

SAFETY BOB'S COMPREHENSIVE CONSTRUCTION SAFETY ORIENTATION

This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation. Featured are:

INTRODUCTION: A brief description of the program and the subject that it addresses.

PROGRAM OUTLINE: Summarizes the program content. If the program outline is discussed before the video is presented, the entire program will be more meaningful and successful.

PREPARING FOR AND CONDUCTING THE PRESENTATION: These sections will help you set up the training environment, help you relate the program to site-specific incidents, and provide program objectives for focusing your presentation.

REVIEW QUESTIONS AND ANSWERS: Questions may be copied and given to participants to document how well they understood the information that was presented. Answers to the review questions are provided separately.

INTRODUCTION

Construction work is very dangerous, as nearly 1,000 workers are killed and thousands of others are injured on construction jobsites each year. While there have been many safety improvements over the years to control the hazards that contribute to these incidents, new and inexperienced workers still get hurt on the jobsite way too often. This program stresses the point that these workers must be responsible for their own personal safety. Construction Safety Specialist Bob Synnett discusses the hazards of construction work and what actions construction workers can take to avoid mishaps on the job.

Topics include personal protective equipment, excavation, ladder safety, scaffolding, fall protection, electrical safety, general safety tips and the importance of a positive attitude.

PROGRAM OUTLINE

EMPLOYEE RESPONSIBILITY FOR PERSONAL SAFETY

- Point Number One: Your job is dangerous. Nearly 1,000 workers were killed on construction jobsites last year. That means on average, least three construction workers were killed on jobsites every day!
- Point Number Two: You are the person most responsible for your personal safety. Not your company, not some government safety inspector, not even your supervisor. They can all help you, but always remember, you are the person most responsible for your own personal safety.
- You can be careless and unsafe too. Over eight out of every 10 construction accidents are caused by employee error.
- You'll see a number of those unsafe workers in this program, each marked with a red X, but those unsafe workers don't work at your jobsite or for your company. Those workers are taking some safety "shortcuts" and working unsafely, but remember, that kind of behavior is not allowed at your jobsite or for your company.
- Those scenes are only shown in this program as an example to you of the kind of behavior that gets construction workers hurt or even killed. So always think safety before you act. Don't take that shortcut or you may be one of the three construction workers that won't go home today.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

- Wearing your PPE is far more important than you might think. First, it's for your personal protection. Actually, PPE is often your last defense against injury. You need to always wear it, just in case the unthinkable happens.

Hardhat Saves Construction Worker's Life

- A large auger working on a jobsite one day suddenly and unexpectedly. It just broke, then fell directly into a group of construction workers, all who got out of the way, except one.
- The auger hit the worker hard and fast and struck the side and back of his hardhat. EMT's were immediately called and the ambulance arrived in less than five minutes.
- But this story has a happy ending. That two-ton auger hit the side and back of that worker's hardhat and that hard hat saved his life. Amazingly, that worker was back to work on the jobsite the very next day. So wear your PPE. One day it could save your life too.

Hardhats & Safety Glasses

- On any construction site, your PPE should start with your hardhat. It protects you from head injuries; you need to wear it at all times.
- The same is true for safety glasses. Wear your safety glasses all the time while on-site. They protect your eyes and your most precious sense of sight. Over 2,000 workers injure their eyes on the job every day.
- Wear your hardhat. Wear your safety glasses. Wear them all the time on the jobsite. Putting on this equipment before work each day should be habit and as natural as putting on your pants each morning.
- So wear your PPE. Your protection and even your future livelihood may depend on you wearing your personal protective equipment.

Other Types Of PPE

- There are many other types of PPE that you might need depending on your work.
- They include safety vests, steel-toed boots, dust masks and respirators, face shields, hearing protection, welding & cutting protection, proper jobsite clothing, work gloves and many more.
- Wear your PPE every time. Spare me the excuses like "It's too hot or too uncomfortable" or "This job will only take a second." Your life can change in a second.
- Do it right, do it safely, and let your PPE protect you every time.

EXCAVATIONS & TRENCHES

- Working inside a trench or an excavation is one of the most dangerous places on any construction site.
- An average cubic yard of dirt weighs over 2,000 pounds, so if a trench wall caves-in, that soil will crush anything in its way.
- It's a competent person's job to determine soil type on your project and then what to do in each trench or excavation to ensure all workers are protected.
- Protection methods include sloping back the soil so there's no chance of cave-in. Stable soil, referred to as Type A, must be sloped-back on a ratio of three-quarters to one.
- Type B soil is not quite as stable, and must be sloped-back on a one to one ratio.
- Finally, the least stable and most dangerous soil is referred to as Type C soil. This soil must be protected or sloped-back at least on a ratio of one and a half to one, so there's no danger of a cave-in.
- When there's not enough room to slope back a trench or excavation, a trench-box or some other type of protection, like shoring or bracing must be used.

- You'll also need an adequate ladder or sloped-ramp access in and out of trenches or excavations and all spoil piles must be placed at least two feet away from the edge of trenches or excavations.
- Always remember trenches and excavations are dangerous. On average, one worker is killed in a trench cave-in nearly every week, so don't ever work in a trench or excavation that is a danger to cave in.
- Whether you slope it, shore it, bench it, brace it or use a trench-box, do something. Make sure each of your trenches and excavations are safe.
- Do it right, do it safely or that trench might become an early grave.

LADDER SAFETY

- Ladders are used on nearly every jobsite; but unfortunately, they're also misused, an unsafe action which is all-to-often very deadly.
- Last year alone, over 125 construction workers were killed from falls off ladders. And sadly, most of those deaths could have easily been prevented.
- First, inspect your ladder before using it. If the ladder is damaged in any way, don't use that ladder.
- Next, make sure your ladder is set up level and on stable ground before you climb.
- When setting up a stepladder, open the ladder fully and lock the arms in place.
- Don't use a stepladder leaned up against a wall; it could easily "kick-out."
- When using a straight or extension ladder, place it with the ladder extending three feet above the upper landing. Then climb to the top and secure or tie-off that ladder.
- Always climb ladders face-first, using three points of contact on the ladder at all times. Your two arms and two feet are your four points of contact. So when climbing a ladder, three of those four should always be in contact with the ladder.
- Always use the right ladder for the job. If you need an eight-foot stepladder, don't use a six-foot stepladder.
- Don't stand on the top of a stepladder. It's not allowed and it's real dangerous. Don't do it, not even for a second.
- Using ladders safely isn't really difficult. What's difficult is recovering from a fall from a ladder. So don't take chances on ladders; chances like climbing with too many tools or materials or working off the top of a stepladder or leaning out too far to the side of a ladder.
- Do it right, do it safely and live to climb that ladder another day.

SCAFFOLDING

- First, scaffold construction or tear-down must be supervised by a qualified person.
- All scaffolding needs to be level and stable, with poles placed on base-plates, mud-sills or adequate firm foundation.
- All scaffold sections must be pinned, with cross-braces in-place, before working on the scaffold.

- All scaffold work areas or platforms must be fully-decked. That means anywhere a worker is standing or doing any work on the scaffold, that area must be fully-decked or fully planked.
- You can't climb the cross braces; you've got to use some sort of ladder. Many scaffold systems have ladders built-in, but if they don't, use an extension ladder and tie it off to access your scaffold work area.
- Most scaffolding safety violations and accidents occur due to the lack of fall protection.
- For your safety, your scaffolding needs fall protection. Most use guardrails and mid-rails.
- It is also needed at those areas where you load or unload materials.
- Also, you can't stand on block, brick or even a stepladder while on a scaffold, nor can you stand on a rolling scaffold unless the wheels are locked. Both are very dangerous.
- Scaffolding is one of the first places that safety inspectors look for violations because often there are more safety violations there than any other type of work on the jobsite. That means too many of you are taking too many chances working on scaffolds and not working safely.
- Whether it's climbing X-braces or ignoring the need for scaffold fall protection rails and mid-rails, these are chances that can get you hurt, or worse.
- So do it right, do it safely. Set your scaffolding up properly with all the necessary fall protection rails and mid-rails and make working on that scaffolding as safe as working on solid ground.

FALL PROTECTION

- Fall protection should be used anywhere on the jobsite where you can suffer a fall. That includes building or roof edges, steel erection, aerial lifts, even holes and skylights, just to name just a few.
- There's several types of fall protection, but three are most widely used.
- The first are guardrails and mid-rails, usually placed directly in front of a fall exposure. Remember, those rails have to be strong enough to keep you from falling.
- Another option is a personal fall protection system, which includes a harness, a lanyard and a suitable tie-off point. Make sure you know how to properly wear your personal fall protection.
- Wearing a fall protection harness doesn't do you any good if you don't tie-off. There are many projects where workers up high are wearing their fall protection harnesses, but not tied-off to anything.
- You're not fooling anyone, but you might do yourself great harm. Always remember, that a harness will do you no good unless you're tied-off.
- Your tie-off anchorage has to be strong enough. Safety regulations say strong enough to hold 5,000 pounds, so always tie-off to something strong.
- Warning lines are used mostly on roofs to keep workers' a safe distance from the edge of the roof so these lines should be placed at least six-feet away from the roof edge.
- Keep in mind, warning lines are not to be crossed unless that worker who goes outside the warning line is properly tied-off.

- In reality, fall protection is all about planning ahead and then always being diligent to use some type of fall protection. Many times workers use the excuse, “I’ve got nothing to tie-off to.” That’s not acceptable.
- Figure it out before you start work. The bottom line: if you’re working near any fall exposure, like near the edge of the building, you need some type of fall protection because falls on construction sites kill more workers than any other type of accident.
- So do it right, do it safely, and plan ahead and protect yourself with fall protection every time you need to on the jobsite.

ELECTRICAL SAFETY

- Electrical power: it’s often called the “silent killer.” On the jobsite, electrical power is almost always required, but all too often misused.
- Making matters worse, most construction workers don’t have any appreciation for the kind of injury that an electrical shock can deliver.
- Remember, all site electrical power needs to be grounded and always protected with ground fault circuit interrupters, called GFCI’s for short.
- A GFCI is a fast-acting circuit, which, if it senses any electrical imbalance, immediately shuts off the power and that could save your life.
- All electrical panels on-site need to be safe too. They should have protective covers. Be careful; openings around the edges might expose you to energized-electrical parts, especially dangerous if you’re carrying tools or materials.
- If you see open spaces in a panel, stay clear! That open space is real dangerous! Notify someone on-site so a qualified electrician can be called to re-install those circuits or place socket-covers over those open spaces.
- Construction extension cords must be rated “heavy-duty” and all cords must be in good condition, and taped or spliced cords are not in good condition; these should be replaced.
- Extension cords always need a ground-prong. A cord lacking a ground is one of the most common safety violations.
- So remember, if the extension cord you’re about to use doesn’t have a ground-prong, don’t use it.
- Cords on the jobsite need to be located where they won’t get damaged. Don’t stretch a cord across a site-road unless it’s protected.
- Be careful stretching cords around corners, through doorways, or setting them down in water and don’t make your cord a trip hazard, especially on or near any stairs.
- Electrical rooms should be kept locked with only electrical workers or supervisory employees allowed in and the doors should also have warning labels posted.
- Most of you have no business being in these rooms. So don’t go in and especially don’t use them for storage; it’s an invitation for disaster.
- It’s critical you keep equipment or materials at least 20 feet away from all power lines.
- Always realize, if you come too close to power lines, that electricity could arc and if you touch those power lines that most don’t survive such an incident.

- You know the value of electricity on the jobsite. You know also the tremendous power of electricity and that power, can kill a man in an instant.
- So do it right, do it safely and don't ever be shocked by the "silent killer."

GENERAL SAFETY ITEMS

- The last topics concern general construction safety, items like the importance of housekeeping, or working with your tools safely, proper lifting techniques, working on or around heavy equipment, and using aerial lifts safely.
- Safety and housekeeping go hand-in-hand on the jobsite. Whether it's pounding down nails, eliminating trip-hazards or fire-hazards or just a way to stay better organized, your clean job will not only be a safer job but far more productive.
- Next, always use your tools safely, whether they're power tools or hand tools. First, inspect them before use.
- If they're not in good condition; don't use them. Either dispose of them or tag them out of service until that tool can be fixed.
- No safety orientation would be complete without discussing proper lifting techniques, as all too many construction workers still injure their backs every year.
- Back injuries happen because many workers instinctively and incorrectly use their backs to lift and not their legs. After making this mistake, and lifting this way many, many times, their back finally gives way.
- Don't kid yourselves; back injuries cause real pain and can change your life. So the most important thing about lifting safety isn't how to lift something the right way, because most of you know that, but to always remember to lift safely each and every time you pick something up.
- Workers on any aerial lift should use fall protection and tie-off in any lift at all times. Also, you should inspect the aerial lift each day before use and you should be safety-trained to operate each specific lift.
- Be extra careful of both overhead and floor hazards when moving aerial lifts. Use a spotter if you need to.
- If your job is to operate heavy equipment, you need to be trained and authorized to operate that equipment.
- Always inspect your equipment before using it each day. That includes tires, brakes, other mechanical items; most heavy equipment also needs a fire extinguisher, a horn and a working back-up alarm.
- Be careful climbing up and down onto your equipment. Always use the points of contact when you climb. Remember, this type of accident is the most common accident suffered by equipment operators.
- Lastly, but most important, if your equipment has a seatbelt, always use that seatbelt. Seatbelt use, or the lack of it, is still a constant safety problem at the construction jobsite.
- It's not just heavy equipment. Vehicle crashes involving construction workers are the industry's most expensive type of injury. They're the most expensive because many involved in those accidents were not wearing seatbelts and suffer very serious injuries.
- Wear your seatbelt, whether you're on or off the job. Make it a habit for you and your family. It's a sure fire way to add years to your life.

CLOSING

- Our orientation isn't complete without talking about the one item that can keep you safer more than any other, and that's your attitude. Because despite the dangers and despite the hazards on construction sites, construction workers like you can work safely.
- Forget about the excuses like, "I'm in a hurry" or "I've always done it that way before" or "Give me five minutes to get this done and then I'll work safe". Excuses will only get you hurt.
- Remember, working safely depends on your attitude and a positive attitude can save you from injury or worse. With that positive attitude and knowledge of the hazards around you, you can make the jobsite a safer place. Do it right, do it safely and go home from the jobsite healthy and whole each day.

PREPARE FOR THE SAFETY MEETING

Review each section of this Leader's Guide as well as the program. Here are a few suggestions for using the program:

Make everyone aware of the importance the company places on health and safety and how each person must be an active member of the safety team.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Copy the review questions included in this Leader's Guide and ask each participant to complete them.

Make an attendance record and have each participant sign the form. Maintain the attendance record and each participant's test paper as written documentation of the training performed.

Here are some suggestions for preparing your video equipment and the room or area you use:

Check the room or area for quietness, adequate ventilation and temperature, lighting and unobstructed access.

Check the seating arrangement and the audiovisual equipment to ensure that all participants will be able to see and hear the program.

CONDUCTING THE PRESENTATION

Begin the meeting by welcoming the participants. Introduce yourself and give each person the opportunity to become acquainted if there are new people joining the training session.

Explain that the primary purpose of the program is to discuss hazards of construction work and what actions construction workers can take to avoid mishaps on the job.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Lead discussions about hazards that your employees may encounter and what precautions they should take to avoid injuries.

After watching the program, the viewer will be able to explain the following:

- Why safety glasses and hardhats must always be worn on construction sites;
- How to avoid injuries when working in and around around excavation sites;
- How to safely work on ladders and scaffolding;
- What types of fall protection are used on construction sites and how they protect workers;
- What precautions to take when working with or around electricity;
- Which general safety tips will help workers stay safe on a construction site.

SAFETY BOB'S COMPREHENSIVE CONSTRUCTION SAFETY ORIENTATION
Volume II
REVIEW QUIZ

Name _____ Date _____

Please provide answers to the following to show how well you understand the information presented during this program.

1. How many construction accidents are caused by employee error?
 - a. 2 out of 10
 - b. 5 out of 10
 - c. 8 out of 10
2. Over 2,000 workers injure their eyes on the job every day.
 - a. true
 - b. false
3. How much does an average cubic yard of dirt weigh?
 - a. 1,000 pounds
 - b. 2,000 pounds
 - c. 5,000 pounds
4. Which is the most dangerous type of soil?
 - a. Type A
 - b. Type B
 - c. Type C
5. Most deaths resulting from falls off ladders are unavoidable.
 - a. true
 - b. false
6. Most scaffolding safety violations and accidents occur due to the lack of fall protection.
 - a. true
 - b. false
7. How many pounds must a tie-off anchorage be strong enough to hold?
 - a. 500
 - b. 1,000
 - c. 5,000
8. Extension cords are only required to have a ground prong when you are working near water or in wet conditions.
 - a. true
 - b. false
9. The most important thing about lifting safety is to always remember to lift safely each and every time you pick something up.
 - a. true
 - b. false
10. What is the one item that can keep you safer than any other?
 - a. your knowledge about your job
 - b. your attitude
 - c. supervision while working

ANSWERS TO THE REVIEW QUESTIONS

1. c

2. a

3. b

4. c

5. b

6. a

7. c

8. b

9. a

10. b