



Town of Topsham, Maine  
100 Main Street  
Topsham, Maine 04086  
[www.topshammaine.com](http://www.topshammaine.com)  
Codes Enforcement Office  
PH (207) 725-1723/ FX (207)725-1737

## Rafter Thrust in a Cathedral Shed Roof

**Q.** Does a cathedral shed roof addition need ceiling and/or collar ties to restrain the outward thrust of the rafters?

**A.** A shed roof with a proper shear connection at the ridge *has no lateral thrust*. Think of a ladder leaning against a building. Imagine the ladder has wheels at the bottom. With no restraint at the top, the ladder will roll away from the building. Attach the ladder to the building at the top, however, and it stays put. A shed roof is similar; as long as it's properly attached at the top by the roof rafters resting in hangers designed for pitch or resting on a 2"x 2" wood ledger strip, the bottom will not move. "Ceiling and Collar ties" are an exercise in futility because they will not be in tension as required. Use them as ceiling joists if needed; otherwise, leave them out.

