

---

## Millwright electrocuted while using welding machine

Contact with live parts can cause severe burns to the body or fatal electrical shock. Such was the case with a millwright who suffered a fatal shock when attempting to disconnect the welder-supply cable. Because the work lead wasn't properly connected, stray welding current caused the failure of a bonding connection between the 600-Volt welder supply switch and its source of power, resulting in voltage being applied to the welder supply cable-bonding conductor, electrocuting the worker.

The work lead, often incorrectly referred to as the ground, in this case wasn't properly connected as close to the work area or welding location as required. As a result the stray welding current caused damage to the building's electrical system.

This accident was preventable. Canadian Standards Association, **W 117.2-01 Safety in Welding, Cutting and Allied Processes** suggested the following procedure and set-up;

- a) The work lead shall be connected as close as possible to the work area or the location being welded upon to ensure the welding current returns directly to the source through the work lead.
- b) The wire of the work lead cable shall be of equal or greater size than that of the electrode cable.
- c) All cables shall be free of damage or exposed conductor and shall not be longer than specified by the welder manufacturer.
- d) Electrical grounds connected to a building framework or other locations remote from the work area increase the possibility of output current passing through building systems. This passage of current through building systems can cause extensive damage to equipment and electrical circuits if the work lead isn't properly installed.

Care must be exercised when attaching the work lead. Failure to do so can result in an electrical shock.

Following safe work practices can prevent such occurrences. For further details and direction, please refer to the CSA document; W 117.2-01, Safety in Welding, Cutting and Allied Processes.