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HOME ENERGY MANAGEMENT

Managing Your Hot-Water Heater

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After space heating and cooling, water heating is the home's largest energy consumer. It accounts for 15 percent of your energy bill! You do not have to sacrifice comfort or convenience with your management plan; you can save on fuel consumption by following these suggestions.

Lower the temperature setting

Water-heater thermostats are often preset at the factory much higher than needed. It makes no sense to heat water to a temperature higher than that which we can use comfortably. If you have a calibrated dial, turn it back to 110 or 120 degrees and move up to higher settings if necessary. Although a setting of 140 degrees is usually recommended for dishwashers, a good detergent will give good results at lower temperatures.

The settings of some heaters read high, medium and low. Dial down to the next lower setting; adjust up or down as needed.

Maintenance

Twice a year (or every other month if you live in hard water area), drain a bucket of water from your hot water heater storage tank. This removes sediment which absorbs heat energy and causes you to use more fuel than you otherwise would.

Insulate the tank

Do this with a readymade kit sold in most hardware and discount stores. OR, for more savings at less cost, wrap with a fiberglass insulation blanket.

SAFETY WARNING: The Department of Energy says to use extreme care in insulating gas-fi heaters with blanket insulation and recommends the use of water heater insulation kits instead. The Consumer Services Administration cautions against putting blanket insulation on top of a gas-fi heater.

Tools needed — gloves, tape measure, scissors or utility knife, board to serve as cutting surface and long piece of string or wire.

Materials needed — 3½ inches (R-11) or 5½ inches (R-19) blanket-type insulation, kraft- or foil-backed duct tape.

Instructions

1. Use this chart to determine the length of batts you will need.
2. Buy the amount needed. You may not be able to buy part of a roll; see if you can interest a neighbor in sharing work and cost.
3. Cut a sample piece. Be sure you've cut the correct length. It should go completely around the water heater without lapping or being compressed. Now cut enough pieces of this length to fully cover the unit all around, and from top to bottom. Trim 1 inch off each end.
4. After cutting the required number of pieces, you're ready to put them around the water heater one at a time.

For electric heaters

5. With the paper or foil on the outside, stack one piece on top of the other and tape until the heater is enclosed. Install the bottom strip fi You may want to temporarily secure this with a long piece of string. Cut openings for the electrical connections, drain valve and temperature controls or mark the location of these on the fl or on the jacket itself.

Distance around tank	Tank diameter	Cut length for 3½ inch batt	Cut length for 5½inch batt
56-57 inches	18 inches	77 inches	92 inches
62-63 inches	20 inches	83 inches	98 inches
69-70 inches	22 inches	90 inches	105 inches
75-76 inches	24 inches	96 inches	111 inches

6. Cut a round piece for the top. Cut as necessary to fit around pipes then tape in place.

For gas-fired heaters

7. The bottom strip should be at least 6 inches above the bottom of the heater. This allows combustion air to enter the burner properly.
8. Do not cover the top of the water heater at all. There must be provision to maintain the proper draft out of the flue.

Hot water pipes

Insulate the pipe between the water heater and the faucet. This helps keep the water in the pipe warm. Either pipe insulation or wraparound insulation is good for this. You can buy both at most hardware stores. Scraps left from wrapping your heater will give you more protection for less money. Wrap and secure with duct tape.

Wrap the cold water side too since heat is lost through thermosiphon action; 2 inches is minimum, 3 inches is better.

Insulation is especially needed where pipes run through unheated areas such as basements and crawl spaces. Insulate cold water pipes to reduce the chance of winter freeze-up.

Piping runs can be reduced by installing the water heater as close as possible to areas of greatest use, such as washers and baths.

Leaking water faucets are enormous wasters of energy and should be repaired as soon as possible. **A hot water faucet that leaks one drop per second wastes 720 gallons of hot water in one month.** In addition to the cost of the lost water is the cost of heating and pumping it!

Flow restrictors are small plug or washer-type inserts for your faucets and shower heads. You can cut the total water consumption (and the energy needed to heat and pump it) without sacrificing comfort.

References

Consumer Action NOW, *Women's Energy Tool Kit*, Edison Electric Institute, Do-it-Yourself Projects

Efficient Energy Corporation, *Hot Water Heater Blankets Work!*

Ohio Energy Service, *Water Heaters*

For more information, please visit the MU Extension web site at:

muextension.missouri.edu/xplor/

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