

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

# Retro FIT



## What is retrofit?



**Fixing leaks** and installing a few inexpensive water-saving devices in your home could save up to 20,000 gallons of water each year. If you use utility or county water, your efforts could cut your monthly water and sewer bill in half.

Unless your house was built after 1995, you probably have pre-conservation era plumbing that guzzles water. Retrofitting your home — fixing leaks and replacing old plumbing fixtures with water-saving ones — is a simple and easy way to protect our drinking water supply and save money at the same time.

Take a close look at your water bill. Unless you have a septic tank, you'll see that you pay to pipe water into your home and then you pay to pipe it out. The more water you use, the more there is to dispose of — and the higher your water and sewer charges climb.

**Most retrofit devices will reduce your water and sewer bill enough to pay for themselves within six months.**

## Here's how you can retrofit your home

**Start with the toilet.** Leaks inside your toilet can waste up to 200 gallons of water a day! If left unrepaired for six months, as much as 36,000 gallons of water goes unused down the drain. To check your toilet for leaks, remove the lid from the toilet tank, remove any colored cleaning agent, flush to clear water in the bowl, then drop one leak detecting dye tablet (or five drops of food coloring) into the tank and wait 10 to 15 minutes. If colored water appears in the toilet bowl without additional flushing, there is a leak. Flush as soon as the test is complete.



**To fix the leak yourself, you need a large adjustable wrench and a screwdriver.**

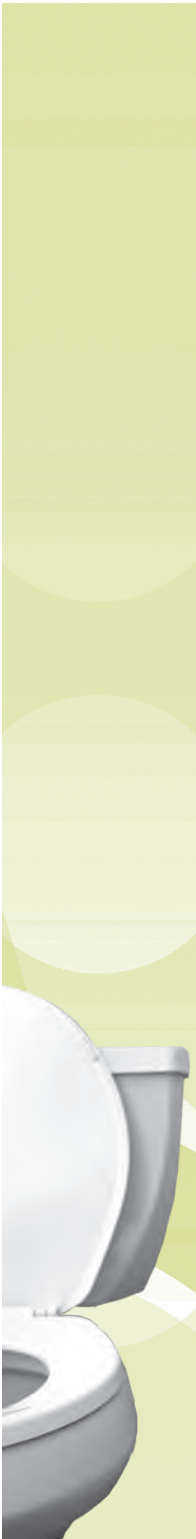
**Now, follow these simple steps:**

1. Jiggle the toilet handle. If that makes the water stop running, the chain or guide wire attached to the handle may be out of alignment.
2. Make sure the handle fits snugly against the tank. If it doesn't, use the adjustable wrench to tighten the nut attached to the handle on the inside of the tank.



3. Check the flapper (the rubber device that opens and closes to allow water into the commode) for deterioration. Bleach and other chemicals in the toilet water can deteriorate the flapper. When a flapper does not fit snugly, water leaks from the tank into the commode, wasting water. With ultra low-flow toilets, it is important to replace the flapper with the correct model in order to retain the low-flow function. Check with your plumber or local plumbing supply store for the correct model or go to [www.toiletflapper.org](http://www.toiletflapper.org) for the information.
4. Check the tank water level. The correct water level is about 1/4 to 2 inches below the top of the overflow tube in the middle of the tank. The overflow tube drains directly into your sewer system. To lower the water level, use the screwdriver to adjust the screw on the end of the ballcock float arm or bend the float arm down until the correct water level is achieved.

**If these simple procedures don't stop the leak, you should call your plumber.**



**After you fix** your toilet, unless it is a low-flow model using 1.6 gallons or less per flush, you can install a toilet tank displacement device. This can cut toilet water use by up to 30 percent. One option is to fit the tank with a toilet tank dam that walls off the corners of the tank to hold back water when you flush. This maintains the proper volume and toilet tank water level for a forceful flush. Another option is to fill a displacement bag with water and place it inside the tank between the tank wall and the intake valve. Easy-to-install toilet tank dams and displacement bags are available at most hardware, plumbing and home stores. Remember, however, use of these devices in low-flow toilets could affect the flush performance.

Since the mid-1990s, all new toilets have been redesigned to conserve water, using 1.6 gallons or less per flush. If your toilet is not a low-flow model, consider purchasing one.

## Check all your faucets inside and outside.



**Water losses** caused by dripping faucets can range from several gallons to hundreds of gallons of water per day. If it is hot water, you're wasting water and the energy required to heat it. Leaky faucets are usually caused by a worn washer or O rings. To fix leaky faucets, you need:

- Adjustable wrench or pliers
- Screwdriver
- Replacement washers and tap-fixer tool (purchased at hardware, home or plumbing stores)

### **Now, follow these steps:**

1. Shut off the water supply to the faucet you are repairing. Remove the cap on the top of the faucet handle. Turn exposed screw counterclockwise to remove screw.
2. Pull off handle.
3. Remove nut. Loosen valve stem by turning counterclockwise.
4. Remove valve stem assembly.
5. Remove screw at base of the valve stem and remove worn washer. Replace with a new washer of the same size.
6. Use tap-fixer tool to reseal valve, following kit instructions.
7. Replace faucet parts in reverse order of removal. Then, turn on water supply to faucet and check to make sure it does not leak.

**Once all leaks** are fixed, check the amount of water flowing from each faucet. You can do this by following these simple steps:

1. Open the faucet and allow water to flow into a container for 10 seconds.
2. Measure the collected water. (FYI: 16 cups=1 gallon)
3. Multiply the amount of water by 6 to determine the per-minute flow.



If your existing aerator flows more than 2.5 gallons per minute, you should replace it with a low-flow aerator. This one simple step can save up to 30 gallons per day.

In your kitchen, you will want a 2.5-gallons-per-minute aerator to make sure the flow of water is enough to wash and rinse dishes.

Your bathroom faucet is used primarily for rinsing. Therefore, a 1.5-gallons-per-minute aerator will provide enough water for shaving, hand washing and other personal hygiene tasks. A 1.5- to 2.5-gallons-per-minute aerator can be used for the laundry tub.

You may want to use a low-flow aerator with an on/off flip handle that allows you to increase or reduce the flow as needed.

**If you can't fix the leak, replace the valve stem or buy a new faucet.**

## **Next, check your showerhead.**

If it is leaking or if the flow rate is more than 3 gallons per minute, you should change to a low-flow version (2.5 gallons per minute or less).

To fix leaky showerheads yourself, you need an adjustable wrench or pliers and joint sealer or tape.

### **Now, follow these steps:**

1. Shut off the water supply to the shower.
2. Use the adjustable wrench to remove the old showerhead.
3. Clean the threads to remove old joint sealer.
4. Apply joint sealer or tape, using package instructions.
5. Use the adjustable wrench to install new showerhead.
6. Turn water supply back on and test the showerhead.



**Use a cloth between the showerhead and the jaws of the wrench to avoid scratching.**



**Now that** you have all the visible leaks repaired, check for those that you don't know about. Here's how:

1. Locate your water meter and make note of the meter reading.
2. Turn off all the water-using fixtures in your home and don't use any water for 30 minutes.
3. Go back and check the reading on the meter. If it has changed, you have leaking pipes and may need a plumber or your water utility to help you find and repair them.

To find out how you can save even more water indoors and outdoors, order free copies of **Saving Water Indoors** and **Saving Water Outdoors** at [WaterMatters.org/publications/](http://WaterMatters.org/publications/).

## How much water do you use?

If the fixtures in your house are not low-flow or water-saving devices, use these figures to estimate the amount of water used daily in your household:

**Toilet flush**

= 4 gallons

**Shower**

= 4 gallons per minute

**Bath**

= 36 gallons (full tub)

**Automatic dishwasher cycle**

= 12 gallons

**Washing machine cycle**

= 43 gallons

**Washing dishes by hand**

= 4 gallons per minute



**To get a more accurate idea of the amount of indoor and outdoor water you use, read your water meter before and after a specific task, such as lawn watering or laundry use.**

## Save water, save money



By installing simple water-saving devices, a family can save water and money. For example, by reducing water consumption from 9,000 gallons to 8,000 gallons per month, a family can save an average of \$35.93 annually on their water bill (an estimated savings of \$2.99 per 1,000 gallons) or \$66.55 on their combined water and sewer bill (an estimated savings of \$5.55 per 1,000 gallons).

## Nice to know

- Toilet water use can be cut by up to 30 percent with a toilet tank dam or displacement bag.
- Faucet water use can be cut by up to 50 percent with a low-flow faucet aerator.
- Shower water use can be cut by up to 50 percent with a low-flow showerhead.

**For more information, contact the Southwest Florida Water Management District at (352) 796-7211 or 1-800-423-1476 (FL only), ext. 4757, or visit the District's web site at *WaterMatters.org/*.**

Southwest Florida  
*Water Management District*



WATERMATTERS.ORG • 1-800-423-1476

The Southwest Florida Water Management District (District) does not discriminate on the basis of disability. This nondiscrimination policy involves every aspect of the District's functions, including access to and participation in the District's programs and activities. Anyone requiring reasonable accommodation as provided for in the Americans with Disabilities Act should contact the District's Human Resources Director, 2379 Broad St., Brooksville, FL 34604-6899; telephone (352) 796-7211 or 1-800-423-1476 (FL only), ext. 4702; TDD 1-800-231-6103 (FL only); or email [ADACoordinator@WaterMatters.org](mailto:ADACoordinator@WaterMatters.org).