

# HEALTH AND SAFETY ADVISORY

## Working Safely On or Around Heavy Equipment

Working on or around heavy equipment is high-risk work. If an incident occurs, the result is often a life-altering injury such as a broken bone, head injury, or, in many cases, loss of life. Incidents involving heavy equipment deeply affect not only the person who is injured but also the person operating the equipment or any co-workers nearby.

To control the risks, follow the safe work practices below.



### Working Around Heavy Equipment

- Preplan the job. Set up drive-through operations to reduce the need for equipment to back up.
- Participate in daily hazard assessments around the site. Place warning signs and install barriers where needed to prevent hazards.
- Understand the different soil types and learn how to recognize them.
- Never use a cell phone or other mobile device while operating or working around heavy equipment.

### Safe Operation of Heavy Equipment

- **Before operating the equipment, perform a circle check to ensure that everything is in proper working order.** Remember to document the results. Here are some things to look for:
  - ▶ Windows are clean and not cracked or broken.
  - ▶ Mirrors are clean, not cracked or broken, and are adjusted properly.
  - ▶ Back up alarms and cameras are working properly.
  - ▶ Lights are working properly (night work is becoming more common).
  - ▶ Equipment guarding is in place.
  - ▶ Fire extinguishers are accessible and are fully charged.

Use IHSA's *Circle Your Vehicle* sticker (S029) or window decal (S044) as a reminder



- Always work in accordance with the manufacturer’s operating manual.
- As per the manufacturer’s instructions, only a competent worker can set up and dismantle the equipment.
- Where applicable, ensure the equipment complies with O. Reg. 856: Roll-over Protective Structures.
- Where applicable, ensure the equipment has a cab/screen to protect the operator.
- No worker is permitted to operate heavy equipment unless they are considered “competent”. Depending on the type of equipment involved, this could mean having the proper training or holding a certificate of qualification. (Note: In cases where certification is not required, an MOL inspector may use other means to determine competency, such as the employer’s record of training or direct observation of how the operator is using the equipment.)
- Ensure there is proper access and egress to the equipment. Steps and/or ladders should be clean, well maintained, and skid-resistant. Maintain 3-point contact when getting on or off the equipment.

• **If the equipment comes with a restraining device (i.e., seatbelt), the operator must wear it.**

- If the operator or another worker has access to mechanically operated parts of a machine, make sure there is protective guarding or fencing around it.
- The operator must never stay in the vehicle or equipment while it is being loaded or unloaded.
- The operator must always be at the controls when equipment parts or loads are being lifted.
- The operator must ensure that no part of the equipment or its load passes over another worker unless the other worker is directly involved in receiving the load or engaged in sinking a shaft. It’s good practice to use barricades and signage to prevent workers from entering hoisting areas.
- Use a signaller if the operator’s view of the load or the intended path of travel is obstructed.
- Never get closer than the minimum distance to a trench or excavation walls. Determine this distance ahead of time.



- **Never get closer than the minimum distance to overhead powerlines.** Have a plan in place and determine the limits of approach ahead of time (Table 1). Use a signaller if it’s possible that the load or the equipment could encroach upon the limits.
- Before excavating, ensure all locates and markings are complete and are available to the operator in the equipment cab.

- Always use safe rigging practices and safe material handling practices.

**Table 1:**  
**Minimum Distances to Overhead Powerlines**

Voltage Rating of Powerline	Minimum Distance
750 to 150,000 volts	3 metres (10 ft)
150,000 to 250,000 volts	4.5 metres (15 ft)
More than 250,000 volts	6 metres (20 ft)

Source: O. Reg. 213/91, s. 188

- Use fall protection when required. This may be needed when operating, maintaining, or inspecting the equipment—and in some instances, when rigging.
- Never smoke in equipment that is considered an enclosed workplace.
- If the equipment is being towed, use two means of attachment. If one fails, the other must be able to hold the load.

### Inspection and Maintenance of Heavy Equipment

- Perform inspection and maintenance procedures as per the manufacturer's instructions.
- Ensure equipment guards are in place.
- When required, use blocking when carrying out repairs.
- Ensure lockout and tagging procedures are in place and are followed.
- Use cages or safety chains when changing tires or when exposed to a potential explosion hazard.

### Storage of Heavy Equipment

- Always store or park equipment in a safe location on the project.
- Never store equipment near sources of energy or structurally unstable ground. In some instances, grounding may be required.
- **Ensure all equipment attachments are on the ground** (*buckets, blades, etc.*).
- Take extra precautions on sloped grounds or near an excavation to make sure that unattended vehicles or equipment will not be able to move.
- Lock cab doors and windows when unattended to prevent access to the operator's cab. If the equipment does not have a cab, lock the operation console to prevent unwanted use.
- Always turn the master switch off—this disconnects the power to the ignition.



For more information including safety talks, products, and training on this subject, visit the Heavy Equipment topic page on the IHSA website: [www.ihsa.ca/topics\\_hazards/heavy\\_equipment.aspx](http://www.ihsa.ca/topics_hazards/heavy_equipment.aspx)

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