

## Airtight Attic Access

BY STEVE BACZEK

**When you're sealing a residence** against air leakage, some details are simple, while some require a little more attention and finesse. In a home with a vented attic, no detail can be harder to implement than the attic hatch. (Because the term "hatch" conjures up bygone images of doors that swing up or ladders that swing down, let's just call the assembly the "attic access.")

**Red-line continuity.** When you execute the air barrier red-line test (see "Air Barrier Basics," Jan/19), the attic access is a pretty small portion of the entire red line around a house. But it is often a major contributor to air leakage problems.

Because the access is usually located in the interior space of the house, some see it as merely a "partition" between a hallway and the attic, and they don't give it the attention it deserves. But the inside face of the access is *inside* the air barrier, and the outside face is *outside* the air barrier, making the access an integral part of the red-line continuity of the air barrier (see Airtight Attic Access, below).

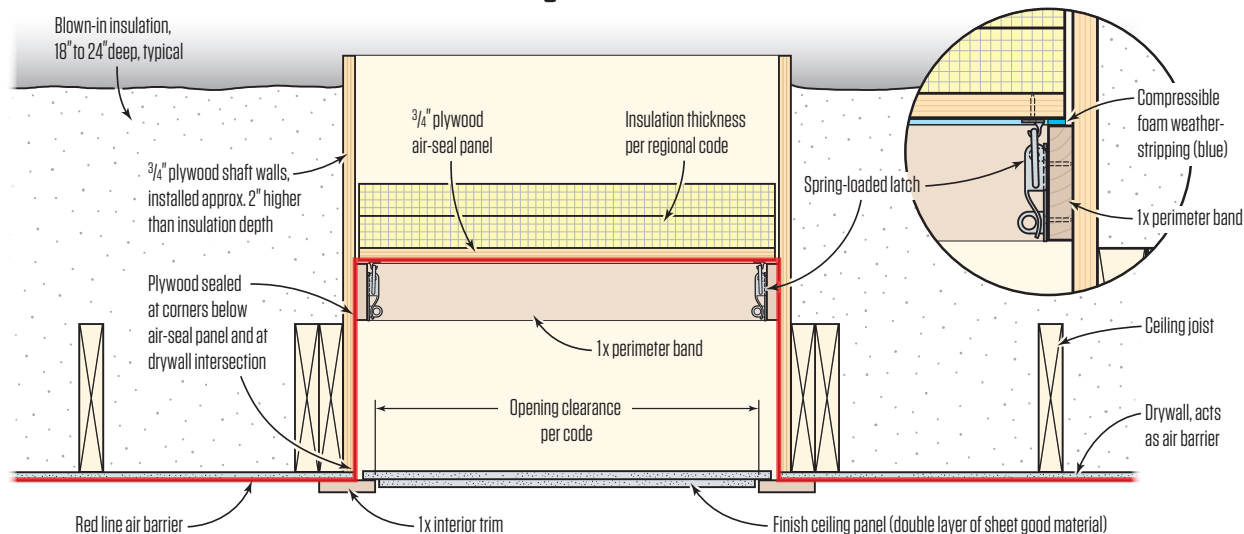
**Multifunction component.** In addition to providing access to the attic, the assembly shown below works as an insulation dam. In many of the high-performance homes I design, it is not uncommon

to have 18 to 24 inches of blown-in cellulose in the attic, so the shaft portion of the attic access is necessary to keep the insulation in place. The four walls of this shaft should always be a little higher than the depth of insulation being retained (1).

Because of its height, the attic shaft lets us incorporate two removable access panels, instead of just the usual single doorway to the attic. The first is the ceiling panel that you see from the interior of the house that completes the interior ceiling finish, closing off the attic shaft from view. A second air-seal panel is farther up the shaft of the attic portal—high enough so that the ceiling panel can be lifted and removed easily (2). The air-seal panel functions much the same as an exterior door on a house and should be thought of as an operable boundary element between the inside and the outside of the house. It should be fitted with rigid insulation per regional code requirements.

**Building the assembly.** In most houses with ventilated attics, I use the ceiling drywall below the attic as the air barrier. I think of the four walls of the shaft as simply that air barrier folded up into the attic. (As a cautionary note, be sure to consult your local building code

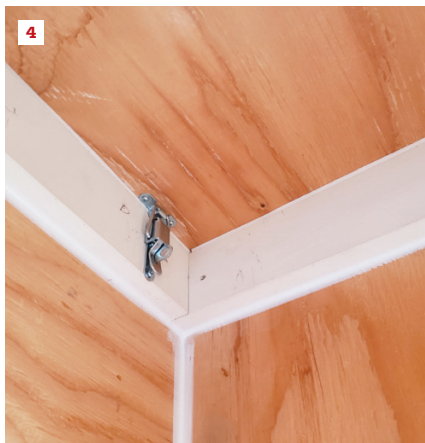
Airtight Attic Access



The attic access provides a portal to the attic space, while being integral to the "red line" air barrier. The walls of the assembly also act as a dam to retain blown-in insulation in the attic. The finish panel visible from below does not have to be airtight.



Viewed from below with the ceiling panel removed, the walls of the access extend far enough up to retain the blown-in insulation (1). With the airtight panel in place and all the corners sealed, the access completes the air barrier of the house (2).



Compressible weather stripping on top of the 1-by perimeter band creates the air seal (3). Spring-loaded catches hold the airtight panel in place (4).



The finish panel slips into the opening and rests on top of the trim (5).

for the required clearance dimensions needed for the access portal).

After framing the opening, we typically build the shaft out of 3/4-inch plywood. We seal the wall panels of the shaft where they interface with the ceiling drywall. In addition, we seal the corners of the shaft up to where we install a 1-by perimeter band that supports the actual air-seal panel, and we also seal the perimeter band to the walls of the shaft.

The perimeter band creates a solid shelf where the air-seal panel (also made from 3/4-inch plywood) can be pressure fitted. Typically, we install 3/4-inch-wide adhesive-backed, compressible weather stripping on top of the perimeter band (3). We attach the air-seal panel to the perimeter band via four spring-loaded latches (such as National Hardware N208-587 Lockable Catches) (4). The latches let the panel fully engage with the weather stripping to provide a good air seal and to maintain near-perfect continuity of the air barrier.

**What you see.** With the air-sealing duties taken care of, there are many ways to create the attic access's finish panel, which is visible from below. The simplest strategy starts by framing the opening in the ceiling with 1-by trim, making the inside dimensions of the frame slightly smaller than the shaft opening.

We typically make the finish panel from two layers of sheet goods, with the top layer larger than the bottom to create a rabbeted edge (5). The larger layer rests on top of the lip of trim inside the perimeter of the opening, and the smaller layer sits inside the trim for the finished surface. Because this panel is just for looks, no additional sealing measures are required.

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