Making Ends Meet, Vol. 2: Stop the Heat Robbers
Michigan State University
Cooperative Extension Service
Family Living Education

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VOL. 2 making ends meet COOPERATIVE EXTENSION SERVICE

FAMILY LIVING EDUCATION • MICHIGAN STATE UNIVERSITY

EXTENSION BULLETIN E-1447

Stop the Heat Robbers

Does the thought of another winter's high heating bills have you feeling glum? Well, don't just sit there--do something about it! Take action against the heat robbers!

What are the heat robbers? They are any features of your house that let cold air in or heated air out. They include intentional openings like doors and windows and a multitude of unintentional ones.

How important are these energy leaks? Altogether, the little openings that exchange warm air for cold can add up to a hole the size of a basketball in the side of your house. They're a big part of the reason why you may be wasting at least half of the fuel you buy to heat your home.

The heat robbers do their dirty work through two basic principles: conduction and infiltration.

Conduction is the transfer of heat through a substance or material. Some materials conduct heat much more rapidly than others. Aluminum, for instance, is a better heat conductor than wood. That's why a wooden storm window is somewhat more effective at cutting heat loss than an aluminum one. What makes any storm window effective, however, is not the panes of glass or the materials holding them but the air trapped between the panes. Air is a poor conductor of heat, so a layer of air between the panes slows the loss of heat through the window.

If the window has gaps around it, however, heat will be lost through infiltration as the colder, denser, heavier outside air moves in to take the place of the warm air that's moving up toward the ceiling.

Finding and stopping these energy leaks doesn't take any special skills or cost very much money. It does take time. But, for the hours and the few dollars you invest, you can reap sizeable rewards in fuel savings.

Use the checklist to ferret out the heat robbers in your house.

WINDOWS

How many windows have storm windows or more than one layer of glass?

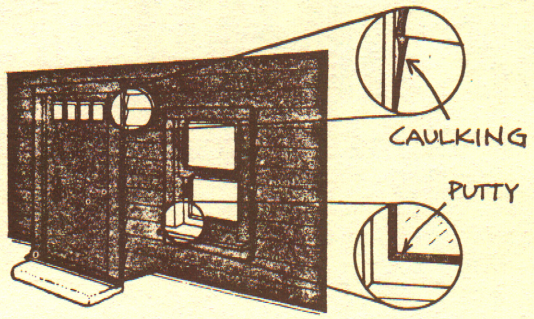
___ all have storms ___ how many need storms?

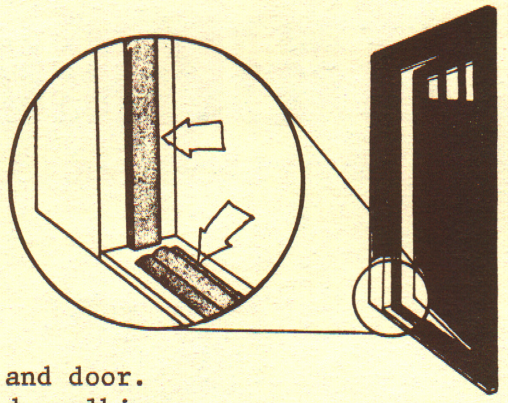
How many windows have weatherstripping?

___ all ___ how many need weatherstripping?

Action recommended:

YES	NO		YES	NO	
___	___	Repair broken window (s)	___	___	Install weatherstripping
___	___	Close curtains and shades at night	___	___	Replace putty
___	___	Install insulating shades, panels, cornices	___	___	Install storm windows (plastic, plexiglass, glass)
___	___	Caulk around windows			





Look at a typical window and door. Check for places that need caulking or putty.

DOORS

How many outside doors have storm doors?

___ all ___ how many need storm doors?

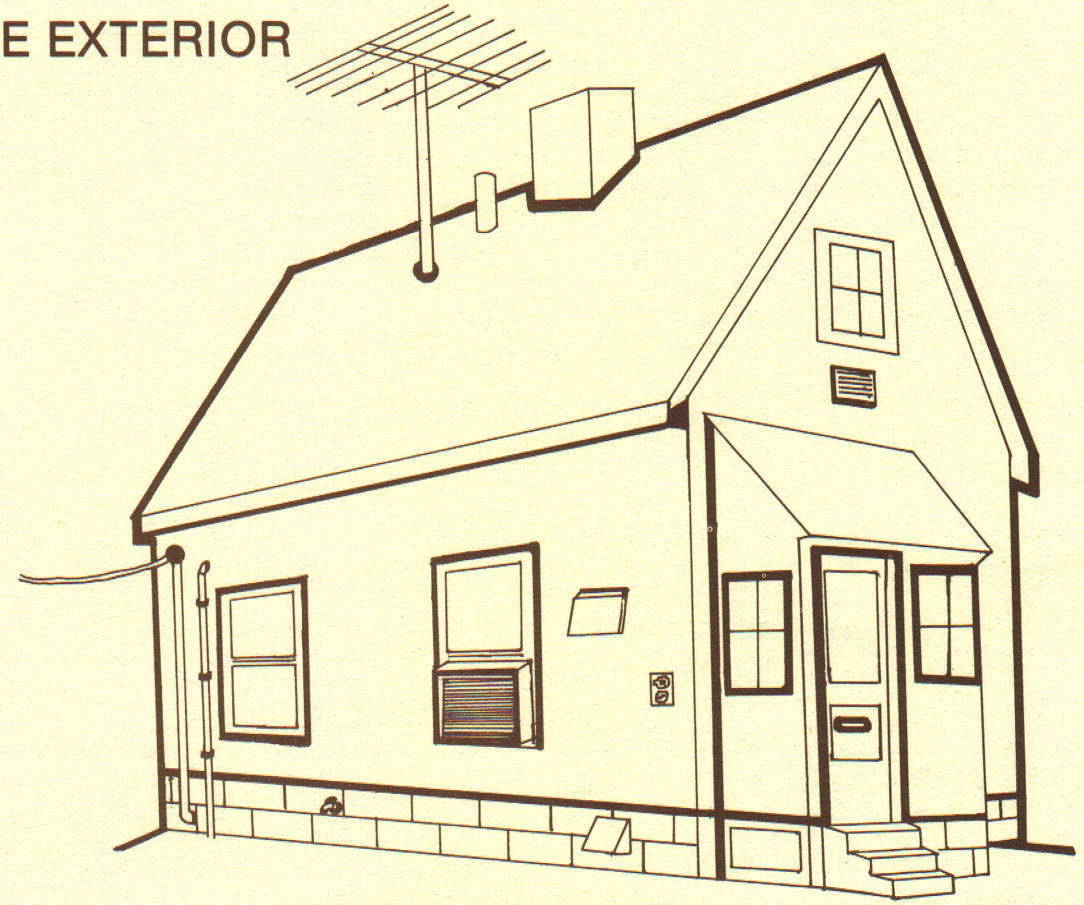
How many outside doors have weatherstripping?

___ all ___ how many need weatherstripping?

Action recommended:

YES	NO		YES	NO	
___	___	Weatherstrip	___	___	Designate only one door for general use
___	___	Add storm door (s)	___	___	Insulate door to attic or other unheated
___	___	Replace threshold			area (garage, etc.)

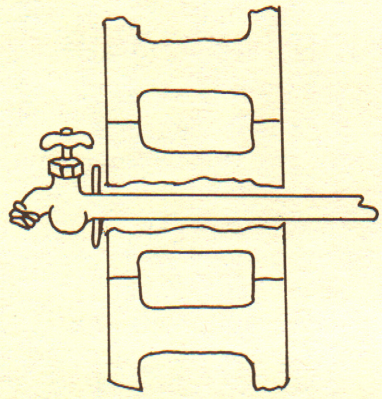
HOUSE EXTERIOR



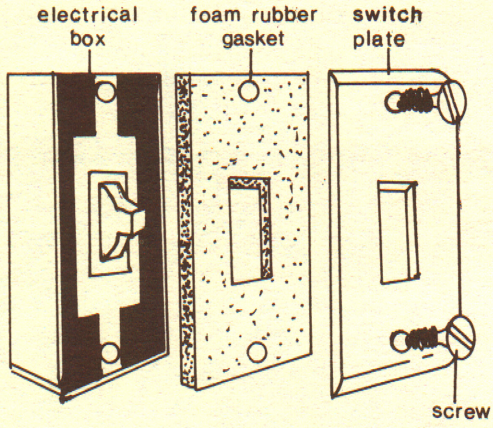
How many openings can you find in the roof, walls or foundation of your home? (Hint: look for gaps wherever anything goes through the roof of through a wall or floor dividing heated and unheated areas, and wherever two surfaces or two different materials come together.)

Action recommended:

YES	NO	
		Seal all cracks and seams:
___	___	around the chimney
___	___	between the sill plate and the top of the foundation
___	___	in the foundation
___	___	around the mail chute
___	___	around plumbing vents
___	___	around kitchen and bathroom exhaust fans
___	___	around outdoor faucets and electrical outlets
___	___	around porchlights
___	___	around dryer vent
___	___	around room air conditioners (cover units tightly, too)
___	___	Adjust any automatically closing vents that don't close tightly.
		Check the spots where various utilities enter your home and set up openings around:
___	___	the heavy cable by the fuse box
___	___	the TV antenna wire or cable
___	___	the telephone wire
___	___	Clean and/or adjust fireplace dampers so they close tightly when fireplace is not in use. If damper is missing or won't close, make or buy a fireproof cover for the fireplace opening or the flue.



Caulk outdoor faucets



Another place to look is indoors - the electrical outlets and switch plates on exterior walls. Foam inserts are easy to install and help plug the infiltration through the metal box.

CUT OFF

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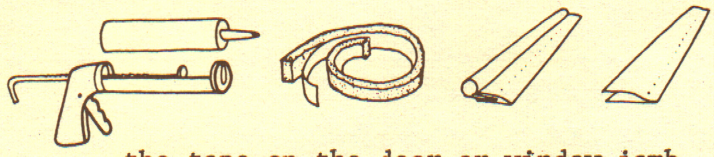

Caulking Materials

Most caulking materials are packaged in tubes so they can be applied with a caulking gun. The caulking gun costs only a few dollars. Caulking compounds vary greatly in price. Generally, the most expensive are the longest lasting.

Silicone compounds applied outside according to the manufacturer's directions should last about 30 years. Acrylic-latex, butyl rubber and synthetic compounds, which may be purchased in various colors to blend into your home's exterior color scheme, have a useful life expectancy of 8 to 10 years. The cheaper oil-based compounds and asphalt can be expected to last 3 to 5 years.

Weatherstripping Materials

Self-adhesive foam tape is made of high-grade, resilient sponge rubber or vinyl with a paper or vinyl backing. It comes in various thicknesses up to 3/8 inch. To apply peel off the backing and press the sticky side of the tape on the door or window jamb, stop or sash. Surfaces must be clean and dry. This material is cheap and easy to apply, but it tends to deteriorate rapidly if exposed to weather. It may last only one season.

Felt weatherstripping comes in various widths and thicknesses. Fasten it to wood with tacks or staples and to metal with a good adhesive. Apply it to door stop, sill or sash so it fits snugly against the other member. Felt is easy to apply but it tears easily during use and it's not effective when wet.

Neoprene-coated sponge rubber or foam, with attached neoprene strip for fastening to bottom of door or door jab, is easy to install and holds very well when tacked or stapled. It can also be used on windows.

Metal-backed vinyl strips are easily applied to wood door and window jambs, stops or sashes with tacks or screws.

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