

Consists of the following:

- 3 of 111 3478 Cutter Bar
- 12 of 000 8278  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " Capscrew - Grd. 5
- 12 of 000 8175  $\frac{1}{2}$ " Flatwasher
- 24 of 000 8163  $\frac{1}{2}$ -13 Hex Nut

### Rear Deflector Kit (Optional)

#### Kit 081 9019 for Model 5 HDC

Consists of the following:

- 1 of 083 0022 Deflector
- 5 of 000 8278  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " Capscrew - Grd. 5
- 10 of 000 8175  $\frac{1}{2}$ " Flatwasher
- 10 of 000 8163  $\frac{1}{2}$ -13 Hex Nut

#### Kit 081 9008 for Model 7 HDC & 7 HDO

Consists of the following:

- 1 of 083 0020 Deflector-Right
- 1 of 083 0021 Deflector-Left
- 8 of 000 8278  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " Capscrew - Grd. 5
- 16 of 000 8175  $\frac{1}{2}$ " Flatwasher
- 16 of 000 8163  $\frac{1}{2}$ -13 Hex Nut

#### Kit 081 9009 for Model 8 HDC & 8 HDO

Consists of the following:

- 2 of 083 0019 Deflector
- 8 of 000 8278  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " Capscrew - Grd. 5
- 16 of 000 8175  $\frac{1}{2}$ " Flatwasher
- 16 of 000 8163  $\frac{1}{2}$ -13 Hex Nut

#### Kit 081 9010 for Model 10 HDC & 10 HDO

Consists of the following:

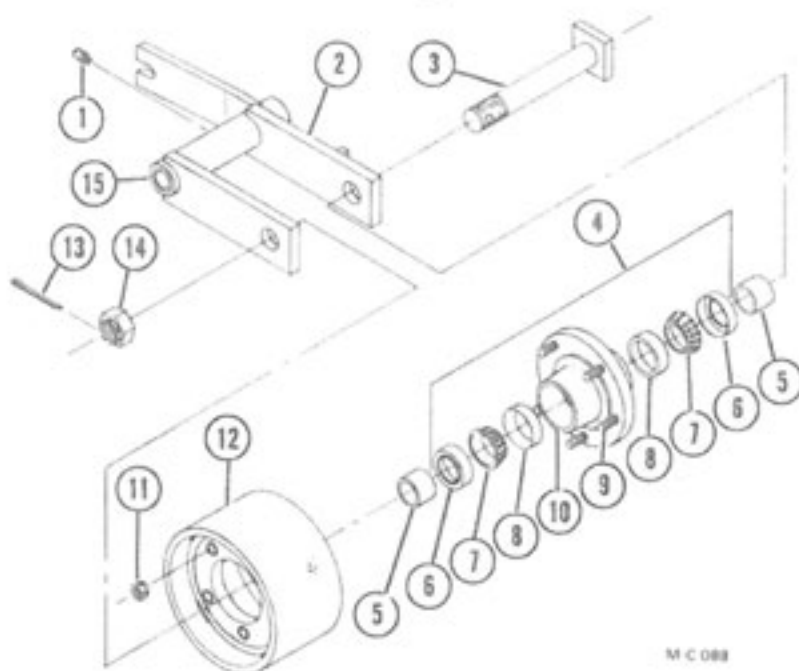
- 2 of 083 0022 Deflector
- 10 of 000 8278  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " Capscrew - Grd. 5
- 20 of 000 8175  $\frac{1}{2}$ " Flatwasher
- 20 of 000 8163  $\frac{1}{2}$ -13 Hex Nut

#### Kit 081 9011 for Model 12 HDC

Consists of the following:

- 3 of 083 0019 Deflector
- 12 of 000 8278  $\frac{1}{2}$ -13 x  $1\frac{1}{4}$ " Capscrew - Grd. 5
- 24 of 000 8175  $\frac{1}{2}$ " Flatwasher
- 24 of 000 8163  $\frac{1}{2}$ -13 Hex Nut

## Idler Assembly 081 1031



M C 088

Ref.	Part No.	Qty.	Description
1	132 8990	1	Straight Drive-in Zerk
2	081 1032	1	Idler Arm w/Bushings
3	111 0145	1	Idler Bolt 1 1/4"-12 x 7 1/2"
4	111 8986	1	Hub Ass'y. (Includes ref. 6 thru 9 in quantities shown)
5	081 5603	2	Idler Hub Spacer
6	112 6000	2	Bearing Seal 1 1/4"
7	112 6002	2	Bearing Cone 1 1/4"

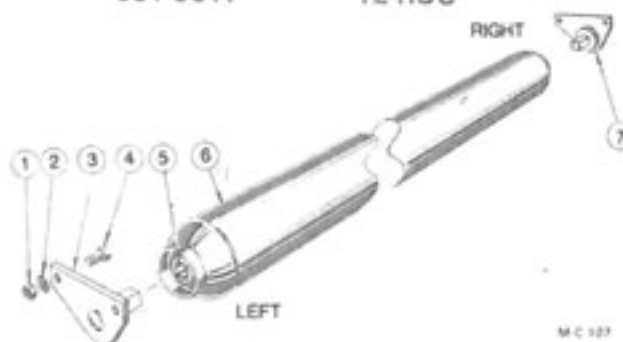
Ref.	Part No.	Qty.	Description
8	112 6001	2	Bearing Cup 1 1/4"
9	002 8152	5	1/2"-20 x 1 1/2" Stud
10	112 8999	1	5 Bolt Hub (Includes 2 of ref. 8 & 5 of ref. 8A)
11	001 8989	5	Lug Nut 1/2-20 (45°)
12	111 5710	1	Idler Pulley
13	000 8255	1	Cotter Pin 1/4" x 2"
14	111 8252	1	Castellated Nut 1 1/4-12
15	128 6017	2	Bronze Bushing

## Gauge Roller Kit

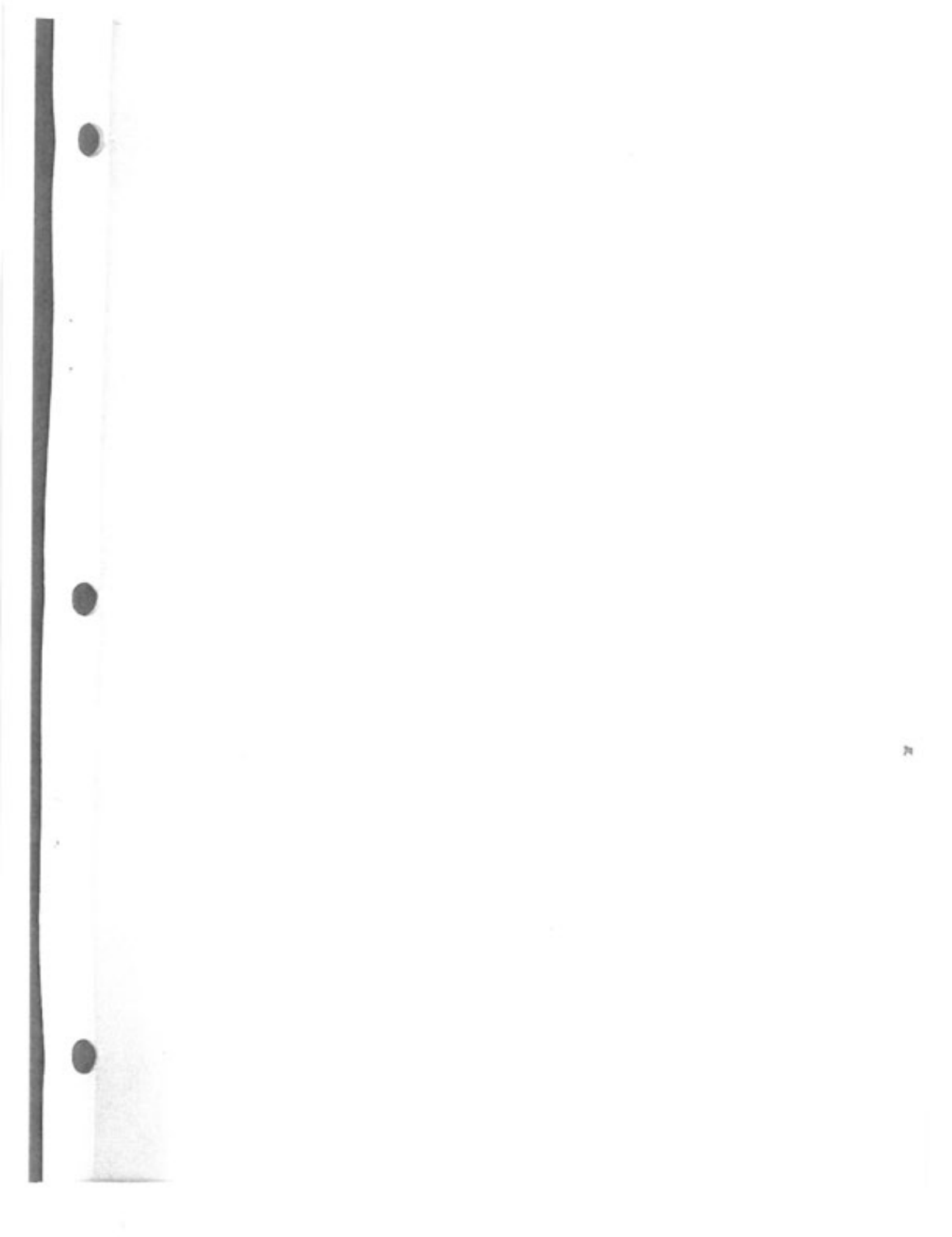
(Includes ref. 1 thru 7 in quantities shown)

Ref.	Part No.	Qty.	Description
1	000 8163	4	1/2-13 Hex Nut
2	000 8180	4	1/2" Lockwasher
3	081 0017	1	Gauge Roller Hanger - Left
4	133 8161	4	1/2-13 x 1 1/2" Capscrew - Grd. 5
5	081 6000	2	Gauge Roller Bearing
6	-----	—	Gauge Roller w/Bearings
	081 1061	1	5 HDC
	081 1057	1	7 HDC & 7 HDO
	081 1058	1	8 HDC & 8 HDO
	081 1059	1	10 HDC & 10 HDO
	081 1060	1	12 HDC
7	081 0018	1	Gauge Roller Hanger-Rt.

Kit No.	Mower Model
081 9018	5 HDC
081 9014	7 HDC & 7 HDO
081 9015	8 HDC & 8 HDO
081 9016	10 HDC & 10 HDO
081 9017	12 HDC



M C 107





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