

Big Four Construction Hazards: Caught-in Hazards



This material was produced under grant number SH-17792-08-60-F-48 Occupational Safety and Health Administration, U.S. Department of Labor. It does not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

Introduction

The following presentations have been developed in both Spanish and English for the construction industry. These presentations focus on the Big Four Construction Hazards – **falls, electrocution, caught-in and struck-by.**

All training materials will cover the four hazards seen regularly on construction sites and will focus on the methods for the recognition and the prevention of these common hazards.

Caught-in Hazards Overview

A. Hazard Recognition

1. Cranes and Heavy Equipment
2. Tools and Equipment
3. Materials Handling
4. Trenches and Excavations

B Accident Prevention

1. Guarding Moving Equipment/Parts
2. Barricades
3. Proper Materials Handling
4. Shielding/Trench Boxes

Caught-in Hazards

- Caught-in hazards are one of the four most deadly hazards found at construction sites.
- This program will help you recognize common caught-in hazards.
- The symbol will tell you if the situation in the picture is either safe or not safe.



Safe



Not safe

Caught-in Statistics

- ❑ Each year workers die from 'caught-in' accidents. During the year 2007:
 - Total deaths from 'caught-in' cases: 294
 - Deaths in construction: 192
 - Approximately 16% of deaths in construction are from 'caught-in' accidents
 - Approximately 5% of all occupational deaths are from 'caught-in' accidents



Hazard Recognition

- ❑ Caught-in hazards occur when a worker could be caught inside of or in between different objects.



Cranes and Heavy Equipment

- ❑ Caught-in hazards are often created when working around heavy equipment.



Cranes and Heavy Equipment

- ❑ Never place yourself between a piece of heavy equipment and an immovable object.



Cranes and Heavy Equipment

- ❑ Never work in the swing radius of rotating equipment.



Cranes and Heavy Equipment

- ❑ Always work at a safe distance from equipment.



Tools and Equipment

- ❑ Caught-in hazards exist when workers remove or disable guards on tools or equipment.



Tools and Equipment

- ❑ Never place your hands or body near moving parts.



Tools and Equipment

- ❑ Gloves, long sleeve shirts, jewelry, or loose fitting clothing can be hazardous if caught in moving parts.



Tools and Equipment

- ❑ Never use equipment that is missing guards or other protective devices.



Materials Handling

- ❑ Use caution when handling materials.



Materials Handling

- ❑ Be careful when stacking and storing materials.



Materials Handling

- ❑ Do not place yourself between materials and an immovable structure.



Trenches & Excavations

- ❑ Workers inside of an excavation must be protected from a cave-in.



Trenches & Excavations

- ❑ Workers are exposed to a potential cave-in when there are unprotected sides.



Trenches & Excavations

- ❑ Workers can be caught-in between the sides of the excavation and pipes or other objects inside the excavation.



Trenches & Excavations

- ❑ Never work inside an excavation where water is accumulating.



QUIZ



- You will be presented with a specific hazard recognition question to test your understanding of this material.

Question 1

Caught-in hazards cause only minor injuries and are not a big concern to construction workers.

A - True

B - False

Question 1

Caught-in hazards cause only minor injuries and are not a big concern to construction workers.

The correct answer is:

B – False

Question 2

A caught-in hazard can be described as:

- A - Not wearing a seatbelt while driving a forklift
- B - Being hit by a swinging load from a crane
- C - Anytime a worker can get any part of his body caught in or in between objects
- D - Working in a trench box

Question 2

A caught-in hazard can be described as:

The correct answer is:

C - Anytime a worker can get any part of his body caught in or in between objects

Question 3

Never walk inside the swing radius of a crane or excavator because:

- A - The operator may not be able to see you
- B - It is not polite
- C - The crane or excavator may move unexpectedly
- D - Both A and C are correct

Question 3

Never walk inside the swing radius of a crane or excavator because:

The correct answer is:

D - Both A and C are correct

Question 4

Hand tools create caught-in hazards by:

- A - Having unguarded rotating parts
- B - Exposing small openings where fingers can get inside the tool
- C - Having moving parts that continue to turn when power is turned off
- D - All of the above

Question 4

Hand tools create caught-in hazards by:

The correct answer is:

D - All of the above

Question 5

Handling materials by hand does not create a caught-in hazard because no one would place themselves between a load and an immovable object.

A - True

B - False

Question 5

Handling materials by hand does not create a caught-in hazard because no one would place themselves between a load and an immovable object.

The correct answer is:

B – False

Accident Prevention

- ❑ A willing, positive attitude towards safety will help make a safer work environment.



Accident Prevention

- Plan your work and look for potential hazards.
- Each task will have different hazards.



Guarding Moving Equipment/Parts

- ❑ Always use equipment with all of the guards properly adjusted and in position.



Guard Missing



Guard Properly Installed

Guarding Moving Equipment/Parts

- Always use equipment with rotating or moving parts that are properly guarded.



Guarding Moving Equipment/Parts

- Always use tools or equipment that are properly guarded.



Guarding Moving Equipment/Parts

- Some equipment may need to be guarded by distance.



Barricades

- ❑ When working near equipment such as cranes use a barricade to identify the unsafe area.



Barricades

- Barricades must be maintained.



Proper Materials Handling

- ❑ Properly handle, guide materials that are being flown overhead.



Proper Materials Handling

- Be safe when moving materials.



Shielding/Trench Boxes

- Before performing any excavation work all employees must be trained.
- When excavation work is taking place a Competent Person must be present.



Shielding/Trench Boxes

- ❑ Benching and sloping prevents the sides of a trench from collapsing onto workers inside the trench.
- ❑ Anytime an excavation is greater than 5 feet in depth, protective systems must be in place.



Bench

Shielding/Trench Boxes

- ❑ A safe way to enter and exit excavations must be provided.



Shielding/Trench Boxes

- ❑ Regardless of the type of protection used, a safe way to enter the trench is required.



QUIZ



- You will be presented with a specific accident prevention question to test your understanding of this material.

Question 1

Hand tools with caught-in hazards must be inspected:

- A - To make sure guards are in place
- B - Before each use
- C - To determine if guards are adjusted properly
- D - All of the above

Question 1

Hand tools with caught-in hazards must be inspected:

The correct answer is:

D - All of the above

Question 2

The area around the swing radius of a crane, excavator, or other rotating equipment must:

- A - Be barricaded to prevent workers from entering the area
- B - Needs no protection
- C - Have a guard placed at the entrance
- D - Have nothing disturbing the worker

Question 2

The area around the swing radius of a crane, excavator, or other rotating equipment must:

The correct answer is:

A - Be barricaded to prevent workers from entering the area

Question 3

To be a 'Competent Person' the person must be able to do what:

- A - Identify hazards
- B - Have the authority to correct hazards
- C - Not worry about any hazards
- D - Both A and B are correct

Question 3

To be a 'Competent Person' the person must be able to do what:

The correct answer is:

D - Both A and B are correct

Question 4

Cave-in protection is required for trenches and excavations _____ feet deep and greater.

A - 6

B - 3

C - 4

D - 5

Question 4

Cave-in protection is required for trenches and excavations _____ feet deep and greater.

The correct answer is:

D - 5

Question 5

Which of the following is not a form of protection for excavations?

- A - Benching
- B - Sloping
- C - Watering
- D - Shoring

Question 5

Which of the following is not a form of protection for excavations?

The correct answer is:

C - Watering

Disclaimer/Usage Notes

- ❑ Photos shown in this presentation may depict situations that are not in compliance with applicable OSHA requirements.
- ❑ It is not the intent of the content developers to provide compliance-based training in this presentation, the intent is more to address hazard awareness in the construction industry, and to recognize the overlapping hazards present in many construction workplaces.
- ❑ It should NOT be assumed that the suggestions, comments, or recommendations contained herein constitute a thorough review of the applicable standards, nor should discussion of "issues" or "concerns" be construed as a prioritization of hazards or possible controls. Where opinions ("best practices") have been expressed, it is important to remember that safety issues in general and construction jobsites specifically will require a great deal of site - or hazard-specificity - a "one size fits all" approach is not recommended, nor will it likely be very effective.
- ❑ It is assumed that individuals using this presentation, or content, to augment their training programs will be "qualified" to do so, and that said presenters will be otherwise prepared to answer questions, solve problems, and discuss issues with their audiences.

Disclaimer/Usage Notes

- ❑ No representation is made as to the thoroughness of the presentation, nor to the exact methods of recommendation to be taken. It is understood that site conditions vary constantly, and that the developers of this content cannot be held responsible for safety problems they did not address or could not anticipate, nor those which have been discussed herein or during physical presentation. It is the responsibility of each employer contractor and their employees to comply with all pertinent rules and regulations in the jurisdiction in which they work. Copies of all OSHA regulations are available from your local OSHA office. This presentation is intended to discuss Federal Regulations only – your individual State requirements may be more stringent.
- ❑ As a presenter, you should be prepared to discuss all of the potential issues/concerns, or problems inherent in those photos particularly.

Big Four Construction Hazards: Caught-in Hazards

**This concludes the
Caught-in Hazards Module**

“The End”