Chapter 36: Ceiling Joists

Most Common Mistakes:

1. Installing on trusses which were not designed to support their weight.
2. Not installing joist hangers prior to lifting trusses.
3. Inadequate ventilation.

Ventilation

Enclosed attics are required to have a net free ventilating area not less than 1/150 of the area of the space ventilated. A reduction to 1/300 is permitted, provided at least 50% and no more than 80% of the required ventilating area is located in the upper portion of space to be ventilated and is at least 3' above the eave vents.

Foe enclosed attic spaces up to 78' wide, Hansen Buildings vented ridge in combination with enclosed level return, vinyl vented soffits of at least 12" on each eave side, will meet the ventilation requirements.

Ceiling Joist Locations

CAUTION: If trusses designed to support ceiling load weight were NOT ordered, do NOT attempt to install a ceiling after the fact. Trusses which are NOT designed to support a ceiling, may fail if one is installed.

This could result in property damage, injury or death.

If building does NOT have endwall trusses which will be lowered for endwall overhangs, mark all trusses for ceiling joist locations and install appropriate joist hangers. This will apply ONLY to areas where a ceiling will be installed.

Before starting, measure ALL trusses ***from same end***. Failure to do so will result in future difficulties.

For Buildings With Commercial Girts

ADD to first spacing at one end of trusses ONLY 4" for 2x6 girts; 5-3/4" for 2x8; 7-3/4" for 2x10.

Starting from one truss bottom chord end, measure horizontally across truss bottom chord by ceiling joist ***on center*** spacing (most often 24") ***less 3/4"***. **See Figure 36-1.**

Place a pencil mark at this point.

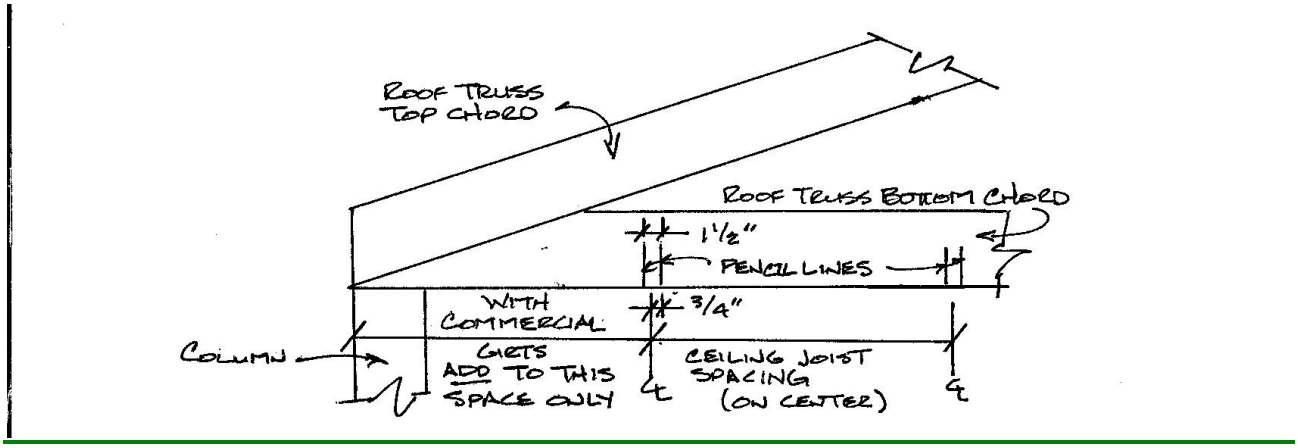

Figure 36-1

Again, pay attention to which truss faces will be each truss pair's outsides. Place all marks for ceiling joist locations on outside truss faces. Continuing in same direction, across truss bottom chord, draw a line 1-1/2" past first line. Continue placing marks across bottom chord, continuing ceiling joist ***on center*** spacing.

Install joist hangers at these marks.

When ceiling joists are installed in hangers, ceiling joists will be flush with truss bottom chord bottom.

Ceiling end beam viewed from outside of building

In buildings where endwall truss has been lowered to allow for an endwall overhang, ceiling end beams are fastened to corner and endwall column inside faces ***prior*** to ceiling joist installation.

Cut end beams to length from corner column outside to endwall column center, then column center to column center for endwall column balance.

If building's endwall columns are not all oriented the same dimension, notches may have to be made into one or more of the columns for ceiling end beam. Notch depth should be such as to not have to notch into corner columns. In applications with commercial girts, notch so end beam side towards endwall will be even with commercial girt inside edge.

Using same procedure as outlined in "Ceiling Joist Locations" (**See Figure 36-1**), mark ceiling joist locations across end beams and install joist hangers. Crown these boards up prior to marking and joist hanger installation.

From skirt board bottom, measure up corner and endwall column insides to interior truss bottom chord height. Put a pencil mark on column inside at this point.

Nail ceiling joist end beams to columns with beam bottom edge even with pencil mark on column inside.

Install ceiling joists into hangers, crowned up.

If building has commercial girts, continue, else this chapter is completed.

With commercial sidewall girts, install 2x4 inverted “L” sidewall drywall backing.
See Figure 36-2**.**

4” dimension in Figure 36-2 is for 2x6 girts; use 5-3/4” for 2x8, 7-3/4” for 2x10.

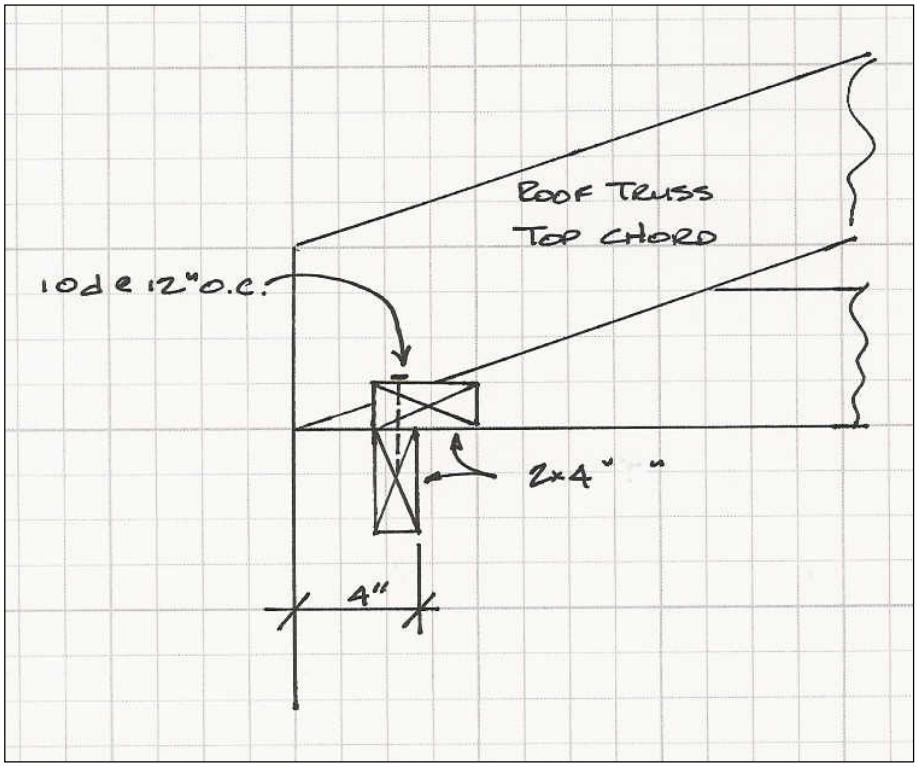

Figure 36-2

With ceiling end beams- install 2x4 endwall drywall backing. **See** Figure 36-3**.**

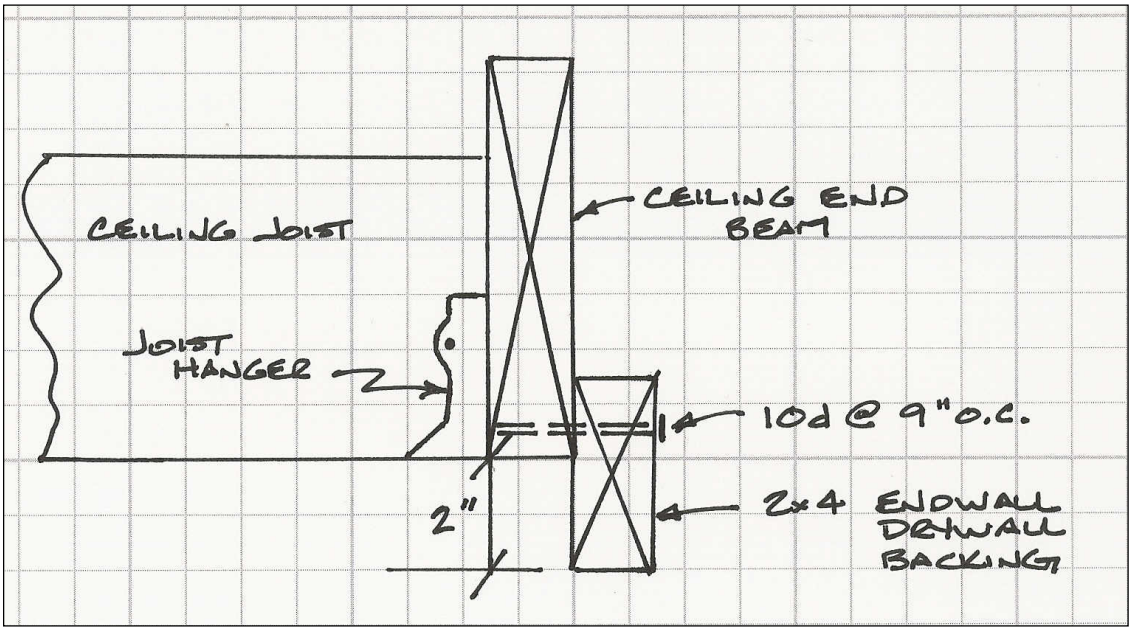

Figure 36-3

Without ceiling end beams and with 2x6 commercial girts – Install 2x4 endwall drywall backing. **See Figure 36-4.**

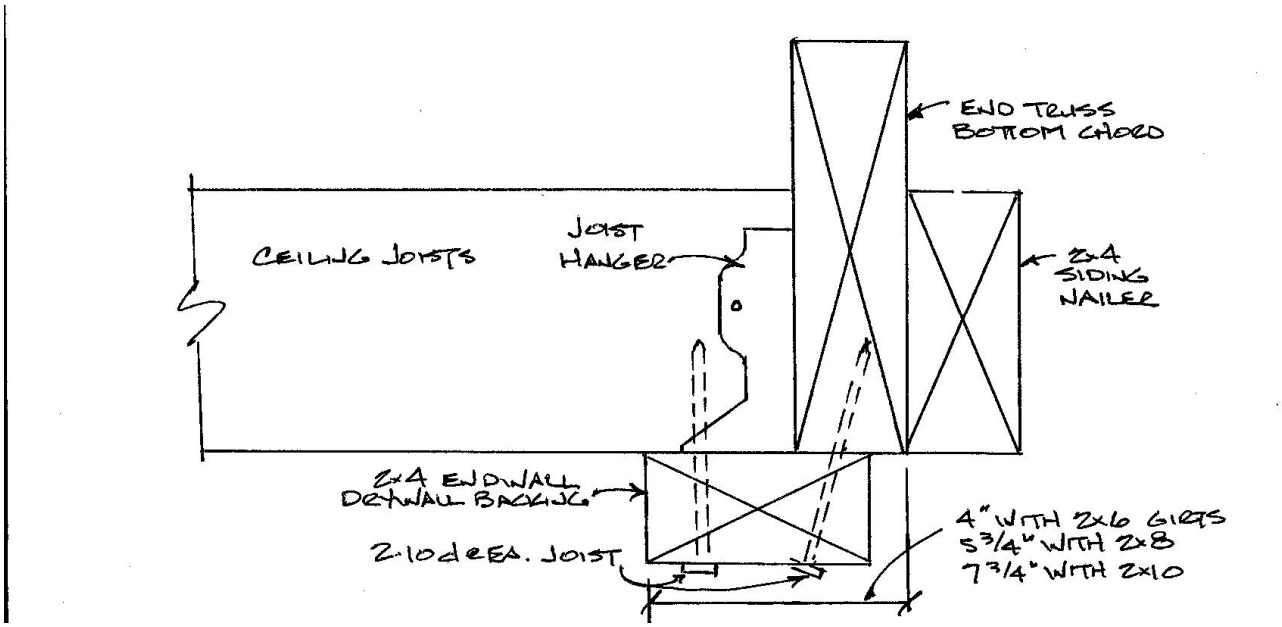

Figure 36-4