

Operating Heavy Equipment

Hazard Alert



More than 100 people each year are killed by mobile heavy equipment – including backhoes/excavators, mobile cranes, road grading and surfacing machinery, loaders, bulldozers, and tractors – on construction sites. These are the main causes of death:

- Workers on foot are struck by equipment, usually when it's backing up or changing direction.
- Equipment rolls over and kills the operator while on a slope or when equipment is loaded or unloaded from a flatbed/lowboy truck.
- Operators or mechanics are run over or caught in equipment when the brakes aren't set, equipment is left in gear, wheel chocks are not used, or the equipment and controls aren't locked out.
- Workers on foot or in a trench are crushed by falling equipment loads, backhoe buckets, or other moving parts.

Protect Yourself

Your employer should:

- Allow only **trained and experienced operators** to operate heavy equipment.
- Be sure operators and mechanics are trained by qualified persons* experienced with the model of heavy equipment being used.
- Rent or buy only heavy equipment that has rollover protective structures (**ROPSs**) and seat belts.
- Use only flatbed/lowboy trucks and ramps that are suitable for **transporting** heavy equipment.
- Ensure that a copy of the **operating manual** is on all machinery or available to the operator.
- Identify the hazards of overhead and underground **power lines and utilities** and establish procedures for working around them. Before excavation begins, use the one-call system for utility cutoffs.
- Make sure the manufacturer's **safety features** work.
- Set a **limited access zone** and/or a swing radius for each piece of equipment.
- Provide training on equipment **hand signals**.
- Provide **trained spotters or signal persons** to alert operators to workers or pedestrians in the blind spots of the equipment – including workers in trenches or manholes.

As a heavy-equipment operator, you should:

- **Review** operating, safety, and shutdown procedures in the operator's manual before you work with a new piece of equipment.
- **Check/inspect** the equipment and controls every day before you begin work.
- To **prevent slips and falls**, keep grease and fluids off the walking/working surfaces and use 3 points of contact when entering and exiting equipment (such as 2 hands and 1 foot).
- To **prevent rollovers**, do not travel or work parallel to steep grades or embankments or on unstable soil.
- If possible, operate heavy equipment that has a ROPS and fasten the seatbelt. (Don't use a seatbelt if you must use equipment that has no ROPS, because you may have to jump clear during a rollover.)
- If equipment is rolling over or out of control, do not jump if it has a ROPS and seatbelt; you have a better chance of riding it out with a ROPS and your seat belt fastened.
- Always put the transmission in park, shut off the motor, set the brakes, and perform any other needed **shutdown procedures**/lockout of controls and/or attachments before working on or around the equipment.

*OSHA says a *qualified person*...by extensive knowledge, training, and experience can...solve...problems related to the subject matter....
(Please turn the page.)

Protect Others

To protect other workers or pedestrians:

- **Do not back up** unless you are sure no one is behind you. Use mirrors, where appropriate.
- Do not depend only on backup alarms. They are not always heard on noisy construction sites.
- Use **barriers** to separate workers on foot, pedestrians, and vehicles from moving equipment, where possible.
- When loading or unloading materials, make sure that only essential workers are in the area and have a spotter/signal person to let you know where they are. No one should be under a suspended load.
- Never allow other workers to ride on equipment.
- Don't speed; be extra careful around other traffic, hills, obstacles, and curves.

Training

OSHA says, "The employer shall permit only those employees qualified by training or experience to operate equipment and machinery."

For more information, call your local union, the Center to Protect Workers' Rights (301-578-8500 or www.cpwr.com), NIOSH (1-800-35-NIOSH or www.cdc.gov/niosh), or OSHA (1-800-321-OSHA or www.osha.gov) or go to www.elcosh.org.

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