

# Trusses

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## Instruction for truss installers

Builders and truss installers must familiarize themselves with all written instructions, drawings, and documents provided by the truss manufacturer and building designers. Before truss installation begins, builders and truss installers need to:

- Know the truss layout.
- Review individual truss drawings that contain information for placing, erecting, bracing, and connecting trusses.
- Check markings on trusses to ensure proper placement according to design.

## Truss erection

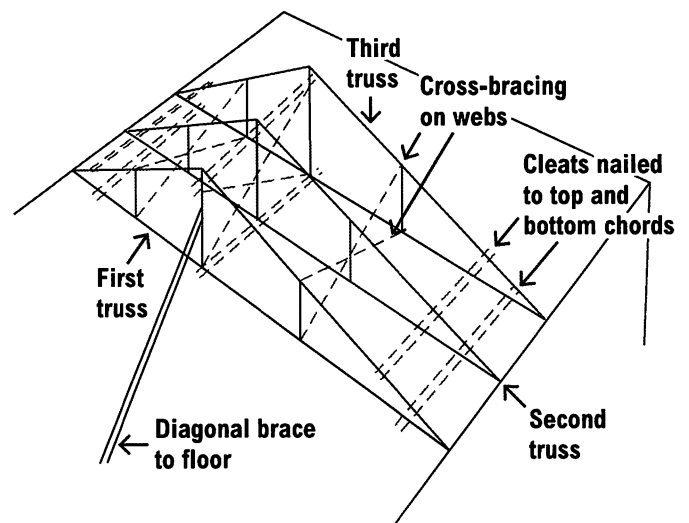
### Preparing for truss erection

- Ensure that all documents, drawings, and instructions related to the safe installation of trusses are available on site.
- Instruct workers on safe truss installation procedures (using documents mentioned above).
- Use workers experienced in safe truss installation whenever possible.
- Ensure that the installation will be supervised by someone who is experienced and knowledgeable in proper truss erection procedures.
- Check that the interior and exterior walls are properly aligned and adequately braced.
- Store trusses (if required) bundled, protected from the rain, and evenly supported to prevent twisting.

- Inform other workers not involved in truss installations to keep clear of the area when trusses are being handled and positioned.
- Ensure that there will be a worker, properly trained in crane signals, directing the unloading and placement of the trusses.
- Determine and implement a fall protection system for truss installation and bracing.
- Ensure that proper personal protective equipment is used by workers.

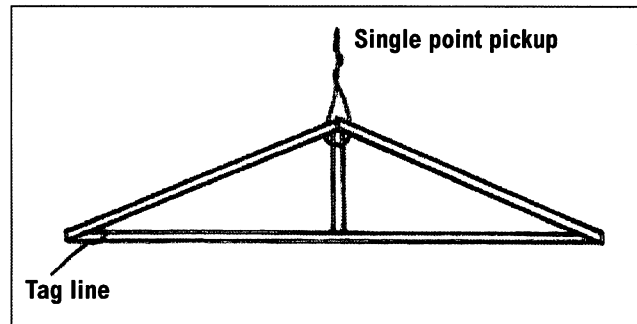
### Temporary bracing during truss erection

- Lift and place truss bundles flat on top of walls (which are aligned and pre-braced).
- Start with any series of trusses having a minimum of three trusses with the same span.
- Use eye protection when cutting banding straps to avoid eye injury.

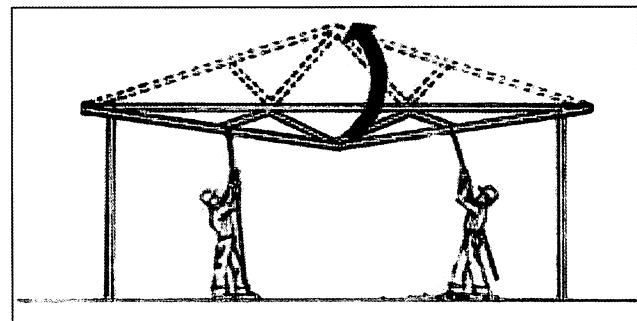


*Temporary bracing*

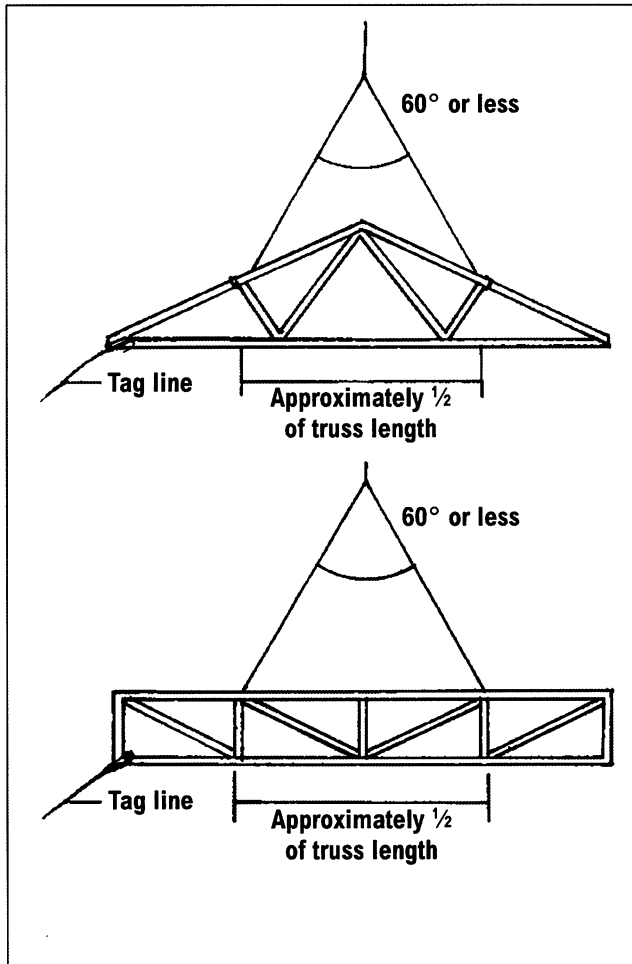
- Attach slings at panel points and not mid-span on truss members.
- Use tag lines to avoid trusses from swinging (which may damage truss itself or other work).
- Stand the first truss and brace it diagonally from above the mid-point on the inside web (to avoid tilting) to the floor below.
- If starting with a hip end, use the jack trusses to brace the hip girder (nail at both top and bottom chords).
- Erect and space the second truss and brace it to the first truss by nailing a 38 mm x 89 mm (2 in. x 4 in.) cleat to the top and bottom chords of both trusses, maintaining 3 m (10 ft.) on centre (o/c).
- Erect third truss and nail cleats to top and bottom chords same as for second truss. Install cross diagonal bracing inside the trusses, nailed to the side of the webs at 2.4 m (8 ft.) o/c.
- Continue using cleats on top and bottom chords and brace subsequent trusses to the first three trusses.
- Install permanent bracing according to manufacturer's or designer's instructions prior any other work (e.g., strapping, sheathing or loading with materials).



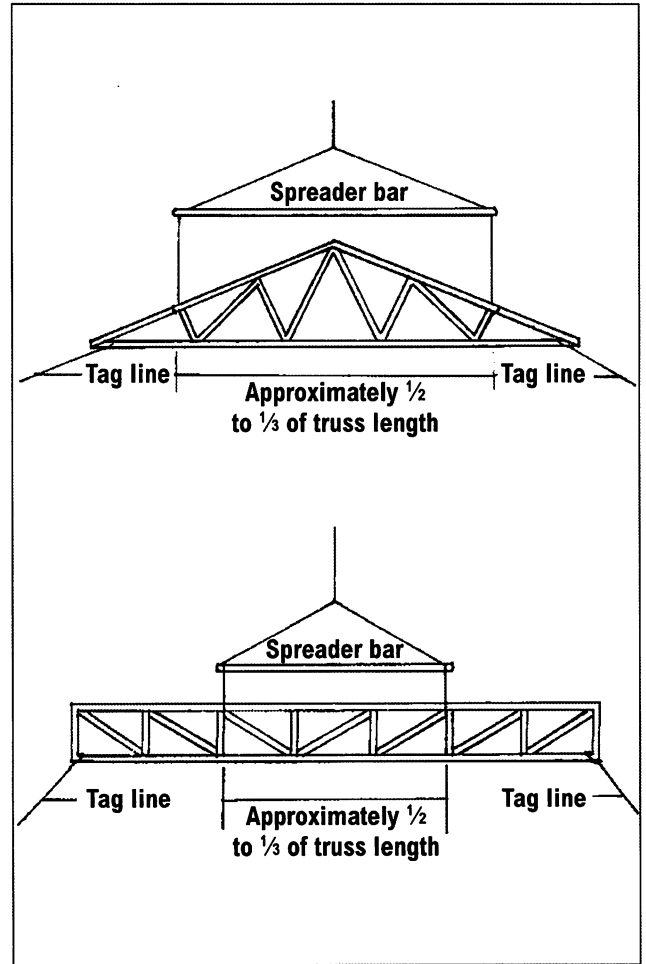
*For spans of 6 m (20 ft.) or less, a single pickup point may be used to lift the truss.*



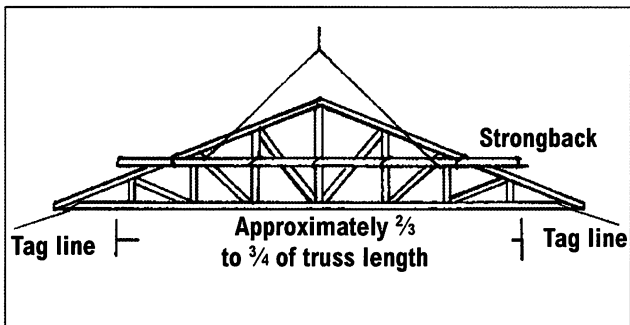
*Small trusses may be installed by hand when extra care is taken to prevent excessive lateral bending when positioning each truss.*



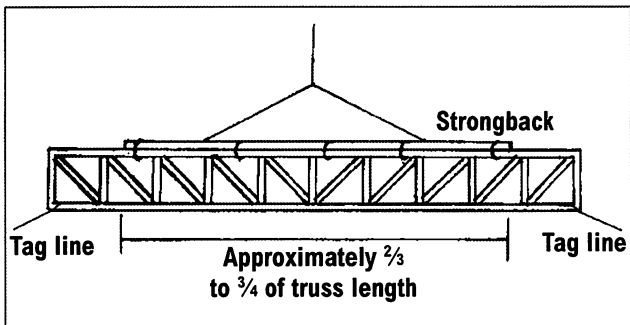
*Trusses up to 9 m (30 ft.) in length should be lifted using two pickup points so that the distance between them is approximately one-half the length of the truss.*



*A spreader bar and short wire rope slings should be used to lift trusses 9–18 m (30–60 ft.) long. The slings may be vertical or may toe-in. Two tag lines should be used to control the raising of trusses of this size.*



*Trusses should be positioned low enough on the strongback to prevent overturning of the truss.*



*For flat trusses, the strongback should be tied to the top chord.*

Trusses over 18 m (60 ft.) in length should be lifted with a strongback that is two-thirds to three-quarters of the length of the truss. The truss should be securely tied to it at 3 m (10 ft.) intervals or less. Two tag lines should be used to control the truss during lifting.

### **Permanent truss bracing**

Permanent bracing instructions for the floor or roof truss systems are the responsibility of the building designer and should be shown on the framing plans. Permanent bracing for individual members of a wood truss component is shown on the truss design drawings and must be installed by the builder or truss erection contractor to ensure proper performance of the truss system.