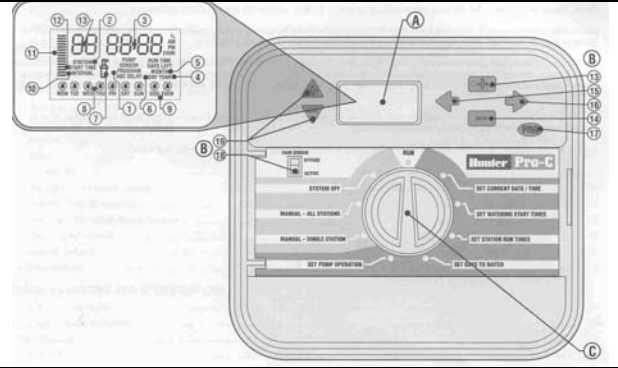


Sprinkler System Operation: How to Set Your Controller



We've installed what we consider to be the best residential clock available this year (2006), the Hunter Pro-C Controller. Although a bit more expensive than some, it features superb surge protection and resistance to lightning, plus a number of other features normally found only on commercial controllers.

Important Note: most people waste a lot of water on their lawns, because they set the controller in the spring, and never make any adjustments until autumn, when it's shut off. If you pay attention to weather patterns and seasonal differences in water requirements, you can save considerable water and still keep your lawn healthy and attractive.

Turf Grass. (See page 3 for a special note on new sod.)

We've set run times for lawn turf zones on your controller to provide approximately **1/4 inch of water** to your turf grass every time Program A runs through **one cycle** (assuming the water budget/seasonal adjustment is set at 100%). The controller is set so each spray zone runs 9 minutes, and each rotor zone runs 23 minutes. (Those times are based on the precipitation rate for sprinkler heads and nozzles installed.)

Knowing this, you can adjust your sprinkler operation to accommodate seasonal differences in water requirements. The "ET" guide in the newspaper or on the internet [see www.csu.org/xeri/] will provide a general guide about how much water you should apply. Check it frequently during the summertime.

(If that's too complex, you can use historical averages. As a general rule, for average July conditions in Colorado Springs, according to Dept of Utilities ET guidelines, bluegrass lawns need about 1.5 inches of water per week.)

Amount of Water Needed per Week	Number of Cycles to be run per Week
.25 inch	1
.5 inch	2
.75 inch	3
1.0 inch	4
1.25 inch	5
1.5 inch	6
2.0 inch	8
etc.	etc.

After you have determined the number of cycles required each week to provide the required amount of water, you need to decide when to run the cycles during the week. Generally, it's preferable to water thoroughly, but not too frequently, so the water soaks in deeply and encourages deep root growth. You can "cluster" cycles together by running several back-to-back (multiple start times) in order to accomplish this.

Soil type and soil conditions will affect your decision. If the soil is extremely sandy, you may have to irrigate lightly and frequently, perhaps a cycle per day, because the water drains away so fast in the sand. On the other hand, if your soil is heavy clay, it will absorb water very slowly, but will hold a great deal of water once it is soaked.

Ideally, your soil has been amended with organic material and has been roto-tilled thoroughly before sod laying or grass seed planting. If so, you might plan to irrigate only two or three times per week, clustering the cycles as needed.

For example: in July, presuming a water requirement of 1.5 inches per week, and assuming good soil preparation, you could set the controller to irrigate three times a week, typically Monday, Wednesday, and Friday. (Obviously, if it rains, you should irrigate less.) Run the sprinkler system late in the evening or early in the morning, to reduce the effects of wind and sunlight. Set two start times per watering day, back-to-back, to provide ½ inch of water for that day. (For example, by setting the first start time at 10:00 pm, and the second start time at 10:15 pm, the times will "stack up" and the controller will run two complete cycles, with a short time between applications allowing the water to soak in rather than run off.)

In the spring and early summer, and in the fall, your bluegrass requires less water than in mid-summer. To simplify your life, however, you can set the clock for July conditions, as described above, and then just reduce the "water budget/seasonal adjustment" to less than 100% for spring and fall. (For example, if you need only ¾" per week rather than 1 ½" per week, set the adjustment at 50%.) You can also eliminate one of the scheduled watering days if that's easier.

In case of unseasonably hot and dry weather, you can turn the water budget/seasonal adjustment up to 150%, providing more than 2 inches per week without changing other settings. (If you need more than that, you can increase frequency by adding a start time or another day, or run the system manually.)

Reminder: Most people tend to over-water their bluegrass lawns. Bluegrass is remarkably tough and durable. If the grass is slightly underwatered, it will simply turn a little brown in response. When more water is applied, it greens up. If you can tolerate a lawn in mid-summer that is less than bright, deep green, you will save both water and money.

Furthermore – aeration and fertilizer are important for healthy grass. Aerating breaks up soil and stimulates root growth. Quality fertilizer is necessary, even if you have provided good soil preparation before putting in the grass. People often respond to brown grass by pouring more water on it, when the real solution is more fertilizer.

Special Note for New Sod

When your new sod is delivered, it should be watered immediately and then kept moist almost continuously for a week or so. We recommend you try watering every day, four times a day, using four start times for Program A. (We suggest 6 am, 11 am, 3 pm, and 7 pm.) However, this will equal an inch per day if seasonal adjustment is left at 100%, which is probably too much. Try setting the seasonal adjustment at 70%-80% so the total irrigation for the day equals about $\frac{3}{4}$ ".

Make additional adjustments if the grass is too soaked or too dry. (Turn the sprinkler off on days you receive rain.)

After a week or so, adjust your controller to reduce the frequency of watering and increase the duration of run times. Within three weeks, you should be watering no more than once a day. Within a month, you should be on a schedule like the one described above for turf grass.

“Native” or prairie grass areas.

If you have grass areas requiring only occasional water, and have an irrigation system designed to irrigate these areas, you can use Program B for a schedule different than the one used for your lawn. Set frequency and duration for your native zone (or zones) according to weather conditions and plant maturity. If areas are newly seeded, they should be watered more frequently, albeit lightly, when seeds are germinating.

Low-volume/drip zones.

If it's been installed, we have set your low-volume/drip zone (or zones) to run for 45 minutes each, twice a week, on Program C. You should monitor the operation, because circumstances vary depending on plants and emitters. Check moisture in the plant root zones: they should not be saturated continuously. Allow the soil to drain properly.

Caution: It's much more common for shrubs to die from over-watering than from under-watering! Adjust watering schedules for your low-volume/drip zones as required. (Remember that “water budget/seasonal adjustments” made for lawn zones will affect all three programs.)