

Compressed Air Hazards

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Air compressors are commonly found in most all farm shops. Compressed air is used for a wide variety of tasks. However, the hazards of compressed air are usually ignored, or are not known by many workers. Air under pressure can be very hazardous and if it contacts your body it can cause serious injuries and even death. Air pressure at 12 pounds per square inch (psi) can dislodge an eyeball from its socket. Compressed air inadvertently blown into the mouth can rupture lungs, stomach, or intestines. Compressed air that hits the ear directly can cause permanent hearing loss. Air at 40 psi or greater can rupture the ear drum if it passes within 4 inches of the ear or less. A rupture such as this could lead to brain hemorrhage and death. The loud noise of compressed air can also cause hearing damage.

There have been cases of compressed air blowing into small cuts on hands and being forced under the skin causing shooting pains in the victim's arm. If there is dirt or other contaminants around the wound, or oil particles in the compressed air, these foreign objects get pushed into the person's body and cause dangerous infections. This is very similar to hydraulic high pressure injection injuries and will sometimes require amputation of infected body parts. In rare cases, compressed air can get into the bloodstream which can cause an air embolism and quick death.

Using compressed air for cleaning is a dangerous practice. In addition to causing particles to be blown around at high speeds, this practice can create a lot of dust, which can be a respiratory hazard. It is much safer to use brushes or a vacuum to clean equipment. OSHA (Occupational Safety and Health Administration) law allows the use of compressed air to clean equipment, but only when the pressure is reduced to less than 30 psi and then only with effective chip guarding and personal protective equipment (29 CFR 1910.242(b)).

Here are some basic safety precautions to follow when working with compressed air:

- Never point an air hose at anyone, even yourself. Treat it as if it was a loaded gun.
- Never, under any circumstances, use compressed air to clean your clothes or body.
- Never engage in horse play with an air hose. Horse play has caused serious injuries from compressed air. Clothes offer no protection against compressed air.
- If you do use compressed air for cleaning, wear good eye protection. This would include safety goggles or safety glasses with side shields.
- If cleaning with an air nozzle, make sure it has a proper nozzle to reduce the pressure to 30 psi or less. Use shields to contain the debris. Check to see that other workers are out of the area.

- Before using, check all components for damage or wear. Make sure connections are tight and hoses are in good condition.
- Keep air hoses off the floor. This reduces tripping hazards and damages to the hose. Air hoses left on the ground can be damaged by dropped tools, vehicles, etc.
- Before you disconnect an air line, shut the air off and then bleed the remaining air out of the line.

While working on your equipment this winter, make sure that you use compressed air safely. Take the time to train your family members or workers on the hazards associated with compressed air. As always, NYCAMH is available to provide safety training at New York farms on any agricultural safety topic. These services are offered at no cost by a grant from the New York State Department of Labor Hazard Abatement Board. For more information, please contact Jim Carrabba, Agricultural Safety Specialist at (800) 343-7527 extension 239, or e-mail jcarrabba@nycamh.com. NYCAMH, a program of Bassett Healthcare Network, is enhancing agricultural and rural health by preventing and treating occupational injury and illness.