

Clayton valve, force air into the valve to push at least half a gallon of water back out of the valve, and then add the anti-freeze to replace the water.

IN PREPARING for a championship, important and often overlooked portions of the golf course that require protection are the par-3 and par-4 tees where players may elect to use an iron club. Due to heavy play from the regular membership before the event and excessive divoting from players' extra practice swings during practice rounds just before the event begins, these tee areas may become severely worn before the actual competition starts. It is the policy of the USGA to request that areas on the tees chosen for our championships be protected for up to 30 days in advance of the start of play. In the past, protection of these areas consisted of the use of "chicken wire" placed across the surface of the tee. However, chicken wire is rather bulky and is somewhat uncooperative when it comes to removing and replacing it for the sake of mowing the turf. Also, if the mower operator does not happen to



Cover up your irrigation pump to insulate and protect it from a sudden freeze.

have a pair of work gloves, stray pieces of wire can cause deep scratches as he wrestles with it. For some, the tendency

is to abandon the wire and leave the tee unprotected.

One solution is to obtain two metal stakes, at least four feet in length, and some tennis court windscreen material. Attach the windscreen to the stakes with clips or tie-wraps, using enough material to stretch across the width of each designated championship tee. Use the location of the tee sign as the furthest point forward of the areas to be saved. The height of the windscreen provides a large enough barrier to prevent players from hitting behind the tee sign. More importantly, it is far easier for the mower operator to remove and replace a single stake and a more cooperative piece of screen. Given the increase in the use of walking mowers to cut tees, this procedure saves time and headaches. The only equipment to be added is a small hammer carried by the operator to pound the stake back into the ground. With the vertical windscreen barrier in place, the tee surface is exposed to air and light, is not damaged or discolored from a thicker covering, and is much easier to treat with applications of fertilizer and pesticides.

Save Water — Automatically!

by **JAMES F. MOORE**

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EVERY superintendent who manages an automatic irrigation system is painfully familiar with the innumerable trips back to the course to shut off sprinklers when rain comes. Despite the inconvenience and interruption to one's family life, there are many good reasons to make such a trip. Too much water interferes with play and may even make it necessary to close the course. Key maintenance practices, such as mowing and fertilization, have to be delayed if the course is saturated. Disease incidence increases and a lack of oxygen in the soil makes for spindly turf. Finally, now more than ever, we are all aware that water is a resource that grows more precious with each passing day. This awareness is heightened when

water must be purchased at a premium price.

Cottonwood Creek Golf Course in Waco, Texas, must pay such a premium. According to superintendent Tim Upmore, water must be purchased at the rate of .0067 cents per gallon. What at first may seem a nominal amount grows quickly into a major expense given that as much as 250,000 gallons of water may be used nightly. This equates to approximately \$1,675.00 per night for water. For Tim, trips back to the course in the middle of the night were not optional.

Tim has combined two good ideas to spend more time in bed at night and to save water.

The first is an inexpensive yet effective rain cutoff switch. This switch is wired into the central controller in the cancel circuit. Whenever a set amount of rain accumulates in the rain switch, an ongoing irrigation cycle is canceled. The switch is easily installed and costs less than \$30. Since Tim's 1,000 gpm pump station pumps about \$6 worth of water each minute, it takes about five minutes for this switch to pay for itself.

The second device is "homemade" — a little more complicated and expensive, but also more versatile. This idea was first detailed by Thomas R. Streiff, CGCS in *Golf Course Management* magazine (April 1984). An electronic switching device is sold that allows remote control of lights and appliances

in your home. The unit's operation is simple. The main control unit is plugged into a 110-volt outlet and hooked into the telephone line. After the tenth ring, the main control unit answers the phone. A remote control device is then used to enter a code specific to one of 16 appliance modules. This causes the main control unit to send a coded signal through the house wiring and activate the selected appliance module. Whatever is plugged into that appliance module can then be turned on or off.

By using an appliance module to activate a relay, different voltage circuits can be controlled without any

direct connection to the 110-volt circuit. When the appliance module is activated, the relay opens or closes, breaking or completing the secondary circuit.

Examples of use include the following:

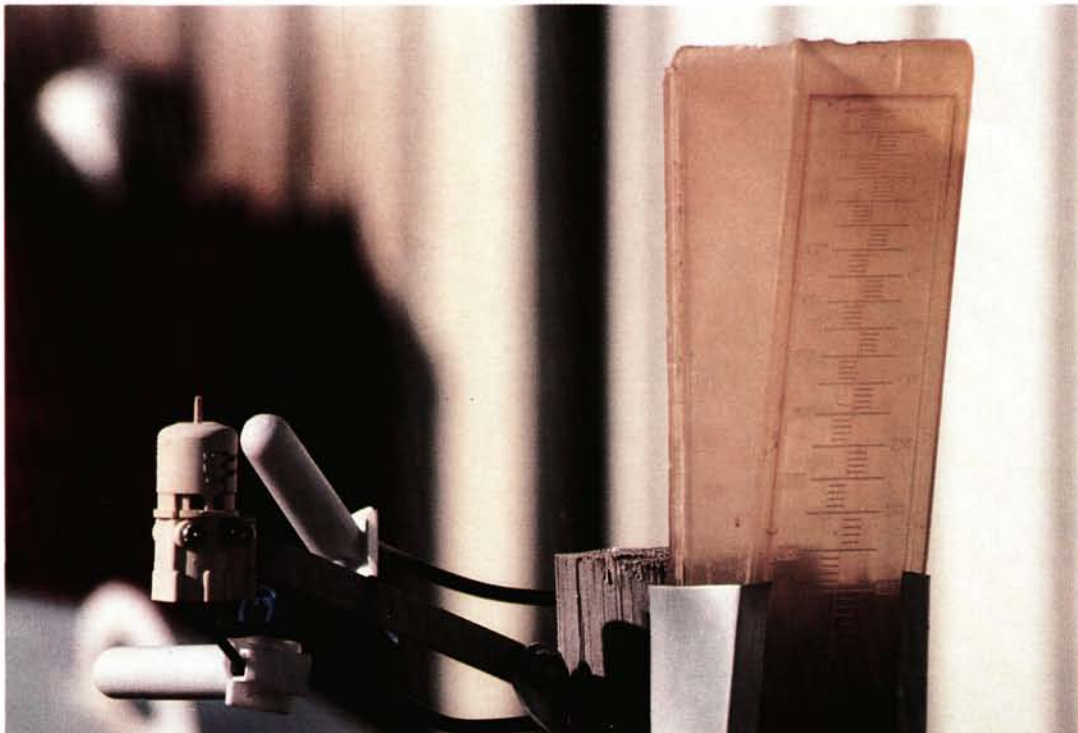
1. A relay is wired into the signal wire going from the central controller to the satellites. When the relay is activated (by remotely triggering the appropriate appliance module), the signal wire is "broken" and an irrigation cycle cannot be started.

2. Conversely, another relay can be placed between the necessary voltage to start an irrigation cycle and the satel-

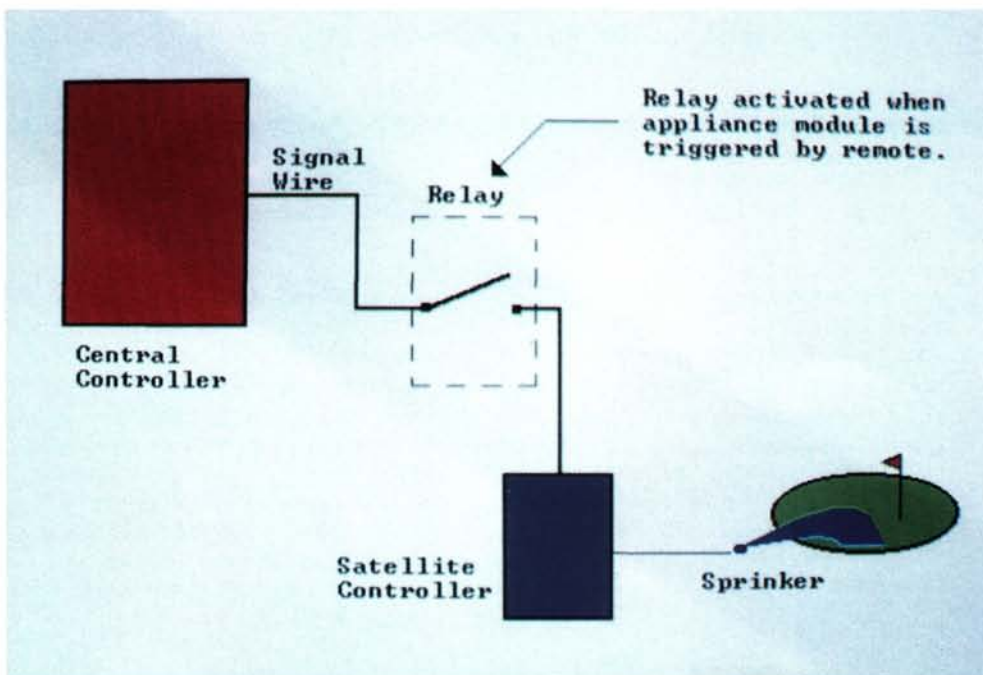
lites. This relay can also be remotely activated to begin a cycle.

3. Yet another relay could be wired into the syringe circuit to allow the remote starting of a syringe cycle. This could be particularly handy on frosty mornings.

The unit pictured can control up to 16 different appliance modules. Therefore, up to 16 different switches can be opened or closed. With a little imagination, you can start an irrigation cycle, cancel it later because of rain, start a syringe the next morning to melt the frost, and turn on the shop coffee pot — all without leaving your home.



A "Miniclik" rain cutoff switch is an inexpensive yet effective way to cancel an ongoing irrigation cycle.



Graphic representation of the remote control system.