



AT WORK

Danger! Heavy Equipment Crossing

Staying safe around the big machines



Anyone that works around heavy equipment on job sites has to have a healthy respect for the inherent danger that always exists. These machines are big and powerful, and whether you work in construction, farming, mining, forestry or some other industry, you've got to watch your step.

Most people are well aware of the hazards involved, yet every year there are thousands of accidents reported that include property damage, personal injury and fatalities. A lot of these accidents involve the operator, but over half involve people on the ground. The other thing to consider is the severity of these accidents due to the sheer size of the equipment and power that's involved. It usually means that when there is an incident, you'll be calling an ambulance rather than breaking out the first aid kit.

Causes

Because of the many different types of equipment used, and the daily variables involved, it would be difficult to assess a common cause for most heavy equipment accidents. They can happen to seasoned operators as well as newly trained ones, but it usually comes down to human error at some level. Whether the job involves a loader, backhoe, excavator, crane, dump truck, combine, forklift or grader, someone somehow made a poor operational decision or was not as diligent as they should have been in enforcing safety protocol.

Rules & Regulations

The use of heavy equipment in Canada is regulated by various government agencies in order to maintain safe worksite environments. This type of oversight is outlined within Canadian occupational health & safety standards and is broken down into a variety of specific categories, depending on the machinery type. Each province also outlines safety and operational standards within their Ministry of Labour codes. It is the responsibility of employers to be compliant with all safety codes and procedures.

Further information can also be found through the CSA at:

http://ohs.csa.ca/standards/Equipment_Machinery/index.asp

- All operations that make use of heavy equipment should have a comprehensive set of safety policies and procedures that are updated regularly. These policies must be made accessible to all staff and supervisors and be communicated clearly.
- Depending on the scope and nature of the work being undertaken, heavy equipment operation should be directly supervised by a qualified individual, especially in cases where there are ground workers present, public vehicular traffic, pedestrians or any potential hazards in the area (eg. underground utilities, high voltage equipment, buildings & structures, dangerous terrain etc.)
- Only workers who are fully certified on specific pieces of equipment should be allowed to operate them. Just because an operator has been around a long time or has worked on similar equipment, doesn't mean that they are qualified for all machinery.
- Perhaps the most important step in maintaining a safe work environment is operator training. This should consist of formal classroom instruction (often available from manufacturers), demonstrations, practical trainee exercises, interning with experienced operators and strict evaluation of new operator skills.

Safety Tips

Here is a listing of some select tips to help keep job site heavy equipment injuries and fatalities to a minimum.

- Ensure that there is adequate communication between operators and workers on the ground. Spotters and supervisors can employ hand signals, flags or 2-way radios to signal all clear or to provide specific directions.
- All machinery should have an appropriate pre-start inspection completed by the operator each day prior to use as well as the beginning of each individual shift
- Regularly scheduled maintenance (based on hours run) also goes a long way in avoiding breakdowns or the potential for accidents during shifts
- All equipment operators and those working in the area must wear approved personal protective equipment (PPE) to help ensure safety. This would include safety boots, gloves, hearing protection, high visibility vests or clothing, eye protection and hardhat.
- Workers are frequently injured due to falls when mounting and dismounting their vehicles. Remember to use a 3-point contact with grips and steps and never attempt to jump off.
- Always wear seatbelts and make sure that equipment includes a rollover protective structure to protect the operator
- For added stability on slopes, work up and down rather than across the grade. Also be aware that traveling downhill with a load is more dangerous than traveling up.
- Before work begins, fully inspect the area for any potential hazards such as overhead wires, large holes or hidden trenches, structures, ground clutter, other vehicles and workers on foot
- Big machines are notorious for having blind spots. Be sure to always use a spotter and wide-angle mirrors, especially when reversing or dumping a load. Technology is also improving in this area and there are a number of good rear-mounted camera and presence-sensing systems on the market.
- When shutting down a vehicle, ensure that the engine is turned off, you are parked on level ground, pressure is relieved from hydraulic controls and that parking brakes are engaged
- To help avoid machinery swing radius injuries and damage, always rope-off or secure the maximum radius area before attempting any operation
- When lifting with straps or chains, be sure that the rigging set-up is overseen by qualified personnel and that all equipment used is designed for the job
- Never attempt to use heavy equipment for functions other than what it was designed for. Know the limitations and capacities of machines and don't push your luck by trying to exceed them.
- Workers always love to stand close to excavation areas to watch the dig. This can obviously increase the potential of injury due to the close proximity, so keep everyone well clear. This also applies to overhead loads. Make it a practice to NEVER lift a load over people on the ground.
- Ensure that all pinch points and dangerous openings on a machine are clearly marked and guarded
- For maintenance and refueling operations, ensure the safety of everyone by securing vehicles with wheel chocks, and the use of approved lock out/tag out (LOTO) indicators to avoid accidental start up.

Whether a seasoned heavy equipment vet or a new operator, there are pro-active measures that can be undertaken every day to help keep yourself and those around you safe and secure.