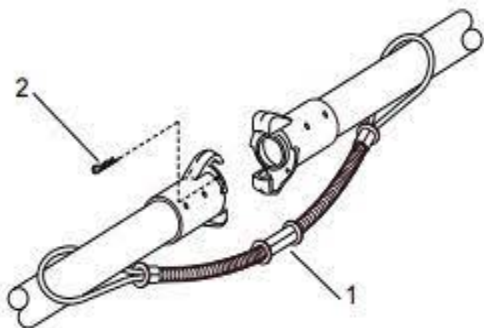




COMPRESSED AIR HOSE - WHIP CHECKS BEST PRACTICES



A worker was struck on the head by a compressed air hose that blew off its fitting on a piece of equipment. He received serious head injuries, which proved fatal. The air hose was held by a hose clamp on the fitting with no keeper or restraining chain to prevent the hose from thrashing around.

Compressed air is a dangerous form of energy, and it is used widely in public works and utility operations. Mishandled and uncontrolled compressed air can produce more serious results than higher-pressure but uncompressed fluids.

Couplings are used to connect/disconnect hoses and/or pipes with one another or with a fixed point or installation on pumps and compressors. They are available in various materials like carbon steel, aluminum, stainless steel, brass, polypropylene, and malleable iron. There are several different types of hose couplings:

- Cam-lock Coupling
- Quick Release Coupling
- Chicago (Universal) Coupling

When a pressurized fluid suddenly releases, it does so with explosive force and can cause rapid hose whip, which can do serious physical harm to personnel or damage to nearby objects. Correct installation of a properly sized whip-check safety cable helps ensure the safety of air hose joints even in the event of a catastrophic failure.

Questions for Discussion:

1. *What are the hazards of compressed air?*
2. *How can they be controlled?*
3. *Describe how you would prevent hose end whipping should a hose or coupling fail.*

Precautions when Working with Compressed Air

1. A regular survey should be carried out of all compressed air-powered equipment to assess the integrity of the couplings, clamps & hoses & immediate corrective action should be taken when necessary.
2. Restraining devices such as chains, slings, and whip-checks should be installed on all large-diameter or high-pressure (>30 PSI) compressed air hoses to prevent them from thrashing about in the event of a hose or coupling failure.
3. Ensure all connections, hose to the compressor, hoses to hose, and hose to the tool, are fitted with whip-checks before use.

Show your audience a sample whip check or the securing devices that you expect them to use.

The whip check is used to restrain the movement of the pressurized hose should it become uncoupled, thereby allowing operators to get away and safely shut the system down. The whip check can be attached at any point where two hoses are joined, to a pump's discharge side, or where a hose attaches to any piece of equipment. Pictured here are two typical whip check types, one is nylon with rubber cinch bands, and the second is the stainless steel tension model.