

TECHNICAL BULLETIN

Line : **Electric or gas-powered Water Heaters**

Technical Notice No. 1

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NOISE HEATER

SYMPTOMS

All water heaters, either electric or gas-powered, Could have a problem associated with the noise, such as: **Pounding, Sizzling, Popping, Rumbling, Ticking, Crackling**

CAUSE & FIX

Pounding : The most common reason for pounding water heater noise is the mineral buildup at the bottom of the tank and Water Hammer. Water hammer occurs when water is flowing through the plumbing and stops suddenly. The first signs of this problem are the pounding noise, banging and thumping sounds and vibration coming not from the heating unit but piping. The only fix of the water hammer and pounding noise is to install the WH arrestor.

Sizzling: sizzling noise coming from water heater is the result of the condensate leaking on the hot surface of the gas burner surface. Typical residential WH will produce approximately one half-gallon of condensate during the hour of operation. Condensate is normal occurrence on gas heaters as the flue gases are carrying lots of moisture, so when the condensate is dripping on the hot surface it is normal to hear the sizzling noise.

Electric water heaters are also making the sizzling sound, when the Heating elements are covered with the lime scale so water being trapped next to the element will boil water to steam. Condensation usually stops when the heater reaches the temperature of 115 F.

Popping: Popping sound from the heater is the result of the hard water and if it is trapped under the lime deposits. If you treat the water and lower its hardness you will successfully remove the annoying noise. Otherwise if you don't do the treatment (i.e. deliming or phosphoric acid) and regular flushing/maintenance, high water temperature brings even more deposits.

Aluminum hydroxide is another reason for the popping noise. If the water supply has relatively high PH and the heater is equipped with the aluminum anode rod, chemical reaction will result in creation of aluminum hydroxide (it looks like the green, blue or gray gel) at the bottom of the tank and on the anode rod. Replacing the aluminum with the magnesium rod with the flushing and deliming will solve this problem.

Rumbling and Crackling: Aluminum hydroxide gel in the heater's tank and mineral build-up are the same reasons for rumbling and crackling noise as with the previous problem with the popping noise.

Ticking noise: Ticking water heater noise is the result of the pressure fluctuations in the plumbing system, when flushing the toilet or using the water fixtures, or due to expanding and contracting against the framing or loose connection. The fluctuation can also be heard as the clicking or tapping noise. Energy efficient models are equipped with the heat traps so when the ball is rattling in the nipple it produces this ticking noise also. If the heat traps are the cause of the noise you can simply remove them without reducing the efficiency significantly.

Elaborated By: _____

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