

Haban 402-A



SICKLE BAR MOWER

attachment

MODEL 402-A
for
INTERNATIONAL HARVESTER
TRACTORS

OPERATION AND SERVICE MANUAL

HABAN MANUFACTURING COMPANY

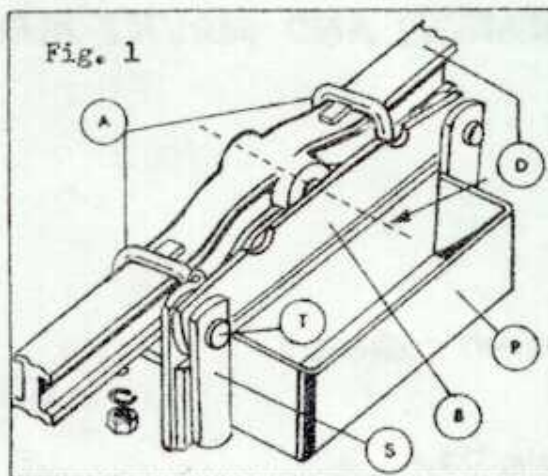
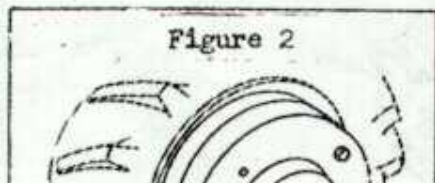
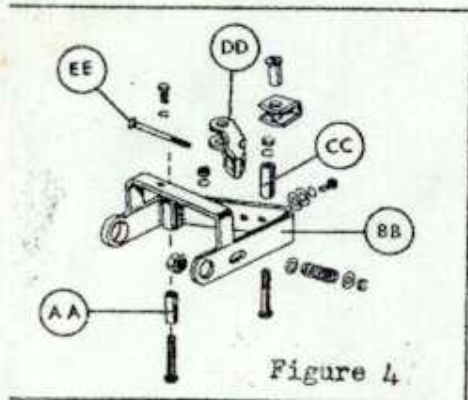
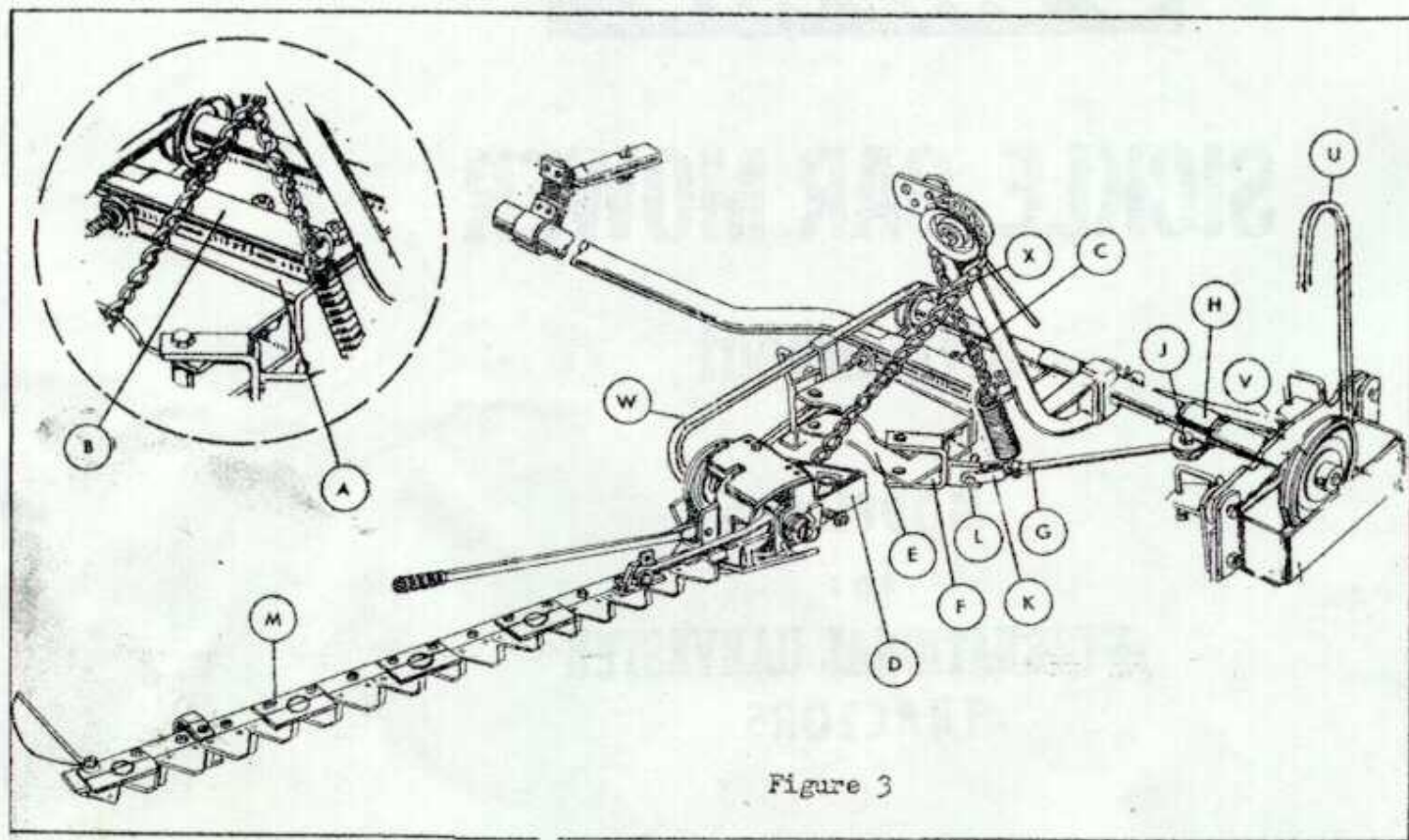
Racine, Wisconsin, U.S.A.

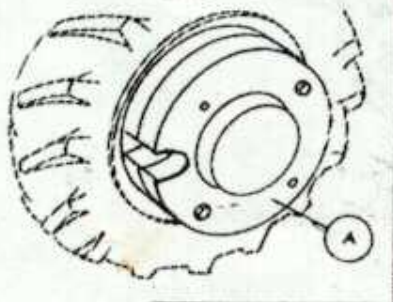


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SICKLE BAR MOWER attachment

SET-UP





SICKLE BAR MOVER attachment

UNPACKING

Your Sickle Bar Attachment comes packed in one carton. The carton contains only the parts pertaining to the unit packed within. Unpack carton carefully to insure that all parts are accounted for. The carton contains the following parts: Sickle Bar Unit Assembly, Frame Assembly, large and small bag of parts, Breakaway Housing and Carriage Plate.

Open carton and remove all parts. Arrange the main units on the floor near tractor. Arrange all parts from bags so they can easily be identified.

WHEEL WEIGHT

It is recommended to always use a Wheel Weight (A) (Fig. 2) supplied by Tractor Manufacturer on left Rear Wheel of Tractor when operating the Sickle Bar.

SICKLE BAR ASSEMBLY (Figures 3 and 4)

Place the Carriage Adjusting Plate (A) with the (3) slotted holes beneath the main Frame Support Plate (B) as shown. Attach Carriage Adjusting Plate to the Frame Assembly with (3) 1/2" x 1-1/4" Carriage Bolts (C) (Fig. 3) and secure with Nuts and Lock Washers provided.

Attach the Breakaway Latch Frame Assembly (D) to the Breakaway Housing (E). Insert Spacer (AA) (Fig. 4) into Breakaway Latch Frame (BB) (Fig. 4). The Spacer must be flush with the top and bottom of Breakaway Latch Frame Assembly (BB). With the Spacer in place, align housing. A tapered drift pin would help in aligning the holes. Insert 1/2" x 3" Hex. Hd. Bolt into the hole from the top and secure with Lock Washer and Nut provided.

Place second Spacer (CC) (Fig. 4) between the Breakaway Latch (DD) and the Latch Frame (BB) (Fig. 4). Tighten Breakaway Latch Bolt (EE) (Fig. 4) until it holds the Spacer in position. Align with holes in Breakaway Housing (E) (Fig. 3). Next, slip the Anchor Assembly Yoke (F) (Fig. 3) into position and insert 1/2" x 3-1/2" Hex. Hd. Bolt and secure with Lock Washer and Nut provided.

Next, attach the Tie Rod (G) (Fig. 3) to the Sleeve (H) of the Front Main Frame with a 1/2" x 1-1/2" Hex. Hd. Bolt, Flat Washer and Lock Nut (3).

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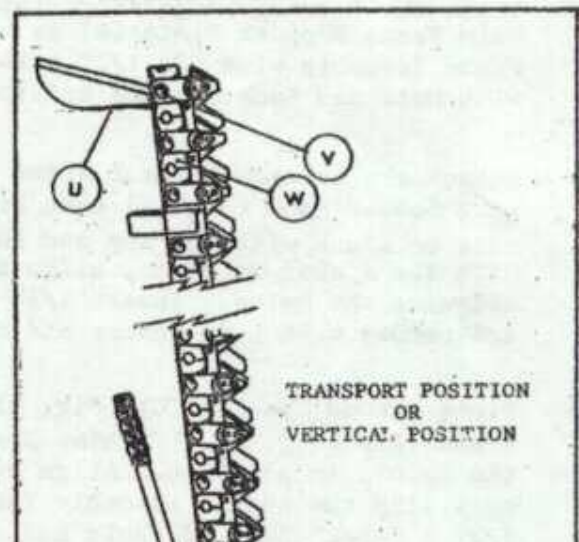
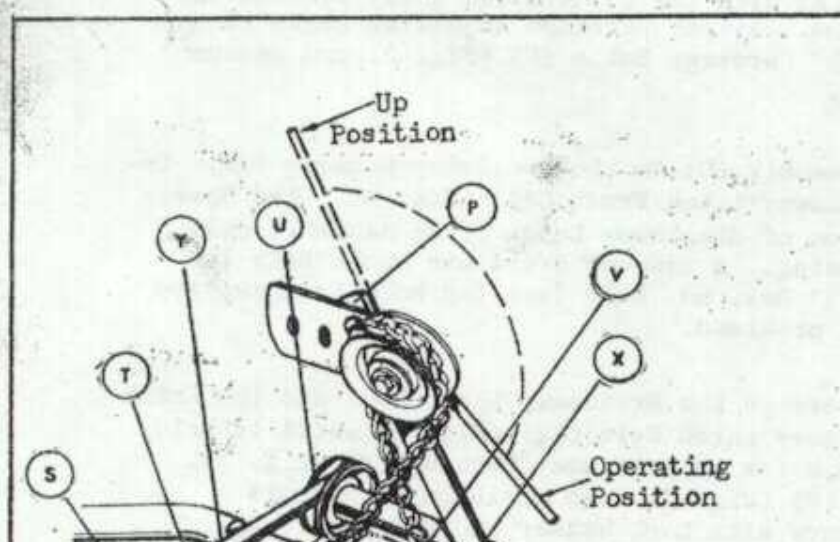
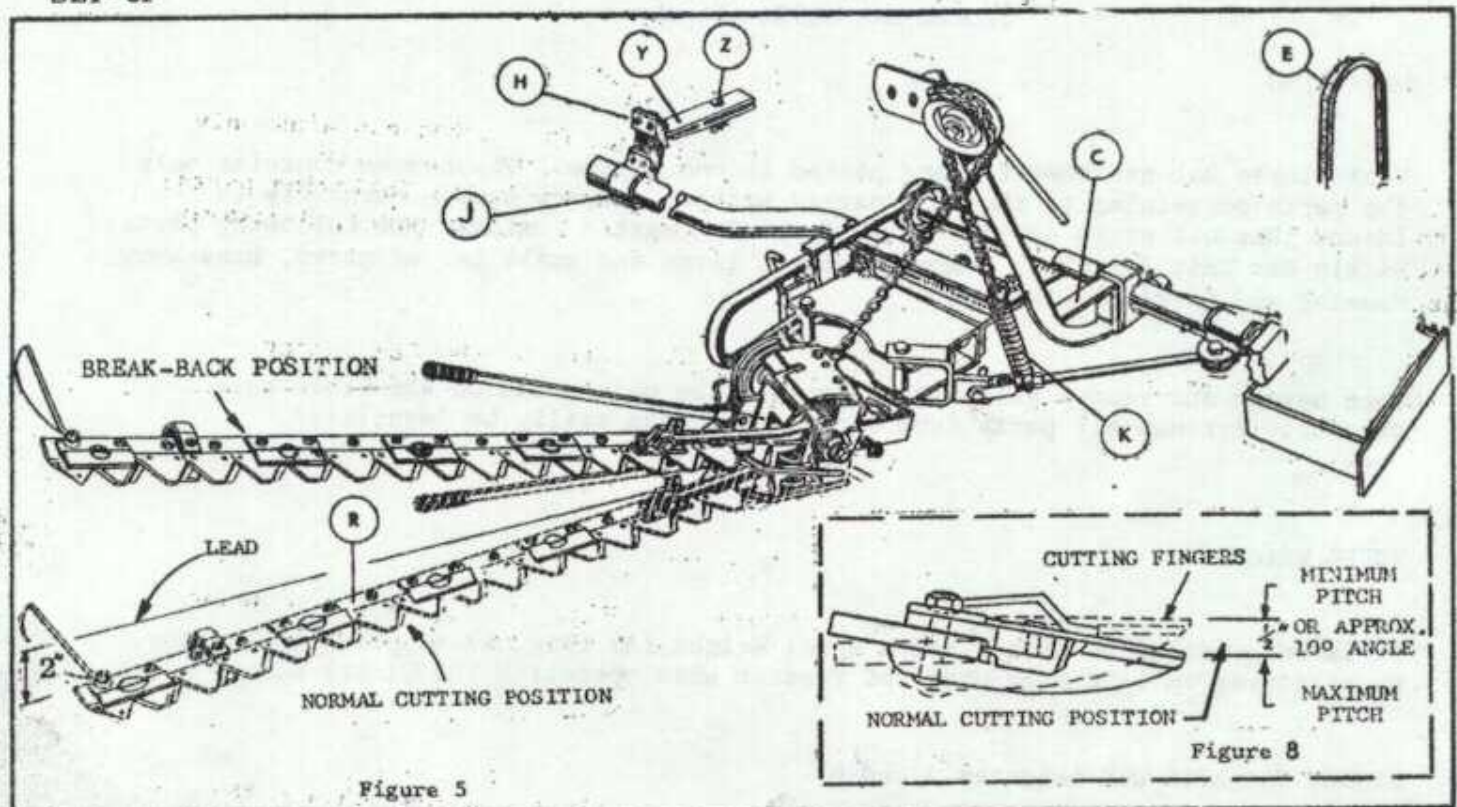
NOTE: Bolt should be inserted with the threaded portion downward.

This Bolt should be tightened securely and then backed off slightly to allow Sleeve (H) to revolve. Attach Rod Yoke (K) to the Anchor Assembly Yoke (F) with Clevis Pin and Cotter Pin (L).

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SET-UP



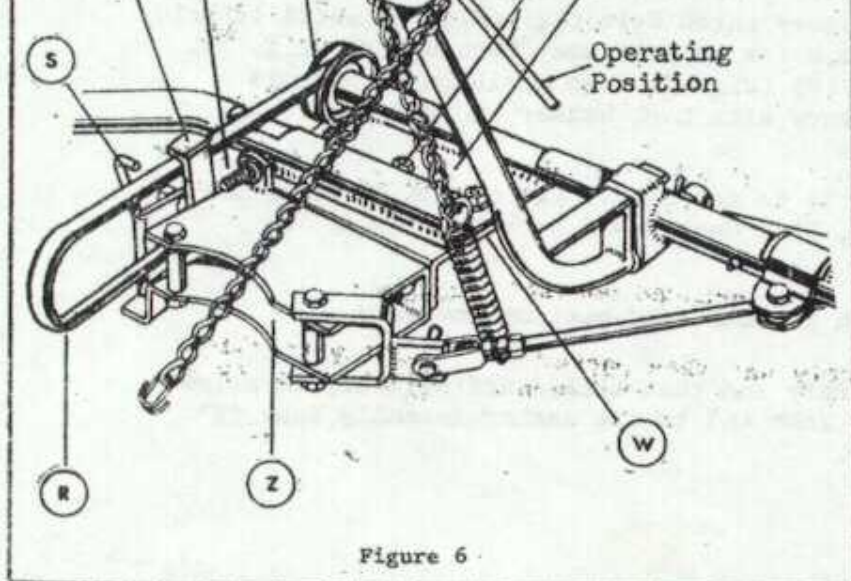


Figure 6

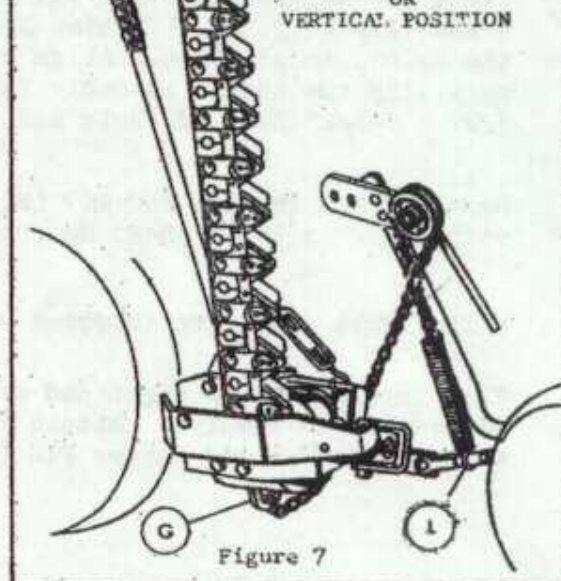


Figure 7

SICKLE BAR MOWER attachment

Effective 2-15-66

SET-UP

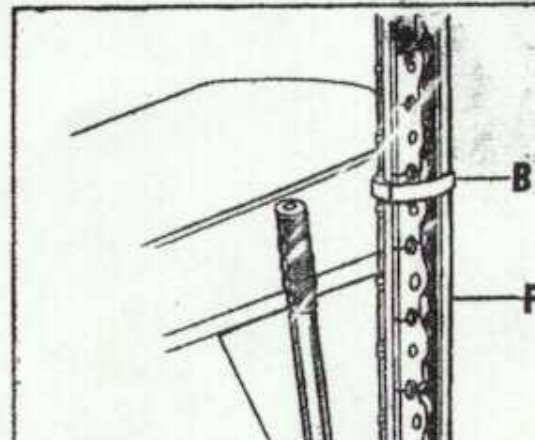
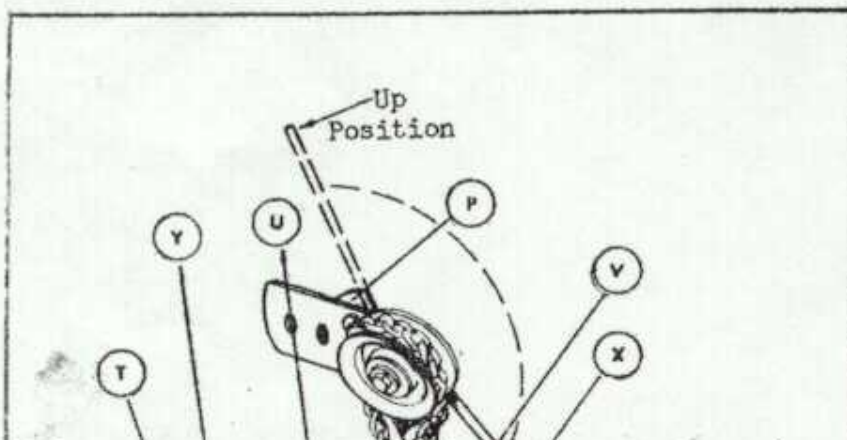
TRANSPORT POSITION (Late Production).

Sickle Bar Mower should be put in transport position when moving from one job to another, and should be prepared as follows: Install Sickle Knife Cover (F) and fasten securely with Strap (B). Insert Carrier Rod Hook into base of sickle bar at (L). With hook threaded through hole at (L), push rod through to Wing Nut (A). Place Lift Handle in lowest position and raise sickle bar into vertical position. Place hook of Carrier Rod (D) over Bracket (G). Hold sickle bar upright, tighten Wing Nut (A) until sickle bar stands in vertical or near vertical position.

Be certain PTO Clutch is disengaged prior to starting tractor. Proceed slowly over any area of ground that is rough and uneven.

TO CHANGE SICKLE BAR MOWER FROM TRANSPORT POSITION TO MOWING POSITION: Shut off tractor engine--push lightly against sickle bar with hand and loosen Wing Nut (A) until Carrier Rod Hook can be unhooked from Bracket. Remove Carrier Rod from sickle bar. Lower sickle bar to the ground and set Lift Handle in highest position. Remove sickle bar Knife Cover.

DO NOT ALLOW ANYONE TO WALK NEAR SICKLE BAR MOWER WHEN IN OPERATION. Always shut off tractor engine prior to any maintenance or repairs on sickle bar mower.



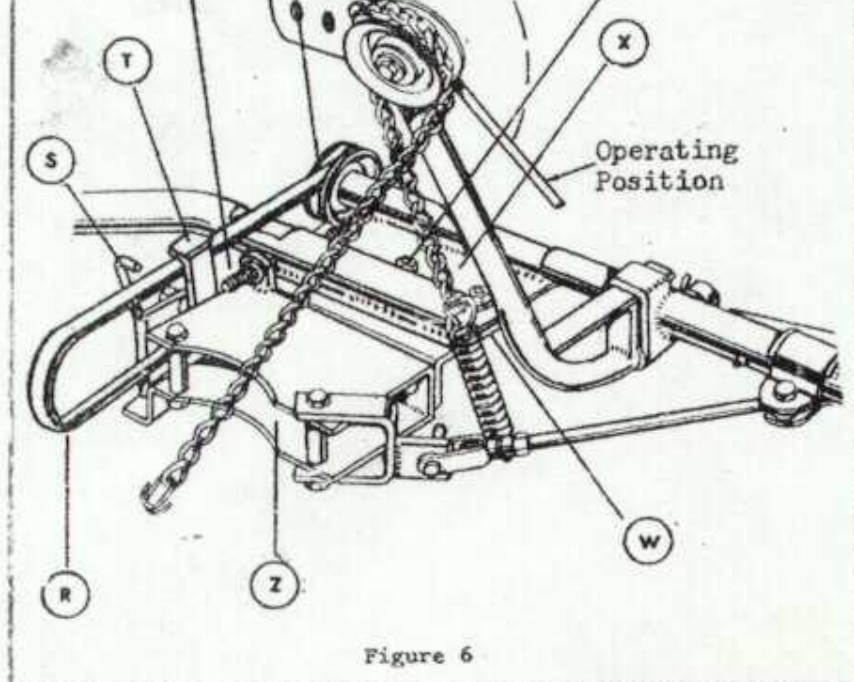
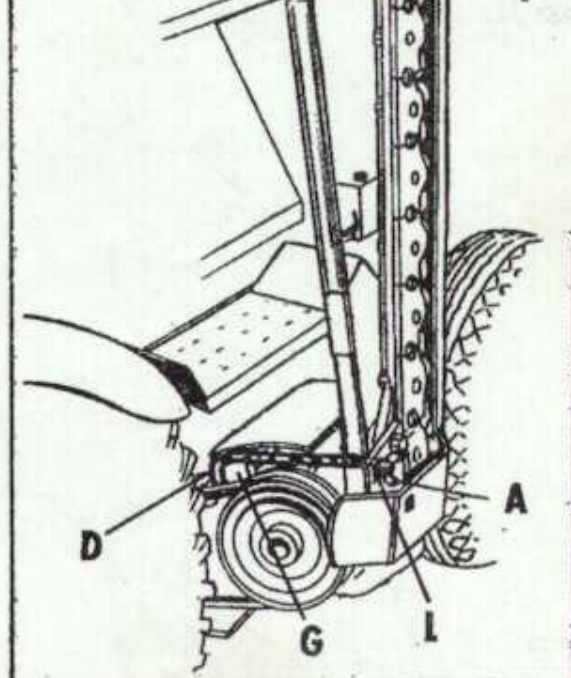


Figure 6



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SET-UP

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BELT INSTALLATION (Figures 5 & 6)

To install the Sickle Drive Belt (R) set Sickle Bar in break-back position. (Fig.5). Remove Belt Retainer (S) and Guide (T). Install Rear "V" Belt (R) over Pulley (U) and reposition Sickle Bar in normal cutting position. Install Belt Retainer and Guide and secure with Washer and Nut provided.

To tighten the Sickle Drive Belt (R) (Fig. 6) loosen the (3) Carriage Bolts (V) which connect the Carriage Adjusting Plate (W) to the Frame Assembly (X). Extend (Y) by turning it in the Breakaway Assembly (Z) until required tension is obtained on Belt (R) then secure the (3) Carriage Bolts (V).

SICKLE BAR LEAD & PITCH ADJUSTMENT (Figure 5)

The Sickle Bar (R) now attached to the frame should be adjusted so the outer end will lead the inner end of Sickle Bar about 2 inches. Bracket (Z) and (W) are joined with (3) 1/2" x 1 1/4" Carriage Bolts mounted in slotted holes. To adjust pitch of cutting fingers, adjust in slots to desired position. Tighten bolts. Attach Outer Divider Wing (U) to the Sickle Bar (W) to the Bolt (V) and secure with Nut provided.

MOUNTING TO TRACTOR

Slide Frame Assembly under Tractor, between the wheels, lift right rear wheel and slide the rear main frame under tractor. Mount front frame yoke (B) to Axle with U Bolts as furnished. (See Page 2).

Fasten Rear Mounting Clamps on Pipe as illustrated at point (J) with Rubber Connector facing up. Tighten Clamp on tube, bolt Bracket (H) to Rubber Connector. Mount Vibration Dampening Connector to rear tractor frame as illustrated in Figure 5, with quick pins and hair pins. Install Carrier Arm (C) as illustrated in Figure 5.

Bolt Lift Spring Eccentric and Pulley Assembly to Carrier Arm at point (P).

(Figure 6) with (3) 3/4" x 1 1/4" Hex Head Bolts, Nuts and Lock Washers provided.

with quick pins and hair pins. Install Carrier Arm (C) as illustrated in Figure 5.

Bolt Lift Spring Eccentric and Pulley Assembly to Carrier Arm at point (P). (Figure 6) with (2) 3/8" x 1" Hex. head Bolts, Nuts and Lock Washers provided. Position Pivot Handle in "UP-POSITION". Connect Lift Chain with half-link to fly-wheel housing at point (G). Thread Lift Chain Pulley as illustrated (Figure 5), and connect to Lift Spring (K), dropping necessary chain links so that all slack in chain and spring assembly is taken up. Hook Lift Spring to Tie Rod Yoke as illustrated. To put Inner Shoe in "float" position or "operating position", set Pivot Arm in "Operating Position" as illustrated in (Figure 6). Minimum clearance of one-half inch from Inner Shoe to ground is recommended. Shoe clearance from ground can be made by dropping links in the Lift Chain. (Cutting conditions in some areas may require Inner Shoe clearance above ground of up to 2" when in "Operating Position" on level ground).

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OPERATION

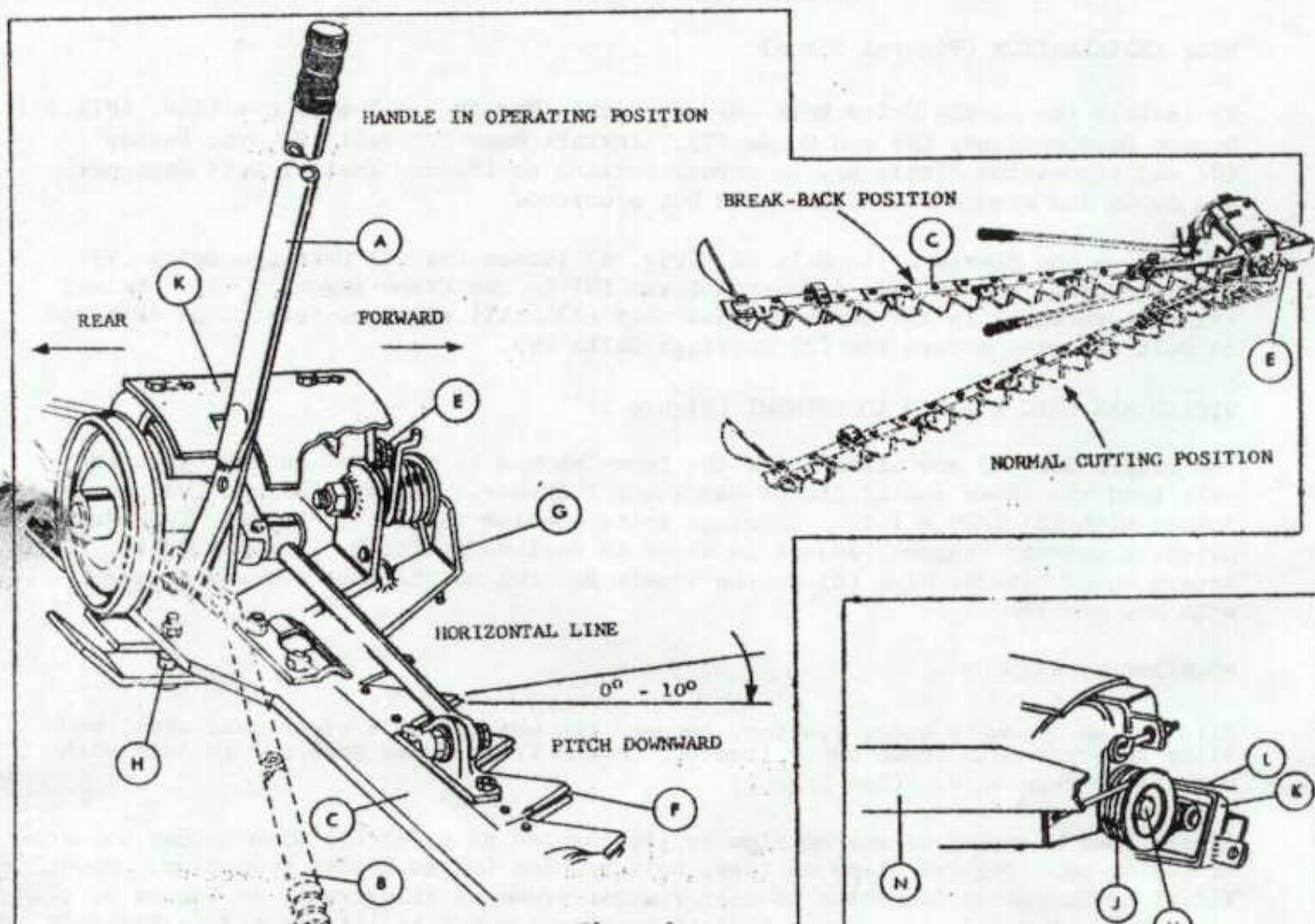
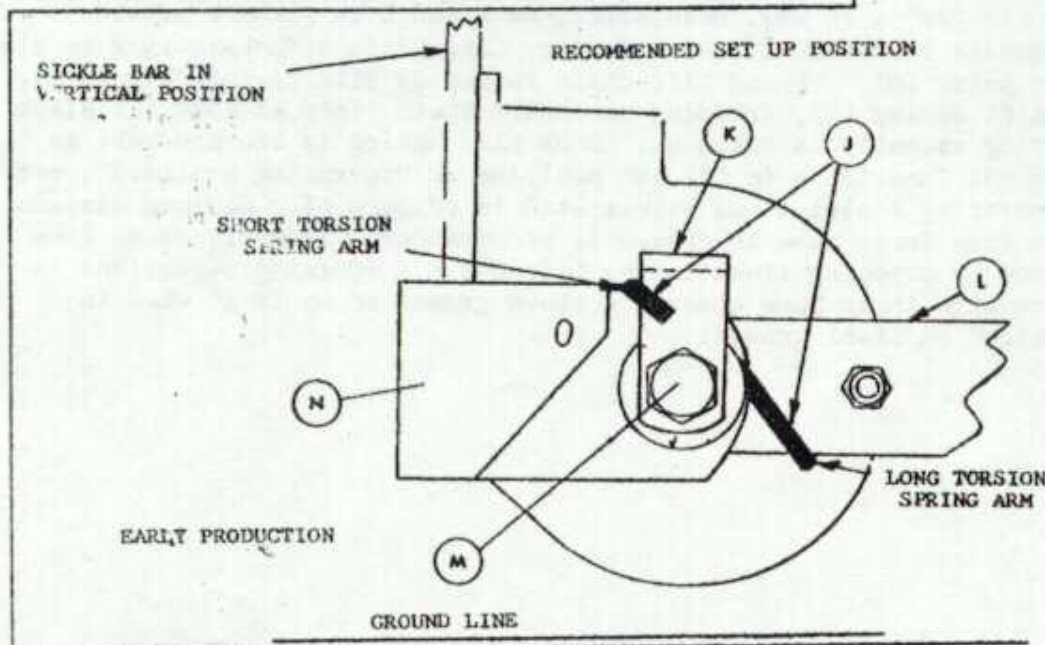


Figure 9

HANDLE IN TRANSPORT POSITION

LATE PRODUCTION



Set tension on torsion spring (J) by tightening eye bolt until most of the weight on Outer Shoe is removed. If Torsion Spring is loose, Sickle Bar will be hard to lift.

Figure 10

OPERATION

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Before operating check complete unit for any looseness which may have occurred in shipping. Unit should then be operated a short period to check for proper assembly and adjustments before actual cutting begins. Stop and recheck all parts after 30 minutes of operation and re-tighten loose parts. Also follow Lubrication Instructions found on Page 13.

CUTTING

Operate tractor at three-quarter to full throttle in low range. It will be necessary to regulate tractor forward travel to meet existing cutting conditions which can vary greatly, depending on material that is being cut. RUN INNER SHOE APPROXIMATELY 4" AWAY FROM PREVIOUS SWATH EDGE FOR BEST PERFORMANCE. Cutter bar has additional width of cut to compensate for overlap. Care must be exercised not to operate tractor at excessive speed when cutting rough terrain. The Lift Handle must always be set in operating position (A), when cutting.

CUTTING (90° Vertical to 45° At : Level)

Cutting should be done with Engine Throttle set approximately 1/8 throttle. The Lift Handle must be set in Transport Position (B).

NOTE: This should be done by an experienced operator only, using extreme caution.

AUTOMATIC BREAK-BACK (Figure 9)

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AUTOMATIC BREAK-BACK (Figure 9)

The Break-Back automatically releases Sickle Bar (C) into Break-Back Position when hitting obstruction. The Unit should be immediately DE-CLUTCHED. Return Sickle Bar to normal cutting position engaging Break-Back. This may be done by reversing Tractor with Sickle Bar on ground, or manually. Unwarranted or frequent Break-Back releases indicate tension on the Spring (E) should be increased.

SICKLE BAR ADJUSTMENT (Figure 9)

The pitch of the cutting Fingers (F) on Sickle Bar can be adjusted by re-positioning the Breakaway Housing (Z), Page 4. For normal cutting the Shear Fingers should be positioned with a downward pitch of approximately 1/4" as shown in Figure 5. It may be necessary to increase downward pitch of Shear Fingers when cutting ~~extreme~~ heavy, tangled or matted grass. If green under-growth is intermingled heavily with dry grass and weeds from previous seasons (particularly on hills or slopes) it may be necessary to test cut the area to determine most effective path of cutting. In extreme conditions it may be necessary to cut only in one direction.

SICKLE BAR LEAD INSTRUCTIONS

The Sickle Bar (R) (Figure 5), now attached to the Frame should be adjusted so the Outer End will lead the Inner End of Sickle Bar about 2" as shown on Figure 5. To adjust lead, loosen 3 Vertical Bolts in Plates A & B. Set Sickle Bar in position and tighten Bolts.

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OUTER SHOE WEIGHT (Figure 10, Page 10).

Set tension on Torsion Spring (J) by tightening Eyebolt until most of the weight on Outer Shoe is removed. If Torsion Spring is loose, Sickle Bar will be hard to lift. If Torsion Spring is set too tight, outer end of Sickle Bar will have a tendency to bounce in operation.

NOTE: For ease of handling Sickle Bar Mower when detached from tractor, raise Sickle Bar to vertical position and detach Eyebolt from Torsion Spring. Re-install Torsion Spring after unit is once again hooked back on the tractor.

INNER SHOE WEIGHT (Figure 9, Page 10)

Weight can be increased or decreased on Inner Shoe (G) (Figure 9) by changing the tension on Transport Spring (K) (Figure 5, Page 4) which is connected to the Lift Chain. Shortening the chain lessens the weight, while extending the chain, more weight is gained.

NOTE: Be certain Chain is assembled per instructions.

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LIMIT STOP (Figure 9)

NORMAL CUTTING

The Limit Stop (K) should be set with the pitman clearance slot to the rear. This will limit the travel of the Cutter Bar in cutting position to approximately 70° above ground level and allow it to function to its maximum below ground level.

CAUTION: Always operate the Cutter Bar with the Limit Stop set in forward position except for vertical cutting.

VERTICAL CUTTING (90° only) (Figure 9)

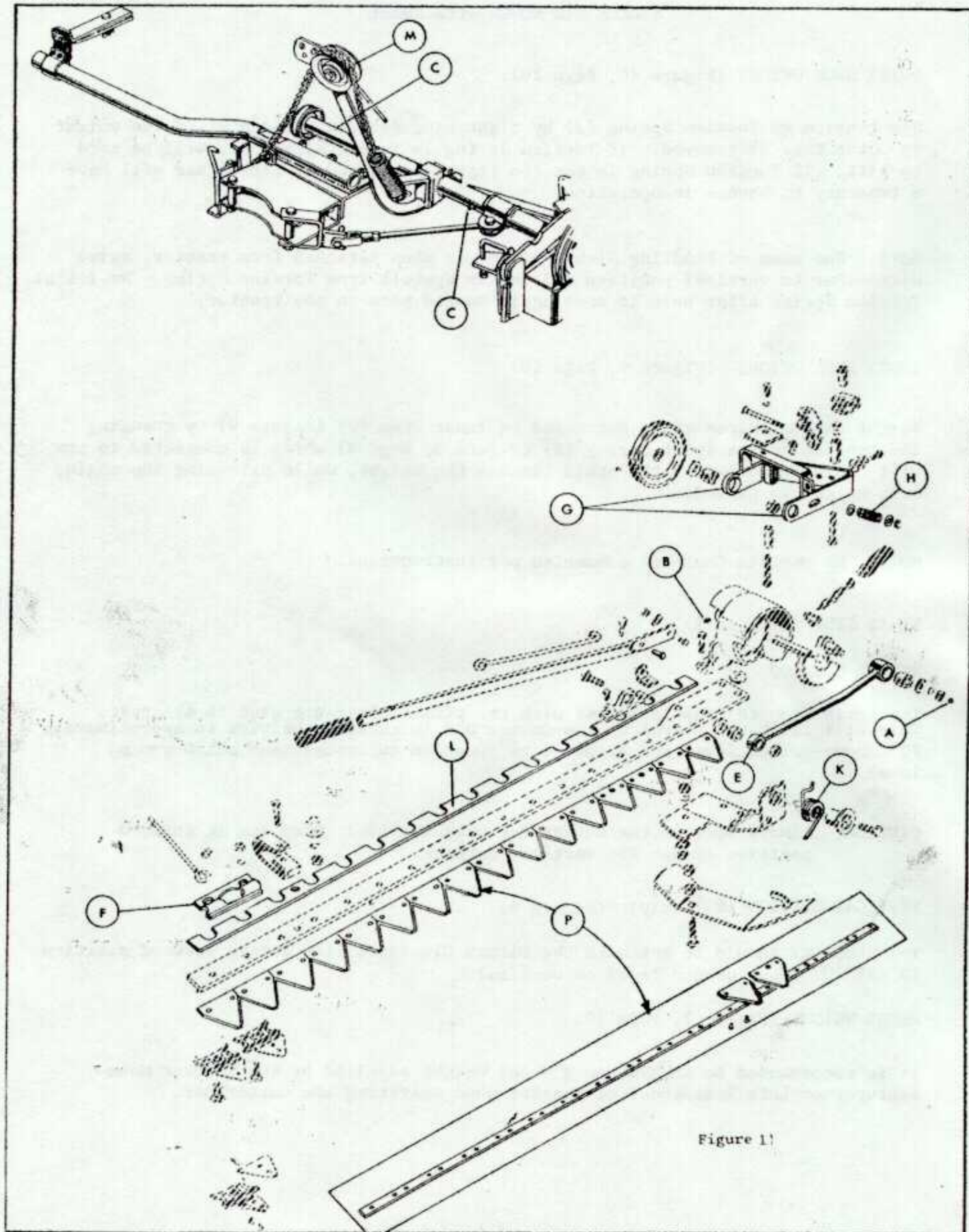
The Stop (K) should be set with the Pitman Clearance Slot set in Forward position to cut 90° above ground level or vertical.

WHEEL WEIGHT (Figure 2, Page 10)

It is recommended to ALWAYS use a Wheel Weight supplied by the Tractor Manufacturer on Left Rear Wheel of Tractor when operating the Cutter Bar.

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MAINTENANCE



LUBRICATION

Before starting it is important that the Machine is thoroughly lubricated. Give each Fitting a few shots of grease. Grease all points at one hour intervals the first two days of operation and then twice each day thereafter. Entire unit should be greased at least once each four hours during continuous operation.

The following Fittings require Grease every two hours of machine operation.

- (A) Pitman Crank Pin
- (B) Crankshaft
- (C) Jackshaft

REMEMBER: Too much Oil and Grease will do no harm, but lack of it means excessive wear and machine failure.

The following points require Oil Can Lubrication every two hours of machine operation.

- (E) Pitman Head
- (F) Sickle Clips
- (G) Two Inner Shoe Pivots
- (H) Break-back Spring Latch Pivot
- (K) Torsional Lift Spring
- (L) Wear Plate and Moving Joints
- (M) Transport Spring Pulley

MAINTENANCE

Adjust the Belt Tension as described under "Belt Adjusting" on Page 5. Proper tension allows for approximately one-half inch deflection when finger pressure is applied midway between Pulleys. Check "V" Belt for wear. Replace worn Belts, using Belts only supplied by the manufacturer.

SICKLE

For efficient cutting and for best service from Unit, the Cutting Knives must be kept sharp.

It is suggested an extra Sickle Knife Assembly (P) be kept on hand for easy and immediate replacement. Additional Knives and Rivets are available for repairs, which makes it possible to always have a Sickle Knife Assembly in good repair if one becomes damaged or worn. Under severe conditions the Sickle Knives should be sharpened after every four hours of operation.

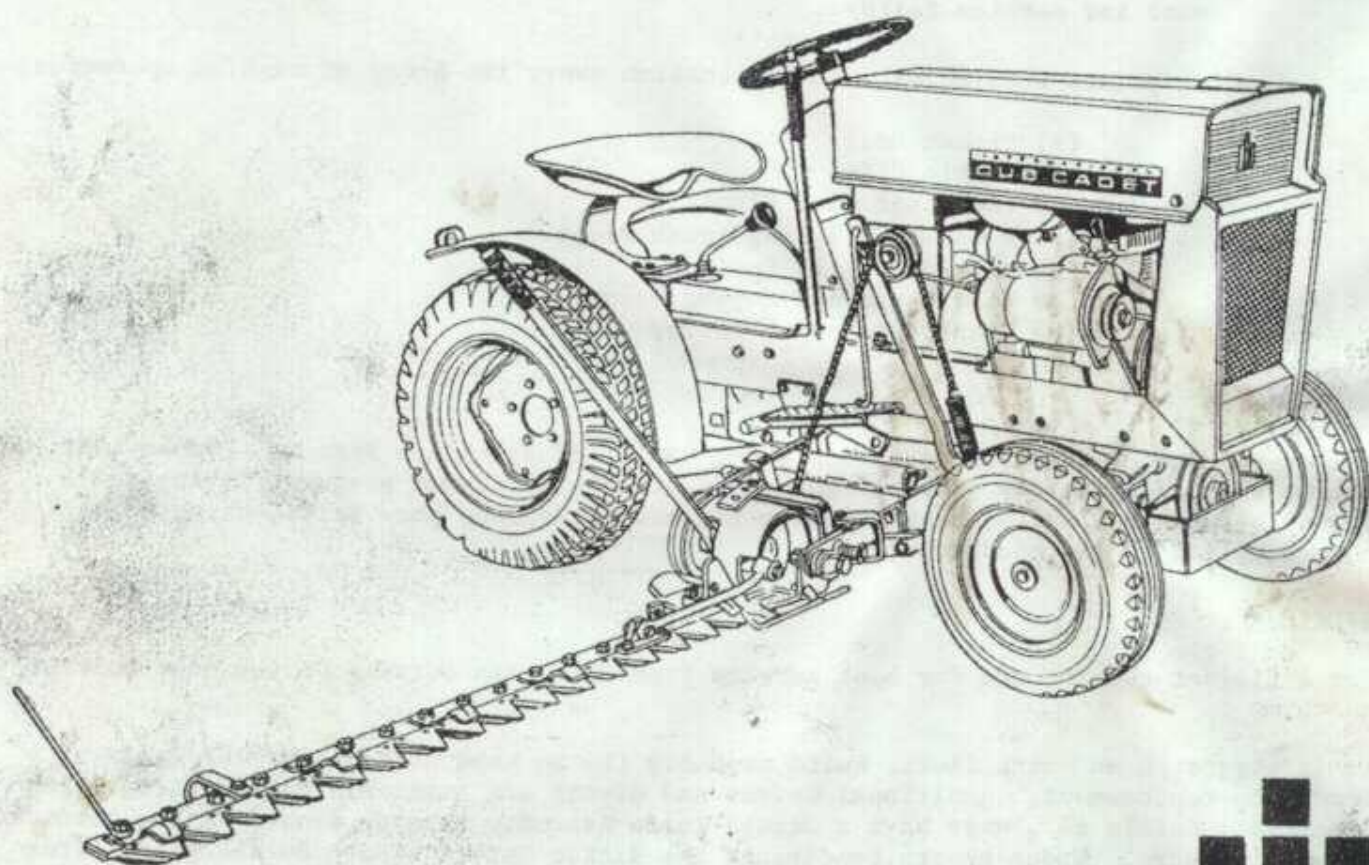
CLEANING

Do not attempt to clean the Machine while it is operating. STOP MACHINE. For best and lasting results, the Machine should have all dirt accumulations removed from Sickle Bar. Do not allow Machine to stand for long periods without cleaning. Inside storage will also prolong its operating expectations.

CAUTION: DO NOT ALLOW ANYONE TO WALK ALONG SIDE OF OR BEHIND MACHINE DURING OPERATION. KEEP HANDS AND FEET AWAY FROM KNIVES UNTIL MACHINE HAS COME TO A COMPLETE STOP AND ENGINE HAS BEEN STOPPED.

ENGINE HAS BEEN STOPPED.

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