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# MODULE 4—STRUCK-BY

## Objectives

After completing *Module 4*, participants will be able to:

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

## Resources

- To help you prepare for this module, you may want to spend some time reviewing the OSHA e-tool relating to struck-by.

<http://osha.gov/SLTC/etools/construction/struckby/mainpage.html>

- The entire OSHA 29 CFR 1926 standard can be found on the OSHA website.

[http://www.osha.gov/pls/oshaweb/owastand.display\\_standard\\_group?p\\_part\\_number=1926&p\\_toc\\_level=1](http://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_part_number=1926&p_toc_level=1)

## Tips for Customizing this Module to Your Organization

Following are some things you can do to customize this module to your organization. This customization applies whether you are facilitating a class, holding a tailgate session, or coaching an employee. When you see an agenda item number, it refers to the recommended agenda on Page 3 of this Facilitator Guide (for the Classroom Session) or on Page 17 (for the Tailgate Session).

1. **Classroom Agenda Item #2, Tailgate Agenda Item #1**—When you present this agenda item, consider using some of your organization’s own statistics relating to struck-by. Use your OSHA logs and Incident Investigation reports to derive some numbers. If possible, try to find both the number of incidents with vehicles and the number of incidents with falling/flying objects. Share these numbers along with the information provided in the Participant Guide on Page 3.
2. **Classroom Agenda Item #3, Tailgate Agenda Item #2**—Regarding this item, bring some wheel chocks to class if you have them available. When you introduce wheel chocks in the terminology section, give a demonstration with your chocks.
3. **Classroom Agenda Item #4, Tailgate Agenda Item #3**—To prepare for this agenda item, read the OSHA regulations that are referenced on Page 5 of Module 4 of the Participant Guide. You can find the OSHA regulations on the OSHA website. (The OSHA web address is listed on the previous page.) As you read the regulations, identify the parts that most apply to your organization. Plan to emphasize these in your discussion. To make this section fun, there is a mini quiz that tests participants on these regulations. Feel free to use the provided quiz, or create your own quiz that is specifically appropriate to your organization.
4. **Classroom Agenda Item #5, Tailgate Agenda Item #4**—To prepare for this item, think of the best practices you expect employees to use when at their construction sites. Be prepared to discuss these practices in class.
5. **Classroom Agenda Item #6, Tailgate Agenda Item #5**—Regarding this item, you will have to do some additional preparation if you are working with people who are unable to read. Rather than giving them the written checklist, discuss orally the things they need to check. After class and over a period of time, you will need to continue to reinforce this “mental checklist” until employees have committed it to memory.
6. Plan to refer to both the OSHA e-tool and the regulations frequently. Use the information to foster continuous improvement. Once you have learned a specific standard and instilled it in your employees, go back to the OSHA regulations, reread them and determine a new standard to learn and instill.

## CLASSROOM PRESENTATION TIPS

### Time

75 minutes: 2:05 to 3:20 PM

Followed by a 10 minute break (at facilitator's discretion), 3:20 to 3:30 PM

### Recommended Agenda for Classroom Training

1. Module Introduction—Presentation and Large group activity (5 minutes)
2. Important Statistics—Discussion (10 minutes)
3. Important Terminology—Discussion (5 minutes)
4. OSHA Requirements—Discussion and Quiz (10 minutes)
5. Best Prevention Practices—Activity (20 minutes)
6. Checklist for Worksite Analysis—Presentation and Case Study (15 minutes)
7. Concerns at Your Worksite—Activity (10 minutes)

### RECOMMENDED PROCESS

#### 1. Module Introduction—Presentation and Large Group Activity (5 minutes)

Cues	Content
Power Point (PPT) 4-1	<ul style="list-style-type: none"> <li>■ Start the program promptly after the break. Show PPT 4-1 as the class returns.</li> </ul>
Participant Guide Module 4	<ul style="list-style-type: none"> <li>■ Refer participants to Module 4, Page 1 of their Participant Guides. Tell them that they are now going to learn about the final focus four hazard: struck-by.</li> <li>■ Explain that struck-by can mean getting hit by a vehicle or getting hit by a flying or falling object.</li> </ul>
PPT 4-2 through PPT-4-4	<ul style="list-style-type: none"> <li>■ Show PPT 4-2 through PPT 4-4 to introduce the objectives for this module.</li> <li>■ Tell participants that, just as in the previous three modules, they are now going to have a chance to identify hazards relating to struck-by.</li> </ul>

**1. Module Introduction—Presentation and Large Group Activity  
(5 minutes)—continued**

<b>Cues</b>	<b>Content</b>
PPT 4-5	<ul style="list-style-type: none"> <li>■ Refer participants to Page 2. Show PPT 4-5, then ask them to tell you what they’ll be doing.</li> <li>■ Their answer should be that they are going to identify the hazards in the picture that is in their book and on the screen.</li> <li>■ Emphasize that they will be looking for struck-by hazards when they do this.</li> </ul>
Facilitator Note	<ul style="list-style-type: none"> <li>■ Once again, for the following activity, you can have participants work in pairs, or you can do the activity as a large group. Following are instructions for working in pairs.</li> <li>■ Ask participants to work in pairs.</li> <li>■ Allow them about a minute, then call the group together and ask participants to share the hazards they identified.</li> <li>■ Encourage participants to take notes in the space provided on Page 2.</li> </ul>
PPT 4-5	<ul style="list-style-type: none"> <li>■ Following is a summary of what they should identify.</li> <li>■ PPT 4-5—Find the struck-by hazards                             <ul style="list-style-type: none"> <li>– Worker could get crushed between the two vehicles.</li> <li>– Worker is out of the view of the drivers of both vehicles.</li> </ul> </li> <li>■ Close by telling participants that the photo illustrates the type of hazards they will be learning about in this module.</li> </ul>

## 2. Important Statistics—Discussion (10 minutes)

Cues	Content
	<ul style="list-style-type: none"> <li>■ Refer participants to Page 3 in their Participant Guides. Explain that there are some high statistics for struck-by injuries.</li> </ul>
PPT 4-6	<ul style="list-style-type: none"> <li>■ Show PPT 4-6 as you review the first two bullets on the page.</li> </ul>
PPT 4-7	<ul style="list-style-type: none"> <li>■ Show PPT 4-7 to review the middle bullet on the page.</li> <li>■ Emphasize that struck-by causes a huge amount of serious disabilities.</li> <li>■ Ask participants why they think this may be the case.</li> <li>■ Get some responses, then explain that even though an employee might survive a head injury, head injuries are much more difficult to recover from fully.</li> </ul>
PPT 4-8	<ul style="list-style-type: none"> <li>■ Show PPT 4-8 as you point out that once again, construction workers account for a disproportionate number of deaths.</li> </ul>
Your Organization's Statistics	<ul style="list-style-type: none"> <li>■ Share the statistics from your own organization that relate to struck-by incidents. Discuss these statistics and see if participants have any questions or comments.</li> <li>■ Close by making one of the following points depending on your organization's situation.               <ul style="list-style-type: none"> <li>– Again, our organization has done a good job of operating without serious struck-by injuries. Let's keep that good record going!</li> <li>– We haven't done so well in this category. Let's pay attention to some of the suggestions in this module, then make some improvements.</li> </ul> </li> </ul>

### 3. Important Terminology—Discussion (5 minutes)

Cues	Content
PPT 4-9	<ul style="list-style-type: none"> <li>■ Refer participants to Page 4. Tell them there are a few terms they should be familiar with for this module.</li> <li>■ Show PPT 4-9 as you review the terms on these pages.</li> <li>■ Introduce the term <i>limited access zone</i>. Emphasize the following points.                             <ul style="list-style-type: none"> <li>– Of course you all know what these zones are.</li> <li>– But how many of you observe them when you see them?</li> <li>– How many of you set them up to warn others when you know you will be working with dangerous equipment?</li> </ul> </li> <li>■ Get some responses, then emphasize the importance of setting up barricades in helping to prevent struck-by injuries.</li> <li>■ Introduce the term <i>rollover protection structure (ROPS)</i>. Emphasize that these structures protect the operators of large equipment in the event of a rollover.</li> </ul>
Question	<ul style="list-style-type: none"> <li>■ Ask participants: How can using seat belts and chocks help prevent struck-by injuries?</li> <li>■ Get participant responses.</li> </ul>
Facilitator Note	<ul style="list-style-type: none"> <li>■ If you brought some wheel chocks to class, demonstrate them now.</li> <li>■ Allow participants to ask questions and make comments.</li> </ul>

#### 4. OSHA Requirements—Discussion and Quiz (10 minutes)

##### Cues

##### Content

PPT 4-10

- Refer participants to Page 5 and tell them that, yes OSHA has some regulations that address the key struck-by hazards.
- Review the four OSHA categories that pertain to struck-by.
  - **29 CFR 1926 Subpart E** addresses personal protective and life saving equipment.
  - **29 CFR 1926 Subpart G** addresses important signs, signals and barriers.
  - **29 CFR 1926 Subpart L** addresses standards for scaffolding, and we’ll be addressing those standards that prevent items from falling from scaffolds.
  - **29 CFR 1926 Subpart O** addresses the safe use of motor vehicles and mechanized equipment.
- Refer participants to Page 6. Tell them that it is once again “quiz” time.
- This time, let them tell you what the rules are.
- Here are the rules they should say:
  - You will read the five True/False statements on Page 6.
  - They will respond by standing up if they think the statement is true and remaining seated if they think the statement is false.
  - They should use Page 6 to take notes.
- Show PPT 4-10 and read the statement on the slide. Ask participants to stand up if they think the statement is true and to remain seated if they think the statement is false.

**4. OSHA Requirements—Discussion and Quiz (10 minutes)—continued**

Cues	Content
	<ul style="list-style-type: none"> <li>■ Before giving the answer, call on one or two participants to get their rationale for why they believe the statement is true or false.</li> <li>■ Once you’ve had some good discussion, provide the answer and the rationale. Encourage participants to write the OSHA reference numbers in the appropriate spaces on Page 6.</li> </ul>
PPT 4-11	<ul style="list-style-type: none"> <li>– <b>Answer to Quiz Question #1 and Rationale:</b> False. OSHA 29 CFR 1926.100(a) states that employees working in areas where there is a possible danger of head injury from impact, or from flying or falling objects, must wear protective helmets.</li> </ul>
Facilitator Note	<ul style="list-style-type: none"> <li>■ When you are explaining the above answer, emphasize the word <i>possible</i>. There is always possible danger at construction sites, therefore hard hats should be worn at all times.</li> </ul>
PPT 4-12 through PPT 4-21	<ul style="list-style-type: none"> <li>■ Repeat the above process with Quiz Questions #2 through #5. Show PPT 4-12 through PPT 4-21 at the appropriate times.</li> </ul>
PPT 4-13	<ul style="list-style-type: none"> <li>– <b>Answer to Quiz Question #2 and Rationale:</b> False. OSHA 29 CFR 1926.451(h) states that following: “In addition to wearing hard hats each employee on a scaffold shall be provided with additional protection from falling hand tools, debris and other small objects through the installation of toeboards, screens, or guard rail systems, or through the erection of debris nets, catch platforms, or canopy structures that contain or deflect the falling objects.”</li> </ul>
PPT 4-15	<ul style="list-style-type: none"> <li>– <b>Answer to Quiz Question #3 and Rationale:</b> True. OSHA 29 CFR 1926.601(b)(1) states the above. The system can use common components but all three systems must be operable.</li> </ul>

#### 4. OSHA Requirements—Discussion and Quiz (10 minutes)—continued

Cues	Content
PPT 4-17	<ul style="list-style-type: none"><li>– <b>Answer to Quiz Question #4 and Rationale:</b> False. OSHA 29 CFR 1926.601(b)(14) says the vehicles in use must be inspected at the beginning of <u>every</u> shift. So it is true that they must be inspected, but it must be done more often than once a month.</li></ul>
PPT 4-19	<ul style="list-style-type: none"><li>– <b>Answer to Quiz Question #5 and Rationale:</b> True. OSHA 29 CFR 1926.602(a)(2) states the requirement for seat belts. However it does offer two exceptions.</li></ul>
Question	<ul style="list-style-type: none"><li>■ Ask participants: Does anyone know what these exceptions are?</li><li>■ Get a few participant responses, then summarize with the following.</li></ul>
PPT 4-20	<ul style="list-style-type: none"><li>– Show PPT 4-20 as you review exception #1: You don't have to wear a seat belt if the equipment you are operating is for stand-up operation.</li></ul>
PPT 4-21	<ul style="list-style-type: none"><li>– Show PPT 4-21 as you review exception #2: You don't have to wear a seat belt on equipment that lacks a roll-over protective structure (ROPS).</li><li>■ Close by once again congratulating participants for knowing their OSHA regulations.</li></ul>

## 5. Best Prevention Practices—Activity (20 minutes)

**Facilitator Note:** The following instructions are set up so that participants work in small groups, and each group identifies the best practices in all three of the areas listed on Page 7. If you prefer (or if you are short of time), you can divide the class into thirds, then assign each third one best practice area. Encourage participants to work in smaller groups of four to six people each.

### Cues

PPT 4-22

### Content

- Refer participants to Page 7. Tell them that they get to identify best practices one final time.
- Divide the class into small groups of 4 to 6 people each.
- Tell them they have 10 minutes to identify the best practices they use in each of the three categories listed on Page 7.
- Show PPT 4-22 as you review the categories they will be addressing.
  - What safety practices do they use when they are operating vehicles?
  - What practices do they use when they are working around vehicles and equipment?
  - What safety practices do they use when there are people working above them?
- Tell participants to write their group’s ideas in the space provided on Page 7.
- As participants work, walk around the room to see if they have any questions.
- At the end of 10 minutes, call the small group back together and lead a 10 minute debriefing.
- Ask the groups to share the *best practices* they identified.
- When the groups have shared their responses, add any that you feel are necessary.

## 5. Best Prevention Practices—Activity (20 minutes)—continued

### Cues

### Content

- Following are some of the typical responses you will get.
- Operating Vehicles
  - Inspect all vehicles at the start of every shift.
  - Make sure vehicles are equipped with warning signals that sound when vehicle is backing up.
  - Sound the horn when you are carrying out a blind maneuver.
  - Use wheel chocks when you leave the vehicle inactive.
  - Use hand signals to communicate with people on the ground.
- Working with and around vehicles and equipment
  - Always wear a hard hat.
  - Wear bright and visible work gear.
  - Wear reflective gear at night.
  - Use signage and paddles to warn motorists of your presence.
- Safe practices when people are working above you
  - Always wear a hard hat.
  - Stay clear of barricaded areas.
  - Avoid working below a scaffold or in any other area where people are working above.
- Congratulate participants on once again identifying some excellent best practices, then refer them to Page 8.

**5. Best Prevention Practices—Activity (20 minutes)—continued**

<b>Cues</b>	<b>Content</b>
Question	<ul style="list-style-type: none"> <li>■ State that one of the best practices that has been discussed is use of hand signals.</li> <li>■ Ask participants: How many of you use hand signals to communicate with each other at the construction site?</li> <li>■ Tell participants that Page 8 contains some of the most common hand signals.</li> <li>■ These signals can save lives if they are practiced between vehicle drivers and the people on the ground.</li> </ul>
Question	<ul style="list-style-type: none"> <li>■ Ask participants: There is one problem with these pictures though. Has anyone noticed it?</li> <li>■ Get some responses. Someone will most likely state that the man in the picture is not wearing a hard hat. This is the correct answer.</li> <li>■ Point out that the pictures are included for the hand signals only and that they, unlike the man in the pictures, should <u>always</u> wear a hard hat.</li> </ul>
Pocket Reference Guide	<ul style="list-style-type: none"> <li>■ Refer participants to Page 26 in their Pocket Reference Guides. Point out that the hand signals are in this guide so they can refer to them and use them on the job.</li> </ul>

## 6. Checklist for Worksite Analysis—Presentation and Case Study (15 minutes)

**Note on the time allocation:** Spend about 5 minutes introducing the checklist on Pages 9 through 12 and reviewing the worksite analysis process. Spend the remaining 10 minutes on identifying the hazards in the slides. The following instructions tell you to divide the class into small groups to identify the hazards on the slides, then discuss their findings as a large group. If you prefer (or if you are short of time), you can simply discuss the hazards in the slides as a large group.

Cues	Content
	<ul style="list-style-type: none"> <li>■ Tell participants that they have now come to the checklist portion of this module. This time they will be examining where the struck-by hazards are.</li> <li>■ Refer participants to Pages 9 through 12. Tell them that this is the final checklist they will receive. Review this checklist by doing the following.               <ul style="list-style-type: none"> <li>– Review the three major categories on the checklist: Operating Vehicles, Working Around Construction Vehicles or in Traffic and Falling/Flying Objects.</li> <li>– Emphasize that this list is derived from the OSHA standards, which are referenced at the end of the list.</li> <li>– Point out that this list is only a <u>small</u> part of the OSHA standards, but it represents items that they can either control or call to the attention of their supervisor.</li> </ul> </li> <li>■ Have participants review Pages 9 through 12 and place an “X” by items that may pose a hazard at their worksites.</li> </ul>
Facilitator Note	<ul style="list-style-type: none"> <li>■ Participants won’t have for the entire checklist. Simply have them review as much as they can in the allotted time.</li> <li>■ After participants review the list, tell them that once again they will use this list to perform a worksite analysis.</li> <li>■ Refer participants to Page 13. Tell them you will now start the slide-show portion of their worksite analysis.</li> </ul>

**6. Checklist for Worksite Analysis—Presentation and Case Study  
(15 minutes)—continued**

Cues	Content
PPT 4-23	<ul style="list-style-type: none"> <li>■ If necessary, use PPT 4-23 to review the four steps to a worksite analysis.</li> <li>■ Divide the class into groups of four to six participants, then tell them to use Page 13 to identify the hazards in the slides.</li> </ul>
PPT 4-24	<ul style="list-style-type: none"> <li>■ Show PPT 4-24, which is Case #1. Allow the groups one minute to identify the hazards in the slide.</li> </ul>
PPT 4-25 through PPT 4-26	<ul style="list-style-type: none"> <li>■ Repeat the above process with PPT 4-25 through PPT 4-26, which are Cases #2 through #3.</li> <li>■ Once you have shown all three cases, call the small groups back together as a large group.</li> </ul>
PPT 4-24	<ul style="list-style-type: none"> <li>■ Go back to PPT 4-24 and have the groups share the hazards they identified. Once all the groups have their hazards, add any that were not mentioned.</li> </ul>
PPT 4-25 through PPT 4-27	<ul style="list-style-type: none"> <li>■ Repeat the above process with PPT 4-25 through PPT 4-26. Following is a summary of the hazards on each slide.</li> </ul>
PPT 4-24	<ul style="list-style-type: none"> <li>■ Struck-by hazards—Case #1                             <ul style="list-style-type: none"> <li>– No jack stand</li> <li>– Needs additional security</li> <li>– No head protection</li> <li>– Worker too close to jack—worker could roll into it and cause it to fall</li> <li>– People should never work under equipment that is supported only by jacks or by the equipment’s own hydraulics.</li> </ul> </li> </ul>

## 6. Checklist for Worksite Analysis—Presentation and Case Study (15 minutes)—continued

Cues	Content
PPT 4-25	<ul style="list-style-type: none"> <li>■ Struck-by hazards—Case #2               <ul style="list-style-type: none"> <li>– Not a good engagement</li> <li>– Not a proper lift</li> <li>– Not a proper hook</li> <li>– If item falls, it could hurt someone below</li> <li>– If item crashes, could loosen valve of the propane tank</li> </ul> </li> </ul>
PPT 4-26	<ul style="list-style-type: none"> <li>■ Struck-by hazards—Case #3               <ul style="list-style-type: none"> <li>– The worker is not visible</li> <li>– Worker lacks visible clothing</li> <li>– Shadows can easily hide a worker</li> </ul> </li> </ul>
Pocket Reference Guide	<ul style="list-style-type: none"> <li>■ Refer participants to Pages 27 through 30 of their Pocket Reference Guides. Tell them that the checklist they have just reviewed is located here so that they can use it any time they do a worksite analysis.</li> <li>■ Close this activity by congratulating participants on being so good at identifying hazards relating struck-by.</li> </ul>

**7. Concerns at Your Worksite—Activity (10 minutes)**

<b>Cues</b>	<b>Content</b>
PPT 4-28	<ul style="list-style-type: none"> <li>■ Begin by saying that one last time, it is important to address behavior.</li> <li>■ Refer participants to Page 14. Ask them to form back into their small groups.</li> <li>■ Give participants 5 minutes to answer the questions in their groups.</li> <li>■ While participants are working, show PPT 4-28.</li> <li>■ When time is up, call the participants back together as a large group and have groups share their answers to the questions.</li> <li>■ Thank participants for their thoughtful answers and tell them that they will soon identify some things they can do to change the at-risk behavior.</li> </ul>
10 Minute Break	Take a 10 minute break.
Facilitator Note	<ul style="list-style-type: none"> <li>■ Take the above break at your discretion. If it makes sense to skip the break and end the class 10 minutes earlier, feel free to do so.</li> </ul>

## TAILGATE OR COACHING PRESENTATION TIPS

### Recommended Agenda for the Tailgate or Coaching Session

*Module 4—Struck-By* can be taught in a 90-minute tailgate or coaching session.

1. Important Statistics—Discussion (10 minutes)
2. Important Terminology—Discussion (5 minutes)
3. OSHA Requirements—Discussion and Quiz (10 minutes)
4. Best Prevention Practices—Activity (20 minutes)
5. Checklist for Worksite Analysis—Activity (35 minutes)
6. Concerns at Your Worksite—Activity (10 minutes)

**Facilitator Note:** The following facilitator notes are designed to be presented at a tailgate meeting at a construction site. For their hazard identification exercise, employees will be asked to do a worksite analysis of their actual worksite. If you are facilitating the tailgate session in a meeting room or classroom, follow the facilitator notes for the classroom session.

#### 1. Important Statistics—Discussion (10 minutes)

Cues	Content
Skip Page 2	<ul style="list-style-type: none"> <li>■ Begin the tailgate session by handing out the Participant Guide for Module 4.</li> <li>■ Refer employees to Page 1 of their Participant Guides. Tell them that they will now be learning about the final focus four hazard: struck-by.</li> <li>■ Review the objectives on this page.</li> <li>■ Instruct employees to skip Page 2.</li> <li>■ Refer employees to Page 3. Explain that there are some high statistics for struck-by injuries.</li> <li>■ Review the first three bullets on the page.</li> <li>■ Emphasize that struck-by causes a huge amount of serious disabilities.</li> <li>■ Ask employees why they think this may be the case.</li> </ul>

**1. Important Statistics—Discussion (10 minutes)—continued**

**Cues**

Your  
Organization’s  
Statistics

**Content**

- Get some responses, then explain that even though an employee might survive a head injury, head injuries are much more difficult to recover from fully.
- Review the final two points on Page 3. Point out that once again, construction workers account for a disproportionate number of deaths.
- Share the statistics from your own organization that relate to struck-by incidents. Discuss these statistics and see if employees have any questions or comments.
- Close by making one of the following points depending on your organization’s situation.
  - Again, our organization has done a good job of operating without serious struck-by injuries. Let’s keep that good record going!
  - We haven’t done so well in this category. Let’s pay attention to some of the suggestions in this module, then make some improvements.

## 2. Important Terminology—Discussion (5 minutes)

Cues	Content
	<ul style="list-style-type: none"> <li>■ Refer employees to Page 4. Tell them there are a few terms they should be familiar with for this module.</li> <li>■ Introduce the term <i>limited access zone</i>. Emphasize the following points.               <ul style="list-style-type: none"> <li>– Of course you all know what these zones are.</li> <li>– But how many of you observe them when you see them?</li> <li>– How many of you set them up to warn others when you know you will be working with dangerous equipment?</li> </ul> </li> <li>■ Get some responses, then emphasize the importance of limited access zones in helping to prevent struck-by injuries.</li> <li>■ Introduce the term <i>rollover protection structure (ROPS)</i>. Emphasize that these structures protect the operators of large equipment in the event of a rollover.</li> </ul>
Question	<ul style="list-style-type: none"> <li>■ Ask employees: How can using seat belts and chocks help prevent struck-by injuries?</li> <li>■ Get employee responses.</li> </ul>
Facilitator Note	<ul style="list-style-type: none"> <li>■ If you brought some wheel chocks to class, demonstrate them now.</li> <li>■ Allow employees to ask questions and make comments.</li> </ul>

### 3. OSHA Requirements—Discussion and Quiz (10 minutes)

#### Cues

#### Content

- Refer employees to Page 5 and tell them that, yes OSHA has some regulations that address the key struck-by hazards.
- Review the four OSHA categories that pertain to struck-by.
  - **29 CFR 1926 Subpart E** addresses personal protective and life saving equipment.
  - **29 CFR 1926 Subpart G** addresses important signs, signals and barriers.
  - **29 CFR 1926 Subpart L** addresses standards for scaffolding, and we’ll be addressing those standards that prevent items from falling from scaffolds.
  - **29 CFR 1926 Subpart O** addresses the safe use of motor vehicles and mechanized equipment.
- Refer employees to Page 6. Tell them that, once again, it’s “quiz” time. This time, let them tell you what the rules are.
- Here are the rules they should describe:
  - You will read five True/False statements. They will respond by standing to your left if they think the statement is true and standing to your right if they think the statement is false.
  - Before giving the answer to each statement, call on one or two employees to get their rationale for why they believe the statement is true or false.
- Start by reading Quiz Question #1. Encourage employees to discuss why they answered the way they did, then give the answer and rationale.
- When you show the quiz answers, encourage employees to write the OSHA reference numbers in the appropriate spaces on Page 6.

### 3. OSHA Requirements—Discussion and Quiz (10 minutes)—continued

Cues	Content
Facilitator Note	<ul style="list-style-type: none"> <li>– <b>Quiz Question #1:</b> 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 area</li> <li>– <b>Answer to Quiz Question #1 and Rationale:</b> False. OSHA 29 CFR 1926.100(a) states that employees working in areas where there is a possible danger of head injury from impact, or from flying or falling objects, must wear protective helmets.</li> </ul> <ul style="list-style-type: none"> <li>■ When you are explaining the above answer, emphasize the word <i>possible</i>. There is always possible danger at construction sites, therefore hard hats should be worn at all times.</li> <li>■ Read Quiz Question #2.</li> <li>■ Encourage employees to discuss why they answered the way they did, then give the answer and rationale.</li> </ul> <ul style="list-style-type: none"> <li>– <b>Quiz Question #2:</b> As long as employees wear their hard hats, it is not necessary to have a toeboard on a scaffold.</li> <li>– <b>Answer to Quiz Question #2 and Rationale:</b> False. OSHA 29 CFR 1926.451(h) states that following: “In addition to wearing hard hats each employee on a scaffold shall be provided with additional protection from falling hand tools, debris and other small objects through the installation of toeboards, screens, or guard rail systems, or through the erection of debris nets, catch platforms, or canopy structures that contain or deflect the falling objects.”</li> <li>■ Repeat the above process with Quiz Questions #3 through #5.</li> </ul>

### 3. OSHA Requirements—Discussion and Quiz (10 minutes)—continued

**Cues**

**Content**

**Question**

- Following are the answers and the rationale.
  - **Quiz Question #3:** Every vehicle at a construction site needs a service brake system, an emergency brake system and a parking brake system.
  - **Answer to Quiz Question #3 and Rationale:** True. OSHA 29 CFR 1926.601(b)(1) states the above. The system can use common components but all three systems must be operable.
  - **Quiz Question #4:** All vehicles at a construction site must be inspected once a month.
  - **Answer to Quiz Question #4 and Rationale:** False. OSHA 29 CFR 1926.601(b)(14) says the vehicles must be inspected at the beginning of every shift. So it is true that they must be inspected, but it must be done more often than once a month.
  - **Quiz Question #5:** You must wear a seat belt when you are operating equipment.
  - **Answer to Quiz Question #5 and Rationale:** True. OSHA 29 CFR 1926.602(a)(2) states the requirement for seat belts. However it does offer two exceptions.
  
- Ask employees: Does anyone know what these exceptions are?
  
- Get a few responses, then summarize with the following.
  - You don't have to wear a seat belt if the equipment you are operating is for stand-up operation.
  - You don't have to wear a seat belt on equipment that lacks a roll-over protective structure (ROPS).
  
- Close by once again congratulating employees for knowing their OSHA regulations.

#### 4. Best Prevention Practices—Activity (20 minutes)

##### Cues

##### Content

- Refer employees to Page 7. Tell them that they get to identify best practices one final time.
- Divide employees into two small groups.
- Tell them they have 10 minutes to identify the best practices they use in each of the three categories listed on Page 7.
  - What safety practices do they use when they are operating vehicles?
  - What practices do they use when they are working around vehicles and equipment?
  - What safety practices do they use when there are people working above them?
- Tell them that if they want to walk around the site to get ideas, that is fine.
- Encourage them to write their group's ideas in the space provided on Page 7.
- At the end of 10 minutes, bring the groups back together and lead a 10 minute debriefing.
- Ask the groups to share the *best practices* they identified.
- When the groups have shared their responses, add any that you feel are necessary.
- Following are some of the typical responses you will get.

**4. Best Prevention Practices—Activity (20 minutes)—continued**

**Cues**

**Content**

- Operating Vehicles
  - Inspect all vehicles at the start of every shift.
  - Make sure vehicles are equipped with warning signals that sound when vehicle is backing up.
  - Sound the horn when you are carrying out a blind maneuver.
  - Use wheel chocks when you leave the vehicle inactive.
  - Use hand signals to communicate with people on the ground.
- Working with and around vehicles and equipment
  - Always wear a hard hat.
  - Wear bright and visible work gear.
  - Wear reflective gear at night.
  - Use signage and paddles to warn motorists of your presence.
- Safe practices when people are working above you
  - Always wear a hard hat.
  - Stay clear of barricaded areas.
  - Avoid working below a scaffold or in any other area where people are working above.
- Congratulate employees on once again identifying some excellent best practices, then refer them to Page 8.
- State that one of the best practices that has been discussed is use of hand signals.

#### 4. Best Prevention Practices—Activity (20 minutes)—continued

Cues	Content
Question	<ul style="list-style-type: none"><li>■ Ask employees: How many of you use hand signals to communicate with each other at the construction site?</li><li>■ Tell employees that Page 8 contains some of the most common hand signals.</li><li>■ These signals can save lives if they are practiced between vehicle drivers and the people on the ground.</li></ul>
Question	<ul style="list-style-type: none"><li>■ Ask employees: There is one problem with these pictures though. Has anyone noticed it?</li><li>■ Get some responses. Someone will most likely state that the man in the picture is not wearing a hard hat. This is the correct answer.</li><li>■ Point out that the pictures are included for the hand signals only and that they, unlike the man in the pictures, should <u>always</u> wear hard hats.</li></ul>
Pocket Reference Guide	<ul style="list-style-type: none"><li>■ Refer employees to Page 26 in their Pocket Reference Guides. Point out that the hand signals are in this guide so they can refer to them and use them on the job.</li></ul>

## 5. Checklist for Worksite Analysis—Activity (35 minutes)

**Note on the time allocation:** Spend about 5 minutes introducing the checklist and reviewing the worksite analysis process, then allow employees about 15 minutes to go around the worksite with the checklist, and finally spend 15 minutes debriefing what they discovered.

Cues	Content
	<ul style="list-style-type: none"> <li>■ Tell employees that for the last time they will identify hazards with a checklist.</li> <li>■ Refer them to Pages 9 through 12 and tell them that this is the checklist they will use to find struck-by hazards.</li> <li>■ Review this checklist by doing the following.                             <ul style="list-style-type: none"> <li>– Review the three major categories on the checklist: Operating Vehicles, Working Around Construction Vehicles or in Traffic, and Falling/Flying Objects.</li> <li>– Emphasize that this list is derived from the OSHA standards, which are referenced at the end of the list.</li> <li>– Point out that, this list is only a <u>small</u> part of the OSHA standards, but it represents items that they can either control or call to the attention of their supervisor or competent person</li> </ul> </li> <li>■ Have employees review Pages 9 through 12 and place an “X” by items that may pose a hazard at their worksites.</li> </ul>
Facilitator Note	<ul style="list-style-type: none"> <li>■ Employees won’t have time to review the entire checklist, so encourage them to review what they can in the allotted time.</li> <li>■ After employees have had some time to review the list, ask them if they think this list will help them to identify hazards struck-by hazards.</li> </ul>
Pocket Reference Guide	<ul style="list-style-type: none"> <li>■ Refer employees to Pages 27 through 30 of their Pocket Reference Guides. Tell them that the checklist they have just reviewed is located here so that they can use it any time they do a worksite analysis.</li> </ul>

## 5. Checklist for Worksite Analysis—Activity (35 minutes)—continued

### Cues

### Content

- Tell them that they are going to perform their final worksite analysis.
- Divide the group in half, then tell them the following.
  - Using this checklist, you are now going to perform a worksite analysis.
  - Your job is to work in your group and use your checklist to identify the hazards (or potential hazards) you see.
  - For this analysis, concentrate only on struck-by hazards. That is, concentrate only on the items on this checklist.
- Allow employees about 15 minutes to go around the worksite with their checklists.
- If they are hesitant to get started, walk with them and go through the first several items on the checklist to give them an idea of what to do.
- As employees work, walk from one group to the other to get an idea of how they are doing and to answer any questions they have.
- When time is up, bring the two groups together and spend 15 minutes discussing what they've found.
- When employees discuss a hazard they've found, ask them to give some ideas for corrective action.
- If it is within their authority, encourage employees to take the corrective action. Otherwise, make a commitment yourself to take the corrective action.
- Close this activity by congratulating employees on being so good at identifying struck-by hazards.
- Emphasize that you want them to be open about identifying hazards so that they can be corrected.

## 6. Concerns at Your Worksite—Activity (10 minutes)

Cues	Content
Skip Page 13	<ul style="list-style-type: none"> <li>■ Begin this segment by telling employees it’s time to take a look at people’s behavior relating to struck-by hazards.</li> <li>■ Instruct employees to skip Page 13.</li> <li>■ Refer employees to Page 14. Ask them to form back into their two separate groups.</li> <li>■ Give employees 5 minutes to answer the questions in their groups.</li> <li>■ When time is up, bring the employees back together as one group and have them share their answers to the questions.</li> <li>■ Once employees have shared their answers, ask them what they think they should do or say when they see other employees ignoring safe work practices.</li> <li>■ Get some responses from the group, then ask them what they expect their supervisors to say or do when they know employees are ignoring safe work practices.</li> <li>■ Thank them for their thoughtful answers.</li> </ul>
End of Session	<p>Thank employees for attending the tailgate session. Remind them to bring their Pocket Reference Guides to the next tailgate meeting.</p>