

NIOSH ALERT

Preventing Worker Deaths from Uncontrolled Release of Electrical, Mechanical, and Other Types of Hazardous Energy

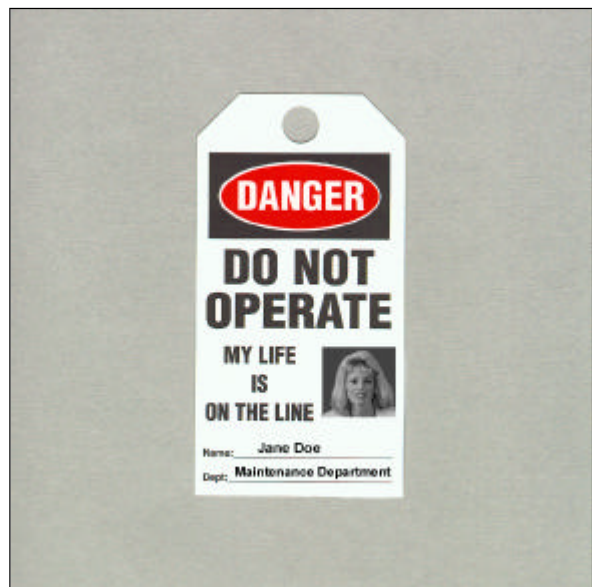
WARNING!

Workers who install or service equipment and systems may be injured or killed by the uncontrolled release of hazardous energy.

Take the following steps to protect yourself if you install or service equipment and systems:

- Follow OSHA regulations.
- Identify and label all sources of hazardous energy.
- Before beginning work, do the following:
 1. De-energize all sources of hazardous energy:
 - Disconnect or shut down engines or motors.
 - De-energize electrical circuits.
 - Block fluid (gas or liquid) flow in hydraulic or pneumatic systems.
 - Block machine parts against motion.
 2. Block or dissipate stored energy:
 - Discharge capacitors.
 - Release or block springs that are under compression or tension.
 - Vent fluids from pressure vessels, tanks, or accumulators—but never vent toxic, flammable, or explosive substances directly into the atmosphere.
 3. Lockout and tagout all forms of hazardous energy—including electrical breaker panels, control valves, etc.
 4. Make sure that only **one key** exists for each of your assigned locks and that only you hold that key.

5. Verify by test and/or observation that all energy sources are de-energized.
 6. Inspect repair work before removing your lock and activating the equipment.
 7. Make sure that only you remove your assigned lock.
 8. Make sure that you and your co-workers are clear of danger points before re-energizing the system.
- Participate in all training programs offered by your employers.



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Only the worker who installs a lock and tag should remove them after work is complete and inspected.

For additional information, see ***NIOSH Alert: Preventing Worker Injuries and Deaths from Hazardous Energy Release*** [DHHS (NIOSH) Publication No. 99-110]. Single copies of the Alert are available free from the following:

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