

Lockout/Tagout Machine Safety

A lockout/tagout (LOTO) program helps protect employees from unexpected activation or release of energy from machinery or equipment during maintenance, repair or cleaning. Locks and tags are most effective when used together. The lock is used to prevent unintended activation; only the individual who applies the lock should have the key or combination. The tag is used to indicate the responsible party, the purpose for de-energization, approximate duration, and contact information.

Tool Box Tips

HARDWARE AND GUIDELINES

Hardware includes locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners and other devices used for isolating, securing or blocking machines from energy sources. Devices must be:

- Singularly identified; the only device used for controlling energy and not used for other purposes.
- Capable of withstanding the environment for the maximum period of exposure time.
- Constructed and printed so exposure to weather conditions will not cause the tag to deteriorate and become illegible.
- Constructed so the tag will not deteriorate in a corrosive environment.
- Standardized by one of the following criteria: color, shape or size.
- Substantial enough to prevent removal with the use of excessive force or bolt cutters.
- Substantial enough to prevent accidental removal.

LOCKOUT/TAGOUT STEPS

Conduct an equipment survey to locate and identify all energy isolating devices to be locked or tagged out. More than one energy source (electrical, mechanical, hydraulic, pneumatic, chemical, thermal)

may be involved. Train all operators in equipment lockout/tagout procedures, and the type and magnitude of energy the equipment uses.

1. If the machine or equipment is operating, shut it down by the recommended stopping procedure.
2. Isolate the equipment from all energy sources.
3. Stored energy under pressure (ex. From springs, hydraulic systems, water pressure) must be dissipated or restrained by methods such as repositioning, blocking or bleeding down.
4. Use the energy isolating devices with assigned individual locks and/or tags.
5. With no employees exposed, test the lockout procedure by testing the operating device. Return operating controls to neutral or off position after the test.
6. The equipment is now locked out.
7. Mark the tag with name and date.

MACHINE POWER RESTORATION

1. After servicing is complete and equipment is ready for normal operations, check the area around the machines to ensure no one is exposed.

2. Remove all tools, reinstall guards and ensure employees are safe from operation. Then, each affected employee should remove their lockout or tagout devices.
3. Operate the energy isolating devices to restore energy to the equipment.

MAINTENANCE WHEN ENERGY SOURCE CANNOT BE LOCKED

If you must perform maintenance, repair, servicing or adjusting on equipment and cannot disconnect the energy source, the following conditions must be met:

- The operating station (ie. External control panel) is under the control of a qualified operator.
- Employees are in clear view or communication with each other.
- All employees must be out of the area of hazard.
- Machine elements are locked out separately if the operator is required to leave the control station to install a tool.
- The machine shall be de-energized during adjustment or replacement of mechanical components.

These advisory materials have been developed from national standards and sources believed to be reliable, however, no guarantee is made as to the sufficiency of the information contained in the material and Missouri Employers Mutual Insurance Company assumes no liability for its use. Advice about specific situations should be obtained from a safety professional.

Energy Control Procedure Form

Lockout/Tagout

MACHINE: _____
(type, manufacturer, model and serial number)

LOCATION: _____

ENERGY SOURCES AND LOCATION OF ENERGY ISOLATING DEVICES:

- 1. _____
- 2. _____
- 3. _____
- 4. _____

AUTHORIZED EMPLOYEE(S): _____

AFFECTED EMPLOYEE(S): _____

QUALIFIED EMPLOYEE(S): _____

PROCEDURE DEVELOPED ON: _____ BY: _____

SPECIFIC PROCEDURE FOR THIS EQUIPMENT IS AS FOLLOWS: _____

Annual Inspection Certification Form

Lockout/Tagout

MACHINE: _____
(type, manufacturer, model and serial number)

INSPECTOR: _____ DATE: _____

EMPLOYEES CONSULTED:

- _____
- _____
- _____
- _____

RESULTS OF INSPECTION: _____

SIGNATURE OF INSPECTOR: _____ DATE: _____

SIGNATURE OF SAFETY DIRECTOR: _____ DATE: _____