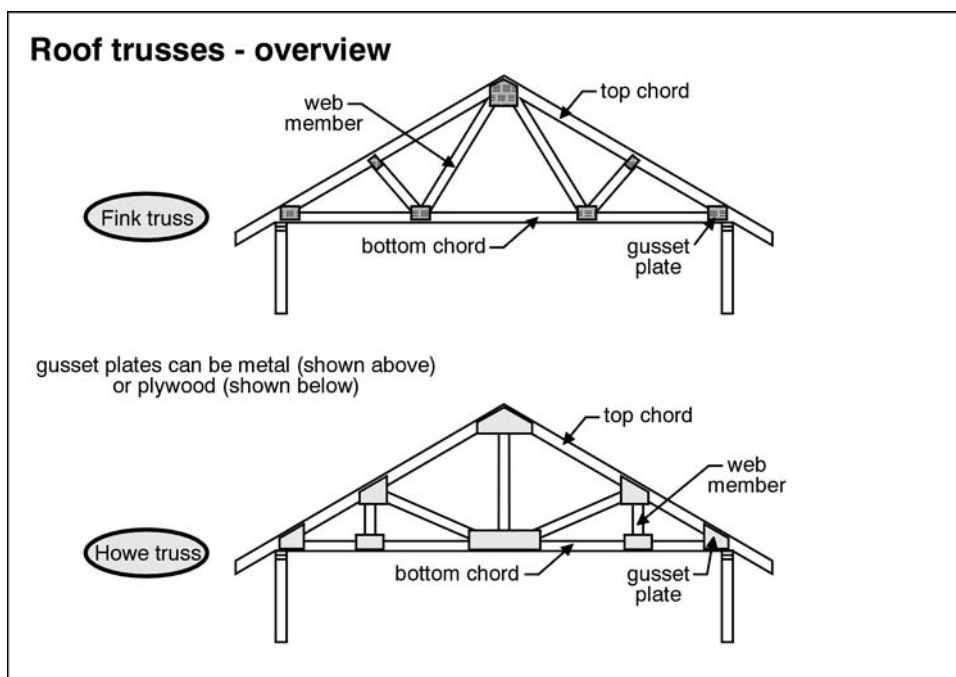


## “AN UPLIFTING EXPERIENCE”

By Tim Oglesby, Home Check America

Truss uplift is a common phenomenon in homes built with roof truss systems. A truss is a prefabricated roof structure, which holds up the roof decking wood, shingles, and top floor ceiling. They are assembled, usually from 2x4 lumber, in a building material factory. The 2x4's are held together with either metal or plywood “gusset plates”.



Trusses tend to be stronger, lighter, and less expensive than rafters. Trusses are strong because they make use of the most efficient geometric shape, the triangle. The outside members of a truss are called chords while the inner pieces are known as webs. Each component is important because they apply pressure onto the other two sides of the triangle, establishing support balance between each other. They are less expensive than rafters because the lumber thickness and lengths are smaller.

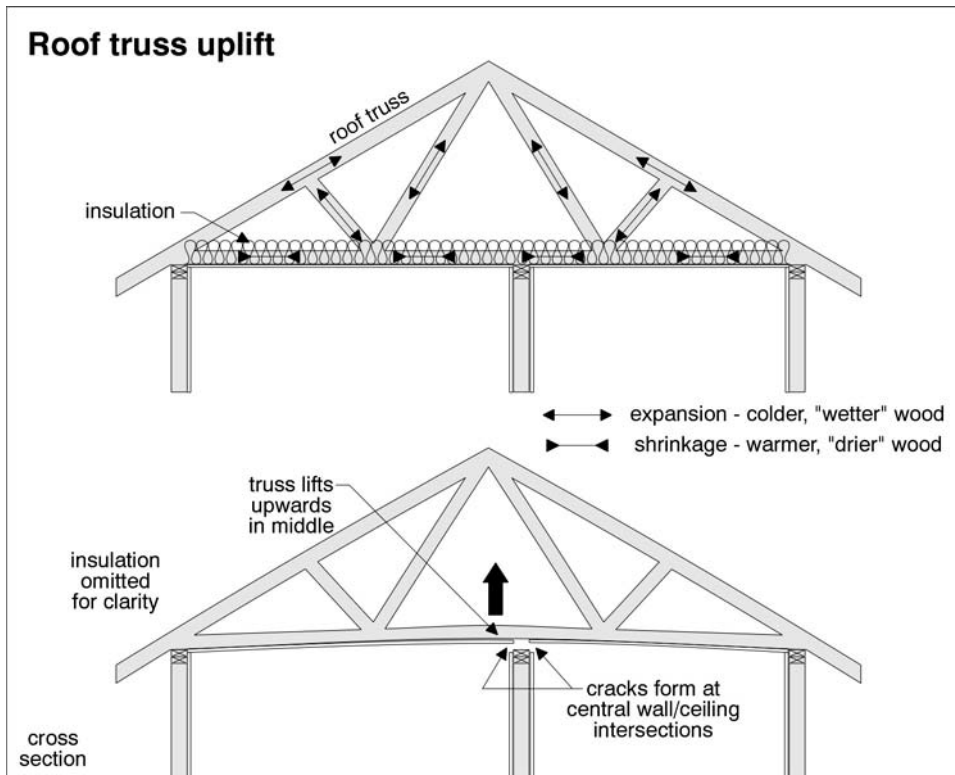
### WHAT IS TRUSS UPLIFT?

If a house experiences truss uplift, the top floor ceiling literally lifts off the interior walls, usually in the winter, then drops again in the summer. It may appear that the floors or walls have settled, but actually the ceiling has moved up, then down. Sometimes the gap can be as much as an inch where interior walls meet the ceiling.

Modern construction places the bottom chord of the truss below a deep blanket of insulation. Even on the coldest days the bottom chord is nice and warm. The top chords however, are above the insulation and get very cold in the well ventilated attic. The bottom chords are warm and dry. As the warm air from the home travels through the top

chords they begin to condensate with the cold air of the winter season. It's kind of like the condensation that occurs on the outside of a ice cold glass of water on a hot summer day, only in reverse. As the top chords begin to absorb some moisture from the air, it causes them to elongate, or swell.

With the top chords growing and the bottom chords shrinking, the truss arches up in the middle to account for the pressure differences, thus lifting the truss off the interior walls.



## IS THIS A PROBLEM?

From a structural standpoint it is not a major problem. But cosmetically, it may cause cracks and separations in the drywall. A common question clients ask us during the inspection is, "What about those small cracks along the ceiling, aren't those a problem?" Many homeowners "repair" the cracks with drywall compound, only to have them reappear next year.

Some contractors have helped disguise truss uplift by securing the ceiling drywall to the top of the interior walls and not the trusses for 18 inches away from the interior walls. The drywall flexes and stays fastened to the walls while the trusses lift above it. Others use a decorative molding where the walls meet the ceilings. They fasten the moldings to the ceiling but not to the walls. As the ceilings move up, the molding go with the ceiling and cover any gap that may develop. If this molding plan is used in your home, try to decorate with this in mind.

**About the Author**

In 1984 Tim Oglesby unknowingly bought a home with significant defects. In 1994 he began Home Check America to assist new homeowners in NE Illinois. With degrees in business and management, trained as a home inspector with Carson & Dunlop Engineering, general contractor for ten years, a licensed home inspector and real estate broker; he is a sought after public speaker and author on issues important to property management and homeownership. [www.homecheckamerica.com](http://www.homecheckamerica.com) or call toll free 1-866-245-4663