

# Staircases and Scuttle Holes

## Insulate and Air Seal Attic Access Passages



Touchstone Energy<sup>®</sup>  
Cooperatives

### SKILL SET

Be sure you have the experience needed for this job. If you are in doubt, hire a contractor.

### SAFETY

This job requires working in unconditioned attic spaces, tight clearances and under task lighting. Use a dust mask/respirator, gloves, safety glasses and kneepads.

### TOOLS

Utility knife, measuring tape, lights, straight edge, markers, staple gun and hammer. Table/circular saw (optional - for cutting rigid foam board)

### MATERIALS

Prefabricated attic access sealing system and any additional installation materials per the manufacturer's instructions.

*For a DIY approach:*

Rigid insulation such as ½-inch extruded polystyrene

Fiberglass batt (optional)

Duct sealing mastic or construction adhesive

Nails for tacking insulation board

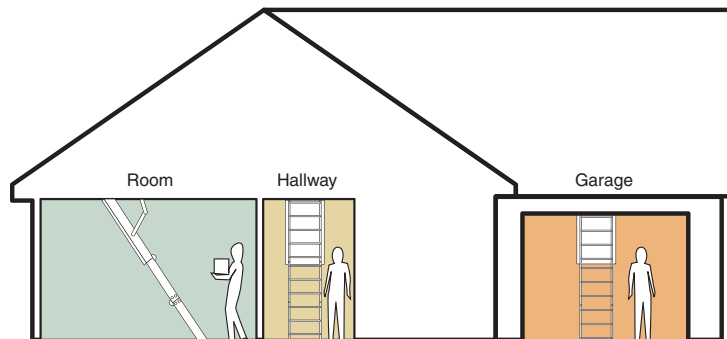
Weather-stripping/gasket material with adhesive

#### PRIORITY LEVEL

LOW MED HIGH

#### SKILL LEVEL

DIY PRO



*Install an attic hatch/stair in a convenient location that provides ease of access. Follow manufacturers instructions for installation and plan how you will air seal and insulate this big hole in your ceiling. Attic access covers are essential; solutions range from factory-made covers for insulating and sealing, to do-it-yourself strategies that are easy to fabricate.*

### COST BENEFIT

You can purchase a prefabricated attic access sealing system for around \$100 depending on the product or you can build your own for less than \$50 in materials. A prefabricated system can be installed in minutes and building your own is an easy afternoon project. Improving air sealing and insulation is a low cost upgrade with a big impact because the attic access can be one of the biggest sources of heat loss across the boundary between the attic and conditioned space.

## Attic Access

In many cases, a home's attic access, such as an attic hatch, pull-down stairs, or knee-wall door, is installed without being insulated and sealed, resulting in one of the biggest holes in the thermal and air barrier between the attic and conditioned space. This results in higher energy bills and reduced comfort.

### Action Steps

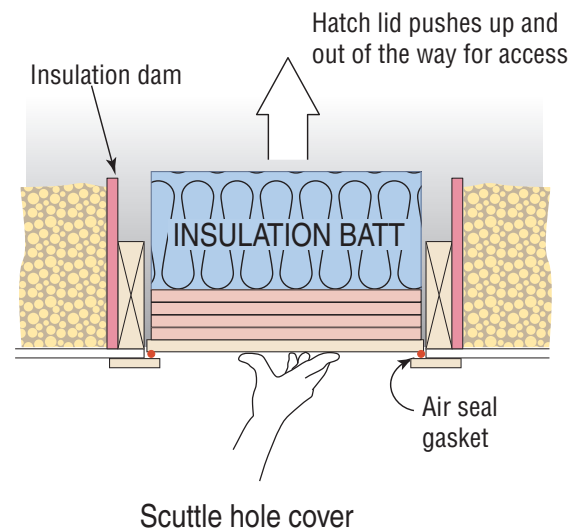
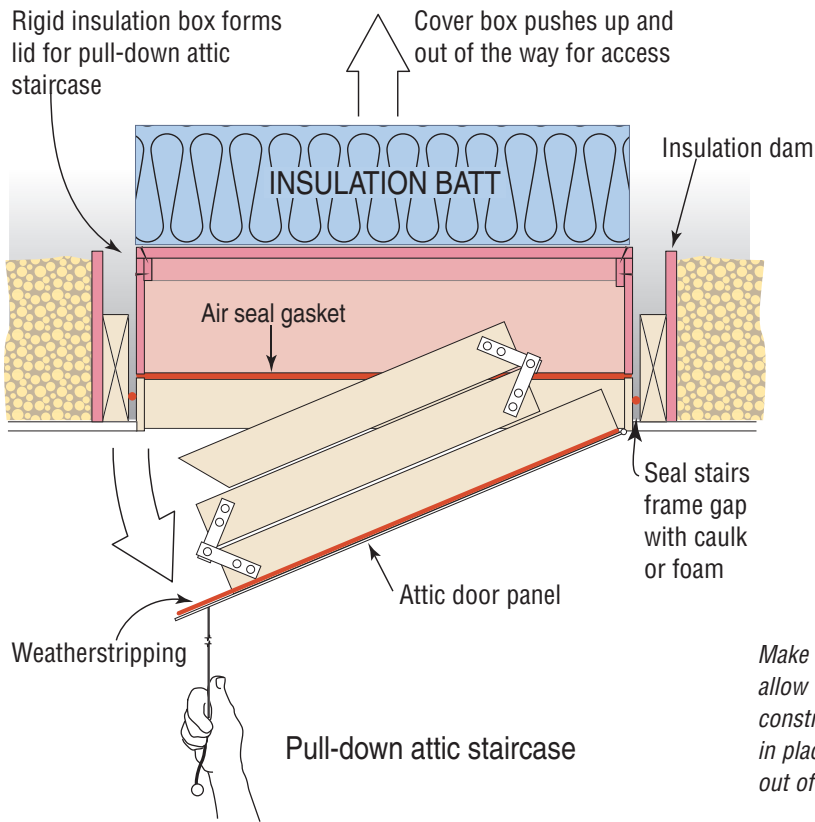
Improving the insulation and air sealing of your attic access will depend on the type of attic access in your home – an attic hatch or pull-down stairs and whether you use a prefabricated system or do it yourself solution.

#### Attic Hatch

An inexpensive and common type of access is referred to as a scuttle hole or attic hatch which is simply a removable portion of the ceiling. An attic hatch is typically located in a closet or main hallway. Existing attic hatches can be improved through the addition of weather-stripping to create an air-tight seal and insulation to match the R-value of insulation in the attic.

**Add weatherstripping** – To ensure a tight fit, care should be taken while installing the trim to make sure that it is flat and level. An uneven base may lead to greater air leakage. Weatherstripping can be installed on the hatch itself or on the inside of the trim or on the base of the hatch.

**Add insulation** – To the back of the access hatch using either fiberglass batts, rigid foam insulation or a combination of the two. Rigid insulated sheathing such as extruded polystyrene (R-5 per inch) is recommended. Cut the insulated sheathing ¼ inch less than the hatch size to allow for clearance when moving the access panel. Apply 2-inches or more of insulation with construction adhesive and screws. As an added measure, glue the kraft-paper side of fiberglass batt insulation to the top of the last layer of rigid insulation. Use the same total R-value as the rest of the ceiling.



*Make cover box and scuttle coverings snug, yet with enough slack to allow for easy movement. Construct with rigid insulation board, nails, construction glue and duct tape. Insulation dams help to keep insulation in place. Consider installing a secure landing spot for movement in and out of the attic.*

## Pull-Down Stairs

Pull-down attic stairs are another type of access which include a larger access opening and integrated folding stairs. The air seal on existing attic pull-down stairs should be improved and then augmented with a cover to increase the insulation value.

**Seal rough opening** – The frame for the stairs fits in a rough opening and leaves a gap much like that for a door or window and must be sealed. When the gap is small (less than ½ inch), caulk can be used as the sealant. If a larger opening exists, it is recommended to apply non-expanding foam or a backing material (backer rod) in conjunction with caulk. Expanding foam can be used with caution due to its highly expansive nature; it could warp the frame and interfere with the ability of the stairs to open or close properly.

**Add weather stripping** – To ensure a tight fit between the stair panel and frame, weather-stripping or gasketing material should be added to the frame or panel.

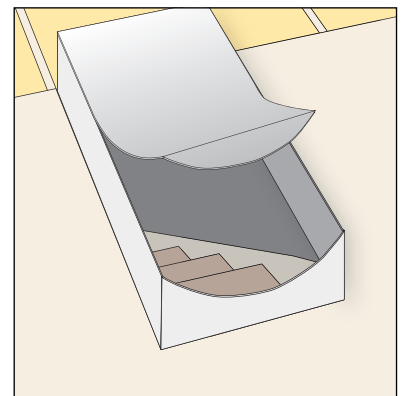
**Add cover box or prefabricated insulation kit** – To insulate attic stairs, a lightweight, moveable box can be fabricated from rigid foam or fibrous ductboard to fit over the stairs from the attic side. Insulating kits are also available through weatherization suppliers or local hardware stores. As with all home projects, follow manufacturer’s instructions for proper installation.

**Attic stairs cover box** – You can build your own attic stairs cover box out of rigid insulation or ductboard. Measure the interior dimensions of the frame opening for the pull-down stairs and build the cover box to fit tightly within the opening. Add a stop for the box to rest on using 1x4 board that runs the entire interior edge of the opening and weather-strip the top edge of the stop to ensure a tight seal. As an added measure, glue the kraft-paper side of fiberglass batt insulation to the top of the last layer of rigid insulation. Try to achieve the same total R-value of the ceiling.

## Prefabricated Insulation Kit Options

**Attic tent** – An attic tent sits above the attic pull-down stairs sealed to the rough opening or attic decking. While attic tent products don’t offer the same insulation value as other options, they have the added benefit of improved air sealing from a zippered opening, providing greater accessibility than cover box options.

**Cover box** – Similar in design to the do it yourself box described above, these prefabricated kits come in a number of sizes and insulation values depending on your application.



*Attic “tents” come in sizes to fit standard openings and close with a zipper*