

## DESCRIPTION OF THE REAR ATTACHED MOWER

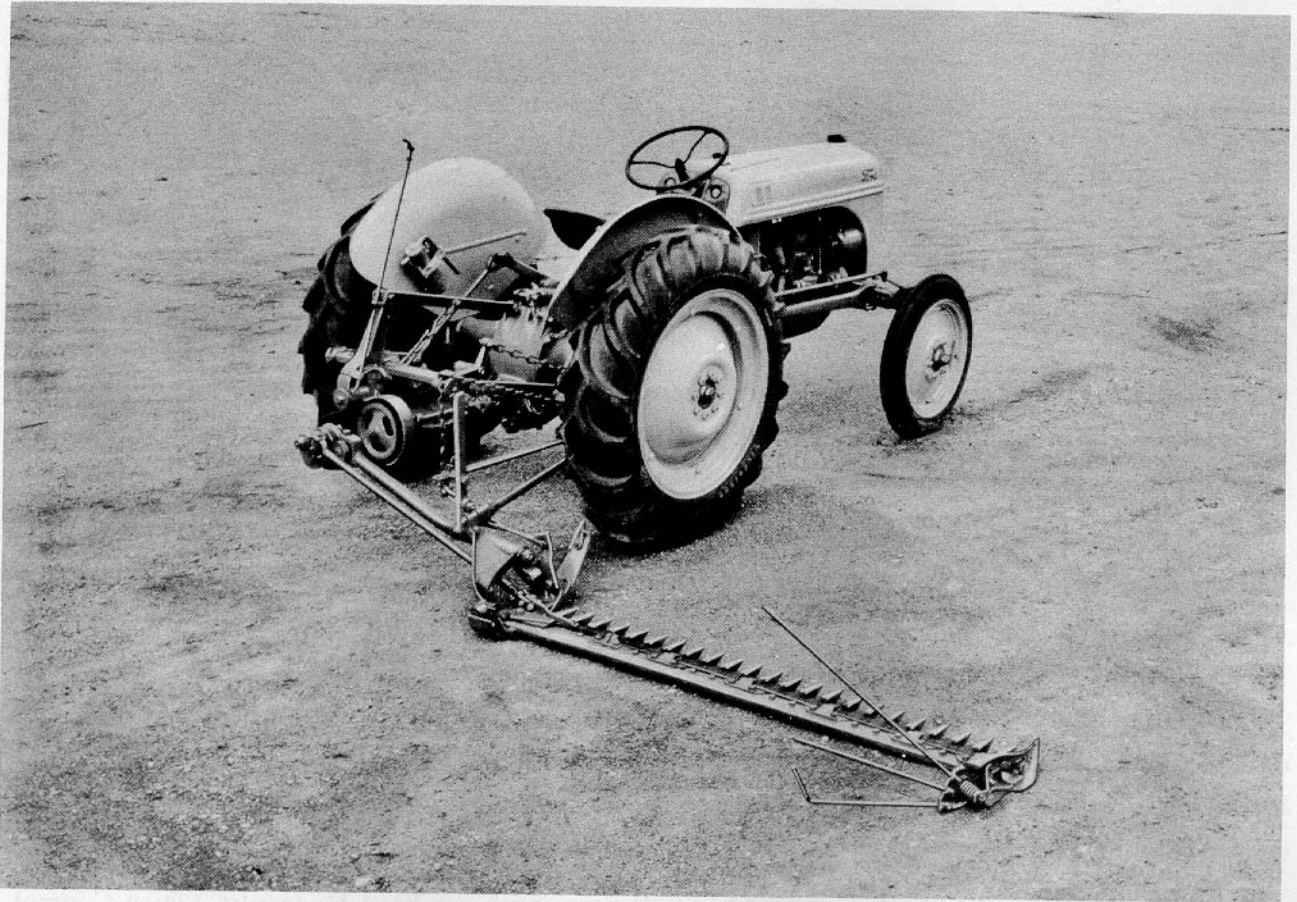
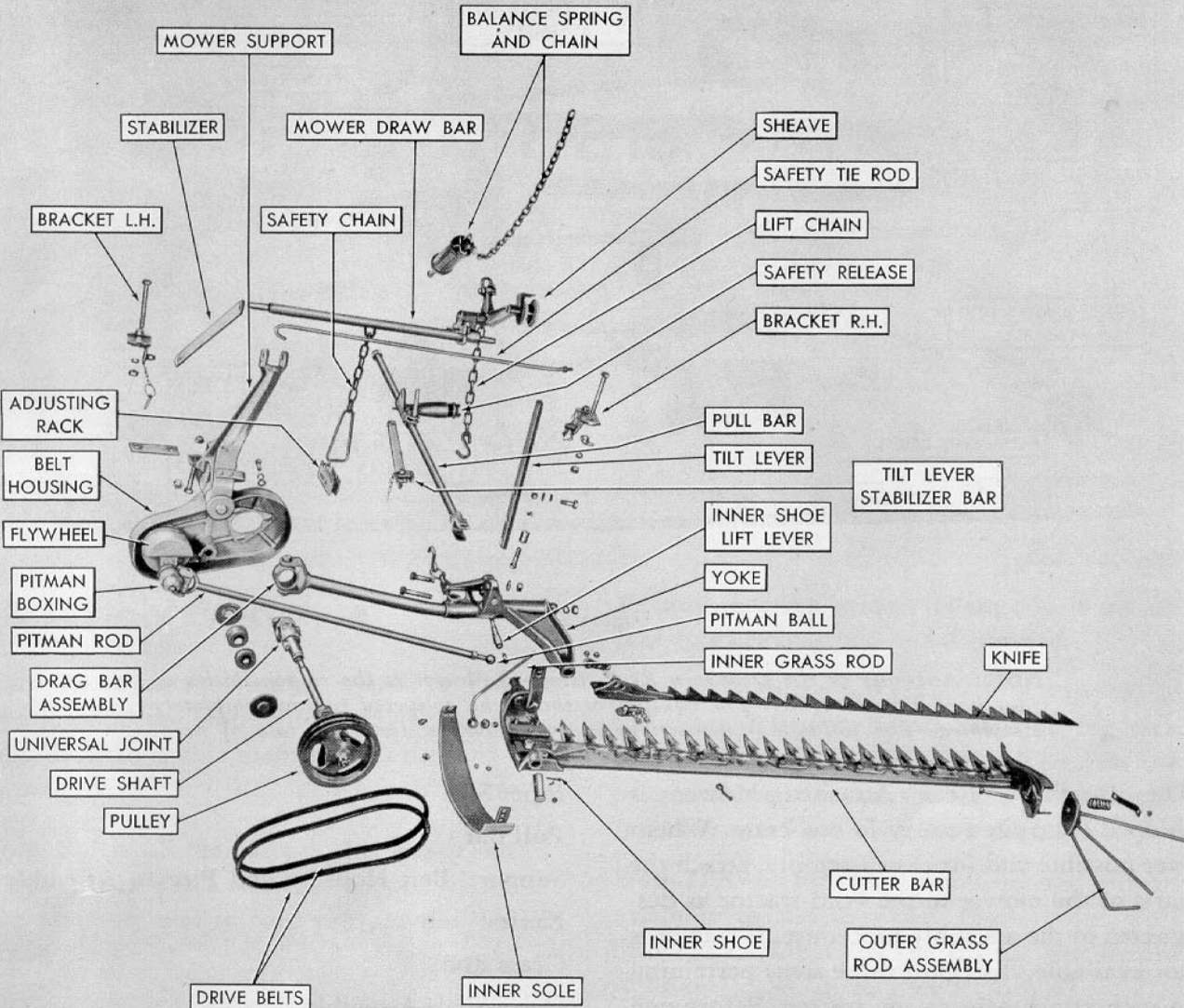


Figure 1

The Dearborn Rear Attached Mower, pictured above, was built to give years of satisfactory service. Made from high quality material, skillfully machined and assembled, it is a quality implement throughout. Each part of this mower is manufactured and fitted together to give you the utmost in performance and efficiency. Roller bearings give you a

smooth, light-running machine. The floating suspension allows the cutter bar to follow the ground contour. Your ability to mow large acreage in a day with this implement attached to your Ford Tractor results in greater efficiency. With normal care and attention, the Dearborn Rear Attached Mower will enable you to harvest hay quickly and easily.

# DESCRIPTION OF THE REAR ATTACHED MOWER



# ASSEMBLY OF THE REAR ATTACHED MOWER

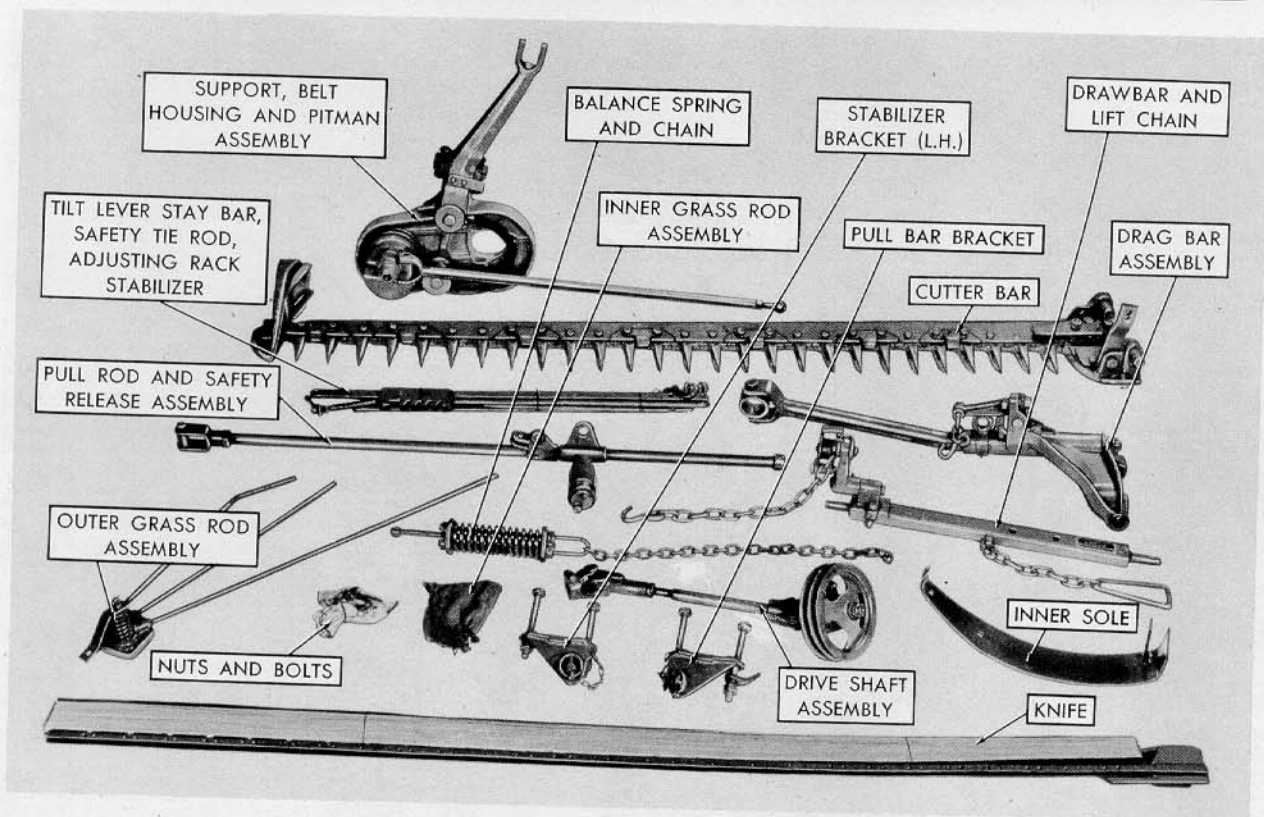


Figure 3

*NOTE: Assembly of the Dearborn Rear Attached Mower is the responsibility of your Ford Tractor dealer. The equipment should be delivered to you completely assembled. The following instructions are for your guidance, in case of need.*

The Dearborn Rear Attached Mower is shipped from the factory in one crate. Whenever possible and for easy assembly, attach the parts of the mower to the Ford tractor as designated in the assembly procedure. If tractor is not available, disregard those steps pertaining to such attachment to the tractor. Before you assemble the mower, check against the list given below to make certain that you have received every piece of the mower.

Balance Spring and Chain

Stabilizer

Pull Bar Bracket

Tilt Lever

Cutter Bar

Inner Sole

Pull Bar

Support, Belt Housing and Pitman Assembly  
Knife

Grass Rod

Drive Shaft Assembly

Tilt Lever Stay Bar

Safety Tie Rod

Drawbar and Lift Chain

Stabilizer Bracket (left)

Drag Bar

Belts (2)

Adjusting Rack

# ASSEMBLY OF THE REAR ATTACHED MOWER

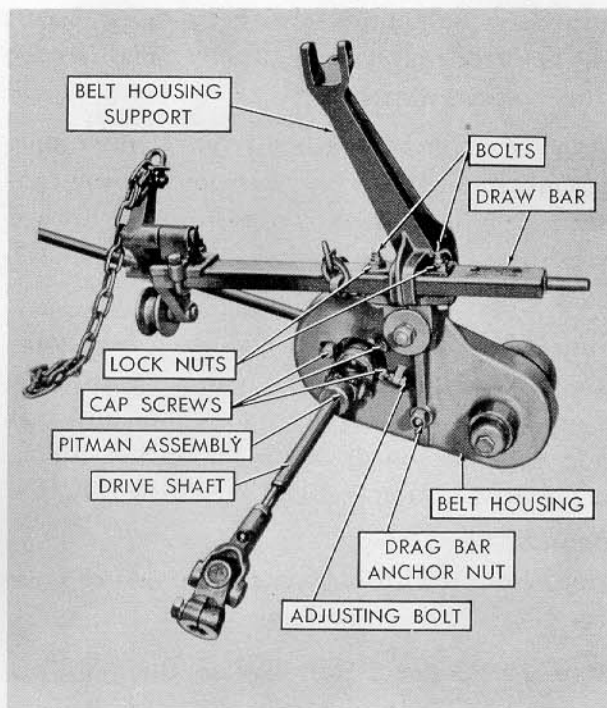


Figure 4

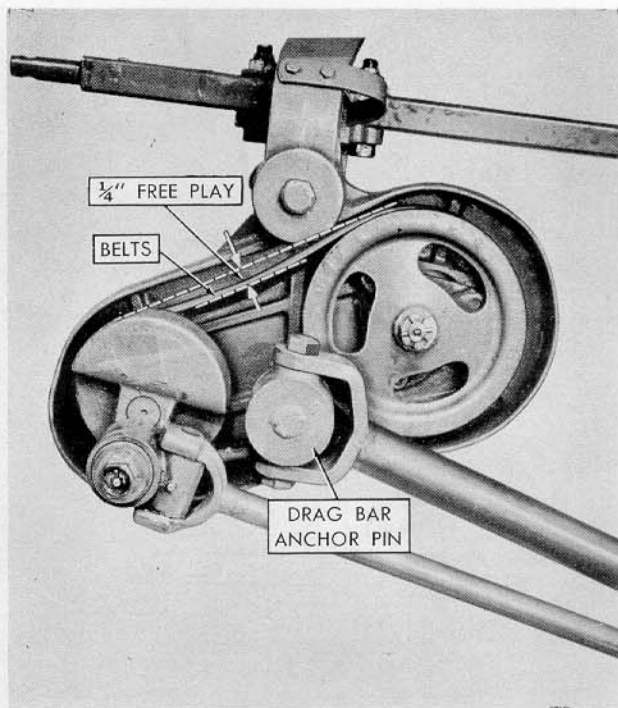


Figure 5

## Assembly Procedure

**Step 1:** Adjust rear tractor wheels to 52-inch spacing and the front wheels to 48-inch spacing. Refer to tractor manual for wheel spacing procedure.

**Step 2:** Lay all the parts of the mower out in a convenient place near the tractor to aid in the assembly and to help prevent the loss of small parts.

**Step 3:** Remove the two fender bolts on each tractor fender and replace with the longer bolts on the stabilizer bracket and the pull bar bracket.

**Step 4:** Install left stabilizer bracket on tractor with pin to the *inside forward* position.

**Step 5:** Install pull bar bracket on right rear axle housing with pin to *inside and forward*.

Be sure that the balance chain clip is on the rear bracket bolt and tilted upward.

**Step 6:** With the top tractor link adjusted to the shortest length, install the adjusting rack in the two bolt holes on the link nearest the tractor. Be certain that the teeth of the adjusting rack face forward (toward tractor).

**Step 7:** Assemble the belt housing and pitman assembly to the drawbar. Insert bolts. Pull drawbar back against the casting nut before tightening lock nuts. (See Figure 4)

**Step 8:** Attach drawbar to the tractor with the chain in the forward position; left lower tractor link to the left side of drawbar and right lower tractor link to the right side of the drawbar. *The right hand linch pin must be inserted from the bottom.* (See Figure 7)

**Step 9:** Install stabilizer bar from left end of drawbar to tractor left stabilizer bracket, and secure with linch pin. (See Figure 9)

# ASSEMBLY OF THE REAR ATTACHED MOWER

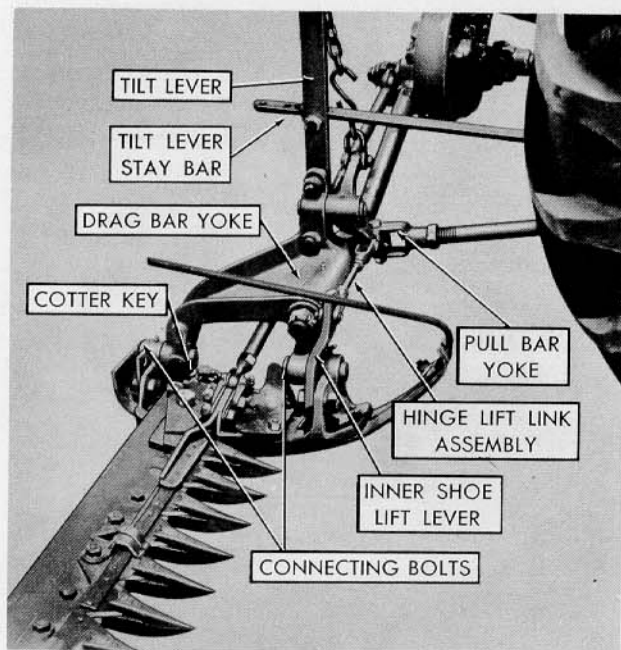


Figure 6

**Step 10:** Slip top tractor link through the drawbar chain loop, then attach top link to belt housing support. (See Figure 7)

**Step 11:** Hook drawbar chain to first notch in the adjusting rack.

**Step 12:** Insert drive shaft and drive shaft bearing assembly through opening in belt housing until the driving pulley rests on the drag bar anchor pin boss. (Turn adjusting bolt until it is in its fully-released position.) (See Figure 4)

**Step 13:** Install the belts on the flywheel pulley and on the drive pulley.

**Step 14:** Slip the drive pulley assembly in place with the lug on the bearing housing toward the adjusting bolt. (See Figure 4)

**Step 15:** Insert the three capscrews and adjust finger tight.

**Step 16:** Adjust belt tension by means of the

adjusting bolt until the belts have about  $\frac{1}{4}$ -inch free play (see Figure 5). Tighten the three capscrews securely.

**Step 17:** Attach drag bar yoke to inner shoe assembly and cutter bar. Be sure that the connecting bolts in the yoke are inserted toward the front. Lock into position with cotter keys. (See Figure 6)

**Step 18:** Remove anchor pin from belt housing and attach drag bar (with angle up, see Figure 5). Place the tapered rubber bushings on each side and draw up the anchor pin in order to position rubber bushings. *Do not tighten.*

**Step 19:** Attach tilt lever to left side of yoke assembly clevis. (See Figure 6)

**Step 20:** Connect pull bar to the pull bar bracket on right rear axle. Be sure that the safety release assembly faces outward. (See Figure 7). Attach yoke end of the pull bar to the drag bar hinge assembly. (See Figure 6)

**Step 21:** Attach tilt lever stay bar to the balance spring tilt bar bracket. Connect the other end to the tilt lever clevis, using the center hole. **NOTE:** The tilt lever clevis should angle to the rear and outward when connected. (See Figure 7)

**Step 22:** Connect hinge lift link assembly to inner shoe to hinge lift lever assembly. **NOTE:** Link should be connected to the lower hole on inner shoe bar for 6-foot cutter bars and on the upper hole for 7-foot cutter bars. (See Figure 6)

**Step 23:** Attach lift chain of drag bar to eye-bracket of the pull bar bracket. (See Figure 7)

**Step 24:** Hook eye of the balance spring rod to the pull bar bracket (near safety release). (See Figure 7)

# ASSEMBLY OF THE REAR ATTACHED MOWER

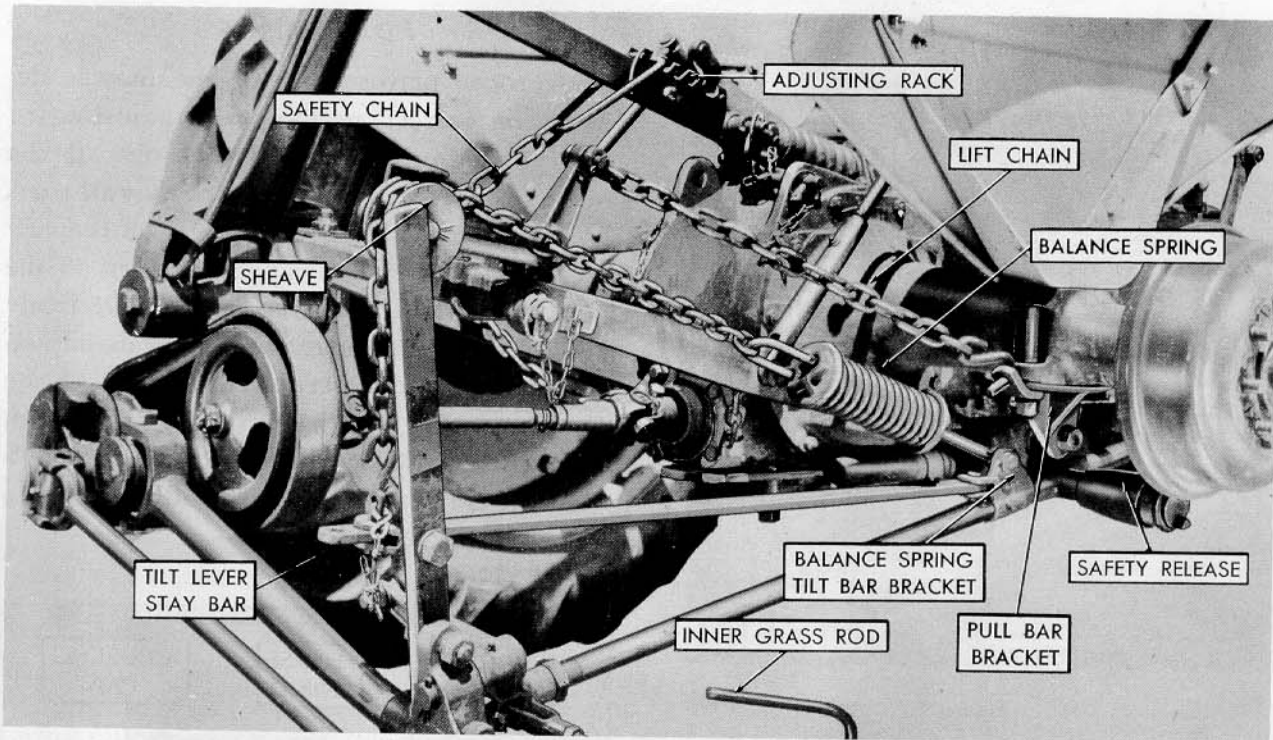


Figure 7

**Step 25:** Unhook safety chain from top tractor link and lower drawbar. Place balance chain over sheave in position (remove all twists from chain) and attach the end link to the chain hook on the tilt lever. (See Figure 7)

**Step 26:** Raise drawbar and reattach safety chain to first notch on the adjusting rack.

**Step 27:** Connect the inner grass rod to the inner sole and attach the assembly to the inner shoe.

**Step 28:** Attach outer grass rod assembly to outer shoe. (See Figure 8)

**Step 29:** Insert knife in cutter bar.

**Step 30:** Attach pitman arm ball to knifehead (See Figure 6). To tighten, remove shims between socket and knifehead. To loosen, add

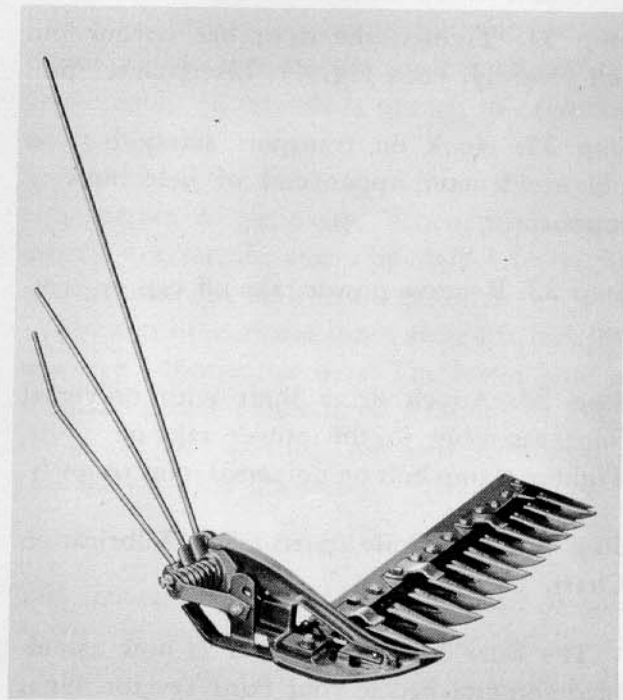


Figure 8

# ADJUSTING THE REAR ATTACHED MOWER

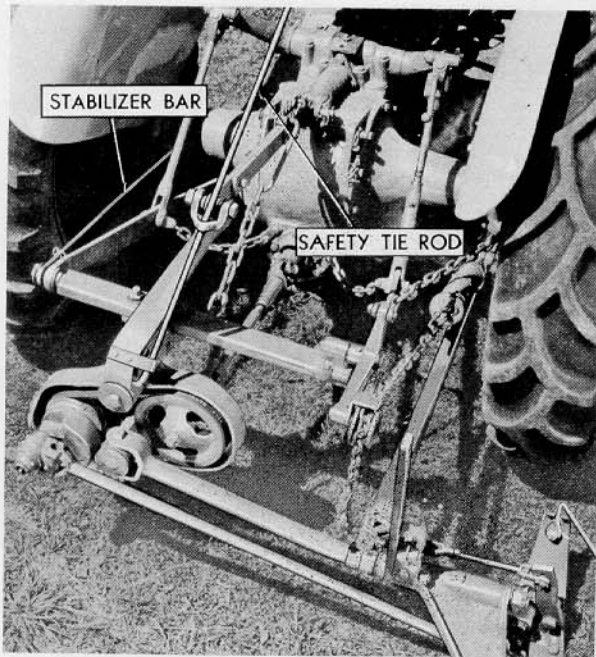


Figure 9

shims. If possible, space equal number of shims on each side.

**Step 31:** Tighten the drag bar anchor pin nut securely. (See Fig. 4). Insert cotter pin.

**Step 32:** Hook on transport safety tie rod (Figure 9) on upper end of belt housing support.

**Step 33:** Remove power take-off cap on tractor.

**Step 34:** Attach drive shaft with universal joint assembly to the power take-off shaft. Tighten clamp bolt on universal joint *securely*.

**Step 35:** Lubricate parts. See Lubrication Chart.

The Rear Attached Mower is now assembled and attached to your Ford Tractor. Final adjustments and tightening should now be made.

## ADJUSTMENTS

The proper performance of the mower depends on correct assembly and adjustments. Before making any adjustments, operate the mower slowly so as to determine that all parts are working correctly and to wear off the new paint. When the surplus paint is worn off the working parts, the mower will operate freely and allow you to make more accurate adjustments. Raise and lower the cutter bar with the Ford Hydraulic Touch Control lever to check the control springs. Before starting each day's work, it is best to recheck the adjustments to assure maximum efficiency.

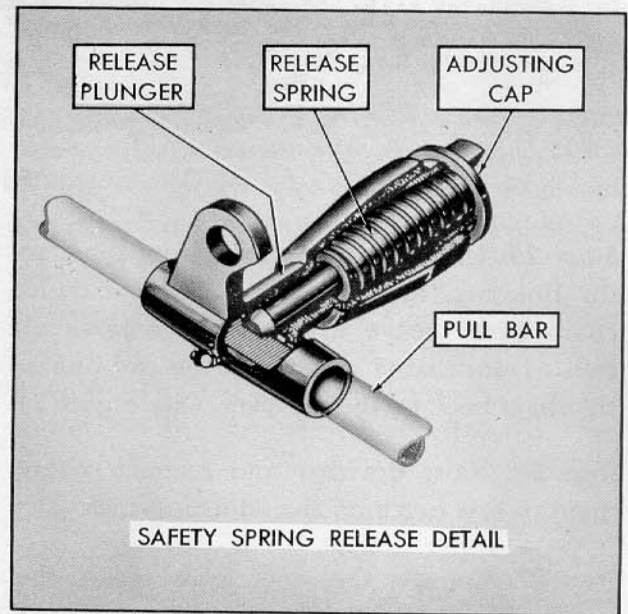


Figure 10

## SAFETY RELEASE

The automatic safety release is a feature that helps prevent injury to the mower when an obstruction is hit. It allows the cutter bar to swing to the rear away from the obstruction.

The safety release spring is adjusted when you receive the mower and will perform under most conditions. To check the safety release

# ADJUSTING THE REAR ATTACHED MOWER

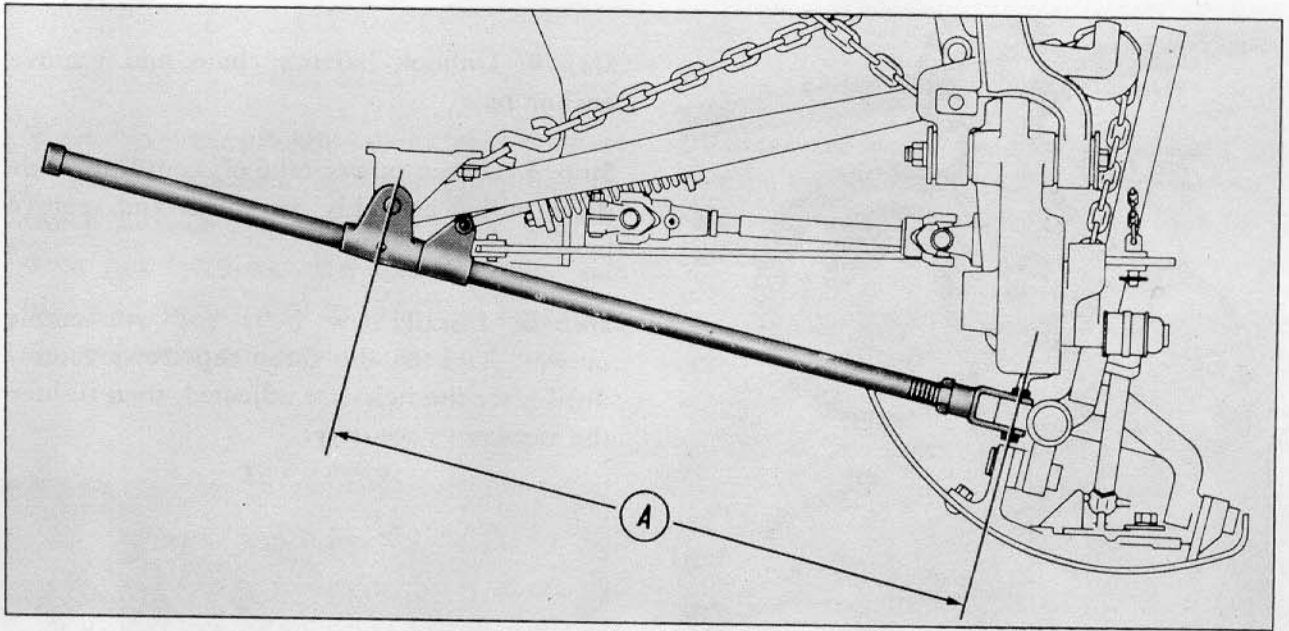


Figure 11

spring, lower the cutter bar to the cutting position and give the outer end a quick, hard pull to disengage.

If the pull bar does not release, loosen the safety release cap a few turns until a quick hard pull does release it. If it releases too quickly, tighten the cap. However, do not adjust too tight as this is an automatic operation and must release easily for safety.

To resume mowing, simply back the tractor until the cutter bar automatically engages the pull bar with the safety release.

## BALANCE SPRING

The balance spring adjusts the ground pressure of the inner and outer shoes. See Figure 7

Adjust the spring tension by first lowering the right side of the mower drawbar with the tractor leveling crank until the balance chain is loose. Unhook the chain and turn the balance spring bolt either right or left to increase or decrease the inner shoe pressure so that it approximates a 50-pound pressure. Level

drawbar with leveling crank, then adjust outer shoe.

To correct the outer shoe, adjust hinge lift link assembly by loosening the lock nut and removing the turn-buckle until a lift of approximately 12 pounds is needed to raise the outer shoe.

Next check the pressure on inner shoe again and correct, as necessary. When this adjustment is correct, the cutter bar will be straight and without any arch in the middle.

The top hole of the inner shoe lift lever is used for 7-foot cutter bars. The lower hole is used for 6-foot cutter bars. Attempt to keep the cutter bar "floating" yet still maintaining contact with the ground.

## CUTTER BAR ALIGNMENT

The mower bar assembly is adjusted at the factory to assure cutter bar alignment. If, at any time, it is necessary to disassemble the pull bar and drag bar, the correct setting of the pull bar is needed in order to reestablish a correct cutter bar alignment. To maintain this



# ADJUSTING THE REAR ATTACHED MOWER

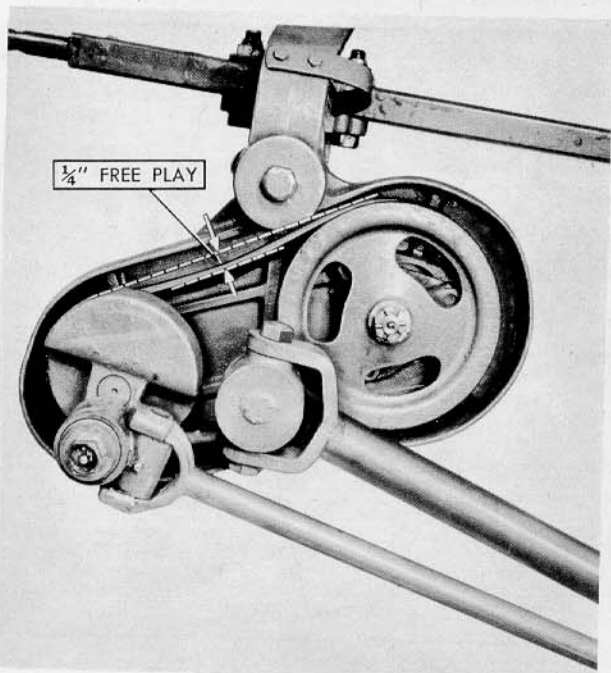


Figure 12

alignment, the distance "A," Figure 11, should never be less than  $35\frac{7}{8}$  inches or more than  $36\frac{1}{2}$  inches.

## BELT TENSION

At a point midway between the drive and the pulleys, there should be approximately  $\frac{1}{4}$  inch play on the drive belts. Make this adjustment by turning the adjusting bolt after loosening the three capscrews.

## DRIVE BELT REPLACEMENT

To replace any of the drive belts, employ the following procedure:

**Step 1:** Loosen the adjusting bolt.

**Step 2:** Remove the three capscrews.

**Step 3:** Remove pitman from knife head, raise cutter bar and swing the pitman to the rear. Lower cutting bar.

**Step 4:** Unhook balance chain and remove anchor bolt.

**Step 5:** Loosen power take-off coupling, slide drive pulley assembly rearwards and remove belts.

**Step 6:** Install new belts and reassemble mower. Tighten the three capscrews loosely until after the belts are adjusted, then tighten the capscrews securely.

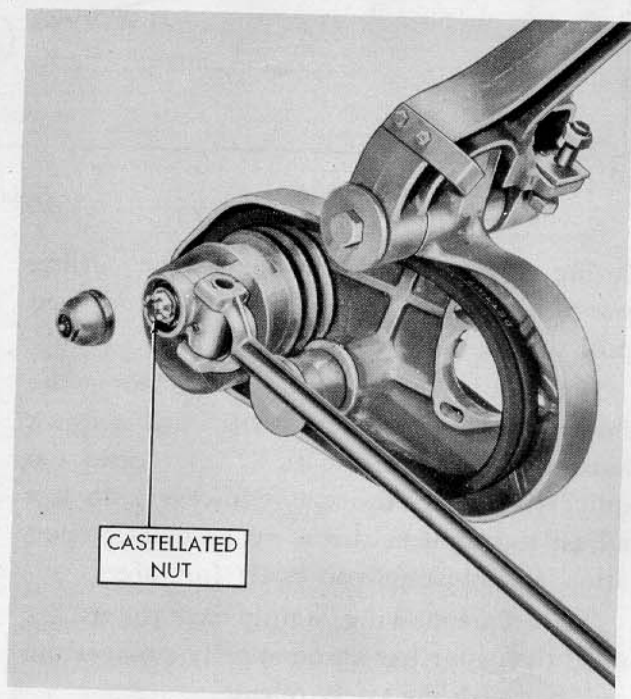


Figure 13

## PITMAN BOX BEARING

End play in the pitman box will produce hammering and excessive vibration in the operation of the cutter bar. This end play may be removed by tightening the castellated nut on the pitman pin and backing off one castellation ( $\frac{1}{6}$  turn). Pitman box bearing cap must be removed to tighten castellated nut.

# ADJUSTING THE REAR ATTACHED MOWER

## WRIST PINS

Wear between pitman boxing and yoke of pitman is corrected by inserting shims between boxing and yoke. Excessive wear in wrist pin increases vibration. Excessive side play may be corrected by installing new wrist pin and wrist pin bushing.

## TILT LEVER

The tilt lever adjusts the position of the cutter bar. Normally, the guards run level. However, when mowing in stony fields, the points of the guards may be raised by moving the tilt lever to the rear position. When it is desired to have the points close to the ground, the tilt lever is moved to the forward position. Under normal conditions, the tilt lever is in the center hole. The tilt lever does not regulate height of cut.

## HEIGHT OF CUT

The height of cut is controlled by the position of the inner and outer shoes. Adjust the inner and outer shoe by raising or lowering as desired. For uniform cutting, adjust both shoes alike. In some cases it may be necessary to recheck the balance spring and adjust accordingly. See balance spring adjustment.

## KNIFE HEAD AND PITMAN

The pitman socket should be sufficiently tight on the knife head to eliminate backlash. With a new mower, this adjustment should be checked again after the paint has worn off.

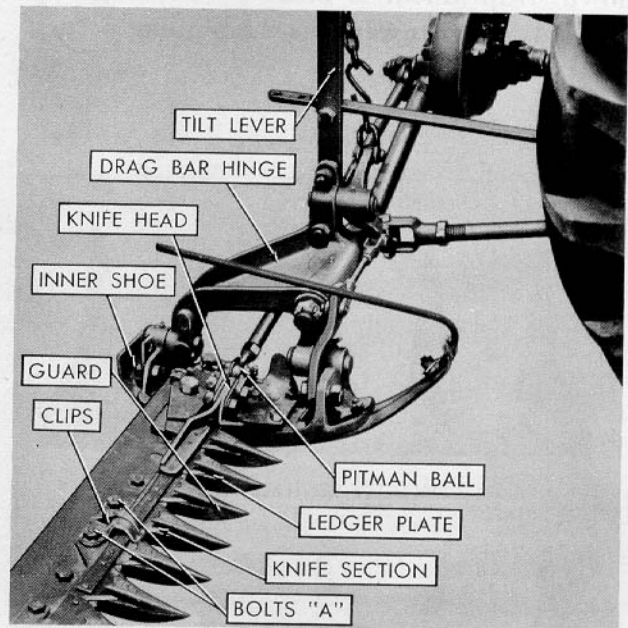


Figure 14

## GUARDS

Section points must be flush with ledger plates on all guards. This may be checked by sighting down the ledger plates from the outer end of the cutter bar looking toward the knife head. High and low guards may be brought into proper position by striking the point of the guard lightly with a hammer. The guard bolts should be tightened before and after checking and aligning guards.

# ADJUSTMENT OF THE REAR ATTACHED MOWER

## CLIPS

Knife clips are set after the guards are aligned. The clips hold the knife sections to the ledger plates but must allow enough clearance for the knife to operate freely. Be certain that the entire flat surface of the clip holds the section down. Adjustment is made by bending clip upwards or downwards as the binding occurs.

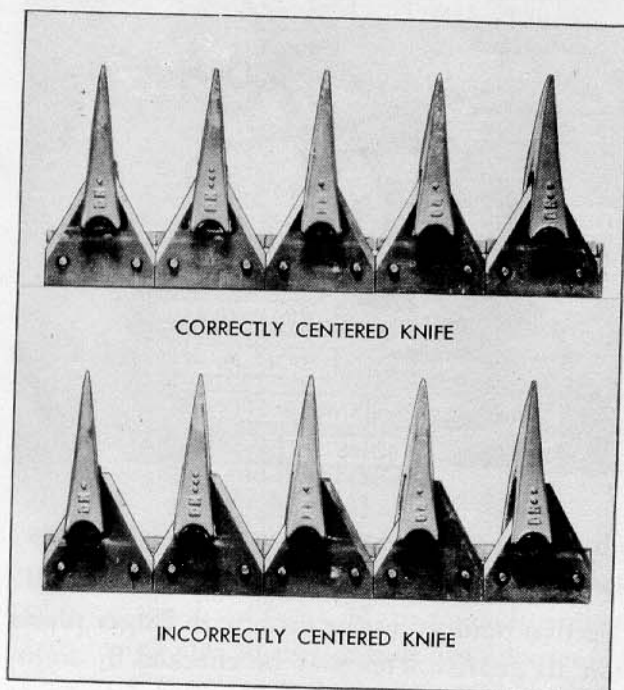


Figure 15

## REGISTER ADJUSTMENT

To insure clean cutting, check knife to see if it properly registers or centers on the guards. (See Figure 15 for correct and incorrect positions.) The sections should center with the guards when the cutter bar is in the cutting position and the pitman arm is either on the outer or the inner dead center of its stroke. Adjustment is made by lengthening or shortening pitman, Figure 14.

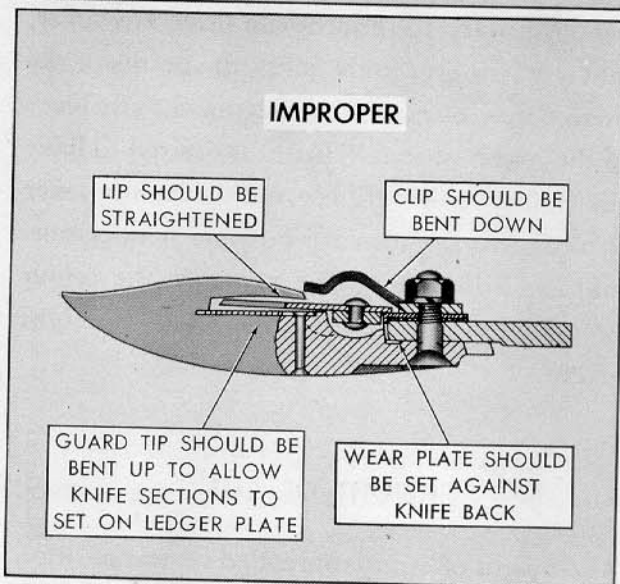
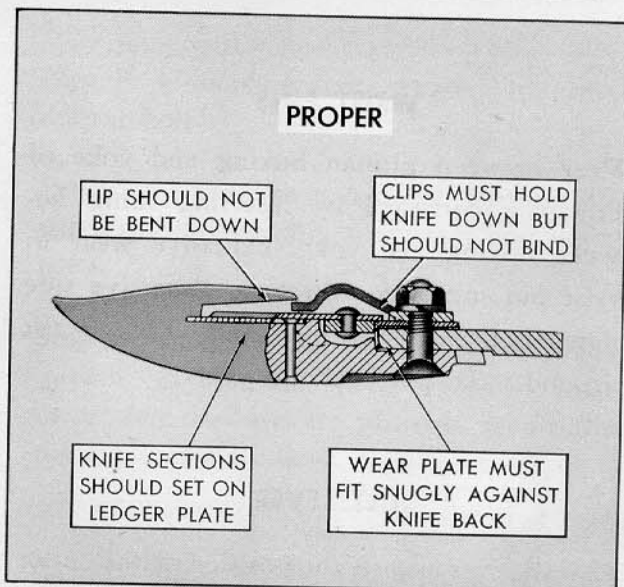


Figure 16

## WEAR PLATES

Align the wear plates in order to maintain a straight bearing surface along the entire length of the knife. Adjust the wear plates by loosening nuts "A", Fig. 14, and moving wear plates forward or backward as desired. Wear plates should fit snugly against knife back to help prevent vibration *but* knife should be able to move freely along its entire length without binding.

# ATTACHING THE REAR ATTACHED MOWER

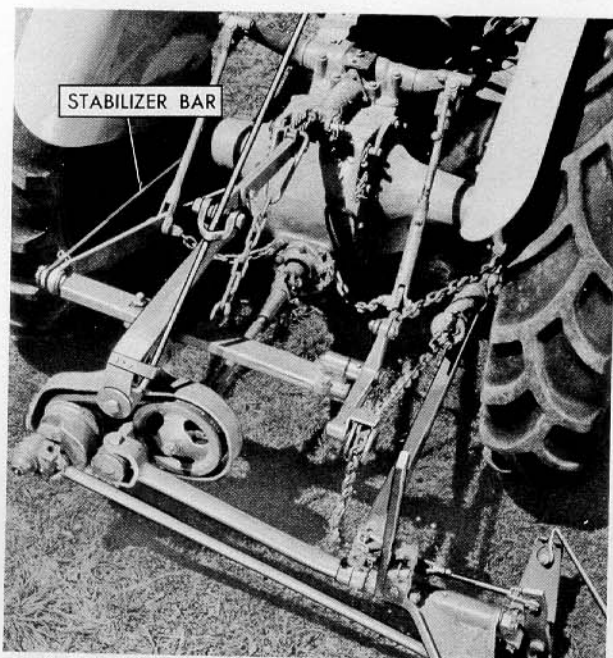


Figure 17

## ATTACHING ASSEMBLED MOWER TO TRACTOR

- Step 1:** Adjust rear tractor wheels to 52-inch spacing and the front wheels to 48-inch spacing according to wheel spacing instructions in your tractor manual.
- Step 2:** Place the stabilizer bracket and pull bar bracket on the tractor if they have been removed. For instructions to install brackets see Steps 3 through 6, Assembly Procedure.
- Step 3:** Place cutter bar in cutting position.
- Step 4:** Install tractor top link and adjusting rack.
- Step 5:** Install left stabilizer bar. Attach stabilizer bar and left tractor link to mower drawbar assembly.
- Step 6:** Attach right tractor link. If necessary bring link into position with tractor drawbar by leveling crank.

**Step 7:** Insert top tractor link through safety chain and attach. Be sure chain is *straight*.

**Step 8:** Attach pull bar by raising the mower with the Ford Hydraulic Touch Control lever until the pull bar aligns with, and can be assembled to, the pull bar bracket.

**Step 9:** Place safety chain on top tractor link adjusting rack.

**Step 10:** Hook lift chains.

**Step 11:** Attach universal joint assembly to tractor power take-off. Tighten clamp bolt on universal joint *securely*.

## REMOVING MOWER FROM TRACTOR

- Step 1:** Place cutter bar in operating position.
- Step 2:** Disconnect universal joint from power take-off.
- Step 3:** Raise mower with Ford Hydraulic Touch Control lever. Disconnect safety chain from top tractor link adjusting rack.
- Step 4:** With mower in raised position, remove pull bar from tractor pull bar bracket.
- Step 5:** Lower mower with Ford Hydraulic Touch Control lever.
- Step 6:** Unhook lift chain.
- Step 7:** Remove right and left tractor links and stabilizer bar.
- Step 8:** Remove top tractor link.

**NOTE:** Brackets and rack on top link can remain on tractor if mower is to be used again.

**CAUTION:** Be sure that the mower is completely disconnected before attempting to move the tractor.

# OPERATION AND MAINTENANCE — REAR ATTACHED MOWER

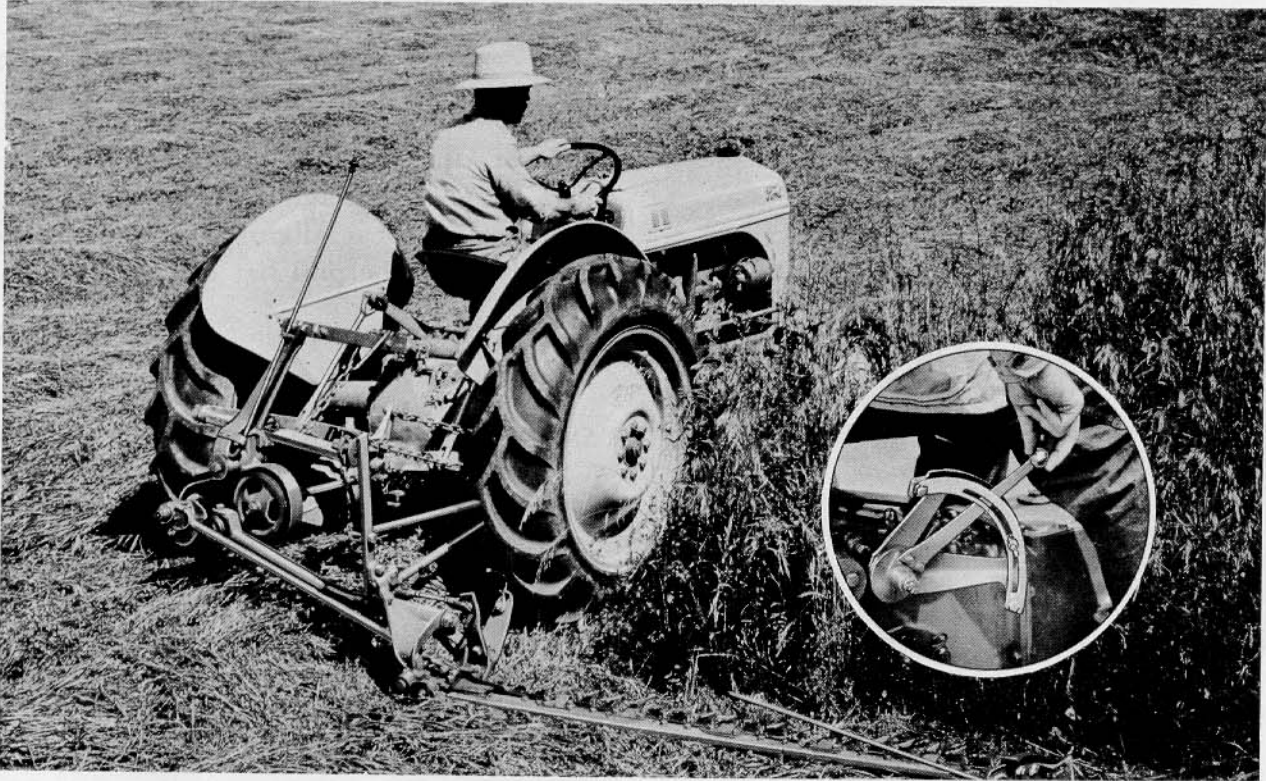


Figure 18

Operation of the Dearborn Rear Attached Mower is simplicity itself and with little practice the operator can easily manipulate the mower as desired. Before operating, always check the mower for proper assembly and adjustments. Tighten all nuts and bolts securely and lubricate as instructed in the lubrication chart.

## TRANSPORTING THE MOWER

To transport the mower, raise the cutter bar with the Ford Hydraulic Touch Control lever. Hook the safety chain in the forward notch of the adjusting rack on the top tractor link. Disengage the power take-off, raise the cutter bar by hand to the vertical transport position and attach to the transport safety bar. **CAUTION:** *Do not place your fingers between the guards while raising the cutter bar.*



Figure 19

# OPERATION AND MAINTENANCE — REAR ATTACHED MOWER

## INNER SHOE

Hammering and excessive wear is usually caused by too much play by the knife head in the inner shoe guides. This can be remedied by removing or adding shims as required. Check the inner shoe wear plate to be certain that it is not too high, causing the knife to catch. If it is too high, place a shim between bar and inner shoe thereby raising the bar and knife.

## EXCESSIVE SIDE DRAFT

An indication of misalignment is side draft. To find the source of trouble, check the following: bent knife, worn ledger plates, bent guards, dull knife or improperly sharpened knife, worn knife clips, worn wear plates,

improper lubrication, cutter bar misalignment and knife register.

## REPLACING LEDGER PLATES

Ledger plates should be replaced if the serrated (notched) edges are worn. Dull ledger plates cause ragged cutting and increase the draft of the mower.

To remove the plate, loosen the ledger plate rivet by driving it downward with a metal punch. (Place a solid support under the guard to prevent damage.)

To replace the plate, set it in position, insert the rivet through the ledger plate and countersink in the face of the guard. Rivet into position with a ball-peen hammer. File off any excess metal on the rivet head, making it smooth with the face of the ledger plate.

# OPERATION AND MAINTENANCE — REAR ATTACHED MOWER

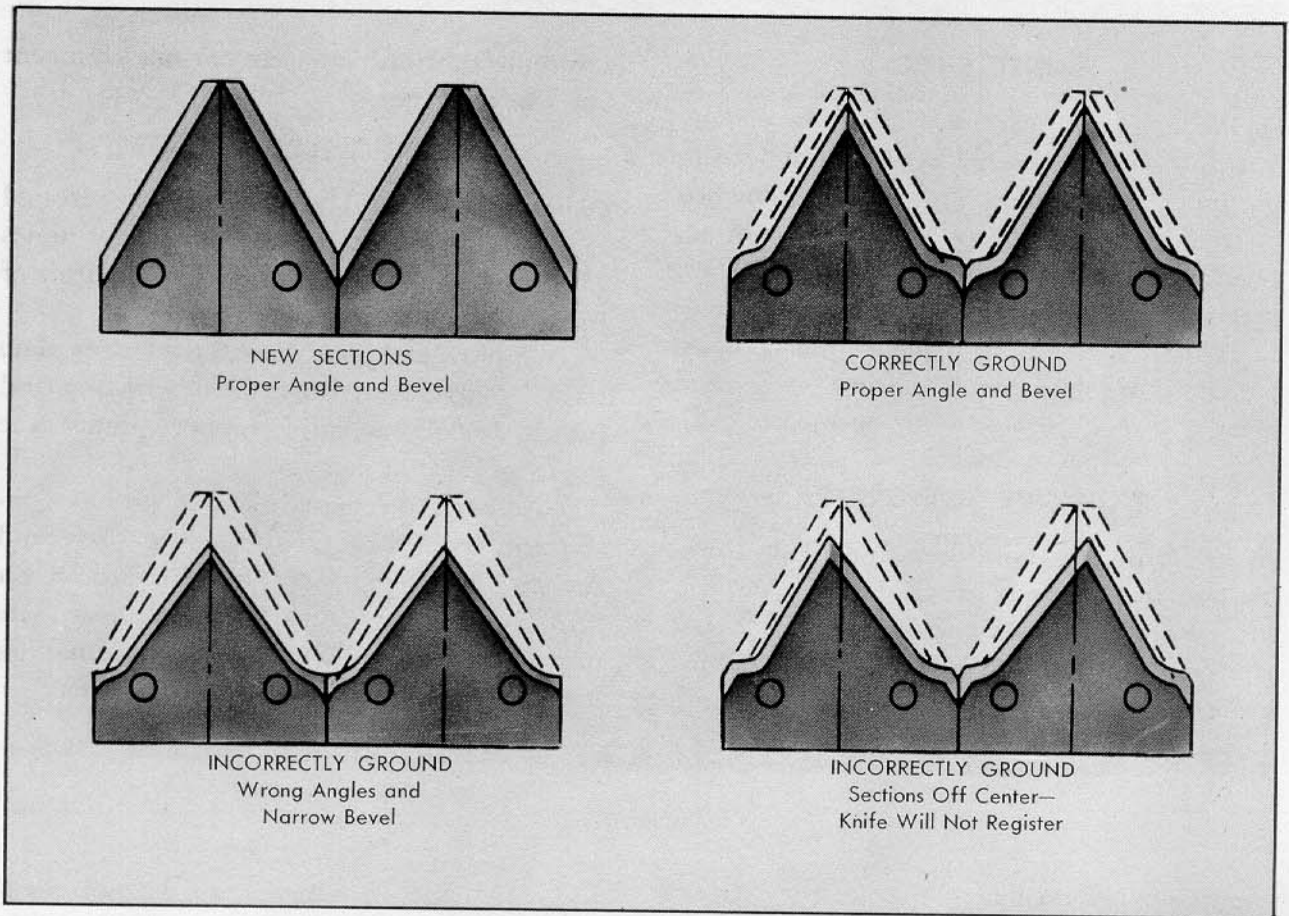


Figure 20

## SHARPENING KNIFE

Care should be exercised in sharpening the knife sections to maintain the original bevel and shape. Figure 20 illustrates knife sections properly and improperly ground. Check and replace all worn and broken sections, loose rivets and irregular blades.

## KNIFE BREAKING

Often, knife breakage is caused by loose parts and connections. Be certain that all parts are securely tightened. To help eliminate knife breakage, check the following: worn knife clips, worn knife head, misalignment of cutter bar, worn guides, loose pitman ball con-

nection, out-of-line guards and loose knife sections.

## RAGGED CUTTING

Worn knife, uneven shoe adjustment, worn or broken guard plates, guards out of line, loose knife sections and a knife that is not registering will cause ragged cutting.

## REPLACING KNIFE

To replace a worn knife, remove the two bolts on the knife head. The knife may then be pulled out of the cutter bar and replaced. After replacing, check the knife clearance at the clips and the ledger plates. Tighten bolts and lubricate the knife head.

## OPERATION AND MAINTENANCE — REAR ATTACHED MOWER

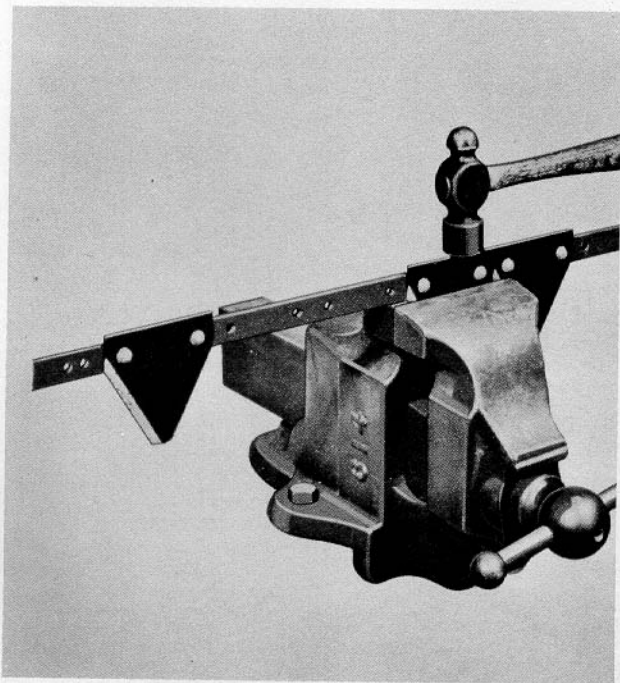


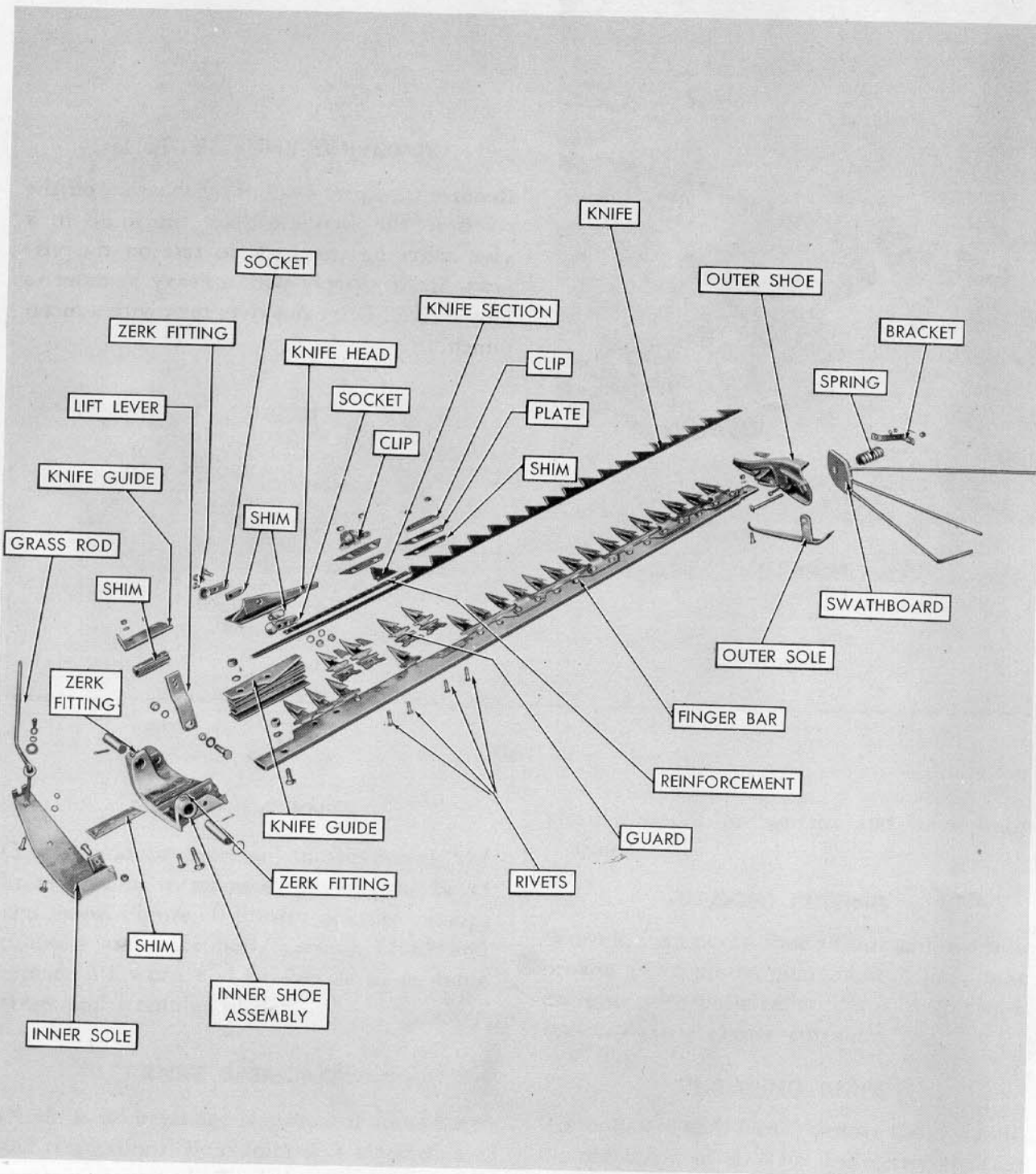
Figure 21

### REMOVING KNIFE SECTIONS

Remove the knife sections by shearing off the rivets in the sections. Place the knife in a vise, allowing the back to rest on the vise jaws. Strike sharply with a heavy hammer to loosen rivet. Drive out rivet then with a metal punch.



# OPERATION AND MAINTENANCE — REAR ATTACHED MOWER



DETAIL VIEW OF CUTTER BAR

# MAINTENANCE

1. Check all nuts and bolts on mower each time it is used. Tighten securely.
2. Replace all worn, damaged or broken parts immediately.
3. Keep knife sharpened and properly adjusted for clean cutting.
4. Keep all moving parts well lubricated.
5. Store the mower in a dry place.
6. When storing, loosen drive belts, remove knife and cover with a good rust preventive and place in a safe location to avoid possible injury to persons and animals, thoroughly clean entire mower, clean cutter bar and shoes and cover with rust preventive.
7. Keep all wear plates, knife clips, wrist pins, etc. in proper adjustment.
8. Replace all worn or broken parts promptly using genuine Dearborn Equipment Repair Parts.

# SAFETY PRECAUTIONS

Most accidents that occur on the farm are the result of negligence and carelessness and are usually caused by the failure to follow simple safety rules or precautions. The following safety precautions are suggested to help prevent such accidents.

1. Never attempt to clean, or adjust the mower while it is in motion.
2. Do not place your fingers between the guards when raising the cutter bar.
3. Be sure that the power take-off is disengaged when examining and adjusting the mower.
4. Do not adjust the automatic safety spring release too tight. The pull bar must be able to release to insure safe operation.
5. Be certain that all chains are straight and not twisted.
6. Keep all nuts, bolts, screws and connections tight.
7. When leaving the tractor, always turn off the motor.
8. Never permit any person other than the operator to ride on the tractor.
9. In transporting the mower, be certain that the safety tie rod is attached to the cutter bar.
10. When moving mower short distances raise the cutter bar to the horizontal position.
11. Always lower implement to ground when leaving tractor.

# LUBRICATING THE REAR ATTACHED MOWER

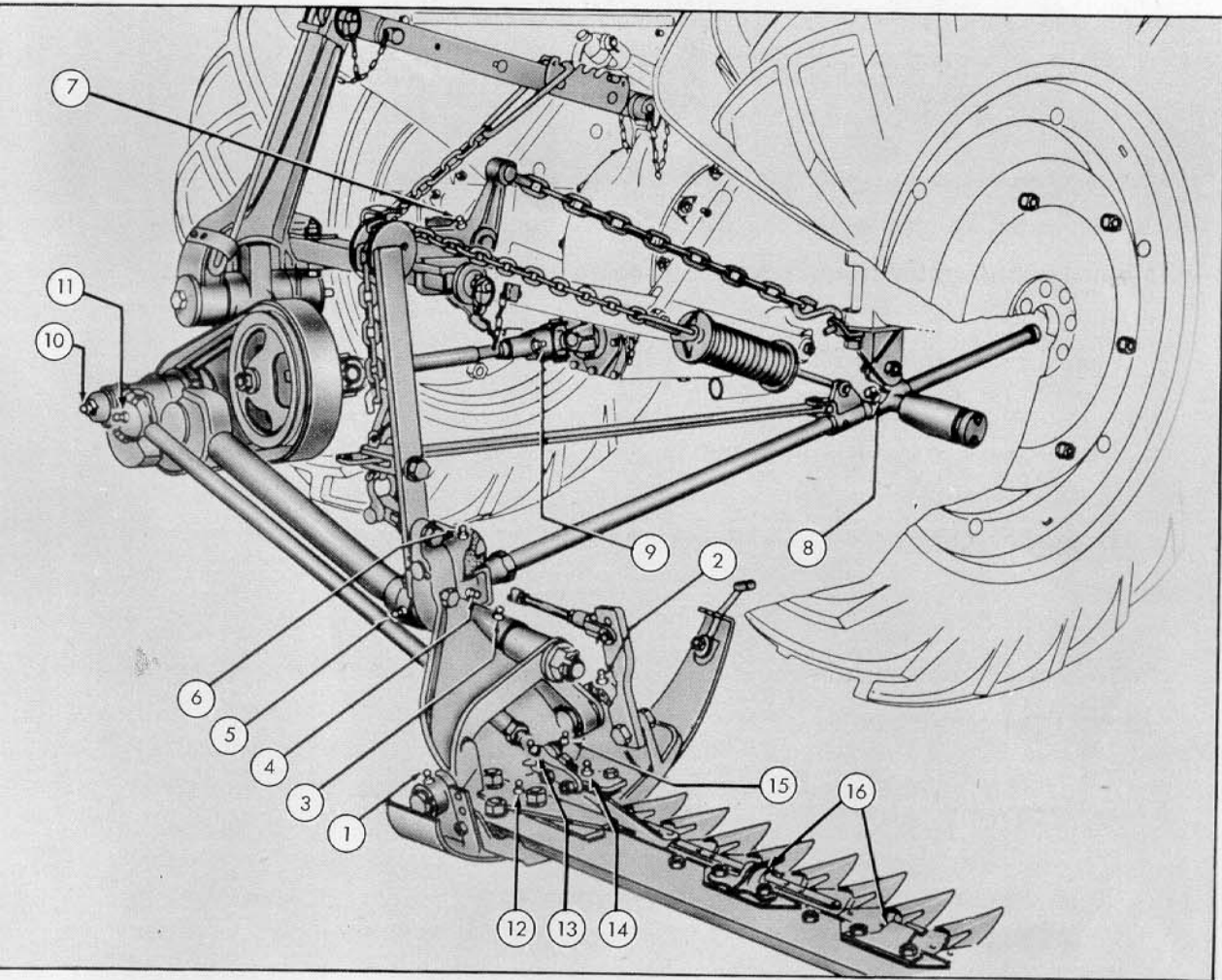


Figure 23

1. Lubricate the following grease fixtures with pressure gun lubricant:  
Fittings Nos. 1 through 11 every 10 hours.  
Fittings Nos. 12 through 15 every 4 hours.
2. Lubricate entire knife wearing surface with oil daily or as required.  
*Do NOT lubricate when operating in abrasive soil conditions.*
3. Keep cutter bar, knife and shoes coated with oil or grease when mower is not in use.
4. Flywheel and drive pulley bearings need no lubrication. They are packed in fiber grease at the factory.
5. Do not lubricate rubber bushings.