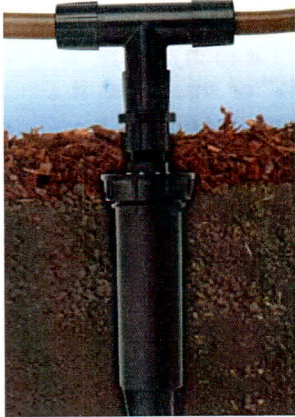


Sprinkler-To-Drip Retrofit

A Step by Step Guide



Tools	Equipment
Flags	Drip Retro Kit (Rainbird or Agrifim)
PVC or Drip Tube Cutter	In-Line Drip Tubing: ½” in-line drip tubing (Netafim or equal). Typically this comes in 200 and 300 foot lengths.
Trowel	Drip Tubing elbows, Tees, and straight connectors.
Shovel	
Hammer	Threaded-compression adapter fitting
	Marlex street elbow
	Figure 8 fitting
	PVC threaded caps and or plugs

Overview

This step by step process will show you how to convert an existing area that is currently watered by sprinklers to one that is watered by drip. This step-by-step assumes the existing irrigation valve (Anti-siphon) is working properly and the existing PVC pipes that go to the sprinklers are intact and leak free.

Locate Sprinklers: Turn on the sprinklers and mark each sprinkler head with a flag or something so you can find them.

Install Drip Retro Kit: The Drip Retro Kit looks a little like a sprinkler head. It is made that way so it can simply replace one of the existing sprinklers and it becomes the starting point for your drip system. The Retro Kit has a filter and pressure regulator built into it.

- Screw on a black Marlex elbow on top of the Retro Kit if it is not already on. Then screw on a threaded adaptor onto the Marlex elbow.
- Next, choose a location to install the conversion kit. Typically a good location is the sprinkler that is closest to the valve and in a convenient location to install the drip conversion kit.
- Using a trowel or shovel, remove the soil from around the existing sprinkler head. Unscrew the sprinkler head and clean off the threaded pipe below the head. Be careful to keep dirt from falling into the pipe.
- Wrap some Teflon tape onto the threaded pipe and then screw on the Retro Kit.
- The ideal installation will result in the top of the conversion kit just above the top of the soil level. To get this just right, you may need to replace the threaded pipe with a shorter or longer one. Also consider replacing this threaded pipe if it appears to be damaged or leaking.

Cap the Remaining Sprinkler Heads: Because the new drip system will be started at the one sprinkler head described above, all of the other sprinkler heads need to be removed and capped.

- Using a shovel or trowel, remove the soil from around each sprinkler head. Unscrew the sprinkler head and clean off the threaded pipe below the head. Be careful to keep dirt from falling into the pipe.

- Wrap some Teflon tape onto the existing threaded pipe and screw on a new PVC threaded cap.
- If the existing threaded pipe below the sprinkler head is in poor condition, it may need to be removed. If this is the case, you can install a threaded plug into the PVC fitting from which you removed the threaded pipe.

Install In-Line Drip Tubing: We recommend using “in-line” emitter tubing. This tubing is 1/2” diameter and has emitters built into the wall of the tubing. This type of drip will last for many years; it does not clog; and is easily maintained. We do not recommend using tubing that is 1/4” or smaller as it tends to become a maintenance problem and can result in leaks. Read and follow the manufacturer’s directions for installing the drip tubing. In-line emitter tubing is generally installed in a ‘grid’ like pattern so that the entire planting area can be watered evenly. We recommend this step be completed by two people.

- Starting at Drip Retro Kit, install your drip tubing in parallel rows. Typically for shrub and perennial planting areas, use tubing with emitters spaced every 18” and then install the rows of tubing 18” apart. This will result in an emitter approximately every 18” throughout the planting area. We recommend an emitter flow rate of .4-.6 GPH (gallons per hour). You can install up to 500 feet of tubing on a single valve.
- As you layout a row, have someone stake down the tubing every 3-5 feet. At the end of a row, you can simply curve the tubing to start your next row running back the opposite direction. Alternatively, you can cut the tubing and use elbows.
- You may need to use a variety of fittings such as “Tees” and “Elbows” and “straight connectors” to complete your layout. Then at the end of the line, you will need to install a “figure 8” fitting or a manual flush valve to keep the water from running out of the end.
- It is important to use galvanized stakes to hold down the tubing. Typically, you want to install them every 3-5 feet.
- Note, if you are creating a new garden, it is generally best to install the drip system BEFORE you install the plants. This will make it easy to create a nice uniform grid of emitters.

Flush system: flushing the system is needed to remove any dirt particles that may have gotten into the drip tubing.

- Remove the ‘figure 8’ fitting at the end of the drip line. If using a manual flush valve, open valve. Next, turn on the water to flush out any dirt or other particles out of the drip line. Finally, close the ‘figure 8’ or manual flush valve, this can be done while the system is running. You’ll hear a whistling noise; this is the system building pressure. Check each emitter to make sure water is coming out and that your system is operating properly.

Next Steps: You are now ready to install your plants and install 3” of mulch on top. The mulch will help the plants and soil, but will also hide the drip tubing.

