



Timber Times

Partners for Healthy Forests

APRIL 2016

SPECIAL POINTS OF INTEREST

- Fall Protection
- Lockout/Tag out
- Useful Links
- Bad Safety Pictures

Safety Flyer

Hello All,

At the CTIA Annual Meeting in April, the board decided to launch a monthly safety flyer. Safety has always been a primary focus for CTIA and it is a critical component to keep our workman comp rates at a reasonable level.

If you have contractors or fellow loggers who are not CTIA members, we would be happy to add them to our list. Our goal is safety industry wide!

If you find an interesting article or an OSHA related issue, please share with me so that I can send to our larger list.

Hope this helps improve your safety program.

Molly

The Colorado Timber Industry Association (CTIA) is an association of small, family-owned businesses committed to logging, processing and performing service work in the forests of Colorado. We are exceptional partners to the public and private stewards of our valuable and beautiful forests. We embrace Best Management Practices (BMPs) and sustainable forestry. To meet these values, we host annual continuing education classes on BMPs and conduct field audits to demonstrate our accountability to high quality, active management designed to promote long term forest health.

TOP 20 SAFETY INSPECTION FINDINGS

1. Machine guarding
2. Fall protection
3. Lock Out: procedures
4. Beams labeled with load limit
5. Breaker panels 36" clear zone
6. Extension cords
7. PPE hazard assessment
8. Damaged electrical
9. Chain hook safety latches
10. Electrical grounded
11. Electrical multi-plug used
12. Fine dust accumulation
13. Hand grinders missing guards
14. HAZCOM: Containers labeled
15. Fire Extinguishers
16. Air nozzle < 31 PSI?
17. Eye wash stations clean?
18. Foot Pedal: guarded
19. Bench grinder guard spacing
20. Acetylene & Oxygen: Not together

Why is Fall Protection Important?

- Falls are among the most common causes of serious work related injuries and deaths.
- In 2009, there were **605** deaths and an estimated **212,760 injuries** related to falls.



What is Required to Reduce Falls?

- Guard every floor hole into which a worker can accidentally walk (using a railing and toe-board or floor hole cover).
- Provide a guardrail and toe-board around every elevated open sided platform, floor or runway.
- Regardless of height, if a worker can fall into or onto dangerous machines or equipment (such as a conveyor belt) employers must provide guardrails and toe-boards to prevent workers from falling and getting injured
- Other means of fall protection may be required on certain jobs including safety harness and line, safety nets, stair railings and handrails.

What is Lockout/Tag out?

Lockout/ tag out is the practices and procedures necessary to disable machinery or equipment, thereby preventing the release of hazardous energy while employees perform servicing and maintenance activities. A lockout/ tag out program will help prevent:

- Contact with a hazard while performing tasks that require the removal, by-passing, or deactivation of safe guarding devices.
- The unintended release of hazardous energy (stored energy).
- The unintended start-up or motion of machinery, equipment or processes.



What are the Basic Steps of Locking and Tagging Out a System?

Lockout and tag out processes involve more than putting a lock on a switch. They are comprehensive step-by-step processes that involve communication, coordination, and training. Steps of a lockout/tag out program include:

1. Prepare for shutdown

The authorized person will identify which sources of energy are present and must be controlled; and more importantly, identify what method of control will be used. This step involves completing sets of specific work instructions that outline what controls and practices are needed to lock and tag out a system before performing any activity.

2. Notify all affected employees

The authorized person will communicate the following information to notify affected persons:

- What is going to be locked/tagged out.
- Why it is going to be locked/tagged out.
- For approximately how long will the system be unavailable.
- Who is responsible for the lockout/tag out.
- Who to contact for more information.

3. Equipment Shutdown

If the system is operating it should be shutdown in its normal manner. Use manufacturer instructions or in-house work instructions. Equipment shutdown involves ensuring controls are in the off position, and verifying that all moving parts such as flywheels, gears, and spindles have come to a complete stop.

4. Isolation of system from hazardous energy

The exact written instructions will be specific to that system in the workplace. In general, the following are used:

- Electrical energy – switch electrical disconnects to the off position. Visually verify that the breaker connections are in the off position. Lock the disconnects into the off position.

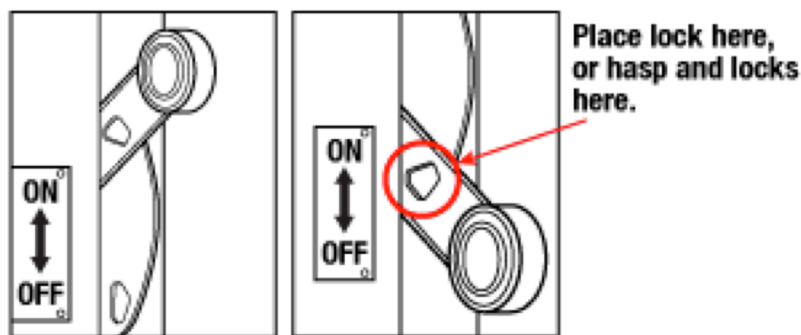


Figure 1: Electrical lockout

- Hydraulic and Pneumatic potential energy - Set the valves in the closed position and lock them into place. Bleed off the energy by opening the pressure relief valves, then closing the airlines.

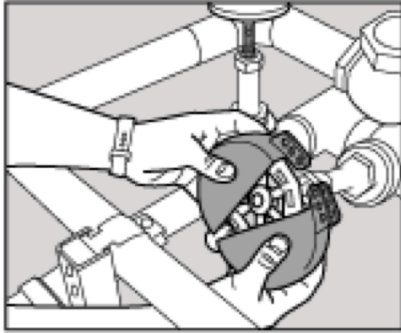


Figure 2: Hydraulic and Pneumatic lockout

- Mechanical potential energy - carefully release energy from springs that may still be compressed. If this is not feasible, block the parts that may move if there is a possibility that the spring can transfer energy to it.
- Gravitational potential energy - Use a safety block or pin to prevent the part of the system that may fall or move.
- Chemical energy - locate chemical supply lines to the system and close and lockout the valves. Where possible, bleed lines and/or cap ends to remove chemicals from the system.

5. Dissipation of residual or stored energy

In general, examples include:

- **Electrical energy** - To find a specific method to discharge a capacitor for the system in question, contact the manufacturer for guidance. Many systems with electrical components, motors, or switch gears contain capacitors. Capacitors store electrical energy. In some cases, capacitors hold a charge in order to release energy very rapidly (e.g., similar to the flash of a camera). In other cases, capacitors are used to remove spikes and surges in order to protect other electrical components. Capacitors must be discharged in the lockout process in order to protect workers from electrical shock.
- **Hydraulic and Pneumatic potential energy** - Set the valves in the closed position and locking them into place only isolates the lines from more energy entering the system. In most cases, there will still be residual energy left in the lines as pressurized fluid. This residual energy can be removed by bleeding the lines through pressure relief valves. Contact the manufacturer for more specific details, or if no pressure relief valves are available, what other methods are available.

- Mechanical potential energy - Carefully release energy from springs that may still be compressed. If this is not possible, use blocks to hold the parts that may move if the energy is released
- Gravitational potential energy - If feasible, lower the part to a height where falling is impossible. If this is not possible, contact the manufacturer for guidance.
- Chemical energy - If available, bleed lines and/or cap ends to remove chemicals from the system.

6. Lockout/Tag out

When the system's energy sources are locked out, there are specific guidelines that must be followed to ensure that the lock cannot be removed, and the system cannot be inadvertently operated. These guidelines include:

- Each lock should only have one key (no master keys are allowed).
- There should be as many locks on the system as there are people working on it. For example, if a maintenance job requires 3 workers, then 3 locks should be present - each of the individuals should place their OWN lock on the system. Locks can only be removed by those who installed them, and should only be removed using a specific process - see step 9 below.

7. Verify Isolation

Verify that the system is properly locked out before beginning any work. Verification can take place in several ways:

- The machine, equipment, or process controls (push buttons, switches, etc.) are engaged or activated and the result is observed. No result means isolation is verified. Return controls to safe position (off).
- Visual inspection of:
 1. Electrical connections to ensure they are open.
 2. Suspended parts are lowered to a resting position or blocked to prevent movement.
 3. Other devices that restrain machine or process movement.
 4. Valve positioning for double block and bleed (for pipes or ducts) - closing two valves of a section of a line, and then bleeding (or venting) the section of the line between the two closed valves.
 5. Presence of solid plate used to absolutely close a line - called line blanking (for pipes or ducts).
 6. Any other acceptable method of energy isolation.



- Testing of the equipment:

1. Test circuitry (should be done by a certified electrician) - however, equipment with capacitors needs to be cycled until all energy is drained.
2. Check pressure gauges to ensure hydraulic and pneumatic potential energy has been removed.
3. Check temperature gauges to ensure thermal energy has been discharged.

Choose the method that will best ensure that the energy to the system has been isolated without creating other hazards during the verification.

8. Perform Maintenance or Service Activity

Complete the activity that required the lockout process to be started.

9. Remove Lockout/Tag out devices

To remove locks and tags from a system that is now ready to be put back into service, the following general procedure can be used:

- Inspect the work area to ensure all tools and items have been removed.
- Confirm that all employees and persons are safely located away from hazardous areas.
- Verify that controls are in a neutral position.
- Remove devices and re-energize machine.
- Notify affected employees that servicing is completed.

Useful Links

<https://www.osha.gov/SLTC/fallprotection/>

<https://www.ccohs.ca/oshanswers/hsprograms/lockout.html>

