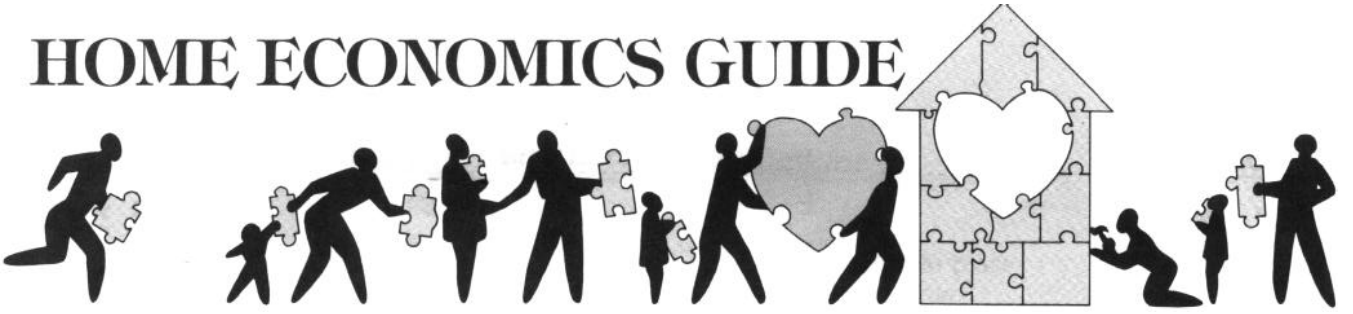

Audit Your Home For Energy Waste

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User's Form

Instructions

Answer the following questions and take notes **as** you make this house audit. Check the "poor" column if work needs to be done; "fair" if some improvements are still needed; and "okay" if no additional work is called for. It will be easier, and more fun, if you take someone with you.

This home energy audit tour will begin inside the living space. Remember, you are looking for ways your home is losing heat through conduction, convection, radiation and infiltration.

Watch for inadequate R-values, especially in large surfaces. Remedy situations where heat is lost through convection currents and radiation to cold spots. Note any cracks and gaps that permit losses through infiltration. Get started!

Condition			Item	Instructions	I Need To Do
Poor	Fair	Okay			
A. Things to check in each room inside the house:					
____	____	____	1. Thermostat	Cut large temperature differentials. Winter setting during day: 65° to 70° F. Winter setting at night: 60° F. Winter setting while away: 55° F. Air conditioner setting: 78° F.	
____	____	____	2. Baseboards	Look for small gaps along floorline or at top of baseboard. Caulk with a clear or paintable acrylic latex using a fine bead.	
____	____	____	3. Electric outlets Switch plates	A great deal of cold air can enter here. Are insulating gaskets installed here? Unused sockets should be plugged with plastic inserts.	
____	____	____	4. R-values in walls	Check the type and amount of wall insulation. Turn off electricity and investigate the opening behind outlet and switch plates. Pull out some of the material from inside the walls with a plastic crochet hook. Identify it and figure the R-value. (See *Ag. Guides* and 1723.) This may be difficult and	

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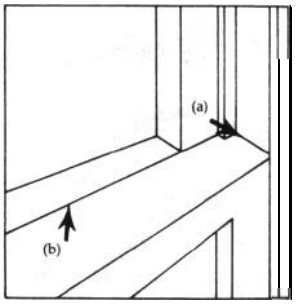
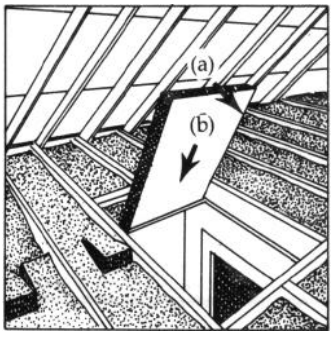
Condition	Item	Instructions	What I Need To Do
Poor Fair Okay			
		expensive to correct. For walls, the recommended R-value is 19. Check for the presence of a vapor barrier; vapor barrier paints are one way to remedy the absence of a barrier.	
____ ____ ____	5. Windows	Look for any gaps that permit air leaks. Is there weatherstripping? Do locks fit and work? Check-for gaps between trim and the walls. Careful caulking can remedy this. Look for gaps around and under a room air conditioning unit.	
____ ____ ____	6. Exterior doors	Examine all doors closely for adequate weatherstripping. Does the threshold need to be sealed with a door sweep? Would a better seal be obtained by installing new thresholds? Check for gaps where the trim meets the wall. Caulk if possible.	
____ ____ ____	7. Fireplaces	Close damper or air vent when not in use. Install glass doors. Check for gaps between fireplace and wall. Caulk if possible.	
____ ____ ____	8. Furniture arrangement	Move furniture away from walls to prevent loss of body heat to cold surfaces such as windows. Move draperies away from heat registers and vents to allow efficient heat flow from furnace vents or baseboard heating units.	
____ ____ ____	9. Solar management	In winter, open south window treatments on six best sunny hours. East and west windows, open treatment three sunniest hours. North windows, close unless there is morning or evening sun. Plant windbreaks to cut north winds. In summer, control south and west sun with awnings, shutters or solar screens...	



(a) Check tight fit of window in channel.
(b) Check for air leaks.

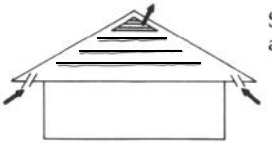
B. Areas to check in the attic:

____ ____ ____	1. Attic access	Is the attic access insulated and weatherstripped from the attic side?	
____ ____ ____	2. Attic insulation	Identify the insulating material. Measure depth and compute R-value. The recommended level is 30 in the floor of an unfinished attic. Insulation should be at least 3 inches away from recessed lighting fixtures to meet fire and safety codes. Is there a vapor barrier? It may be possible to add one by painting the ceiling with a vapor barrier paint.	

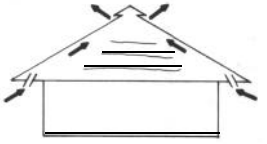


(a) Foam weatherstripping around perimeter.
(b) Attic access.

Condition			Item	Instructions	What I Need To Do
Poor	Fair	Okay			
____	____	____	3. Air channels into and through attic	Any penetrations of the attic, i.e., walls, plumbing pipes, chimneys, ducts should be caulked at attic floor to seal.	
____	____	____	4. Attic ventilation	A correctly ventilated attic prevents excessive temperatures and protects insulation from moisture condensation. The recommended amount is about one square inch of open ventilation for each square foot of attic floor space. Half of this should be low intake (soffits) and half should be high outlet (gable and/or ridge). The attic area over the soffits should be free of insulation so this flow is not interrupted. An attic fan with a humidistat would be beneficial in removing hot humid air.	



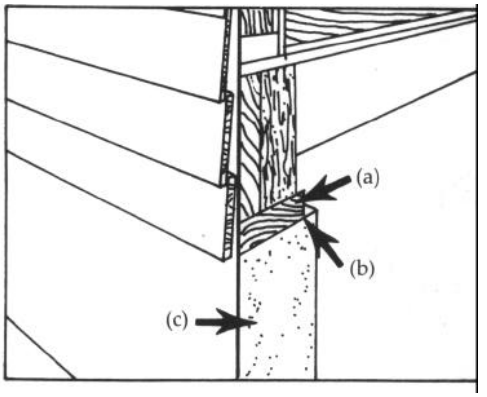
Soffit louvers and gable vents.



Soffit louvers and continuous ridge vent.

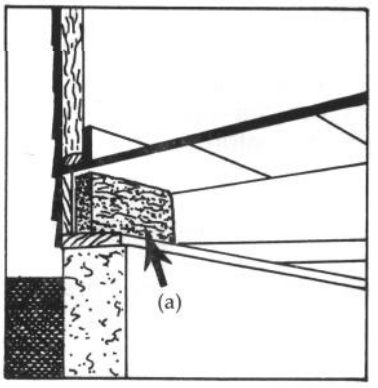
C. Areas to check in the basement:

____	____	____	1. Foundation and sill-plate area	Is there a sill sealer between the wood sill and the top of the stone or wood foundation? If not, this should be caulked.	



(a) Sill plate.
(b) Caulking or sill sealer.
(c) Foundation wall.

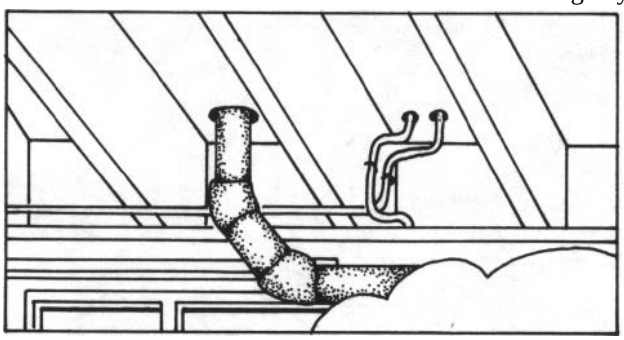
____	____	____	2. Band joist	Is the band joist between the sill and the subfloor insulated? This can be easily done with fiberglass batts.	



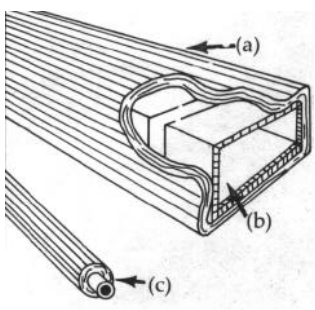
(a) Band joist insulation.

____	____	____	3. Basement insulation	If you use the area as living space, the walls should be insulated to an R-7. Be sure there is no water seepage in the walls before insulating.	
____	____	____	4. Basement windows	Check the condition of basement windows. Replace any cracked or broken glass. Caulk around the frame where it meets the foundation wall. Add an insulating layer such as storm windows or interior treatment.	

Condition			Item	Instructions	What I Need To Do
Poor	Fair	Okay			
____	____	____	5. Plumbing and wiring entering the home	Locate pipes and wires that enter the house. Caulk the entryway from inside or outside.	
____	____	____	6. Plumbing and wiring passing through floors	Wherever ducts, pipes or electrical wires pass up through the floors or walls, an air passage is created. Are these areas tightly caulked?	

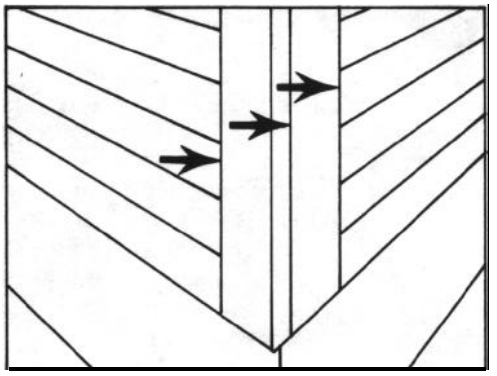


____	____	____	7. Hot water heater temperature setting	Cut large temperature differentials; lower the setting to a temperature comfortable for your family. Start at 120° F; move up if necessary.	
____	____	____	8. Hot water heater and plumbing lines	Insulate the heater tank with fiberglass batts or a kit made for that purpose. Hot water pipes should be insulated; cold water pipes should also be wrapped for a distance of 3 feet above tank. Drain 3 to 4 gallons from tank every other month. This removes the sediment that prevents water from heating efficiently. Install flow restrictors in upstairs faucets and shower heads. This limits the total amount of hot water used without affecting comfort.	
			9. Heating and cooling:		
____	____	____	a. equipment	All pieces of heating and cooling equipment are working properly. The equipment does not run for long periods of time.	
____	____	____	b. filters	Furnace and air conditioner filters are clean. While this is on your mind, look at the filter on the clothes dryer. Clean filters if necessary and check regularly.	
____	____	____	c. duct work	Joints are not broken, loose or leaking.	
____	____	____	d. insulation	Heating ducts in unheated spaces, such as basements, crawl spaces, over garages and in attics, should be insulated.	



(a) Insulating blanket.
(b) Sheet metal duct.
(c) Heating pipe with insulation.

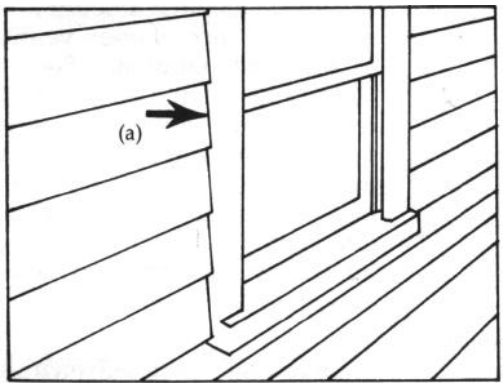
Condition	Item	Instructions	What I Need To Do
Poor Fair Okay			
___ ___ ___	e. window air conditioners	Weatherstrip on all sides if left in place all winter. Cover with canvas or a specially-made cover during the winter.	
___ ___ ___	f. floor between basement and first floor	When a basement is unheated, the floor between the basement and the rooms above should be insulated. The vapor barrier should face the upstairs. The insulation should have an R-value of 13.	
D. Areas to check outside the home:			
	1. Where 2 building materials meet to form a joint:	Inspect the caulking wherever two different materials come together. Replace caulking and repair cracks and holes in walls and foundation.	
___ ___ ___	a. at comers formed by siding		
___ ___ ___	b. where chimney or masonry meets siding		
___ ___ ___	c. between porches and house		
___ ___ ___	d. outer walls and foundation		
___ ___ ___	e. where the top of foundation meets the wood frame or siding		
___ ___ ___	f. where outside faucets, vents, pipes or other special breaks occur in the outside surface.		



Check comers for caulking.

Repair cracks and holes in foundation walls.

Caulking at the foundation sill is one of the most overlooked yet most important places to stop in-**filtration.**

Condition			Item	Instructions	What I Need To Do
Poor	Fair	Okay			
____	____	____	g. where electrical, telephone, TV and other wires penetrate the outside wall	(a) **Check caulking at window and door frames.** 	
			2. Window and door perimeters:		
____	____	____	a. wherever window and door frame meet the siding (check all sides)		
____	____	____	b. below window sills at , junction with siding		
____	____	____	c. where storm windows meet the window frame	Caulk this seam on all sides. Be sure to leave drain holes open to prevent moisture damage to sills.	
____	____	____	d. look closely at all windows	Is the putty around window panes solid and unbroken? Is there any broken or cracked glass? Repair, if needed.	
____	____	____	3. Attic ventilation	From the outside of the house you can see the low and high vents for attic insulation. Are these adequate? *See item B.4.* Don't cover turbine vents in the winter! Air circulation is necessary to prevent moisture condensation in the attic when warm air rises and strikes the cold attic ceiling.	

This completes the tour. Add the total number of checks you have made in each column

____ **Poor,** lots of work needs to be done for energy management and improved comfort.
____ **Fair,** some work needs to be done for energy management and improved comfort.
____ **Okay,** little or no work needs to be done.

Select the items you can do as quickly and inexpensively as possible. These improvements will pay for themselves almost immediately and improve your comfort level.

List major jobs to be done and evaluate these on the basis of their cost and payback. Do those first that have the greatest potential as an energy investment.

Illustrations from: USHUD and DOE "Energy-Wise Home Buyer," Publication #HUD-PDE-412
L.D. Herman, Sheet Metal Workers International Association, Kansas City, MO.

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