INSTRUCTION MANUAL

for

LOCKE

POWER LAWN MOWERS

25" AND 30" SINGLE UNIT

70" AND 75" TRIPLEX

PLAIN AND REVERSE MODELS

JULY 1964

Locke

Manufactured by

LOCKE MANUFACTURING COMPANYS, INC.

LOCKE DEVERE DIVISION

BRIDGEPORT, CONN.

INTRODUCTION

You'll enjoy operating your Locke Mower much more after you have become familiar with its features and performance. This manual gives you helpful information about the operation and maintenance of your Locke Mower. A few minutes spent reading these pages now can give you greater operating satisfaction and a knowledge of proper maintenance to enable you to do a better job of mowing your lawn.

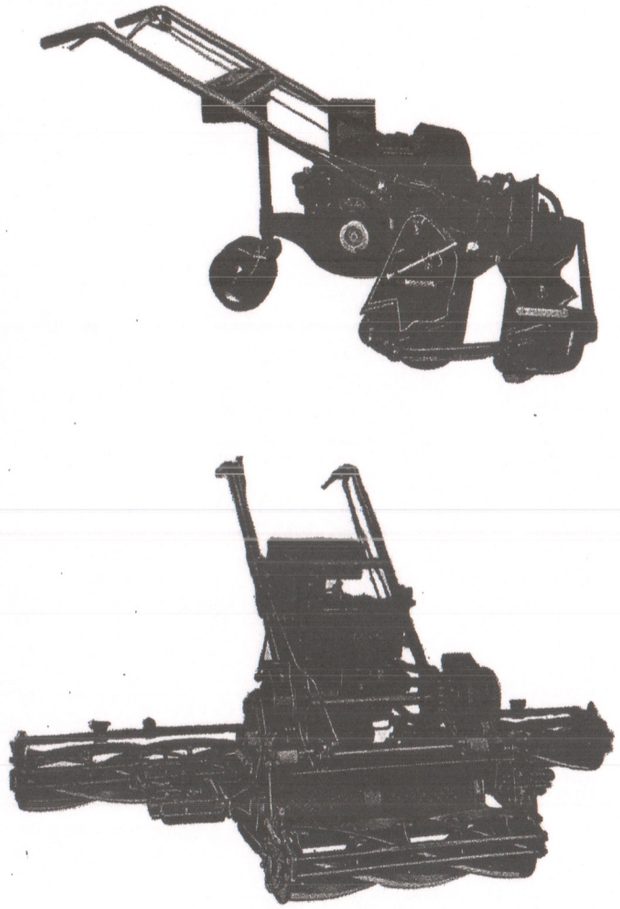


Figure 1. Locke Single Unit Mower (top) and Locke Triplex Mower (bottom).

OPERATION

STARTING THE MOTOR

Make sure that the tractor clutch lever, on the right handle, and the cutter clutch lever, on the left handle, are released before cranking the motor.

NOTE: In this booklet all right or left designations are given from the operator's position.

A small lever on the left handle controls the action of the governor and, in turn, the speed of the motor. Move this lever back slightly to open the throttle. *Check to see that the oil in the crankcase is at the proper level.* Close the carburetor choke valve (refer to motor manufacturer's instructions).

Wind the starting rope around the pulley on the end of the shaft and pull to start the motor. On the Triplex mowers, this pulley is more accessible if the side unit is lowered to the ground. Before pulling the rope, be certain that no one is standing behind you.

After the motor is started, the choke should remain partly closed for a short time to allow the engine to warm up.

RAISING CUTTER UNITS

To elevate the front unit for transportation or storage, pull the hand lever, located next to the tool box, over center toward the operator.

When transporting the Triplex mowers, the side units should be raised to the vertical positions.

To raise the side units, release the inside collar and draw the units out laterally to release the short shafts which connect the universal joints (figure 2). Place these shafts in the tool box. Then raise the side units to the vertical position and hook them onto the handlebars.

The side units are also provided with carrying hooks or chains by which they can be carried at an angle, from the handlebar, without disconnecting the drive shafts, to allow the mower to cross driveways, etc.

TRANSPORTING

With the motor running, the cutter clutch disengaged, and the brake released on the Reverse mowers, a slight movement of the tractor clutch lever will start the machine forward. As soon as the machine is under way, the clutch lever can be fully engaged to snap clutch in the locked position. On Plain mowers, the downward pressure disengages the clutch and continued pressure applies the brake to stop the mower. On Reverse mowers, a pull on the tractor clutch lever will disengage the clutch. By raising the lever over the stop and continuing the pull on the lever this will put the mower in reverse.

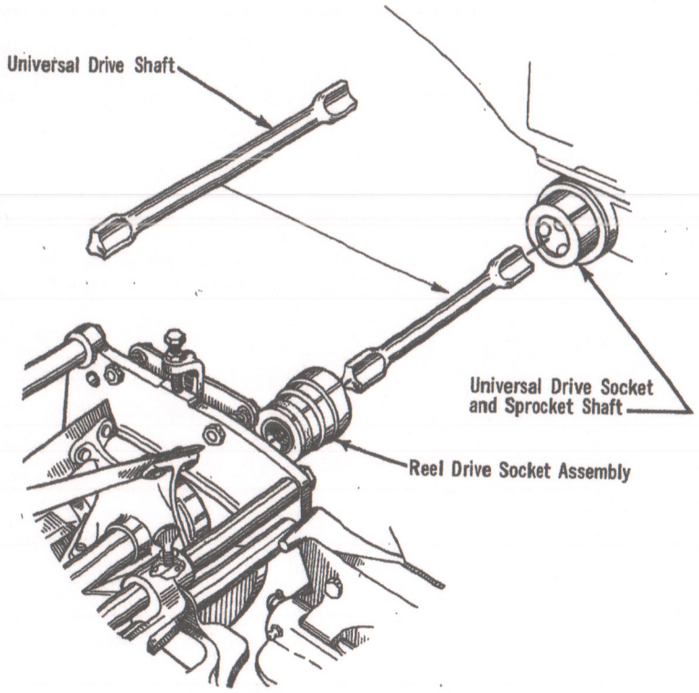


Figure 2. Side Cutter Universal Joint Drive Connections.

LOWERING CUTTER UNITS

When ready for cutting, the front unit elevating hand lever should be pushed forward over center to lower the cutting unit to the ground.

On the triplex machine, the side units must be unhooked from the handlebars to be lowered to the ground. After lowering them to the ground, it is necessary to pull them outward so that the universal shafts, connecting the universal socket, can be inserted (figure 2). One end of the universal shaft is inserted into the universal socket on the inner end of the reel shaft. Then the cutter unit is slid toward the center until the other end of the shaft enters the universal socket on the drive unit located under the motor. When the shaft is in place, the fixed locating collar on the front tie rod should hit the carrying bracket. Slip the loose collar on the front tie rod into contact with the carrying bracket and tighten the thumb screw in the collar to prevent the unit from sliding away from the universal housing.

The other side unit is connected in the same manner.

CUTTING

On reverse mowers, release the parking brake; then engage the cutter clutch lever on the left handle gradually, finally letting it move into its extreme position where the clutch is locked in engagement. The cutter units are now operating and it is only necessary to operate the tractor clutch lever to start cutting.

A considerable variation in speed of travel can be obtained by manipulating the small motor speed control lever on the left handle.

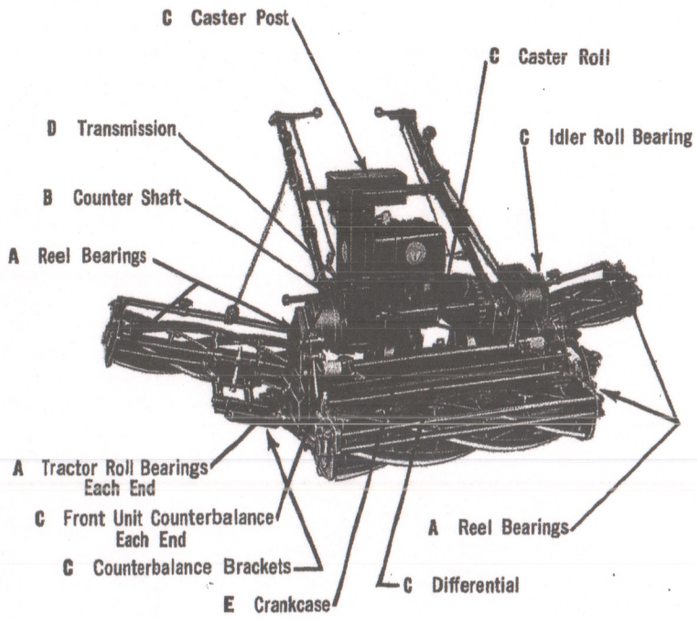
There is no need to leave raised borders for hand trimming. Instead, drive the machine so that the cutter unit will overhang the border to cut all the grass.

Any turn, no matter how sharp, may be made without injury to any lawn. Wide swings or manipulations of cutter lifting levers are unnecessary.

The Triplex machine can be operated with one or both side units raised. This feature allows three different widths of cut. The side units flex 15° up or down from the tractor unit. All cutting units are power driven with a positive chain drive.

The flexibility of the Locke Mowers, and their ability to do the trimming, will save approximately 50% of the time required to cut most lawns.

LUBRICATION CHART



LUBRICATION POINTS	LUBRICANT	INTERVAL
A	Grease #2	10 Hrs.
B	Grease #2	20 Hrs.
C	Grease #2	40 Hrs.
D — Change after first 10 hours of operation.	Transmission Oil Type A	100 Hrs.
E — Change after first 5 hours of operation.	Motor Oil SAE-20	25 Hrs.

Lubricate chains after each mowing or cleaning with a thin lubricating oil.

Figure 3.

MAINTENANCE

LUBRICATION

All lubricating points are marked with a dash of red paint. Hydraulic type fittings are used at all points where a light grease makes a suitable lubricant. At other points marked with red paint, use a little oil to prevent rust and excessive wear. General lubrication points are shown in figure 3.

The reel bearings on the cutting units and the tractor's roll shaft bearings should be lubricated after every 10 hours of running; caster roll bearings and caster post bushing after every 20 hours. This frequent lubrication is advisable as the surplus grease will expel any trash or grit which might otherwise be forced past the seals into the bearings.

On reverse mowers the transmission oil level should be checked at regular intervals by removing the oil level pipe plug (fig. 5) located at the front side of the transmission case. The oil should be drained after the first 10 hours of operation (the drain plug is located at the bottom of the transmission), and refilled to overflow at the oil level plug with Type A Transmission oil. Additional changes of oil should be made after each 100 hours of operation. The transmission requires only 12 ounces of Type A Transmission oil.

Keep all chains well lubricated with a thin lubrication oil. It is best to lubricate them well **AFTER EACH** mowing or every four hours of mowing. This prevents rusting while standing idle and allows the oil to penetrate to the pin and bearings by capillary action. When a chain is operated without lubricant, the chain will wear and the elongated chain will in turn wear the sprockets to conform to the pitch of the chain. Worn chains make expensive repairs because sprockets as well as the chains must be replaced.

CLEANING AND LUBRICATING AFTER USE

When cutting is finished, clean the machine. It is much easier to clean it now than later. At the same time, oil the chains to prevent rust and to allow the oil to soak into the bearings. If a high-pressure water hose is used for cleaning, keep the machine running and lubricate the machine thoroughly following cleaning.

In case of any trouble, don't "tinker" with the machine unless you thoroughly understand it; call the service man.

MOTOR

The operating and maintenance instructions for the Briggs and Stratton motor are explained in a booklet furnished by the manufacturer. In assembling the rope starter pulley extension on the motor, short the spark plug or remove the wire. **THE MOTOR SHOULD BE STOPPED WHILE MAKING ADJUSTMENTS.**

BEARINGS

All parts which are constantly rotating are carried on annular ball bearings. Bronze, sintered metal or nylon bushings are used where motion is intermittent.

All rotating bearings are protected by oil treated felt seals or synthetic oil seals to retain lubricant and exclude water and grit.

The bearings should receive periodic lubrication as explained in LUBRICATION, Page 7.

TRACTOR ROLLS

The tractor rolls are in reality wide-tired wheels. They are mounted on a single axle which drives them through differential gears. The differential is composed of two steel bevel gears and two steel pinions with generated hardened teeth, fully enclosed and packed in grease.

BRAKE

On the plain mowers, the fork lever, which controls the tractor clutch, also actuates a brake on the clutch housing. The brake lever is adjustable to suit conditions. It should be set to apply the brake after the clutch is released and to engage the clutch after the brake is released with a neutral point between.

On reverse mowers, the brake lever actuates the brake on the tractor rolls or the extension rolls (75″ Models). Pull at the center section of the brake lever handle to apply the brake. To release, pull on the top portion of the handle.

TRACTOR CHAIN TIGHTENER, REVERSE GEAR MOWERS

It is necessary that ALL slack be taken up on the tractor chain. Chain tension, or slack, should be adjusted to permit a slight movement by hand pressure. Excessive tension in the tractor chain will result in loss of power, excessive stresses and wear on bearings, sprockets, etc.

When there is excessive slack in the tractor chain, adjust the chain tightener as follows: loosen the jam nut on the take-up rod, take up the slack by turning the head of the tightener rod clockwise as shown. This moves the idler roll carrier assembly forward on the threaded take-up rod until all slack is removed. Lock the rod in position by tightening the jam nut.

When the tractor chain has elongated enough to permit the chain take-up carrier to stop against the chain guard, the tractor chain must be shortened ½″ (one pitch).

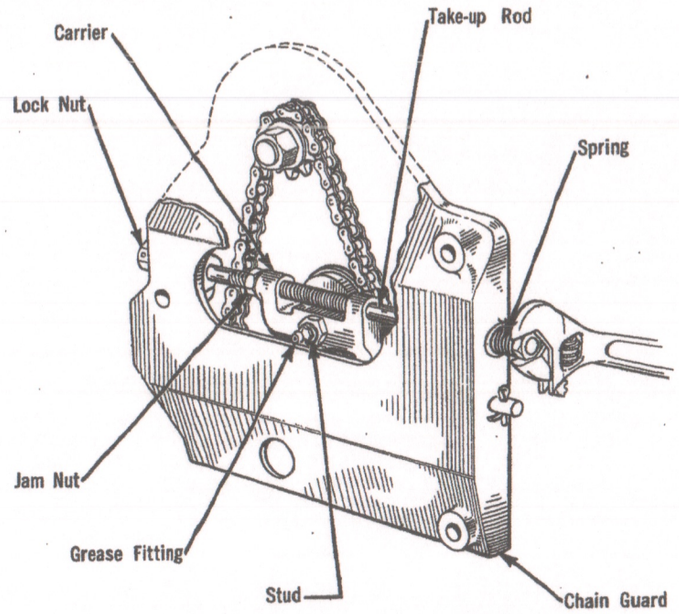


Figure 4. Reverse Tractor Chain Tightener.

TRACTOR CHAIN TIGHTENER, PLAIN TYPE MOWERS

The tractor chain tightener used on plain type mowers works automatically to take up all slack on the tractor chain.

CLUTCHES

The clutches, with the exception of the tractor clutch on mowers equipped with reverse gear, are a dry disc type, limited load, enclosed and not adjustable, using molded asbestos friction discs, hardened dogs and cones and bronze shifting collar.

The tractor clutch on mowers equipped with a reverse gear is a multiple disc type with planetary reverse gear completely enclosed and running in an oil bath.

REVERSE GEAR TRANSMISSION

Forward Clutch Adjustment: If the machine shows evidence of slippage as the clutch discs wear, it will be necessary to take up on the adjustment as follows:

1. STOP THE MOTOR AND SHORT OR REMOVE THE SPARK PLUG WIRE.

2. Make certain that the clutch lever is in the neutral position with the ball check in the groove of this lever (figure 5).

3. Remove the four screws that hold the steel cover plate to the top of the transmission and use caution in removing the plate so as not to damage the gasket.

4. Roll the machine forward or backward until the locking key is on top. Use a screw driver as shown in figure 5, depress the key which locks the adjusting ring in one of the notches cut in the internal gear.

5. Turn the adjusting ring in the direction of the arrow as shown in figure 5 and allow the key to snap into the next notch cut in the internal gear. Adjust the clutch only one notch at a time.

Reverse Brakeband Adjustment: The tractor clutch lever should be in a neutral position 1/8" before hitting the stop on the bracket on handlebar. This adjustment can be made with the rod end. It is necessary to lift this lever up over the stop to go into reverse. This pause eliminates the shock on the tractor chain, ball bearings, etc.

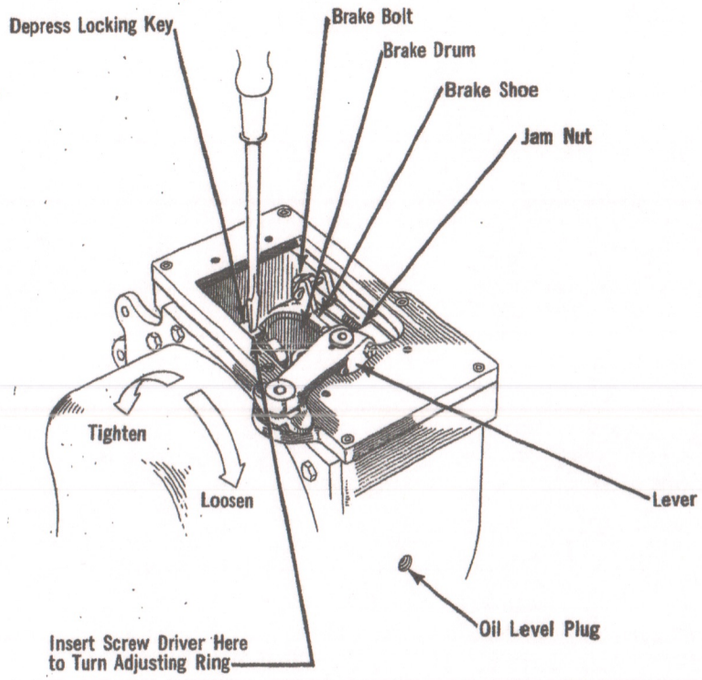


Figure 5. Reverse Gear Transmission Adjustments.

To adjust the wear of the reverse brakeband, loosen the jam nut on the brake bolt (figure 5) and take up about one full turn on the brake bolt until the brake drum still turns freely when the clutch lever is in the neutral position and the clutch shifting fork has moved the flange of the clutch cone just up to the hub of the brake drum. Then the brakeband should start to grip the drum when the clutch lever is pulled back for the reverse to operate.

All adjustments on the machine should be made when the transmission is warm.

ADJUSTMENTS FOR HEIGHT OF CUT

Standard mowers are set at the factory to cut 1¼″. To vary the height of cut it is necessary to change only the end gauge shoes. This can be done without disturbing the stationary blade. These adjustments are in ¼″ steps by the use of different end shoes.

On all triplex mowers that are changed to cut 1″ or less, the standard universal housing should be replaced with the close-cut universal housing.

On the front cutting unit, the curved segment adjustments affect the rearward location of the cutting edge of the stationary blade in relation to the vertical center of the cutting reel. This adjustment is made by changing the location of the locking bolt. For high-cut (2″) shoes, this bolt should be moved to the rear hole. Use the center hole for standard-cut (1″ to 1¾″). For close-cut (½″ to ¾″) use the forward hole in this segment, or replace the segment with a micrometer adjusting assembly (optional equipment). On the side units of the Triplex machines, adjusting screws with locking nuts are provided in place of the segment.

The side units require very accurate adjustment as they must match the height of cut of the front unit precisely. The side units must also be equipped with the same height of gauge shoes as the front unit.

To adjust the side units, place the mower on a level floor and set the side units to match the height of the front unit. Measure from the floor to the cutting edge of the stationary blade with a cutting height gauge or scale as shown in figure 6. The adjustment is made by turning the nuts (C) on the adjusting brackets shown in figure 8. The least variation in height of cut is very apparent in the cut grass. The adjusting screw and lock nuts permit micrometer adjustment for this purpose.

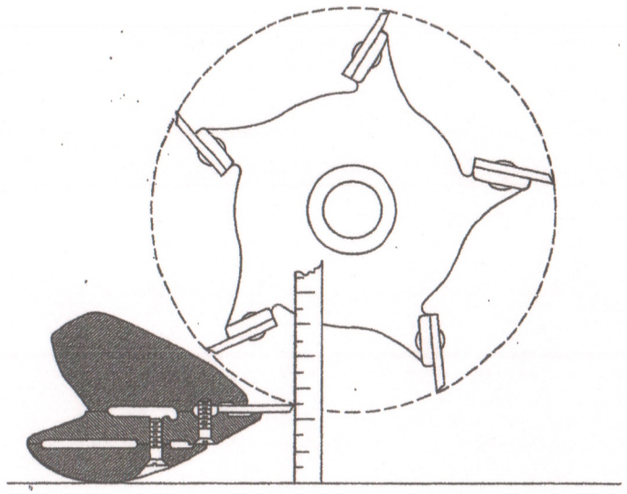


Figure 6. Adjusting Height of Cut.

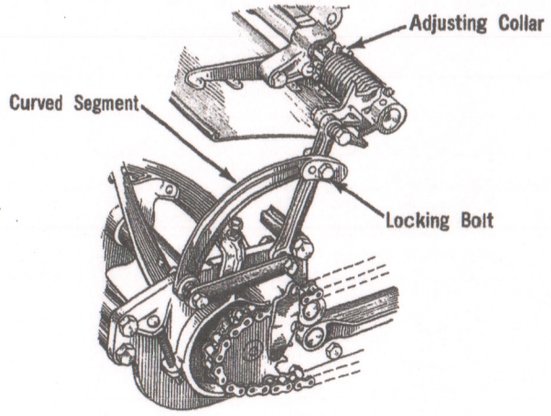


Figure 7. Counterbalancing Adjustment for Front Cutting Unit.

For close-cut units equipped with lipped bed knives, use the micrometer adjustment assembly on the front unit in place of the curved segment.

GAUGE SHOES — COUNTERBALANCING

The cutting units ride on shoes which travel on the cut grass in very close proximity to the cutting edges of the stationary blades. These shoes carry a portion of the weight of the cutting units and also gauge the height to which the grass is cut. The remaining weight of the cutting units is carried by the tractor rolls and is transferred to the rolls by suitable connections including counterbalancing springs.

For the front cutter unit, springs are provided at each end of the cutter lifting shaft. These springs are adjustable so that each end of the cutting unit may be set to give precisely the same pressure for gauging purposes. On Triplex Mowers, the pressure of all the cutting units must be substantially identical.

Counterbalancing the 25" and 30" Front Cuting Units: The front unit elevating lever should be pushed forward over center to allow the cutting unit to rest on the ground. On 25" units, wind up the adjusting collar (figure 7) and spring on one side until the extreme end of the cutting unit on that side weighs 10 pounds. Raise scale at left end of cutter unit and read scale just as end of unit leaves the ground. A further raising unwinds the torsion springs and gives a higher reading on the scale. Insert the locking pin in the proper hole in the clutch shaft bracket.

Perform the same adjustments on the other end.

Check the setting by taking hold at the center of the cutter unit and raising and lowering it several times. Be sure that both ends rise and fall simultaneously.

On 30" units, follow the same instructions making the weights on each end 12 pounds.

Counterbalancing Side Cutting Units: Compression springs are carried in cages on the under sides of the brackets and cast integral with them, one in the angle bracket and two in the cutter bracket (figure 8). These springs are adjusted by the plugs (A) threaded in the spring cages. Adjust the two springs in the cutter bracket evenly until the cutter unit weighs 20 pounds when lifted by the center of the rear tie rod. Adjust the plug (B) in the angle bracket until the outer end of the cutter unit weighs 9 pounds and the inner end weighs 11 pounds. This is done by screwing in the plug to lighten the unit or back out the plug to make it heavier.

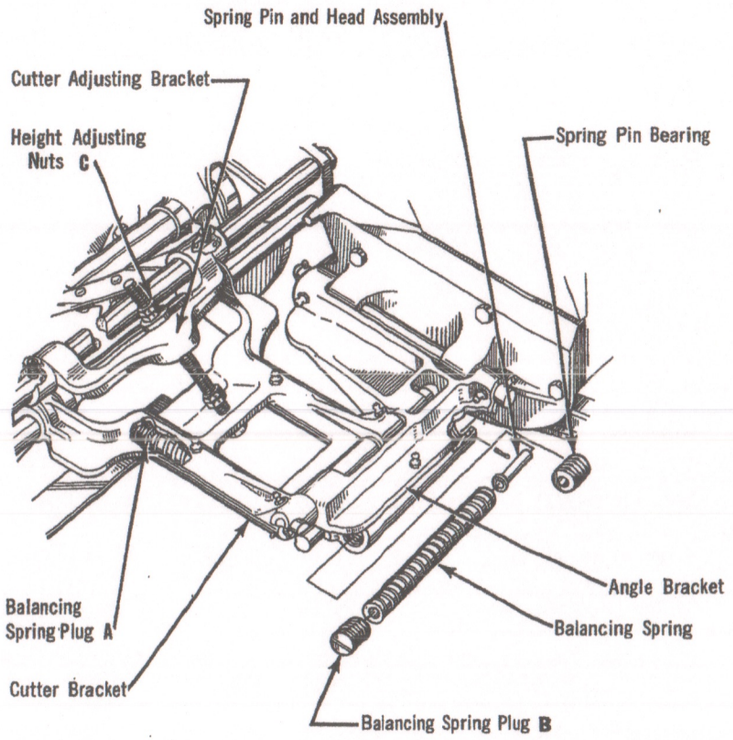


Figure 8. Counterbalancing Adjustment for Side Cutting Units.

Check the setting of the side units by taking hold of the center of the cutting unit and raising and lowering the unit several times. Be sure the outer ends rise a little earlier and fall later than the inner ends.

SHARPENING CUTTER BLADES (Lapping Process)

Attach the lapping crank to the round nut on the reel shaft, tightening the pinch bolt. Loosen the reel adjusting screws enough to cause a *slight* friction on the stationary blade. Saturate a brush with grinding compound. Turn the reel backward with the crank and apply the compound to the full length of the reel. Keep the blades covered with compound until the reel runs quite freely. Lower the reel a trifle and keep lapping until all blades hit lightly their entire length. Set the adjusting screws so that the reel blades just touch the stationary blade and lock them in position.

Hand cranks for lapping are available, as an accessory, for all models of LOCKE mowers.

SETTING STATIONARY BLADE

On the standard mowers, the stationary blade is a flat strip of hardened steel with ground beveled edges held in place between the blade back and gauge shoe shims by clamping bolts. This method of holding permits turning the blade to bring a new edge into use when the "land" on the blade becomes excessively wide from wear or the edge gets dull or nicked. Whenever a new edge is brought into use, it is essential that the reel and stationary blade be lapped or ground to alignment (see directions for sharpening).

On special close-cut mowers, the stationary blade is a lipped bed knife which is attached to the special blade back with screws. Whenever the lipped blade is replaced, it is essential that the reel and blade be ground or lapped to alignment.

SETTING CUTTER REEL BLADES

The cutting reel is mounted on annular ball bearings. These bearings are carried in brackets hinged to the cutter side plates. The hinged brackets have springs which urge the reel blades toward the stationary blade (figure 9). An adjustable stop screw limits the swing of these brackets and hence the approach of the reel blades to the stationary blade. The correct setting is when these blades just touch each other, or are separated not more than .0025" (the thickness of a hair).

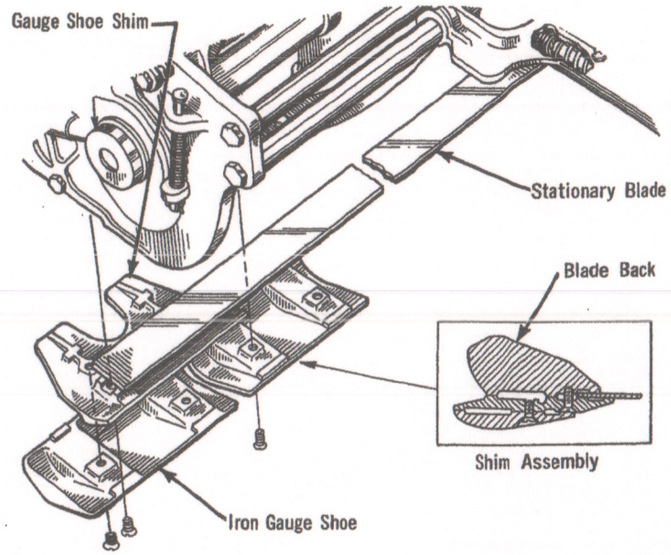


Figure 9. Adjustment for Setting Stationary Blades.

If the blades rub together, the wear is excessive and the power required to drive them increases with the pressure. If the blades are too far apart, it is impossible to cut grass. The tendency will be to munch the grass and wedge it between the two cutters.

The springs which urge the two blades toward each other also allow them to separate when obstructions are met and generally, prevent serious damage to the blades under such conditions.

Avoid the all too common practice of tightening the reel against the stationary blade as a cure-all for defective cutting.

REEL BEARINGS

The cutting reel turns on annular-grooved, retainer-type, ball bearings properly located on the shaft by shims of various thickness and locked in place by right- and left-hand threaded nuts, threaded sprockets, or threaded universal joint sockets, according to the application.

The ball bearings must be located on the reel shaft and in the hinged reel bearing brackets to allow free movement up and down of these bearing brackets (on their pivots) but without excessive end play (.005″ to .010″ play between bearing surfaces).

The hinged reel bearing brackets are supported by straps, which must give the brackets similar freedom and be set parallel with the mower side plates.

The front cutting unit on all machines has a driving sprocket with a left-hand thread on the left-hand end of the reel and a round nut with a right-hand thread on the right-hand end to positively lock the ball bearings.

The right-hand cutting unit on the Triplex mowers has a universal joint socket with a left-hand thread on the left-hand end and the same right-hand thread round nut as the front cutting unit on the right-hand end.

The left-hand cutting unit on the Triplex mowers has a left-hand thread round nut on the left-hand end and a universal joint socket with a right-hand thread on the right-hand end.

GUARANTEE

The manufacturer guarantees all parts of equipment shipped under this agreement for ninety (90) days from date of purchase thereof against defective material and/or workmanship, but not against damage caused by accident, abuse, or faulty operation, and will replace free of charge, f.o.b. factory, **all defective parts returned to the factory,** charges prepaid, but the manufacturer's liability for damage caused by any such defective parts shall be limited to such repair or replacement, and in no event shall the manufacturer be liable, without his consent, for indirect or consequential damage or labor performed by any dealer.

Locke Mowers are sold only by dealers who can furnish satisfactory service when necessary.

ALWAYS MENTION
SERIAL NUMBER OF MOWER
WHEN ORDERING PARTS

PURCHASE RECORD

Date purchased: _____

Model: _____

Serial No.: _____

Engine Model No.: _____

Engine Type No.: _____

Engine Serial No.: _____

Dealer's name: _____

Dealer's address: _____

SERVICE RECORD

Date: _____

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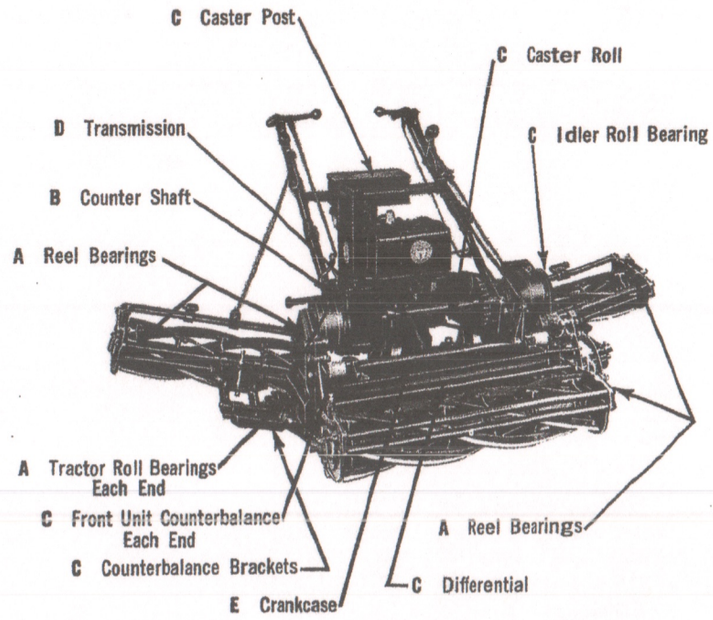
Always give serial number of mower when ordering parts.

LUBRICATION CHART



LUBRICATION POINTS	LUBRICANT	INTERVAL
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B	Grease #2	20 Hrs.
C	Grease #2	40 Hrs.
D — Change after first 10 hours of operation.	Transmission Oil Type A	100 Hrs.
E — Change after first 5 hours of operation.	Motor Oil SAE-20	25 Hrs.

Lubricate chains after each mowing or cleaning with a thin lubricating oil.

Figure 3.