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Replacement of golf course equipment can be one of the most difficult expenditures to be understood by Board and committee members. Being geared mainly to business and financial matters, justifying the need to replace equipment to such a group can be very effectively explained by the following article, which has proven successful to both my club and other area superintendents:

## WEAR FACTOR - THE REASON WHY

Wear on equipment (mowers, tractors, payloaders, and our own personal automobiles) is best defined in terms of miles.

Most modern day auto enthusiasts know and understand that when your car reaches 100,000 miles, it is about worn out. Keeping that in mind one can readily see the parallels in the following illustration:

Most American cars are driven on the highway at approximately 60 miles per hour using high gear. The engine r.p.m. (revolutions per minute) is about 2,100. In this example, if you were to drive for three hours, you would cover 180 miles.

Using this wear factor, we can convert hours of use on a mower, or any other piece of golf course equipment, to *miles*. Although golf course equipment customarily operates at only five to six miles per hour, and sometimes less, our engine r.p.m. is still at 2,100 and higher on one and two cylinder engines. The slow forward speeds are achieved by using a lower gear ratio.

With this in mind, the following comparison will be made using our triplex mowers as an example. They mow greens every day, seven days per week, 365 days per year. It takes an average of three hours per day. This means that the wear factor is equal to 180 miles per day — multiplied by seven days to equal 1,260 miles per week — multiplied by 52 weeks in a year, equaling 65,520 miles — multiplied by five years, which totals 327,600 miles.

In checking with engineers to confirm my theory on wear, I learned many other interesting facts about our business. Some of these engineers will tell you that stop-and-go driving and turning increases the wear factor greatly. With this in mind, consider the back-and-forth operation of most of our golf course equipment every day.

Another interesting point to be considered is that a car going down the highway at 60 miles per hour causes a cooling wind created by the velocity. We don't have that velocity for cooling an engine when operating at only five to six miles per hour. In addition, our radiators often get clogged with grass clippings and other debris common to golf courses, resulting in temperatures running even higher which further increases the wear factor.

There are other factors that contribute to the wear and tear, such as the early morning activity in the dew and frequent running through and over chemical and fertilizer applications, all of which are corrosive elements. Preventative maintenance and level of training of the operator can contribute greatly to the success and life of a piece of equipment.

