Lockout/tagout
Authorized employees

Types of employees
Employers authorize certain employees to bypass guards and enter the machinery’s point of operation to perform tasks.

1a

Types of employees
Authorized employee: A person who locks out or tags out machines to perform servicing or maintenance on the machines.

1b
Types of employees

Affected employee:
• An employee responsible for operating the equipment
• An employee who works in the area

Types of employees

Authorized employees must:
• Understand role in controlling energy
• Ensure that affected employees are informed

Types of employees

Authorized employees must:
• Understand energy control program
• Be able to recognize:
  • Hazardous energy sources
  • Type and magnitude of energy available
  • Methods and mean to isolate and control energy
**Lockout definition**

Process of preventing the flow of energy
- Consists of installing a lock, block, or chain
- Requires an authorized employee to apply/remove lock

**Tagout definition**

Process of placing tag on power source
- Tag acts as a warning
- Tag must clearly state "Do not operate"
- Tag used when machine won't accept lock
- Tag must be applied/removed by an authorized employee

**Hazardous energy sources**
- Electrical
- Mechanical
- Pneumatic
- Hydraulic
Hazardous energy sources

- Chemical
- Thermal
- Water under pressure
- Gravity
- Potential energy

Energy control program

- Energy control procedures
- Employee training
- Periodic inspections

Energy control program

Energy control procedure includes:

- Intended use of the procedure
- Specific steps to control hazardous energy
- Specific requirements for verification
Energy control program

- Each type of machine needs its own LOTO procedure
- Lockout must be used unless device cannot be locked out
- Tagout must be used when unable to lockout

Work activities

- Constructing
- Installing
- Setting up
- Adjusting
- Inspecting
- Modifying
- Repairing
- Cleaning equipment

Prepare for shutdown

Procedures for controlling energy:
- Prepare for shutdown
- Shutdown
- Isolate equipment from energy
- Apply lockout or tagout device
- Release of stored energy
- Verify isolation
Prepare for shutdown

Step one:
• Know the type and magnitude of energy
• Know the hazards of energy
• Know the methods or means to control it

Shutdown

Step two:
• Turn off equipment using normal controls
• Use orderly shutdown

Isolate equipment

Step three:
• Isolate equipment from energy sources
• Secure lock to energy isolating device
Apply devices

Step four:
- Notify affected employees
- Attach lockout/tagout devices

Apply devices

- Only authorized employee can attach or remove lockout and tagout devices
- Devices must be durable
- Devices must identify person who applied them

Release stored energy

Step five:
- Relieve stored energy
- Verify machine isolation from energy
**Release stored energy**

Steps to release stored energy:
- Relieve pressure in compressed air line
- Insert a block

**Verify isolation**

Step six:
- Verify machine is deenergized
- Verify machine is isolated

**Lockout devices**

- Authorized employee must have own device
- Device must be used to control energy only
Lockout devices

Devices could be:
- Locks
- Tags
- Chains
- Wedges
- Key blocks
- Adapter pins
- Self-locking fasteners

Lockout devices

Devices must have the following qualities:
- Be durable
- Be standardized in color, shape, or size
- Be substantial enough to prevent removal

Tags

Tags must have the following qualities:
- Be durable
- Be standardized in print and format
- Be substantial enough to prevent removal
- Be one-piece, environmental tolerant
- Include warning statements
Group lockouts

- Each authorized employee must affix a personal lockout or tagout device
- Each authorized employee must remove the device when work stops

Shift changes

- Lockout/tagout protection must be continuous
- Lockout/tagout protection must have an orderly transfer between employees

Device removal

- Lockout or tagout device must be removed by the authorized employee who applied it
- Device may be removed under direction of employer if authorized employee unavailable
Device removal
Steps employers must take before removing a lock or tag:
• Verify that authorized employee who applied lock is not at the facility
• Take all reasonable efforts to contact the authorized employee

Restoring energy
• Inspect work area
• Ensure employees are safe
• Notify affected employees