

Farming Safely Around Electrical Power Lines



Elecsafe, a not-for-profit Electrical Safety Alliance, and the Farm Safety Association Inc., have collaborated to provide to you this electrical safety booklet. Please review it and share it with others. By making your family and workers aware of dangerous electrical situations, you can help prevent serious injuries or death.

Elecsafe's members care about your electrical safety. Visit www.Elecsafe.info for additional electrical safety information.

The Farm Safety Association's vision is the elimination of workplace injuries and illnesses. Visit www.farmsafety.ca for other safe work practices in the agricultural, horticultural and landscaping industries.

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Farming Safely around electrical power lines

A young farm worker tries to clear debris from an irrigation pipe. While trying to stand the pipe on its end, it contacts an overhead power line. The worker is electrocuted.

In another incident, a tractor is pulling an auger which is in the raised position. The auger contacts an overhead power line and the operator is electrocuted.

On average, in Ontario, there is one farm fatality each year involving electricity. Often these deaths are often the result of contact with overhead power lines.

Learn from the accidents of others to help prevent serious injury to yourself, your family and co-workers.

Be aware of the dangers of electricity

Electricity, like other forms of energy, can cause injury or death if it's not used safely. Contact with power lines can cause:

- Serious burns and crippling injuries
- Loss of hands and limbs
- Death

Though most of us do not like to think about the dangers of electricity, it's important to be aware – especially if your work environment can present a potential hazard.

Delivering electricity to you safely and reliably

Electricity is produced in various generating stations around the province. To move this high voltage electricity safely to consumers, bare metal wires called conductors are strung high up on towers and poles, well out of the reach of the average person.



Since electricity always seeks a path to the ground, the metal conductors on these structures are placed on porcelain or glass insulators to prevent this from happening (similar to a farm electric

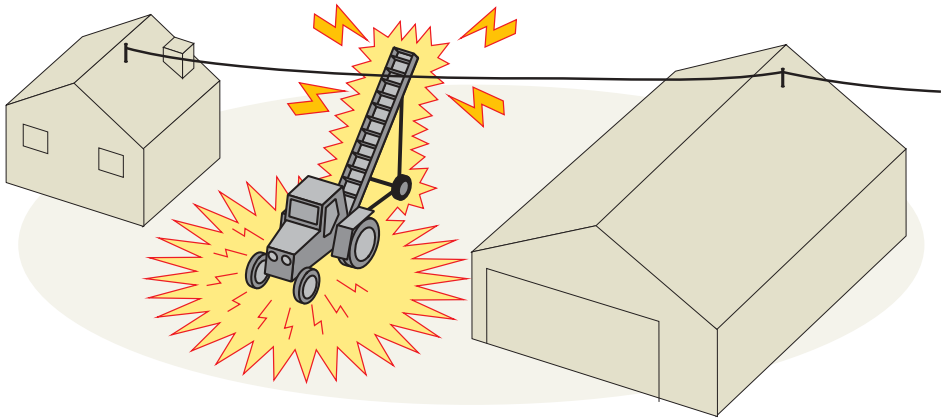
fence system). This ensures that electricity stays in the conductor and gets safely to you, the consumer.

In a similar way, the wiring in your house, barn and outbuildings is insulated with rubber or plastic. The insulation prevents leakage to the ground and protects you against accidental electrical contact.

Power lines on your farm

Some farms in Ontario have transmission power lines strung on towers or poles crossing the property. Most certainly, there will be a low voltage distribution line supplying electricity to your home and farm buildings. In some cases, there may be buried power lines on the farm.

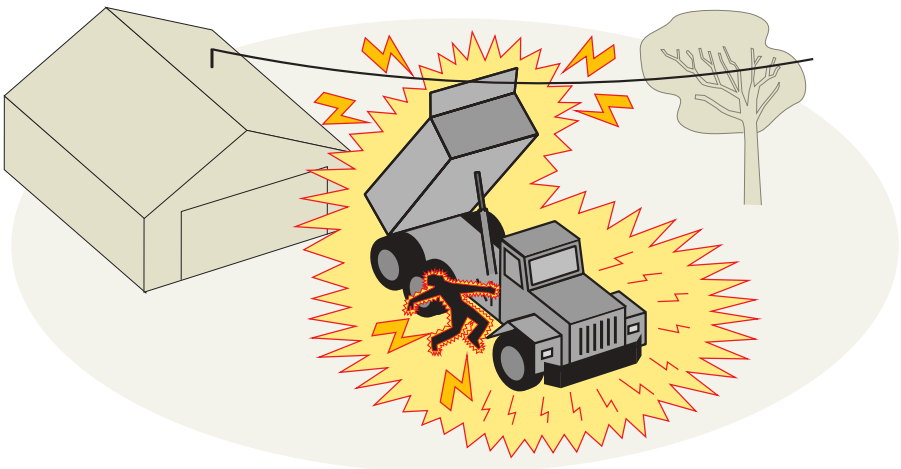
To help you farm safely near power lines, there are important electrical facts and principles you need to know and critical safety precautions to observe.



Always lower a portable grain auger before you move it, even if only a few feet.

Electrical facts to help you farm safely near power lines

- Most overhead power lines have no protective insulation. Any physical or equipment contact with them could be dangerous.
- Non-metallic materials such as lumber, tree limbs, tires, ropes, straw and hay, are capable of conducting electricity, depending on moisture content and surface contamination.
- Electricity always seeks the easiest and shortest path to the ground.
- You can be electrocuted by simply coming too close to a power line. Electricity can arc or “jump” between a wire and a conducting object, such as a ladder or a truck.



Do not approach a vehicle that is in contact with a power line. Stay at least 10 metres away.

- Always stay a safe distance away from power lines: three metres or more, especially for high-voltage lines.
- When people or objects touch or come too close to a power line, there is an instant flow of electricity through them to the ground.
- The flow of electricity through the human body can burn, severely injure or cause death. In fact, it takes less than one ampere of electricity to kill a person.
- When electricity flows into the ground, it can electrocute anyone who comes close. Stay at least 10 metres away from fallen wires. Also, if you see equipment or a person in contact with a power line, be aware that the ground may be electrified and be dangerous to bystanders.



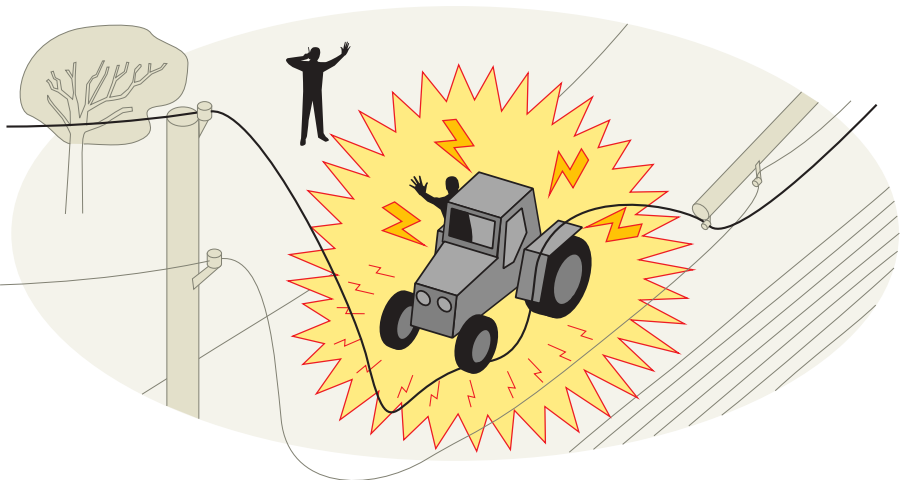
Why don't birds die when they rest on electrical wires?

Birds can rest on wires unharmed because they aren't in contact with the ground. When people accidentally contact power lines they are likely to be touching the ground and the wire at the same time. And, since electricity always seeks the most direct path to the ground, the person touching the wire can be electrocuted by the electricity that is travelling to the ground.

Learn from others' mistakes

In the past, farmers, their families and farm workers have been seriously injured or killed while performing the following outside activities:

- Moving farm machinery, hoppers, bins, sprayer booms, cultivator wings, grain augers, bale elevators, scaffolds and portable buildings into power lines.
- Touching power lines with tools.
- Clearing storm-damaged trees, limbs or other debris that are touching or are close to fallen power lines.
- Cutting down trees or pruning limbs that fall into power lines.
- Trying to move or relocate fallen electrical wires.



Don't leave the vehicle when there are fallen wires. Tell others to stay at least 10 metres away.

- Lifting power lines by hand or with lumber or farm tools when moving high loads or buildings under them.
- Raising or carrying ladders, poles, rods, irrigation pipes or eaves trough near power lines.
- Contacting power lines while installing or removing a TV or CB antenna.
- Raising dump truck boxes, front-end loaders, well digging equipment or farm equipment into power lines.
- Touching or standing close to equipment or its load that is in contact with power lines.
- Digging into underground power lines.
- Attempting to rescue a person in contact with live wires or equipment that is touching power lines.
- Improperly hooking up electric generators during a power failure.

Review your work practices near power lines. Ask yourself: could you or a worker be injured or killed while doing a similar task around your farm?

Train young workers and seasonal employees

Educate all workers about power line hazards. Always point out where they're located and remind workers about the importance of keeping a safe distance away, especially if they will be operating equipment or handling long objects.

Call before you dig

When planting trees, digging post holes, drilling a well, excavating for a foundation or other purpose, call your local utilities in advance for a cable-locate.

Prevent electrical accidents

Take a good look around your farm. Note the location of all power lines. Plan safe travel routes for large equipment. Remember, if you contact a power line, a serious or fatal accident could occur. Even allowing equipment to come too close to power lines is dangerous, as it may result in an arc with the same effects as a direct contact.

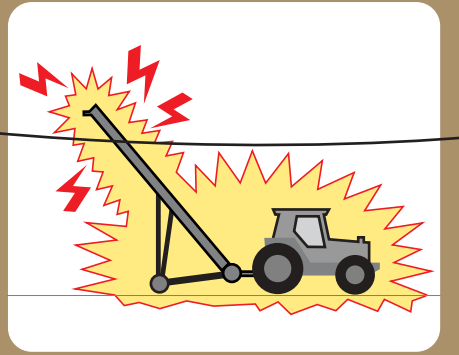
Use extreme care if equipment or objects in the proximity of overhead power lines must be moved. Watch the wires carefully and get someone to guide you if possible. Move equipment slowly and carefully, maintaining a safe distance of three metres from the power line. Maintain an even greater distance from high voltage transmission lines such as those that are 150,000 volts and higher.

What to do if equipment you're operating contacts a power line

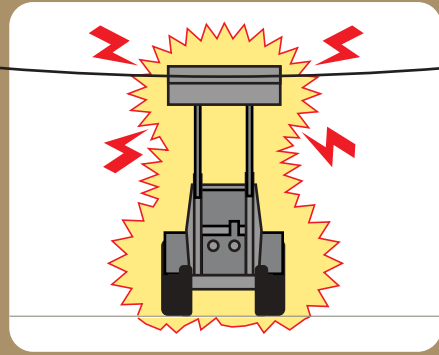
Be sure you and everyone else in your operation know what to do in an emergency.

- If equipment you are operating gets hung up on a power line, do NOT get off the machinery unless you are in immediate danger. If you touch the ground and the machine/equipment at the same time, then you'll become a path for the electricity to travel to the ground.
- If you must leave the machinery, jump about a half metre away from the equipment and land with feet together and arms close to the body. Keep your feet touching each other and shuffle 10 metres away from the machinery or the fallen wire. Don't go back for any reason and never get back on the machinery that is touching the power line until the utility company has safely disconnected and de-energized the line.

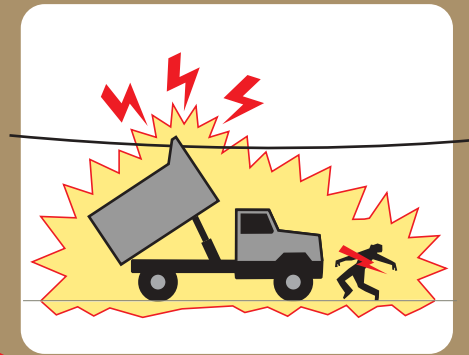
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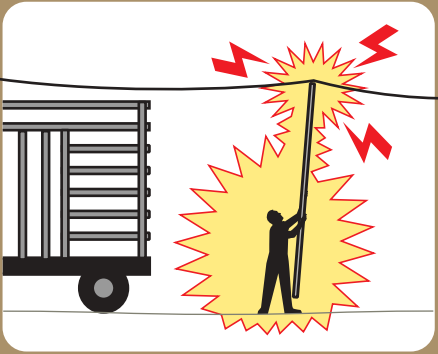
⚡ Always lower a portable grain auger before moving it.



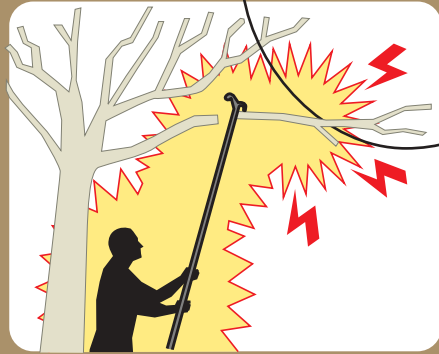
⚡ Keep at least three metres away from overhead power lines.



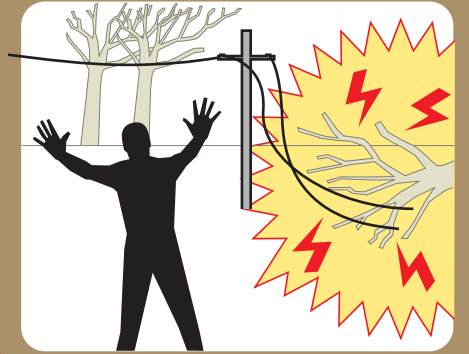
⚡ Don't approach a vehicle that is in contact with a power line.



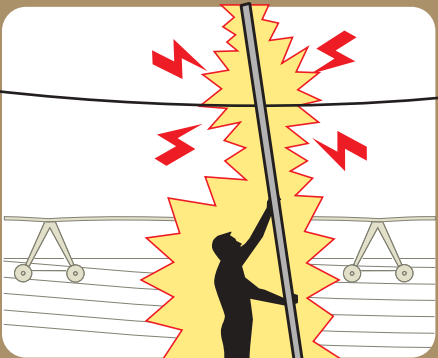
⚡ Never try to lift a power line.



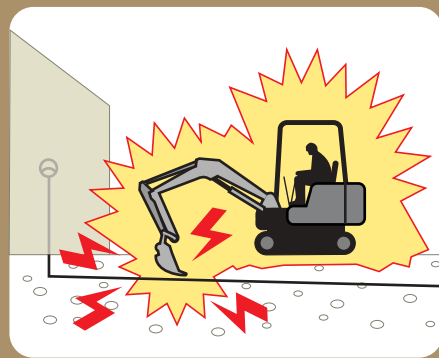
⚡ Trimming trees near wires is for qualified professionals only.



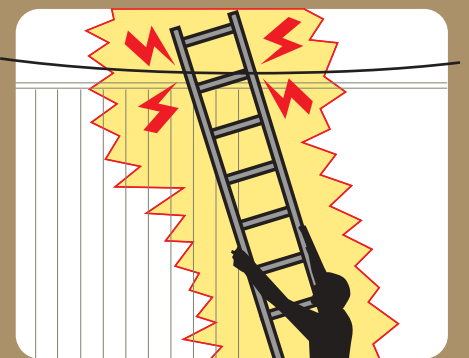
⚡ Stay ten metres away and report fallen lines immediately.



⚡ Never raise irrigation pipes without checking for safe distances from power lines.



⚡ Before you dig, locate the underground cables.



⚡ When using a ladder, look up to locate the power line.

This brochure was produced by Ontario's ElecSafe Alliance.

For additional copies contact the Farm Safety Association
at the website: **www.farmsafety.ca** or call **1.800.361.8855**.