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## ATTIC VENTILATION

Improving the ventilation in an attic can increase the efficiency of cooling systems, remove moisture and condensation during the winter months and increase the lifespan of a roof. Attic temperatures can easily exceed 130 degrees if improperly ventilated. The larger the temperature difference between the attic space and interior living space the greater potential for heat to enter the home through ceilings. On a typical summer day attic temperatures may reach 120 degrees which is still hot enough to affect the interior home temperature. Effective ventilation is critical to ensure a properly cooled attic space.

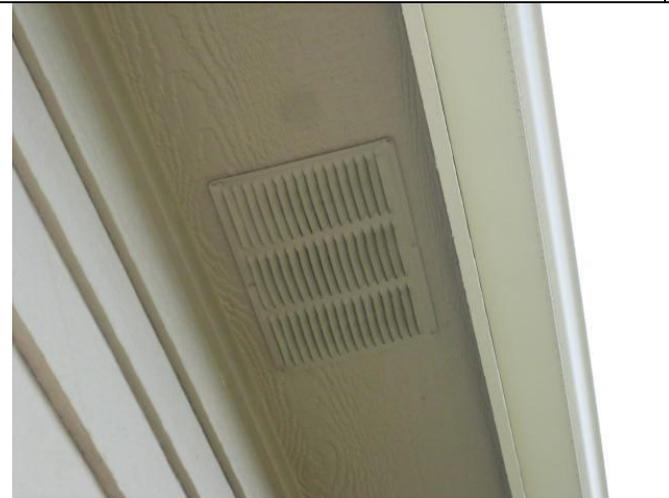




Gable vents are common on homes with a larger open attic space and peaks on each end of the home.



The interior of a gable vent should have a wire screen to prevent pest intrusion. Additional information covered under “Gable Vents” handout.



Soffit vents are installed under the eaves, in the soffit, to let cool air in at the lowest point in an attic which allows hot air to escape out the top of the attic (roof vents).



Soffit vent baffles are installed to prevent insulation from covering the opening. Additional information covered under “Insulation” handout.



Roof louvers are low profile vents installed near the peak of the roof that allow hot air to escape.



Roof louver visible from inside the attic. A wire screen may also be placed over this opening if pest intrusion is an issue.



Ridge vents are becoming more popular and are designed to operate similar to roof louvers while providing continuous ventilation along the length of a roof.



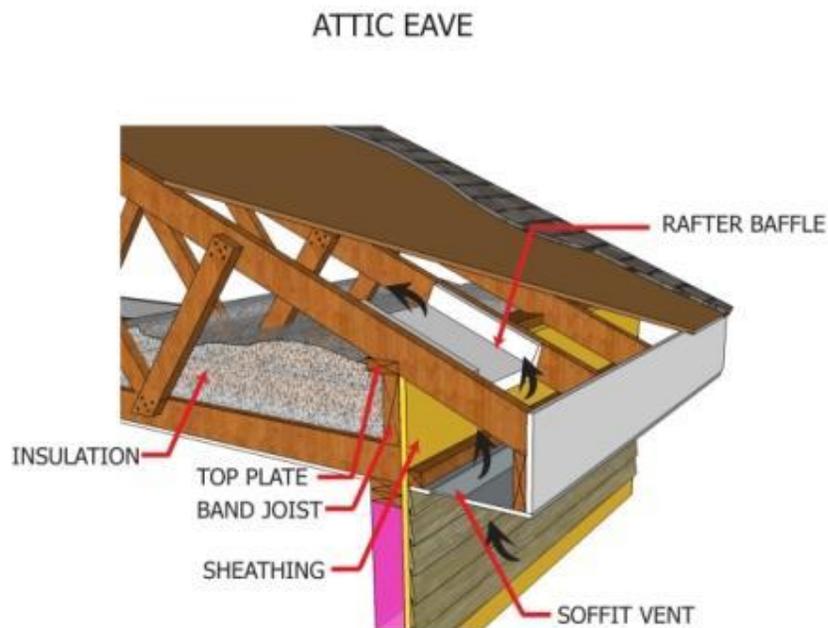
Notice the separation of decking at the center of the peak, this allows air to escape the attic space through the ridge vent.

In general the more ventilation provided for the attic space, the cooler a home will be in the summertime. Condensation in the attic in the winter can cause mold, deterioration of the plywood decking, and water to drip into the home through the ceiling. Poor attic ventilation is a major cause of premature roof failure. When planning to add vents, screens, or insulation it is best to plan the project for October or November when it is cooler.

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## Install Roof Baffles

It is important maintain the free flow of outside air through the attic and out the upper roof vents. We recommended that polystyrene or plastic roof baffles be installed where the joists meet the rafters. These should be stapled or otherwise secured into place.



## Place Baffles Around Electrical Fixtures

Provide a buffer around light fixtures or other heat generating devices (i.e. can lights) that protrude into the attic space. Many of these are not rated for zero clearance to insulation. Generally the fixture and insulation you choose will dictate the required clearance. Recessed light covers can be purchased for less than \$10.00.



Typical can light baffle available at your local hardware store.



Typical rafter baffle available for purchase at your local hardware store.

**Apply the Insulation**

We recommend loose-fill insulation, either fiberglass or cellulose, when the attic space has no finished area. We do not recommend using attic spaces for storage or occupancy unless they have been specifically designed for that purpose. We recommend installing a blocking around the attic entrance location ensure you can achieve the recommended insulation depth without significant loss of material down the entrance location. You can use 2x4s and plywood to build a box around the entrance, while leaving to top open for access as needed. Install the insulation by working around the perimeter of the attic towards your access location. To achieve proper density and minimize settlement of insulation after installing we recommend holding the blower hose parallel to the attic. You can staple depth guides to the rafters around the attic to help gauge uniform depth and ensure you have provided adequate coverage.



This shows a typical form for placing the loose-fill insulation using a blower machine and hose.

This shows ridged foam board to install over your access hatch. You may also use fiberglass batts.

If you plan to use fiberglass batt insulation begin by cutting long strips and lay them in between the joists. Do not bunch or compress the material; this will reduce the insulating quality. When installing the second layer of insulation place it perpendicular to the first layer to help minimize air leakage by ‘short circuiting’ or air leakage between the joist and the insulation.



This shows how to place two layers of batt insulation.

This shows the attic access hatch blocking used to prevent insulation from falling out of the attic when opened.