

Inspecting Attic Folding or Pull-Down Stairs

Attic pull-down ladders, also called attic pull-down or folding stairways, are collapsible ladders that are permanently attached to the attic floor. Occupants can use these ladders to access their attics without being required to carry a portable ladder.

Common Defects

Non Professional Installation

Homeowners, or other non-qualified individuals, usually install attic pull-down ladders. Evidence of this distinction can be observed in consistently shoddy and dangerous work that rarely meets safety standards or the manufacturer's instructions. Some of the more common defective conditions observed by inspectors include:

- Cut bottom cord of structural truss. Often, homeowners will cut through a structural member in the field while installing a pull-down ladder, unknowingly weakening the structure. Structural members should not be modified in the field without an engineer's approval;
- Fastened with improper nails or screws. Homeowners often use drywall or deck screws rather than the standard 16d penny nails or 1/4" x 3" lag screws. Nails and screws that are intended for other purposes may have reduced shear strength and they may not support pull-down ladders;
- Fastened with an insufficient number of nails or screws. Manufacturers provide a certain number of nails with instructions that they all be used,



and they probably do this for a good reason. Inspectors should be wary of “place nail here” notices that are nowhere near any nails;

- Attic pull-down ladders are cut too short or are too long. Stairs should reach the floor and not hang. The gaps at the joints should be flush and not open. Stairs that are too long will put pressure at the joint/folding hinge and result in cracking of the assembly.
- Additions, repairs or other modifications to the stairs.



Wear and Tear

On older homes or homes where the attic stairs are frequently used look for signs of wear and damage. These stairs are not made to be used on a regular basis and this can lead to premature failure or abnormal wear and tear.

Check the stair springs and main hinge mechanisms, look for risk of breaking springs or hinge part that strike the user or stairs when they are pulled down.

Other wear and tear conditions to check for are:

- Bent Stair arm parts
- Loose rivets securing the hinged pull-downs to the frame
- Springs not staying on the spring carrier
- Spring arms that are loose and do not remain parallel to the hinge and frame.
- Always check for loose, missing bolts or other hardware at all hinge points.
- Cracked or otherwise damaged stairs or stair rails, especially on wooden stairs and ladders.



This hinge arm is bent, which causes rubbing between the parts and excess stress on the hinge. The arms can be bent in such a way that the stairs cannot be easily opened or closed. This damage can cause failure of the stairs.

Location

Check where the stairs are located/installed many retrofitted stairs are installed in an unsafe location or can impact the function of the space or use of the stairs. Commonly seen location issues are

- Attic stairs installed over an existing stairway or fold down onto an existing stairwell.
- Attic stairs installed in a garage can compromise the fire barrier rating of the garage ceiling.
- Check for potential interference with appliances, such as, washers/dryers or other items like doors and cabinets
- Make sure there is a properly sized and secure attic decking at the top and sides of the stairs to step on too.



Use Caution

Always use caution when opening pull down stairs and ladders. Typical hazards include:

- Items may be stored on the stairs/ladder and could un-expectantly fall when the door is opened
- The stairs/ladder may be covered with blown insulation
- Other debris from roofing or other repair activities may be present and fall when opened.
- Insulation stuffed between the stairs can impeded safe use of the stairs
- When in an older home you may encounter a pull down ladder. These use a system of pulleys, cables, balances and latches to secure and operate the ladder. Use caution when opening as the ladder may not be latched or the balance mechanism is defective and the ladder could slide down quickly and unexpectedly.

- If you feel the stairs are unsafe you do not have to use them or enter the space. You may use your step or extension ladder to enter the attic if desired. If you did not enter the attic remember to note this limitation in your report.
- Most stair assemblies are load rated so don't exceed the rated load and never allow more than one person at a time on the stairs.
- Always be aware of the opening when you are in the attic as all it takes is one step backwards to fall through the opening.

Energy and Insulation

- All units should fully close and not have any significant gaps or voids. This could indicate broken springs or other damaged hardware
- Newer installation must be insulated to meet the energy code. Usually the insulation is built into the cover and the "R" or "U" factor is labeled on the stairs. Most will have a rubber seal around the edge of the frame.
- Some units will have an zippered insulated cover or "Attic Tent"
- Stairs in many houses (especially older ones) are not likely to be weather-stripped and/or insulated. An uninsulated attic hatch allows air from the attic to flow freely into the home, which may cause the heating or cooling system to run overtime. You can suggest the addition of an attic hatch cover box can be installed to increase energy savings;



Tips that inspectors can pass on to their clients:

- Do not allow children to enter the attic through an attic access. The lanyard attached to the attic stairs should be short enough that children

cannot reach it. Parents can also lock the attic ladder so that a key or combination is required to access it.

- If possible, avoid carrying large loads into the attic. While properly installed stairways may safely support an adult man, they might fail if he is carrying, for instance, a bag full of bowling balls. Such trips can be split up to reduce the weight load.
- Replace an old, rickety wooden ladder with a new one. Newer aluminum models are often lightweight, sturdy and easy to install.

In summary, attic pull-down ladders are prone to a number of defects, most of which are due to improper installation.