



Fall Protection

*For setting and bracing
wood trusses and rafters*



Department of Consumer
and Business Services



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How can you eliminate or minimize fall hazards for workers who are setting and bracing wood trusses and rafters?

If you are an employer, you must make a reasonable effort to anticipate the fall hazards that your employees may be exposed to during their work and protect them from falls of 6 feet or more or falls onto dangerous equipment.

Planning is the first step in anticipating fall hazards. When you consider fall hazards during the planning stage of your project, you can develop fall protection methods that enhance the work rather than interfere with it.

Subdivision 3M of Oregon OSHA's safety and health standards sets the requirements for fall protection in construction workplaces. However, your duty to protect your employees goes beyond the requirements of Subdivision 3M. If you can't protect your employees with one of the fall-protection systems in Subdivision 3M, you must use another effective method to protect them.

Training. Regardless of the method you use, you must train your employees to recognize fall hazards and to follow safe practices that minimize the hazards. Fall protection training requirements can be found in Subdivision 3M (see 437-003-0503).

This fall protection guide is designed to help you decide which fall protection systems or methods to use for setting trusses. The examples listed in this guide are not exclusive of other measures you might take to protect your employees; they are merely examples for you to consider when planning your project. With adequate planning and use of correct equipment, a physical means of protecting employees from falls is almost always feasible and can almost always be provided.

Modify your construction methods

Can you modify your construction methods so that you can eliminate or minimize exposure to fall hazards? Consider:

- Setting the hip rafter in place to mark it, then taking it down to saw the plumb cut.
- Erecting and sheeting a series of trusses on the ground and then lifting the unit into place with a crane.

Can you modify your construction methods so that you can use conventional fall protection systems, aerial lifts, or scaffolding? One example is to wait to erect nonbearing or nonsupporting interior walls until after the trusses are set to allow room for scaffolding or aerial lifts.



A qualified person must be involved in the decision to use alternative methods.

Warning! Wood trusses are not designed to support fall-arrest systems. Do not tie off directly to wood trusses unless a qualified person has determined that the truss or series of trusses will meet the strength requirements of a fall-arrest anchor.

Consider conventional fall-protection systems

Can you use one of the fall protection systems described in Subdivision 3M, 1926.502? It is unlikely you will be able to set up one of the fall protection systems listed in 1926.502 and use it for the entire truss-setting process. However, it may be feasible to use one or more of these systems for certain truss-setting tasks.



The anchor and lifeline were installed on this roof section before it was lifted into place.

If you decide to use one of these systems, you must be certain that you install and use it correctly. A fall protection system used incorrectly can introduce additional hazards into the workplace. Read *Fall Protection Systems Criteria and Practices (1926.502)* in Subdivision 3M to see if you can use one of these systems.

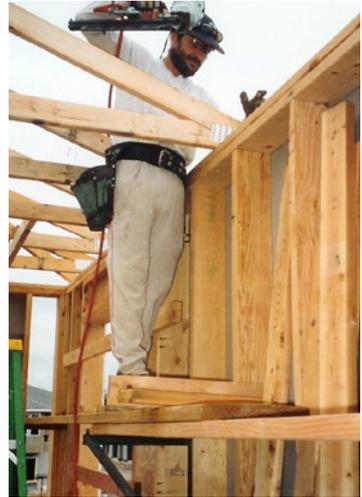
Think about the hazards your employees would be exposed to when installing and removing the system. Is that exposure greater than the exposure to the fall hazards associated with the truss-setting task? If so, consider other fall protection options.

Use scaffolding

Can you use scaffolding as a work platform to roll out, set, and brace the trusses?

A carpenter's bracket or top plate bracket scaffolding can be attached to the inside or outside of the exterior walls. Two 2" x 6" planks or a 12-inch-wide fabricated scaffold plank can be used for the platform.

Guardrails are required when the scaffold platform is more than 10 feet above the floor or ground. When the scaffold brackets are set so that the platform is at least 38 inches below the top plate, the top plate becomes a guardrail. Make sure to place a 2" x 4" across door and window openings when the distance between the bottom of the header and the scaffold platform is greater than 20 inches. Guardrails can be installed on the opposite side and ends of the scaffold platform or another type of fall protection can be used.



Interior scaffold brackets designed by the home builder.

Employees can work from scaffolding to roll out the trusses, set them in place, attach the lateral bracing, nail freeze blocks, cut rafter tails, attach the fascia board, and nail the first row of roof deck sheeting. This keeps them off the top plate and is safer and faster than using a ladder. The scaffold can be made from materials on the job, or you can use a manufactured scaffold bracket.



Manufactured exterior carpenter's bracket scaffolding.

These are just a few examples of the requirements:

- Job-made scaffold and manufactured scaffold brackets must be designed by a qualified person and be able to support four times the anticipated load.
- Make sure that the scaffold platform does not sag more than $1/60$ the distance between the brackets or supporting members when supporting the weight of employees, tools, and materials; for example, when scaffold brackets are 4 feet apart, the scaffold planks must sag less than 1 inch.
- If you attach a carpenter's bracket scaffold or a top plate bracket scaffold to a wall, make sure the wall is adequately supported and braced to withstand four times the scaffold load.



Make sure door and window openings are properly guarded.

You may also be able to use scaffolding such as fabricated frame scaffolds or mobile scaffolds. If you are going to use any scaffolding, erect and use it according to the requirements of Subdivision 3L. Review Subdivision 3L to determine if one of these scaffold systems will work for you.

If the hazards of installing and dismantling scaffolding equal or exceed the hazards involved in the actual construction, consider other fall-protection options.

Qualified person – One who by possession of a recognized degree, certificate, or professional standing or who by extensive knowledge, training, and experience has successfully demonstrated his or her ability to solve or resolve problems relating to the subject matter, the work, or the project.

Use aerial lifts

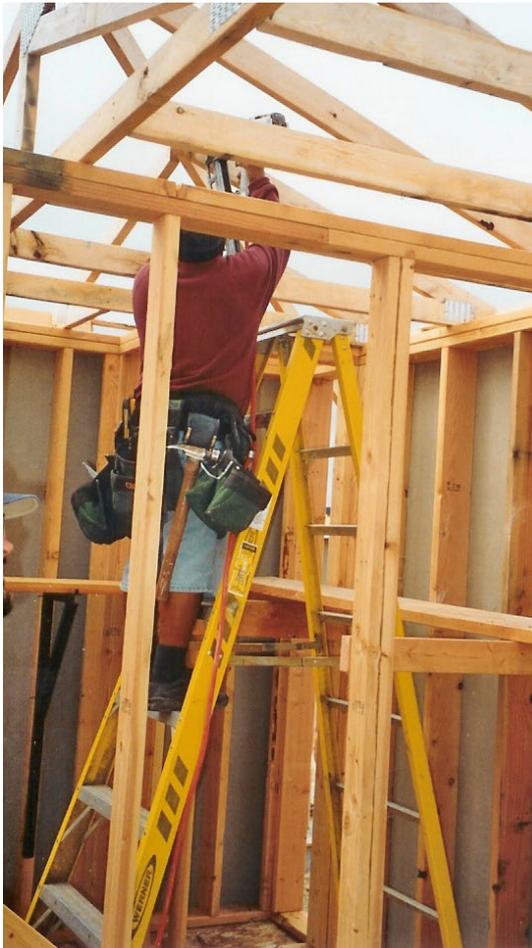
Can you use scissor lifts or boom-supported elevating work platforms? You may be able to reach some elevated work with an aerial lift. Make sure to follow all operating and maintenance instructions and manufacturer's recommendations.

Warning! Aerial lifts are designed to operate on level, solid surfaces where they will not sink or slide.



Consider ladders

You may be able to use ladders for some truss-setting tasks. Choose the right ladder for the job and use it correctly. Avoid using ladders to position trusses. Standing on a ladder while pulling or pushing a heavy truss can cause the ladder to slide and become unstable or cause you to lose your balance. Requirements for selecting and using ladders are in Subdivision 3X. Review them to determine if ladders are appropriate for your truss-setting tasks. Your employees must also be trained to recognize the hazards of using ladders and know how to minimize those hazards.



Working at the peak from the top plate of an interior wall.

Important rules

Subdivision 3M – 437-003-1501, Fall Protection

Subdivision 3M – 1926.502, Fall Protection Systems Criteria and Practices

Subdivision 3M – 437-003-0503, Training Requirements

Subdivision 3L – Scaffolding

Subdivision 3X – Stairways and Ladders

These can be read in full online at osha.oregon.gov/rules

Oregon OSHA Services

Oregon OSHA offers a wide variety of safety and health services to employers and employees:

Appeals

- ▶ **503-947-7426; 800-922-2689; admin.web@dcbs.oregon.gov**
- Provides the opportunity for employers to hold informal meetings with Oregon OSHA on concerns about workplace safety and health.
- Discusses Oregon OSHA's requirements and clarifies workplace safety or health violations.
- Discusses abatement dates and negotiates settlement agreements to resolve disputed citations.

Conferences

- ▶ **503-378-3272; 888-292-5247, Option 1; oregon.conferences@dcbs.oregon.gov**
- Co-hosts conferences throughout Oregon that enable employees and employers to learn and share ideas with local and nationally recognized safety and health professionals.

Consultative Services

- ▶ **503-378-3272; 800-922-2689; consult.web@dcbs.oregon.gov**
- Offers no-cost, on-site safety and health assistance to help Oregon employers recognize and correct workplace safety and health problems.
- Provides consultations in the areas of safety, industrial hygiene, ergonomics, occupational safety and health programs, assistance to new businesses, the Safety and Health Achievement Recognition Program (SHARP), and the Voluntary Protection Program (VPP).

Enforcement

- ▶ **503-378-3272; 800-922-2689; enforce.web@dcbs.oregon.gov**
- Offers pre-job conferences for mobile employers in industries such as logging and construction.
- Inspects places of employment for occupational safety and health hazards and investigates workplace complaints and accidents.
- Provides abatement assistance to employers who have received citations and provides compliance and technical assistance by phone.

Oregon OSHA Services *(continued)*

Public Education

- ▶ **503-947-7443; 888-292-5247, Option 2; ed.web@dcbs.oregon.gov**
- Provides workshops and materials covering management of basic safety and health programs, safety committees, accident investigation, technical topics, and job safety analysis.

Standards and Technical Resources

- ▶ **503-378-3272; 800-922-2689; tech.web@dcbs.oregon.gov**
- Develops, interprets, and gives technical advice on Oregon OSHA's safety and health rules.
- Publishes safe-practices guides, pamphlets, and other materials for employers and employees.
- Manages the Oregon OSHA Resource Center, which offers safety videos, books, periodicals, and research assistance for employers and employees.

Need more information? Call your nearest Oregon OSHA office.

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Bend

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1230 NE Third St., Suite A-115
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