

PLAYING IT **SAFE**

Be safe and healthy on the job at with these helpful tips provided by Robison & Co Ltd.

Working Safely with Electricity

Concerns for Engineers, Linemen and Electricians

Electricity is powerful and dangerous, plain and simple. As a lineman, engineer or electrician, you come in direct contact with electricity via overhead power lines, cable harnesses and circuit assemblies.

To protect yourself while working with electricity, consider these safety recommendations when working near generators, power lines, extension cables and construction equipment.

Generator Dangers

Generators are typically powered by petrol using internal combustion engines to produce electricity. They produce carbon monoxide (CO), which is a colourless, odourless gas that can reduce your ability to breathe when it is inhaled. CO poisoning may produce symptoms such as headaches, nausea, tiredness and eventual unconsciousness. CO poisoning is potentially fatal.

When working with generators:

- Do not bring them indoors. Be sure they are located in a location where the exhaust gases cannot enter a building.
- Be sure that the main circuit breaker is OFF and locked out prior to starting any generator. This will prevent inadvertent energisation of power lines from the back feed electrical

energy and can help protect you from possible electrocution.

- Turn off generators and let them cool prior to refuelling.

Power Line Dangers

Overhead and buried power lines are especially hazardous because they carry extremely high voltages of electricity. Fatal electrocution is the main risk, but burns and falls are also serious hazards.

When working near power lines:

- Look for indicators, especially those buried underground.
- Stay at least 3 metres away from overhead power lines and always assume that they are energised.
- De-energise and earth lines when working near them.
- Use non-conductive wood or fibreglass ladders only; never use metal ladders.

Extension Cables

Normal wear on cables can loosen or expose wires.

When working with extension cables:

- Do not modify cables or use them incorrectly.
- Use factory-assembled cable sets only.



Electricity is no Laughing Matter

Employees working near electricity can suffer injuries, ranging from minor burns to death. If you have questions about the equipment that you are using, contact your supervisor immediately to learn more about your risks and how to prevent injuries.

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- Use cables, connection devices and fittings that are equipped with strain relief.

Equipment

Due to the dynamic, rugged nature of construction work, normal use of electrical equipment causes wear and tear that can result in insulation breaks, short-circuits and exposed wires. If there is no protection in place, an earth-fault can send current through your body.

When working with construction equipment:

- Always use Residual Current Devices (RCDs).
- Use double-insulated tools and equipment that are distinctively marked.
- Visually inspect all electrical equipment before use. Remove any equipment with frayed cables, cracked tool casings, etc from service.
- When the power supply to electrical equipment is not earthed or the path has been broken, fault current may travel through your body, causing electrical burns or even death. Even when the power system is properly earthed, electrical equipment can instantly change from safe to hazardous because of extreme current conditions and rough treatment.

General Tips

In addition, always follow these general precautions:

- Earth all power supply systems, electrical circuits and electrical equipment.
- Frequently inspect electrical systems to insure that the path to the ground is continuous.
- Avoid standing in wet areas when using portable electrical tools.



Serious Danger

Excessive electricity flowing through the human body can cause serious damage to internal organs. Resulting medical problems include internal bleeding, tissue destruction, and nerve or muscle damage. These internal injuries may not be immediately apparent to the victim or observers; however, left untreated, they can result in death.

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