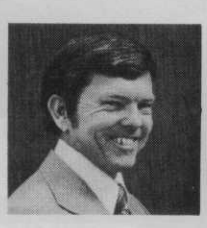
Three simple tools, a form and an hour a day will allow you to discover problems before they become disasters.

Routine irrigation system maintenance will prevent disaster



By Dan Jones, CGCS, Superintendent, Banyan Country Club, Miami Beach, Florida

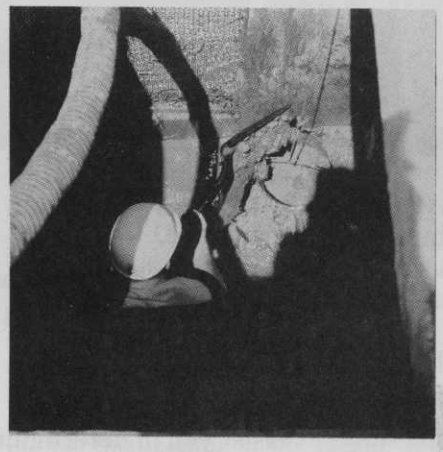
I think irrigation system maintenance is one of the most forgotten aspects on a golf course. It seems like the only time we look at our pump station or irrigation heads, or any other part of the system, is when something breaks down. Then we have an emergency. And it usually happens about 3:00 on a Friday afternoon, which makes for a great weekend.

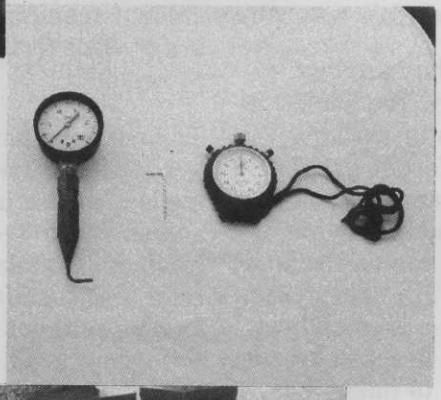
What we need to do is to look at some simple procedures that will take about an hour a day and, I feel, will give the added protection of having a basically maintenance-free irrigation system. If your irrigation man is continuously working on problems and putting out fires, there is a way that you can begin to have preventative maintenance. Where do we start?

About six years ago, when I took over a golf course in southern Florida, we were having problems with the irrigation system. One of our pumps was working poorly. The first thing I did was clean out the sump, which had never been done since the course was built. You've just got to put a man down there with a shovel and a bucket and haul the stuff out. We removed about two and a half feet of silt and muck from this pump house.

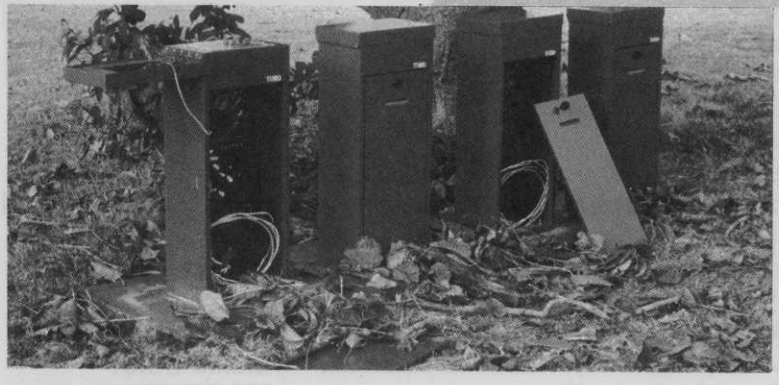
We also, at this golf course, had a green that measured 55,000 square feet. It's supposed to be the biggest green in the world, and I don't doubt it one bit. This green had been plagued with brown spots during the summer, ever since it was built.

It didn't take long to pace it off and find out that there was no way the irrigation heads could reach the brown spots. So a simple procedure of moving the pipe in 15 feet took care of that and we never had a problem with it again.





The water source, a sump in the case above, must be clean. Right, a Pitot tube gauge, an allen wrench and a stop watch are all that's needed to keep accurate records. Below, keeping things neat and closed up will better reflect upon your management.



Satellites

How many times do you find satellites in the field with the covers off? Perhaps the irrigation man has been working on one and gets called away. The panels are left undone and the lid is off.

If water gets in through the top lid, even if the bottom ones are on, water

can get into the key slot and ruin the electric components in the system. It is very important to keep the doors on tight. Not just closed, but it has to be kept locked so that the foam rubber seal is tight and protects it.

Satellites should be kept painted and trimmed around the base. This is also a reflection on your management and is one of the things the members see when they are on the course.

The average golf course in Florida has between 500 and 600 heads. We have double row systems and even some grid systems, with a head every 90 feet in each direction. Golfers want to see green grass all the time. They don't care if it's the rough, or by the road, they want to see green. Banyan has 18 holes and we have 580 irrigation heads.

You want your system to have a good spray pattern, good break-up of droplets, and get even water distribution. The simple procedures I am going to describe will give you a trouble-free irrigation system that will work day-in and day-out and give you good service year-round. You won't end up with a situation where it takes two weeks or a month for the grass to come back because a head blew.

The routine

By using the form in Figure 1, you can keep track of the entire system. This form can be adapted for your system and the number of stations you have per satellite.

The first procedure is to check the time that is set for each station and write in the column provided. You might think, "What do I need to do this for? Five minutes is five minutes." Sometimes it's not. You set it for 2½ minutes and it will go three seconds. Or it may go for 10 minutes. There is something wrong between the settings and it will have to be adjusted in order to get the exact time you want.

Then you must check to see if the heads are rotating right. Is the spray pattern from the main nozzle and the rooster tail good? Then check the pressure from the head. This is like taking an x-ray of the irrigation system. By the time you do this over the entire course you can almost tell where your problem is if you have a piping problem under the grass that you cannot see.

In order to use the form, you need only three simple tools (see photo). You need a Pitot tube, or periscope, gauge to check nozzle pressure, an allen wrench, and a stop watch.

First, set all times on the satellite for 2 and 1/2 minutes so that you can actually walk these heads out while the clock is running. We have found that this is just about the perfect amount of time to walk from one head to another, give a chance to write everything down, check nozzle pressure, rotation, and spray patterns.

If the actual time is different from the clock setting, it can be adjusted with the allen wrench. Insert the tube of the Pitot gauge in the main stream of the nozzles and write down the pressure. If the pressure has dropped, you have a potential problem. Perhaps the nozzle is clogged and something will blow, or the system is already leaking. If you discover it before hand, it won't be a disaster.

If you do these things, you should be able to maintain your course so that you don't have brown or soggy areas, and the turf is basically of the same uniformity over the entire course. When you leave the course, you can go home and not worry about water.

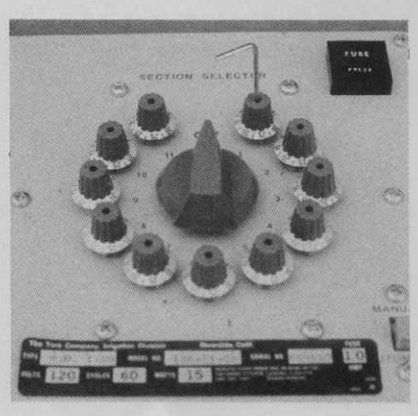
Keeping accurate records will alert you to possible disaster before it leads to excessive damage on the course.

AVENTURA COUNTRY CLUB
IRRIGATION CONTROL STATION

ZONE _____ COURSE _____

HEAD NO.	SET TIME	ACTUAL TIME	ROTATION	SPRAY PATTERN	NOZZLE PRESSURE	COMMENTS
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						

NOTES:



Timing, above, is essential for the right cycle time. Right, If the stop watch and station don't agree, use the allen wrench to adjust. Below, hold the Pitot tube in the main stream to check pressure.