Photo courtesy of Alcoa Home Exteriors, Inc.

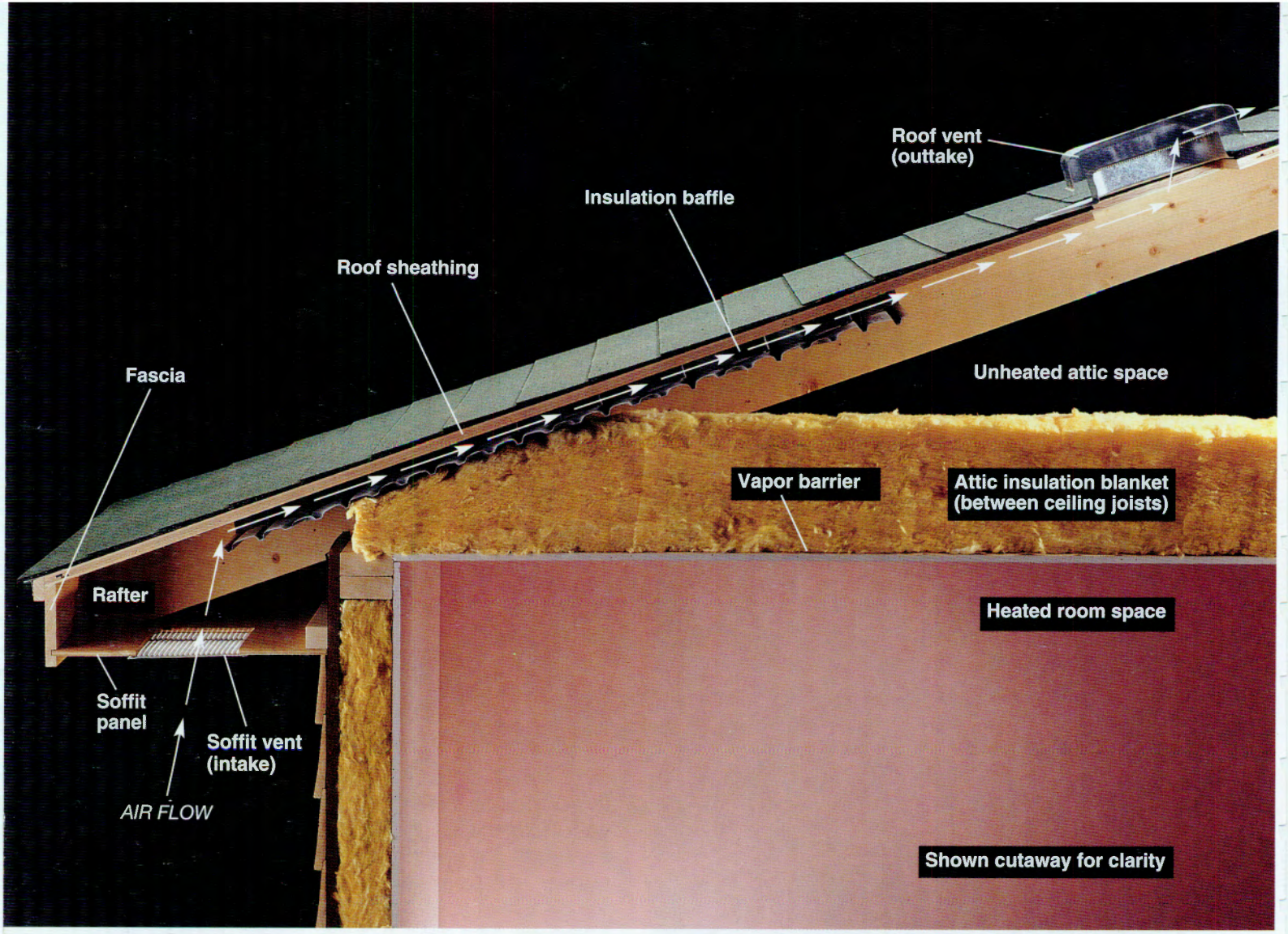
Soffits, Gutters & Ventilation Systems

In addition to the roofing and siding systems, your home's exterior has a soffit system that connects the roofing and the siding. The soffit system is also a key component in the exterior ventilation of your home. In some cases, your home will also have a gutter system for handling water runoff from the roof. At a minimum, you should have one sq. ft. of attic ventilation, both intake and outtake, for every 300 sq. ft. of attic space.

This section details how to install soffits (air intakes) and roof vents (air outtakes). If you're planning a large exterior project that includes replacing the siding, install the soffits before the siding. Also included in this section is information on installing fascia and gutters. Fascia is installed between the roof and the soffits, and gutters are placed over the fascia.

A free-flowing gutter system directs rainwater away from your house, which protects your foundation from leaks, prevents dripping water from staining your siding, and keeps ice from forming on your walkways in the winter.

All of these projects involve working on ladders, scaffolding, or on the roof. Make sure your ladders are set securely and evenly on the ground, and move when necessary so you can work comfortably and safely.



Sufficient airflow prevents heat buildup in your attic, and it helps protect your roof from damage caused by condensation or ice. A typical ventilation system has vents in the soffits to admit fresh air, which flows upward beneath the roof sheathing and exits through the roof vents.

Soffit & Roof Vents

An effective ventilation system equalizes temperatures on both sides of the roof, which helps keep your house cooler in the summer and prevents ice dams along the roof eaves in cold climates.

One strategy for increasing roof ventilation is to add more of the existing types of vents. Or, if you're reroofing, consider replacing all of your roof vents with a continuous ridge vent (pages 188 to 189). You can increase intake ventilation by adding more soffit vents. If you're replacing your soffits with aluminum soffits, install vented soffit panels that allow air intake (pages 180 to 183).

Determining Ventilation Requirements

Measure attic floor space to determine how much ventilation you need. You should have one sq. ft. each of intake and outtake ventilation for every 300 square feet of unheated attic floor space.

Soffit vents can be added to increase airflow into attics on houses with a closed soffit system.

Continuous soffit vents provide even airflow into attics. They are usually installed during new construction, but they can be added as retrofits to unvented soffit panels.

Roof vents can be added near the ridge line when you need to increase outtake ventilation. Fixed roof vents are easy to install and have no mechanical parts that can break down.

Vented soffit panels are used with aluminum soffits to allow airflow along the eaves.

Gable and dormer vents generally are installed to increase ventilation. The vents come in a variety of styles and colors to match the siding.

Continuous ridge vents create an even outtake airflow because they span the entire ridge. Barely noticeable from the ground, ridge vents can be added at any time.

Tools & Materials

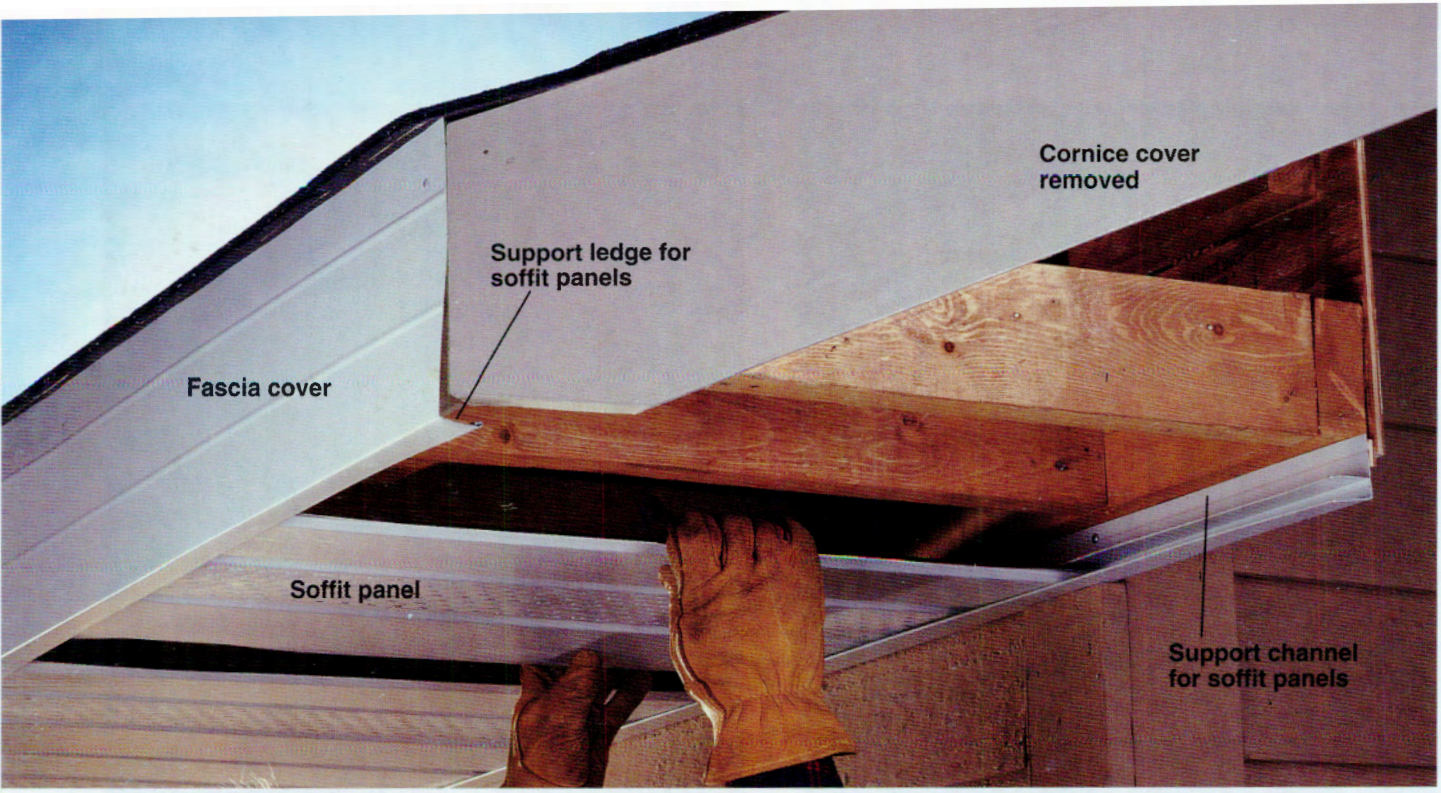
The tools and materials needed for soffits, fascia, gutters, and vents are tools and materials that you probably already own. Very few specialty tools are needed, and even then, they're fairly inexpensive. The photos on these two pages show the complete list of tools you'll need.

Tools for soffits and fascia include: circular saw (A), cordless drill (B), jig saw (C), aviation snips (D), level (E), hammer (F), tape measure (G), caulk gun (H), chalk line (I), pry bar (J), and framing square (K).

Tools for gutters include: cordless drill (A), rotary saw (B), caulk gun (C), hacksaw (D), chalk line (E), aviation snips (F), hammer (G), tape measure (H), and rivet gun and rivets (I).

Caulks for gutters, soffits, and vents include (from left): Polyurethane sealant with elasticity for joints that require movement, elastomeric latex sealant for joints that require flexibility and will be painted, silicone caulk for joints exposed to water that won't get painted, and roofing cement for roofing projects.

Tools for roofing ventilation include: circular saw (A), cordless drill (B), reciprocating saw (C), jig saw (D), chalk line (E), hammer (F), tape measure (G), caulk gun (H), and pry bar (I).



Install a new soffit system if your old system has failed, or if pests have infested the open eaves areas of your roof overhang. A complete soffit system consists of fabricated fascia covers, soffit panels (nonventilated or ventilated), and support channels that hold the panels at the sides of your house. Most soffit systems sold at building centers are made of aluminum.

Installing Aluminum Soffits

Older soffits may be weathered or rotted, and may not allow adequate airflow. If more than 15 percent of your soffits need to be repaired, your best option is to replace them. This project shows how to completely remove the old soffits and fascia, and install aluminum soffits, which are maintenance free. If your old subfascia is in good condition, it will not need to be replaced.

The project starting on the opposite page details the installation of soffits on an eaves system that has rafter lookouts. The soffits are installed directly beneath these lookouts. If your eaves do not have rafter lookouts, follow the instructions starting on page 182. This project also shows how to install soffits around corners.

For both eaves systems, an F-channel serves as a mounting channel to hold the soffits in place along the house. You can also install the channel along the subfascia, as shown in step 4 on page 181, or you can nail the soffits directly to the subfascia, as shown in step 4 on page 183. Drive nail heads flush with the surface. Driving the nails too deep can knock the soffits out of shape and prevent movement. Since the soffits will receive addition nailing when the fascia is installed, you don't need to drive a nail in every V-groove in the soffits.

To cut soffits, use a circular saw with a fine-tooth blade installed backward. Don't cut all of your panels at the start of the job since the width will probably change slightly as you move across the house.

Use vented soffit panels to work in conjunction with roof or attic vents. This improves airflow underneath the roof, which prevents moisture damage and ice dams. Provide one sq. ft. of soffit vents for every 150 sq. ft. of unheated attic space. For a consistent appearance, make sure all of the fins on the soffit vents are pointed in the same direction.

Everything You Need

Tools: flat pry bar, hammer, circular saw with fine-tooth metal blade (installed backward), drill, tape measure, aviation snips, level, framing square.

Materials: soffit panels, F-channel (mounting channel), T-channel, 1¼" aluminum trim nails, 16d common nails, nailing strips, drip edge, 2¼" deck screws, 8d box nails, 2 × 4, 1 × 8 or 2 × 8 subfascia (if needed).