Electric Tools – Grounds for Concern Meeting Kit

What’s At Stake

One of the big problems in understanding the dangers of electrical shock is the mistaken belief that only high voltages kill. It’s not the voltage that kills, but the amount of current that passes through the body. The condition and placement of the body has a lot to do with the chance of getting a shock.

What’s the Danger

RISKS OF POWER / ELECTRIC TOOLS

Power tools make work quicker, and require less physical effort from the user. However, with the benefits they bring also comes risk. Power tools are powerful, and when mistakes or accidents happen, they can be serious.

Power tools present hazards such as noise, vibration, electrical, moving parts and projectiles. They have the power to cause severe and even fatal injury if used incorrectly.

HOW TO PROTECT YOURSELF

CHECKLIST FOR SAFE USE OF POWER TOOLS

The Tool: The tool should be suitable for the job. Using the wrong tool for a task can create mechanical and electrical stress.

Check the power tool for faults before use and do not use a tool that has any defects such as damage to the casing or faulty switches.

Keep your tool maintained and tested in accordance with manufacturer’s instructions. Regular visual checks by the user and

more formal inspections should be in place.

Accessories: The right accessories should be used, not only for the tool but also for what you are doing with the tool. If you are cutting concrete, you need to use a blade or disc designed for cutting concrete, and not one for a softer material like wood.

Use the correct accessories and tool bits, as intended for the particular power tool. Keep accessories and tool bits in good condition, cutting tools should be sharp and clean.

The Environment: Hazards in the environment can include dust, fumes, gases, water, light and other restrictions.

Power tools should not be operated in explosive atmospheres as sparks may ignite dust or fumes. Checking the atmosphere, especially when using power tools in a confined space, may be necessary if there is any doubt.

Water entering a power tool will increase the risk of electric shocks and therefore should be kept out of the rain or wet conditions.

Plugs and Cables: Plugs and cables carry electricity to your tool and are exposed to the elements so can easily get damaged.

Cables trail along surfaces, while covered in a protective coating, they are still one of the most vulnerable parts of your tool. Dragging cables along the ground can easily cause damage.

Over-flexing of cables can also damage both the cable and plug connection.

Your power tool plug must match the outlet. Modifying plugs will increase the risk of electric shocks. Formal inspections should include checking plugs for signs of internal damage, overheating or water damage, and ensuring the plug is wired correctly with a suitable fuse.

Users should visually check plugs and cables before use. Make sure connections and covers are intact, and internal wires are not exposed.

The Battery: Recharge your battery only with the charger supplied by the manufacturer to avoid the risk of fire. Keep battery pack away from metal objects that could make a connection between battery terminals and short the battery.

Electrical Safety

One of the biggest hazards associated with power tools is electricity. Electricity can kill and even non-fatal shocks can cause severe and permanent injury.

Visual checks are important when using any type of power tool or portable electrical equipment.

Simple visual checks can identify if an electrically powered tool has become unsafe. For example, scorching, burn marks and staining are all signs that equipment is overheating and should be taken out of use. Damage to casings, covers, cables, and plugs are also signs of a problem.

Personal Safety: Users of power tools need to pay attention and concentrate on the activity and safe use of the tool, do not use when tired or under the influence of drugs or alcohol. A momentary lapse in concentration can result in serious injury.

PPE: Always wear appropriate PPE to protect you from the specific hazards presented by power tools, such as dust exposure and projectiles. PPE such as goggles, dust mask, gloves, hard hat, and safety boots should be worn.

BEST PRACTICES WHEN WORKING WITH ELECTRIC/POWER TOOLS

- Switch all tools OFF before connecting them to a power supply.
- Disconnect and lockout the power supply before completing any maintenance work tasks.
- Ensure tools are properly grounded or double-insulated. The grounded equipment must have an approved 3-wire cord with a 3-prong plug. This plug should be plugged in a properly grounded 3-pole outlet.
- Test tools for effective grounding with a continuity tester

or a Ground Fault Circuit Interrupter (GFCI) before use.

- Do not bypass the on/off switch and operate the tools by connecting and disconnecting the power cord.
- Do not use electrical equipment in wet conditions or locations unless the equipment is connected to a GFCI.
- Do not clean tools with flammable or toxic solvents.
- Do not operate tools in an area containing explosive vapours or gases.

FINAL WORD

Electricity literally and figurately has lit up and powered the world. But with all the advancement of mankind, there are many dangers and risks associated with the connection between electricity and the using of electric/power tools.