

Water Heater Maintenance

by [TheOneAndOnlyMrP](#) on February 8, 2009

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Intro: Water Heater Maintenance

Very few people know that in order to keep your water heater running properly and efficiently very simple maintenance procedures need to be performed. (These come with the instructions and are often overlooked.)

As water is pumped into your water heater tank dirt, sediment and various minerals settle on the bottom. Depending on your water quality these extra "ingredients" can add up rather quickly robbing your water heater's efficiency and costing you in the long run. If left unchecked they can not only make your water heater work harder but also allow your tank to rust and slowly be eaten away until you need to replace the entire unit which is very costly yet easily preventable. And cheap to prevent! You just need a hose, bucket (optional) and gloves (optional too, but safer with.)

This Instructable will show you how to perform a simple yearly draining of your water heater to keep it running smoothly.



Step 1: Locate Water Heater

First off, you need to know where your water heater is. This should be very simple. It should be located in your garage.

Be careful! You are going to be dealing with gas/electricity and very hot water and steam.



Image Notes
1. Water Heater



Image Notes
1. Be careful!

Step 2: Determine if it's Gas or Electric

This should be simple enough. Look around the tank itself and read any warnings and labels. If you can't determine one sure fire indication is if there is a pilot light odds are it's gas. Mine is gas operated.

Note: Read the instruction on the tank for turning off the gas and or electricity. Don't just do it unless you know what you are doing.



Image Notes
1. Pilot Light Unit
2. Gas Line

Step 3: Locate Water Shut Off Valve, Pressure Release Valve, & Water Drain

The water shut off valve is located on the top of the water heater. It typically looks like the circular water valves used for front and back yards.

The pressure release valve is located on the top as well. It should have labeling near it. There is piping that leads out of the water heater and into the wall. On the other side of the wall should be the continuation of this piping. It is typically in the front yard or entry way. Make sure it is not obstructed. This is very important.

The water drain is located on the bottom. It is usually a simple spout that has threads so that a hose can be attached. (These threads will be needed for later.)

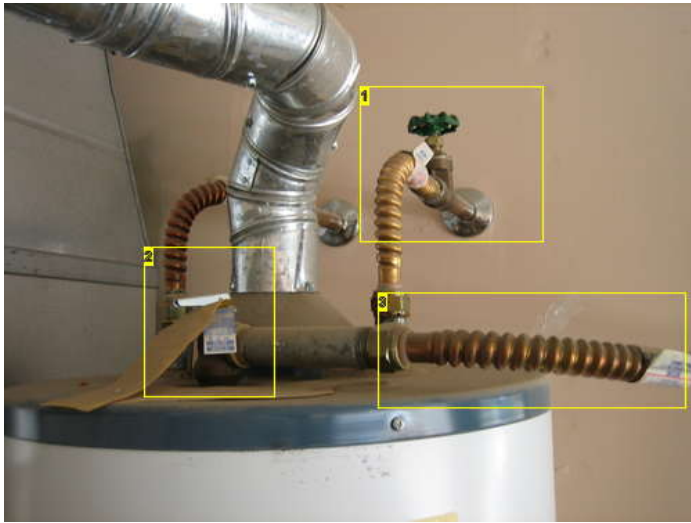


Image Notes

1. Water Shut Off Valve to water heater
2. Pressure Release Valve
3. Water release valve piping leading into the wall and out the other side.

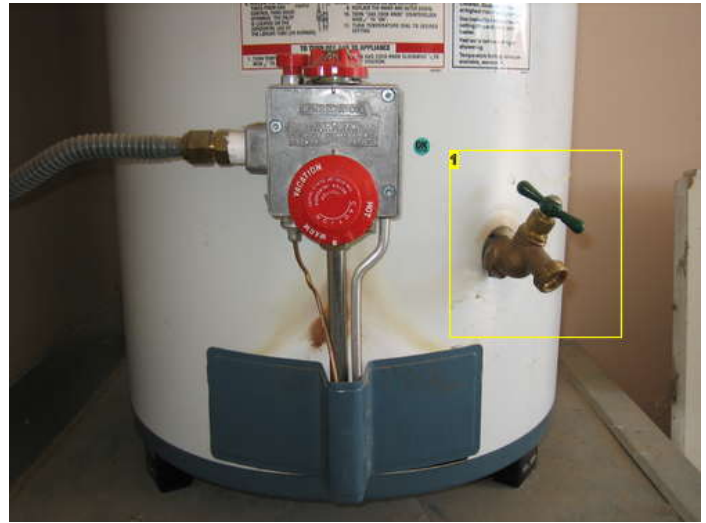


Image Notes

1. Water Drain



Image Notes

1. Front Door
2. Pressure release valve piping exit

Step 4: Turn Off Heating Source and Gather Supplies

Now that you know where your water heater is and what it operates with (gas or electric) you are ready to perform it's yearly maintenance. Be sure to turn off the gas to the water heater (if gas) or shut off the circuit breaker if electric. (Again, read instructions carefully.) I did this the night before. This saves the energy it takes to warm the water that you will soon be draining. No need to heat water you won't be using.

Get a hose.

Get a bucket.

Get some gloves to protect you from possible hot steam and or water.



Image Notes

1. Turn off the gas (or circuit breaker if electric.)



Image Notes

1. 5 gallon bucket

Step 5: Turn Off Water & Attach Hose

Like the title says, turn off the water to the water heater and attach the hose to the water drain.



Image Notes

1. Turn off the water to the water heater. (You'll know if its on when you begin to drain. It's loud when refilling the water heater.)
2. Should be wearing glove just in case. (I tested it to make sure it wasn't hot though.)



Image Notes

1. Hose attached to water drain

Step 6: Turn On Water Drain & then Open Pressure Release Valve

Next you will want to turn on the water drain to release the water from the water heater tank.

The water will drain from the hose and then slowly stop. This is because the pressure release valve needs to be opened to allow air into the tank. A vacuum has been formed and no additional water will be drained from the tank until the vacuum is opened up and removed.

Don't worry if the water is a little dirty as first. That is from all the dirt and sediment that has built up. This is the reason why you are draining it. Get all that stuff out!

Wait 10 - 30 minutes to allow all the water to drain.



Image Notes

1. I got gloves now. (Lead by example.)
2. Turn drain to allow water to flow.

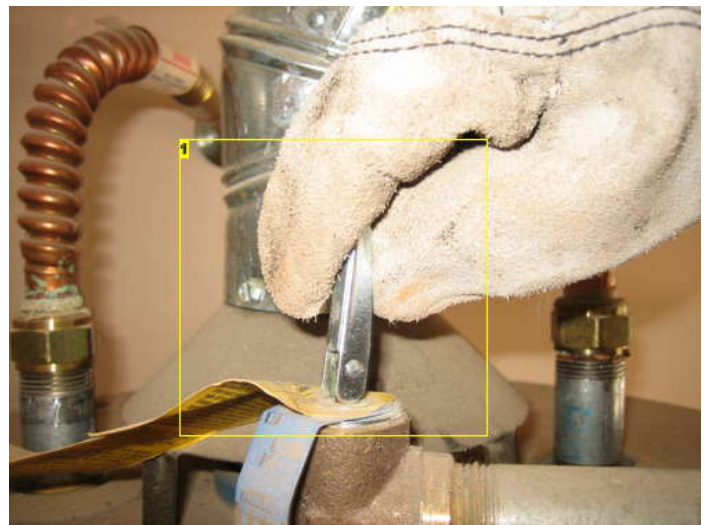


Image Notes

1. Open pressure release valve



Image Notes

1. Watch the water flow. (Might as well water some plants.)

Step 7: Turn On the Water to flush the rest of the sediment out.

Turn off the water drain and remove the hose.

Take the bucket and place below the water drain.

With pressure valve still open turn on the water to the water tank and then turn on the water drain to allow the rest of the sediment to be flushed out. Allow a few gallons worth of water to drain. Be sure to check the water draining out and make sure it is clear. If it is then you are set to refill the tank.



Image Notes

1. Turn off drain and remove hose.

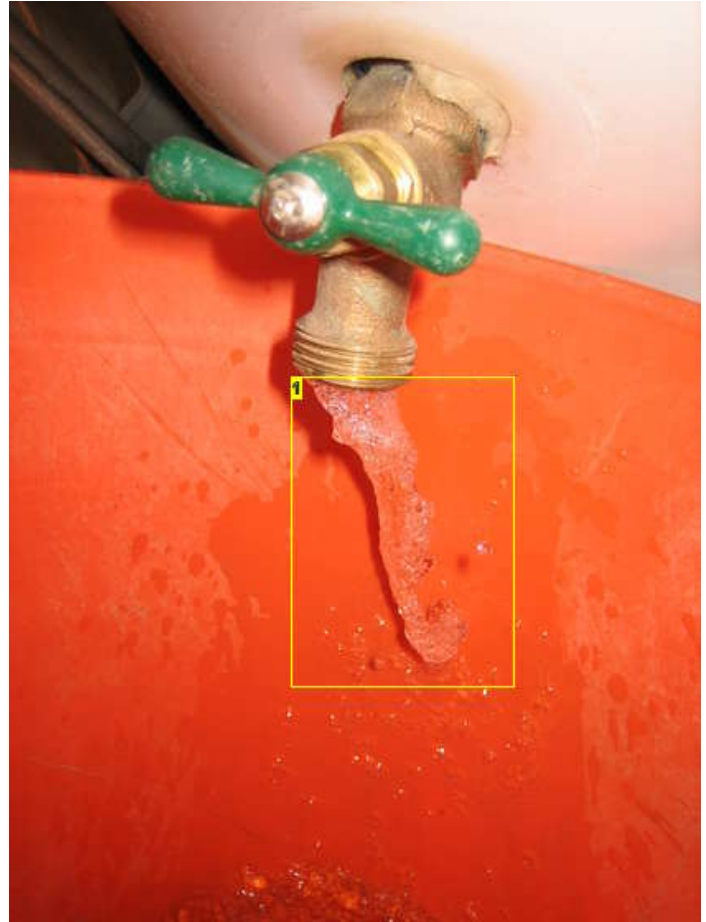


Image Notes

1. Nice clean and clear water. Time to refill the tank.

Step 8: Refilling the Tank

Make sure the water drain at the base of the tank is turned off.

Close the pressure release valve.

Turn on the water to allow the tank to be filled.

Once the tank is full you can turn the gas or circuit breaker back on. Caution: Do not turn the heating unit on until the tank is full. If the tank is not full it can cause heating damage to the unit.

Sit back, relax, and enjoy your nice hot water that will be flowing and heating you more efficiently. You got a full year to wait and perform this maintenance again.

Note 1: If you want you can drain a few gallons a month from your tank especially if you live in an area with a lot of sediment in your water. You don't need the hose. Just use the bucket for this month to month maintenance.

Note 2: If you experience any leaks in the water valves or pressure valves be sure that they are tightened correctly. There is a packing nut just below the knob that can be tightened if needed. If the leaking persists then there is a good chance they haven't been used enough and need to be replaced. So be sure to perform this routine maintenance to keep the valve working properly as well!

Related Instructables



Cheap and Easy Passive Solar Water Heater for your Home. (\$300) (video) by jaketeater



Solar powered Preheater for Tankless Water Heater by Davetech



Batch Solar Water Heater by ganeshruskin



Solar Hot Water Heater Batch Pre-heater by aleutianwind



Living a Greener More Energy Efficient Life by tashiandmo



Turn excess attic heat into hotwater by Senseless

Comments

5 comments

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dontno says:

Feb 14, 2009. 4:17 PM [REPLY](#)

You're spot on about draining your water heater. Very good Ible. Many years ago I had to replace my water heater. Where I bought the heater the technician told me besides draining the heater, replace the anode rod in the heater every 2 years, and in most cases you'll better than double the life of your heater. He told me he has the same water heater in his house for 23 years. I've been changing mine every 2 years. Its amazing how little of the rod is left after 2 years. My heater is 14 years old.



ilpug says:

Dec 29, 2010. 6:42 PM [REPLY](#)

i keep telling my parents to replace ours... hasn't happened at all. its 14 years old also.



Asmodeo says:

Aug 4, 2009. 6:55 AM [REPLY](#)

Well, after reading your instructable, I cleaned my heater!!! My water heater is a thermos one, it means that It heats the incoming water AND stores it hot until used. Those heaters have another item that's CRUCIAL : the "sacrifice anode" !! The job of this anode is to sacrifice corroding itself in order for the thermos tank to remain (almost) intact of corrosion.I don't know if the normal (non-thermos) heaters use such kind of device.... It could be accessed in the top, near the chimney, and is visible only as a big bolt, some 22mm to 25mm depending of the brand/model of heater. You MUST cut the incoming water flux, and unscrew that bolt. Then, pull out the anode, which is (as new) a long rod, almost the height of the heater and (new) almost 20mm diameter That rod will be, certainly, corroded more or less, depending of the time It was there, and the particular chemical condition of the local water. It's as simple as replacing the rod with one according to the brand/model of heater. Typically, any rod will serve it's purpose for some 4...5 years. I , once, saw a rod that was untouched for...20 years!!! It was only a thin wire left under a lot of corrosion "powder" I hope that this information, will serve a lot of people, along with TheOneAndOnlyMrP's excellent instructable! Thanks a lot !



TheOneAndOnlyMrP says:

Aug 4, 2009. 10:49 PM [REPLY](#)

You're welcome! Thanks for the input and feedback!



plumber_bob says:

May 22, 2009. 6:09 AM [REPLY](#)

Very good job! I couldn't have said it better myself. I even put a bump on your stars, it's good to see stars .