



# Lockout / Tag-out / Block-out

Revised July 2019

Failure to lockout, tag-out, and block-out (LOTO) machinery before working on it is a major cause of serious injuries and deaths. Workers can be electrocuted, suffer severe crushing injuries, and lose fingers, hands, and arms because machinery is inadvertently turned on while it is being cleaned, repaired, serviced, set-up, adjusted, or unjammed.

How to use this tailgate/toolbox topic: *Red italics indicate where you must customize this tailgate meeting to cover the particular types of equipment and conditions that your employees will encounter.*

## Hazardous Energy Control Procedures

- Employers must develop hazardous energy control procedures for employees who clean, repair, service, set up, unjam, or adjust machinery or equipment. Separate step-by-step procedures are required for each type of equipment.
- Only trained, authorized employees are allowed to conduct these procedures. *Discuss where employees can access the detailed procedures.*

## Cleaning, Servicing, and Adjusting Operations

- Unless the equipment must be capable of movement to be cleaned, serviced, or adjusted, the power source must be de-energized or disengaged and the movable parts of the machine locked or blocked to prevent movement or release of stored energy. *Discuss how this will be done for each piece of equipment and the actual power sources (e.g., electrical, mechanical, hydraulic) employees will encounter.*
  - Electrical power must be de-energized at the circuit breaker, not just at the shut-off or emergency stop.
- For equipment that must be capable of movement to be cleaned, serviced, or adjusted, *describe how training and extension tools or other methods will be used to minimize the hazards.*
- *Discuss how accident prevention signs or tags will be placed on the power source controls.*

## Repair Work and Set-Up Operations

- Power-driven equipment and machines with lockable controls must be locked out or sealed in the “off” position. *Describe your equipment-specific procedures.* Where controls are not lockable, *describe the positive means that will be used, such as de-energizing or disconnecting equipment, to prevent movement or release of energy.*
- *Discuss how accident prevention signs or tags will be secured to the controls of the equipment.*

## Group Lockout/Tag-out for Servicing and Maintenance

- *Review the site-specific group lockout procedures and how they are as protective as using a personal lockout device. Discuss the need for and responsibilities of the authorized person(s) in charge of group LOTO (e.g., responsible for a set number of employees, assessment, coordination, ascertaining the exposure status of each employee in the group).*

## Shift and Personnel Changes

- *Review the hazardous energy control procedures to be used during shift changes to ensure continuity of LOTO protection.*

## Materials and Hardware

- *Describe how employees will be provided LOTO equipment (e.g., accident prevention signs, tags, padlocks).*
- *Discuss how signs or tags must be readily secured to the controls and how tags are designed so that they cannot be reused, are attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of at least 50 pounds.*

## Repetitive Process Machines

The following precautions must be taken if a repetitive process machine requires power to maintain indexing, and repairs, adjustments, testing, or set up cannot be done with the hazardous energy source disconnected:

- The operating station must at all times be under the control of a qualified operator who is in constant communication with or in view of all the participating workers. *Designate the qualified operators and how communication will be maintained with all participants.*

- All participants must be beyond the reach of machine elements that may move rapidly. *Discuss how this will be ensured for each machine.*
- Machine elements that can move rapidly must be separately locked out if the operator must leave the control station to install tools.
- The machine must be de-energized and disconnected from the power source when repair procedures require adjustment of mechanical components.

### Periodic Inspections

*Discuss the findings of the most recent evaluation of your energy control procedures.*

### Outside Servicing Personnel

*Discuss how you will ensure that outside servicing personnel follow your LOTO procedures.*

### Discussion Questions

- Who is authorized to perform LOTO?
- Do you have any questions or concerns about how to lock out or block out the machinery in this shop?
- Are there times when you are not sure whether to lock out or block out?
- When are workers most likely to fail to lock out or block out the machinery?
- What particular problems have you encountered?
- Do you have any suggestions for improvement?

#### Disclaimer

This information is not meant to be either a substitute for or legal interpretation of the occupational safety and health regulations. Readers must refer directly to [title 8 of the California Code of Regulations](#) for details regarding the regulation's scope, specifications, and exceptions and for other requirements that may apply to their operations.

The requirements for lockout/tag-out/block out are set in [Title 8, California Code of Regulations, section 3314 \(The Control of Hazardous Energy for the Cleaning, Repairing, Servicing, Setting-Up, and Adjusting Operations of Prime Movers, Machinery and Equipment, Including Lockout/Tag-out\)](#).

The exceptions to section 3314(c) and (d) are not covered here. The tailgate meeting needs to address any machines that meet the exceptions and how employees will be protected, as per section [3314](#).

This document only covers [section 3314, Article 3](#) of the Low-Voltage Electrical Orders and [Article 36](#) of the High-Voltage Electrical Safety Orders contain additional work and operating procedures.

#### Resources

[Title 8, California Code of Regulations](#): [www.dir.ca.gov/Title8Index/t8index.asp](http://www.dir.ca.gov/Title8Index/t8index.asp)

[Low Voltage Electrical Safety Orders – Work Procedures](#)

[High-Voltage Electrical Safety Orders – Work Procedures and Operating Procedures](#)

Section [3314](#), The Control of Hazardous Energy for the Cleaning, Repairing, Servicing, Setting-Up, and Adjusting Operations of Prime Movers, Machinery and Equipment, Including Lockout/Tagout

[Cal/OSHA Publications](#): [www.dir.ca.gov/dosh/PubOrder.asp](http://www.dir.ca.gov/dosh/PubOrder.asp)

Cal/OSHA Consultation Service: 1-800-963-9424; [InfoCons@dir.ca.gov](mailto:InfoCons@dir.ca.gov);

[www.dir.ca.gov/dosh/consultation.html](http://www.dir.ca.gov/dosh/consultation.html)

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