

Things to Remember

- Electricity always travels through the most conductive material available to it, even if that material is a human body.
 - It only takes around 70 to 100 milliamps to kill most people.
 - In the mechanical industry we are regularly exposed to considerably more current.

Avoid being the easiest path to ground by following these electrical safety guidelines:

Power Tools and Equipment

- Don't use defective power tools with defective cords, cracked casings or missing ground prongs.
- Check for double-insulation symbol  on tools with two-prong plugs. If there is no evidence of double-insulation, don't use it.
- Immediately remove defective equipment from service.
- Don't use extension cords with nicks, cuts or missing ground prongs.
- Make sure the extension cord you use is adequate for the job.

Use Ground Fault Circuit Interrupters (GFCIs)

- GFCIs sense changes in current; the circuit is automatically broken if as little as a 5-milliamp change is detected.
- Plug in a GFCI if the outlet you are using is not already GFCI-protected.

Working with Temporary Electricity

- Job sites with temporary electricity pose a number of hazards:
 - Wires may be hanging low overhead.
 - Outlets may not be grounded.
 - GFCIs may not be installed.
- Use a circuit tester to check that outlets are wired properly. Immediately inform your supervisor of any problems.
- Make sure portable generators in use are properly grounded.
- Use non-conductive ladders.
- Use extra caution with aerial lifts and mobile scaffolds near overhead wiring.

Working with Live Circuits

- When possible, shut off all power sources and lockout their switches before starting work.
- Make sure tools are properly insulated, and remove conductive accessories like rings, watches and key chains.
- Wear proper eye protection.

Working with Electric Arc Welders

- Make sure that the welding unit and the work are grounded.
- Always stay insulated from the circuit.
 - Make sure electrode holders and welding cables are well-insulated.
 - Make sure stinger leads are in good condition.
 - Arrange cables to keep the insulation from being damaged by sparks or hot slag.
 - Avoid touching electrodes with bare hands, even when changing electrodes.
- Whenever possible, avoid welding in damp or wet conditions.
- Never weld while standing in water.