

# HAZARD ALERT

CPWR  
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RESEARCH AND TRAINING

# Lockout/Tagout



## What is Lockout/Tagout?

Lockout/Tagout (or LOTO) makes sure that equipment does not start up or move without warning during maintenance and service work.

▶ A lockout device is a key or combination lock that prevents equipment from turning on or moving unexpectedly.



A machine being locked and tagged out.

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▶ A tagout device is a tag securely attached to the equipment using, for example, a self-locking nylon cable. The tags say "Do not start" or "Do not operate." Tags should be used along with a lockout device unless the equipment cannot be locked out.

The person who puts the lock or tag on the equipment is the only one who can take it off.

## Why is LOTO important?

When LOTO procedures are **not followed**, workers that clean, service, repair, install, set up, erect, adjust, inspect, un-jam, test, or dismantle equipment are at risk for serious injuries or death from:

- ▶ Electrocution,
- ▶ Burns,
- ▶ Being crushed, or
- ▶ Amputation (e.g., loss of a finger).

For example, a 30-year-old elevator repairman was crushed and died while working in an elevator shaft because the power to the elevator had not been locked out.<sup>1</sup>

**Following LOTO procedures prevents roughly 120 deaths and 50,000 injuries each year.<sup>2</sup>**

## Learn more about how to work safely:

Scan this QR code to learn about OSHA's **LOTO requirements**:



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*Safety director checking to make sure lockout procedures were followed.*

Scan this QR code to access life-saving **LOTO procedures**:



## Before Work Begins:

### 1 Your employer should...

- ▶ Explain the LOTO procedures. Every employer should have a LOTO program.<sup>3</sup>
- ▶ Show you how to shut down and restart the equipment.
- ▶ Provide training on how to use LOTO devices.



Examples of LOTO devices

### 2 Recognize the hazard...

Energy comes in many forms, and almost all types can be found on a construction worksite. LOTO prevents the unexpected release of energy. Identify all of the energy sources for the equipment you are working on or around.

Energy Types:	Examples:
<b>Chemical</b>	Gasoline-powered heavy equipment, propane, wet and dry cell batteries
<b>Electrical</b>	Electrical circuits, temporary power
<b>Gravitational</b>	Objects supported by cranes and hoists
<b>Hydraulic</b>	Hoses on excavators, backhoes, rough terrain forklifts
<b>Mechanical</b>	Tools with blades and moving parts
<b>Pneumatic</b>	Compressed air-powered rammers, rock drills, jackhammers and nailers

Source: Oregon OSHA Guide to Controlling Hazardous Energy: <https://osha.oregon.gov/OSHA-Pubs/3326.pdf>

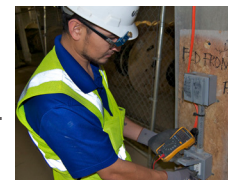
### 3 Follow procedures...

#### ALWAYS:

- ▶ Disconnect equipment from energy sources.
- ▶ Prevent equipment parts or materials from moving due to gravity.
- ▶ Lock out and/or tag out equipment that needs to be serviced.
- ▶ Test to make sure the energy is off.
- ▶ Tell other employees when you are about to shut down or restart a machine.

#### NEVER:

- ▶ Perform maintenance or service on equipment or electrical circuits unless they have been locked out and/or tagged out.



Worker testing a circuit to ensure that it is de-energized

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**If you think you are in danger:**

Contact your supervisor.  
Contact your union.  
Call OSHA  
**1-800-321-6742**

**Find out more about construction hazards.**

To receive copies of this Hazard Alert and cards on other topics call

**301-578-8500** or visit [www.cpwr.com](http://www.cpwr.com)

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Sources:

1) Mechanic crushed to death by elevator: <http://mypost.com/2015/01/09/mechanic-crushed-to-death-by-elevator/>

2) OSHA Fact Sheet: Lockout/Tagout: [https://www.osha.gov/OshDoc/data\\_General\\_Facts/factsheet-lockout-tagout.pdf](https://www.osha.gov/OshDoc/data_General_Facts/factsheet-lockout-tagout.pdf)

3) OSHA requires employers to implement programs to protect workers. Although the detailed OSHA LOTO Standard does not apply to construction, it includes important steps that employers in construction should take, including having a written LOTO program: [https://www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=STANDARDS&p\\_id=9804](https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9804)