

## Lockout / Tagout

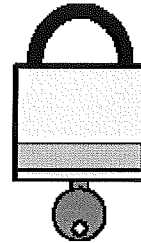
Lockout / Tagout procedures are designed to prevent accidents and injuries caused by the accidental release of energy. The use of these procedures prevents workers from accidentally being exposed to injuries and / or life threatening situations with power machinery.

### Lockout Explanation

- Lockout is a process of blocking the flow of energy from a power source to a piece of equipment and keeping it blocked out.
- Lockout is accomplished by installing a lockout device, such as a padlock, so that equipment powered by that source cannot be operated.
- Any locks that are provided must be used only for lockout purposes. They should never be used for locking toolboxes, storage sheds, etc.

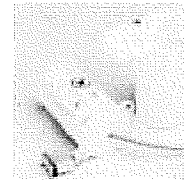
### Locks

- Locks must be assigned to employees.
- Owner of lock must be identified during use.
- Only the employee who placed the lock on equipment should remove it.
- Employee's supervisor should have a "second key" in the event of an emergency.



### Other Lock out devices

These boxes can protect workers by controlling the plugs on mechanical devices such as sweep augers.



This device can lock out breakers



This device can lock out fluid and gas valves.



# Tagout

## Tagout Explanation

Tagout is accomplished by placing a tag on the power source. The tag acts as a warning not to restore energy and is not a physical restraint.

## Activities that may require a lockout/tagout procedure:

- Installation
- Construction
- Repair
- Adjusting
- Inspection
- Maintenance



Lock out procedures must be used to control all forms of *kinetic*\* energy.

\*Kinetic energy is any energy that moves

## Controlling Energy Sources

There are several energy sources in which lockout / tagout must be used to protect employees from the release of hazardous energy. Some of these energy sources include:

- Electrical
- Fluid or gasses
- Gravity
- Mechanical
- Hydraulic
- Water or liquids under pressure

## Equipment that may require a lockout / tagout procedure:

- Pumps
- Mixers
- Hoppers
- Dump pits
- Augers
- Belt Conveyors
- Lawnmowers
- Applicators

**Two common situations exist which require lockout / tagout procedures:**

- A guard or other safety device is removed from equipment or machinery.
- A part of your body or clothing could be caught by moving equipment or machinery.

**Multiple people working on equipment**

- If more than one person is working on the same piece of equipment, each must apply his or her own lock.
- In this case you will see a lock and tag for each person working on the equipment.



**Release of stored energy**

Equipment must be at a “zero energy state” before service or maintenance work can begin.

- Drain all valves and lines
- Bleed any air from system
- Eliminate stored hydraulic pressure

**Basic lockout / tagout procedure for both lock out and tag out systems:**



**Communication**

- All affected employees must be told of procedures.
- All procedures should be standardized.
- Authorized employees do the procedures, must know proper methods.
- Affected employees run the equipment, must be able to recognize procedures.

**Before shutdown:**

Identify all switches, valves, and other devices that will need to be locked or tagged out.

**Shutdown:**

Shut down machine or equipment with normal stopping procedures.

**Isolation:**

Make sure the main power switches, circuits, or other sources of energy are moved to the off position, or made inoperative.

**Lockout:**

Locks are placed on switches or other energy sources in the safe or off position. All persons working on equipment should apply their own lock. Apply warning tags to each lock.

**Energy release:**

Relieve all stored energy, disconnect and make safe by blocking, bleeding, etc.

**Testing:**

After insuring no personnel are exposed, check to make sure equipment will not operate.

**Basic Tagout Procedures & Tagout only systems**

- Not all operators allow you to lockout from the energy source. In this case, each employee working on the equipment must tagout the equipment.
- Tags are warning devices affixed to energy isolating devices and do not provide physical restraints provided by lockout. Tags can only warn employees not to operate equipment.
- When a tag is attached, it is not to be removed without authorization of the person who applied it, and should never be bypassed or ignored.

**Proper Lockout / Tagout**

- o Single lock
- o Tag in Place
- o Identifies lock owner
- o Keys are removed

