

# Mower Maintenance for Fewer Problems



Accessibility and ease of service increase mower longevity. It's just human nature -- the easier it is to service a machine, the more likely it is that the service will be done.

By Eli Luster

**M**owing equipment includes a broad category of machines, and each unit has the probability of unscheduled service needs (breakdowns) due to lack of maintenance, operator error, or damaging operating conditions.

While the service technician can't control every aspect of mower use, wise management of mower maintenance increases the productivity and longevity of the machine, and saves time and money.

Service begins with the purchase. Determine the specific functions the machine will be used for, under what conditions, what its hourly usage will be daily, weekly and monthly, and how long it needs to last. Choose the unit with the features you need that has a proven history of durability and fits within your budget. Consider ease of operation, ease of service and accessibility of service points. Factor in the expertise of your servicing dealer or distributor.

A basic plan of preventive maintenance is provided for each machine in the operator's manual. The specific procedures and service intervals listed in the manual have been developed by a team of product engineers based on intensive testing and actual, in-the-field, operation. The guidelines are designed to maintain optimum performance with minimal downtime.

Welcome operator input. The person operating a machine day after day can alert the service technician to an unusual sound, a change in operating efficiency.

## Fuel and Fluids

Avoid maintenance problems by assuring that the correct fuel is used with each mowing unit. Where multiple machines have varying fuel requirements, dedicate a small can of the correct fuel to a specific mower. Place a number or identifying mark on both the can and the mowing unit with paint or a permanent marker.

Use the same system to identify other fluids needed for each machine.

Store fuel in quantities that will be turned over within seasonal conditions. Winter and summer blends of gasoline have differing "flash off" points to help equipment start and operate properly. The #2 diesel fuel, standard for summer operation, will be blended with #1 diesel fuel as temperatures cool, and in northern climates, a change to straight #1 diesel fuel will be necessary in the winter. In warm, humid, climates an algacide or bacteriacide should be added to stored diesel fuel. Otherwise, a white, slimy or dark black substance may develop that will plug filters and make the fuel unusable.

Store fuel in proper containers. Even sealed containers can "breathe" with fluctuating day and night temperatures, pulling in moisture in the humid air. Water in fuel can plug filters, cause corrosion, hamper machine starting or even seize up an engine.

Follow EPA rules precisely, both in storing fuels and other preventive maintenance supplies, and in disposal of such waste as oil and antifreeze.

## Sharpness

The most important single factor in quality of cut is sharpness. Regional and site conditions determine sharpening frequency. Sandy soils "etch" cutting units, taking the edge off, and thus requiring more frequent sharpening. Other turf maintenance procedures affect mowing conditions. If turf is top-dressed with sand, have operators use an older mower for that first cut afterwards to avoid running sand particles through the cutting surface of precision equipment.

## Rotary Mowers

Rotary mower blades need periodic sharpening to maintain a proper edge. Blades will need to be balanced and properly re-installed on the machine. Keep a set of sharpened blades ready for each mowing unit so replacements can be made quickly. Sharpen the blades removed as soon as the workload permits.

With rotary mowers, keep a front-to-back deck adjustment so the front of the deck is one-eighth to one-quarter inch lower than the rear. This prevents "drag" by allowing the sharpened, cutting edge of the blade or blades to contact the grass, rather than the broader, unsharpened area. Level the deck from side to side so that the grass cut is the same height all across the swath.

Maintain the height of cut segments of the mower, adjusting caster wheels and anti-scalp rollers as necessary. The

accuracy of their positioning also influences quality of cut.

Clean the under-deck of rotary mowers frequently to remove the buildup of clumped grass. Under-deck "crud" hampers cut quality by altering the airflow dynamics which "pull" the grass blades into an upright position where they can be cut cleanly by the rotating mower blade or blades.

An anti-stick compound sprayed on the under-deck may help to limit under-deck debris build-up, but applications must be repeated frequently. The compound will "wear off" unevenly in response to the varying force and frequency of clipping and debris contact.

### Reel Mowers

Reel mowers deliver a precision cut. Follow manufacturer recommendations to retain sharpness and precision.

Allow a clearance of .001 to .002 of an inch between the reel and bedknife. If the reel contacts the bedknife it will produce heat, dull the edge of the reel, and eventually destroy the mower.

Keep the reel sharp with regular back-lapping. Use periodic grinding to restore the relief angle and restore the reel to roundness.

Keep the reels and bedknife parallel to the ground; the front and rear rollers parallel to the bedknife. The height of cut adjustment comes by adjusting the front and rear rollers.

The front of the bedknife could be tipped down slightly (one-sixteenth of an inch or less), but never tipped up. A relief angle on the bedknife, with the bedknife positioned parallel to the ground or tipped down as mentioned above, delivers the desired cut. The upper edge of the bedknife contacts the top portion of the grass blades, moving them into position to be cut cleanly by the mowing reel. If the front of the bedknife is tipped up, the heel of the bedknife contacts the lower segment of the grass blade, bending the grass over.

The clip ratio of the turf cut is determined by the number of blades on the reel, reel speed, and the speed at which the reel moves across the turf. With ride-on mowing units, varying the ground speed to compensate for such conditions as wet grass will improve the quality of cut. Too fast a ground speed will result in the wavy, uneven, height of cut pattern called marcelling. Thus the operator again becomes an important element in machine performance and longevity.

Compressed air does a better job of cleaning reels than high pressure washers because wet grass "clumps" more than dry grass. If mowers are washed down, grease all the zerks following the wash down. The grease flushes out any water that has accumulated and may provide a barrier to prevent water from entering at the next wash down.

### Plan Ahead

Consider the trade-in value of the equipment when planning the preventive maintenance program. Accurate record keeping of when service was performed and what parts were used provides an overall picture of the machine's condition. Little things, like regular touchups of paint, keep the machine looking good. Many facilities are in the market for quality used equipment. You'll help them, and your budget too.

Don't forget operator pride. A machine that looks good and operates effectively becomes "my" machine, deserving proper care. Machines that look like junk are treated as such.

There are differences between OEM and will-fit parts. Even when two parts look

the same, production quality or specific additives will affect quality. OEM parts fit the exact specifications of the manufacturer. Compare the costs of parts to the risks involved if they fit improperly or fail.

Well-managed service records reveal what parts need to be kept in stock in what quantities for preventive maintenance on each machine. Stock such high-wear items as filters, belts, rotary blades and filters. Start new machines with a service kit of parts for the first, or first two, service intervals.

Anticipate needs. Develop a system to track the next service interval. Check the operator's manual and order necessary parts in advance of that period.

### Safety

Consider operator training both a preventive maintenance and a safety factor.

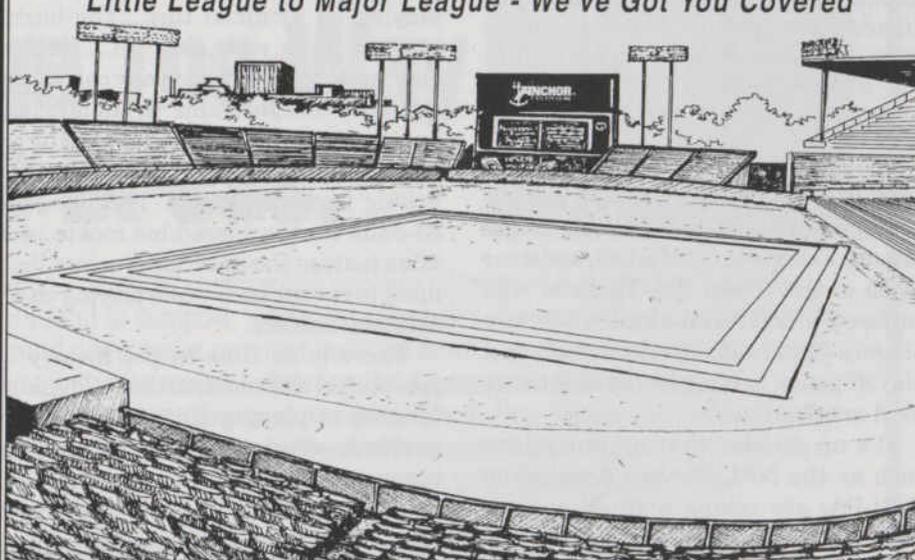
Before releasing any mowing equipment for use, make sure all safety and operator presence systems are in place and operating properly.

Preventive maintenance translates to increased performance and longevity. □

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