Am I in danger?

Every year, construction workers are injured or killed falling from scaffolds because there was no fall protection.

This worker is at risk because there is no fall protection.

Falls are not the only hazard.

You can also be injured or killed:
• When a scaffold collapses because it is unstable or overloaded.
• By tools and materials that fall off a scaffold.
• By electrocution. Scaffolds should be at least 10 ft away from overhead powerlines.*

To work safely...

1 Set scaffold on a solid base

Scaffolds must be set up with a solid base, decks that are level, and posts or legs that are plumb. The base of the scaffold must have base plates (often part of the screw jack) and mud sills for added support. It should also have screw jacks for leveling inserted in the legs of the scaffold.

2 Use proper fall protection

If the working deck on your scaffold is 10 ft or higher, OSHA requires you to have some type of fall protection. Fall protection may be a guardrail system or a Personal Fall Arrest System.*

3 Check for points of scaffold safety

Before use, a competent person* must check to make sure:
• There is a way to get on and off the scaffold that meets OSHA rules for access.
• Work areas are fully planked or decked.
• Guardrails are installed properly or alternative fall protection is provided.
• Guys and ties to the building are installed properly and in good condition.

Get trained.

There are many types of support and suspended scaffolds. The Occupational Safety and Health Administration (OSHA) requires employers to provide training:
• By a competent person to all workers assigned to erect and/or disassemble a scaffold.
• By a qualified person* to all workers who work on a scaffold.

Your employer must provide training on the type of scaffold you are assigned to erect, disassemble, or work on. You must be trained to identify dangerous conditions and to work safely.

*OSHA Standard 29 CFR 1926.451(f)(8)

*A competent person is someone who is capable of identifying existing and predictable hazards in surroundings and who has authorization to take corrective measures to eliminate hazards. (Source: OSHA)

*A qualified person is someone who by knowledge, training and experience has successfully demonstrated their ability to resolve problems relating to the project. (Source: OSHA)

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Am I in danger?

If you use a ladder on a construction site, then the answer is **YES**.

Falls are the leading cause of deaths and injuries in the construction industry.
- Each year, more than 4,000* construction workers are injured so seriously by ladder falls that they miss work.
- Each year, more than 70* construction workers die in falls from ladders.

Electrocution Hazard

Falls aren’t the only way to get hurt on a ladder!

Contact with overhead power lines can be fatal. Make sure your ladder is positioned at least 10 feet away from power lines.

Aluminum conducts electricity. A fiberglass ladder is a better choice when working near electricity.

To avoid a fall …

1 **Inspect the ladder before every use**
   - Inspect the rails, rungs, feet, and spreaders or rung locks for defects or damage **every time** you use a ladder.
   - If you see any damage, **tag it “do not use” and request another ladder in proper working order.**
   - Always check your ladder’s duty rating to make sure it will support you and your toolbelt!

2 **Position your ladder properly**
   **For all ladders:**
   - Make sure you have a level, solid footing for your ladder.
   - Position the ladder near your work to avoid overreaching.

   **For extension ladders:**
   - Set the base one foot away from the building for every four feet of height.
   - Tie off the ladder at the top – and bottom where possible!

   **The minute you take to tie off could save your life.**

3 **Use the ladder safely**
   - Maintain three-point contact with the ladder at all times: two hands and a foot or two feet and a hand.*
   - Do not use the top step/rung of a ladder unless it was designed for that purpose, or stand on the top three rungs of a straight, single, or extension ladder.*
   - Have a co-worker hold the ladder to steady it as you climb up and down.
   - Always face the ladder when moving up or down.
   - Do not carry tools and materials while climbing. Use a rope to haul or hoist materials to the upper level.

To learn more visit:

- [www.StopConstructionFalls.org](http://www.StopConstructionFalls.org)

To get more of these Hazard Alert cards and cards on other topics, **[Call 301-578-8500 or visit www.cpwr.com](http://www.cpwr.com)**

**Is a ladder the right equipment for the job?**

For work at heights, consider using a scaffold or aerial lift. The wider work platform and guard rails can reduce your risk of falls.

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*Source: OSHA Quick Card. [https://www.osha.gov/Publications/portable_ladder_qc.html](https://www.osha.gov/Publications/portable_ladder_qc.html)
Plan Ahead for the Job and Inspect Ladders Before Use

First, can the task be done safely from a ladder? If not, use scaffolding or a lift. If using ladders:

- Bring the right ladder for the job: self-supporting, straight, or extension ladder.

- Check the duty rating label on the ladder. Don’t overload.

- Heavy-duty industrial ladders (Type 1 or 1A), can only carry up to 250 or 300 pounds including the worker and their tools.

- Check the ladder for loose, cracked or greasy rungs, split side rails, and worn shoes. Make sure the rung locks are in working order.

- Tag and remove defective ladders from the job site.

- Don’t use a ladder in a horizontal position as a scaffold.

- Call the electric company for assistance if working near power lines, to prevent electrocution.

**Fact:** It only takes 1 second to hit the ground from a 16-foot fall. Over half of the fatal falls in construction are from heights of less than 25 feet.

Setting Up Ladders

- Clear away debris and obstructions, and block off the area around the bottom of the ladder to prevent it from being bumped into.

- Set the ladder on dry, level ground. Use the “heel test” to check firmness of the ground. Stomp your heel down; if it goes into the ground more than 1 inch, a base is needed below the ladder.

- If a base is needed, set it on a secure, even surface. Plywood can be used if it is dry, clean and sturdy enough to support the expected load.

- Set the base of the ladder a distance of 1 foot out for every 4 feet high.

- When accessing a porch or roof, extend ladder side rails 3 feet above landing. For extra stability, secure the ladder by tying it to the building.

- If a ladder must be placed in front of a door, secure the door shut so it cannot open.

- Use ladder stabilizers when appropriate.

Climbing Ladders

- Allow only one person on the ladder at a time. Always face the ladder.

- Maintain 3-point contact with the ladder at all times: two hands and one foot, or one hand and two feet.

- Use a tool belt or hoist to lift tools. Never carry tools or materials in-hand while climbing the ladder.

- Work can be performed more quickly and easily if you don’t overreach. Always climb off and reposition the ladder.

- Do not work from the top three rungs of an extension ladder.

- Do not work from the top or top step of a step ladder. Never work from a closed step ladder.

- When working on ladders on elevated porches and balconies, remember a fall can leave you severely injured for life.

**Fact:** A fall from a ladder can leave you severely injured for life. With this kind of injury, you might not be able to take care of yourself or your family.

Working from Ladders

- Keep your belt buckle centered between ladder side rails at all times (“belt buckle rule”).

- To help keep your balance, don’t pull, lean, stretch, or make sudden moves while on the ladder.

- Work can be performed more quickly and easily if you don’t overreach. Always climb off and reposition the ladder.

- Do not work from the top three rungs of an extension ladder.

- Do not work from the top or top step of a step ladder. Never work from a closed step ladder.

- When working on ladders on elevated porches and balconies, remember a fall can leave you severely injured for life.

**Fact:** A fall from a ladder can leave you severely injured for life. With this kind of injury, you might not be able to take care of yourself or your family.

Maintain Ladders

- Change the shoes of the ladder regularly.

- Lubricate metal bearings, locks and pulleys.

Train Your Workers

Though used every day, ladders are often taken for granted. They are a major cause of injury. Ladders are complicated tools, and training is required.

- Make sure you and your workers understand and follow safe work procedures.

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This brochure only highlights key points. Consult the OSHA standard 29 CFR 1926.1053 for a complete list of ladder safety requirements. ---
Don’t take any chances. Protect yourself from a fall.

Here is what you can do:

1. Wear a full body harness and make sure it is snug. A belt is not going to protect you.

2. Connect the harness to a lifeline or lanyard. It should be long enough to do your work but not too long so it will stop you from hitting the ground.

3. Connect the lifeline to an anchor on the roof. The anchor should be nailed in or screwed into a rafter according to manufacturers’ instructions. Make sure it is in securely so it will not come out if you fall.

4. Try to keep the roof clear of obstacles that might cause a slip or trip.

5. Plan the work to avoid tangled lines.

6. Make sure ladders are secure (top and bottom), at the proper angle (1’– 4’ ratio), on firm footing and extend 3’ beyond the roof edge to make it easy to get on and off.

7. Keep three points of contact on the ladder when climbing and always face the ladder going up and down.

8. Never carry anything in your hands when climbing a ladder. Use a hoist to get materials and tools up and down.

Falls can be prevented by simple precautions.

More information on preventing falls is on the website www.stopconstructionfalls.com.
A qualified person is someone who by knowledge, training and experience has successfully demonstrated their ability to resolve problems relating to the project. (Source: OSHA)

Do a pre-job walk-through to look for power lines. Ask your supervisor if the electrical wires or power lines have been de-energized. Unless you are a qualified electrical worker, stay a minimum of 10 ft away from all power lines.

OSHA FactSheet - Aerial Lifts
https://www.osha.gov/Publications/aerial-lifts-factsheet.html

An aerial lift can prevent falls and reduce the risks for back, neck and shoulder injuries caused by working at or above shoulder level by positioning you where you need to work.

But there are different types of aerial lifts including scissor lifts, bucket trucks, and cherry pickers. The down lever on one can be the up lever on another model.

If used right...

If not used right, the results can be deadly.

Major causes of deaths are...

• Electrocution
• Falls
• Tipovers

Construction workers die each year while using aerial lifts.

1 Get training
Your employer must make sure every authorized lift operator is trained by a qualified person* experienced with the model of aerial lift being used. Once trained, follow manufacturer instructions.

*A qualified person is someone who by knowledge, training and experience has successfully demonstrated their ability to resolve problems relating to the project. (Source: OSHA)

PHOTO COURTESY OF KIEWIT POWER Constructors

2 Wear a full body harness
If your lift is struck by another vehicle, you can be thrown from the lift. Using proper fall protection will keep you from a serious or fatal fall. You must use a lanyard attached to an engineered anchor in the basket or on the boom. Do not attach it to the guardrail.

PHOTO COURTESY OF KIEWIT POWER Constructors

3 Check for overhead power lines
Do a pre-job walk-through to look for power lines. Ask your supervisor if the electrical wires or power lines have been de-energized. Unless you are a qualified electrical worker, stay a minimum of 10 ft away from all power lines.*

*A qualified person is someone who by knowledge, training and experience has successfully demonstrated their ability to resolve problems relating to the project. (Source: OSHA)

Before you use the lift ...

Before operating an aerial lift...

• Check operating and emergency controls.
• Make sure the base controls are working so that someone on the ground can lower the lift if you are unable to work the controls.
• Look for potential hazards such as potholes, bumps, or debris.
• Set out riggers, brakes, and wheel chocks — even if on a level surface.

While operating an aerial lift...

• Always wear full fall protection.
• Always close lift-platform chains or doors, and check guardrails.
• Do not climb on or lean over guardrails.
• Do not exceed load limits.

If you think you are in danger:
Contact your supervisor. Contact your union. Call OSHA 1-800-321-OSHA

Visit www.StopConstructionFalls.org
Download the NIOSH Aerial Lift Hazard Recognition Simulator https://www.cdc.gov/niosh/topics/falls/aeriallift.html

To receive copies of this Hazard Alert and cards on other topics:
call 301-578-8500 or visit www.cpwr.com

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Am I in danger?

Falls are the leading cause of death in construction.

Almost every workday, somewhere in the United States, a construction worker dies as a result of a fall.

When do I need a fall protection harness?

If you are working …

• more than 6 feet above the ground, and
• you are not protected by a system of guardrails or safety nets.

Know the ABC’s of Personal Fall Arrest Systems.*

1 Wear a full-body harness

A proper fall protection harness has straps worn around the trunk and thighs. If you fall, it will distribute “stopping force” across your thighs, pelvis, chest and shoulders to prevent severe injury.

2 Inspect your harness

It must be worn properly and be in good condition

• Inspect your harness for worn or damaged straps, buckles, D-ring and lines.
• Follow the manufacturer’s instructions when you put on your harness.
• Make sure all straps are fastened and adjusted correctly.
• Don’t start work until you are satisfied with the condition and fit of your fall protection harness.

3 Make sure you are connected

Your lanyard should be attached to the D-ring on your fall arrest harness, then anchored securely to an anchor point. The anchorage must be capable of supporting at least 5,000 pounds per worker attached.* Ask your supervisor if your anchor point can sustain the load without failure. Guardrails are not anchor points.

To stop a fatal fall …

It’s not over when the fall stops!

It only takes a short time for the harness to restrict blood circulation, which can lead to unconsciousness or even death.

OSHA requires employers to have a plan to “provide for prompt rescue of employees in the event of a fall.”

To learn more visit:

► www.StopConstructionFalls.org
► OSHA’s eTool: Falls - Personal Fall Arrest Systems https://tinyurl.com/OSHA-eTool-Falls

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*Source: OSHA 29CFR 1926.502

*Source: OSHA 3146-05R 2015

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