Air Compressor Care and Safety

AR Training

DMME

Division of Mineral Mining

Updated 2012

Caring for the Compressed Air System

- Using pneumatic tools/equipment requires an efficient, safe compressor system to adequately supply air.
- Basic guidelines should be followed to insure efficient and continued operation of the compressor.

Compressor System Guidelines

1. Before making or breaking any air connection, always turn off the air supply. Use the valve to turn off the air. Never kink the hose as a shortcut! Kinking the hose may damage or even rupture the air hose.
2. Protect the air hose from damage. Move it out of the way of vehicles so that it isn't run over. Also, be sure not to drag hoses around sharp corners.
3. Be sure to use the proper size air hose and fittings to keep air pressure at a maximum throughout the entire line. Most manufacturers recommend 90 psi at tools.

Compressor System Guidelines

4. To ensure the best connection, clean any dirt off the nipple before connecting the air hose to the tool.
5. When the tool is connected, check the hose and all connections for leaks or damage before using the tool.
6. Maintain a clean, dry, regulated source of air to operate air tools/equipment at peak performance. Filters, regulators, and lubricators should be used to keep the air system working at its best.

Contaminates in the System

- The most common problem is water in compressed air.
- All air contains a certain amount of moisture and impurities which can cause problems when it condenses in the air. Condensed water vapor and dirt left in the air line may result in the following problems:
  - Sluggish tool operation, and more frequent repair and replacement of parts.
  - Poor results in spraying and other types of finishing work
  - Washing away of required lubricants.
  - Moisture left in lines exposed to cold weather may freeze and obstruct proper air flow.

DMM Regulations For Safe Use And Repair

• Air Compressors shall be equipped with automatic temperature activated shutoff mechanisms set for 400 degrees F or with fusible plugs installed in the compressor discharge lines as near the compressor as possible. Fusible plugs shall melt at temperatures 50 degrees F less than the flash point of the lubricating oils.

Proper Installation

- Compressors and compressed air receivers shall be equipped with automatic pressure-release valves, pressure gauges and drain valves.
- Compressor air intakes shall be installed to ensure that only clean, uncontaminated air enters the compressors.

Proper Maintenance

- Compressors shall be operated and lubricated in accordance with the manufacturer's recommendations
- Compressed air receivers shall be drained of moisture, oil or carbon buildup in accordance with the manufacturer's recommendations.
- Compressor discharge pipes shall be cleaned periodically.
- Safety devices on compressed air systems shall be checked daily by the operator or his agent.

Repairs

- Repairs involving the pressure system of compressors, receivers or compressed air powered equipment shall not be attempted until the pressure has been bled off.

Proper Use

- Safety chains or suitable safety devices shall be used at connections of high pressure hose lines of ¾ inch inside diameter or larger.
- At no time shall compressed air be directed towards a person unless a diffuser limiting pressure to no more than 30 psi is used.

Inspections

• Pressure vessels shall be inspected by an inspector certified by the Virginia Department of Labor and Industry at the time periods specified in the Boiler and Pressure Vessel Regulations. Records of such inspections shall be kept.

• Compressors and related tools and equipment are subject to pre-shift and pre-operational inspections as may be appropriate.