

Fixing Leaks

In an average residence, 22 gallons of water are lost to leakage each day, and the most common culprits are leaking toilets or dripping faucets. This daily leakage volume is about equal to the amount of drinking water a family of 3 needs for two full weeks! The annual water and sewer cost for 22 gallons of leakage is \$80 per household.

It is not uncommon to find toilets leaking much more water than the average 22 gallons. Silent toilets leaks can account for up to 300 gallons of day of lost water without anybody noticing the leakage. This size of leak costs over \$500 dollars a year and should be repaired immediately. A dye tablet or 10 drops of food coloring can be used to check a toilet for leaks. Place the tablet or food coloring into the toilet tank. If color appears in the bowl after waiting 10 minutes, see the fixing leaks section of this web site.

YES! EVEN YOU CAN FIX A LEAKING TOILET

Water and sewer costs from leaking toilets can really add up. Deteriorated flapper valves are the most common source of leaks. If your check for leaks showed that water was passing from your tank to the bowl then the following repair directions can help.

Note: This information is provided for your benefit; please do not take on plumbing repairs unless you feel quite confident in your ability to make these repairs. The Portland Water Bureau will not be responsible for any damage to your toilet because of faulty repairs.

Checking For Leaks-

To check your toilet for leaks, lift off the toilet tank lid. Without flushing, place 2 dye tablets (or 10 drops of food coloring) in the toilet tank. If water in the bowl turns color within 10 minutes, you have a toilet leak.

Determine leakage rate

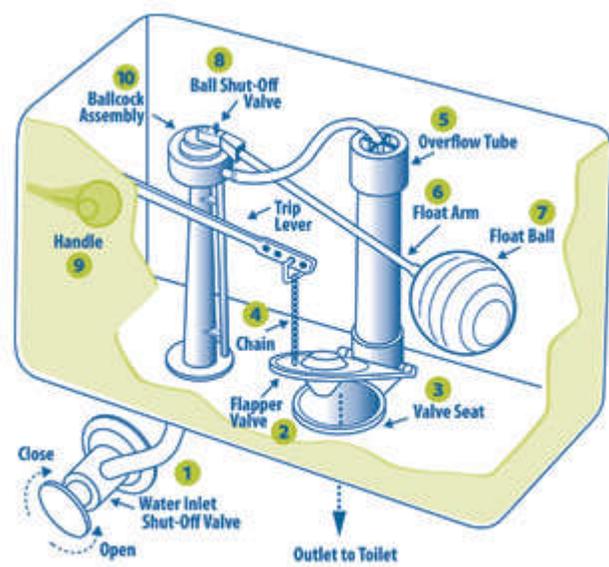
- Lift the toilet tank cover and look at the mechanism inside. If you can see or hear water running, you could have a large leak (300 gallons per day).
- If you cannot see or hear water running, drop one dye tablet in the tank. If the dye color appears in the bowl within ten minutes, you have a medium leak (150 gallons per day). If dye color appears in the bowl after ten minutes, you have a small leak (50 gallons per day).

1. Toilet leak rate: _____ x 365 = _____
Gallons per day Gallons per year

Fixing Leaks-

BEFORE YOU START REPAIRS

Drain your toilet tank first. Turn off the shut-off valve [1]. Flush the toilet, which will drain the tank. Soak up excess water in the tank with a sponge or towel.



Common Reasons for Leaks:

[Chain Adjustment...](#)

[Flapper...](#)

[Overflow Tube...](#)

[Shut-off Valve...](#)

Chain Adjustment

If you have to jiggle the handle to keep the toilet from running the chain that controls the flapper might not be adjusted properly [2], or the handle might be loose [9].

To Fix: Clean and adjust the chain [4]. Make sure the chain is not too long or too short. Tighten the nut that holds the toilet handle to the tank. If this does not work, the handle may need to be replaced.

Flapper

A leaking flapper valve can be caused by two problems. The flapper valve [2] may not be sitting properly on the valve seat [3], or the rubber may be deteriorating and not forming a proper seal. Over time, the valve's rubber material deteriorates.

To fix: Gently rub the bottom of the flapper valve. If you get streaks of rubber on your fingers, you should replace the valve. Check the valve seat [3] for corrosion and clean it if necessary. Turn on the shut-off valve [1] to refill the tank and try flushing. If the flush valve still will not sit properly, check the chain [4]. It may be improperly aligned or needs the length adjusted.

Note: When replacing these valves on older toilets, use water conserving flapper valves that allow less water to be flushed after each use

Overflow Tube

If the water level in the tank is too high, it may spill into the overflow tube [5] continuously, creating a large leak. The correct water level is about one-half to one inch below the top of the overflow tube.

To Fix: Bend the float arm [6] gently downward. Flush after bending the arm to test whether the water stops at the proper level. Be sure to check that the float arm is screwed in securely so that the arm will not rotate. If the water level is too low, you may not get an effective flush. In that case, carefully bend the float arm upward. You may need to replace the float ball [7] if it has filled with water, or replace the float ball shut-off valve [8].

Shut-off Valve

If the water that refills the tank will not shut off, you may have a broken ball shut-off valve [8] in the ball cock assembly. Water will just keep spilling into the overflow tube. To test if the ball shut-off valve is broken rather than the float arm needing adjustment, pull up on the float arm [6]. If the water keeps flowing with the float arm up, the shut-off valve is broken.

To Fix: Know your limitations. Unless you are an accomplished plumber, call a professional. If your leaky toilet cannot be fixed, replace it with one that uses 1.6 gallons per flush.