Using Portable Generators Safely

Portable generators are an invaluable resource at many jobsites. To keep them functioning properly and eliminate the danger they can present, it is important that you take the proper safety precautions.

The combination of the internal combustion engine and the power that it generates creates two unique sets of hazards, which need to be accounted for during operation.

Shock and Electrocution

While generators present the same hazards as any utility-supplied power source, they also create additional dangers because they lack some of the safety features found in hardwired electrical systems. To reduce shock and electrocution hazards, do the following:

- Never attach a generator directly to a building's electrical system. This requires a certified electrician and use of a transfer switch.
- Always plug appliances, tools or other machinery directly into the generator. If you need to use an extension cord, make sure it is grounded and in good repair.
- Do not overload a generator. This can cause overheating which creates a fire hazard.
- Use ground fault circuit interrupters, especially when using a generator in wet or damp environments.
- Make sure the generator is properly grounded before use.
- Always keep the generator dry. If necessary, use a barrier or canopy to protect it. Never operate a generator if either you or it is wet.

Carbon Monoxide Poisoning

Carbon monoxide (CO) is a colorless, odorless, highly toxic gas that is heavily concentrated in the exhaust of fuel-powered engines. In poorly ventilated areas, generator use can result in fatal CO poisoning. Remember the following:

- Make sure the generator has three to four feet of open space around it while running.
- Never use a generator indoors or in other enclosed spaces. Even in a garage with windows and doors open, CO can build up to unsafe levels.
- When outside, never place a generator by windows, doors or air intakes where CO could enter inside spaces.
- If you begin to feel the effects of CO poisoning—dizziness, headache, nausea, tiredness—get to fresh air immediately and seek medical attention. Do not reenter the area until it can be verified safe by properly trained and equipped personnel.

Fire Hazards

Generators become very hot while running and can remain hot for some time after they're turned off. Remember the following:

- Shut down and allow the generator to cool before refueling.
- Store fuel at a safe distance from running generators and other ignition sources.
- Only transport and store fuel in containers designed and designated for the purpose.

While generators are essential to many jobsites, they can also present a number of hazards.

Reduce the risk—follow safe work practices to prevent injury.



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