

FOREWORD

THIS MANUAL CONTAINS INFORMATION ON THE OPERATION, MAINTENANCE, STORAGE, AND SAFETY PRECAUTIONS OF YOUR NEW FORD SERIES 515 MOWER. ALSO, INCLUDED IN THE BACK OF THIS MANUAL IS INFORMATION ON SHIPPING AND ASSEMBLY FOR THE FORD TRACTOR-EQUIPMENT DEALER. ASSEMBLY OF THE FORD SERIES 515 MOWER IS THE RESPONSIBILITY OF THE FORD TRACTOR-EQUIPMENT DEALER.

READ THIS MANUAL CAREFULLY BEFORE OPERATING YOUR MOWER. KEEP IT HANDY FOR FUTURE REFERENCE. IF, AT ANY TIME, YOU HAVE ANY QUESTIONS ABOUT YOUR MOWER, REMEMBER YOUR FORD TRACTOR-EQUIPMENT DEALER IS BEST QUALIFIED TO HELP YOU. HE HAS FACTORY-TRAINED TECHNICIANS, GENUINE FORD PARTS, AND THE CORRECT TOOLS AND EQUIPMENT TO DO THE JOB RIGHT IN THE SHORTEST POSSIBLE TIME.

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OPERATION

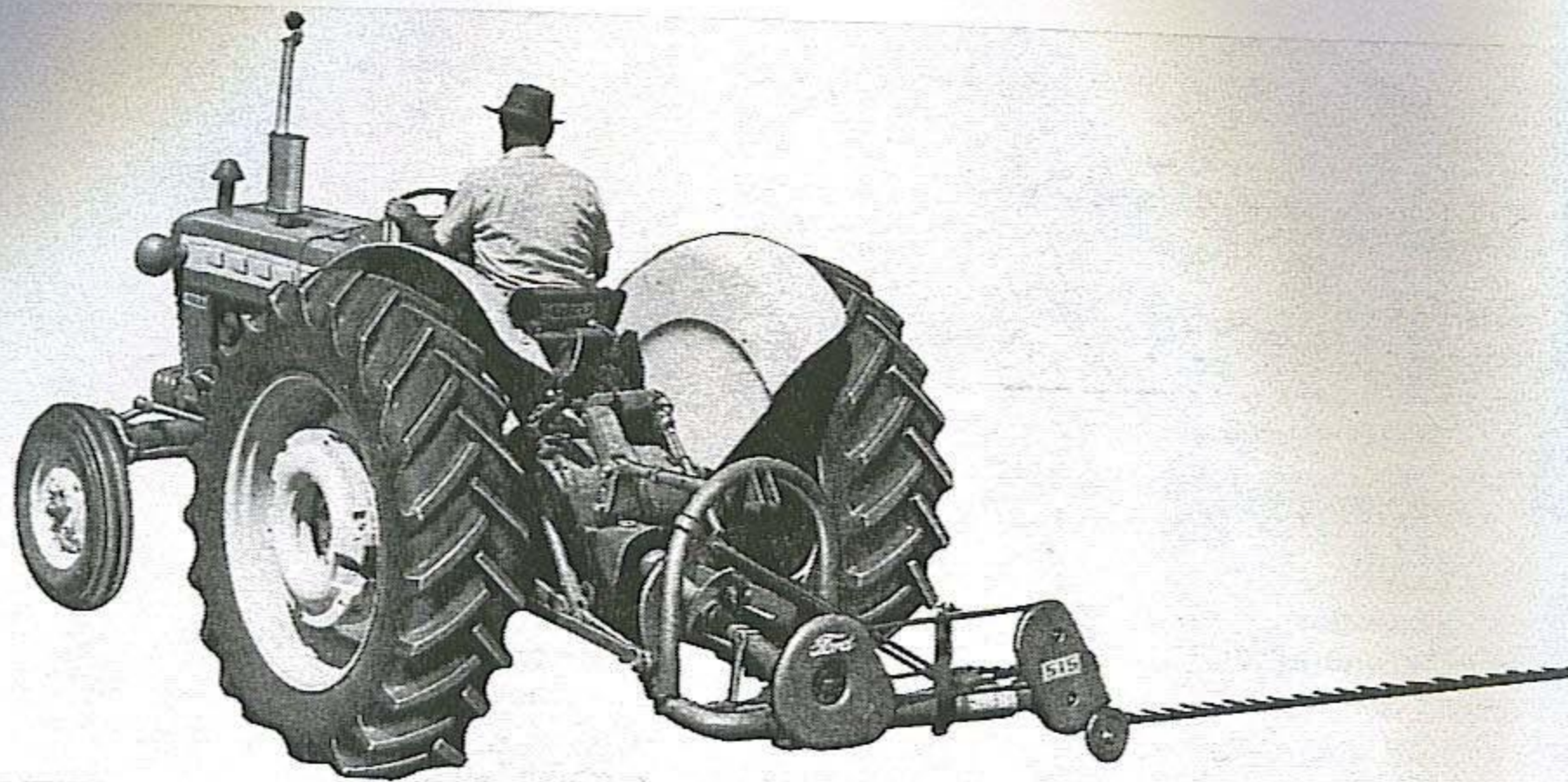


Figure 1
Series 515 Rear Mounted Mower on Ford 4000 Tractor

GENERAL INFORMATION

The mower is fully mounted on the tractor for better maneuverability and is easily mounted and dismounted.

OPERATION

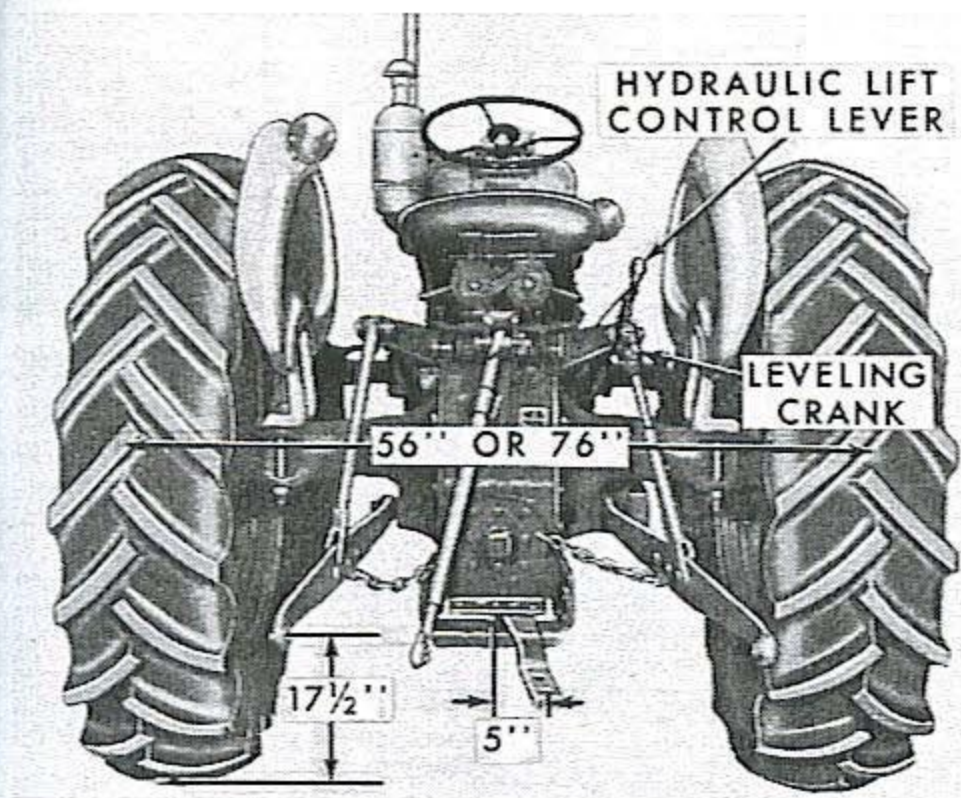


Figure 3

Tractor Preparation

PRE-OPERATION

This section contains information which the operator should review before mounting or attempting

Tractor Hydraulic System: Place the hydraulic selector lever in Position Control.

Lower Link Height: Adjust the left lift rod length (adjustable) to the following lengths:

- FORD 3000 – 23 inches
- FORD 4000 – 29-13/16 inches
- FORD 5000 – 28-1/2 inches
- FORD 6000 – 24-1/2 inches

Refer to the Tractor Operator's Manual for the nominal left lift rod length when using a tractor other than those listed above.

Lower the lift linkage with the hydraulic lift control lever until the center of the left lower link socket is 17-1/2 inches from the ground, as shown in Figure 3. Position the adjustable stop on the quadrant of the hydraulic lift control lever just touches the lower edge of the hydraulic lift control lever when the 17-1/2-inch dimension is maintained.

OPERATION

3. Attach the tractor lower links to the mower link pins.
4. Position the stabilizers (if bar type) on the link pins and secure with linch pins as shown in Figure 4.
5. Attach the tractor top link to the mower attaching bracket with a link pin and secure in place with a linch pin. See Figure 4.

NOTE: *The mower attaching bracket has four holes to provide attaching to various tractors without an adjustable top link. Select the hole that positions the cutter bar flat when extended for operation.*

6. Install the breakback attaching bracket as far forward as possible on the tractor right lower link as shown in Figure 5, with the two carriage bolts and nuts holding the bracket and clamp plate together.

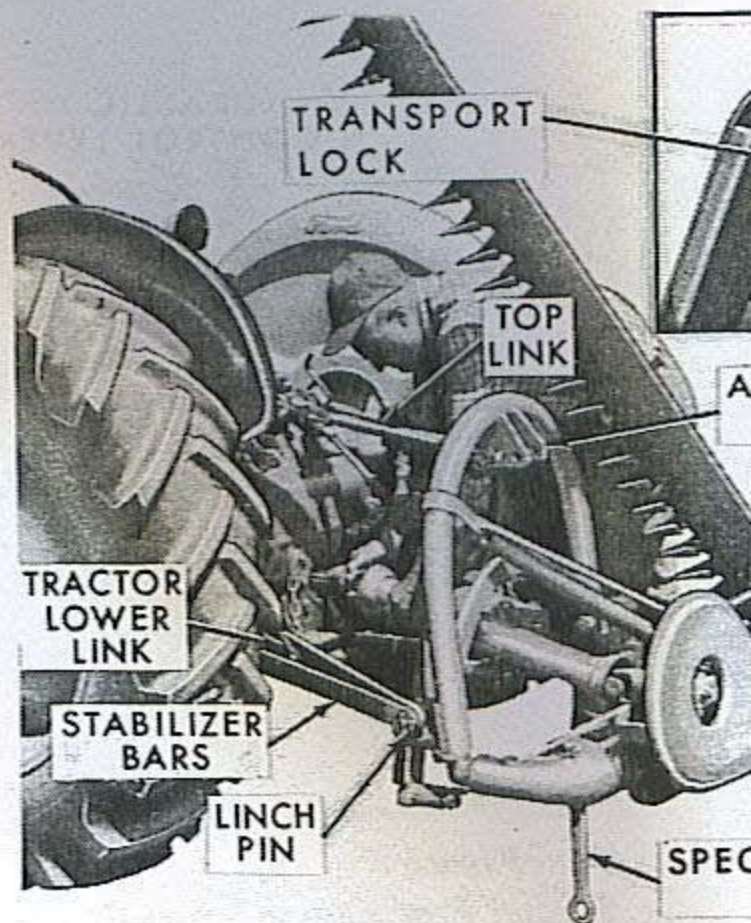


Figure 4
Mounting and Dismounting Mo

10. Insert the chain pin, Figure 5, i
drawbar and secure with the togg

OPERATION

DISMOUNTING PROCEDURE

To remove the mower from the tractor proceed as follows:

1. Raise the cutter bar to the transport position and secure with the cutter bar transport lock, as shown in the Insert, Figure 4.
2. Position the special mower wrench in the lower frame, as shown in Figure 4. Then, lower the mower with the tractor hydraulic control lever until the mower is resting on the wrench.
3. Remove the chain pin, Figure 5, from the drawbar by aligning the toggle with the pin.
4. Depress the spring-loaded lock pin on the front universal joint of the P.T.O. and slide the joint off the tractor P.T.O. shaft, as shown in Figure 4.
5. Disconnect the breakback assembly, Figure 5, from its attaching bracket by removing the self

remove the attaching bracket from the right lower link. However, it is necessary if the attaching bracket is used for other tractor operations.

6. Detach the top link, Figure 4, from the attaching bracket.
7. Detach the stabilizer bars and the top link, Figure 4, from the mower.
8. Slowly drive the tractor clear of the mower and detach the stabilizer bars from the tractor.



CAUTION: Lay the mower on its side during storage.

TRANSPORT LOCK ASSEMBLY

The transport lock assembly, Figure 4, is used to provide safe transport for the mower when mounted on 9N, 2N, or 8N tractors. It is also used on other tractor not equipped with a P.T.O.

OPERATION



Figure 8
Mower in Transport

To transport the mower, position the cam in the UP position, then lower the mower until the lock bar rests on the axle housing. See Figure 6. When

it to the frame. This will prevent any part of the breakback assembly.

ADJUSTMENTS

CUTTER BAR LIFT

The lift chain, shown in Figure 9, is used to adjust the height to which the outer end of the cutter bar is raised. Normally, it is adjusted so that the cutter bar raises 30 inches with the 8-foot bar, 27 inches with the 7-foot bar, and 24 inches with the 6-foot bar. However, these heights may be changed by changing the length of the lift chain. This may be accomplished by placing the attaching bolt in the different chain links or by placing the attaching bolt in one of the other holes in the crank.

NOTE: On tractors equipped with average tires, the cutter bar lift at the

OPERATION

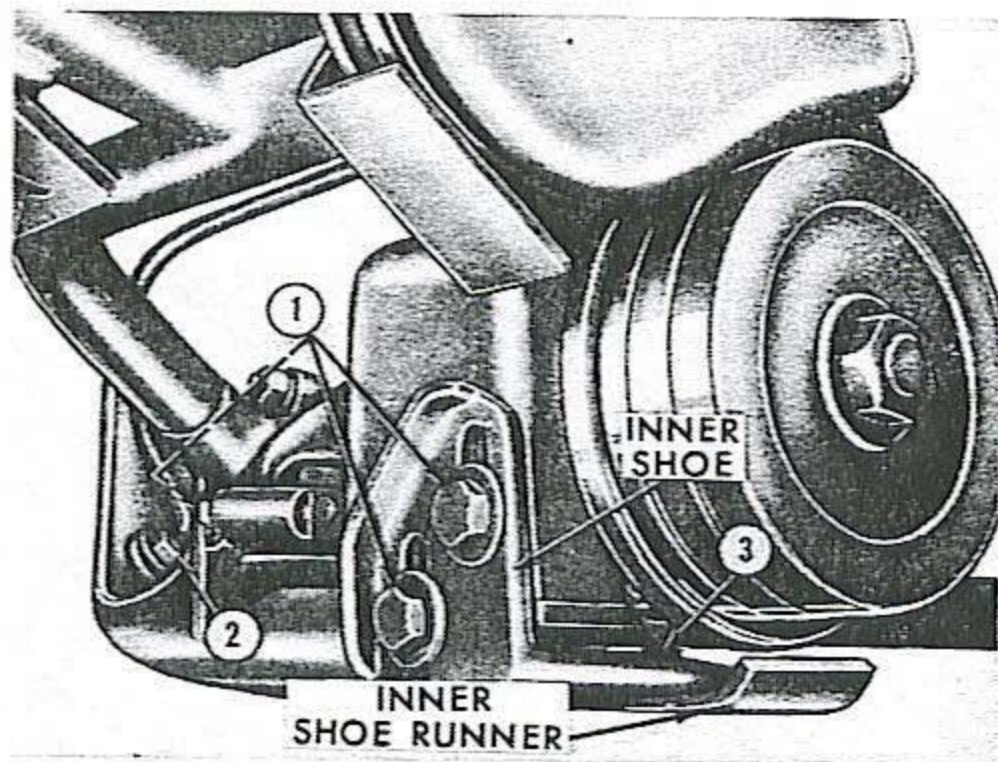


Figure 10
Inner Shoe Height Adjustment

IMPORTANT: Do not operate the mower with the inner and outer shoe carried off of the ground unless a clipping wheel (extra attachment) is used.

CUTTER BAR FLOAT

Inner Shoe: The balance spring on the inner shoe is used to adjust the weight carried on the inner shoe to allow the cutter bar to follow the contour of the ground without excessive wear on the inner shoe. To adjust the balance spring to the spring rod, insert the clevis and described as follows:

1. Raise the cutter bar to the top position and secure with the cutter bar top pin.
2. Hydraulically lower the mower deck until the spring is slack.
3. Loosen the lock nut (1), Figure 10.



OPERATION

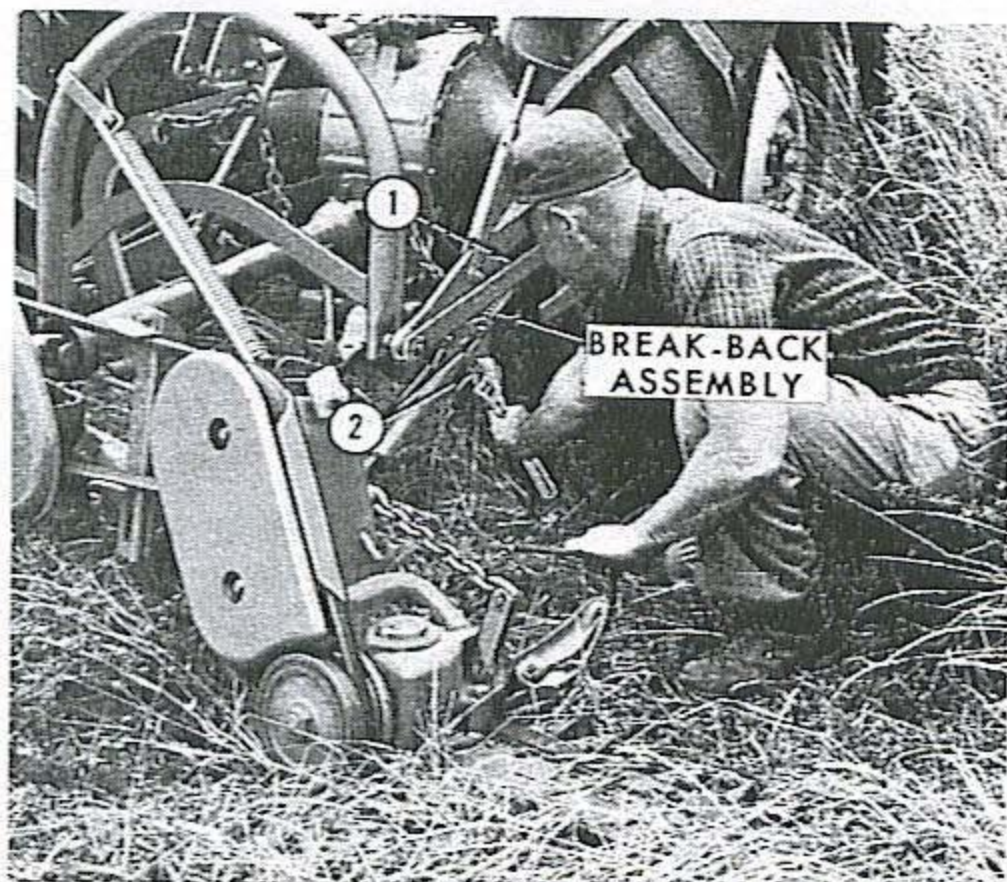


Figure 13

Cutter Bar Breakback Adjustment

Outer Shoe: The weight on the outer shoe should be 25–30 pounds for the 6-foot bar, 30–35 pounds for the 7-foot bar, and 35–40 pounds for the 8-foot bar.

matically raises, allowing small obstructions to pass under the cutter bar. The breakback assembly is engaged by backing the tractor with the cutter bar in its operating position.

The breakback assembly should be adjusted to hold the cutter bar in its forward position under normal operating conditions. However, in the event of cutter bar damage, it must break back when obstruction is encountered. Adjust the breakback as follows:

Gradually and equally tighten the adjusting nuts (2), Figure 13, evenly until the breakback is compressed to 10-7/16" (factor of 10). This adjustment should be satisfactory under normal conditions. Tension may be increased if necessary, but should not be reduced below the normal adjustment.

NOTE: The adjusting nuts (2) should be reached when the cutter bar is pushed back. This may be done by releasing the latch.

OPERATION

SQUARRING THE MOWER CUTTER BAR WITH THE TRACTOR

Adjust the cutter bar so it is square with the tractor and 90° from the direction of tractor travel as you are mowing. See Figure 15.

Adjust the cutter bar as follows:

1. Release the latch on the breakback and pull the cutter bar back.
2. Loosen the jam nut (1), Figure 16.
3. Turn the sleeve, as required, with a pipe wrench at (2).

IMPORTANT: Do not use the pipe wrench at any point on the sleeve except (2), or damage will be done to the sleeve surface which may cause the breakback to malfunction.

4. Tighten the jam nut (1).
5. Pull the cutter bar forward until it is latched in position.

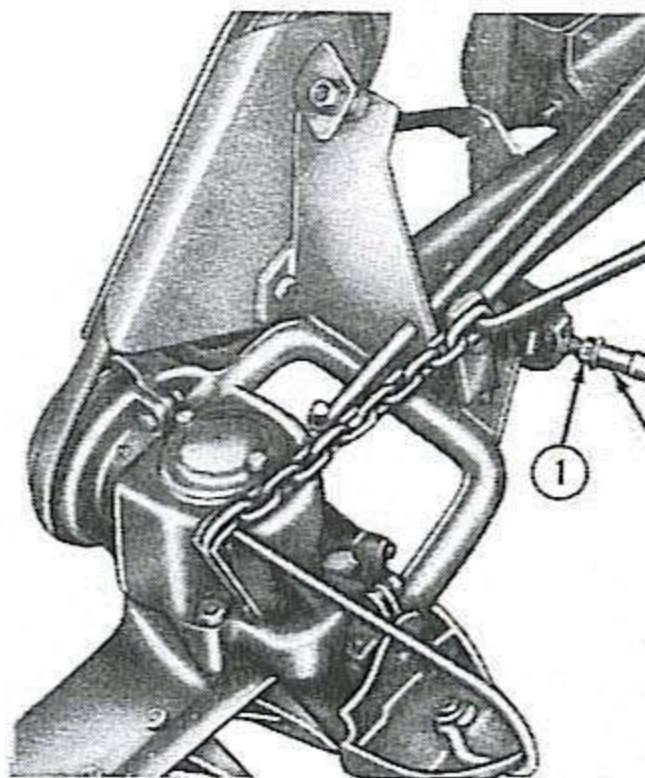


Figure 16
Cutter Bar Adjustment

DRIVE BELT TENSION

The drive belt must be properly adjusted for long belt life and trouble-free operation. To check belt tension, pull the belt with the hand for an indication of proper tension. If properly adjusted, the belt should have a "springy" feel. Adjust drive belt tension as follows:

OPERATION

1. Loosen the nuts on bolts (2) and (3), Figure 17.
2. Turn the adjusting nut on the draw bolt, Figure 17, until the proper tension is obtained.
3. Tighten the nuts on bolts (2) and (3).

BELT GUIDES

The belt guides, Figure 17, must be properly adjusted to prevent the belt from "slapping" or binding on the guides. To adjust, proceed as follows:

1. Loosen both the upper and lower guide bolts (1) and (4).
2. Loosen the bracket attaching bolts (5) and move the bracket assembly up or down until 1/8-inch clearance exists between the upper guide and the belt.
3. Tighten the bracket attaching bolts (5).

5. Secure the lower guide 1/8-inch and parallel to the belt with the

OPERATION

DRIVE SHEAVE SIZES AND TRACTOR GEAR RATIOS

The following drive sheave sizes and operating gear ratios are recommended for normal operating conditions when using a tractor equipped with a 4-speed, 5-speed, or 6-speed Select-O-Speed Transmission.

NOTE: When installing a different size sheave on the mower, the sheave bracket should be adjusted to the left if a smaller sheave is used, stalled, or to the right if a larger sheave is used.

OPERATION

TABLE II (ENGINE RPM REQUIRED FOR P.T.O. SPEED)

P.T.O. SPEED	ENGINE RPM		
	4-Speed Trans.	5-Speed Trans.	8-Speed Trans.
450	1240 rpm	1450 rpm	(a) 1333 rpm (b) 1508 (f) 1585
520	1433	1670	(a) 1541 (b) 1743 (f) 1832
550	1516	1766	(a) 1630 (b) 1844 (c) 1935

OPERATION

TABLE III (GEAR SELECTION TO MATCH MOWING CONDITIONS)

NORMAL MOWING (Alfalfa, Clover, etc.)*			
<u>Ford Tractor Transmission</u>	<u>Drive Sheave Size</u>	<u>Transmission Gear</u>	
4 - Speed	9"	3 rd	
5 - Speed	10 - 1/2"	4 th	
8 - Speed	10 - 1/2" 12"	6 th	
Select - O - Speed - Except 6000 (540 P.T.O. range only)	10 - 1/2"	8 th	
6000 Select - O - Speed (540 P.T.O. range only)	14 - 1/2"	9 th	
TOUGH MOWING (Wild Hay or other fine, tough grasses)*			
4 - Speed	9" 10 - 1/2"	2nd 3rd	

OPERATION

P.T.O. SPEEDS

After the appropriate size drive sheave has been selected from Table III, use Table I to determine the proper P.T.O. speed that should be used. To prolong the service life of the mower and keep wear of the components to a minimum, the tractor should be operated at the recommended engine speed. However, it may be desirable to operate the tractor at varying ground speeds to satisfy local terrain and crop conditions. If this is done, be sure the maximum P.T.O. speeds, Table I, are never exceeded.

Now that the P.T.O. speed has been selected, use Table II to determine the proper engine speed that is needed to give the recommended P.T.O. speed. Use the tractor Proof-Meter to obtain the given engine speed.

EXAMPLE:

Problem: Determine the size drive sheave, tractor

distance to the cutter bar, it decrease the ground speed. If a reduction in ground speed may

CUT - FREE GUARDS

Cut-free guards, Figure 18, mower performance under some ing is a general description of in which use of these guards s

- Extremely heavy hay that ha and remains damp near the and leaves stick to the poi guards and cause clogging.
- Where material gathers on heavy-duty guards and cl
- In extremely dense speci pangola grass.

OPERATION

The heavy-duty guard, Figure 18, generally works without clogging, and will cut closer and cleaner than the cut-free guard. Cut-free guards should not be used when the following conditions are encountered:

- In wet conditions when dirt, plant juices, and bits of plants pack in the guards under the knife and raise the knife. Heavy-duty guards have an upper lip and will continue to cut when cut-free guards cannot operate satisfactorily.
- In short, fine, tough grasses, the lipless and pointless cut-free guard will not control and cut the grass as well as the heavy-duty guard.

When cut-free guards are used on the cutter bar, the cleanest possible cut will be obtained if the cutter bar is adjusted close to the ground and is tilted down slightly.

FINISHING A FIELD

If the last swath to be cut is narrow, raise the full width of the cutter bar, it may be raised so it rides just above the crop. This will prevent any of the cut crop from clogging the cutter bar. Drive cautiously when the cutter bar is in the raised position to prevent excessive whipping of the cutter bar.

ATTACHMENTS

CUT-FREE GUARDS

Cut-free guards, Figure 18, are available on most equipment and are used on the cutter bar. They may be used on the ends, or depending upon conditions, on the full width of the cutter bar. See "Cut-Free Guards" page 18 of the manual, for detailed information on their use.

OPERATION

CLIPPING WHEEL

The clipping wheel, Figure 19, allows the cutter bar to work at heights of 1 inch to 9 inches off the ground. This provides the mower with a wide range of uses such as: mowing shoulders of roads; mowing in areas where loose stones and rocks are prevalent; and for clipping weeds in pastures and new seedings.

NOTE: *The clipping wheel attachment can be used only on tractors equipped with Position Control.*

Attaching: To attach the clipping wheel, remove the swathboard assembly and outer shoe sole. Then, secure the clipping wheel to the outer shoe with the 7/16" x 3-1/4" heat-treated carriage bolt, slotted nut, and cotter pin, as shown.

Adjusting Height: Adjust the height of the clipping wheel as follows:

1. Remove the cotter pin and loosen the slotted nut.

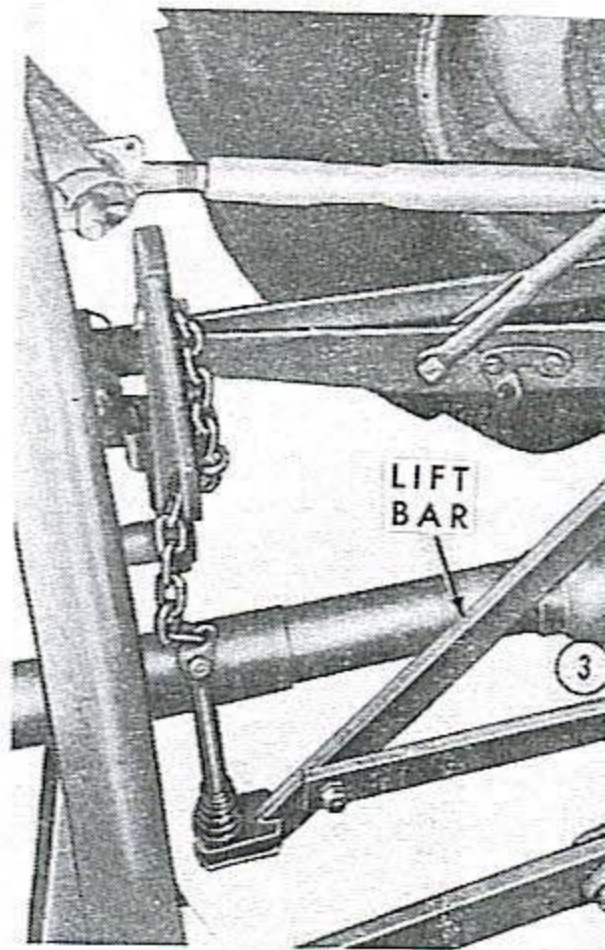


Figure 20
Lift Bar Instal

OPERATION

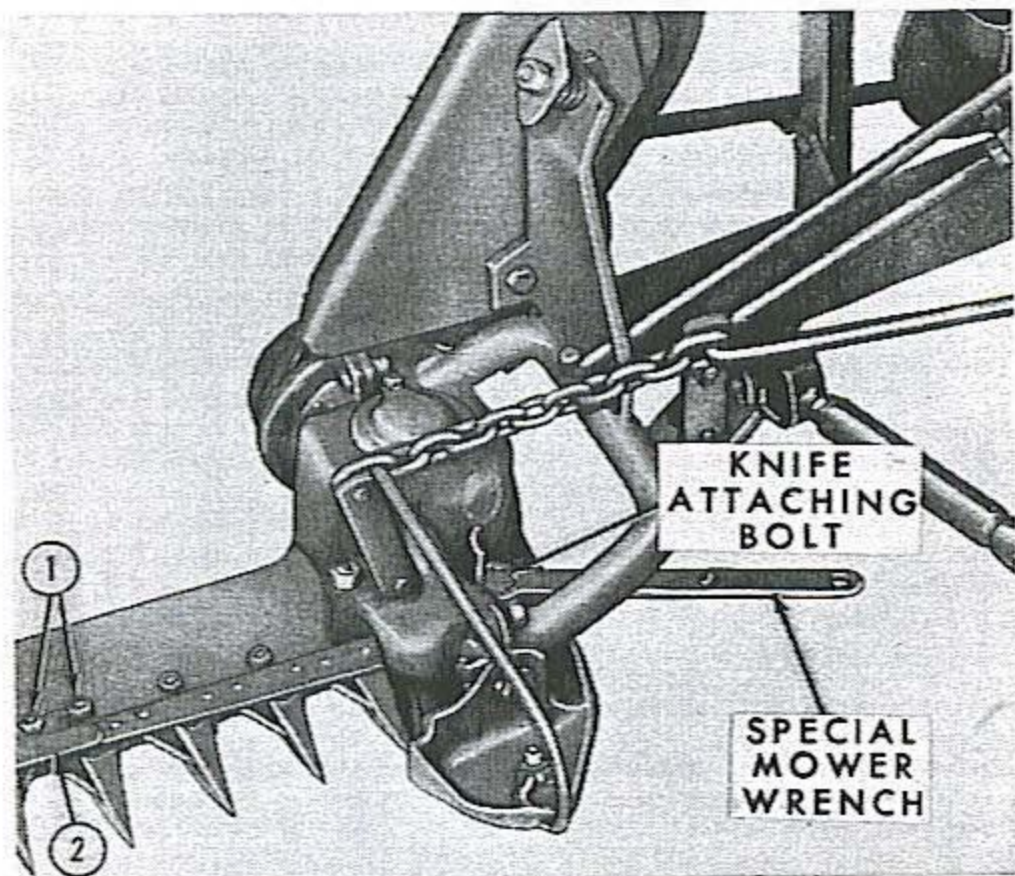


Figure 22
Knife Removal

MAINTENANCE

knife clips (2). If this does not eliminate the problem, loosen all the knife clip attaching bolts.

KNIFE SHARPENING

The knife sections should be sharpened to maintain the original angle and bevel. The illustration shows sections which are properly sharpened. Replace all broken and worn sections. Check the knife for loose rivets and tighten them if necessary.

REMOVING KNIFE SECTIONS

To remove the knife sections from the mower, place the section loosely in a vise with the back resting on the vise jaw. See Figure 23. Drive the back of the section with a hammer to shear the rivets. Drive the sheared rivets out of the section with a punch.

OPERATION

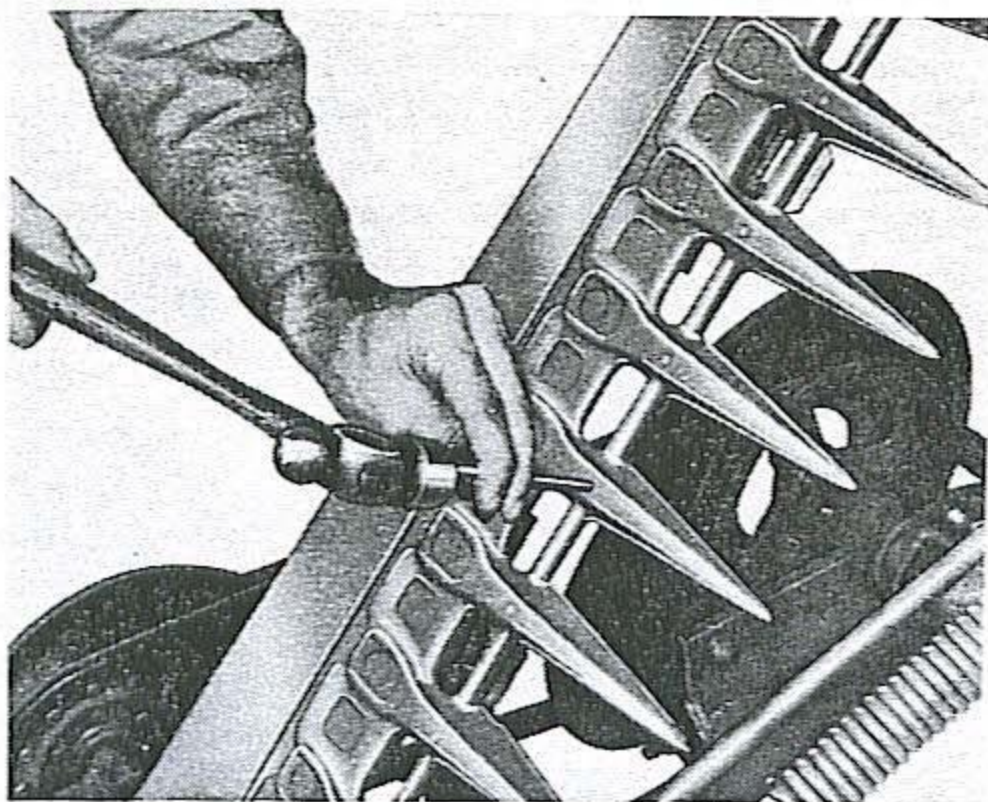


Figure 25
Removing Ledger Plates

Check to be sure the section is as tight as possible. The rivet should be upset to completely fill the hole, otherwise it will soon loosen. Suspend the knife so it is free to vibrate and tap it with a wrench.

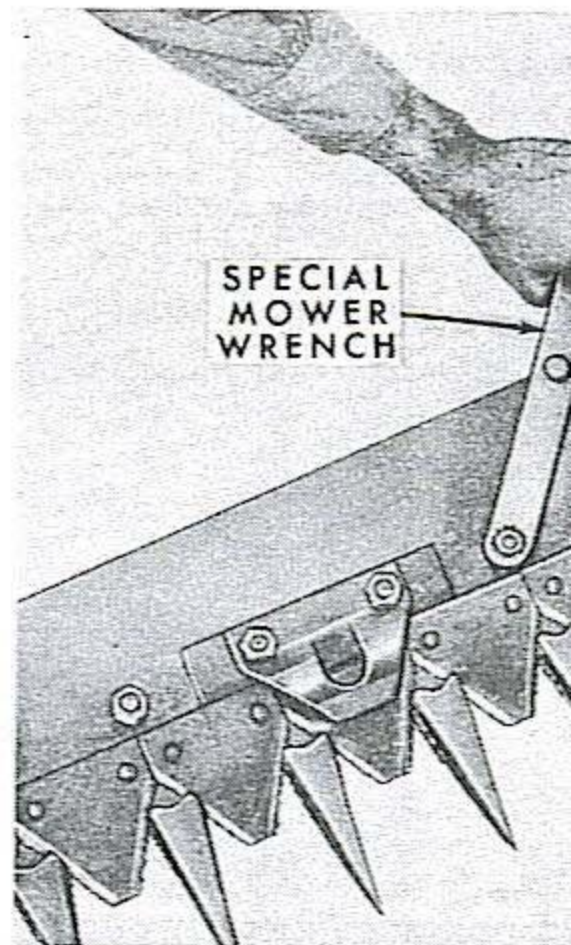


Figure 26
Replacing Knife

if the edges become worn. Do

OPERATION

KNIFE GUARDS

All of the knife guards, Figure 26, should align with each other and with the inner and outer shoes. At the same time, the knife sections (2), Figure 27, should be flush with the ledger plates (5). If necessary, align the guards by striking the forward end up or down with a hammer. Be sure the knife guard lip (1) is above the knife clip (3), and is straight, as shown.

All badly bent or broken guards should be replaced. Use the special mower wrench when replacing the guards. See Figure 26. Blunt guards should be repointed by filing or grinding.

KNIFE CLIPS

The knife clips (3), Figure 27, should hold the knife sections (2), down on the ledger plates (5), without binding the knife sections. Adjust by removing the knife and striking the forward end of the clip up or down

WEAR PLATES

The wear plates (7), Figure 27, are positioned on the inner and outer shoes of the knife so that the sections will be held in contact with the ledger plates and there will be no shearing action. Therefore, the wear plates should be positioned so they just touch the ledger plates, as shown. The holes in the wear plates are provided to provide a fore and aft adjustment.

IMPORTANT: *It is essential that all wear plates be in alignment. This will provide a smooth cutting surface along the entire length of the knife.*

When the wear plates become excessively worn, they will not hold the knife in its proper position. When this occurs, reverse or replace the wear plates as required.

REPLACING INNER SHOE RUNNER AND OUTER SHOE SOLE

Both the inner shoe runner and the outer shoe sole should be replaced when they become

LUBRICATION

<u>Reference Figure 28</u>	<u>Description</u>	<u>Frequency</u>
6	Universal Drive	Every 8 Hours
7	Lift Rod-to-Bellcrank Hinge	Every 8 Hours
8	Front Universal Joint	Every 24 Hours
9	Rear Cutter Bar Yoke Hinge	Every 8 Hours
10	Knife Drive Upper Bearing	Every 100 Hours
11	Knife Driver Lower Bearing	Every 8 Hours
12	Wobble Shaft Sleeve	Every 50 Hours
13	Front Cutter Bar Yoke Hinge	Every 8 Hours

SHIPPING

<u>Reference Figure 29</u>	<u>Description</u>	<u>Reference Figure 29</u>	<u>De</u>
1	Mower Cutter Bar	10	Front Idler Shield
2	Knife	11	Owner's Manual
3	Upper Frame	12	Lift Spring Assen
4	Lower Frame	13	Frame Link
5	Drive Belt	14	Lift Rod
6	Bellcrank and Lift Chain Assembly	15	Grass Stick
7	Upper and Lower Drive Belt Guides and Bracket	16	Main Drive Shield
8	Lift Arm and Chain	17	Idler Shield
9	Breakback Assembly	18	Special Mower Wre



SHIPPING and ASSEMBLY

Reference Figure 29	Description
19	Pivot Shaft Assembly
20	Swathboard
21	7-Inch V-groove Idler
22	8-Inch Flat Idler
23	Hardware
24	Main Drive Sheave
25	Front Half of Universal Drive
26	Breakback Attaching Bracket
27	Link Pins
Not Shown	Drawbar Upper Link Pin and Spacer (14-289 Only)

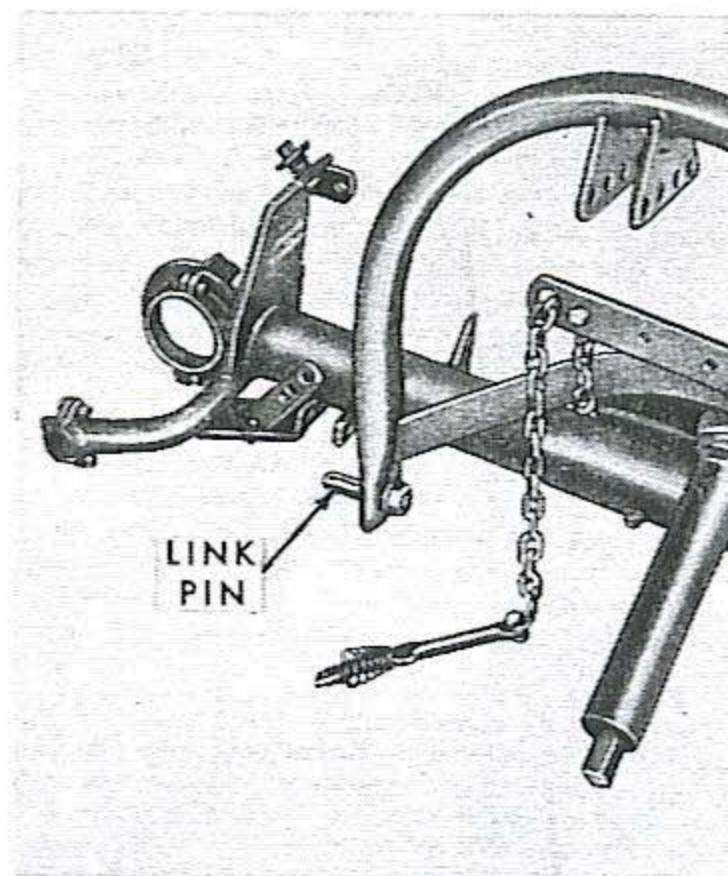


Figure 31
Link Pins Installed

1. Insert the pivot shaft, Figure 30, of the lower frame, and rotate the flange on the pivot shaft engage

STORAGE

SAFETY PRECAUTIONS



Accidents are generally caused by the failure of individuals to observe fundamental safety precautions. Most accidents can be avoided by following simple safety precautions.

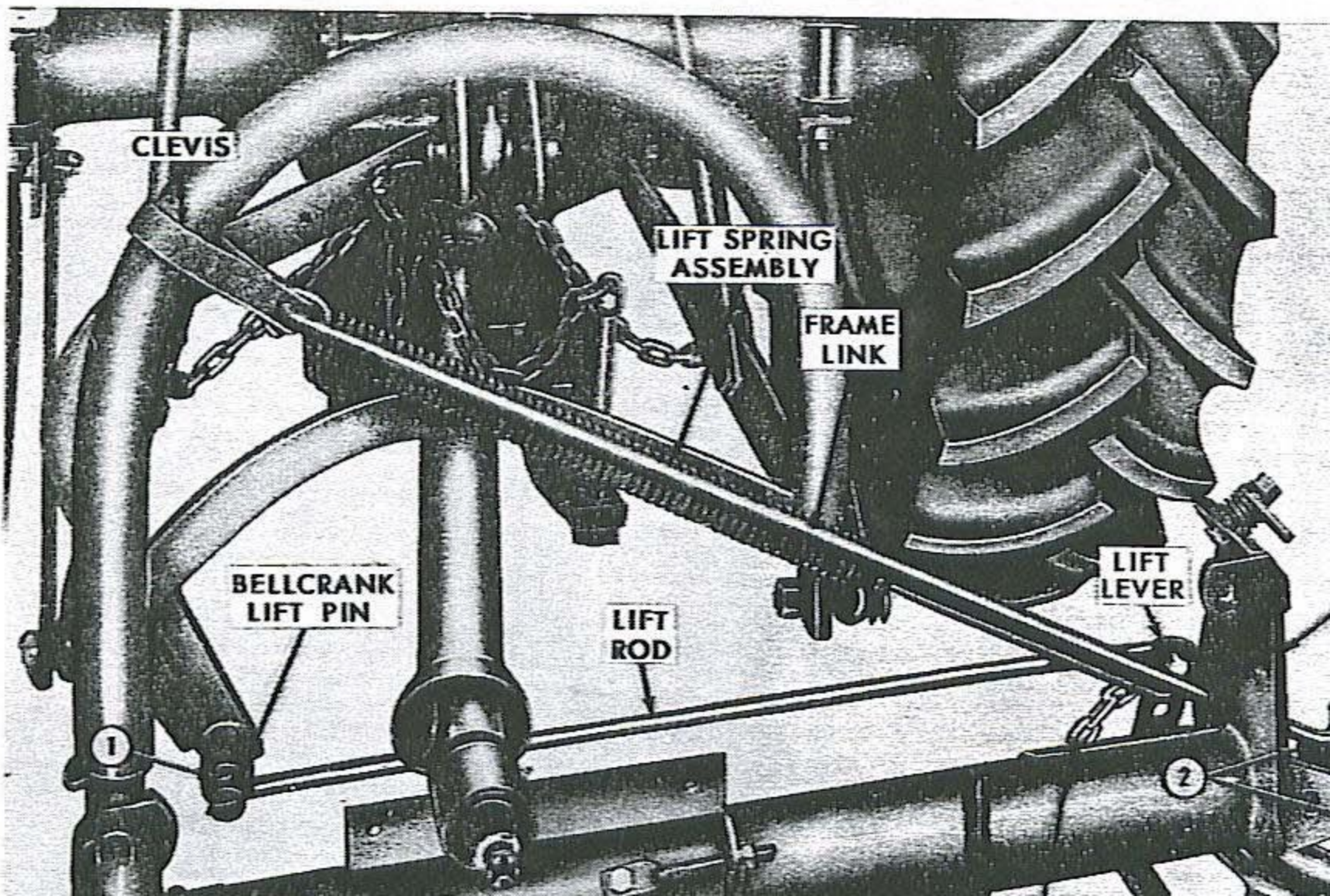
These safety precautions if followed at all times will help you get safe operation from your mower.

1. Never let anyone ride on the mower.
2. Allow only the driver to ride on the tractor.
3. Always disengage the P.T.O. and shut off the tractor engine before attempting to clean, adjust, or lubricate the mower.

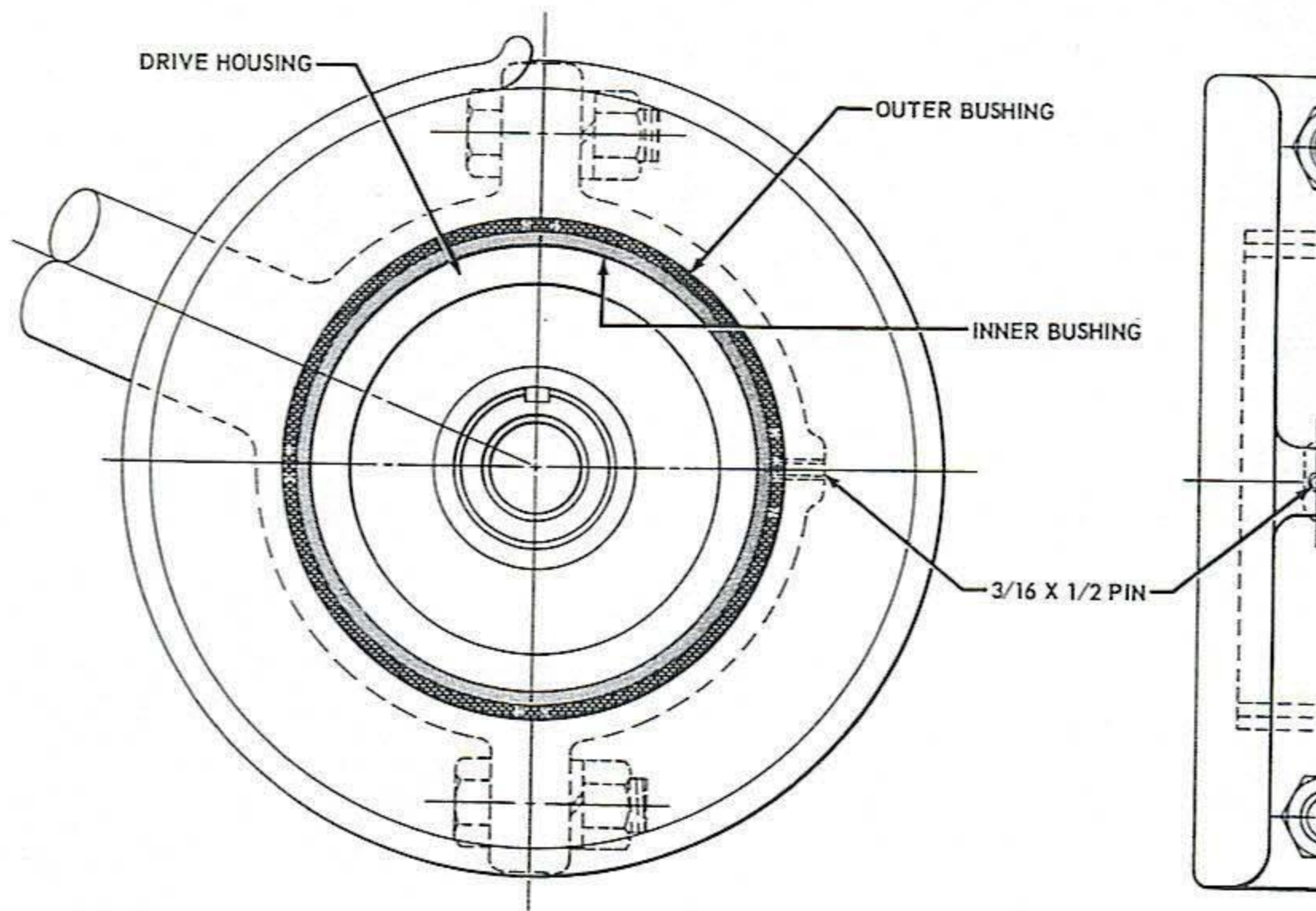
that a minimum amount of work will be done. When you put it back in operation the next season, the following recommendations are offered to aid you in storing the mower correctly.

1. Replace all worn or broken parts. See your Ford Tractor-Equipment Dealer.
2. Clean the entire mower thoroughly.
3. If necessary, use Ford Spray-Type Enamel to prevent rust and maintain appearance of the mower.
4. Lubricate the mower thoroughly as directed in the "Lubrication" section of this manual.
5. Remove all the tension on the drive belt.
6. Remove the knife, coat it with oil, and store it in a safe, dry place where the sharp edges are not exposed.

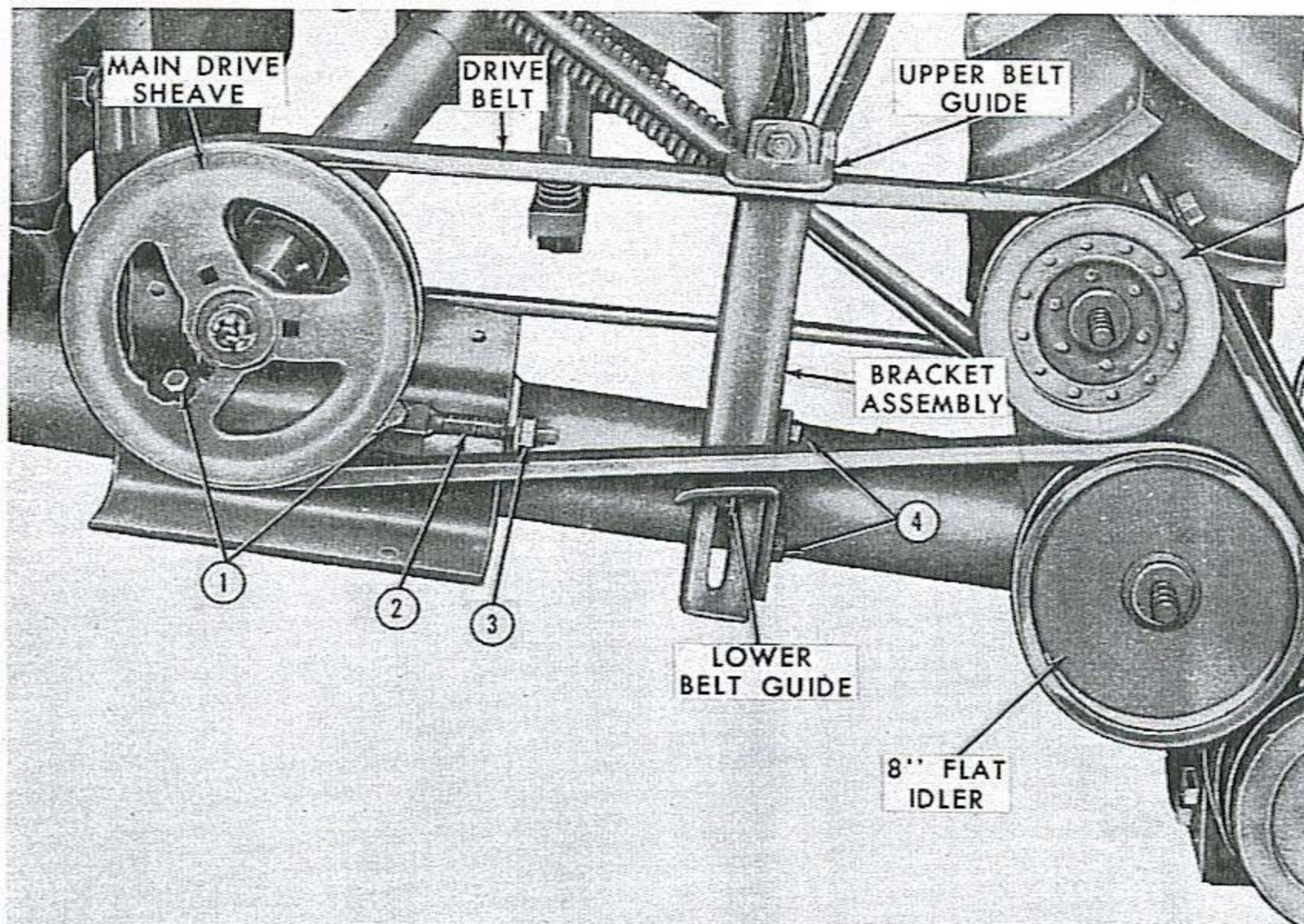
ASSEMBLY



ASSEMBLY



ASSEMBLY



ASSEMBLY

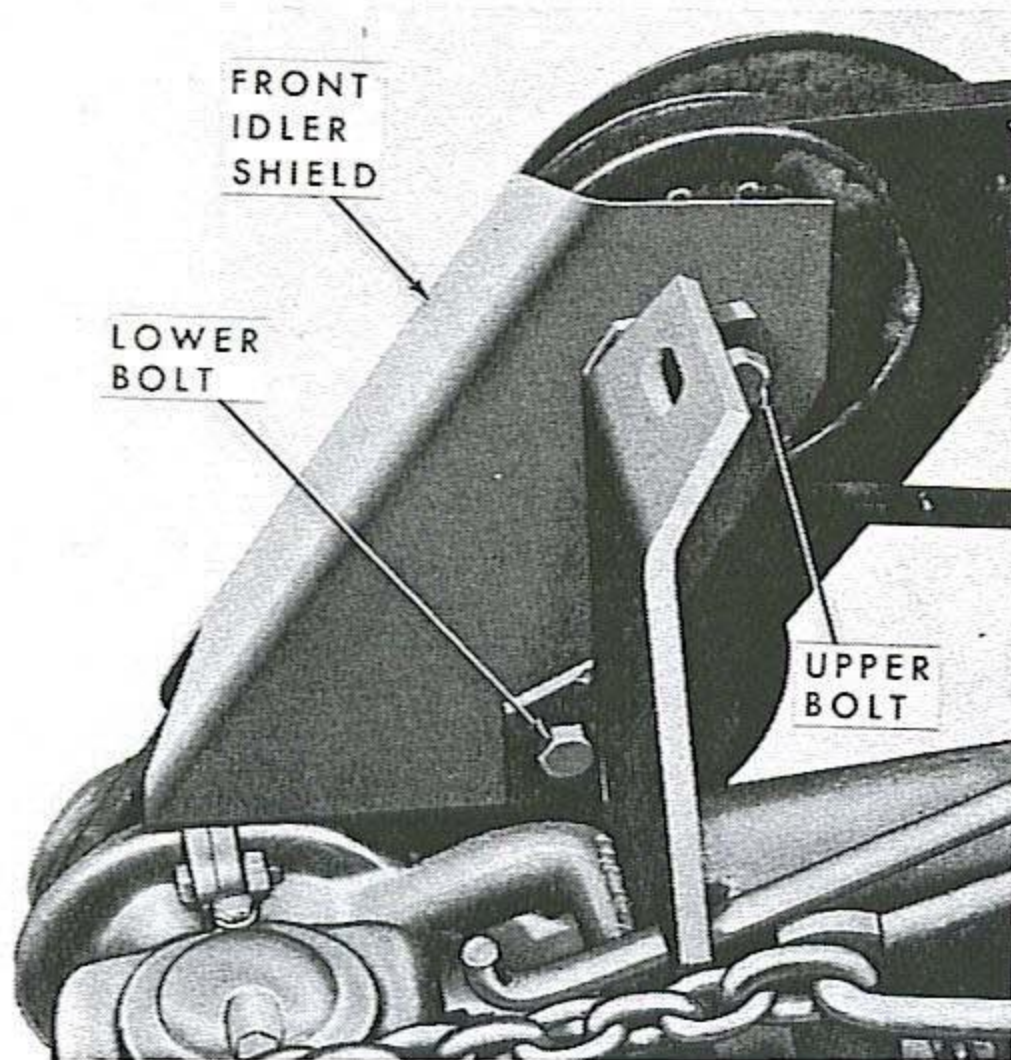


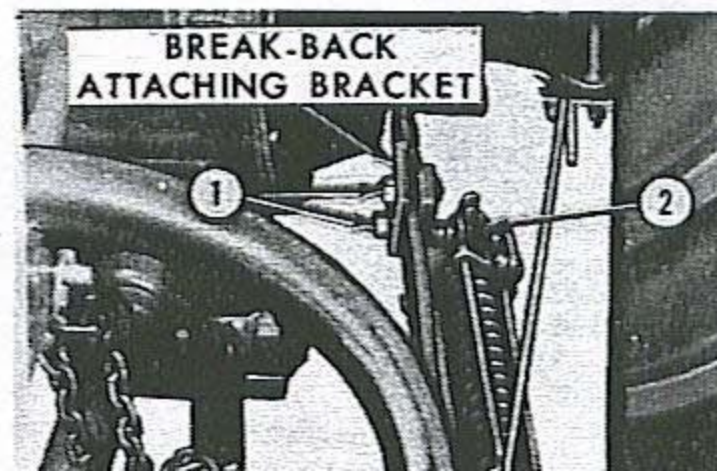
Figure 37
Front Idler Shield Installed

c. Place the idler on the bolt, as shown in Figure 36, so that the grease fitting is in line with the grease fitting of the mower.

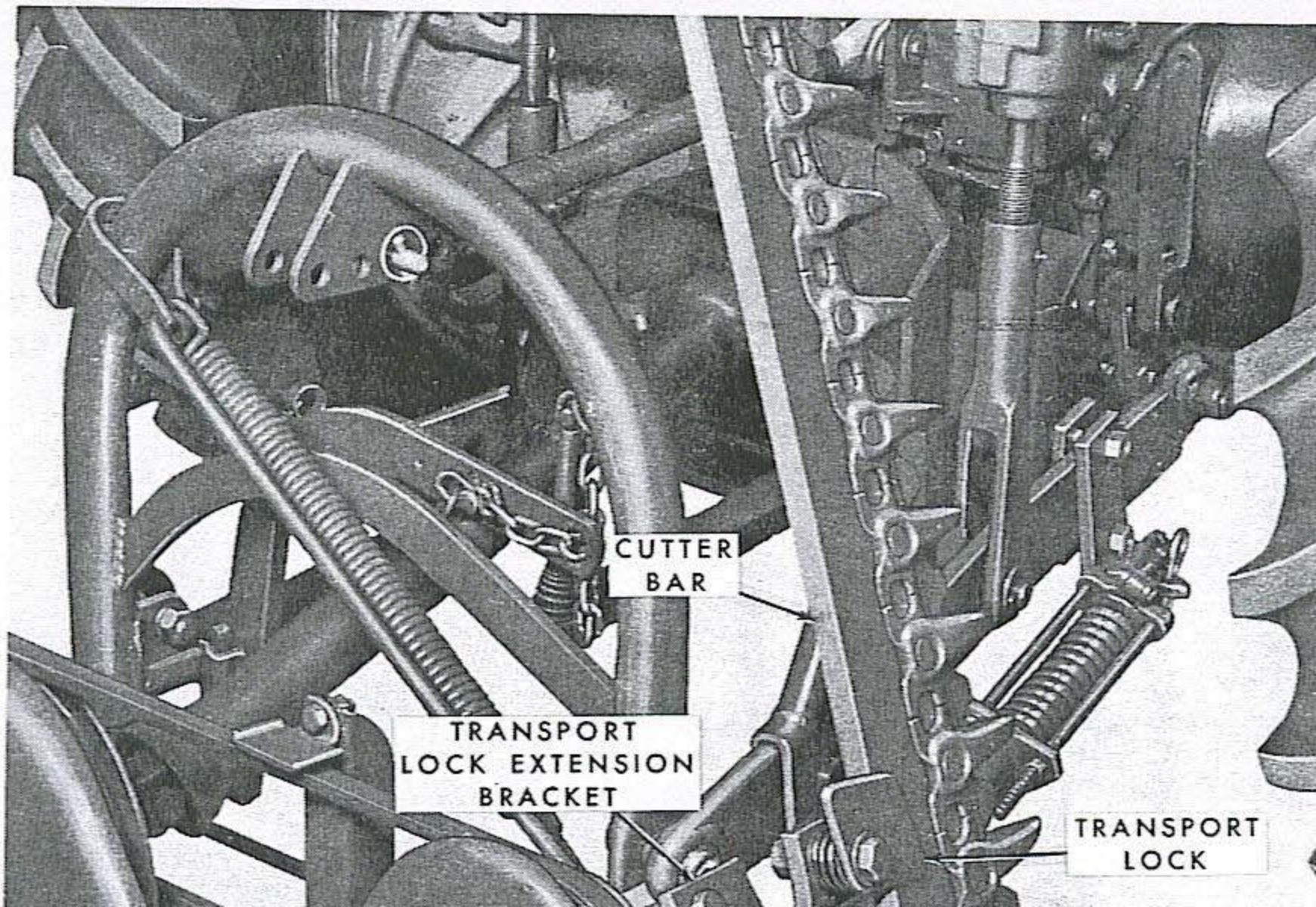
22. Install the 8'' flat idler, Figure 36, and the attaching bracket as follows:

a. Insert the 5/8'' - 11 x 3-1/2'' (shown in the bag of hardware) through the bracket, lower hole of the front idler. See Figure 37.

b. Place the 1-1/32'' long spacer (shown in the bag of hardware) on the bolt.



ASSEMBLY



CUTTER
BAR

TRANSPORT
LOCK EXTENSION
BRACKET

TRANSPORT
LOCK

ASSEMBLY

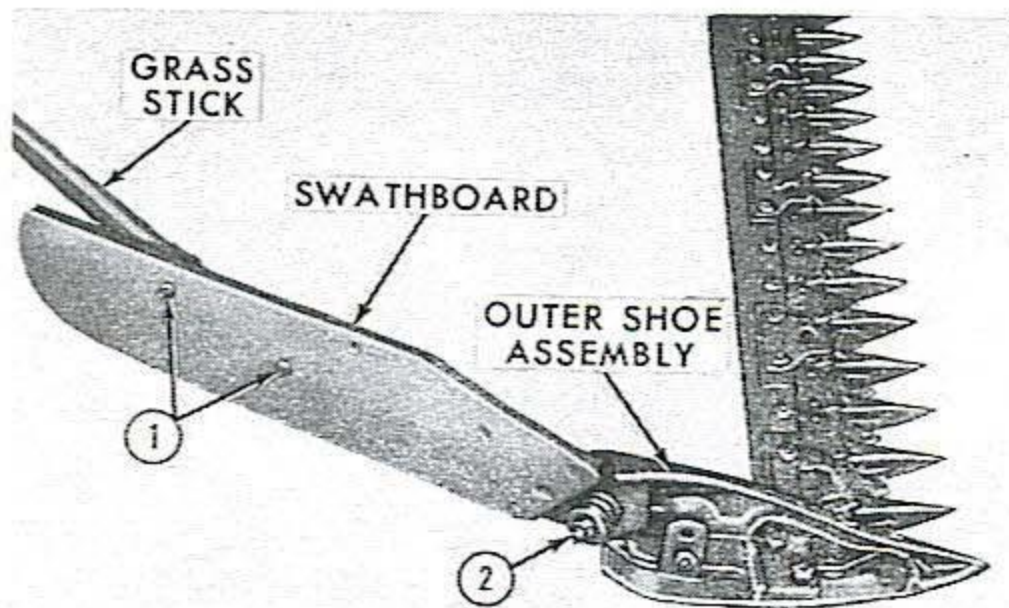


Figure 41

Swathboard and Grass Stick Installed

30. Attach the breakback assembly to the link pin on the attaching bracket, as shown in Figure 40. Secure with the self-locking pin (2).
31. **Mounting Kit 14-289:** Remove the breakback assembly from the mower and install the extension bracket in its place as shown in Figure 40. Then, attach the breakback assembly to the extension bracket.
32. Attach the swathboard to the outer shoe assembly with the 1/2" - 13 x 2-3/4" cap screw, spring, flat washer, slotted nut, and lock washer, as shown in Figure 41.
33. Attach the grass stick and swathboard with the two bolts (1), flat washers, and nuts, as shown.
34. Thoroughly lubricate the mower's deck with the "Lubrication" section on the manual.

[[Manuals](#)] [[FAQ](#)]