

# Talks **ZONE**

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T5210

## Avoid lockout-tagout mistakes

Anyone who works with machinery that has an energy source knows — or should know — that repairing, cleaning, adjusting or setting it up can be very dangerous.

A proven system called lockout-tagout (LOTO) was devised to protect workers from injury or death resulting from the unintended activation of equipment or release of stored energy. The major causes of this have become popularly known as the Fatal Five:

- Failure to stop equipment.
- Failure to disconnect from power source.
- Failure to dissipate (bleed, neutralize) residual energy.
- Accidental restarting of equipment.
- Failure to clear work areas before restarting.

Simply turning off a machine or unplugging equipment while it is being worked on does not guarantee adequate protection. It is not enough to “think” the machine or energy source is turned off. A prescribed lockout/tagout procedure must be followed to ensure that any energy source is disengaged or blocked or de-energized and locked.

“Lockout” refers to a device that prevents physical access to the energy source.

“Tagout” refers to a written or printed warning tag affixed to the machine or energy source. Lockout and tagout devices include but are not limited to lock boxes, breaker clips, chains, blocking devices, labels and tags.

To prevent unintended energization, you must be able to identify a machine’s power source, know the proper way to disengage or de-energize it, and then verify the lockout.

Hazardous energy sources found in the



workplace include electrical (generated or static), mechanical (transitional or rotational), thermal (machines, equipment, or chemical reactions) and potential (hydraulic, pneumatic, vacuum pressure, springs or gravity).

Many workplaces have specific LOTO procedures, but basically, the process is this:

- Know the equipment and all sources of energy associated with it.
- Shut down those sources by de-energizing, disabling, redirecting or otherwise stopping the machine completely from doing what it normally does.
- Place a lock or other restraint device that can only be unlocked with your key at all locations where the machine could be started up.
- Tag the energy source, indicating who you are, why the machine was locked out and the date when the lockout was applied.
- Test to ensure that a zero energy state has been reached at all sources.

Lockout/tagout can be a complex process, as identifying energy sources is not always easy. It should be done only by persons authorized and qualified to do so.

Many needless accidents occur because somebody turned on a machine that should have been locked out properly. There are occasions when turning off the control switch is not enough. A main disconnect switch or breaker might have to be turned off as well. Even a drop of water or some dust can cause a machine to operate without anyone pressing a start button.

Despite a LOTO procedure being in place, mistakes are made that defy not only the procedure, but common sense.

For instance, an employee might think a simple maintenance task will only take a few minutes, so he just shuts down the equipment and ignores use of a lock. Someone else comes along and starts it up while the employee is doing his simple task — and he loses his arm.

When a LOTO procedure is followed, it must be followed completely. A worker who locks out a device, but leaves the key in the lock because of fear it might be lost, is inviting tragedy if someone else comes along and, not knowing any better, unlocks it and uses the machine.

No LOTO system will be effective unless all workers are absolutely sure about the procedures, whether they are performing them, affected by them, or just working in the area.

This certainly applies to newly-hired personnel, but those who have been around awhile might need a reminder that they are dead wrong if they feel their age or lengthy experienced allows them to work on a piece of equipment without taking the time or trouble to make sure it is safeguarded properly.

## The Quiz

These questions are meant to help you remember what was discussed today — not to test your patience or challenge your intelligence. The answers are at the bottom of the page. Cover them up, and complete the quiz as quickly as you can.

1. Lockout-tagout is a system devised to protect workers from the unintended activation of equipment or release of stored energy.  
TRUE \_\_\_\_ FALSE \_\_\_\_
2. Is failure to dissipate residual energy one of the 'Fatal Five' causes of injuries that can be prevented by proper lockout-tagout ?  
YES \_\_\_\_ NO \_\_\_\_
3. Which of these is a source of hazardous energy:
  - A. Electrical
  - B. Mechanical
  - C. Thermal
  - D. Potential
  - E. All of the above
4. A lockout device should be opened only by the person who locked it.  
TRUE \_\_\_\_ FALSE \_\_\_\_
5. Identifying energy sources should be done by:
  - A. Management
  - B. Authorized, qualified personnel
  - C. Building inspectors
  - D. The fire department
6. There are occasions when turning off a machine's control switch is not enough to ensure it is completely de-energized.  
TRUE \_\_\_\_ FALSE \_\_\_\_
7. No lockout-tagout system can be effective unless its procedures are understood by workers who are:
  - A. Performing them.
  - B. Affected by them.
  - C. Working in the area where they are being undertaken.
  - D. All of the above.
8. Does your workplace have a written lockout-tagout policy and procedures?  
YES \_\_\_\_ NO \_\_\_\_ DON'T KNOW \_\_\_\_

**ANSWERS:** 1. True, 2. Yes, 3. E., 4. True, 5. B., 6. True, 7. D., 8. Your answer

## Hold These Thoughts

Ensuring that a workplace has effective lockout-tagout — the methods, devices and procedures for preventing the sudden and uncontrolled release of energy from a system, machine or piece of equipment — can be a daunting task.

Fortunately there is a wide variety of training programs available, professional help is at hand, and specific requirements can be found in provincial or state occupational health and safety regulations. Employers who fail to implement and follow those requirements can face penalties. Workers who fail to follow the procedures, thereby putting themselves and others at risk, can face disciplinary action.

Situations can arise during normal production work (not maintenance) when lockout might not be required. The first step is to determine if there is a risk of injury to workers from the movement of machinery or equipment, or exposure to an energy source, while the activity is being carried out.

All sources of hazardous energy must be considered, such as loaded springs and suspended equipment that could roll or fall.

If there is no risk of injury, then lockout is not required. If there is a risk of injury, but the equipment or machinery is determined to be effectively safeguarded to protect workers from the risk, then lockout is not required.

Sometimes machinery or equipment must be energized for a specific task, such as making fine adjustments, that can be done only with part of the equipment working. In such cases, only those parts vital to the task should be energized.



## For the Record

Date of Meeting: \_\_\_\_\_  
 Location: \_\_\_\_\_  
 Start Time: \_\_\_\_\_ Finish Time: \_\_\_\_\_

Topic: \_\_\_\_\_  
 Department: \_\_\_\_\_  
 Meeting Leader: \_\_\_\_\_

In Attendance:


## Tips for Safety Meeting Leaders

**Reach conclusion or agreement.** A safety meeting usually seems more satisfactory if you agree on a course of action. This action can be to improve or correct a situation. Make plans to get whatever information is needed to resolve a question.

It is very important that you provide answers to employees' questions as soon as possible. Even if the answers are unpopular, at least you've taken the trouble to find them out.

**Get your people involved.** Ask them for a short presentation about safety in relation to their particular work task. There's no stress about them

needing to conduct huge amounts of research, because they know their job. Give them a time frame and allow them to be as imaginative and 'out there' as they want to be. It's during these times you'll hear 'pearls'.

The number of workers who have good ideas on improving safety, but haven't spoken up, just might surprise you.

**Credit where it's due.** Employees who have shown initiative by asking questions or coming up with good ideas should be given a word of praise either at the meeting or when you pass their workstations.

**Note:** *TalksZone* weekly safety meetings are not intended to take the place of your own safety procedures. Always consult and/or review your procedures before attempting any work.