

Teach Mower Operators More About Machine Maintenance

By HARRY A. BURKHARDT

MOWERS NOW are precision built machines that require attention and repairs to keep them in first class condition. Too many people still think about a grass mower as they would a shovel, hoe or wheelbarrow; use it, leave it in a corner and forget about it.

Our first job then is to convince people that mowers are machines that need attention and care and to show them how to lubricate, adjust, and operate the machine in a proper manner. You know the best grass mowers built are the common shears and when they are out of adjustment they will not cut. In a reel type mowing unit you have a very small range that keeps the fly knife and bed knife in a position similar to the shears.

Selection of the proper cutting unit for the right job has a great deal of bearing on how good a job you do and how long the machine will last under proper operation. The life of a mower depends on its care in actual operation as well as regular maintenance and repairs. That means you should train operators and have a good mechanic to service the unit after each day's operation. What's done on a mowing unit in the shop after the last cutting to make it a well conditioned machine to start out with in the spring would be educational to many mower operators who now don't realize they're handling an instrument of precision.

The first work to be done on the unit starts at the wash rack. The unit should be thoroughly cleaned before it enters the shop. This not only makes it easier to work on the machine but also saves a lot of work cleaning up the shop. Sometimes it pays to use a cleaning tank with strong cleaning solution in order to remove the grease and paint from the unit and give you a better finished job when the unit is painted.

The mower is now ready for the mechanic to take apart. He checks all worn parts, tests bearings for play and shafts for alignment. The reel is taken out and placed in a grinder and ground just enough to gain a true surface. Further grinding is a waste of metal and shortens the valuable life of the mowing unit. The bed knife is ground true and the front lip squared up so that you give the shears clearance and still cut perfectly. Now you are ready to assemble the unit and replace all worn parts with new parts.

When bearings are fitted into the case and on the shaft one must be certain they are a snug fit and that they are revolving on the balls and not on the outside of the case. A good many times a loosely fit bearing spoils a shaft as well as the case. Where this happens it is impossible to adjust the mowing unit properly and causes undue wear on the fly knife and bed knife as well as requiring more horse power to push or pull the unit.

A little solder on the outside of the bearing case or on the shaft will hold the bearing in place and give a full season's use without trouble.

The pivot point in a mower is an important part of a cutting unit and every precaution should be taken to insure a free movement of the cast back as well as a true alignment.

Adjusting screws or bolts are generally fine-threaded and will never stand forcing so be certain that your mechanics do not over-tool themselves when they begin to make the reel adjustment.

Rollers and casters generally control the height of cut and it is here that most of the wear occurs through a mowing season. Unless bushings or bearings are in good shape it is impossible to get an even cut and causes the wash board effect you sometimes see.

Be sure that your mower frame is square when you start to bolt it together. A wooden jig that holds the mower in place is a good aid in getting the proper adjustment. A mower frame that is out of square will bind and cause undue wear, also it will be hard to push or pull.

If the mower has been properly ground and assembled it should cut perfectly but in too many cases club workshops do not have modern grinding equipment and it is necessary to lap the reel in emery and oil. This does no more than wear the cutting unit into place but if properly done will help increase the life of a good cutting edge.

If the entire unit is mechanically perfect the adjustment of the fly knife will control the wear on the unit unless the operator runs into an obstruction that will bend or nick the fly knife.

Improper Adjustment Ruinous

I think I am safe in saying that 90% of the wear a mowing unit gets in a cutting season is caused by improper adjustment.

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Teach Mower Operators

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Just think for a moment of what happens to the reel knife that is making from 25 to 80 cuts per foot when one side of that reel knife is rubbing harder on the bed knife than the other. There is bound to be a strain on the rear axle and on the bearings. When a mower has been run this way for some time you soon have the mower frame out of square, and cause additional wear to the entire mower.

Now if we can all agree on the importance of proper adjustment let us start our maintenance program in the winter by training operators to properly adjust mowing units. In the shop with the aid of paper they can start to adjust mowers, learn how the unit feels under different types of adjusting and eventually get to

the point where they can tell by the sound whether a unit is properly adjusted. The proper adjustment is to have the reel clear, the bedknife without a drag, and clip paper. The fly knife should never ride the bedknife; remember the shears when you make your cutting adjustments.

Some operators never learn to properly adjust a mower and you can rest assured that the repair bills on their equipment are always going to be high unless some one else is employed to do the adjusting for them.

If you can make your operator understand that a mowing unit must be cared for the same as an automobile you will be able to insure a longer life for your mowers.

I have always maintained that mowing equipment should be cleaned and serviced

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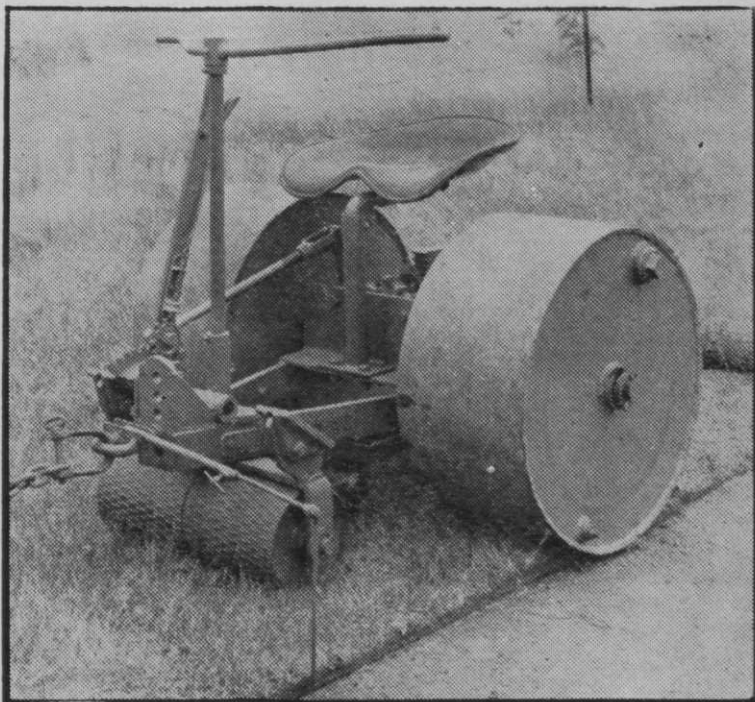
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each day throughout the mowing season. The cost of this care is well repaid in trouble-free operation as well as the repair bill at the end of the year.

Mower Maintenance Rules

Let us set up a few rules for good mower maintenance:

- (1) That the fly knife reel is properly adjusted
- (2) That the machine is lubricated each day
- (3) That the height adjustment is correct before each mowing operation
- (4) That the mowing unit is cleaned after each day's mowing
- (5) That the machine is inspected by a mechanic at least once a week and all necessary repairs made at this time.
- (6) That the fly knife cutting edges and bed knife cutting edges are true.
- (7) That operators are instructed in proper use of the machine.

A good mechanic in charge of all equipment will increase the life of machines as well as produce better results.

The war has brought out the need for high speed mowing equipment for large area mowing and this equipment has proved its worth in 4 years of operation. In the small mowing unit field there is room for changes and I believe these will come to us as soon as manufacturers are able to get back into untroubled production.

The power-driven reels against traction wheel drive will be long debated but I think you will see more of the power-driven units in the future not only for walking mowers but also for tractor-drawn gang units. I have been able to secure one picture of a power-driven reel gang unit that was designed a number of years ago but failed to succeed because of some mechanical failures and also metal deficiencies. The development of metal and the use of mechanical equipment has come a long way since that early model and it would not surprise me to see that type of gang unit in the future.

Changed Turf Conditions

Large area mowing has changed considerably since the early gang mowing started. Now we have heavy turf growing on large areas; this was accomplished by irrigation and heavy fertilizer application. Now weed control will also play a part in this fine turf production. Manufacturers of mowing equipment are making comparable improvements in the cutting of this fine turf.

A peek at some of the mowing equipment of the future will show you high speed mowing units, a new reel adjustment arrangement with a new position for the pivot point of a mowing unit; the

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pivot point being on top of the unit directly over the reel axle shaft instead of on the bottom and behind the line of cut.

Another company has spent a good deal of money and effort in trying out power-driven reels for gang mowers. In this gang arrangement the mowing units will cut in front of all tractor wheels, so that tractor tracks will no longer be a problem on wet grass.

We can measure the power factor required by mowers adjusted properly and the ones that are not adjusted correctly. We could work out a graph of this power factor and that may be more interesting to some men but a good many would rather just see the results.

The writer believes that the more you can find out about mowing equipment the better you will be able to teach your operators. I know that men who have been told about the mechanical workings of a machine take much better care of it.

Just one more suggestion—let us get a modern repair shop to repair equipment in. I have noticed that equipment that comes from places with run-down buildings and poor tools is dirty, broken-down and wired together and that equipment coming from establishments with small modern shops is clean and in good repair.

Your rating as a maintenance man will depend on how well you keep your turf. The best way to keep good turf is to have good equipment. Try and have the best and see that it is properly maintained.

Women's Western Expands Tourney Program

WOMEN'S WESTERN GA expects record entries for its open championship to be played at Wakonda club, Des Moines, Ia., June 24-29 and its amateur championship for players of member clubs of WWGA which will be played at Country Club of Cleveland, Aug. 12-17. Entry fee for each event is \$5.

The association's junior open championship has been cancelled for this year with a 36 hole event to be played as 18 hole rounds within a 3 day period, being substituted. The WWGA offers prizes to the junior contestants who are eligible to competition regardless of handicap. This new plan the association believes will vastly increase and encourage girls' golf. Other WWGA prizes are offered for home club competition of women.

Complete details are given in a circular which may be secured from Mrs. Harry Costello, 906 Scott St., Wheaton, Ill., corresponding sec., WWGA. Pros, as well as women's events heads of clubs should write for this circular, as it gives details of the expansion program and the WWGA tournament rules. The WWGA plays stymies.

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