



Ground Person/Spotter – Train the Trainer

Presented by
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Objectives

- Statistics
- Effective training
- Personal Protective Equipment
- Tailgate fact sheet



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OSHA STATISTICS

Each year many workers die from Struck By accidents.

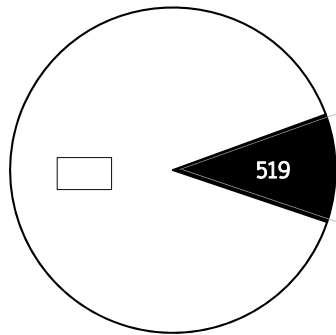
- Approximately 10% of deaths in construction and general industry are from 'struck-by' accidents



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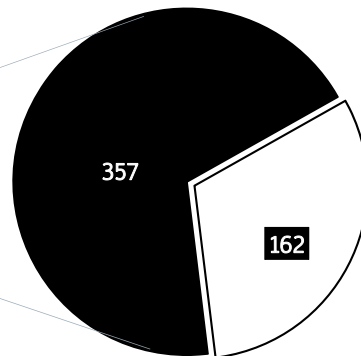
OSHA Fatalities

Total Fatal Occupational Injuries



■ Struck By □ Other

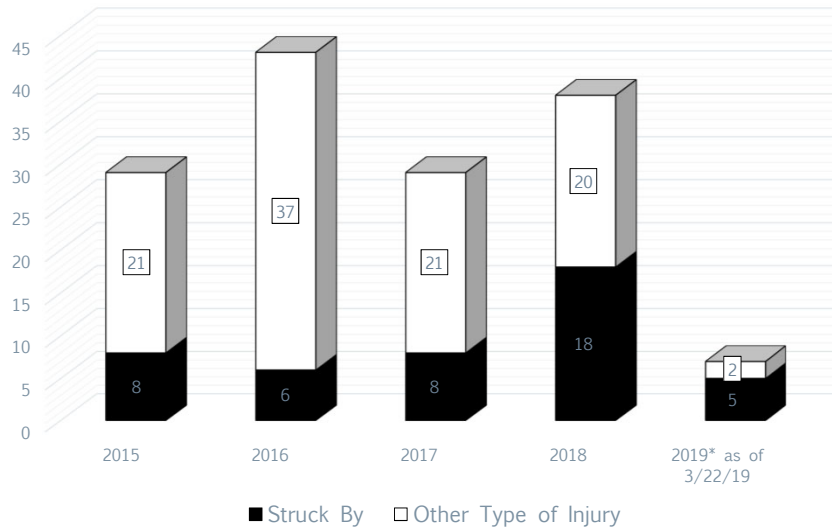
Struck By Fatalities



■ General Industry □ Construction

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MIOSHA Fatalities



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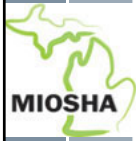
Annual Fatality Information

Use the information in this table to build hazard awareness and prevent risk for similar occurrences in your workplace. This table shares **preliminary details** about many of the fatalities reported to the Michigan Occupational Safety and Health Administration. These descriptions reflect information provided to MIOSHA at the initial report of the incident and are not the result of the official MIOSHA investigation.

When available, MIFACE Summaries of MIOSHA Inspections will be included at the end of the description.

6.	03/08/19	Service Technician	30	Struck by	The employer was performing maintenance/inspection at a job site which had two cranes, one small crane and a larger crane above it. A 30-year-old service technician was working on the smaller crane that was locked out. He was struck on the back of the head by the larger crane.	Clarkston
7.	03/21/19	Mechanic	56	Struck by	A 56-year-old mechanic was working on a log trailer in a shop. He was underneath the vehicle when an air bag exploded with force, causing a head injury.	Sagola

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Training

- › Spotters are often employees with little to no experience
- › Common Sense?
- › When is the best time to conduct safety training
- › Situational Awareness



"WHY DO THEY CALL IT 'COMMON SENSE'
WHEN IT'S SO UNCOMMON?"

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Key Elements of Effective Training

- › Remove training barriers enabling participation
- › Ensure trainers are competent (able to deliver content)
- › Provide site/job/task/skill specific training
- › Utilize appropriate instructional methods
- › Ensure content covers what is required by regulations



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Key Elements of Effective Training (cont.)

- › Provide an opportunity for employees to ask questions
- › Assess competencies – test!
 - Do employees recognize, understand, and avoid hazards?
 - Do employees use any and all safeguards in place?
 - Observe them
 - › Are they performing as trained?
- › Periodically evaluate and verify the effectiveness



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Determining the Need for Training

Act 154: The MIOSHA Act

- › **Provide**
 - PPE, guards, safe equipment, programs, start-up procedures, etc.
- › **Train**
 - Hazards, Steps/Procedures, Safeguards
- › **Supervise**
 - Observe that job is done safely
 - Supervisors represent employer
- › **Ensure**
 - Accountability for all employees

If you haven't provided, supervised and/or ensured....training is NOT the issue.

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Active Learning - How Do We Get There?

- Exercises
- Case study
- Role play
- Modeling/Demonstration
- Games
- Stories
- Discussion
- Brainstorm
- Open-ended question
- Small group

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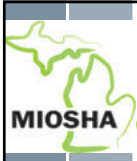
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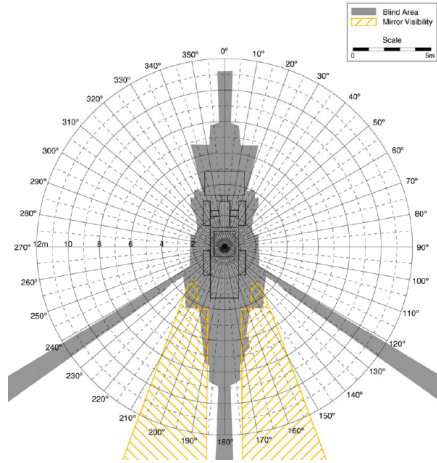
Developing training material

- › Sources for training material
 - Manufacture information
 - MIOSHA/OSHA
 - Online videos and photos
 - Streaming videos
 - Examples from the shop floor or worksite
 - Industry Associations
 - Insurance Companies

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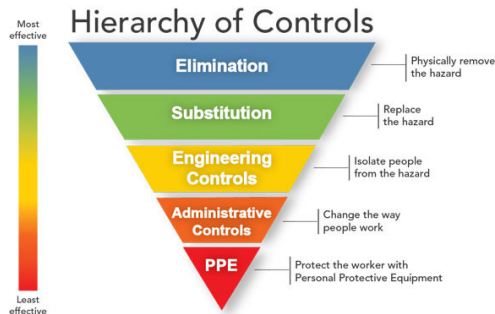


Materials from manufacturer



Loader (Manufacturer and Model)	Volvo L110E
GVW	40,000 lbs
Serial #	L110EV60054
Machine Dimensions	9' 5" wide (bucket) 26' 3" long
Operator Enclosure	Closed ROPS
Attachments	None
Other Information	None
Measurement Technique	Physical

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Construction eTool

Struck-By » Vehicle Inspection

At the beginning of each shift, all vehicles that will be used must be inspected to assure that they are in safe operating condition and free of apparent damage that could lead to an accident. All defects must be corrected before the vehicle is placed in service.

Vehicle Inspection Checklist

Inspect the following parts, equipment, and accessories:

- Service brakes, including trailer brake connectors
- Parking system (hand brake)
- Emergency stopping system (emergency brake)
- Tires
- Coupling devices
- Seat belts
- Horn
- Steering mechanism
- Operating controls
- Safety devices (e.g. reverse signal alarm, rollover protective structure (ROPS), etc.)

Additional items if necessary:

- Lights
- Reflectors
- Chimneys
- Windshield wipers
- Fire extinguishers

Additional information:

- 29 CFR 1928 Subpart G: Motor vehicles, mechanized equipment, and marine operations. OSHA Standard
- 1926.601, Motor vehicles
- 1926.609(b)(4)

Michigan.gov

LICENSING AND REGULATORY AFFAIRS

SEARCH LICENSING TYPES | VERIFY A LICENSE | FILE A COMPLAINT | LABA NEWS BELLAIR | FOIA REQUEST

MI Occupational Safety & Health Administration

WELCOME TO MIOSHA

Michigan Occupational Safety and Health Administration

The Michigan Occupational Safety and Health Administration serves to work collaboratively with employers and employees to better prevent workplace injury, illness, and fatalities. MIOSHA's health and safety programs include setting and enforcing occupational safety and health standards, providing extensive safety and health training and education, and working with partners to develop innovative programs to prevent workplace hazards. All agency activities focus on meeting the MIOSHA mission to help protect the safety and health of Michigan workers.

Customer Feedback: "I'm very happy with MIOSHA. My go-to resource and educator!" -Chris Mathews, Sucker & Sucker Construction

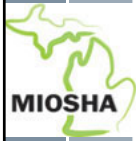
NEWS & UPDATES

MIOSHA and MTRAC Sign Alliance to Promote Workplace Safety and Health



Michigan Worker Death Notification

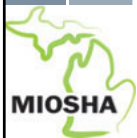
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Utilizing videos



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Online Streaming available from MIOSHA

Caught in/Between Hazards - M276E (15 mins)

MARCOM's Video On Demand (VOD) program on Caught-In/Between Hazards in Construction Environments provides the information employees need to recognize

[PURCHASE DVD](#)

Full Video

Preview

Online Exam (LMS)

Printable Exam (VOD)



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Issues from your own worksite

The Dangers of Wearing Hoodies at Work

Hoodies can extend past your eyes and can block your peripheral vision, which limits your ability to see potential danger around you. This is especially important for heavy equipment operators, or anyone who works in and around forklifts and vehicles.



SAFETY ALERT - #15-2005
HEADS UP - HARDHAT LINERS AND "HOODIES"
RELEASE DATE: FEBRUARY 1, 2005



The Issues:

With the onset of cold temperatures, workers have been observed wearing kangaroo style hoodies under their hardhats to provide protection from the cold. There are numerous hazards associated with wearing hoodies at our job sites:

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Trade Groups and Insurance Companies

Construction [edit]

- American Institute of Constructors
- American Subcontractors Association
- Associated Builders and Contractors
- Associated General Contractors of America
- [Consulting Estimators Round Table](#)

Industry [edit]

- The Aluminum Association
- American Bearing Manufacturers Association
- American Chemistry Council
- American Cleaning Institute
- American Composites Manufacturers Association
- American Forest & Paper Association
- American Gear Manufacturers Association
- American Hardware Manufacturers Association
- American Home Furnishings Alliance
- American Iron and Steel Institute
- American National Standards Institute
- American Plastics Council
- American Watchmakers-Clockmakers Institute
- American Water Works Association
- American Welding Society
- ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers)
- [Associated Equipment Distributors](#)
- Associated Locksmiths of America



America's small business insurance specialist®

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Characteristics of an Effective Trainer

- Knowledge of subject
- Practice, Practice, Practice
- Professional appearance
- Make people comfortable
- Good listener
- Good voice quality
- Enthusiastic
- Tactful
- Flexible
- Organized
- Use of different media
- Positive Attitude
- Sense of humor
- And more....



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Verifying your training is being understood.

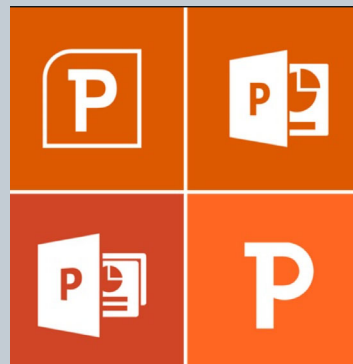
- Test learner's knowledge of the topic
- **Improved employee performance**
- Demonstrate the job/hazard specific skills
- **Improved safety record**



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STRUCK BY
TRAINING
MATERIALS



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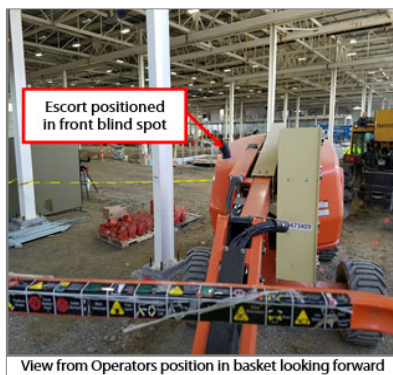
Aerial Lift Case Study:

Struck By

- Lowering basket struck a 2" gas line.
- Ground man was watching the wheels
- Risk assessment
- Consider extra ground man to assist in locations of multiple hazards.
- Aerial Lift and Ground Person training



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Aerial Lift Case Study:

Escort/Ground Person Struck By

- Escorting Man lift
- Ground man was watching other traffic.
- Lost eye contact with operator
- Operator lost eye contact with escort and did not stop
- Risk 360 assessment
- Congestion, distractions
- Aerial Lift training



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Scissor Lift Case Study:

Struck by/ran over spotters foot

- Maintain eye contact
- Maintain minimum clearance when equipment is in motion
- Maintain communication
- Scissor lift and spotter training



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Traffic Control Case Study:

Driver ran over and broke through a Hole Cover

- 360 Risk assessment
- Review the logistics of the location
- Hole covers should be marked and capable of supporting intended loads



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Why Train for Struck By?

- › Historically incidents have been prevented by using spotters (the eyes and ears for operators of equipment moving in congested or awkward areas)
- › Results from these incidents are damaged equipment, loss of production, injured people and ultimately loss of life.
- › What have you seen? Could you share an incident that resulted from “the lack of” or “poor” spotting?

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Terms Can Vary

Ground Person:

- Follow the established Ground Person protocols
- Must be familiar with the Equipment and be capable of operating lifts using ground controls
- Understand the logistics of the work location
- Validate the Operator is wearing PPE
- Have a clear line of site
- Maintain 360 degree awareness
- Never use electronic devices or perform additional duties

Spotter:

- A spotter is someone assigned to assist another worker performing activities and preventing accidents.
- Identify your safe work zone
 - Avoid path of travel
 - Always have clear sight lines

Traffic Regulator:

- Traffic Control and Flagging Federal and State Traffic laws apply
- Provide clear communication between drivers/operators and spotters through the use of standardize signals and communication.
 - Have clear sight lines
 - Maintain both visual and verbal communication
 - Maintain risk 360 assessment
 - Properly trained and equipped.



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When do you need a spotter?

Instances when a spotter should be used:

- When the operator cannot see the load.
- When the operator cannot see the load landing area.
- When the operator cannot see the path of travel of either the load or the equipment.
- When the operator is too far from the load to judge distance accurately.
- Whenever an operator requests a spotter.
- In close proximity to overhead hazards.
- When backing a trailer.

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Need a spotter?



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Area Pre-Walk

- › *Prior to the movement of any objects or equipment the area which will be used for maneuvering needs to be walked by the Operator and Ground Person.*
- › *What to look for during the pre-walk:*
 - Clear path of travel
 - Proper signage i.e., construction (if needed)
 - Overhead obstructions, i.e., power lines & buss bars, doors & rails, fire protection piping & linear beams, vent fans
 - Tight corners
 - Other personnel working in the vicinity

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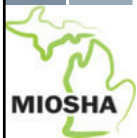
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Communications

- › *The single most important aspect of an effective spotter is communication.*
- › *Communication needs to be:*
 - *Clear*
 - *Concise*
 - *Maintained*
 - *Appropriate for the operation*

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Communications

- › *There are two common types of communication methods.*
 - *Hand Signals*
 - *Review hand signals/terminology with operator*
 - *Verbal/Radio*
 - *Review verbal communication/terminology with operator*



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Communications

- › The term “STOP” should be used to stop operations in **emergency situations** instead of other terms that mean the same thing (e.g. Whoa, Halt, Hold That, etc.)

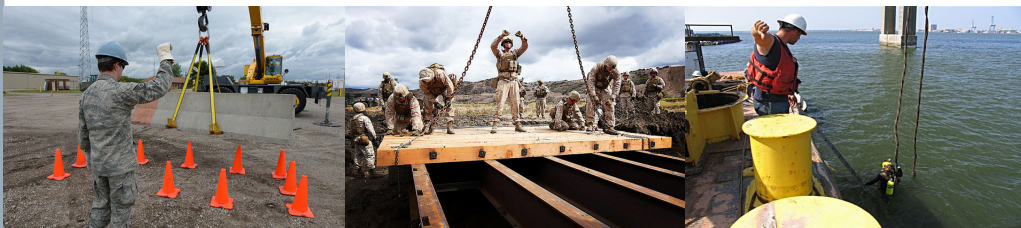


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Hand Signals

- › Well recognized hand signals should be used.
 - The goal is effective communication. The spotter and the operator need to be in agreement on the hand signals used.

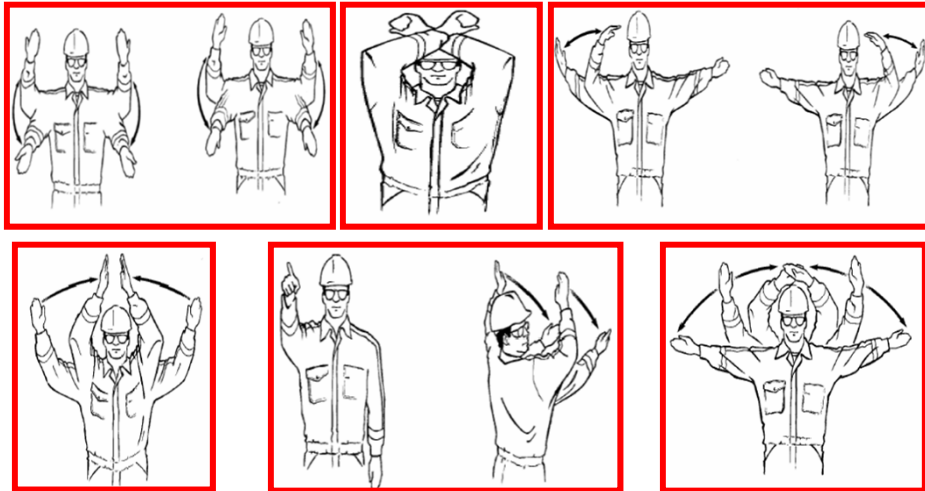


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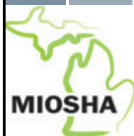


Consistent Hand Signals

Standard Hand Signals



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Hand Signals Ground Rules

- › *Only one person should signal the operator.*
- › *Always keep the spotter/operator in view.*
- › *Anyone can give the STOP signal and it must be obeyed immediately.*
- › *Signals should be clear and, wherever possible, barehanded.*
- › *The load must be directed so that it never passes over anyone.*

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Hand Signals Ground Rules

- › *Operators should not make a move until they receive and understand spotter signal. If contact between spotter and the operator is broken for any reason, the operation must stop.*
- › *Some situations call for two signalers. For instance, during a concrete pour, one signaler may be needed to direct the lift while the other directs the drop.*

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Hand Signals Ground Rules

- › *Where a difficult lift demands, use verbal communication or two-way radios instead of hand signals.*



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Use of Radios as Communications

- › *Using radios can be a very effective communication method.*
- › *A radio must be used in situations where the spotter and operator lose sight of each other.*



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Use of Radios as Communications

- › *In order to have effective communication with radios ensure the following;*
 - *The terminology used is **consistent**.*
 - *The frequency used is **not in use** by other operations.*
 - *The frequency is **clear** of static and the units have been **tested** for the area in which the operation is taking place.*
 - *Fresh batteries are installed or the units are fully **charged**.*

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Use of Radios as Communications

Some things to think about;

- Radio use in high noise areas*
 - › Head sets may be necessary*
- › The operator may not be able to use one hand to operate the radio.*
 - › This situation requires a unit with voice activation and possibly a head set.*
- › Can you think of any other cautions with radio use?*

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Task Responsibilities

Spotter

- Position self to enable driver to maintain visual contact
- Never cross the path of travel
- Wear proper PPE
- Communicate to the operator to STOP if I see any hazards
- Never ride on the vehicle while it is moving
- Keep the route free of people that don't need to be there

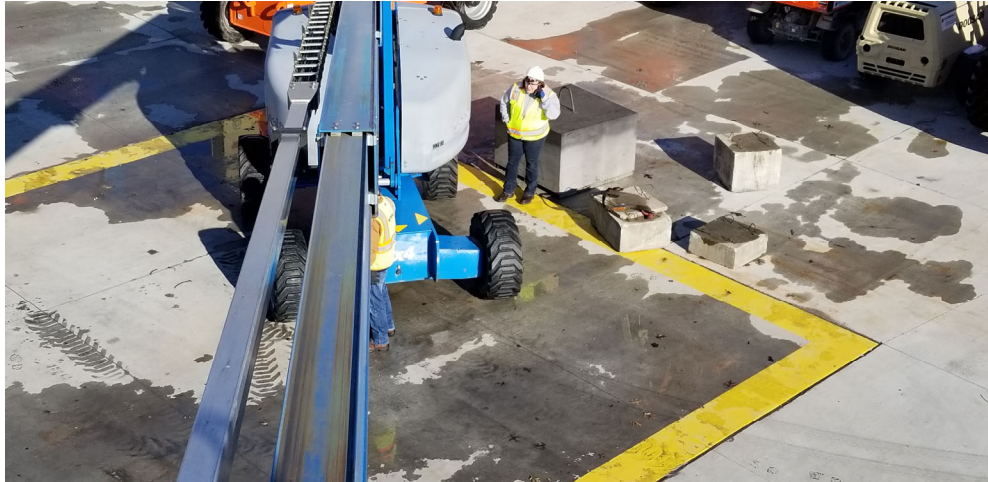
Operator

- › STOP immediately if I lose contact with the spotter
- › STOP immediately if instructed by the spotter
- › STOP immediately if anyone comes within 8ft of my vehicle
- › Operate so my speed does not exceed the pace of my spotter
- › Communicate the blind spots to the spotter
- › Eliminate distractions
- › Make sure windows and mirrors are clear

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Distracted?



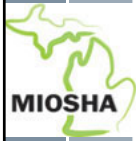
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Position?



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Good View?



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AGC of America
THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA
Quality People. Quality Projects.

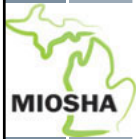


2017 Work Zone Awareness Survey Results National Results

44 % Responded that there was at least one crash on a work zone where they worked in the past year

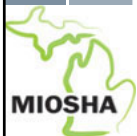


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- › 85% of drivers are distracted by their cell phones while driving
- › Drivers spend 1 of every 6 minutes on their phones while driving
- › 71% of drivers are texting while driving
- › You are 2/2 times more likely to crash while talking on the phone
- › You are 12/2 times more likely to crash from dialing a phone

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MMUTCD



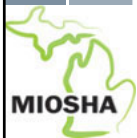
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Required Training

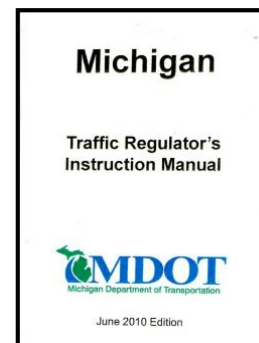


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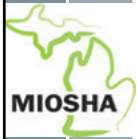
Responsibility

- › The role of a traffic regulator is **CRUCIAL** to the success of a well-run traffic operation.
- › Traffic regulating is a full time job.
- › Carelessness can cause serious accidents and injuries to you, your co-workers, or the public. By performing your duty diligently, you can do your part to prevent traffic incidents in your work area.



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Traffic Regulator Duties

- › *To protect self and others involved in the work area.*
- › *To protect equipment.*
- › *To provide safe, courteous, and authoritative direction to the motoring public through the work area.*
- › **Always provide / plan an escape route!**



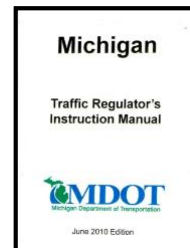
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Qualifications

- Receive and communicate specific instructions clearly, firmly, and courteously.
- Move quickly to avoid danger from errant vehicles.
- Control signaling devices (such as paddles and flags) in order to provide clear and positive guidance to drivers approaching the work zone in frequently changing situations.
- Understand and apply safe traffic control practices, sometimes in stressful and emergency situations.



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Qualifications



- Recognize dangerous traffic situations and warn workers and other regulators in sufficient time to avoid injury.
- Do not mingle with the work crew, traveling public or other people.
- Determine an escape path that is free of obstructions.
- Be constantly alert of your surroundings, particularly for vehicles approaching from each direction.

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Personal Protective Equipment

MIOSHA Required?

Construction

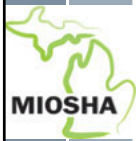
- **HARDHAT:**
(MIOSHA Part 6, R408.40622; and Part 22)
- **SAFETY GLASSES:**
(MIOSHA Part 6, R408.40624)
- **STURDY FOOTWEAR:**
(MIOSHA Part 6, R408.40625)
- **HIGH VISIBILITY VEST 360°**
Type 2 or 3 (MIOSHA Part 22, R408.4223)
- **FULL-LENGTH PANTS:**
(MIOSHA Part 6)
- **SHIRT:** (MIOSHA Part 6)

General Industry

- **HARDHAT:**
(MIOSHA Part 33, 18, 22, 51, 53, 74)
- **SAFETY GLASSES:**
(MIOSHA Part 33)
- **STURDY FOOTWEAR:**
(MIOSHA Part 33, 51, 53, 74)
- **FULL-LENGTH PANTS:**
(MIOSHA Part 33, 51, 53)
- **SHIRT:** (MIOSHA Part 33)

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MIOSHA

- Regulator out of position
- No escape (on a bridge)
- PPE 360 deg. (vest open)
- Training?

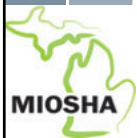
*What's wrong with
this picture?*



NEVER STAND IN THE LANE TO APPROACHING TRAFFIC

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MIOSHA

Traffic Regulator

When possible, can we eliminate or minimize the hazard to employees?



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ADDITIONAL RESOURCES



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Training Activity

Blind Spot Activity

1. Stage a dump truck (or other large piece of equipment) in an open area or parking lot. If possible, secure several different types of equipment to demonstrate how blind spots vary from one piece of equipment to another. Lock-out the vehicle and remove keys from cab. Instruct one worker to sit in the cab and observe workers through his mirrors and windows.
2. Position employees in various positions around the vehicle, including directly in front, on the right-side and behind the parked truck.
3. Instruct the employees on foot to move to various locations, extending distances until the driver can see them in the mirrors. Place cones on the ground when they become visible.
4. By completing this exercise around the vehicle you will be able to obtain the length and width of where workers are not visible, helping them realize the size and location of blind spots.

Variations: Park a heavy piece of equipment and stage a pickup truck in different blind areas around the equipment. Let workers sit in the operator's seat to visualize the blind areas. (Be sure to lock out the equipment and pickup when performing these types of exercises.)

Other variations of these exercises can be done by using different sized objects to illustrate how blind areas change depending upon the size of the object. Generally, blind spots become larger as objects are closer to ground level.


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Spotter Pre-Task Insert / Checklist

Pre-Task - Completed by Operator AND Spotter

- Ensure that distance backing be minimized
- Identify & remove any area hazards on the route
- Safest Route Identified and chosen
- All pedestrians in path of moving vehicle cleared



Communication Plan
Apart from verbal communication, the driver and spotter must agree to communicate via one of the following:

- Hand Signals (Consider High Visibility Gloves)
- Two-Way Radios (if allowed)
- Lights Other
- Hand Held Air Horn

NOTE: Verbal Only Communication is not acceptable.

Spotter Responsibilities
As the SPOTTER on this job I WILL

- Position myself to enable the operator to maintain visual contact
- Never cross the path of travel of a moving vehicle
- Wear a high visibility vest
- Wear the PPE requirements for the area
- Communicate to the Operator to STOP if I see any hazards
- Never ride on the vehicle while it is moving
- Keep the route free of people that don't need to be there

Spotter Signature _____

Operator's Responsibilities
As the OPERATOR on this job I WILL


- STOP immediately if I lose visual contact with the spotter
- STOP immediately if instructed by the spotter
- STOP immediately if anyone comes within 8ft of my vehicle
- Operate so my speed does not exceed the pace of my spotter
- Communicate the blind spots of the vehicle to the spotter
- Turn my radio and other distractions inside my vehicle off
- Make sure my windows and mirrors are clear to ensure visibility
- Make sure my windows are open for spotter communications

Operator Signature _____

Spotter Pre-Task Insert / Checklist

Pre-Task - Completed by Operator AND Spotter

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Spotter Responsibilities
As the SPOTTER on this job I WILL

- Position myself to enable the operator to maintain visual contact
- Never cross the path of travel of a moving vehicle
- Wear a high visibility vest
- Wear the PPE requirements for the area
- Communicate to the Operator to STOP if I see any hazards
- Never ride on the vehicle while it is moving
- Keep the route free of people that don't need to be there

Spotter Signature _____

Operator's Responsibilities
As the OPERATOR on this job I WILL

- STOP immediately if I lose visual contact with the spotter
- STOP immediately if instructed by the spotter
- STOP immediately if anyone comes within 8ft of my vehicle
- Operate so my speed does not exceed the pace of my spotter
- Communicate the blind spots of the vehicle to the spotter
- Turn my radio and other distractions inside my vehicle off
- Make sure my windows and mirrors are clear to ensure visibility
- Make sure my windows are open for spotter communications

Operator Signature _____

Thank You For Attending This Presentation

Michigan Occupational Safety and Health Administration
Consultation Education and Training Division
525 W. Allegan Street, P.O. Box 30643
Lansing, Michigan 48909-8143

For further information or to request consultation, education and training services, call 517-284-7720

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