CHRISTIAN BUILDING INSPECTORS INCORPORATED ®

Home Tips®

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Q & A

Attic Ventilation?

How do I know if I have enough attic ventilation and what type of ventilators do you recommend?

According to the current standards, you must have at least one square foot of ventilation for every 150 square feet of attic floor area. Normally, half of the ventilation is in the form of soffit or eave vents and the remainder half is in the upper part of the roof at least 36" above the soffit. Since the soffit or eave vents are louvered, figure about 40% of the actual area as net free air. Make sure that the eaves of the attic are not sealed with insulation, since this will block the air flow. It is important to remove as much of the heat and moisture in the attic as possible without pulling air out of the inside of the house.

They are many different types of ventilation devices on the market today. The least expensive and least effective are the fixed vents. These vents allow the heat to escape due to the hot air rising naturally out of the attic. A 9" diameter opening will provide about 51 square inches of net free air. On a normal 1200 square foot attic, you would need approximately twelve vents. The disadvantage is that they cannot vent the hot air that is trapped at the ridge above them. The solution is to install a continuous ridge vent. This type of vent is placed along the ridge of the roof with the roof decking cut back approximately one inch on both sides. The hot air will naturally rise to the ridge and out of the vent. You can figure around 16 square inches of net free air per lineal foot of vent. The ridge vent is one of the best ways to ventilate the attic.

The next type is the wind turbine vent. As the name implies, the wind will aid in the ventilation. The unit is capable of moving up to 720 cubic feet of air per minute on a windy day and two units will ventilate a 1500 to 2000 square foot attic.

The final type is the power roof ventilators. These can be installed in either the gable louver or in the roof deck itself. The units do require electricity and are sometimes noisy to operate. However, one unit can ventilate anywhere from 1200 to 3000 square feet of attic, depending on the size. The units normally come with a firestat, which is an emergency shutoff in case of fire, and adjustable thermostat. The thermostat should be set at 110° to 120° degrees so that the fan will not run all of the time during the summer months. The disadvantage of this type of ventilation is the fans have a tendency to burn out after a few years of operation.

I am a firm believer in *maintenance free* operation, so I would recommend the continuous ridge vents and if additional ventilation is needed, then add a couple of turbine vents. Also, while you are up in the attic, make sure the bathroom exhaust fans are vented to the outside of the attic and the attic insulation is at least 6" of fiberglass batt or 8" of blown insulation. Today's standards require R-30 or 9½" of fiberglass batt insulation or 11" to 13" of blown insulation.

Whole House Fan?

Is a whole house fan a good investment and how do I install one?

A whole house fan is installed in the ceiling, normally in the upstairs hallway, and works by pulling cooler outside air through open windows and exhausting the warm interior air out through the roof. The prime season for using the fan is in the spring and fall. This will save you from using the air conditioner and it works especially well during the evening hours.

The first thing you will need to do is determine the size that you will need. Determine the total square footage of the living area in the house, excluding the basement if the basement has no windows or if a door will be closed between the basement and the rest of the house. Then take the total square footage and multiply by 4. This will give you the total cfm or cubic feet per minute required for the fan. The fan does not have to match this figure exactly.

Next, try to select a fan that has a wood frame around the housing for ease of installation. Be sure the fan comes with a louver, firestat and timer or switch. If not, then pick them up separately. Determine the location in the hall where you will install the fan. The size of the fan is not as important as the size of the louver. If your hallway is 36" clear between the drywall, then a 38" X 38" louver obviously will not fit. You will probably need a 34" X 38" or what ever size is available that will fit.

After you have purchased the fan and accessories the next step is to frame the opening where the fan will sit. Measure the opening and be sure the louvers will cover up the entire opening. Never, never, never cut through a roof truss. Just build a frame that will fit around the trusses or ceiling joist and be supported by them. Make sure the frame goes all the way down to the drywall but doesn't rest totally on the drywall. The weight must be supported by the trusses or ceiling joist. Next, cut the drywall out of the inside of the

frame. Set the fan on top of the frame and anchor. Install the firestat, switch or timer and louver. Now you are ready to enjoy inexpensive cooling at a fraction of the cost of using an air conditioner. If you forget to open any windows, then the fan will not operate properly and you could create backdrafting which is when carbon monoxide and other toxic fumes, given off by gas burning appliances, will be pulled into the house instead of exhausting through their vent pipes or the chimney. Be sure to open the windows in the rooms you are trying to cool. There are only two drawbacks to using a whole house fan. First, you can pull in unwanted pollens and second, you will pull in moisture that will cause mold and mildew. Run the air conditioner during the day to remove the moisture. The fan will operate well as long as the outside temperature is cooler than the interior temperature.

Septic Tank Maintenance?

I recently purchased a home with a septic tank for the waste disposal system. Since I have never used one before, what maintenance is required and what type of additives should I use?

A septic tank is virtually maintenance free. There are some tips, however, to insure the system will continue to function properly.

Only household waste and toilet tissue should be disposed of in a septic tank system. If you use a garbage disposal, beware that kitchen greases can kill the bacteria that breakdown solids and clog the drain field. It is okay to use garbage disposals, just have the tank cleaned twice as often.

Any leaks that develop in the plumbing system should be immediately corrected. A leaking faucet or toilet tank, no matter how small, could eventually result in complete saturation and failure of the drain field.

A septic tank needs periodic cleaning or pumping out of the accumulated solids. If the solids are allowed to build up in the tank to a point that they begin to pass out of the tank into the soil absorption network, the drain pipe will soon become clogged with the solids, resulting in failure of the entire system. If this happens, you will have to replace the entire drain field.

The frequency of tank cleaning or pumping is hard to determine as it depends on many factors and varies with different families. The only sure way to determine the need for service is to open the tank periodically and inspect it to determine the accumulation of solids, but most homeowners will not do this when it is needed. A good rule of thumb would be to have the tank pumped out every 3 to 5 years. This should provide a margin of safety. The most accurate way to determine the need for service is to inspect the tank on a yearly basis. If you are just moving into a home with a septic tank system and do not know the maintenance record of the tank, go ahead and have the tank cleaned. The cost in the Metro Atlanta area ranges between $125.00 and $200.00. You can contact your county health department for a list of contractors who specialize in this type of maintenance.

Never allow automobiles or other heavy equipment over the septic tank system. This causes excessive compaction and actual structural damage to the tank and drain field. A sketch of your septic tank system can usually be obtained from your county health department and aid you in locating the system.

No presently know chemicals, yeast, bacteria, enzyme or other additive product will improve the operation or life expectancy of a septic tank system. If you have additional questions about any additives, contact your local health department.

Q & A Sources: Handyman Magazine, ASHI Training Manual and the Georgia Department Of Human Resources.

If you have a question, comment or home tip, send your letter to Home Tips, Christian Building Inspectors, Inc., 1003 Star Court, Norcross, Georgia 30093. We reserve the right to edit for length.

Joke Of The Day

SON: DAD! I MADE A 100 ON FINAL EXAMS.
DAD: REALLY? TELL ME ABOUT IT.
SON: I MADE 50 IN MATH, 30 IN HISTORY AND 20 IN ENGLISH.

A Tip Of The Hat To:

Bill Smith
America's Realty, Inc.

Thank You

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