



# IRRIGATION SYSTEM TUNE-UP

**STARNOTE 910**  
June 2009

## *Getting the most from your system*

---

### **CONTROLLERS AND VALVES— BRAINS OF THE SYSTEM**

The warmer days of spring traditionally bring gardeners out in droves, purchasing new plants to beautify their yards. Before you invest your time, labor and money on new plants, determine whether some of your garden budget should be spent to improve your irrigation system. Take a few hours on a beautiful spring day to perform an irrigation tune up. This investment will ensure that both your new and established plants will thrive while your water bills will remain reasonable. Examine the following system components:

- ◆ **CONTROLLERS (or CLOCKS)**
- ◆ **VALVES**
- ◆ **SPRINKLER SYSTEMS**
- ◆ **DRIP SYSTEMS**
  - ◆ **Pressure regulator**
  - ◆ **Filters**
  - ◆ **Emitters (drips)**
- ◆ **MAINTENANCE**
  - ◆ **Inspect your System**
  - ◆ **Flushing the Lines**
  - ◆ **Flushing the Soil**

**CONTROLLERS (or CLOCKS)** Irrigation controllers, also known as timers or sprinkler clocks, should be adjusted frequently, to account for seasonal changes and garden needs. As the weather warms up it will be important to increase the number of days each week that you water. Conversely, as the weather cools the days will need to be reduced. Failure to do either of these adjustments is sure to cause plant stress and trouble.

Old fashioned controllers can be difficult to understand and operate. Check your controller to see that it's run times are actually as long as they say they are. A 15 minute cycle that lasts 7 minutes or 25 is a real problem. If your Clock or Controller is not accurate, or will not provide the versatility that your landscape requires, you need to replace it. Older designs and inaccurate clocks are costly; both water-wise and plant-health wise. When choosing a clock, look for one with at least 2 or 3 programs (different parts of the landscape have different needs) and 3 watering times. There are many user friendly models available. Check with the current Drought Watering Restrictions *Guide*

published by the Southern Nevada Water Authority, to assure that your new watering schedule is in compliance with local regulations. [\(top\)](#)

Better yet, look into a SMART CLOCK. These wonderful new inventions automatically adjust for climate changes. You will not have to go out four times a year and attempt to make correct adjustments. [\(top\)](#)

**VALVES.** Check to make sure there are no leaks or drips. Then run each sprinkler valve manually. Open it using the small, plastic knob or switch below the solenoid, and makes sure that it opens. Oftentimes, debris gets caught in a valve diaphragm and causes it to stick. The diaphragm can also wear out and cause the valve to stay open. Replacement parts are inexpensive and easy to install. When installing a new valve or replacing an old one, purchase a reliable unit. It's no fun replacing valves AGAIN after your valve manifold is put together! See [StarNote 915, Troubleshooting Valves](#), for more information. Spend a little more to buy a valve with a flow control feature so you can adjust your irrigation system precisely. [\(top\)](#)

**SPRINKLER SYSTEMS:** Sprinklers have a mysterious tendency to get turned around and water walls or sidewalks, especially if there are children in the neighborhood! Debris can also get caught in pop up units, causing uneven distribution. In the summer, sprinklers normally go on when no one's around to watch, so a routine function check is important. Turn the zone on manually (as described above) and take a look at the sprinkler patterns and spray directions. Usually, sprinklers can be readjusted and cleaned with no other tool than your hand.

Check for sprinkler distribution. The first step, sometimes called a "Can Test", simply involves setting up several straight sided lids or cups of the same relative height on different parts of your lawn. You then run the sprinklers through one watering cycle and measure the amount of water in each lid. The key to efficient lawn watering is sprinkler uniformity. This test can give eye-opening results. If the lids have different amounts of water, you know your system is either not set up or adjusted properly. Irrigation systems can have discrepancies where some parts of the lawn are receiving ten times as much water as others. This will cause parts of the lawn to be dry, while others are too wet, and result s in a very poor looking lawn, that probably has disease. [\(top\)](#)

Most new sprinkler heads have what is called "matched precipitation". This simply means that the water output is proportional to the type of head. For example, if a whole-circle head delivers 4 gallons per minute (GPM), a half will deliver 2 GPM, and a quarter 1 GPM. If you have an older system without matched precipitation, over watering is bound to occur. Replace the sprinkler heads.

There are many sprinkler heads to choose from. We recommend a professional-quality head with at least a 3 or 4 inch pop-up height. The spray should not be blocked by tall grass that has not been mowed yet. These taller heads also have much heavier springs to ensure they retract, as well as more durable wiper seals, which help keep dirt out of the heads. They are more expensive at first than economy models but last much longer. A large selection of nozzles offer fixed, adjustable low angle low flow or undercut features providing the flexibility that you need. Check with our irrigation specialists. [\(top\)](#)

**DRIP SYSTEMS.** These are designed to apply water at a slow rate over a long period of time (45 to 120 minutes). They should be operated less frequently than regular sprinklers (every third day to once a week or longer depending on type and maturity of the landscape). Drip systems are efficient and easy to install. Maintenance should be regular and thorough for best results. Your spring tune up should include checking the following parts.

**Pressure regulator.** If your emitters are shooting water instead of dripping it, chances are you have too much pressure. Pressure regulators are easy to install and inexpensive to replace. They save you money! [\(top\)](#)

**Filters.** Although our city water is treated, it has lots of minerals in it, which can clog emitters. Most drip filtration devices can be taken apart and easily cleaned. Some have disposable filters that should be replaced periodically. Some systems also include dispensers for water-soluble fertilizers, and these should also be checked.

**Emitters (drips).** Manually turn your system on and walk your landscape to check all emitters. Make certain they are working properly (a 1 gph emitter will put out 1 tablespoon of water in 14 seconds). Replace any that may be clogged. Your plants have grown; you may need to add new emitters and move the existing ones. Be sure to add or replace with the same type. Never mix a higher flow rate shrubler with a drip on the same zone. [\(top\)](#)

## **MAINTENANCE**

**Inspect your System.** At least once a year (early spring is a good time), turn your system on manually and walk your landscape. Look for leaks or plugged emitters. You can use a measuring tablespoon and check the actual flow rate of your emitters when they look questionable. A 1 gph emitter will feed one tablespoon in 14 seconds.

**Flushing the Lines.** Your drip system should have removable end caps that will let you flush the lines. This should be done at least once a year. [\(top\)](#)

**Flushing the Soil.** Plants watered frequently by an emitter system tend to accumulate salt and alkali buildup around them. This may appear as a white, crusty film on the soil surface. Flushing the soil by letting the system run for a long time (4-24 hours depending on soil type and rate of flow) will help wash these salts away and keep plants from dying or being stunted by alkaline soil. This should be done no less than twice each year. Apply some Con-Grow just before you do this, and make your job that much more effective while reducing the pH of the soil.

For information on converting a conventional sprinkler system to drip, see [StarNote 905, \*Understanding Drip Systems\*](#). Although planting flowers is probably a lot more fun, a properly tuned irrigation system will help your garden Produce the results you expect. [\(top\)](#)