



Weekly Safety Meeting

Your Safety Is Our Business®

Volume 2, Issue 51

December 20th, 2015

Powder-Actuated Tools

Whenever you operate a powder-actuated tool (PAT), safe work practices must always be followed. These tools are designed to drive nails or other fastening devices into material such as concrete, steel, and masonry, which are not easily penetrated. These devices use explosive charges similar to a firearm. Since the charge is similar to a firearm, powder actuated tools can “fire” nails and fastening devices into human flesh. Great respect for these tools and the safety precautions for them must be maintained.

Powder-actuated hand tools probably have as much safety built into them as practically any tools on the market. In addition, manufacturers usually provide complete instructions and training for safe operation of the tools. These two factors alone should make the use of powder-actuated tools a safe operation. However, there are other precautions that have to be taken.

To start with, only trained, certified, and authorized personnel who are checked out in correct usage and safety should operate powder-actuated tools. And only tools, shields, and fasteners that meet state safety standard requirements for hand tools should be used.

A powder-actuated tool operates like a loaded gun so it should be handled with the same respect and safety precautions. When a job calls for a PAT, be sure to choose the correct cartridge for the fastener being used, then load the tool just before you intend to use it, keeping your hands clear of the open barrel end. Never carry a loaded PAT from job to job and don't leave it unattended. As with a gun, always keep the tool pointed in a safe direction; never point it anyone.

Safety tips for powder-actuated tools:

The muzzle end of the powder-actuated tool must have a protective shield or a guard centered perpendicular to and concentric with the barrel to confine any projectile fragments and particles that could be launched when the tool is fired. If a tool has a high-velocity load, it must be designed not to fire unless it has this kind of safety device.

To prevent the powder-actuated tool from firing accidentally, tool designers developed these powerful tools with a protective feature that requires two separate motions which must be done to fire the tool. The first motion brings the tool into the firing position and the second motion pulls the trigger. The tool must not be able to operate until it is pressed against the work surface with a force of at least 5 pounds greater than the total weight of the tool.

If a powder-actuated tool misfires, the user must hold the tool in the operating position for at least 30 seconds before trying to fire it again. If it still will not fire, “Try it again, Sam!” Well, the part about holding it for another 30 seconds in the operating position. Then, instead of trying to fire it again, this time carefully remove the load according to manufacturer's instructions. Following this procedure will lessen the likelihood of the faulty cartridge exploding. The bad cartridge must then be put in water immediately after removal.

If the powder-actuated tool develops a defect during use, it should be tagged and taken out of service immediately until properly repaired by a trained technician.



Safe practices for powder-actuated tools:

- Before use, the operator must inspect to verify that the tool is clean, all moving parts operate freely, the barrel is free from obstructions, and correct shields, guards, or safety attachments recommended by the manufacturer are in place.
- NEVER point a powder-actuated tool at anyone, whether it is loaded or unloaded! Handle as you would a firearm.
- A powder-actuated tool should never be loaded until it is ready for use.
- Any defective or poorly working tool should be immediately removed from service and tagged as unsafe.
- Always wear proper personal protective equipment (PPE) when operating powder-actuated tools.
- Powder-actuated tools should not be used in areas where flammable or combustible atmospheres may be present – the tool is a source of ignition and could cause an explosion.
- When operating a powder-actuated tool, press and hold the tool firmly against the surface into which the fastening device is being driven.
- Never drive a fastener into a “spalled” or chipped surface, such as an uneven area where a previous fastening was unsatisfactory.
- Never shoot a fastener into a surface unless you are certain it will contain the fastener. Take time to examine both the surface and the object being penetrated to assure your safety as well as the safety of others. The fastener can pass completely through the material and turn into a flying projectile.

Safe operation of powder-actuated tools demands knowledge and the operator’s constant caution. There are too many recorded cases of innocent co-workers being severely injured when powder-actuated hand tool safety practices were disregarded. Before each use of a powder-actuated tool, a complete job hazard analysis of the task should be completed and only trained personnel allowed to operate the equipment.

Don’t get caught with your guard off...it could be disarming!!

