Air Compressors – Air Tools Field Training

Air compressors come in a variety of sizes and in our work, we tend to use the large pull behind a vehicle type. These air compressors can create a very high volume and pressure of air and are suited best for jackhammer work and other tasks that use tools requiring large volumes of air. Unfortunately, they come with a high degree of risk for safety. OSHA covers air compressors in several standards where air actuated tools are addressed.

Keep in mind that you should never use air tools without hearing protection. Ear plugs should always be worn. Air compressors are loud and so are the tools.

Always wear eye and face protection. Chipping hammers and jack hammers can eject pieces of concrete and slag at extremely high speeds. These pieces of debris can cut the skin easily and will certainly damage the eyes.

Air pressure can cut your skin, it can also inject air into the skin or flesh. If air is injected into the skin, it can work its way to the blood stream and end up in the brain causing death or severe injury.

OSHA Letter of interpretation 1-1994

Under no circumstances should employees use compressed air to clean off clothing or any part of their body. Pressures as low as 5-10 psi have been known to cause serious injury. Air pressure when used to clean should only be used to clean objects and not people.

OSHA 1926.301 (b)(1)

All hose and tool connectors must be attached with a locking clip. When we connect a hose or tool, we typically use a crowfoot connector. Those connectors have a hole in each side that lines up so a clip can be used to secure the two sides of the connector. If you do not have a clip locking the two parts you are in violation of OSHA regulations.

OSHA 1926.301 (b)(2)

All air operated tools like chipping hammers, drills and jack hammers have positive locks in place on the tool to hold the bit or chisel. This keeps the bit or chisel from being thrown out of the tool by the high pressure or impact of the tool. If this positive lock is not operating properly the tool must be tagged out and not used.

OSHA 1926.302(b)(4)

Compressed air will not be used for cleaning purposes unless it is reduced to 30 PSI or below. And then only when PPE is in place to protect the user and those around the area from flying debris. Using an air compressor to clean sidewalks, curb and gutter, or other areas is not acceptable unless the air pressure is regulated to 30 PSI or lower. Even at that point you must

protect pedestrians and other workers from flying debris. **You cannot blow dust or debris off your skin or clothes under any circumstances.**

OSHA 1926.302(b)(5)

All hoses, valves, tools, filters, and fittings must be checked to ensure the proper PSI of air pressure is being used. You are required by OSHA to check the manufacturer's information to ensure you are not using tools and other attached items at a pressure that is too high. Not following proper pressure use could cause failure in the tool or hose.

OSHA 1926.302 (b)(6)

Never lift or hoist a tool using the hose. If you are pulling a chipping hammer or any other tool up to where you are going to work, use a rope or line. Never pull on the hose. If a fitting or a hose is designed to operate at let's say 100 PSI and you pull on it, you could be increasing the pressure on the item exceeding its allowed tolerance.

OSHA 1926.302 (b)(7)

If you are using a hose that is ½ inch inside diameter or more, you must have a device attached to the service outlet that reduces pressure in case of a hose, connector, or tool failure. What this is saying is if a hose breaks or a fitting comes off, that hose is going to fly around and could hurt someone. Having a pressure reducer at the source outlet reduces the pressure so no one gets hit with the hose. Under ½ inch ID, you are not required to have a reducer.

OSHA 1926.302 (b)(10)

An air blast cleaning tool or what we typically call sand blasting tools must have a valve at the nozzle end. This special valve requires the operator to manually open it to release the air. When the operator turns loose of the valve it must close automatically.

The problem we see most often in the field is employees using air without locking clips on the air hose connector or tool connector.

Occasionally we will see where a hose was cut, and the connector was reinstalled using a water hose clamp. This is against OSHA regulations. You must use a mechanical "AIR" hose clamp designed for that purpose.

We use air so often at work that we often forget how dangerous it can be.

GT2023