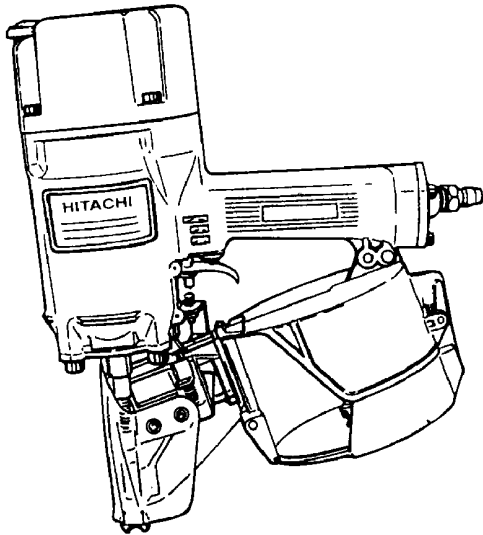


## **Bang-Bang, You're Dead**

**Greater Houston  
Chapter**



*Powder-actuated hand tools are very similar to handguns, and the projectiles they shoot can be as deadly as bullets. The human body doesn't differentiate between a staple and a bullet, particularly when they are rammed through the barrel of the hand tool or a pistol with a powder charge and forced into the victim's brain, heart, or other major organ.*

So who handles these powder-actuated hand tools on jobsite? Are they trained? Do they understand the damage these hand tools can create? This Safety Talk series will discuss the seriousness of mishandling certain hand tools and how to correct this situation.

### **Hazards, Hazards, Hazards**

- **Powder-actuated hand tools** include all portable equipment that requires a powder charge as the power source. These tools are necessary for fastening various building materials to concrete, masonry, and structural steel.
- **All powder-actuated hand tools** use powered loads (black cartridges) as an energy source. Two types of tools are used: direct acting and indirect acting. In a direct-acting tool, expanding gas of a power load directly drives the fastener. In an indirect-acting tool, the expanding gas of a power load acts on a captive piston to drive the fastener.
- **Powder-actuated tools** offer many advantages over earlier methods of manual and mechanical fastening, but they also pose certain hazards. Powder-actuated tools must be operated only by trained and licensed personnel wearing protective equipment, including eye and ear protection.
- **Only tools in safe working condition** should be used, and tools brought on site by employees must meet the same requirements as tools provided by the company. Be sure to comply with all manufacturers' instructions.

### **Accidental Discharge**

**Accidental discharge** of powder-actuated tools is guarded against in several ways:

- Tools require two separate and distinct operations to be actuated,
- All models must be held in close contact with the work and forcibly depressed against the work surface before they can be operated, and
- The firing pin will not make contact with the cartridge primer until the moment of firing.

**Fasteners expelled** against steel or concrete could ricochet. A guard or shield that cannot be removed without making the tool inoperative is required on the muzzle end of all standard-velocity tools. Standard-velocity tools cannot be actuated if the guard is tilted at an angle greater than 8 deg. from the work surface. A spall guard or stabilizer is provided with each low-velocity tool for use when fasteners are driven into materials that produce spall.

**In a combustible atmosphere**, firing the tool could ignite flammable vapors, explosive dust, or gases. Therefore, powder-actuated tools should not be used where flammable vapors, dusts, or gases are suspected until vapor tests indicate that an ignition source would not be dangerous.

## **Precautions**

**Safe operation** of powder-actuated tools requires knowledge and constant operator alertness:

- Use the tool only for its intended purpose.
- Use common sense and good judgement.
- Know the material being fastened and the base material being fastened into.

**Specific safety** precautions include:

- Operators and co-workers should always wear safety goggles.
- Use of hearing protection is recommended during use in confined areas.
- Never let bystanders gather around when you are using a tool.
- Never load the tool until ready to make a fastening.
- Always keep the tool pointed in a safe direction.
- Never carry a loaded tool from job to job.
- Do not alter a powder-actuated tool or attempt to repair it with anything but factory replacement parts.

**Other safety** precautions include:

- Tools should be stored unloaded in a locked container when not in use.
- Always check the chamber for foreign matter before loading.
- Never place your hand over the muzzle end of a loaded tool.
- Always check the color of each power load before inserting it into the tool chamber.
- In the event of a misfire, hold the tool firmly against the work surface for a period of 30 seconds and follow the manufacturer's instructions.
- Never carry fasteners or other metal objects in the same container, apron pocket, or parts pocket with power loads.

## **Safety Tips**

- Inspect tools daily before use.
- Use hand tools for intended use only.
- Proper adjustment and maintenance of guards is essential.
- Electrically powered tools and equipment should be 3-wire grounded.
- Do not use electric tools while standing in water.
- Always disconnect power tools from the energy source before making adjustments or changing attachments.
- Power tools should always be hoisted or lowered by hand lines, never by their electrical cords or air hoses.
- Powder-actuated tools must be operated only by trained and licensed personnel wearing protective equipment, including eye and ear protection.
- When placing sand, gravel or concrete with pneumatic hoses, always wear protective hand and face equipment.
- Powered chain saws must have an approved safety cutting chain.
- No one except the operator should be within a 6 foot radius of chain saws or other electrically charged hand tools.

- The disconnect switch for controlling electrically driven machinery should be in the off position and locked in place.

The primary safety tip for all powered hand tools and electrically driven hand tools is that all operators should be qualified by virtue of training, pre-qualification, and/or certification.

*So who handles these powder-actuated hand tools on your jobsite? Are you trained? Do you understand the damage these hand tools can create? The material that we've discussed in this Safety Talk outlined the seriousness of mishandling certain tools, and how to correct the situation. Be careful, please.*