

FIX-A-LEAK MANUAL



FRISCOTEXAS.GOV/WATER



*A quick check can help you find leaks in
your home, it just makes WaterSense!*

For more information about Fix-a-Leak week and
indoor water conservation efforts please visit
EPA.gov/WaterSense

WATER METERS AND PRESSURE REDUCING VALVES

Water Meter Shut Off

If a water pipe in your home or yard breaks, would you know how to shut off the water to avoid flooding? Find out where your water meter and shut-off valve are located before there is an emergency.

Water meters, owned and maintained by the City of Frisco, are located in a small meter box in the ground near the street or edge of the property. The water meter and shut-off valve are both located inside the meter box. *If your home was built after 2014, your shut-off valve may be located in your garage.*

To turn off your water with the shut-off valve in the meter box, use a water meter key to turn the valve **CLOCKWISE**. Maintain safe and direct access to your water meter by eliminating obstructions such as overgrown vegetation, gravel, and parked vehicles as it will be easier to turn off your water in the event of an emergency.



Pressure Reducing Valves

A water pressure reducing valve (PRV) reduces water pressure in a water line. The PRV typically comes with a preset of 45 psi but can be adjusted. According to Frisco Building Code, PRVs are installed where water pressure exceeds 80 psi.

Frisco Building Code (2007) requires a PRV wherever water pressure exceeds 80 psi, as pressure above 80 psi, can cause damage to your home. High pressures can cause faucets to drip, and toilets may run during the night, but not leak during the day. A bad PRV can cause pressure loss or high pressure and will need to be serviced or replaced.

Most areas in the City of Frisco reach a pressure over 120 psi around 2:00 a.m. Water pressure then fluctuates throughout the day.

If you are curious about your home's water pressure, contact the City of Frisco Public Works Department at 972-292-5800 or use the myFRISCO app. They will dispatch an employee to your home during regular business hours. If the pressure is above 80 psi or below 45 psi, you may need a new PRV.



The PRV is the homeowner's responsibility.

TOILET LEAKS AND REPAIRS

Toilet Flapper Repair

Problems with the flapper are among the most common causes of a running toilet. The flapper is a round rubber seal that stops water from draining from the tank into the toilet bowl. When you flush the toilet, the chain pulls the flapper up so fresh water can fill the bowl.

1. **Turn off the water and drain the toilet.** Before you can check the flapper for problems, turn off the water to the toilet. You should have a water valve directly below the toilet tank. It should be located between where the water pipe comes out of the wall and where it attaches to the bottom of the toilet tank. In most cases, you will turn the water shutoff valve clockwise to turn it off. Be sure to continue turning it until it stops moving. Flush the toilet to drain excess water from the tank. This will allow you to inspect the flapper without having the toilet running constantly.
2. **Carefully remove the toilet tank lid and look inside.** Toilet lids are made of heavy ceramic and break easily. Lay down a towel somewhere safe and out of the way. Hold either end of the lid firmly with both hands and pull the lid off the toilet. Place the lid on the towel to prevent it from getting scratched.
3. **Adjust the chain length if necessary.** The chain that pulls the flapper up can cause problems if it's too long or too short. When the chain is too short, it will pull up on the valve when it shouldn't, allowing water to drain constantly. When the chain is too long, it can get caught underneath the flapper and prevent a seal.
 - If there's too much tension on the chain, remove the hook attaching the chain to the flush lever. Move the hook up 1 or 2 links until the chain has more slack. Reattach the hook to the flush lever.
 - If the chain is so long that it can get caught under the valve, use a pair of wire cutters to trim a few links from the top of the chain. Reattach the hook to the new top link and reattach it to the flush lever.



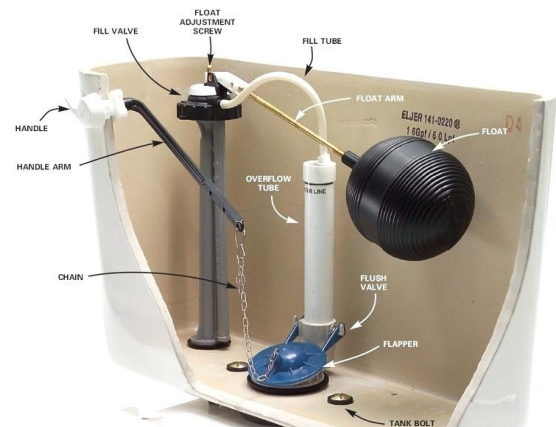
Toilet Flapper Repair Continued

4. **Replace a worn flapper.** If the flapper is brittle and hard or doesn't seal well after cleaning it, purchase a new one. Take the worn flapper to the hardware store and purchase a new flapper in the same style and with the same dimensions. You can also buy a universal flapper that will fit any kind of toilet.

 - To attach the new flapper, fit it into place and attach the hooks on the side to the pins on the overflow tube. Adjust the chain.
 - Turn the water back on and test the flapper to see that it's functioning properly, and that the toilet isn't running.

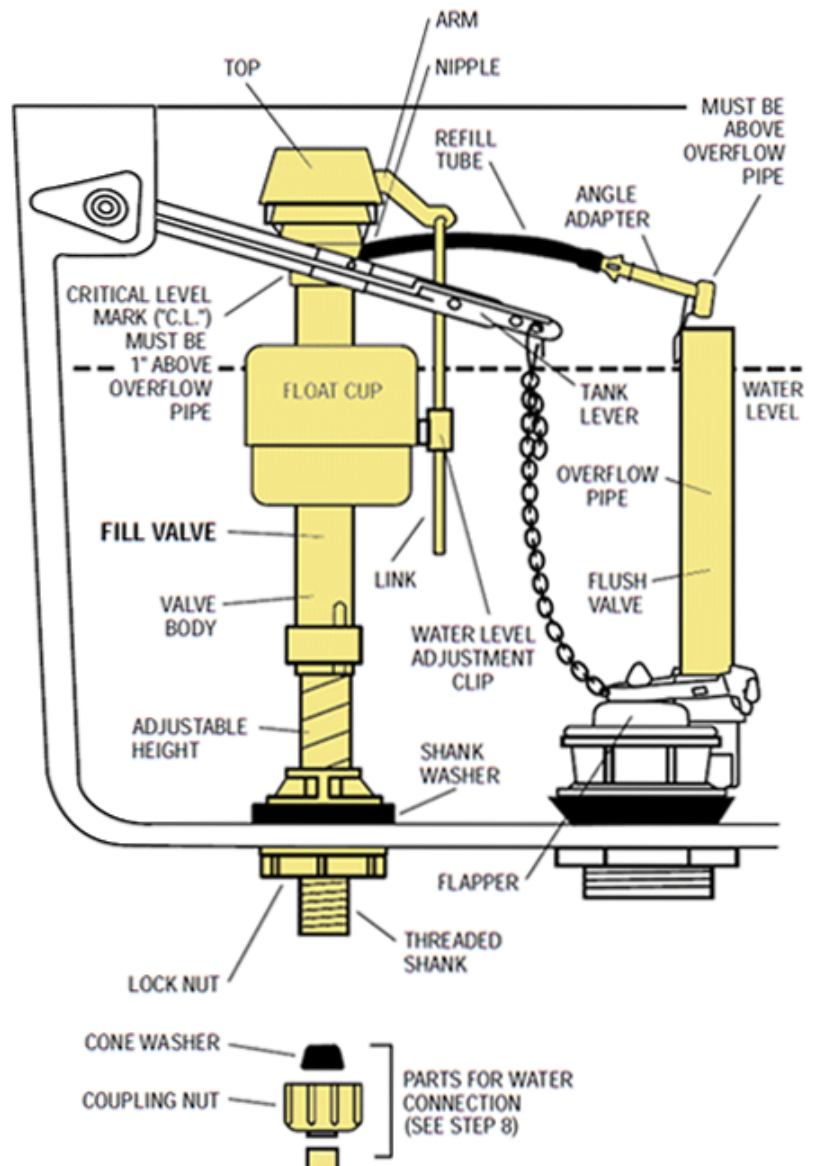
Toilet Water Level Adjustment

1. **Check the water level.** When flapper trouble isn't the cause of a running toilet, the next most common cause is the water level. When the water level is too high, water will constantly drain into the overflow tube. Be sure to fix this problem as soon as possible to prevent water from spilling out onto the floor causing major water damage if the toilet gets clogged.
 - With the water running and the tank full, look at the overflow tube. This is an open tube in the middle of the tank that connects the tank and the toilet bowl.
 - Check to see if water keeps draining into the tube. If that's happening, you can adjust the water level by lowering the float.
2. **Determine the type of float you're dealing with.** Water comes into a toilet tank via a fill valve. The fill valve has a float on it that rises or lowers with the water level. The float height is what tells the fill valve to shut off when the tank is full. Therefore, you can lower the water level in the tank by adjusting the height of the float. There are two main types of float devices: a *ballcock fill valve float* and a *cup fill valve float*.
 - A **ballcock fill valve float** has a long arm attached to the fill valve. At the end of the arm there is a rubber ball-shaped float.
 - Check the ballcock float to determine if there is water inside it. If so, replace it.
 - On top of the fill valve, there is a screw that attaches the float arm to the fill valve. Turning this screw allows you to adjust the height of the float. Turn the screw a quarter turn counter-clockwise to lower the float.
 - Flush the toilet and let the water in the tank refill. Check the water level.
 - Ideally, the water level should be 1 to 1.5 inches below the top of the overflow tube. Continue adjusting the screw by quarter turns until the water level is right.



Toilet Water Level Adjustment Continued

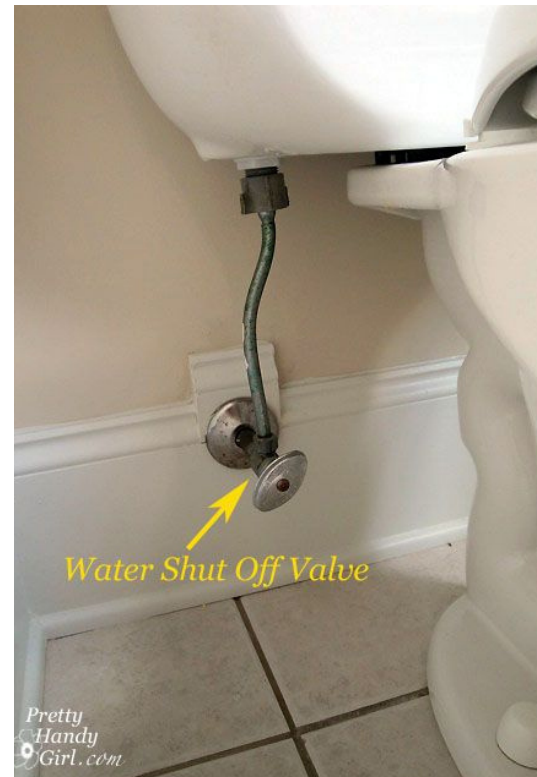
- A **cup fill valve float** has a small circular cylinder wrapped around the body of the fill valve. The cylinder, or float cup, slides up and down on the fill valve shaft, and its height determines the water level.
- Lower the float on a float “cup” fill valve with the adjustment screw on the side of the fill valve. Turn the screw a quarter turn counterclockwise to lower the float.
- Flush and refill the toilet tank.
- Check the water level.
- Make another quarter-turn adjustment if necessary until the water level in the tank is 1 to 1.5 inches (2.5 to 3.8 cm) below the top of the overflow tube.



Toilet Fill Valve Replacement

A faulty toilet fill valve can cause your toilet to run all the time or otherwise malfunction. However, the good news is that replacing your toilet fill valve is something any homeowner can do. It does not take a lot of experience with plumbing or a lot of time.

1. **Turn off the water supply.** Before doing any repairs to your toilet you should turn off the water outside of the toilet. You should have a water valve directly below the toilet tank. It should be located between where the water pipe comes out of the wall and where it attaches to the bottom of the toilet tank.
 - In most cases, you will turn the water shutoff valve clockwise to turn it off. Be sure to continue turning it until it stops moving.
2. **Drain the toilet tank.** Once the water is turned off, drain the tank before you disconnect the toilet fill valve. To begin draining the tank, flush the toilet and hold the flush lever down to remove as much water as possible. Once most of the water is gone, you can use a turkey baster or a wet-dry vacuum to get rid of the small amount of water sitting at the bottom of the tank. An old towel will also do the job.
3. **Locate the toilet fill valve.** Remove the tank lid carefully and set it on a towel out of the way so it doesn't get broken. The toilet fill valve is located inside the toilet tank, usually off to one side. (See diagram on previous page.)
4. **Detach the toilet fill valve.** Loosen the lock nut that secures the fill valve to the water supply line by turning it counterclockwise with pliers or a wrench. Then, carefully pull the supply line out of the valve underneath the tank.
 - As you unscrew the nut, a bit of water may drip out of the tank. Keep a towel or bucket on the floor below the opening to catch any water that comes out.



5. **Purchase a new toilet fill valve.** Most new toilet fill valves are universal, meaning they will fit in almost any toilet. However, if you are worried about fit, take your old toilet valve with you to the store and use it to assess whether a potential replacement will work. *Even if your old toilet fill valve had a separate float, a newer valve with the float integrated onto the shaft will work.*
6. **Put the new toilet fill valve in place.** Remove the new toilet fill valve from its packaging. Be sure to read and follow the directions. The fill valve should come fully assembled and should be to be placed directly into the toilet. *Remember to clip the new refill tube to the overflow tube.*

Toilet Fill Valve Replacement Continued

7. **Tighten the fill valve nut carefully.** When you have the toilet fill valve in place, the final part of its installation is to tighten a lock nut onto the threaded part of the valve on the underside of the tank. It is important not to tighten the nut too hard. The nut should be tightened by hand to ensure that it isn't over-tightened. *Tightening the nut on the bottom of the fill valve with a wrench or pliers could crack the toilet tank or the valve.*
8. **Re-attach the water supply line and turn on the water.** Once the replacement fill valve is in place, it's time to get the water flowing again. Attach the supply line to the bottom of the new fill valve. Make sure that there is a washer inside the end of the supply line and tighten it with a wrench until it's tight. Then turn on the water by turning the shutoff valve counter-clockwise until it stops rotating.
 - Be careful not to over-tighten the washer; the nut could crack and leak.
 - If you see any leaks, immediately turn the water off at the shutoff valve.
 - When you turn the water on, the tank should start filling right away.
9. **Adjust the float.** Once the water is turned back on and your toilet tank has filled, you can adjust the float on your new toilet fill valve. The float's location can be adjusted with a clip on its side, a set screw at the top of the float shaft, or by adjusting a screw at the top of fill valve where the float attaches.
 - Look at the directions of your new toilet fill valve for exact directions for float adjustment.
 - When positioned correctly, the top of the float should be set at about 1 inch below the top of the overflow pipe. The goal is to have the water shut off before the water gets high enough to flow over the top of the overflow pipe.



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