POWUr NEWS

Saskatoon Chapter News

October 6. 2003

Meeting Notice

Tuesday
October 14, 2003

@ Saskatoon Construction Association

Speaker: Michael Dobbs, CamfilFarr

Topic: *Hospital Indoor Air Quality*

5:30 - 6:00	Cash Bar
6:00 - 6:45	Supper
6:45 - 7:15	Chapter Meeting
7:30 - 8:30	Dinner Speaker

AMERICAN SOCIETY OF HEATING, REFRIGERATING, AND AIR-CONDITIONING ENGINEERS

ASHRAE SASKATOON

ASHRAE
Saskatoon
P.O Box 7043
Saskatoon SK
S7K 4J1

Energy Answers

Rob Dumont

The following is a follow-up column on water heater questions and answers. As mentioned in a previous issue (April 2003), the water heater is the second largest consumer of energy in most dwellings.

1. Are there any good books available on water heater troubleshooting?

I can recommend **The Water Heater Workbook** by Larry and Suzanne Weingarten, published by Elemental Enterprises, P. O. Box 928, Monterey, California 93942. I ordered my copy from Amazon Books after locating the book on the Internet. The 154-page book mixes armchair philosophy, relevant theory and a heavy dose of practical knowledge. It has answers to questions such as "Why does my water heater produce a rotten egg odour?" (Answer. You have the wrong type of anode rod for your water. Use a zinc anode rod instead of magnesium.); "Why am I getting cold water if the burner is on?" (Answer. The vertical dip tube in the water heater is broken, and cold water is mixing at the top with warm water.); and "Why do water heater tanks leak so much?" (Answer. The anode rod inside most water heaters dissolves over time, and electrolytic action causes the steel tanks to leak.)

The authors have a very interesting statistic in the book: "Every year for the last ten years an average of 5,700,000 water heaters (about 80% of the water heaters shipped in the United States) were sold as replacements...What a pleasure it has been to learn there are relatively simple things which can be done to maintain water heaters, to **more than double** (emphasis added) their useful life, and to vastly reduce the number of replacements needed."

2. What can be done to "more than double" the useful life of water heaters?

The two most important things to do are to periodically clean the inside of the water heater to remove deposits of sediment and lime, and to replace the anode rod before it has reached the end of its useful life. The authors recommend replacing anode rods in water heaters that are more than six years old (if you are using softened water, the anode rod should be replaced about every two years.)

3. How do you clean the inside of a water heater?

Commercial water heaters generally have a side port that can be opened for access, but with residential models, there are no side access ports. Periodically opening the water drain valve at the base of the tank can help remove some of the sediment. The professionals have access to a tool called a Muck-Vac™, which basically does what its name says. There is also a citric acid descaler on the market called Mag-Erad™ which can remove sediment by chemical means. Another way to limit scaling is to keep the water temperature at or below 130°F (54°C).

4. What does the anode rod look like?

The anode rod is usually a rod of magnesium with a diameter of about 25 mm placed vertically in the water heater to act as a sacrificial metal to protect the steel tank, which is usually glass lined. While at a building supply store the other day, I notice that a residential magnesium anode rod costs about $20. A plumber could likely come to most city houses and replace the anode rod for about $100. The cost of a new gas-fired basic model of water heater was about $250 plus tax, and the total cost to have your old one replaced and a new one installed is about $525 in our area. Replacing an anode rod is definitely cheaper than replacing a water heater, and of course much less of a hassle, and a better use of resources

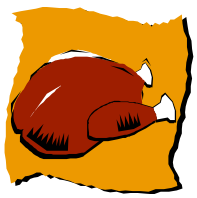
5. Have you heard of any safety problems with water heaters?

In the Water Heater Workbook, the authors tell the following chilling story; "Most water heater owners don't know they need to check their Temperature and Pressure (T& P) Relief Valve every six months or so to be sure it's still working, and these folks were no exception. One very cold night, when they were out of town, the water in their pipes froze. When the water heater came on, there was no place for the expanding water to go because the cold water line was blocked with ice, and the T&P valve was stuck. Instead, the plastic drain valve blew out, and their house was flooded when the main line thawed. Moral: Just as with anode replacement, the importance of T&P valve inspection is not stressed, and ignoring either can lead to trouble."

I have heard of a similar situation where the inlet line to the water heater was blocked, the T&P valve was corroded shut, the thermostat failed in the closed position and the water heater top exploded and drove the top of the water heater through the roof of the house. There is a tremendous amount of potential energy stored in a water heater!

Most people are afraid to test their T& P valve, as they are concerned that the valve will leak after the test. Here's how the authors deal with this problem:
"The way to test the valve is to flip the steel lever on the top of the valve so it lifts the brass stem it is fastened to. Check to make sure it allows plenty of water out. (Use a pail under the outlet pipe from the T& P valve.) If it fails to open or if, after use, it leaks, try operating the lever several times. If that doesn't stop the leak, try tapping the stem lightly. If it continues to leak, it will need to be replaced."

The book is filled with many similar gems of information. As one of the reviewers noted: "The book's tone, like its binding, is unpretentious and pragmatic, and every page is graced with a bit of wisdom....try Thomas Carlyle on water heaters: "The foul sluggard's comfort: 'It will last my time.'"



From Solplan Review Magazine, Box 86627, North Vancouver, BC, V7L 4L2? An annual subscription to the publication is $48.15 including GST.