
MODULE 4—STRUCK-BY

At the end of this module, you will be able to...

- Cite facts relating to struck-by injuries.
- Define the important words that relate to struck-by.
- Recognize and use the OSHA regulations that relate to struck-by.
- Identify practices at your work that protect you from struck-by injuries.
- Perform a worksite analysis to find hazards that could cause a struck-by injury.
- Describe behaviors at your worksite that could cause a struck-by injury.



Activity: Can You Find The Struck-By Hazards?

Directions: Look at the photo below as well as the slide your facilitator shows you. Can you find the hazards that relate to struck-by? Write them in the space below.



Photo courtesy of Associated General Contractors of America



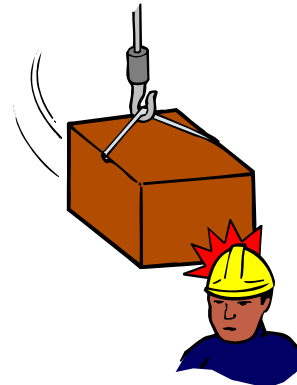
Facts About Struck-By

Did You Know?



- 604 workers died in 2005 from being struck by a falling or flying object.
- 390 workers died in 2005 from being struck by a moving vehicle.

- Also in 2005, 572 people in the construction industry had major injuries due to being hit by a moving vehicle or a falling or flying object.



- One in four struck-by vehicle deaths involve construction workers.
- That is more than any other occupation.

Words You Need to Know

Here are some words we will use in this struck-by module.

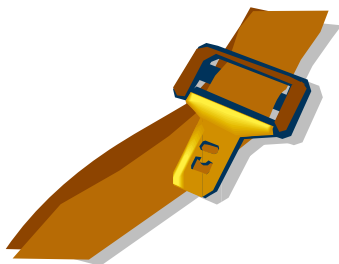


Limited Access Zone—An area around a construction site that only certain people can enter. It is clearly marked.

Rollover Protective Structure (ROPS)—A structure on a vehicle that prevents the operator from being crushed if there is a rollover. Examples are roll bars, frames, enclosed cabs.



Enclosed Cab



Seatbelt—A belt worn around the waist to hold a person in the seat.

Wheel Chock—Wedges or blocks placed against the tires of a parked vehicle. They prevent the vehicle from moving.



Wheel Chock

OSHA and Struck-By

There are four major parts of OSHA 29 CFR 1926 that relate to struck-by. Let's review some of the most important. To read more about any of these regulations, see the OSHA website at www.osha.gov. You can access the OSHA website using the hyperlink on your Tools and Resources CD-ROM.

OSHA 29 CFR, Subpart E

This subpart addresses personal protective and life saving equipment.

- 1926.100(a) Addresses the requirement for protective headgear
- 1926.102 Addresses the requirements for eye and face protection

OSHA 29 CFR, Subpart G

This subpart addresses important signs, signals and barriers.

- 1926.201 Describes the need for flaggers to use warning garments and to use appropriate signals
- 1926.202 Addresses the requirement for having barricades to protect employees

OSHA 29 CFR, Subpart L

This subpart addresses standards for scaffolding.

- 1926.451(h) Describes the need for scaffolding to be equipped with protection from falling objects

OSHA 29 CFR, Subpart O

This subpart addresses the safe use of motor vehicles and mechanized equipment.

- 1926.601 Describes requirements for motor vehicles that operate at off-highway job sites
- 1926.601(b)(1) Describes the requirement for all vehicles to have adequate braking systems
- 1926.601(b)(14) Describes the requirement for all vehicles to be inspected at the beginning of each shift
- 1926.602 Describes requirements for earth-moving equipment

Activity: OSHA Quiz

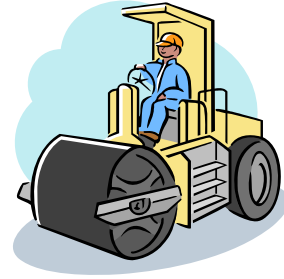
Directions: Test how well you know the OSHA regulations. Following are five statements. Decide whether each statement is true or false, then check the appropriate box. Use the extra space to take notes during the quiz discussion.

- | | TRUE | FALSE | |
|----|--------------------------|--------------------------|---|
| 1. | <input type="checkbox"/> | <input type="checkbox"/> | If an area where people are working overhead is barricaded, it is not necessary for a worker to wear a hard hat if he or she is outside of the barricaded area. |
| 2. | <input type="checkbox"/> | <input type="checkbox"/> | As long as employees consistently wear their hard hats, it is not necessary to have a toeboard on a scaffold. |
| 3. | <input type="checkbox"/> | <input type="checkbox"/> | Every vehicle at a construction site needs a service brake system, an emergency brake system and a parking brake system. |
| 4. | <input type="checkbox"/> | <input type="checkbox"/> | All vehicles in use at a construction site must be inspected once a month. |
| 5. | <input type="checkbox"/> | <input type="checkbox"/> | You must wear a seat belt when you are operating equipment. |

Activity: Best Practices and Injury Prevention Strategies

Directions: Identify some of the best safety practices that you use on the job in each of the following areas.

Operating Vehicles—Describe the safety practices you use when you operate vehicles at your construction site.

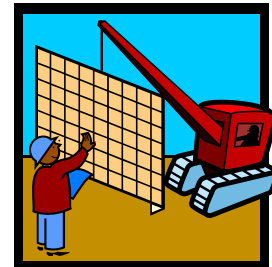


Working with and around Vehicles and Equipment—

Describe the safety practices you use when you are working around vehicles and equipment at the construction site.

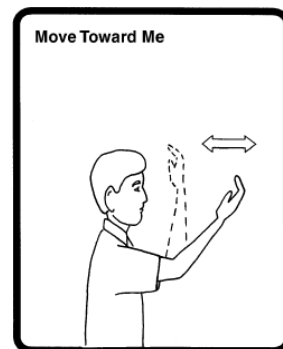
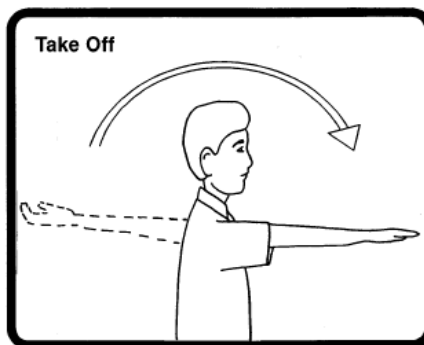
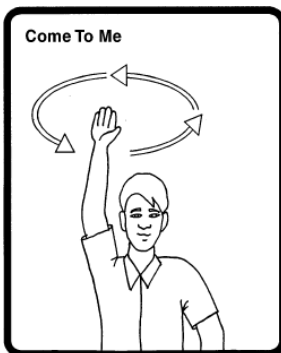
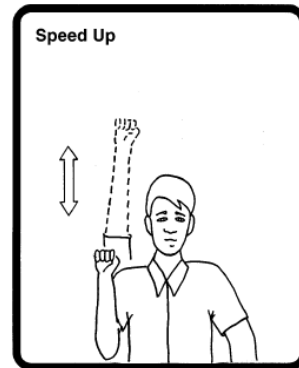
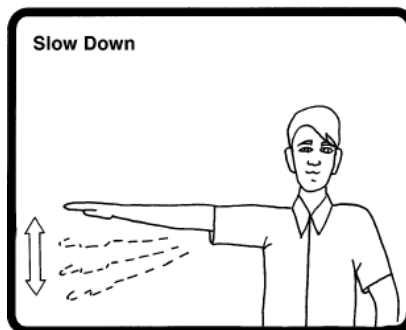
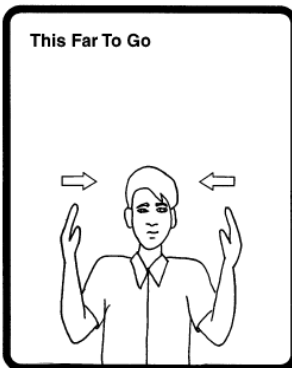
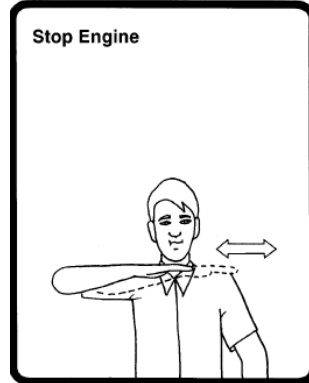
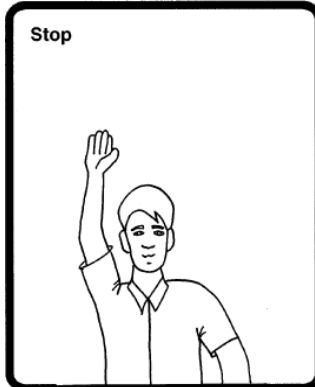
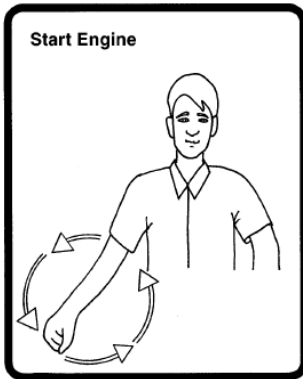


Safe Practices when People are Working Above You—Describe your best general work practices that relate to flying or falling objects.



Hand Signals

Following are some hand signals that you should learn. They will allow you to communicate with equipment operators.



Source: www.cdc.gov/nasd/docs/d00091-d001000/d000932/d000932.pdf

Note: To help you remember these hand signals when you are working at a job site, they are reprinted on Page 26 of your Pocket Reference Guide.

Checklist for the Worksite Analysis—Struck-By

Every day, when you begin work at your construction site, you should check for hazards that could cause a struck-by injury. Following is a list you can use when you do this check.

ITEM	OK?	CORRECTIVE ACTIONS
Operating Vehicles		
<ul style="list-style-type: none"> • Have you been trained in the proper operation of the vehicle you are driving? 	_____	_____
<ul style="list-style-type: none"> • Are all vehicles inspected before each shift? 	_____	_____
<ul style="list-style-type: none"> • Do the brakes work on all vehicles? 	_____	_____
<ul style="list-style-type: none"> • Does the vehicle sound an alarm when put in reverse? 	_____	_____
<ul style="list-style-type: none"> • Does the vehicle have a roll bar or a protective cabin? 	_____	_____
<ul style="list-style-type: none"> • Do you read and follow all the instructions in the operator's manual? 	_____	_____
<ul style="list-style-type: none"> • Are you drug and alcohol free? 	_____	_____
<ul style="list-style-type: none"> • Do you wear a seat belt when you operate a vehicle? 	_____	_____
<ul style="list-style-type: none"> • Do you avoid riding in reverse when your view is obstructed? 	_____	_____
<ul style="list-style-type: none"> • Do you use hearing protection? 	_____	_____
<ul style="list-style-type: none"> • Do you rely on a signal person to guide your vehicle movement through blind spots? 	_____	_____

Checklist for the Worksite Analysis—Struck-By

ITEM	OK?	CORRECTIVE ACTIONS
Operating Vehicles—continued		
<ul style="list-style-type: none"> ● Do you avoid wearing items (jewelry, ties, drawstrings, loose clothing) that could become entangled with the moving parts of the equipment? 	_____	_____
<ul style="list-style-type: none"> ● Do you avoid carrying other personnel on a vehicle unless there is a safe place to ride? 	_____	_____
<ul style="list-style-type: none"> ● Do you stay within the vehicle’s rated lift or load capacity? 	_____	_____
<ul style="list-style-type: none"> ● Do you set the parking brakes when the vehicle is not in use? 	_____	_____
<ul style="list-style-type: none"> ● Do you use wheel chocks when the vehicle is inactive? 	_____	_____
<ul style="list-style-type: none"> ● Do you leave all power controls in the neutral position when the vehicle is not in use? 	_____	_____
<ul style="list-style-type: none"> ● Do you lower or block bulldozer and scraper blades and end-loader buckets when they are not in use? 	_____	_____

Checklist for the Worksite Analysis—Struck-By

ITEM	OK?	CORRECTIVE ACTIONS
Working Around Construction Vehicles or in Traffic		
<ul style="list-style-type: none"> • Have you been trained in safe work practices when working around construction equipment? 	_____	_____
<ul style="list-style-type: none"> • Do you wear non-skid, sturdy shoes or boots? 	_____	_____
<ul style="list-style-type: none"> • Do you wear highly visible clothing in all levels of light? 	_____	_____
<ul style="list-style-type: none"> • At night, do you wear reflective clothing? 	_____	_____
<ul style="list-style-type: none"> • Do you stay a safe distance away from an operating vehicle? 	_____	_____
<ul style="list-style-type: none"> • Do you remain outside of barricaded areas where equipment is operating? 	_____	_____
<ul style="list-style-type: none"> • Do you use hand signals to warn vehicle operators of conditions on the ground? 	_____	_____
<ul style="list-style-type: none"> • Do you use flashing lights to warn traffic of your presence? 	_____	_____
<ul style="list-style-type: none"> • Do you use stop and slow paddles to slow traffic down? 	_____	_____
<ul style="list-style-type: none"> • Do you use concrete barriers to separate the construction workers from the traffic? 	_____	_____
<ul style="list-style-type: none"> • Do you use signs and warning devices to give advanced warning to motorists? 	_____	_____

Checklist for the Worksite Analysis—Struck-By

ITEM	OK?	CORRECTIVE ACTIONS
Falling/Flying Objects		
• Do you wear a hard hat?	_____	_____
• Do you wear safety glasses or a face shield?	_____	_____
• Do you stack materials to prevent them from sliding or collapsing?	_____	_____
• Do you use toeboards on scaffolds?	_____	_____
• Do you use safety nets under scaffolds?	_____	_____
• Do you avoid working underneath scaffolds?	_____	_____
• Do you avoid working under areas that are being loaded or unloaded?	_____	_____
• Do you inspect cranes and hoists to ensure that all parts are secure?	_____	_____
• Do you avoid exceeding the lifting capacity of cranes and hoists?	_____	_____
• When you are working above others, do you secure your tools to prevent them from falling?	_____	_____
• When you are working above others, do you barricade a safe area to warn people below to steer clear?	_____	_____

OSHA Resources for this checklist are:

- 29 CFR 1926 Subpart E
- 29 CFR 1926 Subpart G
- 29 CFR 1926 Subpart L
- 29 CFR 1926 Subpart O

Note: To help you perform a worksite analysis when you are working at a job site, this checklist is reprinted on Pages 27-30 of your Pocket Reference Guide.

Activity: Can You Find The Struck-By Hazards?

Directions: Look at the slides your facilitator shows you. Can you find the hazards that relate to struck-by? Write them in the space below.

Case #1



Case #2



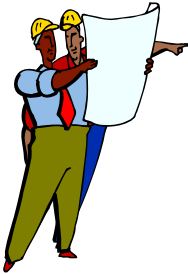
Case #3



Activity: Concerns at Your Worksite

Directions: Think about the sites where you usually work. Now answer the following questions as they relate to avoiding struck-by injuries.

1. Describe some areas where it is tempting to take shortcuts or cut corners when you are working in areas where there are moving vehicles or people working above you. How does this create hazards?



2. Describe behavior that you have seen that you think could cause a struck-by injury.

