

Batteries Resist Cold If Prepared For It

If battery driven golf cars, caddy carts and utility vehicles are stored during the winter in buildings where the temperature is below 30 degrees, no harm will result if the building is dry and provides protection against the elements, and if all precautions for battery care are followed closely.

This is the opinion of Marvin T. Elstad, parts and service manager for Toro Manufacturing Corp., Minneapolis. Temperatures in the ideal storage area should range from 30 to 50 degrees, says Elstad, but a fully charged battery can withstand minus 90 degree weather. All lead-acid batteries lose their charge when left standing, but the rate of discharge is higher in warm weather.

Last fall when the cars were stored, Elstad says, vehicle and battery should have been thoroughly cleaned. Batteries themselves should have been thoroughly washed and connections checked for corrosion and looseness. If batteries aren't too far gone it isn't too late to do these things now if they were neglected a couple months ago, but the earlier the servicing of this kind the better.

Handle with Care

If a baking soda solution is used in removing corrosion, says the Toro service manager, care should be taken since the accidental introduction of it into cells can cause damage by neutralizing the electrolyte.

In storing batteries, the specific gravity of the electrolyte should be carefully checked and the batteries charged if necessary. If the water level is low, water should not be added until the batteries have been on charge for about three hours. Adding water before charging can result in an overflow — as the electrolyte warms and gassing begins — and cause corrosion of the battery surface and terminals.

A partially charged battery should never be left standing over extended periods, according to Elstad. During normal discharge, lead sulphate forms on the plates. Though the sulphate is initially soft and can easily be expelled from the plates by immediate charging, it will harden and crystallize if the battery is allowed to remain in a discharged condition. Sulphation makes batteries difficult



Dow Finsterwald (l) has been named head pro at Broadmoor GC, Colorado Springs, Colo., succeeding Ed Dudley, who died last fall. He is shown with William Thayer Tutt, club president. A member of four Ryder Cup teams, Finsterwald has been among the top 10 winners on the PGA circuit six times in the last seven years.

to charge and can result in permanent damage.

During the winter Elstad advises a periodic check of the specific gravity of each battery in order to prevent freezing which can cause buckled plates and permanently damaged cases. "The electrolyte is like the anti-freeze in an automobile radiator," he explains, "the stronger the concentration, the less chance of freezing." It will also keep sulphation at a minimum.

The only problem a mechanic may encounter when using a battery hydrometer to check specific gravity, Elstad says, is that a particular solution will give a different reading at one temperature than at another because sulphuric acid has a different temperature expansion rate than water.

The rule for making the correction is a simple one, Elstad explained. For each 10 degs. F. of acid temperature below 80 degs. F., subtract four points from the hydrometer reading. Add four points for each 10 degs. F. above 80.

Metropolitan Officers

William Dear, Jr., Morris County GC, Morristown, N.J. is the new president of the Metropolitan GA. He succeeds Bertrand Kohlmann of Inwood, N. Y. Other officers are Vincent Ross, Westchester CC, Rye, vp; William W. Schleis, Cherry Valley CC, Garden City, treasurer; and Kenneth T. Gordon, Montclair (N.J.) GC, secretary.