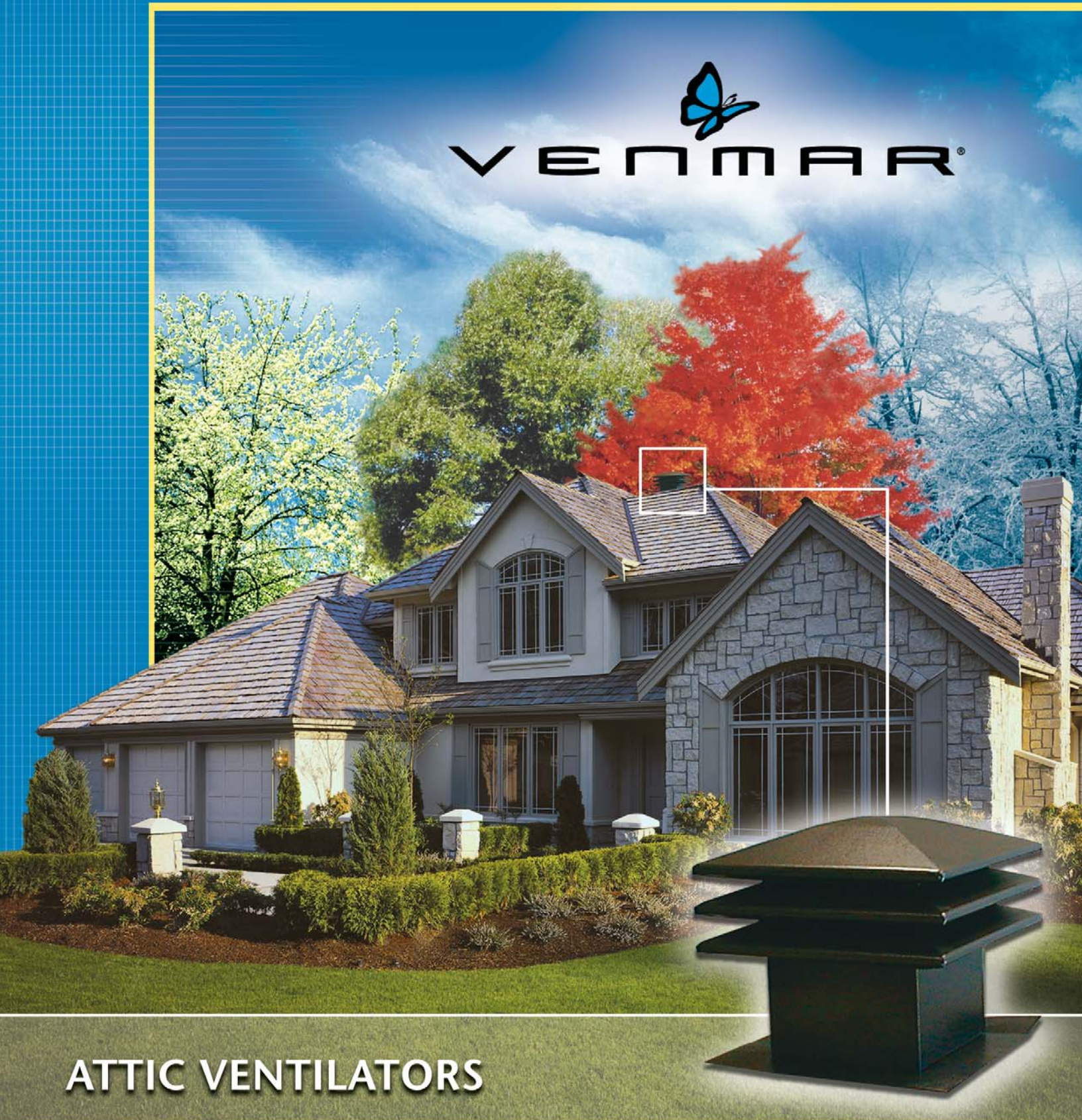




VENMAR®



ATTIC VENTILATORS



Four-Season Use

Venmar sets the standard for the ventilation industry!

Venmar Ventilation inc. is North America's most important manufacturer of residential air quality equipment.

With over twenty-five years of innovation, Venmar Ventilation has been recognized as leader in the field with its leading-edge technology and breakthrough ideas.

From basement to attic, kitchen to bathroom, Venmar's wide range of high quality products has been developed to meet your every ventilation need.



You have
ventilation
problems?

Venmar
has the solution!

Venmar attic ventilators give you the following advantages

- Better corrosion resistance through the use of 24 and 26-gauge G90 galvanized steel and baked enamel polyester paint;
- Innovative design to prevent rain and snow infiltration;
- Easy installation thanks to its multi-slope base;
- Exclusive gutter to evacuate condensation and prevent roof material degradation;
- Fine mesh grill (1/4" x 1/4") to prevent blockage of the ventilator.

General information

Why install an attic ventilator?	4
How to evaluate an attic ventilator's capacity?	4
National Building Code requirements	5
Number of ventilators needed for each roof configuration	6
Basic rules	8

Venmar attic ventilators

9

Recommendations for each type of installation

Soffits obstructed by insulation	11
Closed-in soffits	11
Warm or humid air source	12
Gable roof	12
Mansard roof	13
One-sided cathedral ceiling	13
Asymmetrical roof (without cathedral ceiling)	14
Cathedral ceiling with one slope	14

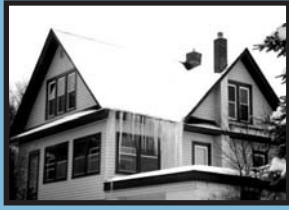
Installation steps

Attic ventilator components	15
Required tools and materials	15
Existing roof	16
New roof	17
Flat roof	18

Why install an attic ventilator?

Installing an attic ventilator prevents :

1



Accumulation of ice on the roof;

2



Frost in the attic;

3



Water infiltration that can damage your ceiling;

4



Accelerated degradation of materials.

Moreover, the National Building Code requires adequate attic ventilation.

How to evaluate an attic ventilator's capacity?

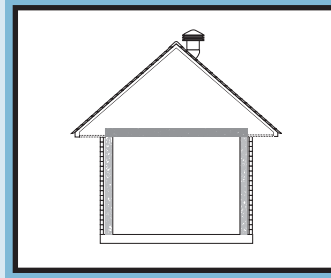
According to both CSA standard CAN-3-A93-M82 (National Building Code) and the Home Ventilation Institute (HVI) certification, the ventilation capacity of attic ventilators is based on **net ventilation area**. Refer to the table on page 9.

National Building Code requirements

1 Use square footage to determine required ventilation

2/12 slope or more =

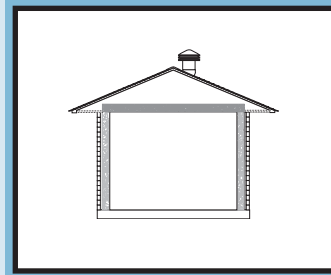
1 ft² ventilation opening for 300 ft² of insulated ceiling surface (1/300).



(fig. 5.1)

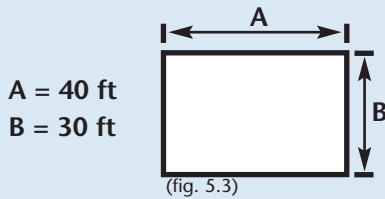
Slope less than 2/12 =

1 ft² ventilation opening for 150 ft² of insulated ceiling surface (1/150).



(fig. 5.2)

Example : A 40 ft x 30 ft house
(with a slope greater than 2/12)



40 ft x 30 ft = 1, 200 ft² ÷ 300 = **4 ft² of ventilation**

2 Distribution of ventilation square footage

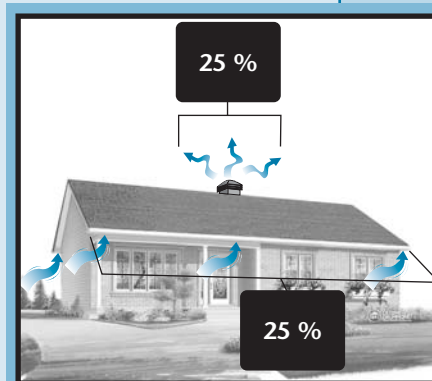
The National Building Code requires that 25 % of the 1/300 must be allocated to each of the upper and lower space of the attic. When used in conjunction with the soffits, the attic ventilator creates an updraft (chimney) effect to adequately ventilate the attic.

For this example:

One sq.ft. (minimum) in the upper part of the attic.

One sq.ft. (minimum) in the lower part of the attic.

Refer to Section 9.19 of the National Building Code for more information.

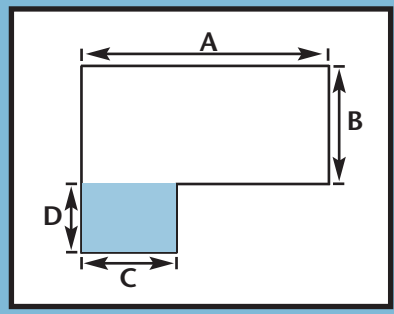


(fig. 5.4)

Number of ventilators needed for each roof configuration

1 Determine the attic surface area

In order to determine the attic surface area of an irregular shaped house, divide the surface into several regular shapes.



$$A = 40 \text{ ft}$$

$$B = 25 \text{ ft}$$

$$C = 15 \text{ ft}$$

$$D = 10 \text{ ft}$$

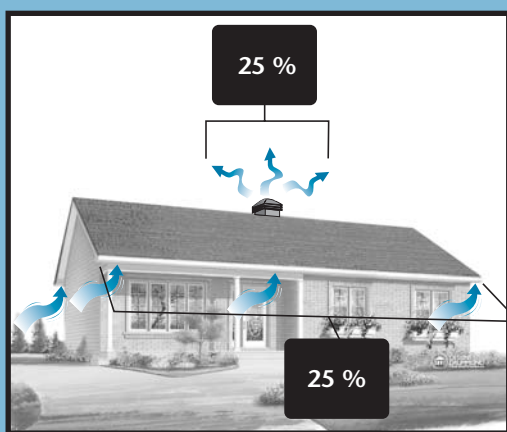
(fig. 6.1)

To determine the total surface area, add up the surface of each section:

- $(A \times B) + (C \times D) = \text{total surface}$
- $(40 \text{ ft} \times 25 \text{ ft}) + (15 \text{ ft} \times 10 \text{ ft})$
- $(1,000 \text{ ft}^2) + (150 \text{ ft}^2) = 1,150 \text{ ft}^2$

Total attic surface = **1,150 ft²**.

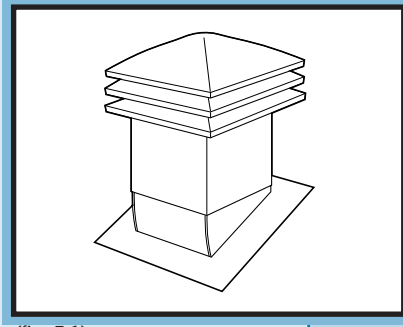
2 Determine the number of ventilators required



(fig. 6.2)

- Refer to section *ventilated roof area covered by ventilator* in the table found on page 9. This shows the attic ventilator's capacity to ventilate **the upper space** of the attic.
- Be sure to ventilate **the lower part** of the roof (with soffits and/or air inlet). For more details go to page 5 to see the National Building Code requirements.

For the example on the previous page, model 60300 would be the best choice because it is designed to ventilate roof area from 700 to 1, 200 sq.ft.



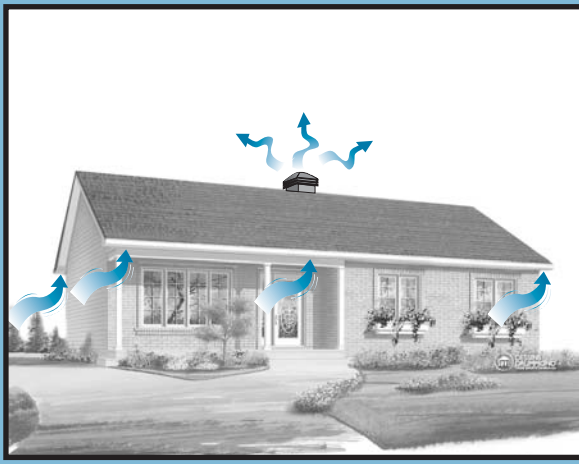
(fig. 7.1)

NOTE : It is important to choose a ventilator that is rated for an area **equal or lightly superior** to the actual attic surface area to be ventilated.

3 Distribute the ventilation square footage of the attic

One ventilator

Install the ventilator in the middle of the roof.

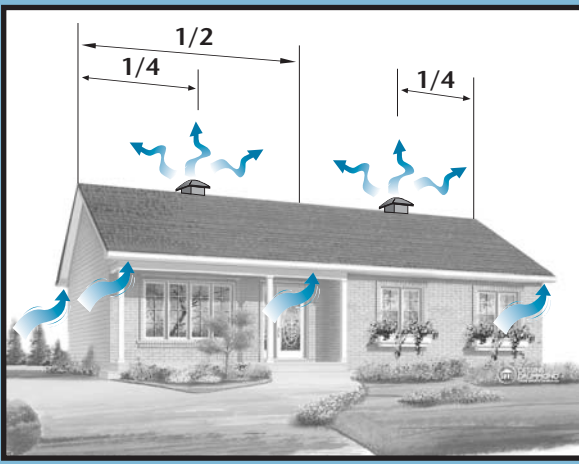


(fig. 7.2)

More than one ventilator

Divide the roof into the number of sections equal to the number of ventilators required.

Then install the ventilators in the middle of each section.



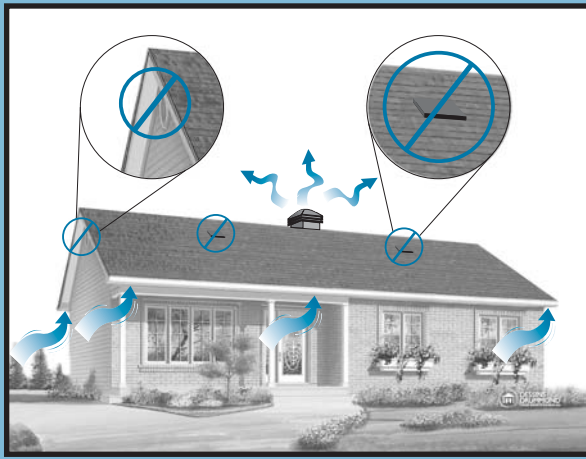
(fig. 7.3)

1

The roof must conform to the existing National Building Code

- It is very important that the attic insulation is distributed evenly.

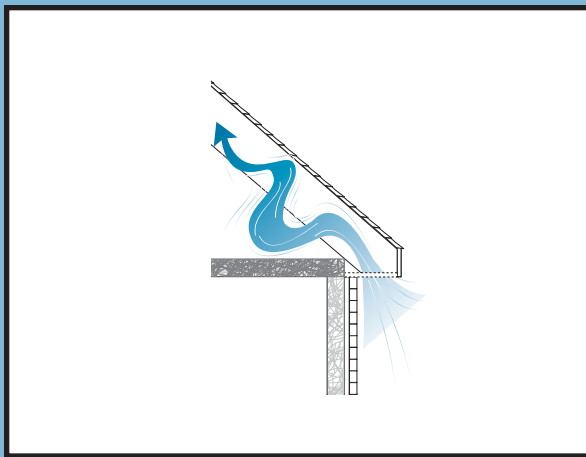
2



(fig. 8.1)

We strongly recommend that you close off the air inlets not related to the attic ventilation.

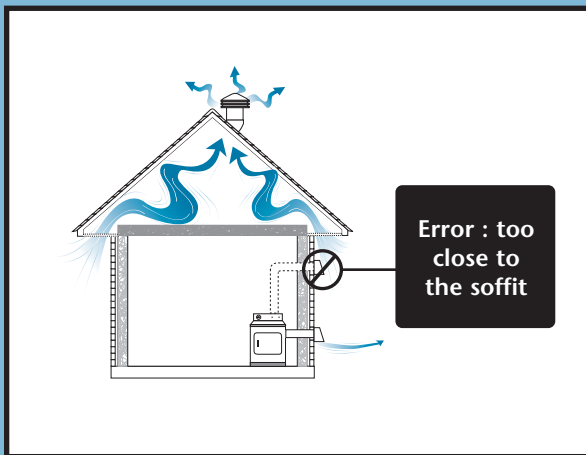
3



(fig. 8.2)

The soffits must not be obstructed and must meet the National Building Code (see page 5).

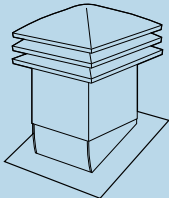
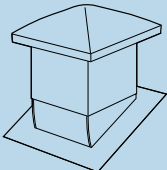
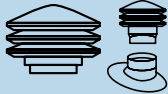
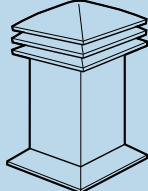
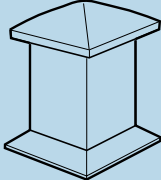
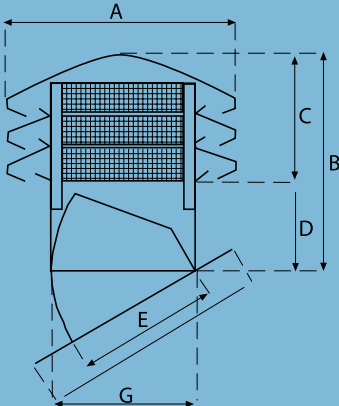
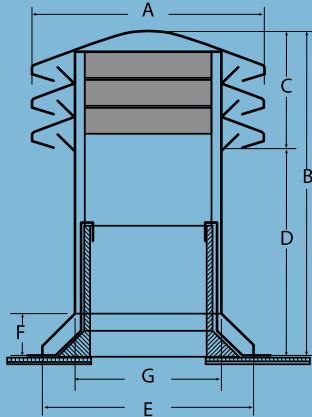
4



(fig. 8.3)

Make sure that there are no sources of hot or humid air near the different air inlets. If allowed to enter, such heat or humidity will create condensation in the attic and cause material damage to the roof (see page 11).

Venmar attic ventilators

	Multi-slope base		Existing base	Flat roof base																																																		
	60300	60100	60350	60310	60110																																																	
																																																						
Opening(s)	3	1	3	3	1																																																	
Net Ventilation Area	1 ft ² (93, 000 mm ²)	0.60 ft ² (55, 800 mm ²)	0.80 ft ² (74, 400 mm ²)	1 ft ² (93, 000 mm ²)	0.60 ft ² (55, 800 mm ²)																																																	
Ventilated roof area covered by ventilator*	700 to 1, 200 ft ²	0 to 700 ft ²	700 to 1, 200 ft ²	360 to 600 ft ²	0 to 360 ft ²																																																	
Colors	Black 60303 Gray 60305 Brown 60306	Black 60310 Gray 60105 Brown 60106	Black 60353 Gray 60355 Brown 60356	Black 60313 Gray 60315 Brown 60316**	Black 60113 Gray 60115 Brown 60116**																																																	
Dimensions	<table border="1"> <tr><td>A</td><td>20"</td><td>20"</td><td>20"</td></tr> <tr><td>B</td><td>18"</td><td>12 3/4"</td><td>14"</td></tr> <tr><td>C</td><td>10"</td><td>4 3/4"</td><td>10"</td></tr> <tr><td>D</td><td>8"</td><td>8"</td><td>4"</td></tr> <tr><td>E</td><td>12 1/2"</td><td>12 1/2"</td><td>-</td></tr> <tr><td>F</td><td>20"</td><td>20"</td><td>-</td></tr> <tr><td>G</td><td>12 9/16"</td><td>12 9/16"</td><td>12 dia.</td></tr> </table>			A	20"	20"	20"	B	18"	12 3/4"	14"	C	10"	4 3/4"	10"	D	8"	8"	4"	E	12 1/2"	12 1/2"	-	F	20"	20"	-	G	12 9/16"	12 9/16"	12 dia.	<table border="1"> <tr><td>A</td><td>20"</td><td>20"</td></tr> <tr><td>B</td><td>29 3/4"</td><td>24 1/2"</td></tr> <tr><td>C</td><td>10"</td><td>4 3/4"</td></tr> <tr><td>D</td><td>19 3/4"</td><td>19 3/4"</td></tr> <tr><td>E</td><td>18 1/8"</td><td>18 1/8"</td></tr> <tr><td>F</td><td>3 5/8"</td><td>3 5/8"</td></tr> <tr><td>G</td><td>12 9/16"</td><td>12 9/16"</td></tr> </table>		A	20"	20"	B	29 3/4"	24 1/2"	C	10"	4 3/4"	D	19 3/4"	19 3/4"	E	18 1/8"	18 1/8"	F	3 5/8"	3 5/8"	G	12 9/16"	12 9/16"
A	20"	20"	20"																																																			
B	18"	12 3/4"	14"																																																			
C	10"	4 3/4"	10"																																																			
D	8"	8"	4"																																																			
E	12 1/2"	12 1/2"	-																																																			
F	20"	20"	-																																																			
G	12 9/16"	12 9/16"	12 dia.																																																			
A	20"	20"																																																				
B	29 3/4"	24 1/2"																																																				
C	10"	4 3/4"																																																				
D	19 3/4"	19 3/4"																																																				
E	18 1/8"	18 1/8"																																																				
F	3 5/8"	3 5/8"																																																				
G	12 9/16"	12 9/16"																																																				
																																																						

*Calculated for attics which have ventilated soffit around the whole house

**Special Order

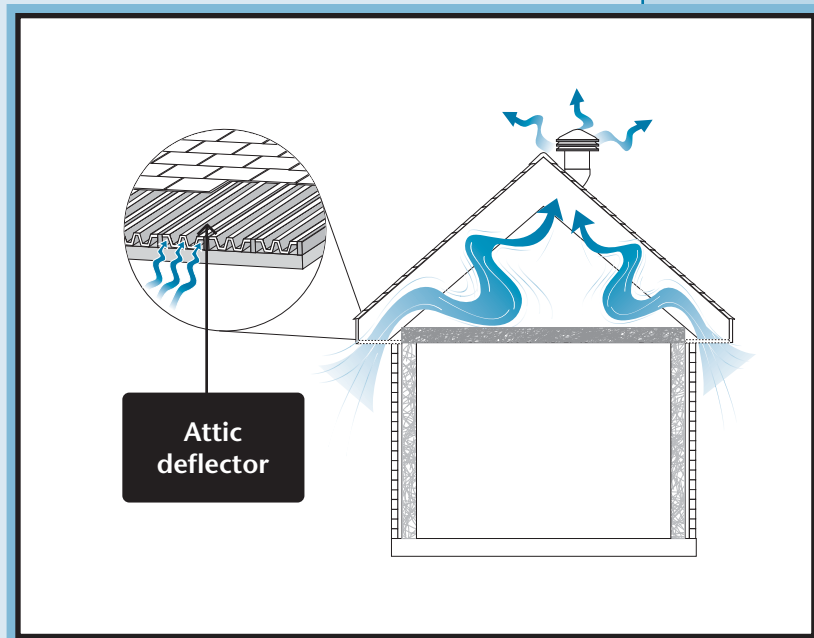


Recommandations for each type of installation



Soffits obstructed by insulation

If insulation obstructs the house soffits, use an **attic deflector** to move the insulation aside.

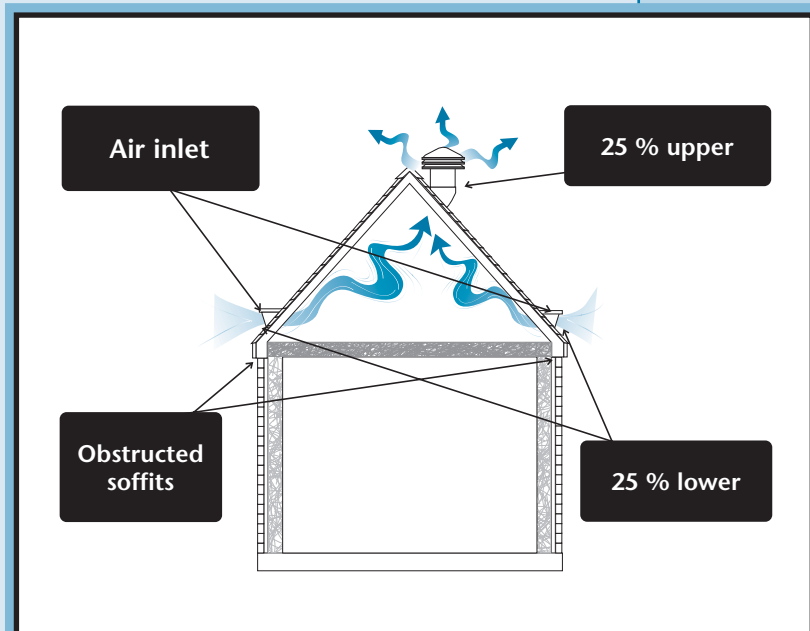


(fig. 11.1)

Closed-in soffits

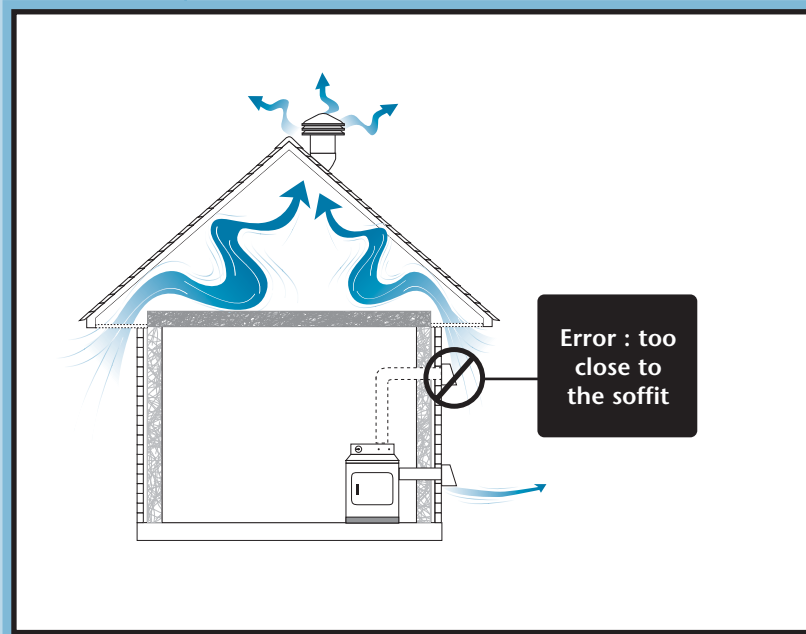
If soffits are permanently closed in, **install air inlets**.

Make sure that the number of air inlets meets the National Building Code ([see page 5](#)).



(fig. 11.2)

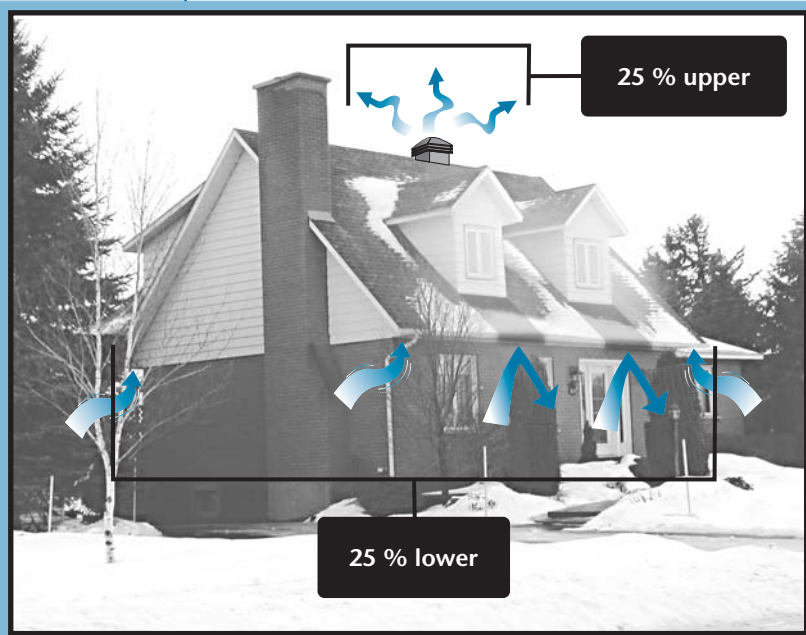
Warm or humid air source



(fig. 12.1)

If a warm air source is located nearby an air inlet, you should install an extra duct fitted with a damper in order to **direct the air away from the inlet**.

Gable roof

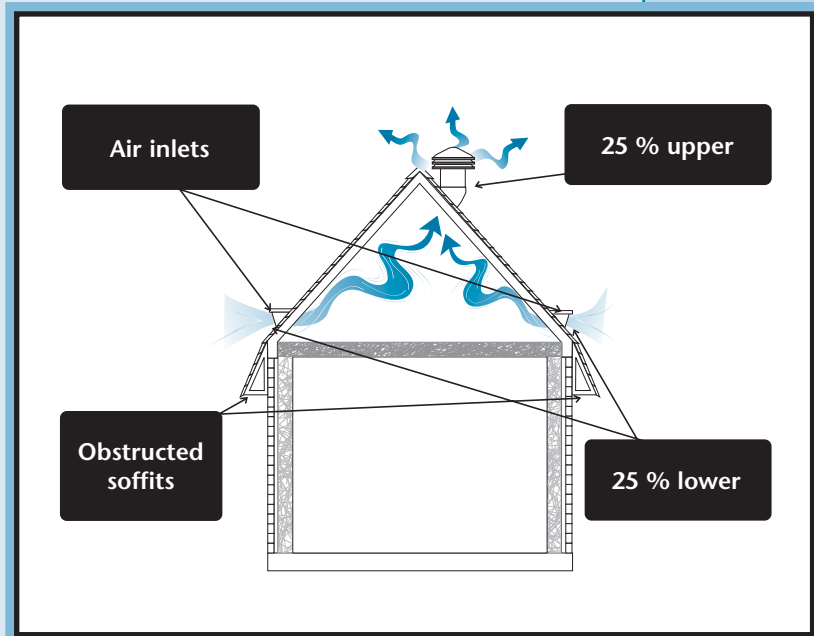


(fig. 12.2)

Gables block air entry at the soffits. It is therefore important to follow the National Building Code regarding lower-roof ventilation (see page 5).

Mansard roof

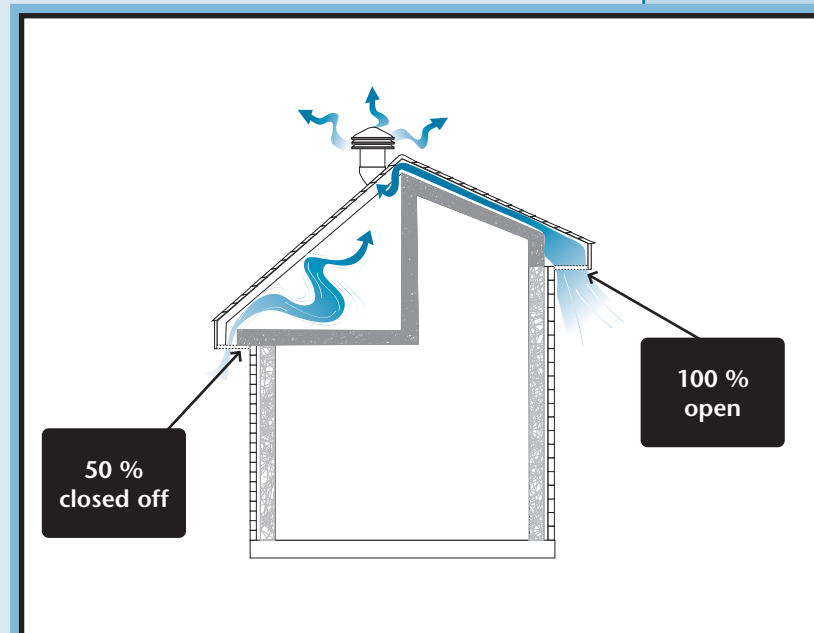
The lower part of a mansard roof does not need to be ventilated. However, the upper part must meet the National Building Code (see explanation on page 5).



(fig. 13.1)

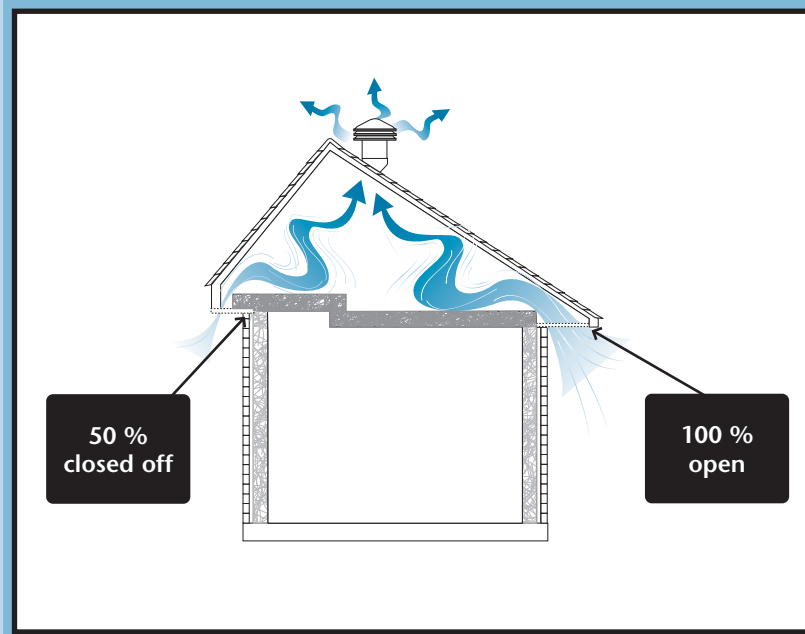
One-sided cathedral ceiling

Install one or more ventilators on the “non-cathedral” side of the roof. Close off 50 % of the “non-cathedral” soffits and leave the “cathedral” side 100% open.



(fig. 13.2)

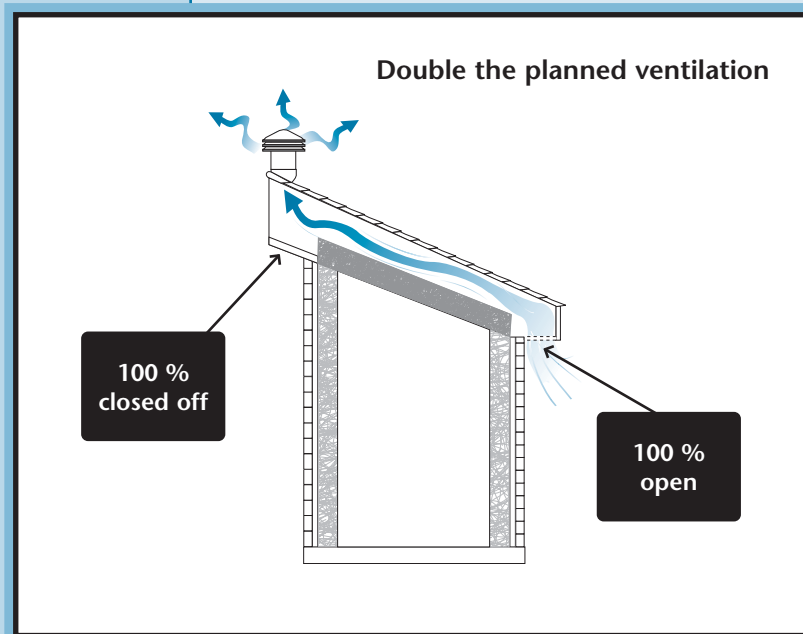
Asymmetrical roof (without cathedral ceiling)



(fig. 14.1)

In this case, close off 50% of the soffit located on the shorter side of the roof and leave the soffit on the longer side completely open.

Cathedral ceiling with one slope



(fig. 14.2)

Close off the soffit on the highest side of the roof and leave the soffit on the lower side completely open. Because of its small space, the air inside the roof warms up very quickly. It is therefore necessary to **double the planned ventilation**.

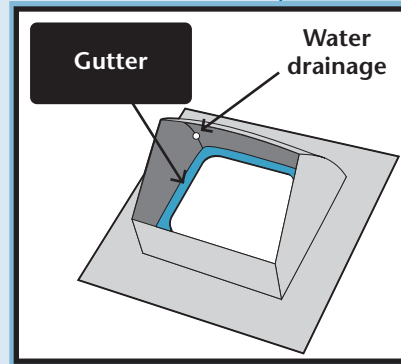
Attic ventilator components



Base



Upper section



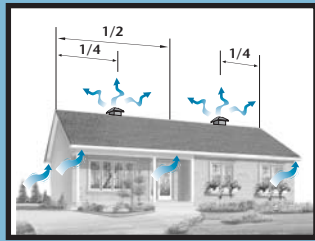
Gutter

Required tools and materials

The following is required to install an attic ventilator :

- Tape measure
- Saw
- Exacto-type knife
- Drill
- Tar
- Caulking
- Pencil
- Spatula
- Hammer
- Level
- Caulking gun

1 Determine ventilator position



(fig. 16.1)

- Distribute the ventilator(s) evenly over the roof area.

- Locate the opening so that the inferior blade of attic ventilator will extend above the roof crest.



(fig. 16.2)

- Remove only those shingles nails located ABOVE and BESIDE the opening.

2 Create the roof opening



(fig. 16.3)

- Scribe a 12" x12" square on the roof between the rafters (check the position of the rafters from inside the house).

- Cut the shingles and roofing membrane inside the scribed area and remove them.

- Cut the opening in the roof.

3 Prepare the base



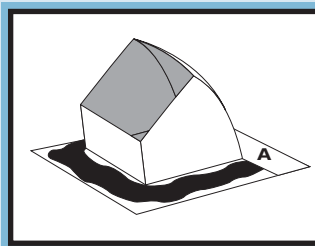
(fig. 16.4)

- Apply tar to the underside and topside of the base plate, **except on the side marked with an "A"** (see fig. 16.4, 16.5 and 16.6).

- Make sure you do not obstruct the ventilator gutter hole (see fig. 16.5 and 16.6).

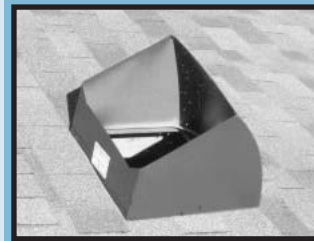


(fig. 16.5)



(fig. 16.6)

4 Install the base



(fig. 16.7)

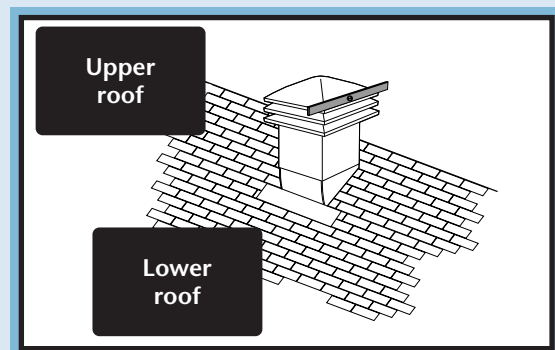
- Carefully lift up the shingles and slide the ventilator base so that **only the side marked "A"** is placed over the shingles (see fig. 16.7).

- Nail the flat part of the base to the roof, **except for the side marked "A"**, in order to prevent water infiltration. Then nail the shingles onto the sides of the ventilator (see fig. 16.6 and 16.7).

5 Install the upper section of the ventilator

- Slide the upper section on the base making sure that it is level.

- Fit a screw on each side of the ventilator, except for the uppermost side which is inaccessible (screws included).

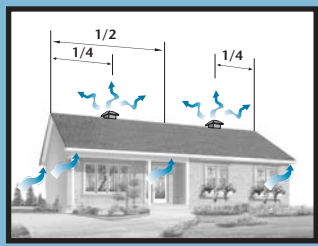


(fig. 16.8)

- To ensure water tightness, apply roof caulking to the edges of the base (**make sure not to obstruct the ventilator gutter**).

New roof

1 Determine ventilator position



(fig. 17.1)

- Distribute the ventilators evenly on the roof.



(fig. 17.2)

- Place the opening so that the inferior blade of the attic ventilator will extend above the roof crest.

2 Create the roof opening



(fig. 17.3)

- Scribe a 12" x12" square on the roof between the rafters (check the position of the rafters from inside the house).
- Cut the opening in the roof.
- Place the shingles up to the lower edge of the hole.

3 Prepare the base

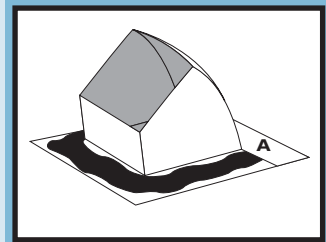


(fig. 17.4)

- Apply tar to the underside of the base plate.
- Make sure you do not obstruct the ventilator gutter hole (see Fig. 17.5).

4 Install the base

- Place the ventilator base on the roof so that **only the side marked "A"** is placed on the shingles and the other sides onto the plywood of the roof (see fig. 17.6).

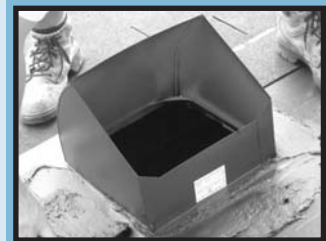


(fig. 17.5)

- Nail the flat part of the base to the roof, **except for the side marked "A"** (see fig. 17.5 and 17.6).

- Apply tar to the topside of the base plate, **except on the side marked with an "A"** (see fig. 17.6).

- Continue installing the shingles around the ventilator.



(fig. 17.6)

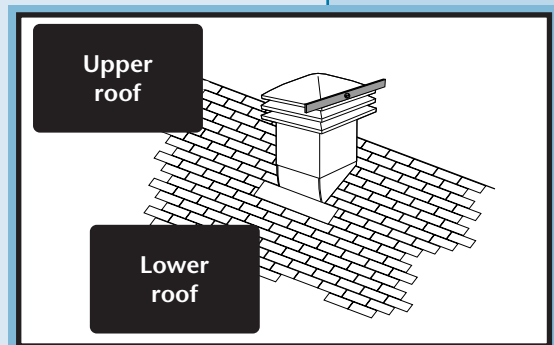


(fig. 17.7)

5 Install the ventilator's upper section

- Slide the upper section on the base making sure that it is level (see fig. 17.8).

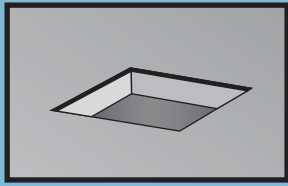
- Fit a screw on each side of the ventilator, except for the uppermost side which is inaccessible (screws included / see fig. 17.5 and 17.6).



(fig. 17.8)

- To ensure water tightness, apply roof caulking to the edges of the ventilator base (**make sure not to obstruct the ventilator gutter**).

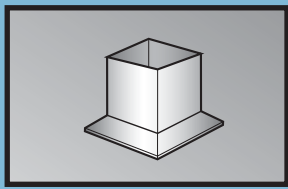
1 Prepare the roof area



(fig. 18.1)

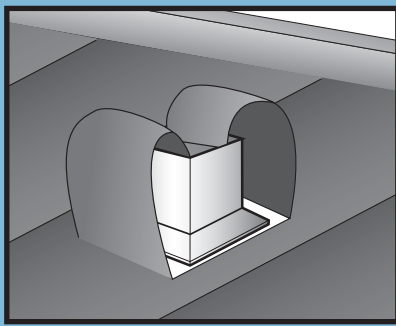
- On the roof cut a 12" x 12" opening.

2 Install the wood base*



(fig. 18.2)

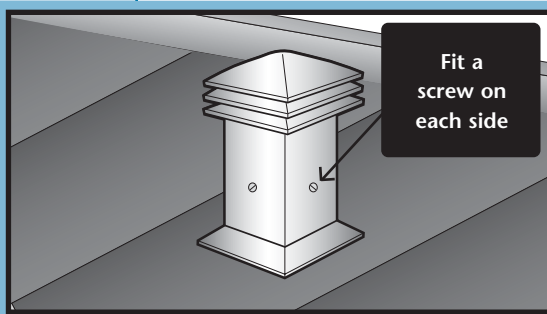
- Install the wood base* over the hole.
- Nail the wood base* to the roof .



(fig. 18.3)

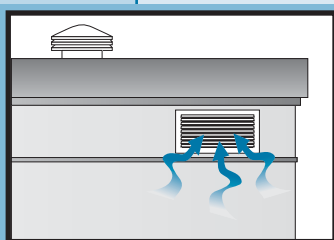
- Apply the tar on the wood base*.
- Apply the roofing membrane on the roof until inside the wood base*.

3 Install the upper section of the ventilator



(fig. 18.4)

- Install and nail the ventilator base on the wood base*.
- Install the upper section on the ventilator base making sure that it is level. Make sure that this one exceeds the edges of the roof.
- Fit a screw on each side of the ventilator.



(fig. 18.5)

Important: make sure you include air intake(s) on your roof.

* Not included

Five-year Warranty

The Venmar Attic Ventilator is made of high-quality 24 and 26-gauge G90 galvanized steel covered with baked enamel polyester paint.

Venmar is proud to offer you a five-year corrosion warranty. During this period, Venmar Ventilation inc. will replace the product in-store upon original proof of purchase.

IMPORTANT

It is the roofer's responsibility to ensure that the base of the ventilator is « completely » watertight by using the appropriate roofing products. The Quebec Association of Master roofers (AMCQ) recommends the following method:

Metal Flashing :

The flashing must first be coated with a sealer. Then immerse the coated flashing in plastic roofing cement bed and install it on the roof. Brush on hot asphalt then cover with a layer of 15-pond asphalt felt paper. Re-apply hot roofing asphalt and attach a sheet of tar paper or a layer of fibreglass cloth. Cover literally with a final coat of hot roofing asphalt.

Certification

Technical data was obtained using CSA's CAN3-A93-M82 Standard and its published results carried out by CRIQ (an industrial research center).

For further information, comments, or suggestions, please contact us at

Venmar Ventilation inc.

550, Lemire Blvd

Drummondville (Quebec) J2C 7W9

Tel: 819 477-6226 – Toll-free: 1 800 567-3855

Internet : www.venmar.ca



91077 02/05

