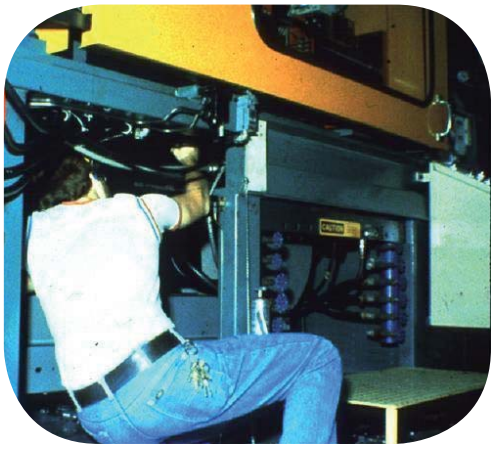
CONSULTATION CAL OSHA SERVICE

Lockout/Tagout for Employees

If your work involves activities with equipment and machinery such as set-up, un-jamming, repairs, cleaning, servicing, and adjusting this fact sheet is for you. Energy feeding into the machinery and equipment (electrical, mechanical, hydraulic, pneumatic, etc.) gives them power to run and do work.

What Can Happen and Why



Uncontrolled energy causing the sudden and unexpected movement of a machine or any part of a machine can kill or injure you. Each year workers are killed, body parts are crushed, and others lose fingers, hands, arms. For example, in just two years in California (2005 and 2006) there were 9 fatalities and 113 amputations. Why do accidents happen?

Some common reasons include:

- all hazardous energy sources were not de-energized and controlled
- equipment was not locked out or tag out after powering off
- did not actually think through the steps of the energy control before starting work
- inadequate or no training
- took shortcuts

Warning

- ✕ It is important to remember that just *turning off a switch is not the same as lockout* because there is still energy in the switch. If there is a short at the switch or the machine is accidentally turned on, it will energize and cause it to run.
- ✕ Remember that many types of hazardous energy sources such as springs, or air, oil, steam or water pressure can cause sudden and unexpected movement of machines and hurt or kill you. *To work safety, all hazardous energy sources must be controlled so that no machine or machine part can move*.
- ✕ Sometimes, machines and equipment must be serviced with the power on. If so, your employer must minimize the hazards to you by providing extension tools (e.g., extended swabs, brushes, scrapers) or other methods to protect you from injury. Be sure you get trained on how to use these tools or methods and always use them properly.

Hazardous energy sources

Use an extension tool to protect yourself

How To Work Safely

The law provides protection to you from the unexpected start or sudden release of hazardous energy ***by requiring your employer to put into place a Lockout/ Tag out (LOTO) Program*.** This is required by the California Code of Regulations, Title 8, Section 3314.

What Is Lockout/Tagout (LOTO)?

Locked out machinery or equipment cannot be restarted unless the lockout device is removed. Once the machinery or equipment is locked, you can then safely do your work. This could mean the difference between life and death for you. ***Tagged out*** means to place a tag out device on the machine or equipment to show that it is prohibited to restart or operate the machine or equipment.

What You Can Do

To work safely, make sure you **receive training and understand your employer's LOTO Program**. **If you have any questions or doubts about how to work safely, ask your supervisor right away.** For each machine, piece of equipment or prime mover you have been assigned to work on or around, be sure to **follow your employer's Hazardous Energy Control Procedures** which must include :

- *Knowing all hazardous energy sources* for each machine you have been assigned to work on or around. These include:
  - » main and secondary power supplies, and
  - » potential and stored energy (such as capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam or water pressure).
- *Controlling all hazardous energy sources* by performing all the necessary actions to de-energize machinery, which may include one or more of the following:
  - » shutting down equipment (e.g., depressing a button)
  - » closing valves, disconnecting switches or unplugging machinery
  - » blocking or inserting blank flanges
  - » bleeding or opening drain/vent valves
  - » relieving or restraining potential energy
- *Applying personal locks and tags - Exception 2320.4(b) and 3314(c),(d) exception 3.*
- *Testing and checking that the hazardous energy has been controlled.*
- Safely restoring equipment, machinery, and prime movers back to service

Bleeding air pressure by opening a valve