

## Care and Maintenance of Equipment

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Realize that golf course Superintendents have \$60,000 upward toward \$100,000 worth of equipment to maintain our golf courses, which is directly our responsibility. The tools of our trade must not be taken for granted, for example; a new piece of equipment arrives at our maintenance shop for demonstration. Years of engineering knowledge was required to design this machine, plus many hours of factory experimentation. Determining whether this machine is adaptable to our golf course conditions is for the Superintendent to determine, and if the machine satisfies the requirements of our turf, purchase is inevitable, providing the funds are available. However; what we have demonstrated is the quality of the finished product, (fine cutting job, or a clean sweep) which is the most important objective. But: internal moving parts of any machine (bearings, bushings, belts, chains, etc.) are the basics, allowing good performance of all equipment.

Bringing to mind here the first word of the article title; Care. Care of equipment will result in considerably reduced maintenance to equipment. Care is costly, but far less costly than maintenance. Care requires time, extra time, but time well spent. The most important word when applying fertilizers, fungicides, herbicides and insecticides is timing. Timing can insure satisfactory results, therefore; breakdowns, when the job must be done, waste money and prevent your goal from being accomplished. Insuring care of your equipment requires personal instruction and example by you, the Superintendent. Exercising proper care demands that operators of your equipment use common sense. Enforcing rules like drive slow, don't corner sharply, don't hot-rod, speed shift, skid tires, etc., requires a constant watchful eye. Directing the use of proper equipment for the job is very important. Weight can easily be misjudged, thus matching correctly the implement to the tractor, (especially if P.T.O. driven implements are used) eliminate problems. Pulling a 300 gal. spray rig with a light tractor results in a traction problem, which results in damaged turf from skidding tires, and probably damaged equipment.

Check the oil before starting the engine is important, not only to determine oil level, but prevents overfilling the engine crankcase. Instructions of this nature should be known by all members of your crew. Too many times machines are operated when you or your mechanic are not present. Labeling simple instructions on the machine help aid crew members when key personnel are not present. However; restricting crew members to only check the oil, must be enforced. Amateur mechanics can cause more problems than you bargain for. If further mechanical assistance is required, the operator should place the machine in a predetermined area of the maintenance shop, notifying the mechanic of machine failure.

Care while cleaning your equipment should be exercised. Washing engines down with water is not a good practice, for water will be forced under flywheels and in point housings (small engines) causing rust accumulation on electrical components. When steam cleaning equipment for winter storage or otherwise, grease and oil all parts requiring such lubrication immediately after steaming, preventing rust from forming on bearing and/or bushings because of water

lodging in those areas. Washing down reel type mowers after each day's use, also results in rust accumulation on reels and bedknives by the next morning. Cutting adjustments should be made immediately after use, when bedknives and reels are free from rust spots.

Care of equipment is a function that your whole crew must be instructed to take part in. Maintenance of equipment must be undertaken by a qualified mechanic. Sophisticated machinery is overtaking our turf industry with Triplex greensmowers, powered sand trap rakes, computer operated rotary mowers, etc., requiring not only qualified mechanics, but progress minded technicians. Routine daily and weekly maintenance, oil change, grease, battery check, should be tabulated in record form, which can be accomplished in many different ways, usually decided upon by the person in charge, the mechanic. With the introduction of hour meters utilized on turf equipment, automotive type stickers work well in recording maintenance service data that should be remembered.

Annual maintenance and major overhaul is usually undertaken during winter months when time allows for complete teardown. Organize your shop facilities so as to handle turf vehicles and equipment. Your mechanic should have quick access to reel and bedknife grinding equipment; overhead chain hoists aligned with grinding stands, make it convenient for one man to roll the gang unit in the shop, lift it in place, and complete the grinding job without assistance. Shops permanently situated in this fashion reduce winter maintenance with respect to grinding mowers, a time consuming process, by accomplishing the job during slack periods through the year, and are always ready in case of emergency.

As mentioned previously, golf course equipment is in constant contact with moisture, causing a continuous rust problem, thus, preventive measures to reduce rust accumulation should be used. Clear epoxy coatings painted on the underframes and carrying boxes of utility vehicles increase their life expectancy, but have to be applied when vehicles can be completely disassembled. Using rust preventive products on gang mowers, fertilizer spreaders, chemical applicators; better their performance, simplify their repair and prevent chemical and fertilizer corrosion. Vibration is also a constant problem, especially on small equipment. Holes and cracks become evident in gas tanks, but usually go undetected until the dead grass appears. Using thick rubber stripping underneath gas tank straps, prevent metal to metal contact which causes the wearing action. Fiberglass gas tanks can also be utilized to reduce weight and prevent wear by absorbing vibration.

Care of your equipment will become an endless task, but a rewarding one, if proper instruction is the practice. Costly maintenance will be reduced, and if a competent mechanic takes pride in his work, your objectives will be accomplished.

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