



Zone Evaluation Problems

There are several key problems to look for when evaluating a lawn sprinkler system. Some of these problems may need the help of a professional sprinkler contractor company to fix.

Low Pressure

When the pressure is too low, the sprinkler head will emit large drops and likely will not produce the proper spray pattern or a radius that reaches to the next head. Normal pressure for sprays is about 30 psi, low pressure is under 25 psi. For rotors, 50 psi is normal and under 35 psi is low. When measuring pressure at the backflow, assume a 10% loss for sprays and a 20% loss for rotors. If pressure is less than 20 psi, a booster pump is needed to raise pressure. Low pressure may be caused by a leak, too many heads on a zone or a long sprinkler line.

High Pressure

If pressure is too high, the head will produce a fine mist, which leads to water loss due to evaporation in even light winds. In addition, high pressure can lead to overspray and a distorted spray pattern, along with many other problems. Normal pressure for sprays is about 30 psi, high pressure is over 35 psi. For rotors, 50 psi is normal and over 70 psi is high. To lower pressure, install pressure reducing stems on heads, pressure-regulating heads, or a pressure regulator on the system.

Mixed Head Types

Design specifications for sprinkler heads are specific to the brand, type and model. Therefore, all sprinkler heads on a zone should be the same type (e.g. rotors, sprays, etc.) and have matched precipitation rate (in inches per hour). Heads with differing precipitation rates have widely varying operating times, which can lead to the overwatering of one area in order to sufficiently water another. When replacing heads, buy the same brand as the existing heads. Use high efficiency nozzles on sprays in rotor zones.

Broken/Missing Heads

Broken heads can waste a lot of water. A broken head often results in a geyser that damages the surrounding landscape through erosion. Breaks also rob the system of pressure, resulting in under application of water to other areas of the landscape. Replace broken heads with the right type and arc of head for the area.

Clogged Nozzle

Nozzles may get grit or dirt in them, causing reduced or no spray. This may be caused by blockage in the screen or in the nozzle itself, and the head may need to be cleaned. If this does not fix the problem, replace the screen. The nozzle may be worn and in need of being replaced.

Tilted Head

Tilted heads have often been hit by a lawn mower. Heads may also lean when the soil has been disturbed for repairs. Tilted heads will not apply water where it's intended to go. These heads need to be dug up and put back straight.

Low/Sunken Heads

Low or sunken heads often don't reach over the grass to apply water where it's intended to go. These heads need to be dug up and raised.

Improper Arc or Radius

Heads with improper arc or radius may be overspraying or underspraying. Sprinkler heads are designed to operate with the spray from one head reaching to the next, resulting in necessary overlap. Places where the spray pattern doesn't overlap may develop brown dry spots. Some heads are adjustable, but many are not. Nozzles can be replaced with ones with an increased or decreased radius. For Rainbird and Hunter heads, try a Rainbird U-series nozzle to increase uniformity. "U" stands for undercut nozzle.

Overspray

There should be no wasteful overspray onto sidewalk, patio, driveway or street. To avoid overspray, heads should be placed several inches away from the edge of the landscape. To reduce the throw radius of a sprinkler head up to 20%, use the radius adjustment screw. If the radius needs to be reduced more than 20%, a nozzle with a shorter throw radius should be installed. If overspray is because the spray pattern is wrong, replace the nozzle with one that's appropriate (e.g. 180° instead of 360°).

Obstructions

Make sure that the spray from the head is not obstructed by vegetation or other objects. Trim back vegetation or raise the sprinkler heads as needed. This will increase the system's uniformity of coverage.

Low Head Drainage

If the zone has some sprinkler heads that are lower than the rest, the water remaining in the pipes after a watering cycle will tend to drain from those heads each time the zone shuts off. In-line check valves or sprinkler heads with in-head check valves should be installed to prevent water waste. Check valves often say "SAM" for Seal-A-Matic.

Underground Leak

Underground leaks can occur when water is left in the sprinkler system over the winter. The frozen water can cause a pipe to begin leaking. This can be detected by a large pool of water accumulating near the base of the head when the system is turned on and often lower pressure at that head.

Broken Drip Emitter

A broken drip emitter can be replaced with a new emitter or 'goof-plug' can be put in the hole to eliminate watering in that location. Larger tears in the line can be fixed with a compression fitting.