



DEARBORN SIDE MOUNTED MOWER

MODEL 14-3 AND 14-4



ASSEMBLY and OPERATING

Instructions

DEARBORN MOTORS CORPORATION — DETROIT 3, MICHIGAN

www.ntractorclub.com

DESCRIPTION

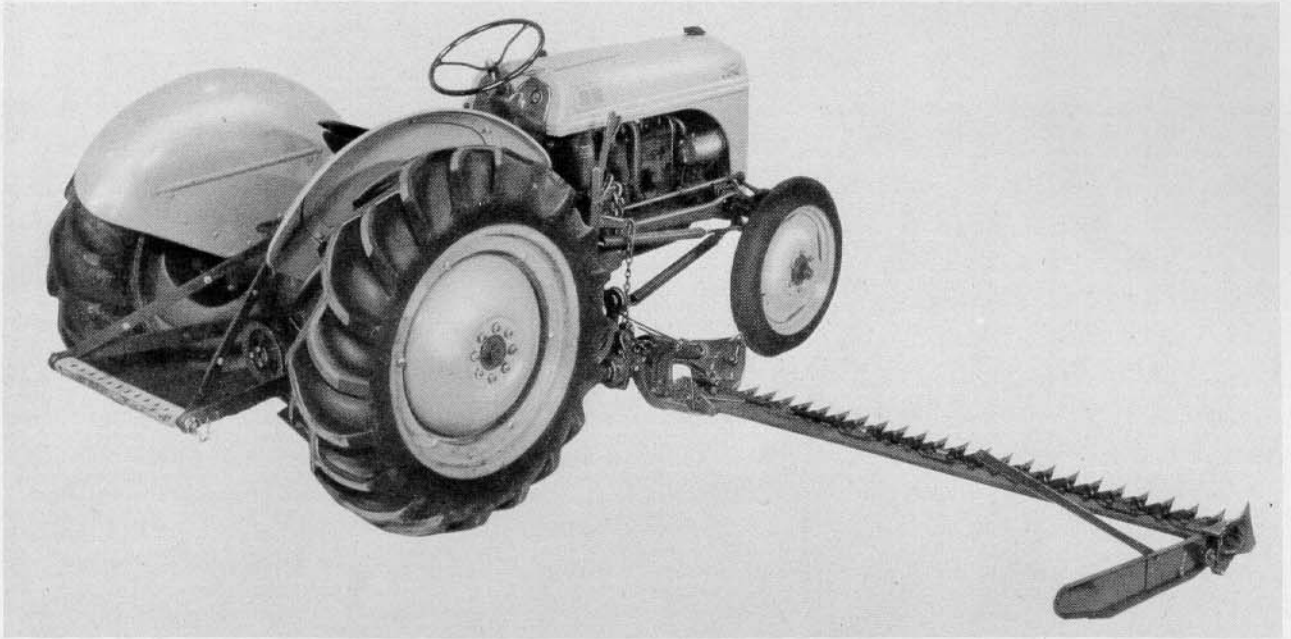


Figure 1

The Dearborn Side Mounted Mower

The Dearborn Side Mounted Mower, pictured above, is a sturdily constructed implement designed and manufactured in accordance with the high quality standards of all Dearborn Farm Equipment.

This heavy duty mower is specially designed for cutting large acreages of heavy hay or other mowable vegetation and for mowing highway shoulders. It will operate efficiently with the cutter bar at any angle from 45° below horizontal to almost vertical. This feature makes it ideal for cutting steep highway banks and slopes. The free floating action of the cutter bar permits it to follow the ground contour in any operating position.

The cutter bar is easily and quickly controlled with the Ford Hydraulic Touch Con-

trol to clear obstructions while in motion, or to raise the bar to transport position. If the cutter bar hits an obstruction, the safety switch automatically stops the tractor thus preventing damage to the mower and the tractor.

This mower is available with a five foot cutter bar (Model 14-3), or with a six foot cutter bar (Model 14-4).

BUNDLE INFORMATION

The Dearborn Side Mounted Mower is shipped complete in a wooden crate. The crate contains the following parts. Check shipment against this list and Figure 2 to be sure all parts are received. Item numbers below correspond with numbers on Figure 2.

ASSEMBLY

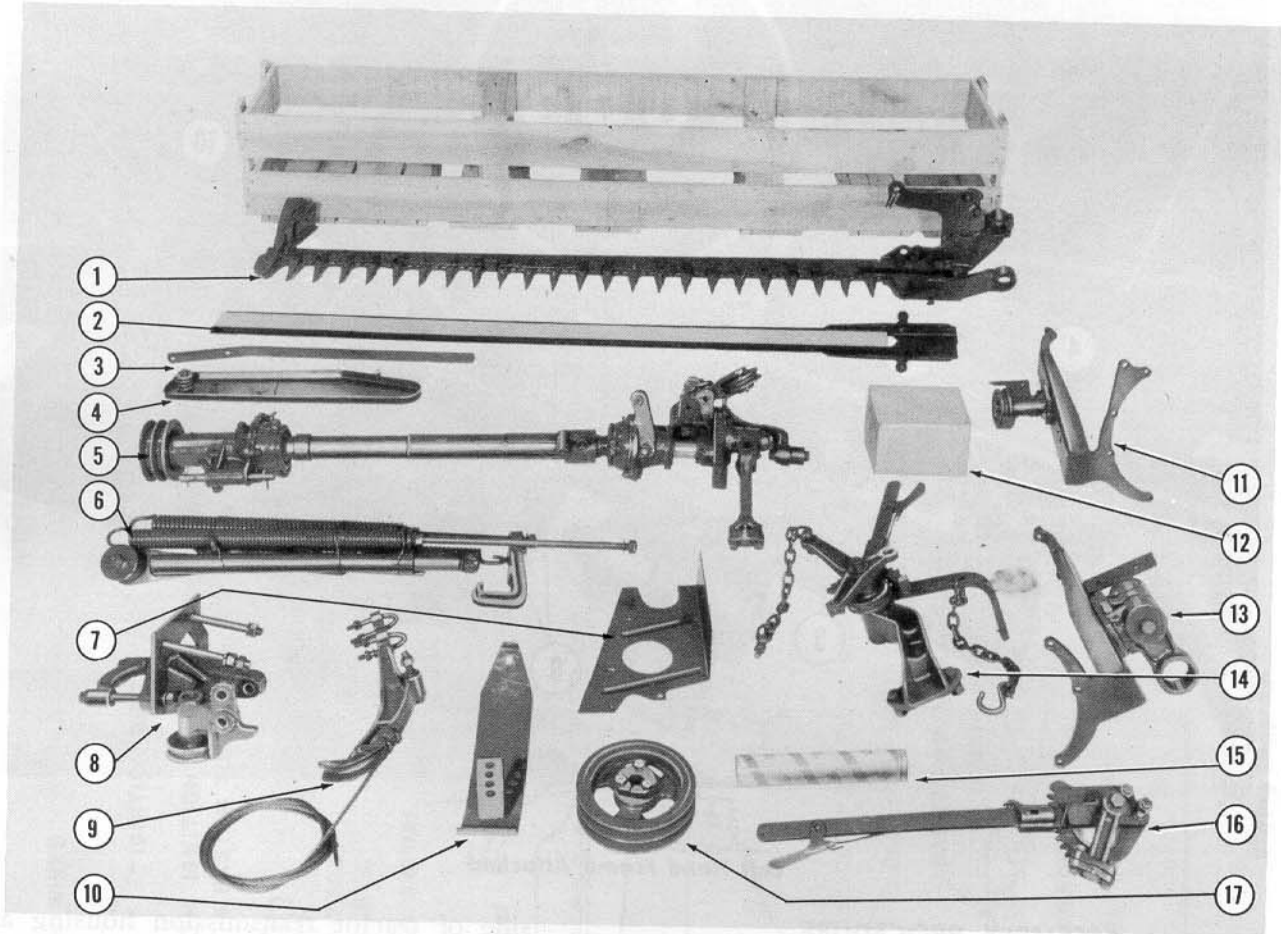


Figure 2

Implement Break-Down for Shipment

NOTE: Assembly of the Dearborn Side Mounted Mower is the responsibility of the Dearborn Farm Equipment dealer. This equipment should be delivered completely assembled. The following instructions are provided, in case of need.

ITEM NO. DESCRIPTION

- 1 Cutter bar assembly
- 2 Two sickle knives, wired together
- 3 Grass bar
- 4 Swathboard
- 5 Drive shaft, pitman rod and hinge assembly
- 6 Front balance spring, pull spring with front axle clamp attached, drag bar with balance spring attached, grass rod and draw bar stabilizer brace wired in one bundle
- 7 Belt guard

ITEM NO. DESCRIPTION

- 8 Pulley housing support bracket
- 9 Lift arm extension and cable assembly
- 10 Inner shoe assembly
- 11 Right hand mounting frame
- 12 Small carton containing mower safety switch assembly, two V-belts and bag of small parts
- 13 Left hand mounting frame
- 14 Curb lift lever assembly
- 15 Tube containing instruction manual
- 16 Tilt lever assembly
- 17 Drive pulley

ASSEMBLY

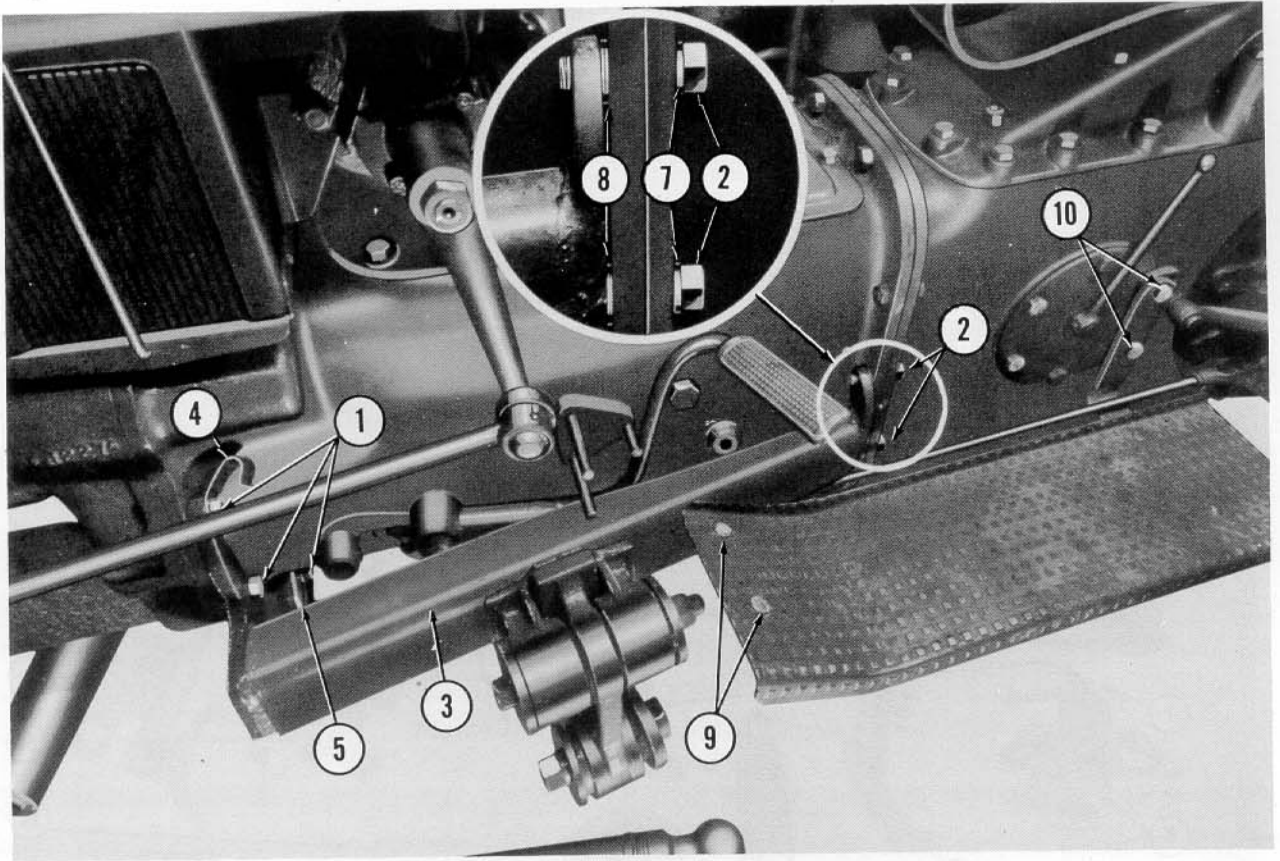


Figure 3
Left Hand Frame Attached

ASSEMBLY PROCEDURE

1. Remove tractor lower links, leveling rods, anchor chain and P.T.O. cap from rear of tractor.
2. Remove right and left hand running boards from tractor. Leave rear mounting bracket attached to running boards.
3. Remove right and left hand running board front mounting brackets from under rear end of radius rods. Leave end of radius rod unattached at this time, to facilitate attaching mounting frames.
4. Attach left hand mounting frame to left side of tractor transmission housing as follows:
 - a. Remove three stud bolts (1), Figure 3, from left side of transmission housing.
 - b. Remove two lower bolts (2) from rear of transmission housing.
 - c. Position left hand mounting frame (3), and secure forward end with three stud bolts provided in bag of small parts. Insert center stud first. Secure safety switch wire clip (4) and upper end of frame bracket with top bolt. Secure safety switch bracket (5) and lower end of frame bracket with lower bolt.

ASSEMBLY

DEARBORN SIDE MOUNTED MOWER WIRING DIAGRAM 14-3 & 14-4

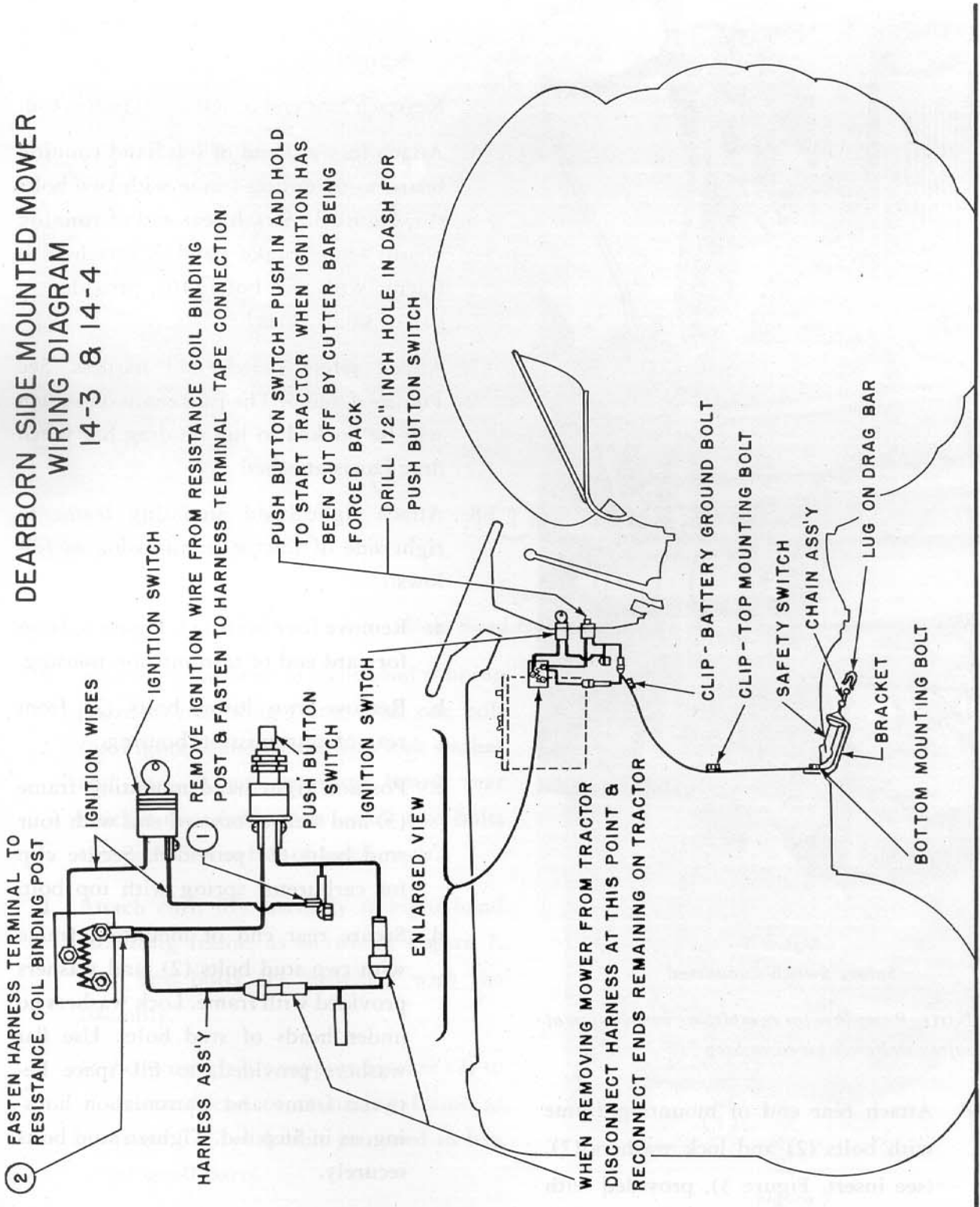


Figure 4
Wiring Diagram

ASSEMBLY

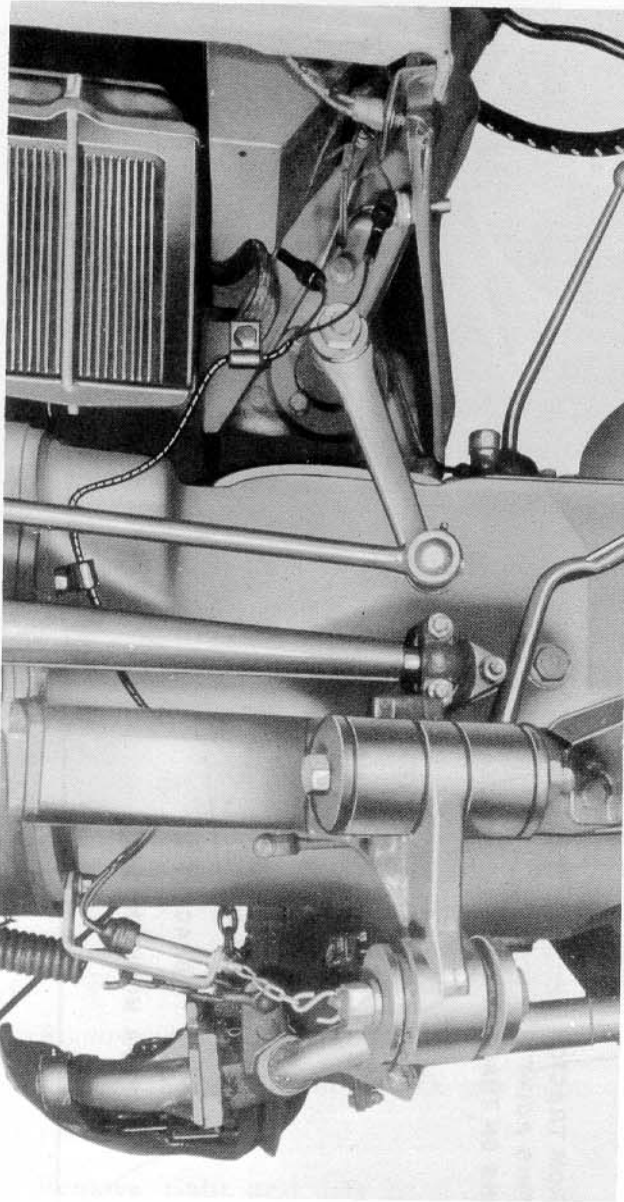


Figure 5
Safety Switch Connected

NOTE: Procedure for completing installation of safety switch is given in Step 7.

- d. Attach rear end of mounting frame with bolts (2) and lock washers (7), (see insert, Figure 3), provided with frame. Use flat washers (8) provided,

to fill space between frame and transmission housing. Tighten bolts securely.

5. Reattach rear end of left hand radius rod.
6. Attach forward end of left hand running board to mounting frame with two bolts (9), Figure 3. Attach rear end of running board where brake pawl is attached to tractor with two bolts (10), provided in bag of small parts.
7. Attach safety switch and harness. See Figures 4 and 5. The pull chain on switch will be hooked to lug on drag bar when drag bar is attached.
8. Attach right hand mounting frame to right side of tractor transmission as follows:
 - a. Remove four bolts (1), Figure 6, from forward end of transmission housing.
 - b. Remove two lower bolts (2) from rear of transmission housing.
 - c. Position right hand mounting frame (3) and secure forward end with four stud bolts (1) provided. Secure clip for carburetor spring with top bolt.
 - d. Secure rear end of mounting frame with two stud bolts (2), and washers provided with frame. Lock washers go under heads of stud bolts. Use flat washers provided, to fill space between frame and transmission housing, as in Step 4-d. Tighten stud bolts securely.
9. Reattach rear end of right hand radius rod.

ASSEMBLY

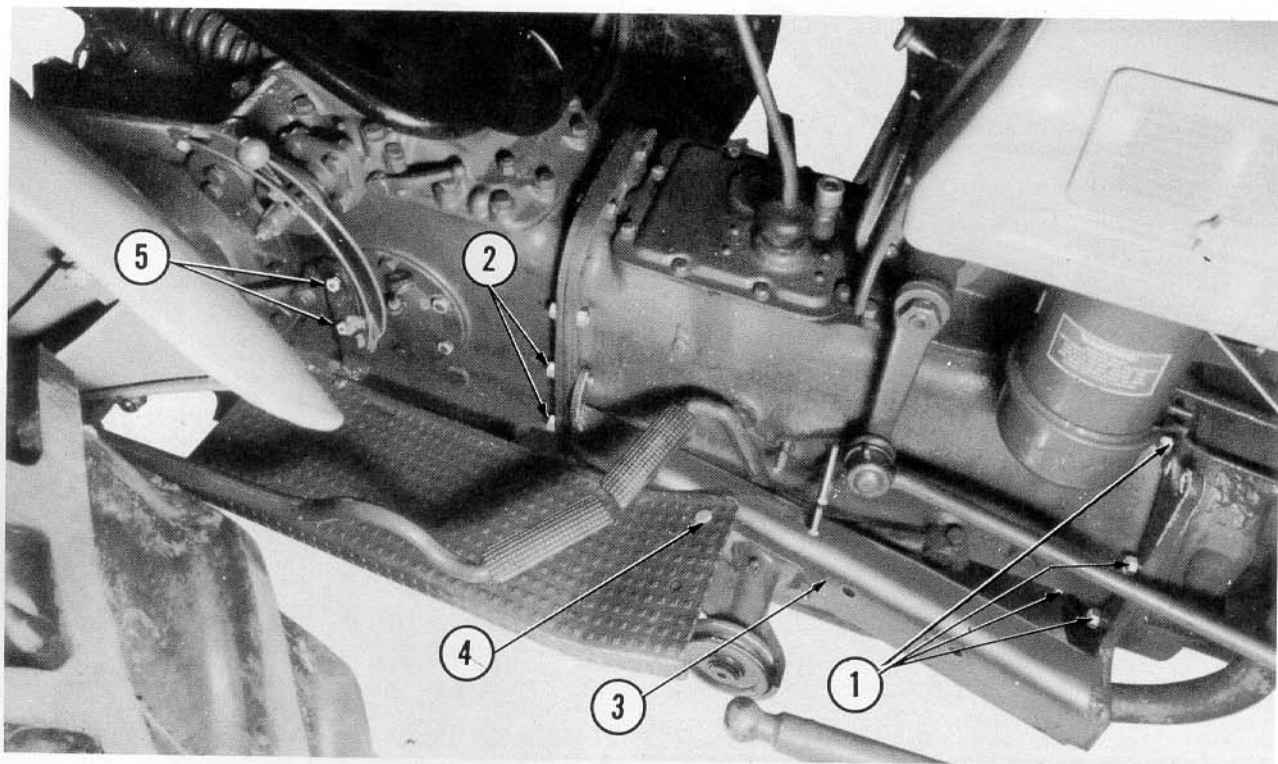


Figure 6
Right Hand Frame Attached

10. Attach forward end of right hand running board to mounting frame with one bolt (4), Figure 6, and secure with lock washer and nut. Attach running board rear bracket over brake pawl with two bolts (5), provided in bag of small parts.
11. Attach curb lift assembly to right hand mounting frame, as shown in Figure 7, with two bolts (1), provided with the assembly.
 - a. Secure curb lift support bracket (2) to forward end of mounting frame at point "A" with bolt provided in bag of small parts.
 - b. Tighten nuts securely.

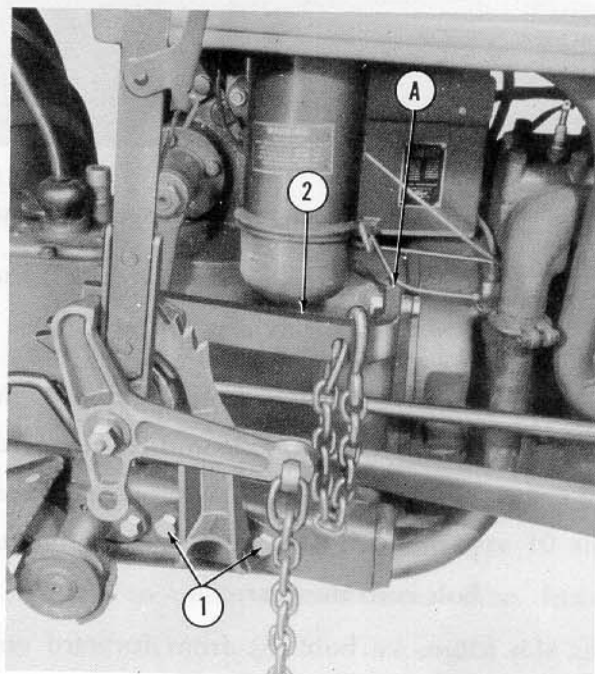


Figure 7
Curb Lift Assembly Attached

ASSEMBLY

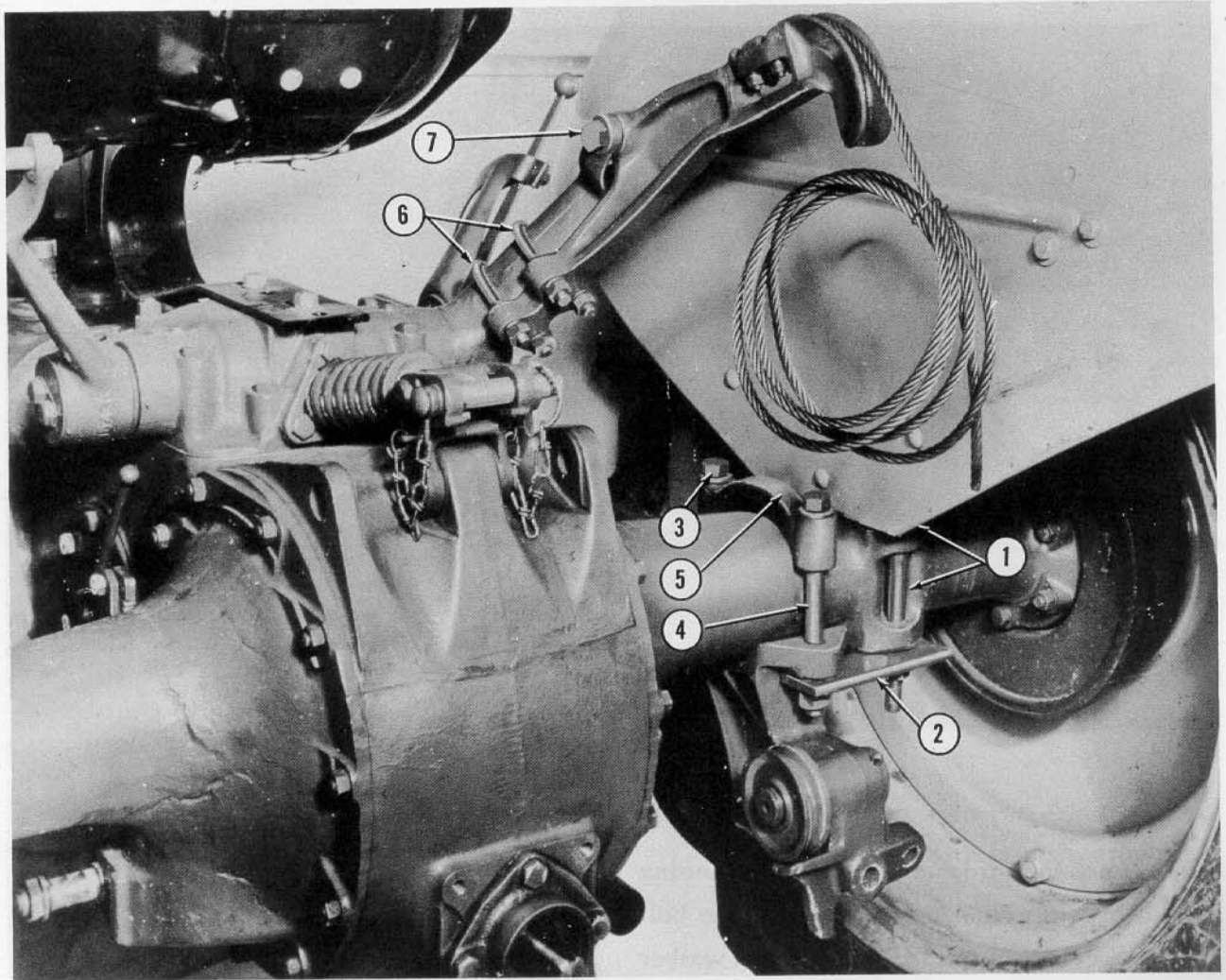


Figure 8

Pulley Housing Support Bracket and Lift Arm Extension Attached

12. Attach pulley housing support bracket to right rear tractor axle as follows:
 - a. Remove the two bolts holding right hand fender to axle and replace with two bolts (1) in pulley support bracket plate (2), Figure 8. Be sure the longer bolt is to the rear.
 - b. Remove bolt (3) from forward end of bracket clamp and loosen nut on bolt (4).
 - c. Position bracket under axle and secure bolts (1) with lock washers and nuts.
 - d. Swing top of bracket clamp (5) in position over axle and secure bolts (3) and (4) with lock washers and nuts as shown in Figure 8.
13. Remove cotter pin and pin from right hand tractor hydraulic lift arm extension. Attach cable assembly with "U" bolts (6) and bolt (7) provided with extension arm, as shown in Figure 8.

ASSEMBLY

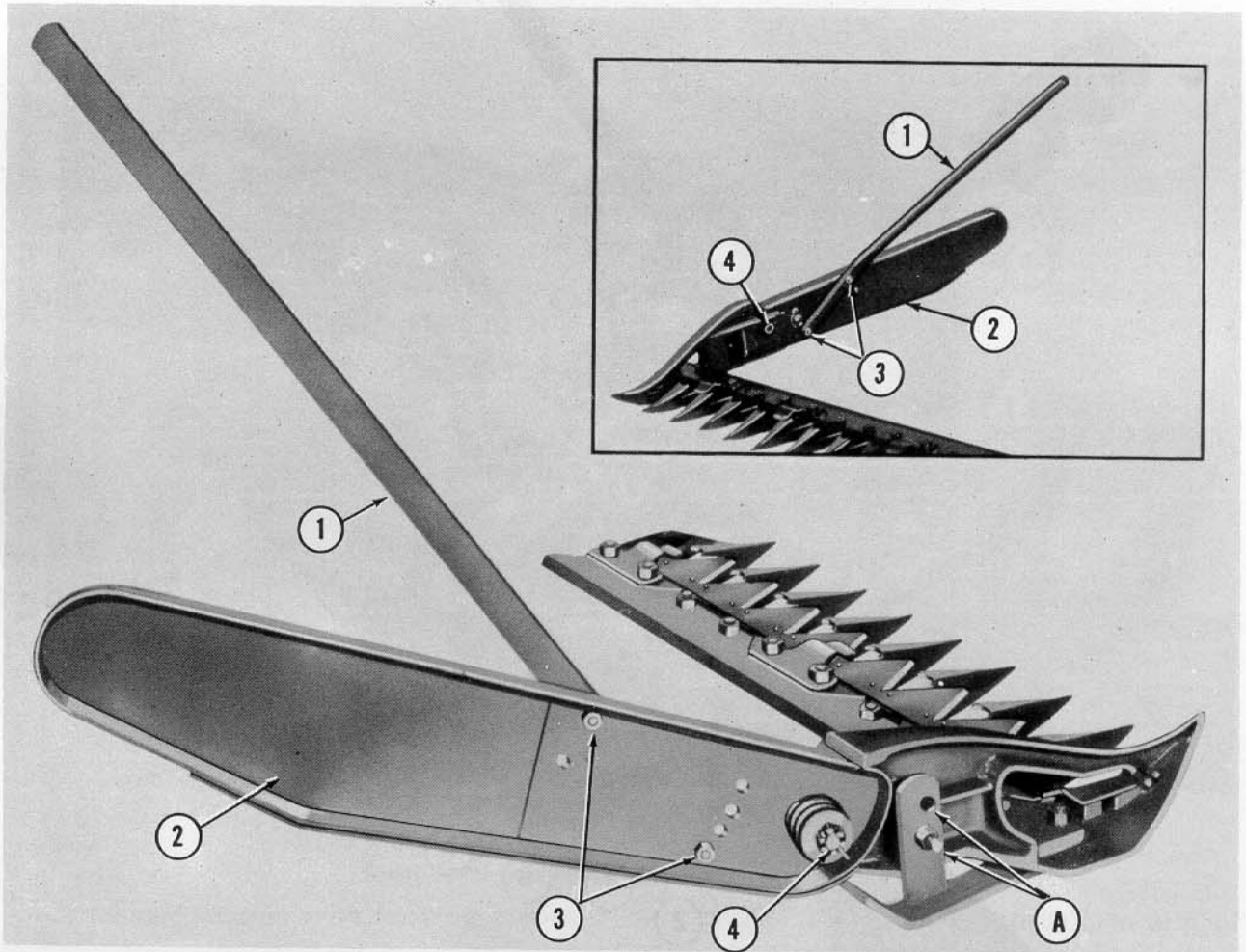


Figure 9

Grass Rod and Swathboard Assembly

14. Attach grass bar (1), Figure 9, to inside of swathboard (2) with bolts (3), lock washers, and nuts provided on swathboard.
15. Bolt swathboard assembly to outer shoe of cutter bar by inserting bolt (4), Figure 9, from inside of inner shoe through swathboard. Place spring, large flat washer, and castellated nut on bolt.
16. Slide sickle (1), Figure 10 and 11, into position on cutter bar assembly (2).
17. Attach sole assembly (3), Figure 10 and 11, to under side of inner shoe. Insert bolt (4) through forward end of sole and shoe assembly. Place grass rod (5) in position and secure with large flat washer, Tighten nut sufficiently to permit securing with cotter pin.

ASSEMBLY

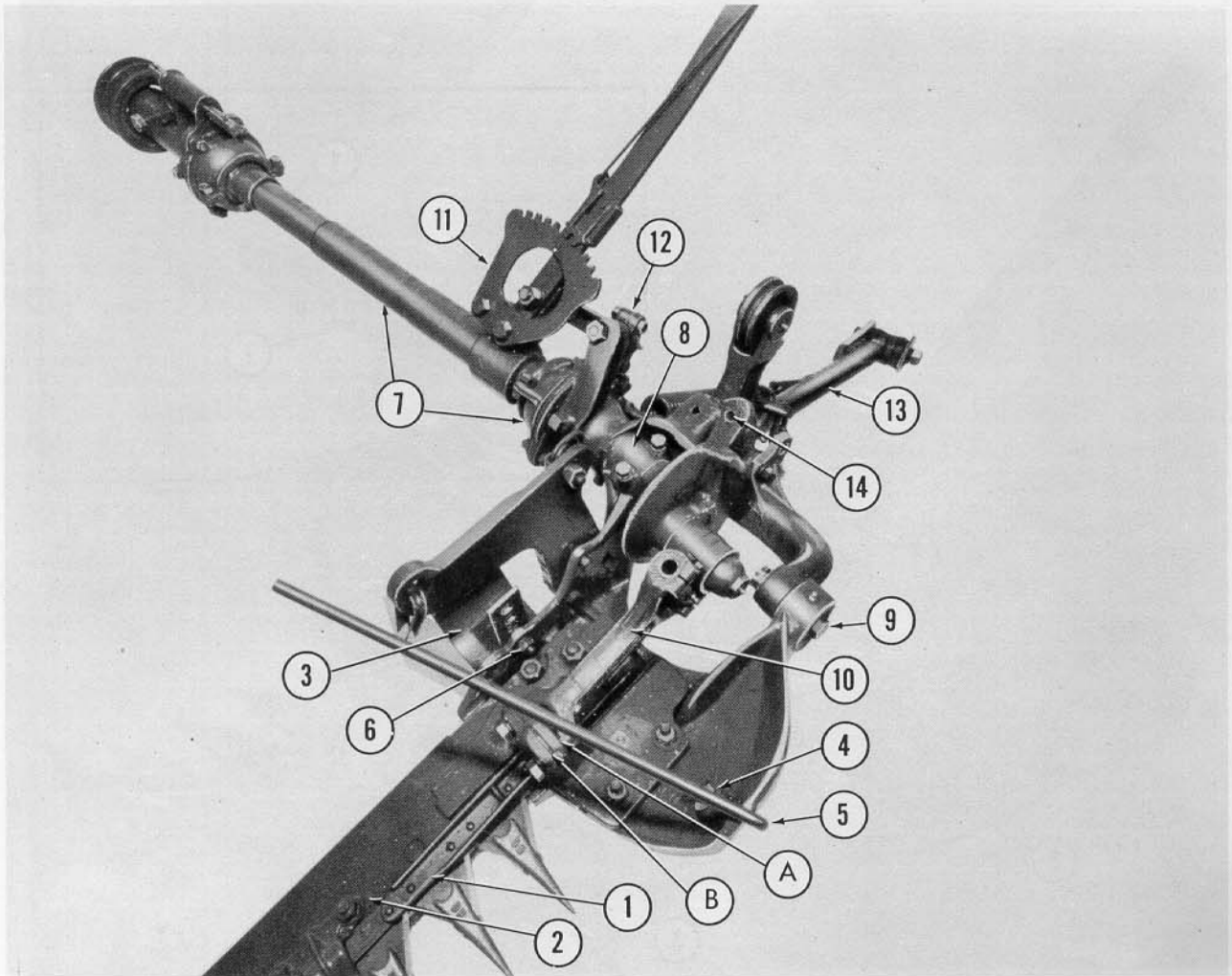


Figure 10

Inner Shoe, Hinge and Drive Shaft Assembly

lock washer and nut provided with assembly. Secure rear end of sole assembly to inner shoe with bolt (6), Figure 10 and 11, lockwasher and nut provided on shoe assembly. Figure 11 shows rear view of inner shoe and hinge assembly.

18. Attach drive shaft and hinge assembly (7), Figure 10, to inner shoe assembly as follows:

- a. Remove bearing cap (8) from inner shoe casting.
- b. Remove bolt (9) and bushing from hinge bracket arm.

NOTE: Remove paint from all hinge and bearing surfaces.

- c. Position hinge assembly on inner shoe, fit bearing cap (8) over rear hinge bearing. Align bushing retainer on

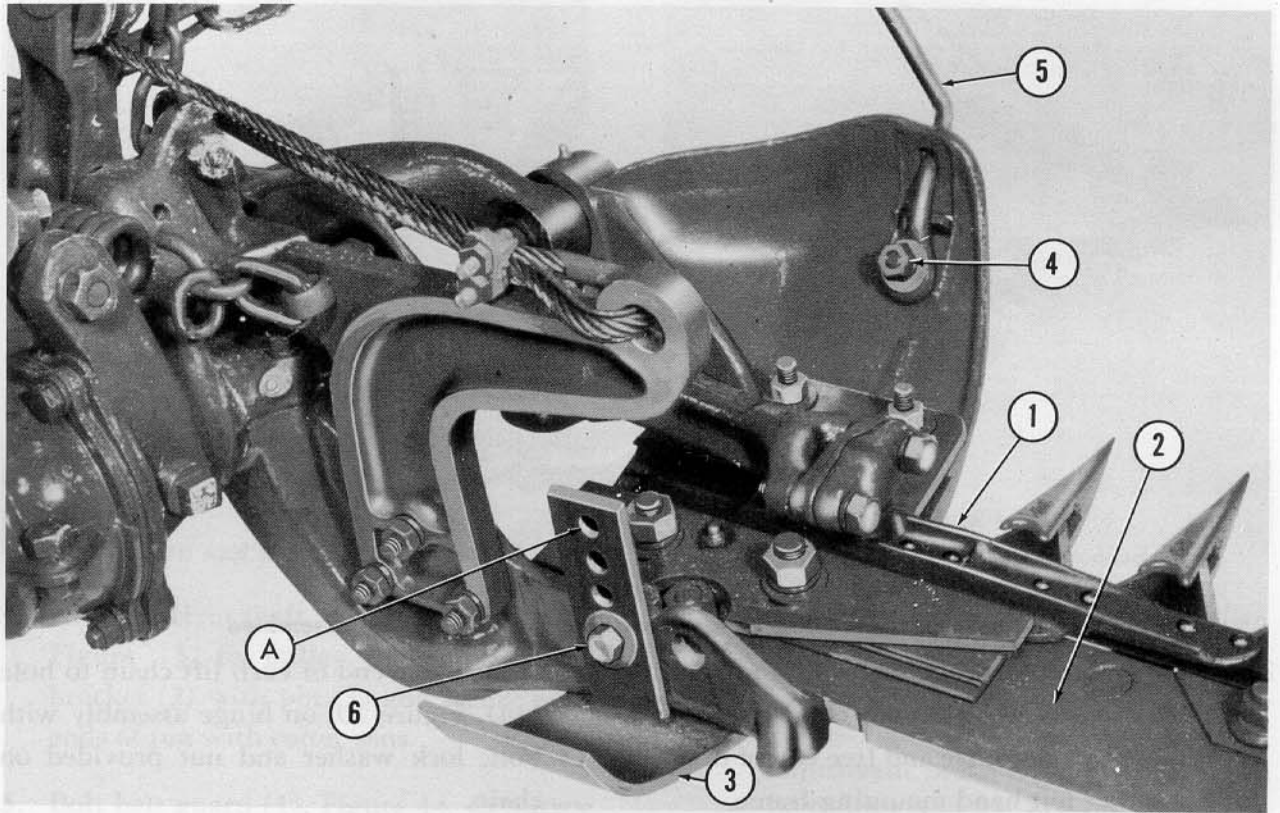


Figure 11

Inner Shoe and Hinge Assembly (Rear View)

hinge bracket with bushing retainer on shoe assembly. Insert bushing and bolt (9), and secure with flat washer and castellated nut. Tighten nut and secure with cotter pin. Tighten bolts on bearing cap.

19. Attach pitman rod (10), Figure 10, to ball on sickle head and secure with cap screws. Be sure all shims are in proper position, between halves of pitman rod socket joint.
20. Attach tilt lever ratchet (11) to bracket arm on driveshaft assembly, and socket

end of tilt link (12), to ball on arm of casting. (See figure 10.)

21. Remove large castellated nut and washer from threaded end of drag bar (13) and remove paint from machined surface.
 - a. Insert threaded end of drag bar into large hole at rear of hinge casting, and secure with flat washer and castellated nut. Adjust nut to permit bar to turn freely in hole. Secure with cotter pin.

NOTE: At this point the assembly will be as shown in Figure 12.

ASSEMBLY

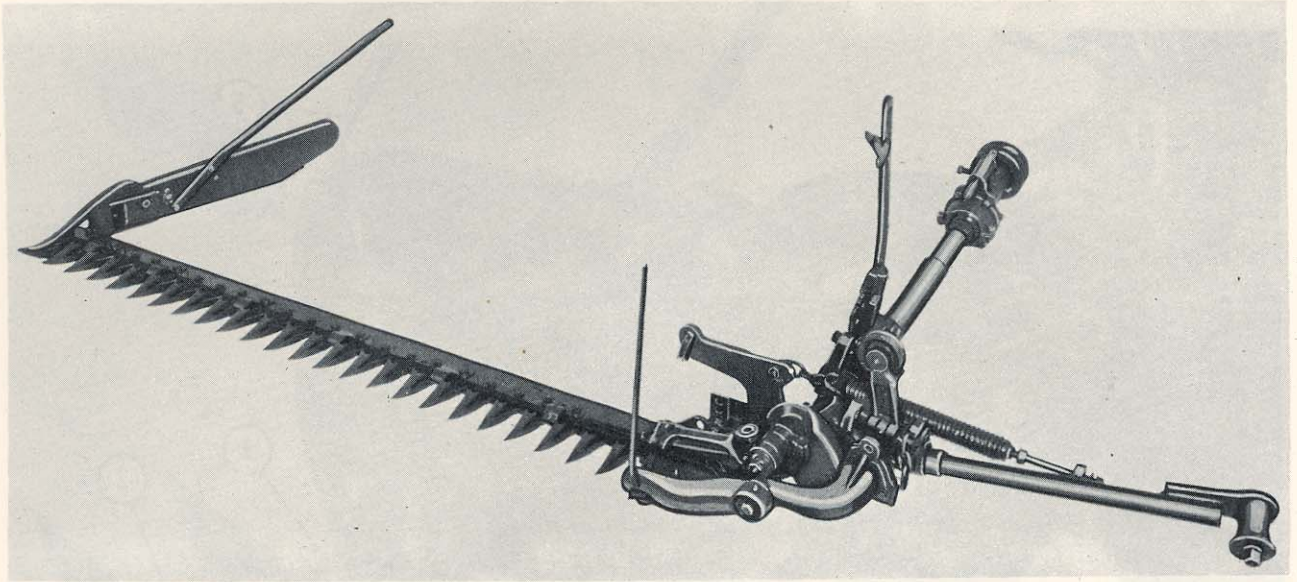


Figure 12

Cutter Bar, Inner Shoe, Hinge, Drag Bar and Drive Shaft Assembled

22. Slide mower assembly into position under tractor with pulley end of driveshaft under right rear axle and free end of drag bar under left hand mounting frame.
23. Attach free end of curb lift chain to hole (14), Figure 10, on hinge assembly with bolt, lock washer and nut provided on chain.

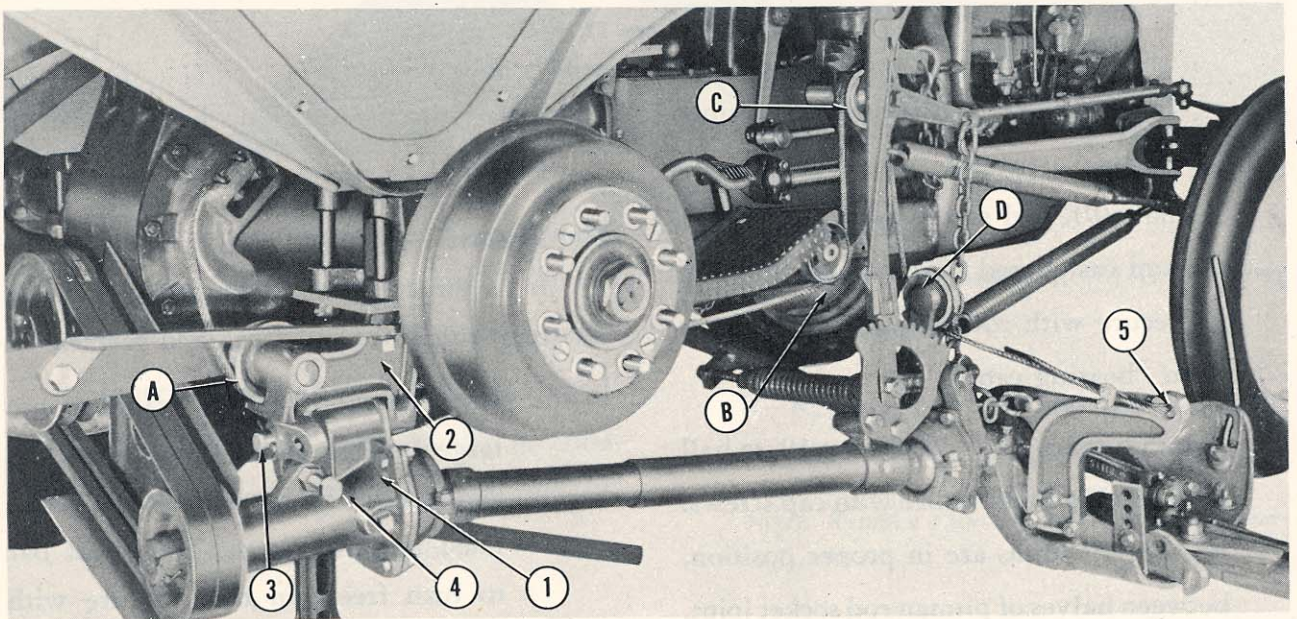


Figure 13

*Mower Drive Assembly and Cable Attached
(wheel removed to show attachment—not necessary in actual procedure)*

ASSEMBLY

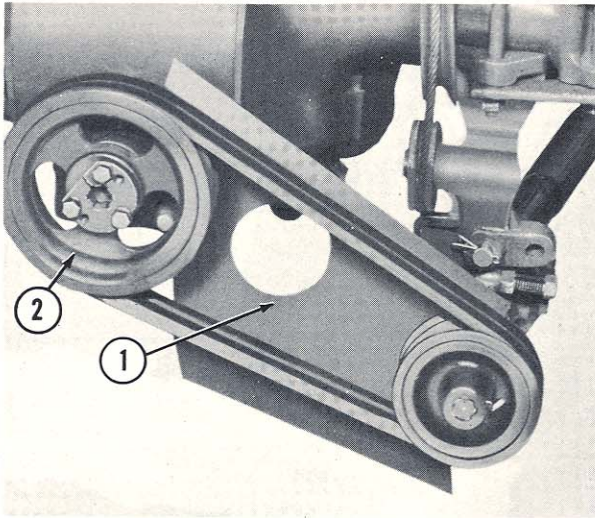


Figure 14

Belt Guard and Drive Pulley Attached

24. Attach drive shaft pulley housing (1), Figure 13, to pulley housing support bracket (2) with pin (3) and secure both ends of pin with cotter pins.
25. Bolt belt guard (1), Figure 14, to tractor P.T.O. housing with two cap screws furnished in bag of small parts.
26. Attach drive pulley (2), Figure 14, to tractor P.T.O. shaft and mount V-belt as follows:
 - a. Remove spline bushing from core of drive pulley by removing the three bolts in bushing and turning two of the bolts into the threaded holes until bushing comes loose.
 - b. Place the two V-belts on mower drive shaft pulley and then on drive pulley.
 - c. Slip drive pulley over tractor P.T.O. shaft. Place spline bushing in pulley and on P.T.O. shaft and bolt securely with three bolts and lock washers provided.

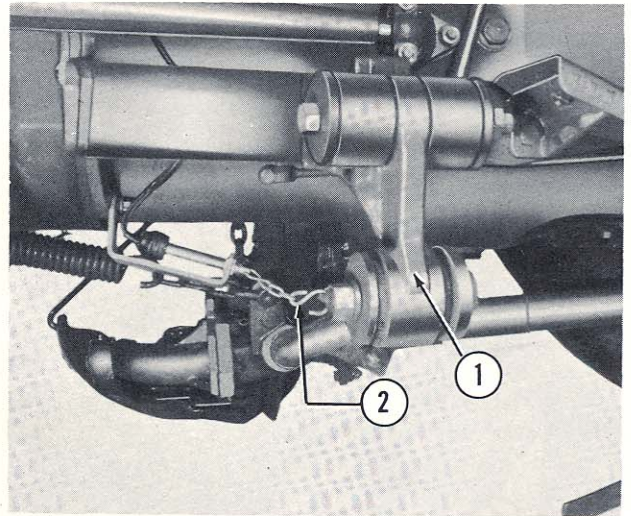


Figure 15

Left End of Drag Bar Attached

NOTE: Check spline bushing and P.T.O. spline for burrs and dirt before assembly. These splines must be clean.

- d. Adjust tension on V-belts by turning adjustment bolt (4), Figure 13, until belts flex about $\frac{1}{2}$ " at a point midway between pulleys. Secure adjustment bolt with jam nut.
27. Attach left end of drag bar to drag bar arm (1), Figure 15, on left mounting frame as follows:
 - a. Remove nut, large flat washer and rubber bushings from end of drag bar and place one rubber bushing on each side of drag bar arm.
 - b. Attach drag bar to arm as shown. Be sure large washer is on forward end of arm. Secure bolt with lock washer and nut.
 - c. After drag bar is attached to frame arm, hook safety switch chain to lug welded to drag bar. See (2), Figure 15.

CAUTION: Do not lubricate these rubber bushings.

ASSEMBLY

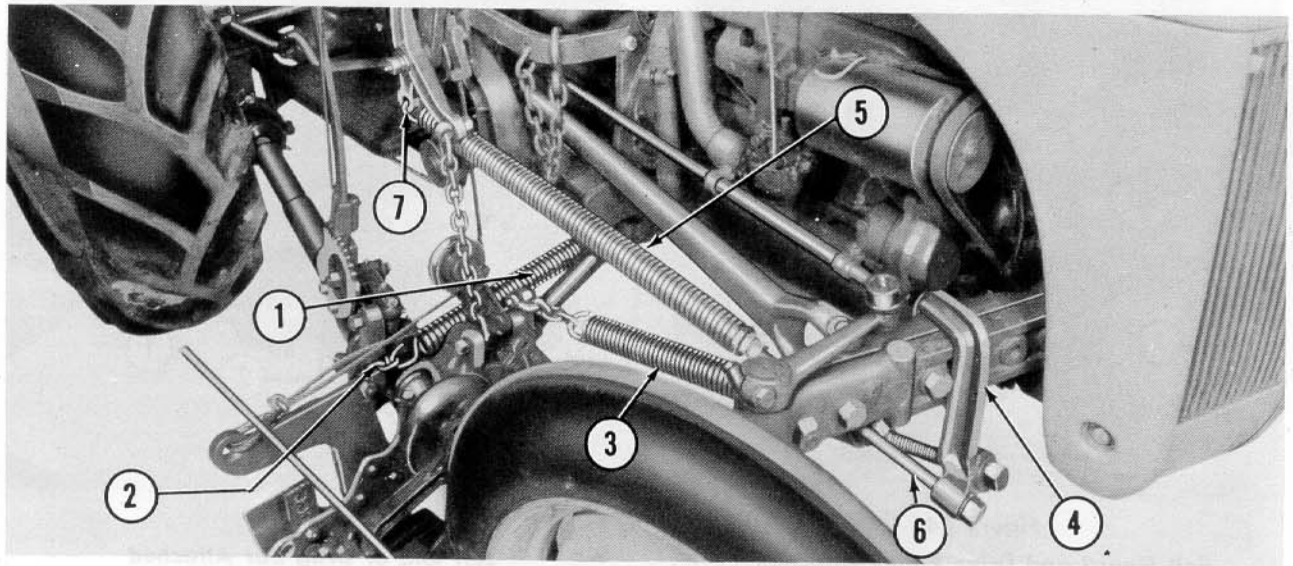


Figure 16
Springs Attached

28. Attach lift cable to cutter bar inner shoe as follows:
 - a. Lower tractor hydraulic lift arm and cable assembly (5), Figure 17, until it rests on tractor rear axle as shown.
 - b. Remove wire from cable coil and thread cable over pulleys (A), (B), (C) and (D), as shown in Figure 13.
 - c. Place loose end of cable over thimble in hole (5), Figure 13, of elevating lever. Draw cable up tight and secure with cable clamp provided in bag of small parts. Place cable clamp as close to thimble as possible.
29. Attach drag bar balance spring (1), Figure 16, to second link of chain (2) on inner shoe elevating lever. Raise outer end of cutter bar to facilitate attachment of spring. The open end of the spring hook should face to rear of tractor. Tension on spring to be adjusted later.
30. Attach pull spring (3), Figure 16, to tractor front axle and to chain on inner shoe casting as follows:
 - a. Hook axle clamp (4) on right front axle and screw tension adjusting rod out of spring sufficiently to permit hooking free end of spring to short chain on inner shoe casting. Open end of spring hook should face toward tractor.
 - b. Tighten tension adjusting rod sufficiently to hold spring. Final adjustment will be made later.
31. Attach front balance spring (5), Figure 16, to arm on curb lift assembly as follows:
 - a. Remove tension adjusting rod (6) from spring.
 - b. Hook spring in "eye" (7), Figure 16, on curb lift. Spring hook should face inward.

ASSEMBLY

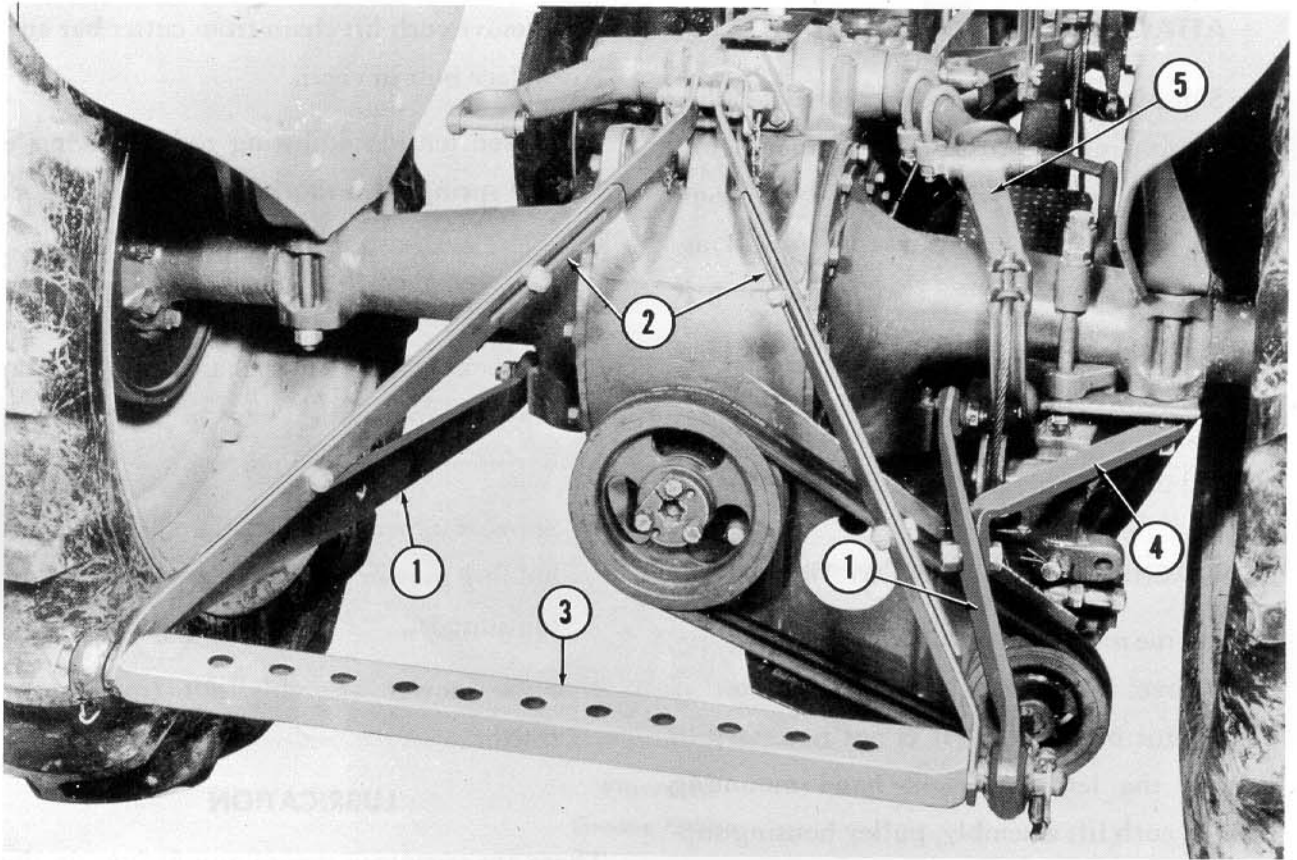


Figure 17
Drawbar and Stays Attached

- c. Insert threaded rod through outside hole in base of the axle clamp (4) and into nut in forward end of spring. Draw spring up on rod. See Figure 16.
32. Adjust tension on front balance spring, pull spring, and drag bar balance spring evenly until outer end of cutter bar can be easily raised with one hand by lifting on grass bar at outer end of cutter bar. Proper balance spring tension will produce a semi-floating cutter bar which will slide easily over the ground without excessive sole wear. Adjust pull spring so
- outer end of cutter bar will be about 2" ahead of inner end, when measured from a line perpendicular to the center line of the tractor. This "lead" is necessary to compensate for the bar being pulled back when in operation.
33. (Optional) If it is desired to use tractor for pulling, attach lower links (1), Figure 17, and attach draw bar stays (2) in normal manner.

NOTE: Adjust length of stays to hold draw bar (3), Figure 17, clear of mower V-belt guard and attach draw bar stabilizer brace (4), Figure 17, to rear fender bolt and right hand draw bar stay.

ATTACHING AND DETACHING

ATTACHING MOWER TO TRACTOR

The Side Mounted Mower is so constructed that its assembly involves attachment to the tractor. Therefore, once the mower has been completely removed from the tractor, follow assembly Steps 1 through 32 in re-attaching it to the tractor. If the right and left hand mounting frames and the tilt lever have been left on the tractor, proceed with the attachment as explained in Assembly Steps 22 through 32.

DETACHING MOWER FROM TRACTOR

During the mowing season, it may be necessary to remove the mower when the tractor is needed for other work. It is not necessary to remove the left and right hand mounting frames, curb lift assembly, pulley housing support, belt guard and, unless the hydraulic system is to be used, the lift arm extension. To remove the mower assembly proceed as follows:

1. Lower cutter bar to the ground.
2. Remove drive pulley and V-belt from P.T.O. shaft.
3. Remove lift cable from cutter bar and, if necessary, the lift arm extension from the tractor hydraulic lift arm. Otherwise, coil cable and wire to lift arm extension.

CAUTION: If tractor draw bar is to be raised or lowered, remove the draw bar stays (2), stabilizer brace (4), and lift arm extension (5), Figure 17. Then re-install hydraulic lift rods.

4. Remove curb lift chain from cutter bar and replace bolt in chain.
5. Loosen tension adjusting rod and remove pull spring from short chain on inner shoe.
6. Remove bolt that holds drag bar to drag bar arm and remove drag bar.
7. Unhook safety switch chain from lug on drag bar and connect ends of safety switch wiring as shown in Figure 4.
8. Support mower drive shaft and remove pin holding mower drive shaft to pulley housing support.
9. Slide mower assembly out from under tractor.

LUBRICATION

There are seventeen grease gun fittings on the Side Mounted Mower. Figures 18, 19 and 20 show the location of each of these fittings. Fittings 1, 2, 3 and 15 should be greased about every two hours of operation.

Lubricate sickle hold down clips frequently with a good grade of heavy machine oil.

CAUTION: Do not oil hold down clips where soil is abrasive.

The front and rear universal joints on the mower drive shaft are packed with S.A.E. 160 lubricant at the factory and should be checked once a year. To check and refill, remove one of the two square headed screw plugs located on either side of both universals and fill to plug level.

OPERATION

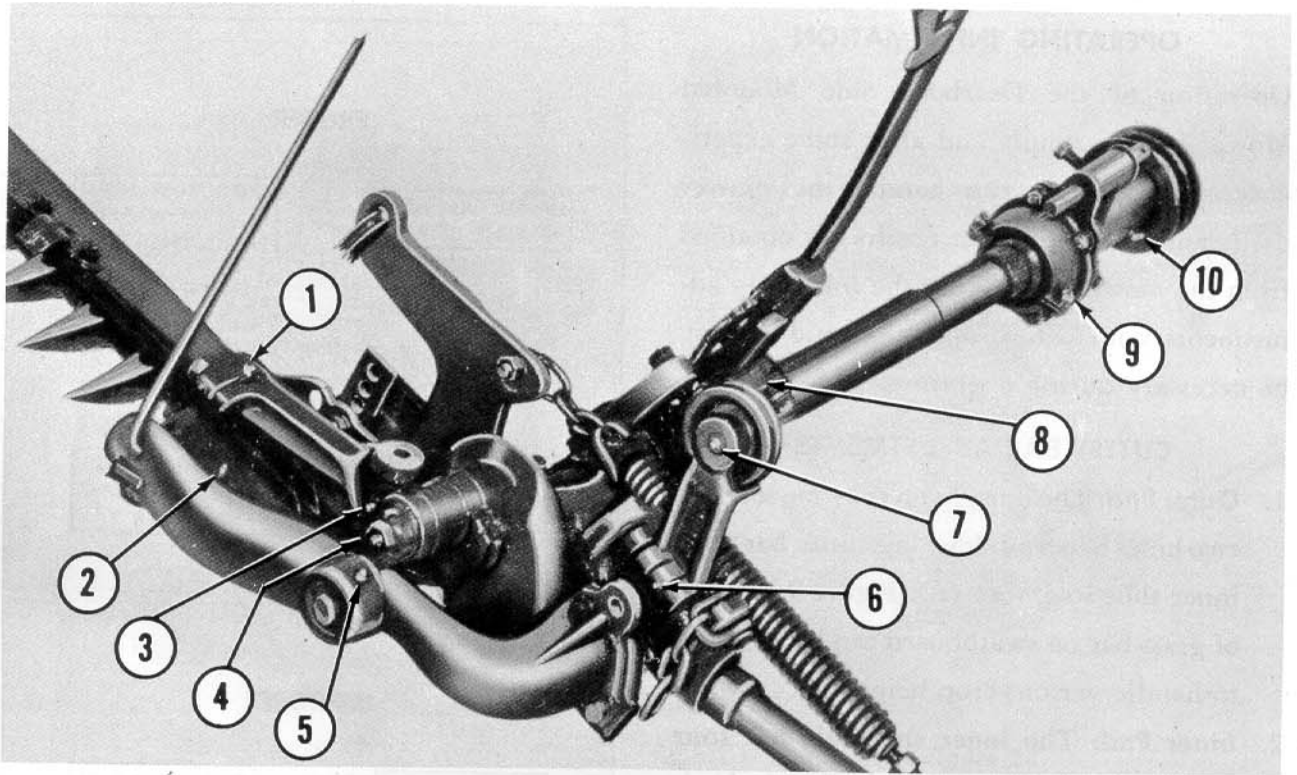


Figure 18
Grease Fittings

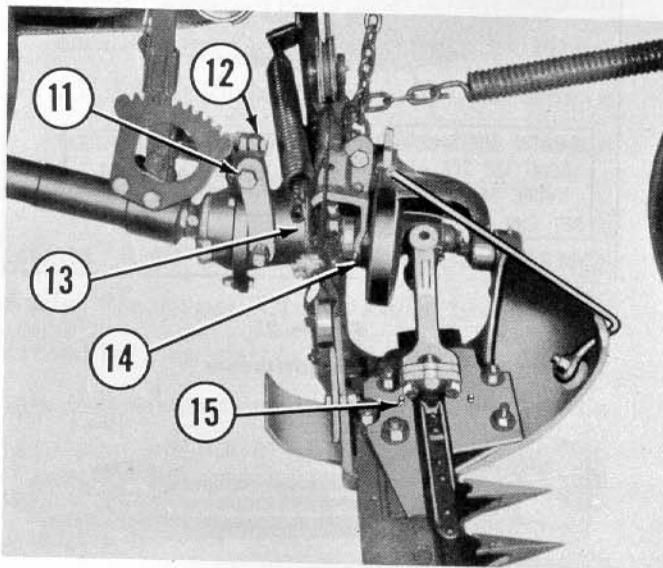


Figure 19
Grease Fittings

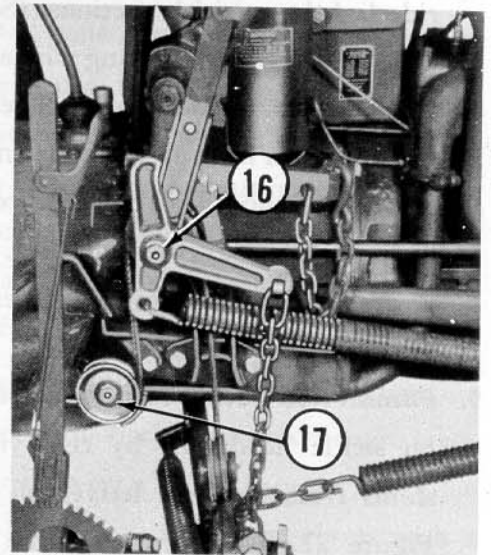


Figure 20
Grease Fittings

OPERATION

OPERATING INFORMATION

Operation of the Dearborn Side Mounted Mower is very simple and after some experience, the operator can handle the mower easily and efficiently. Best results are obtained from the mower by making the following adjustments both before operation and as may be necessary during operation.

CUTTER BAR ADJUSTMENTS

1. **Outer End:** The upright on the shoe sole has two holes to permit leveling cutter bar with inner shoe sole. (See (A), Figure 9.) Angle of grass bar on swathboard can be adjusted to handle various crop heights.
2. **Inner End:** The inner shoe sole has four holes in upright member for vertical adjustment of shoe. (See (A), Figure 11.)
3. **Sickle Hold Down Clips:** These clips should ride lightly on sickle sections. (See Figure 21.) Adjust clips by striking with a hammer.
4. **Sickle Head Guide Plates:** These plates, front and rear have metal shims under them. Sickle head should not be permitted to have more than 1/32" vertical play. As head wears, remove shims as necessary for proper adjustment.
5. **Pitman Rod Socket Joint:** Adjust for wear on sickle head ball by removing metal shims from between halves of joint. See Figure 22. This joint must be carefully adjusted. If it is too tight, it will quickly overheat and also will tend to lift sickle head vertically. If too loose, breakage may result.

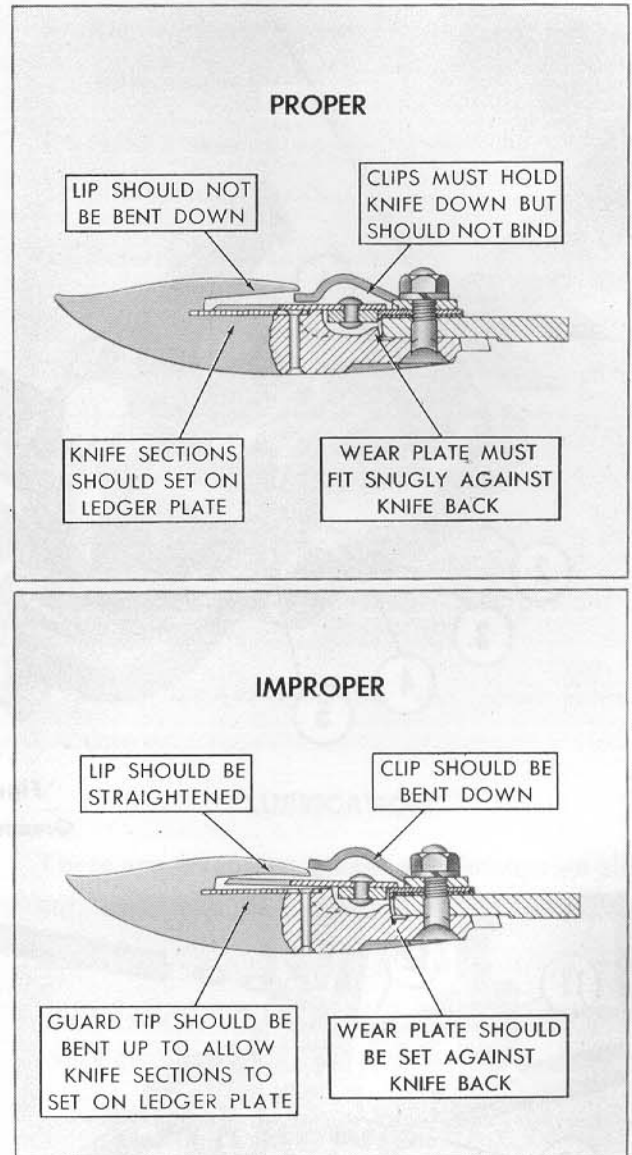


Figure 21
Clip Adjustments

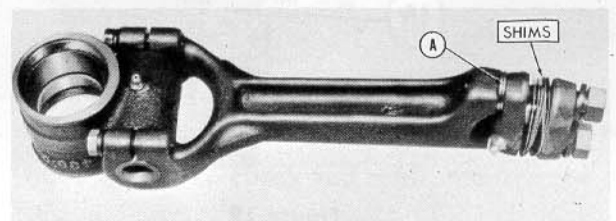


Figure 22
Pitman Rod Shims

OPERATION

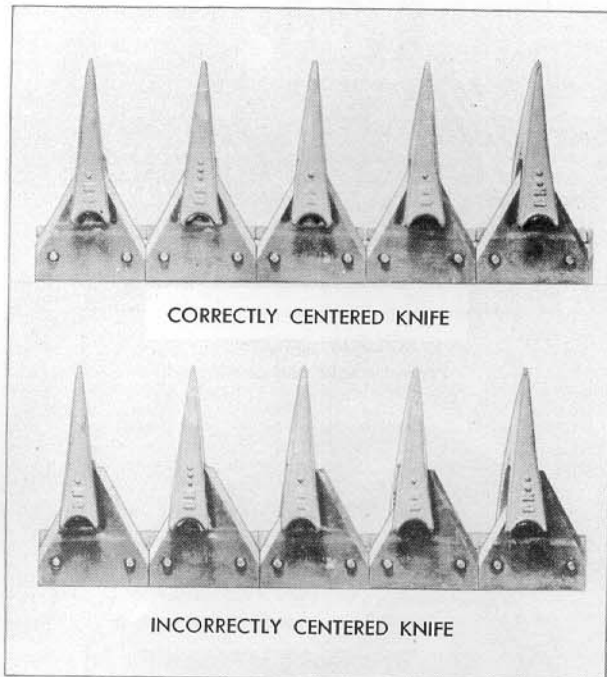


Figure 23
Sickle Register

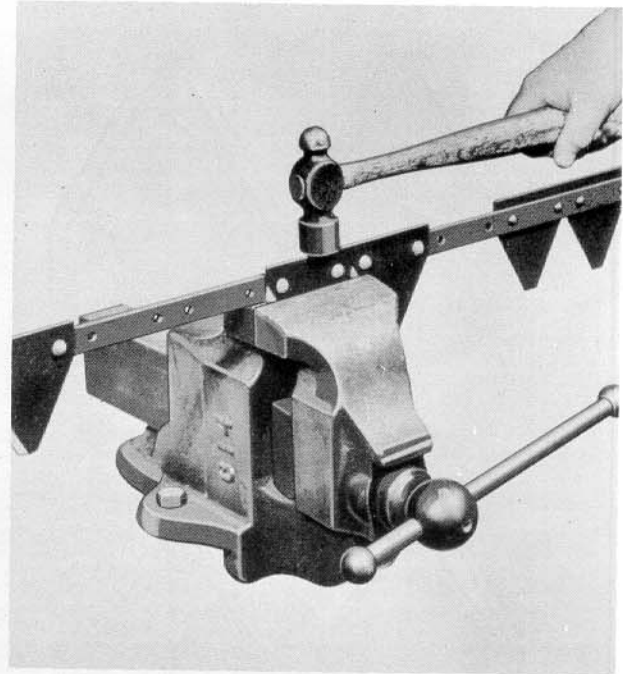


Figure 24
Removing Knife Sections

6. **Sickle Register:** When pitman rod is at extreme end of its stroke, sickle sections should center in sickle guards. See Figure 23. Adjust for proper register by adding or removing washers from between pitman rod yoke. See (A), Figure 22.

SICKLE AND CUTTER BAR MAINTENANCE

Knife Breakage: Often, knife breakage is caused by loose parts and connections. Be certain that all parts are properly tightened. To help eliminate knife breakage, check the following: worn knife clips, worn knife head, misalignment of cutter bar, worn guides, loose pitman ball connection, out-of-line guards and loose knife sections.

Ragged Cutting: Worn knife, uneven shoe ad-

justment, worn or broken guard plates, guards out of line, loose knife sections and a knife that is out of register will cause ragged cutting.

Replacing Knife: To replace a worn knife, remove pitman ball socket on 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, and check knife register. Lubricate the knife head.

Removing Knife 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. See Figure 24. Drive out rivets with a drift punch.

Sharpening Knife: Care should be exercised in sharpening the knife sections to maintain the

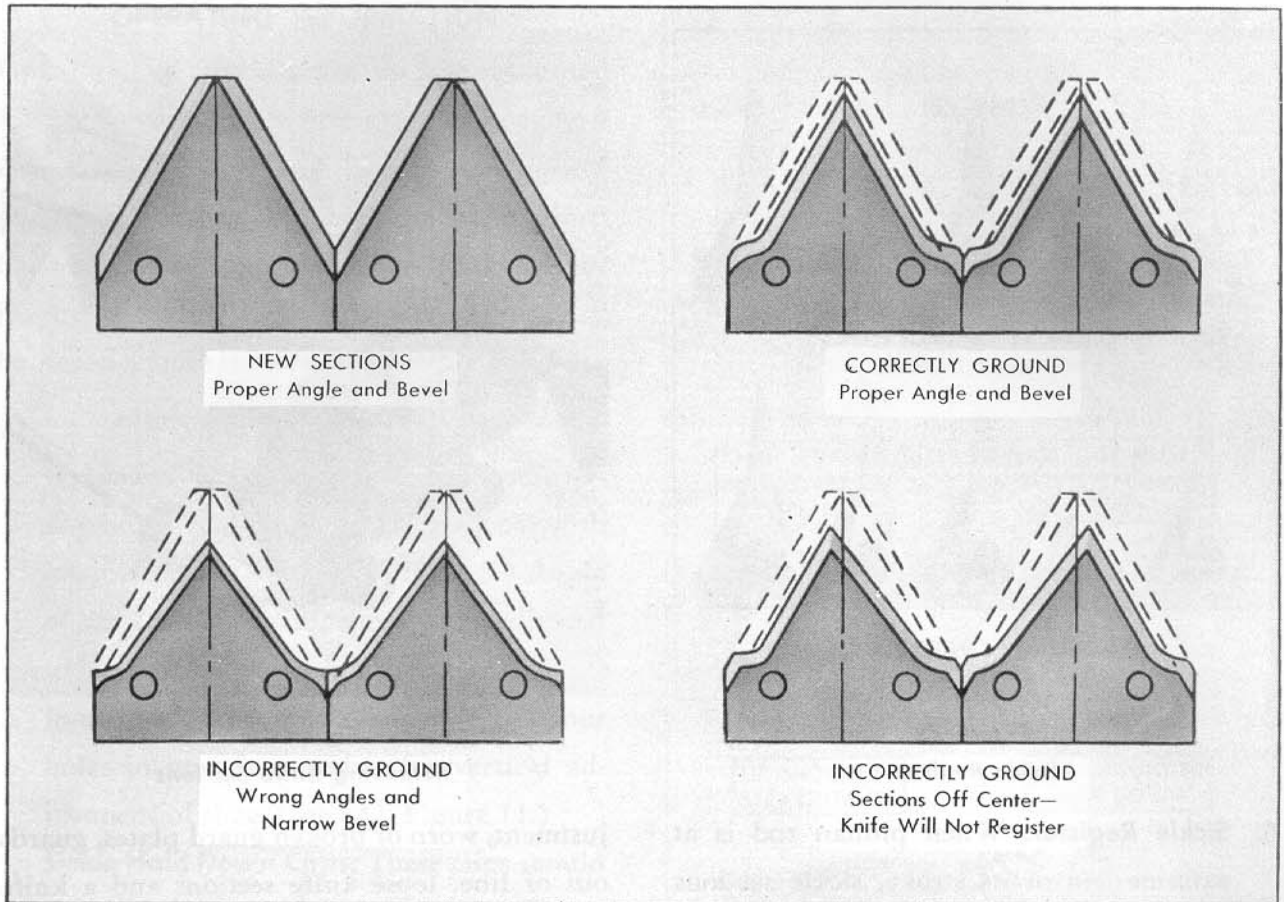


Figure 25
Correctly and Incorrectly Sharpened Knives

original bevel and shape. Figure 25 illustrates knife sections properly and improperly ground. Check and replace all worn and broken sections, and loose rivets.

Replacing Ledger Plates: Ledger plates should be replaced if the edges become 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 counter-sink 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.

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

OPERATION

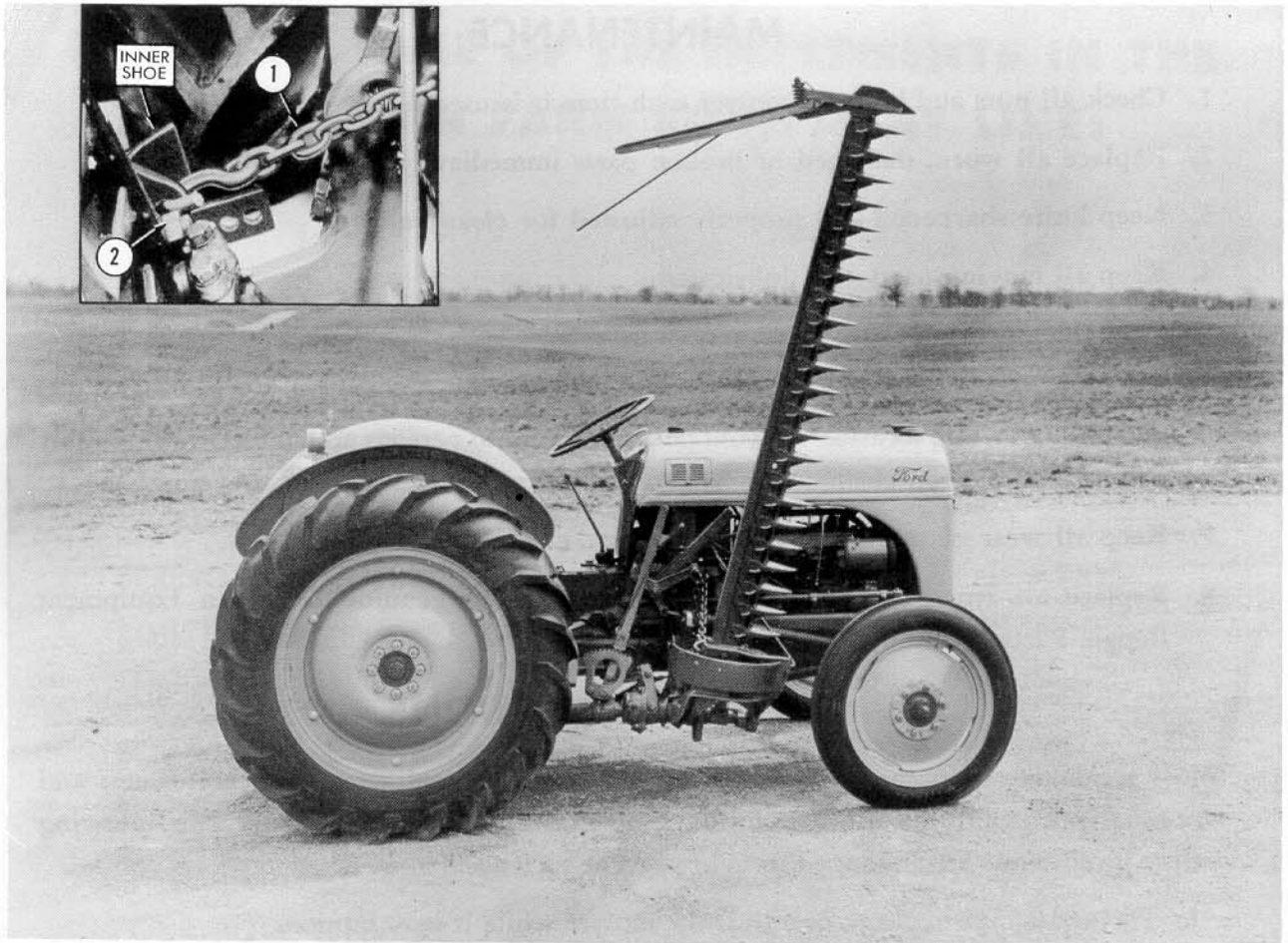


Figure 26

Side Mower in Transport Position

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.

Tilt Lever: The tilt lever is used to tilt the leading edge of cutter bar up or down.

Curb Lift Lever: This lever is used to hold the entire cutter bar assembly a limited height above ground when mowing where level of ground on which tractor is traveling is somewhat lower than where sickle is cutting.

Transport Position: Raise cutter bar to vertical position and hook chain (1) into hole (2) in the inner shoe as shown in insert, Figure 26.

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 preventative.
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 finger 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. Be sure that the safety switch is properly connected.
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 chain is securely hooked to the inner shoe.
10. When moving mower short distances raise the cutter bar to the horizontal position.
11. Always lower implement to ground when leaving tractor.