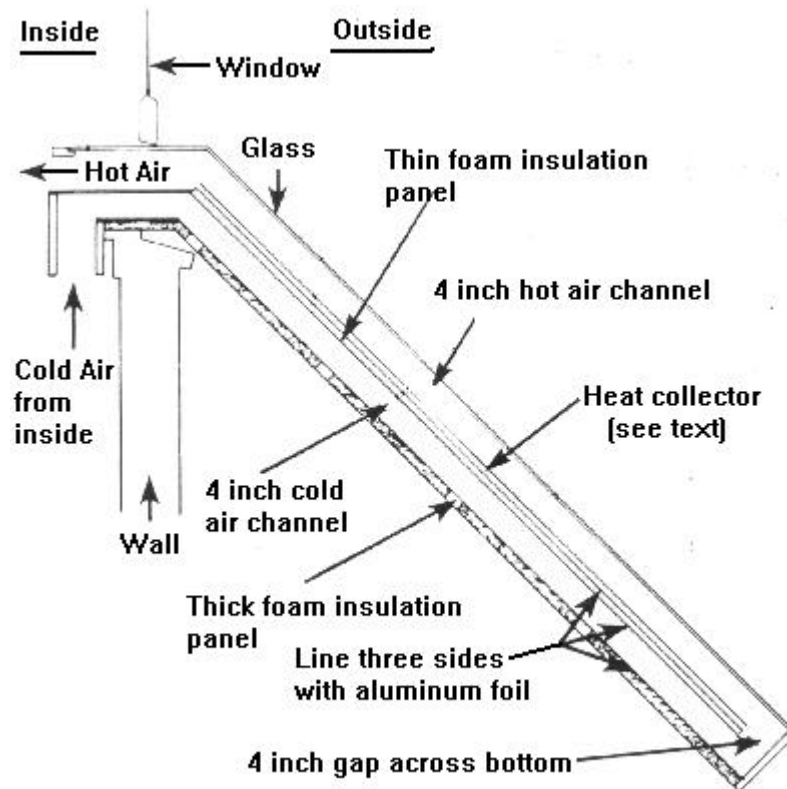


Solar Heater



Do you have some south facing windows? (North facing if you are in the Southern Hemisphere), If so you might want to consider some free solar heat. Don't expect this to eliminate all heating costs but it will reduce your expenses. The more windows you can place one of these solar heaters in the more you will see a reduction in your heating costs.

The main components of this solar heater design are sheets of heavy-duty foam insulation, one or more sheets of window glass, a tube of "RTV" (bathtub sealant), a box or two of aluminum foil, and a roll of duct tape. Exact sizes and angles to cut will vary, depending on the height of your window from the ground, it's width, and the winter sun angle at your latitude.

The **Heat Collector** can be as simple as painting the sun side of the thin foam panel flat black, or for a more efficient collector use a sheet of ten-thousandths aluminum (available as scrap from most newspaper or "offset" presses). Paint the aluminum sheet(s) flat black on both sides then mount it 1/2 inch from the surface of the foam sheet using a couple of dozen 1/2 inch cubes cut from foam and cemented down with RTV. This allows the air to pass by both sides of the solar heated aluminum, greatly increasing the efficiency.

Cover all inside foam surfaces with aluminum foil and glue it down with RTV. Paint or otherwise cover **ALL** external foam surfaces. Foam is sensitive to ultraviolet light and will decompose if left, unprotected, in direct sunlight.

Be sure and seal the glass top and all other exposed seams with RTV to insure the assembly is watertight. Moisture in the collector will reduce its efficiency, and may promote mold.

Use RTV to glue the sides to the bottom panel and end cap. Duct tape can be used to hold everything in place while the RTV sets up, if applied along all edges the duct tape can be left in place to add strength.

You may want to consider pushing a few nails through the side panels and into the thinner inner foam panel to hold it in place as the RTV sets up.

Cut two foam covers to close the hot and cold air ducts at night or in the summer. Duct tape makes pretty good hinges and clasps for these covers. If you live in wind a prone area you may want to drive two stakes in the ground and attach them at each side of the lower end of the solar heater to prevent wind lift. Remember to keep the glass clean for optimal performance.

Notice: The intent of this web page is not to be step-by-step instructions, but as a source for general information and rough design ideas. If you are not handy building small projects I would suggest you find someone who is to help you with this project.

