

# THE WATER LEAK DETECTION KIT

A helpful guide for locating indoor and outdoor water leaks

## WATER LEAKS: WHAT YOU SHOULD KNOW

Imagine that the dot inside these brackets [•] is the only hole in your home's water system. By its size alone, that hole may not seem worth tracking down. Nevertheless, that hole can waste more than 4,000 gallons of fresh water each month – enough water to take a shower every day for a year!

Consider how important water is for our families, pets, and environment, and you see that even tiny holes deserve immediate attention.

That is why we developed this simple water leak detection kit. It is designed to help you find and repair water leaks – even the tiny ones.

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## Getting Ready

Use the checklists on the following pages to help direct your search for some fairly common – and a few not-so-common – water leaks.

How can you be sure your inspection will be as thorough as possible? The checklists cover three areas: *common indoor leaks*, *not-so-common indoor leaks*, and *outdoor leaks*. If you investigate the leak possibilities in the order shown, you will uncover the greatest potential for savings in the first few places you look.

It is a good idea to have a flashlight and food coloring available as you begin your work.

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## SPOT YOUR SHUT-OFF VALVE NOW

Your main shutoff valve controls all of the water coming into your house. Everyone in your home should know the location of this valve, and how to turn it off, in case of an emergency such as a burst pipe. Fast action could prevent costly damage from flooding.

If you do not know where this valve is located, it is important that you find out. Normally, it is near the water meter. Find the place where the water service line enters the building. The shutoff valve is likely to be close by. Common locations are in the basement, under the kitchen sink, near the meter box or at the pressure regulator (if required). We have included an identification tag to cut out and place on your main shutoff valve. (See the last page of this kit.)

After finding the valve, turn it to make sure it is not stuck. Water valves are generally closed by turning the handle clockwise. If the valve does not turn easily, do not force it or it might break. Rather, you may want to have the valve repaired so that it will work when you need it.

### Now you are ready to begin!

When opening the valve to turn the water back on, open it fully, and then close it just a quarter of a turn to make closing the valve easier the next time. You should also check every water fixture shutoff valve periodically and consider operating the main and individual valves annually.



(SHUT-OFF VALVE)

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## PART 1 – COMMON INDOOR LEAKS

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### The Leaky Toilet

Accounting for more than 95% of all water waste, toilet leaks are caused by worn or damaged parts in the toilet flush tank. (Toilet flushes account for about 100 gallons of the water use in your house each day. That is about 40% of the average household use.) Some of these leaks will empty directly into the sewer line without leaving any clues. Even so, you can check for these leaks. Common causes include:

#### Float arm problems

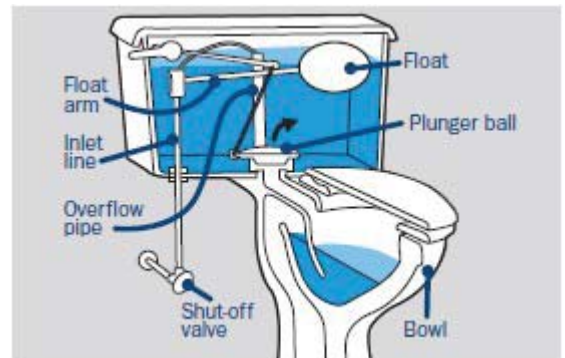
Remove the lid from the top of the flush tank. See if the overflow pipe and the plunger ball are working properly. Do this by flushing the toilet, watching the tank mechanism and listening. You should hear the water flow shut off. If the water does not shut off, check the water level. If it has risen above the overflow pipe, gently bend the float arm down and flush again. You may need to replace the plunger ball if the water level is about one inch below the top of the overflow pipe and you still hear water flowing.

#### A tiny pinhole

A pinhole opening below the overflow pipe's water line could produce an invisible leak. Check for this by shining a flashlight down into the overflow pipe. If you see running water, you have a leak that should be repaired.

#### A defective plunger ball (flapper valve)

This is often a silent leak, which causes the tank to continually drain and refill. Check for a worn or improperly seated plunger ball (flapper valve) by dropping a few drops of food coloring into the tank. Wait about five minutes before flushing. If a leak exists, the dye-colored water will seep into the bowl in that time. If it does, the plunger ball (flapper valve) may need to be replaced or realigned.



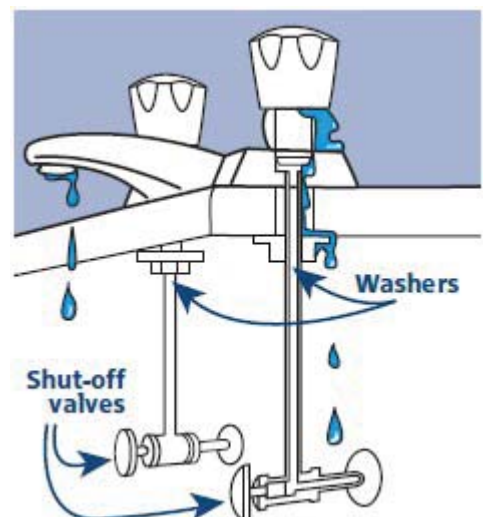
### The Leaky Faucet

#### A dripping faucet

A slow drip can waste as much as 20 gallons of water each day. A mere 1/16-inch leak wastes 100 gallons of water each day. With that much water – and money – going down the drain, it is important to get leaky faucets fixed as soon as possible. If you notice that a faucet is dripping, first try closing it tightly. If it continues to drip, the most likely cause is a worn or wrong-sized seat washer (also called a stem washer). With just a little effort, you may be able to replace the washer yourself. You may need an adjustable wrench, a flathead screwdriver, and a Phillips screwdriver for older plumbing fixtures. It may be more economical to rebuild or replace the faucet if it is washerless.

#### Changing a washer

Before you start, turn off the water supply to the faucet by closing the fixture's shutoff valve. Most kitchen and bathroom faucets have shutoff valves under the sink. Turn the valve clockwise until it is tight. This shuts off the water to the sink only and does not affect the water service for any other part of the house. Be certain that the replacement washer is the same size as the worn one (if the worn washer was the correct size). If you need help, bring the worn washer to your plumbing supply or hardware store, and the store representative can help you match it with a new one.



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## PART 2 – NOT-SO-COMMON INDOOR LEAKS

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### Things to Check

#### Water heater tank

The pressure valve release could be stuck. This valve is most often found near the top of the tank and is usually a large brass fitting threaded into the tank. If it is not working properly, water will be leaking from it, dripping down the side of the tank and accumulating on the floor.

#### Boiler

Listen for the sound of running water. If it is continuous and does not stop and start periodically, your boiler system may have a leak.

#### Water softener

If you have a water softener, it could be wasting water if it is not recycling properly. The cycling process, regulated by a timer, often occurs between 2 a.m. and 4 a.m. You are likely to have a problem in this unit if you constantly hear the sound of running water.

#### Washing machine

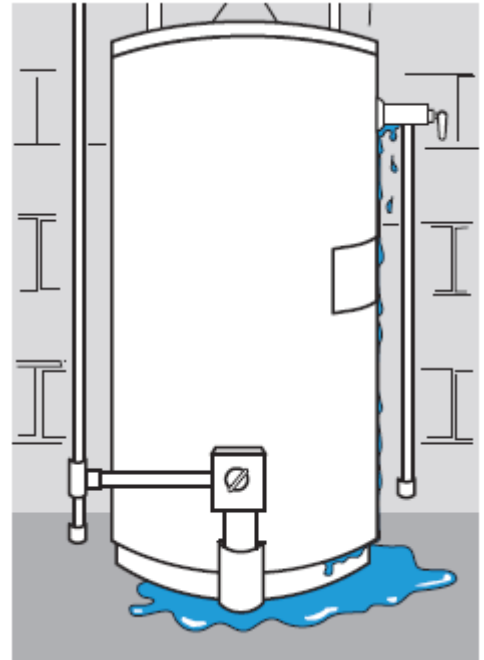
If you see water on the floor near the machine, it could mean a leak. You may want to call your washing machine repair service.

#### Humidifier

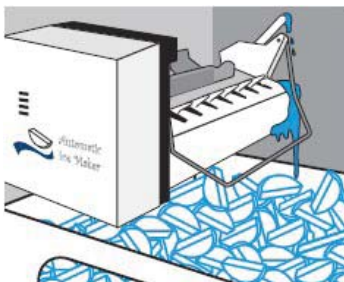
Water accumulated beneath the unit could be a sign of a leak. If the overflow discharge is piped into a sewer or drainage line, you may not find any visual signs of a leak. Listen for running water. If it is continuous, the float valve could be stuck.

#### Fire suppression systems

Many newer homes and businesses have fire suppression systems. If so, check to make sure that the sprinkler heads are tight and not leaking.



Did you miss checking a sink or other water appliance in an out-of-the-way place, such as the garage, basement or attic?



#### Refrigerator ice-making unit

A leak in the ice-making unit will cause excessive ice accumulation in the freezer and may also produce small puddles of water under the refrigerator. You may want to call your refrigerator repair service.

#### Dishwasher

Water accumulated on the floor near the unit could be a sign of a leak. You may want to call a repair service.



#### Bathtubs and showers

Check the spout and showerhead for dripping water. New washers may be needed on the faucet handles. You may be able to do this repair yourself by unscrewing the faucet and replacing the washer with one of the same size. Before doing this repair, close your home's main shutoff valve.

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## PART 3 – OUTDOOR LEAKS

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When checking for water leaks, many people forget that water faucets and equipment exist outside as well as inside the home. Here are four areas you should not overlook.

### Final Places to Check

#### Water faucets

Each faucet should be checked for leaks. Make sure faucets are closed when not in use. If you find a leaky faucet, change the washer (after closing the shutoff valve). In colder climates, during the winter, these inside shutoff valves should be closed to prevent freeze-ups. Be sure to open the outside faucet after you have shut the inside valve so that any water still in the pipes will drain out. These shutoff valves are usually in your basement. One shutoff valve may control all the outdoor faucets.

#### Automatic lawn-sprinkling system

Soft spots on your lawn may indicate a leak is being absorbed into the ground.

#### Swimming pools

The pool system's automatic shutoff valve could be malfunctioning, causing a continuous cycle of water to be pumped in and then drained out. If the water level stays higher than normal, or the pool overflows when people are using it, your automatic shutoff valve may need some attention.

#### Service connecting line

If you find a soft, wet spot on your lawn or hear running water outside your house, you may have a leak in the service line to your house. Water soaks into the ground, causing the soft spots. Close the main shutoff valve. If the sound of running water continues, the outside service could be leaking.

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## YOU'VE CHECKED EVERYTHING...NOW WHAT?

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If you have not found a leak after checking all of the water outlets mentioned, and you still suspect a problem, you may want to call in a licensed plumber.

CUSTOMER ACCOUNT #:

Your Main Water  
**SHUT-OFF VALVE**

When you locate the valve, place this I.D. tag on it.

You may want to turn the valve to make sure it is not stuck. Water valves are generally closed by turning the handle clockwise. **PLEASE NOTE: If a valve does not turn easily, do not force it, or it might break. Rather, you may want to have the valve repaired so that it does turn easily.** Then, check sinks and other fixtures to be sure you have found the main valve and that it is working properly. When opening the valve to turn the water on, open it fully, then close it just a quarter turn to make it easier to close the next time. You should also find, turn, and tag individual shut-off valves on fixtures such as sinks and toilets, and consider operating the main and individual valves annually.



Sources: American Water Works Company, Inc.

<https://broomfield.org/DocumentCenter/View/11186/The-Water-Leak-Detection-Kit>