



# **Safety Training Topics**

January 2021

Slipping Hazards

Ladder Safety

Distractions on the Job

Fall Protection

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# SAFETY TRAINING TOPIC

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## Slipping Hazards

### **OIL, WATER, AND OTHER LIQUIDS**

Don't ignore floor puddles in the belief they will evaporate. If you came across a puddle before it evaporated, so can someone else. That person might not be as lucky as you.

Don't ignore spills. If you see a spill, clean it up. If it is too large to clean up, call for help or report it to the person in charge of the area.

If you clean up oil, surfactant, soap, or some other substance that tends to stick to surfaces, don't just wipe up what's visible and walk off. Make sure the floor is no longer slippery. A technique that often works is to grind oil absorbent or cat litter into the place where the substance was. Dispose of oil into approved containers only.

When cleaning up a spill, avoid stepping in it. That way, you don't track the mess to other areas or slip while attempting to clean up.

After a wire pull, ensure you have wiped up the lubricant.

### **GRIME, DUST, GRAVEL, OIL-DRY AND OTHER SOLIDS**

General housekeeping will remove these hazards from floors. For example, lean up wire scraps after wire pulls and terminations.

Outdoors, loosely-packed gravel is always a hazard-be extra cautious.

### **MUD, GRASS, ICE, AND OTHER SLIPPERY SURFACES**

If you work outside, you may work on mud, grass, or ice. Each of these surfaces is slippery enough for you to fall and suffer serious injury. Take extra precautions such as carrying smaller loads, taking smaller and more deliberate steps, and being especially aware of your center of gravity.

A big danger from mud is mud caked on your shoes after you leave the muddy area. It can act like grease under your shoes as soon as you step from rough outdoor terrain onto a cement or tile floor. Clean your shoe bottoms before going inside.

### **CARRYING THINGS**

Nobody will give you a medal for playing Superman. How much you can carry is not as important as how much you can carry safely. If you are working around slippery surfaces, reduce how much you carry. Using a cart or other such device will help.

Don't carry loads that force you to lean back and thereby raise your center of gravity.

The amount of time on a slippery surface is less of a slipping issue than the degree to which you are off balance. You are better off crossing the surface many times while balanced than just once while unbalanced.

## **YOUR SHOES**

If the bottoms are worn smooth or cracked, or if the heels show excessive wear on one side, replace your shoes.

Your feet should not move inside your shoes. If they do, you will be more prone to falling.

## **HOW YOU WALK**

Most people do not really walk. They fall forward onto the foot that is out in front. This is why people fall when walking on ice. If you pay close attention to how you walk, you can overcome this type of walking and make yourself more slip-proof. The idea is to get your center of gravity in a neutral position, rather than out in front of you.

Walking with your head up, chest out, back straight-think military posture- greatly reduces your odds of falling if your feet slip. This posture moves your center of gravity to the center, rather than the front.

Walk across a dusty floor or in snow, and then look at your footprints. Which way do your feet point? If they point any direction other than dead ahead, you have a foot alignment problem. Work on correcting your foot position so your heel and toe are in alignment with the direction you are walking.

If your head bounces up and down when you walk, that means you are moving your center of gravity up and down. Put a book on your head and practice walking with it. This will correct most walking deficiencies.

If you smoke, allow for extra caution. Smokers have a compromised sense of equilibrium because of blockages in the various passageways that form part of the body's system for sensing position.

You can reduce slipping hazards on especially treacherous turf by walking with your knees bent as though you are riding a horse. Martial artists call this the horse stance. It is nearly impossible for one person to knock down another person who is in this stance, and for that reason it is a good way to stand if you must traverse a slippery surface. You may look funny doing it, but you won't fall. It worked for Bruce Lee.

## **REVIEW AND DISCUSSION**

- Should you just let a water puddle on the floor evaporate?
- What should you do if a spill is too large to clean up?
- How should you dispose of oil?
- Where does housekeeping fit into the idea of slipping hazards?
- If you are going to cross a slippery surface, should you carry one big load or two smaller ones across it?
- Do your shoes matter? In what ways?
- What should you try to keep from being out in front of you when you walk?
- How should your feet point when you walk?
- How can a book help you walk more safely?
- What is the horse stance, and how can it help you not fall?

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## Ladder Safety

### GENERIC LADDER SAFETY

Never use aluminum ladders for electrical work or in the vicinity of power sources. Use a wood or fiberglass ladder, instead.

Never use a painted wooden ladder. Among the dangers: the paint may be electrically conductive, and it reduces the friction needed for your hands and feet to stay in place on the ladder.

Do not put your arms between the side rails when carrying a ladder. Doing so makes you vulnerable in injuries such as a torn rotator cuff.

Carry a ladder with its feet pointed forward. When you set the ladder down from this position, its feet are already in place. If you carry the ladder with the feet pointed behind you, you'll be tempted to swing the ladder in a dangerous manner or you'll need to set it down and pick it up again.

Use a ladder tall enough for the job. It takes less time to get the right ladder than it does to recover from a typical fall off a ladder.

On smooth, hard surfaces, use a ladder with rubber feet. On uneven or icy surfaces, use a ladder with spurs.

Visually inspect the ladder before each use. Remove grease, mud, oil, or other slip hazards. Look for protruding rivets, loose steps or rungs, cracks in the side rails, or other mechanical damage-if these are present, take the ladder out of service.

Note the weight limit, and allow for the weight of equipment and supplies in addition to your own body weight.

If you must place the ladder on an unstable surface, make it as stable as possible. If, for example, the surface is gravel, dig the feet into the gravel. Then, secure the ladder by some additional means.

Except for emergencies, observe the "one person on a ladder" rule. Even if the weight limit would allow two people, there is too much risk of stepping on heads and fingers-and both people can fall in such an instance.

Use the three-point contact method when climbing. This requires two hands and a foot, or two feet and a hand, to be in place on the ladder at all times.

Use the steps, not the cross braces, for supporting your weight. The cross braces are not designed for this purpose, do not provide sufficient traction, and may give way.

Do not sit or stand on the top step or next-to-the-top step of any ladder. One reason: the top step doesn't have a "stop" built into it. If you stand on the second rung down, the top step stops your shins from moving forward-and off the ladder.

Do not over-reach while using a ladder. This is the number one cause of ladder injuries. Instead, climb down and move the ladder. If you are leaning your body away from the center of the ladder, you are over-reaching.

Never move a ladder without first checking to ensure nothing on top of it will fall off. Also, check to ensure the top won't snag on something-this could force you to suddenly support the weight of the ladder.

Do not carry materials up a ladder. Have someone hand you materials, or use tag line to raise them to you once you are up the ladder.

Do not hang things on the rungs-doing so creates a fall hazard.

Position a straight or extension ladder so it is one foot out at the base for every four feet of vertical distance. This provides a good balance of forces and uses the weight of the ladder to help stabilize it.

## **STEP LADDERS**

Before climbing a stepladder, ensure the hinges are locked. Check the cross bracing for any mechanical damage.

Check the feet to ensure they are in place, attached properly, and undamaged.

Do not stand on the second step from the top of any stepladder that is more than four feet tall.

## **EXTENSION LADDERS**

Inspect the rope for rotting or fraying.

If the ladder has spurs, ensure they are in place before climbing.

Keep hands away from moving parts when operating an extension ladder. Extend the ladder three feet above the top of a structure or excavation, and secure by tying off at the top.

Secure the ladder at the bottom. To do so, tie or wedge it into place.

## **REVIEW AND DISCUSSION**

- What are three safety rules that apply to the use of any ladder?
- What are some reasons not to use a painted wooden ladder?
- When should you not use an aluminum ladder?
- What should you look for when inspecting the ladder before use?
- What do you need to account for when considering the weight limit of a ladder?
- What is the three-point contact method?
- What is over-reaching, and why is it dangerous?
- Should you carry materials up a ladder? Why not? What could you do instead?
- Why would sitting or standing on the top rung of a ladder be dangerous?
- How far from the top is too high to stand on a stepladder?

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# SAFETY TRAINING TOPIC

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## Tripping Hazards

### GENERAL CONCEPTS

You can keep from producing tripping hazards by adopting specific work methods toward that end. For example, you can make a habit of looking for tripping hazards every time you set up for a wire pull and every time you complete a pull.

You can identify tripping hazards left by others and eliminate those hazards before an accident occurs.

You cannot prevent tripping hazards unless you think about them as you work with the things that can create them.

You cannot anticipate tripping hazards if you are carrying so much that you can't see them. One way to avoid tripping hazards is to get help carrying anything bulky, no matter how light it is.

### PORTABLE CORDS

Route cords away from traffic ways. Overhead is preferable. If laying cords on the floor, lay them out straight, not curled. Tape them down with duct tape so they do not form loops people can trip on.

If routing a cord at surface level across a walkway, use a cord guard. If you don't have a cord guard, tape the cord securely in place along the whole length that is exposed to the walkway.

If you must run a cord down a stairway, run it to one side and tape it securely in place. If possible, tape it to the side of the stair casing rather than letting it lie on the steps.

If someone else has left a cord in a walkway or stairway, secure it with tape or push it to one side. If it cannot be made reasonably safe, contact your foreman. Don't unplug a cord that someone unsafely routed, as that may create a further safety hazard. For example, that cord may be powering lights or equipment that requires a ground through the power source.

### LANYARDS, BELTS, AND HARNESES

Do not just leave these in a pile before or after an ascent. Not only does such a practice create a tripping hazard, it leaves this safety gear open to damage.

Stow lanyards, belts, and harnesses properly. That may mean hanging them on a fixture for that purpose, putting them in a pouch, returning them to the tool shack, or putting them in your gangbox. If you don't know where to stow them, return them to the tool shack or ask your foreman.

If you find such gear unattended and it is a tripping hazard, pick it up and take it to the owner, or to your foreman if you can't find the owner.

## **COVERS**

Before removing a cover from any conduit box, enclosure, panel, or other such equipment, determine a safe place to store it. That place can be close to the work area, but should not be where feet are likely to come into contact with it.

Do not simply lean a switchboard cover up against the next cubicle. Doing so creates a tripping hazard, and the focus of the fall is likely to be inside the panel you are working on.

## **WIRE PULLS**

Use wire that comes packaged with no spools, if possible. This eliminates all spool-related tripping hazards.

If you are using wire that is packaged on spools, use a spool rack. A spool that is resting on the floor with a piece of EMT stuck through it has a tripping hazard on either side and the middle.

If laying wires out on the floor as part of a pull, take care to remove loops and curls. Manage the traffic in the area so people are not walking across the wires being pulled.

Dispose of scraps after each pull. Short scraps are slipping hazards. Long scraps are tripping hazards.

## **REVIEW AND DISCUSSION**

- What general concept will help you avoid creating tripping hazards?
- Can you identify and eliminate tripping hazards left by others?
- What will keep you from not creating tripping hazards?
- What will keep you from anticipating tripping hazards created by others?
- How should you route portable cords in regard to traffic ways? Stairways?
- If you find a portable cord, or a bundle of such cords, running helter-skelter down a stairway, what should you do?
- How can you ensure people don't trip over your safety gear?
- What should you do if you find unattended safety gear and it's a tripping hazard?
- What should you do before removing a cover? After?
- How can you reduce tripping hazards on wire pulls?

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# SAFETY TRAINING TOPIC

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## Fall Protection

### SOME FACTS

Fall-related accidents account for about 10% of all workplace fatalities. Nearly all of the fall accidents on record were preventable.

Ways of protecting yourself include hazard elimination, fall protection, and work procedures.

### HAZARD ELIMINATION

The most effective way to deal with fall hazards is to eliminate them. For example, if you can lower a light to replace its lamp and then raise the light back up, you have eliminated the hazard.

Partial elimination is the second most effective way. For example, if you can pre-assemble items before going up in a lift or up on a ladder, you will spend less time being vulnerable to a fall.

### FALL PROTECTION

You can't always eliminate a fall hazard, and partial elimination still leaves you with a hazard. Fall protection, as defined by the fall protection industry, is a passive way of preventing you from falling.

Fall protection examples are all around you. These include ladder cages, platform railings, and secured hole covers.

### FALL RESTRAINT

This is what most people think of, when they think of fall protection.

It involves the use of a secure anchorage and a lanyard connected to your full body harness. The lanyard allows you to reach the work area, but prevents you from falling too far.

Fall restraints require you to have training in the proper use and inspection of your equipment.

### WORK PROCEDURES

Some situations make fall protection and fall restraint measures impractical or impossible.

The idea of changing the work procedure is not to find a cheaper way of protecting against the fall. The idea is to rethink the work process so fall protection measures become practical, possible, or unnecessary.

You may need to help change the procedure or find a way to eliminate the task completely. Your input is valuable, as you are the one doing the work.

## **SAFETY HARNESS INSPECTION**

When using fall restraint devices, you must inspect them. Look for fiber damage, pulled stitches, or frayed edges. Examine D-rings, grommets, rivets, buckles, tongues, and straps.

## **LANYARD INSPECTION**

Look for fiber damage, pulled stitches, or frayed edges. Inspect the snaphooks, carabineer, and any other mechanisms.

If it is a retractable lanyard, ensure the back nuts and rivets are tight.

If it is a retractable lanyard, test for smooth operation and proper locking.

## **ANCHORAGE POINTS**

Before attaching to an anchorage point, look for cracks, sharp edges, or evidence of abuse.

In a particularly dangerous area, you will need to attach to a new anchorage point before un-attaching from the one you are attached to.

Do not attach to guardrails, C-clamps, ladders, conduit, light fixtures, rebar, plumbing, roof stack, or any object that you aren't sure can support your weight plus the force of your fall. Anchorage points must be capable of supporting 5,000 pounds per person because of the forces generated from the impact of a fall.

## **REVIEW AND DISCUSSION**

- If there are ten people in your crew, how many are statistically likely to die from a preventable fall accident?
- What are three ways of protecting yourself from falls?
- What are some examples of how might you eliminate or partially eliminate a fall hazard?
- What is fall protection, as defined by the fall protection industry, and what are some examples?
- What is fall restraint, and what are some examples?
- What kind of training do you need if you are going to use fall restraint equipment?
- What is the purpose of changing work procedures?
- How do you inspect a harness?
- How do you inspect a lanyard?
- What do you need to know about attachment points?