

Vehicles and Heavy Equipment

GENERAL DISCUSSION

Almost 200 U.S. construction workers die each year from motor vehicle accidents on the job. Hundreds more are injured. Accidents involving moving vehicles and heavy equipment are the third leading cause of death on construction sites.

Following a few simple rules could prevent almost all these accidents. The #1 rule is to wear a seat belt. You should wear a belt in any type of vehicle -- even a bulldozer, loader, or grader. Some people still think that you're safer in a vehicle if you don't use a seat belt, because you'll be thrown clear in an accident. But eight times out of ten, a driver who isn't wearing a seat belt and has an accident gets seriously injured when thrown out of the cab. Don't take the risk!

You or a crewmember may want to add a personal story about accidents involving vehicles or heavy equipment.

Next, discuss with the crew what vehicle and heavy equipment hazards there may be at this particular job site:

After each question, give the crew time to suggest possible answers. Use the information following each question to add points that no one mentions.

1. If you're a vehicle or heavy equipment operator, what's the first thing you should do at the beginning of each shift?

1. Inspect your equipment, and report any damage or other problems.

2. What should your inspection cover?

Using a vehicle or piece of heavy equipment (if available), demonstrate these points.

1. Whether the vehicle or equipment is operating properly
2. Windshield and wipers

3. Brakes (both parking and service brakes)
4. Tires
5. Mirrors
6. Steering
7. Operating controls
8. Leaking fluids
9. Headlights, taillights, brake lights, and turn signals
10. Seat belts
11. Horn and back-up alarm (loud enough to be heard on the site)
12. Rollover protection structure (ROPS) and any other required safety gear

3. Before you move your vehicle or equipment, what safety measures should you take to protect yourself and people around you?

1. Put up barricades (if needed) to keep people out of the area where you are operating.
2. Make sure you have a spotter to guide you when necessary.
3. Be aware of overhead obstructions, like power lines or trees.
4. If you don't have a clear view, walk around the vehicle to check for obstructions.
5. Make sure the soil is stable.
6. Make sure your vehicle is not overloaded.
7. Make sure any load you are carrying is secured and stable.
8. Flag loads that extend beyond the end of the vehicle. Light them at night.

4. What are some safety rules to follow when operating any type of vehicle?

1. Don't exceed the speed limit for the site. On this site, the speed limit is:

2. Don't allow riders unless the vehicle is designed for them.
3. Refuel only when the vehicle is turned off and there are no sources of ignition nearby. NO SMOKING signs should be posted in refueling areas.
4. Don't run the engine in an enclosed area unless there is enough ventilation.
5. Other operating rules on this site:

5. How far from a high voltage line must you keep a boom, crane, or other heavy equipment? Who is in danger if the equipment contacts the line?

1. Keep all equipment at least 10 feet from high voltage lines that carry 50,000 volts or less. The clearance distance is more if the line carries higher voltage.
2. Everyone nearby is in danger if equipment contacts the line—not just the operator.

6. What about spotters? What safety rules should they follow?

1. Always maintain visual contact with the equipment operator.
2. Agree on clear, standard signals, easily understood by both spotter and operator.
3. If a clear signal is not given, understood, and acknowledged nothing should move.
4. If problems come up, the spotter and operator should get together to review what signals mean.

7. What if you're not an operator or spotter? If you're working near moving vehicles or equipment, what are the most important safety points to remember?

1. Stay alert at all times.
2. Don't distract yourself by listening to your portable radio or Walkman.
3. Keep a safe distance.
4. Keep off the equipment unless authorized.
5. Watch out for shifting or unstable loads.
6. Wear a bright orange vest or jacket if you are working near moving vehicles or heavy equipment. Wear reflectorized clothing at night.

8. Management is required to enforce the safety rules we've discussed. To make sure vehicles are operated safely, what else does management have to do?

1. Check that all operators are properly licensed for the vehicles they are using.
2. Train workers in specific safety practices related to this particular job.
3. Keep equipment in good condition.
4. Set up a system to control the traffic flow, both on the site and at junctions with public roads. If barricades and warning signs aren't enough, flagmen are required.

OSHA Regulations

OSHA requires most of the safety measures we've talked about. We have to take these precautions it's the law. I have a Checklist of the OSHA regulations on vehicles and heavy equipment. If you'd like to know more, see me after the meeting.

Company Rules

(Only if applicable.) Besides the OSHA regulations, we have some additional company rules about vehicles and heavy equipment.

Discuss company rules

Comments from the Crew

Ask the following: Do you have any other concerns about vehicles or heavy equipment? Do you see any problems on our job? (Let the steward answer first, if there is one.)

What about other jobs you've worked on? Have you had any experience with vehicles or heavy equipment that might help us work safer on this job?

GENERAL SAFETY REVIEW

This is a time to review all safety concerns, not just today's topic. Keep your notes on this page before, during and after the safety meeting.

Are you aware of any safety hazards from any other crews? Point out any hazards other crews are creating that this crew should know about. Tell the crew what you intend to do about those hazards.

Do we have any other safety business? Discuss any past issues or problems. Report any progress of investigations and action taken.

Have there been any accidents, near misses or complaints? Discuss any accidents, near misses, and complaints that have happened since the last safety meeting. Also recognize the safety contributions made by members of the crew.

Please remember, we want to hear from you about any health and safety issues that come up. If we don't know about problems, we can't take action to fix them.

ENDING THE MEETING

Circulate Sign-Off Form.

Assign one or more crew member(s) to help with next safety meeting.

Refer action items for follow-up. (Use the sample Hazard Report Form in the Reference Section of this binder, or your company's own form.)

Do you have any Safety Recommendations?

Do you have any Job Specific Topics you would like us to discuss?

Comments

SAFETY TALKS REVIEW

Hazard Identification and Worker Training:

1. The company has a written Safety and Health Program that meets all OSHA requirements. It includes identification of hazards on the site involving vehicles and heavy equipment, as well as regular inspections, accident investigation, and correction of hazardous conditions.

2. All drivers are properly licensed, and have been trained in the proper and safe operation of vehicles and equipment.

Inspections and Safety Equipment:

1. All vehicles and heavy equipment are visually inspected at the beginning of each workday for any malfunctions that could affect safe operation. All defects are corrected before the equipment is placed in service.
2. Every haulage vehicle and piece of heavy equipment has a working back-up alarm that can be heard 200 feet away.
3. Seat belts in good working order are provided on all vehicles and heavy equipment.
4. Roll-over protection structures (ROPS) are provided on vehicles and heavy equipment (including scrapers, tractors, loaders, bulldozers, carryalls, trucks, etc).
5. Every vehicle and piece of heavy equipment with a cab has an intact windshield and powered windshield wipers. Where needed, there is operable defogging or defrosting equipment.
6. Equipment and accessories installed on haulage vehicles do not impair the driver's vision to the front or sides.
7. Every vehicle and piece of heavy equipment has two operating headlights and two operating taillights when visibility conditions warrant.
8. Every vehicle and piece of heavy equipment has working brake lights.
9. Dump trucks that tilt to release their load have a visible or audible warning when the elevating mechanism is activated.
10. Loads on vehicles are secured against displacement.
11. Drivers operating loaders have adequate visibility, and the equipment is stable.
12. On piledrivers, safety chains on compression hose fittings are in place and in working order, to prevent thrashing if disconnected.

Work Practices:

1. The employer requires the use of seat belts when operating or riding in vehicles or heavy equipment.
2. Operators do not exceed safe or posted speed limits.
3. Haulage vehicles have a cab shield or canopy to protect the driver from falling materials.
4. Wherever feasible, a spotter is used to help operators back up vehicles and heavy equipment. The spotter stands well away from the operation, in clear view of the operator. Spotters are required in noisy or congested areas, whenever backward motion is hazardous, and whenever the operator's vision to the back is obstructed.

5. Workers do not ride on equipment not designed for riders, including hoist platforms, buckets, or on loads.
6. Vehicles used to transport workers have seats firmly secured, and have enough seats for all passengers.
7. Tools and material are secured to prevent movement when carried in the same compartment with workers.
8. Haulage vehicles are always operated in gear.
9. Vehicles and pieces of heavy equipment are parked with the parking brake set. If on an incline the wheels are also chocked. (Some exceptions apply.)
10. All unattended loaders and industrial trucks have the bucket or boxes lowered to the ground. (Not required if precautions such as blocking are taken to prevent accidental lowering and controls are in neutral and brake is set.)
11. Wherever vehicles are operated, temporary covers for conduits, trenches, and manholes are secured against displacement and can carry at least twice the maximum intended load.
12. Fork lifts; trucks, and other equipment are not loaded above their designated safe carrying capacity or weight.
13. Loads are secured.
14. When power equipment is being repaired, moving parts such as blades, beds, or gates are lowered to the ground, or securely blocked in an inoperative position. Controls are kept in a neutral position, with the engine stopped and brakes set (unless the repair work requires otherwise).
15. Exhaust gases are directed away from operators.
16. Engines are not operated in enclosed places (for example, closed garages) unless vents are provided to effectively remove exhaust gases.

Electrical Hazards:

1. There are signs in plain view of the operator on all cranes, derricks, power shovels, pile drivers, and similar machinery, reading as shown below.
 - **UNLAWFUL TO OPERATE THIS EQUIPMENT WITHIN 10 FEET OF HIGH VOLTAGE LINES OF 50,000 VOLTS OR LESS.**
 - **FOR MINIMUM CLEARANCES OF HIGH VOLTAGE LINES IN EXCESS OF 50,000 VOLTS, SEE OSHA REGULATIONS.**
2. Heavy equipment is not operated in areas where there is danger of contact with energized underground or overhead high voltage lines. Electric lines are clearly marked, and precautions are taken to prevent accidental contact.

Traffic Control:

1. When working near vehicular traffic, warning signs, flags, traffic control devices, and/or barriers are in place. At night, warning lights are used.
2. Flaggers are used wherever barricades and warning signs cannot control the moving traffic.
3. Flaggers wear bright orange or yellow-green warning garments. In rainy weather, they wear bright orange or yellow-green raingear.
4. Workers exposed to vehicular traffic wear reflectorized warning garments during hours of darkness. The garments are visible at a minimum of 1000 feet.
5. Workers directing traffic use "slow/stop" paddles and are properly positioned.
6. Workers directing traffic maintain direct line-of-sight with each other or, if not, remain in radio contact.
7. Cones are placed street-side at the front and rear bumpers of vehicles when they are parked in or near the flow of traffic.
8. Cones are used to set off the work area.
9. Where cones are used to direct traffic around the work area, they are placed sufficiently upstream to adequately allow merging or other response by approaching vehicles.
10. If the street is blocked off for the operation, signs have been posted directing traffic to alternative routes.
11. The system of traffic control is in accordance with the Manual of Traffic Controls for Construction and Maintenance Work Zones—1991, published by the California State Department of Transportation.

Private Roadways and Off/Highway Conditions:

1. Single-lane private roads with two-way traffic have turnouts or a system to prevent vehicles or heavy equipment from meeting on the road.
2. Private roads are maintained free from holes and ruts that may affect the safe operation of vehicles and equipment. Emergency access ramps are provided to restrain and control runaway vehicles.
3. Dust levels are minimized to ensure adequate visibility for drivers. Vehicle and equipment operators use adequate respiratory protection in dusty operations.
4. On private roads with two-way traffic, vehicles and equipment travel on the right side as much as possible. Signs clearly indicating variations are posted.
5. Where practical, separate haulage roads are provided and are wide enough for safe passage.
6. When push tractors are working in tandem, heat shields are provided to operators.

Fueling:

1. Fueling of vehicles and heavy equipment is done with the engine off.
2. No smoking is permitted at or near the fuel storage or refueling area. A sign is posted stating: NO SMOKING WITHIN 25 FEET.
3. No sources of ignition are present near the fuel storage or refueling area.
4. A dry chemical or carbon dioxide fire extinguisher (rated 6:BC or larger) is in a location accessible to the fueling area.