

How to Find a Water Leak

In most cases the water line running to your home is "metered" for accountability and billing purposes. A leak on your line can be very costly. Yet, even a very small leak can be found through trying a few simple techniques and can save you from a nasty surprise from your local utility company. If you have been notified that you have a leak, here are a few steps you can do before calling a plumber. The more you do, the less it will cost you in the long run!

Hot Water Tanks

Check the Pressure Relief Valve on the hot water tank. Sometimes these valves are plumbed directly into a drain and may be leaking without your knowledge. If you can't remove the drain pipe to check for a leak listen for a hissing sound, it may be leaking.

Toilets

Check the toilet for leaks by removing the top off the tank and listening very closely. If you hear any hissing at all, try to locate where it is coming from. If you locate the area where the leak is coming from, assess it and determine if you can fix it. If you can't, then call a plumber.

- If nothing is noticeable, add some food coloring and put a couple of drops in the tank (not the bowl). Wait several minutes and if you have coloring in the bowl, you have a leak in the flapper at the bottom of the tank that is allowing water to seep through. At this point you can assess if you want to do the repair yourself, or call a plumber.
- If you have more toilets, go ahead and repeat the process with each toilet to make sure you don't have more than one problem.

Meter Line

If the toilets are fine, check the line running from the meter to the house. While this may sound difficult, you can save money if you can locate the leak for the plumber.

- If you know you have a shut-off valve by the house, shut it off temporarily and check the meter by removing the lid and watching the dial on top of the meter.
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- If you can't see the meter head, try digging around because they sometimes have dirt or grass covering the top of them. Once you locate it and the valve is turned off by the house, watch the meter to see if it is turning. If it is still turning, then the leak is between the meter and the house.
- At this point, walk the area between the meter and the shut-off valve. Look for signs of a leak such as: soft muddy areas, grass that is greener than the rest or growing much faster than other areas. If you see such an obvious sign, call the plumber or assess if you can make a repair yourself.

- If you have the valve shut off at the house and the meter has stopped moving, then the leak is somewhere in the house. Try some other techniques to try to locate the problem.

Hose Bibs

Try and locate a leak by the house. This will require you to locate all the hose-bibs (hose-bibs are the pipes that you hook your hoses to, in case you were unsure!). Usually an average residence has one hose-bib in the front and one in the back, but be sure to find every one that you have and listen carefully.

- Once you have located them, take a screwdriver, preferably one long enough to give yourself room to work, and put the metal tip of the screwdriver directly on the metal part of the hose-bib. Put your thumb knuckle on the top of the screwdriver, and then place your knuckle on the side of your head, immediately in front of your ear. The sound will travel directly to your ear drum. The idea, here, is for the solid screwdriver to work like a stethoscope. This works for most metal valves, as well.
- Listen carefully for any sound emitting from the hose-bib. If you hear anything at all, remember where it is (perhaps mark it with chalk), and go to the next one. If the sound emitted gets louder at any of the other hose-bibs, then the leak is closer to that particular unit. Note that and contact your plumber: Giving the plumber this information will save the plumber loads of time in finding the leak, which in turn saves you money.
- If you survey all the hose-bibs and still find no sound, go into the house and follow the same process with the screwdriver on your house fittings such as faucets in sinks, shower valves, washer, hot water heater (be careful to avoid being scalded when working around the hot water heater). If you are still not sure, just contact the plumber.

Other Leaks

- Check the garden. Look at hoses, taps, and drip irrigation systems.
- Check the shower head for leaks. It should be a fairly straightforward home repair if this is the source of leaking.
- If you have a swimming pool, it is important to check to see if it has any leaks.

Recognize that in many cases a leak can be very hard to locate. Not all of the leaks outlined in this article can be located and if you're not used to plumbing positioning, you may miss something easily. All the same, if you try these steps, you should be able to find an *approximate location* and this is a most valuable exercise in itself because it will help the plumber (many plumbers do not like searching for a problem so anything you can do they will appreciate), making it time saving for the plumber and that translates into savings for you.

Tips:

- If you are able to locate the general area of a leak, plumbers will have a listening device that enables them to pinpoint it exactly.

Warnings:

- If you suspect the offending leak may be in the water heater, call an expert. Don't stick a screwdriver in there. You may cross wires or puncture the tank.
- Never dig without the proper locate as it very dangerous and can cause you physical harm, as well as financial. If you are not sure, always call the expert, your local plumber!
- Very important! If you do find the leak and decide to try and dig it up please make sure you call your other utilities and ask them to mark their utilities on the property! Most states in the U.S. have a utility locate center just for this purpose.
- If you plan on fixing a leak in your toilets yourself, ask what the age of the house is before you start. You might discover that fixing one leak causes another one or five because of old gaskets, washers and rubber.

The Facts on Leaks:

- Leaks can account for, on average, 10,000 gallons of water wasted in the home every year, which is enough to fill a backyard swimming pool.
- The amount of water leaked from U.S. homes could exceed more than 1 trillion gallons per year. That's equivalent to the annual water use of Los Angeles, Chicago, and Miami combined.
- Ten percent of homes have leaks that waste 90 gallons or more per day.
- Common types of leaks found in the home include leaking toilet flappers, dripping faucets, and other leaking valves. All are easily correctable.
- Fixing easily corrected household water leaks can save homeowners more than 10 percent on their water bills.
- Keep your home leak-free by repairing dripping faucets, toilet valves, and showerheads. In most cases, fixture replacement parts don't require a major investment and can be installed by do-it-yourselfers.
- The vast majority of leaks can be eliminated after retrofitting a household with new WaterSense labeled fixtures and other high-efficiency appliances.

Leak Detection:

- A good method to check for leaks is to examine your winter water usage. It's likely that a family of four has a serious leak problem if its winter water use exceeds 12,000 gallons per month.
- Check your water meter before and after a two-hour period when no water is being used. If the meter does not read exactly the same, you probably have a leak.
- One way to find out if you have a toilet leak is to place a drop of food coloring in the toilet tank. If the color shows up in the bowl within 15 minutes without flushing, you have a leak. Make sure to flush immediately after this experiment to avoid staining the tank.

Faucets and Showerheads:

- A leaky faucet that drips at the rate of one drip per second can waste more than 3,000 gallons per year. A home with WaterSense labeled toilets could use that water to flush for six months!
- Leaky faucets can be reduced by checking faucet washers and gaskets for wear and replacing them if necessary. If you are replacing a faucet, look for the **WaterSense label**.
- A showerhead leaking at 10 drips per minute wastes more than 500 gallons per year. That's enough water to wash 60 loads of dishes in your dishwasher.
- Most leaky showerheads can be fixed by ensuring a tight connection using pipe tape and a wrench.

Toilets:

- If your toilet is running constantly, you could be wasting 200 gallons of water or more every day.
- If your toilet is leaking, the cause is most often an old, faulty toilet flapper. Over time, this inexpensive rubber part decays, or minerals build up on it. It's usually best to replace the whole rubber flapper—a relatively easy, inexpensive do-it-yourself project that pays for itself in no time.
- If you do need to replace the entire toilet, look for a WaterSense labeled model. If a family of four replaces its older, inefficient toilets with new WaterSense labeled ones, it could save more than 16,000 gallons per year. Retrofitting the house could save the family approximately \$2,000 in water and wastewater bills over the lifetime of the toilets.

Outdoors:

- An irrigation system should be checked each spring before use to make sure it was not damaged by frost or freezing.
- An irrigation system with pressure set at 60 pounds per square inch that has a leak 1/32nd of an inch in diameter (about the thickness of a dime) can waste about 6,300 gallons of water per month.
- To ensure that your in-ground irrigation system is not leaking water, consult with a WaterSense irrigation partner who has passed a certification program focused on water efficiency; look for a WaterSense irrigation partner.
- Check your garden hose for leaks at its connection to the spigot. If it leaks while you run your hose, replace the nylon or rubber hose washer and ensure a tight connection to the spigot using pipe tape and a wrench.