

# Jay Industries, Inc.

## Lock Out Tag Out Policy

### Energy control program CFR 1910.147

Jay Industries, Inc. has instituted a zero energy work program. This requires the isolation of all energy to the equipment to be serviced or repaired. There are two types of employees involved:

Authorized Employees are trained in energy isolation procedures. They are approved by the Maintenance Manager and trained and certified to OSHA standards.

Affected Employees are trained on machine operations but are not involved in energy isolation.

The types of energy to be isolated and dissipated are:

Electricity	Hydraulics
Pneumatics	Water
Gas	Steam
Thermal	Mechanical
Gravity	Chemical

All energy must be isolated and released to achieve a zero energy safe state. Any equipment in a zero energy safe state will be tested to verify its zero energy status.

Locks will be applied and a central lock out box will be used so the Authorized employees will be able to place their lock. The control of the lock on the lock box will be with the Authorized employee.

The reenergizing of the machine will be done by the Authorized employees. The machine will be turned over to Affected employees for operation.

The procedures are posted on each machine and copies are kept with the Maintenance Manager. The Lock Out program will be evaluated annually and when there are any changes to equipment. The program is based on 29 CFR 1910.147, NFPA 70E, NEC code.

Date	Action	Person Responsible
April 11, 2015	Policy Written	Ralph Hall
February 11, 2016	Policy Revised	Marijan Grogoza
April 29, 2019	Policy Revised	Marijan Grogoza
February 10, 2023	Policy Reviewed & Minor Revision	Marijan Grogoza

# Jay Industries, Inc.

## Lock out tag out Handbook

**Purpose:** This program covers working on or around equipment where employees may be exposed to the unexpected energization, motion, or start-up of machines or equipment, in compliance with 20 CFR 1910.147 regulations for the control of hazardous energy.

**Scope:** This program applies to all locations and covers the servicing and or maintenance of machines and other equipment and processes. This program does not apply to cord and plug connected electrical equipment that is under the control of the servicing mechanic.

### Definitions

**Authorized Employee** - A person who locks-out or tags-out machines or equipment in order to perform servicing or maintenance (set up operators and tools changes).

**Affected Employee** - A person whose job requires them to work in an area or operate machinery or equipment on which servicing or maintenance is being performed under lock-out or tag-out.

**Other employees** - Other Employees may be in an area where LOTO is used.

**Primary Authorized Person** - A single authorized person who has the primary responsibility for group lockout applications.

**Qualified** - Familiar with the construction and operation of the equipment and the hazards involved.

**Energy source** - any source of electrical, mechanical, hydraulic, pneumatic, chemical, natural (wind, gravity), thermal or other energy

**Energized** - Connected to an energy source or containing residual or stored energy

**LO/TO or Energy-Isolating Device** - A mechanical device (lock, tag, block, wedge, etc.) that physically prevents the transmission or release of energy, including, but not limited to the following:

1. a manually-operated electrical circuit breaker, a disconnect switch, or a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, where no pole can be operated independently
2. a line valve
3. a block
4. any similar device used to block or isolate energy

Push buttons, selector switches and other control-circuit type devices are **NOT** energy-isolating devices.

**Capable of Being Locked-Out** - An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which (or through which) a lock can be affixed, or it has a locking mechanism built into it. Other energy-isolating devices are "capable of being locked-out" if energy isolation can be achieved without the need to dismantle, rebuild or replace the isolating device, or permanently alter its capability.

**Servicing and/or Maintenance.**— Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or un-jamming of machines or equipment and making adjustments or tool changes where the employee may be exposed to the **unexpected** energization or startup of the equipment, or a release of hazardous energy.

## Responsibilities

### **Maintenance:**

1. Evaluate the potential hazards of specific equipment and implement hazard reduction methods.
2. Create and update written LO/TO procedures for each individual or group of similar machines.
3. Insure all employees are trained at a level specific to their job tasks.
4. Verify Lock/Tag application procedures.
5. Ensure that all new equipment and processes, and changes to old equipment, have LOTO procedures.
6. Establish a group Lock Out process, as needed.
7. Implement Lock removal for absent employee procedures.
8. Perform Annual and Periodic reviews and inspections, as required.
9. Account for shift and personnel changes, as needed or required.
10. Insure that Lock Out Tag Out locks and tags are used for LOTO purposes only.

### **Safety:**

1. Establish and update a written policy, handbook, and training materials.
2. Communicate with contractors regarding the Jay Industries, Inc. Lock Out Tag Out program and exposures.

## Written Program and Procedures

**Written Program:** This Handbook serves as the Written Lock Out Tag Out Program for Jay Industries, Inc. Before performing service or maintenance on equipment or machinery where energy or motion could release and cause injury, the energy sources must be Locked Out.

### **Written Procedures:**

Up-to-date written procedures are posted on each machine or item of equipment.

Procedures must be written for both routine and non-routine service and maintenance work, including production work such as set-up, cleaning and un-jamming.

Procedures must include sufficient detail to provide each employee with control over all hazardous energy they may be exposed to (such as electrical, mechanical, gravitational, hydraulic, pneumatic, chemical, thermal, or other hazards).

A template form is used to create the procedure and kept updated by Maintenance and/or Safety.

Procedures shall be posted on each individual machine or item of equipment.

Outside Contractors shall be informed of company LOTO procedures.

Procedures are in place to maintain LOTO requirements during shift changes or personnel changes.

## **Application of Locks and Tags or Other Energy Control Devices**

### **The Six Steps of LO/TO**

- 1. Preparation for Shutdown** – The Authorized Employee must review the written procedure and have knowledge of the:
  - type and magnitude of the energy;
  - hazards of the energy to be controlled;
  - methods and means to control the energy.
- 2. Machine or Equipment Shutdown** – Shutdown machine or equipment using the established written procedures (normal operating procedures) after notifying Affected Employees in the area of the shut-down.
- 3. Machine or Equipment Isolation** - Locate and isolate all energy sources.
- 4. Hazardous Energy Control Device Application** – Apply or affix Lock and Tag (or other device) so that equipment is held in a “safe” or “off” position.
- 5. Stored Energy** – Relieve, disconnect or restrain all energy sources so that they are made safe.
- 6. Verification of Isolation** – The authorized employee will verify the isolation and de-energizing of the machine or equipment by trying to activate the machine.

**Tags without Locks** - Tags will accompany LOTO specific locks at all times, unless:

1. If locks cannot be used, tags must be supplemented by other means to ensure an equivalent level of safety to that of a lock application (Example: removing a control switch, circuit breaker or valve handle).
2. Where locks are not used, the supplemental means (and its written procedure) must be reviewed with each authorized and affected employee at least annually.
3. When equipment is being taken out of service (i.e. abandoned in place or no longer used), non-LO/TO locks and tags will be used. The tag will contain the words "Out of Service" and an appropriate description.

**Other Energy Control Devices** - Blocks, chains, wedges, adapter pins, self-locking fasteners may be used to block machines or equipment from unexpected energization. (For example: A block may be

used to wedge open a mechanical power press during tool changes to prevent the machine from cycling).

#### **Release from LOTO or Restoring Equipment to Service**

1. Check the work area to ensure that tools and other non-essential items have been removed and that the machine or equipment components are intact.
2. Check the area to ensure that employees have been safely moved away from the work area.
3. Verify that the machine controls are in neutral or off.
4. Remove the lock-out/tag-out device(s).
5. Reenergize the machine or equipment. NOTE: the removal of some forms of blocking may require reenergizing of the machine before safe removal.
6. Notify area employees that the servicing or maintenance work is completed and the machine is ready for use.

#### **Lock Removal for Absentee Employee Process:**

1. Each LOTO device shall be removed from the energy isolating device by the employee who applied the device.
2. When the Authorized Employee who applied the LOTO device is not available to remove it, the device may be removed ONLY under the direction of a single designated person at the company (Maintenance Manager), who will follow these specific procedures.
  - Verification that the Authorized Employee who applied the device is not at the facility
  - Efforts are made to contact the Authorized Employee to inform them that their LOTO device has been removed
  - Methods are followed to ensure the Authorized Employee knows their device was removed BEFORE they resume work
  - The Maintenance Manager will serve as the responsible person to insure these procedures are followed.
  - To assist in the absentee lock removal process, a form has been provided with this handbook.

#### **Tag Application:**

1. Use only company approved LOTO locks, tags, blocks and other devices
2. Attach tags with nylon cable ties or an equivalent strength material
3. Attach tags to the locks
4. Tags will contain the following information:
  - Name of equipment being secured

- Name of person securing
- Date of application (securing)
- How to contact person securing
- Reason for being secured (e.g. taken out of service, repair, etc.)
- A statement prohibiting removal or tampering with the lock or tag
- Tags must include a statement such as "Do Not Start", "Do Not Open", "Do Not Close", "Do Not Energize" or "Do Not Operate"

**New Equipment Design or Major Modifications to Existing Equipment:** New equipment installations must be capable of being locked out as an integral part of the machine (i.e. without the use of chains, etc.). Machinery must be able to be locked out or made lockable when they are:

1. Replaced or undergo major repairs
2. Renovated or modified
3. Purchased and installed

**Group Lock-Outs:** Group Lock outs will incorporate the use of a group lockout device. These group devices are used as controls where there are complex situations involving many different people who all require the machine or process to be locked out before they work on it. Devices may include:

- a lockable container (like a strong-box) to hold the process lock keys and tag-out records for large jobs and long duration work
- a multiple lock adapter (that will not release until all locks have been removed) for single machines that require more than one lock.

One "Primary Authorized Person" will be assigned and responsible for all the locks on the project and assuring continuity of energy control for the entire group.

A master locking device provides protection from the main energy source. The "Primary Authorized Person" is solely responsible for applying and removing this device.

Each Authorized employee involved in the group lockout must affix a personal lock-out or tag-out device to the machine, equipment or into group lockbox or onto the device when their work begins and remove it when their work is completed.

**Shift/Personnel Change Procedures:** Shift or personnel changes must account for the continuity of LOTO protection, and must include a provision for the transfer of devices between off-going and on-coming employees. This will minimize exposure to hazards from the unexpected energization or start-up of the machine or equipment or the release of stored energy.

**Required Periodic Inspections:**

LO/TO procedures and actual lock-outs will be inspected at least annually to assure they meet regulatory requirements. The inspection will be conducted by a LOTO Authorized employee who has

been trained in that procedure. This person must be someone other than the one performing the lock-out. The inspections requirements include checking:

1. Training records to verify people have been trained to the level necessary
2. That the procedure document was reviewed within the last calendar year. Reviews must ensure the procedures are adequate, understandable and being followed.
3. Employees authorized to use the procedures may be asked to participate in the annual review, individually or as a group.
4. Field check the actual lock-out to assure the equipment is being locked out properly. The inspector and the person locking the equipment are required to participate, at a minimum
5. Asking Authorized Users how they would lock/tag equipment, and verify by demonstration
6. Note and correct any deficiencies, in the procedure or the user's application of the LOTO
7. Document and certify this assessment using the inspection certificate form provided with this program, or an equivalent record. Both the inspector and the person performing the LOTO must sign the assessment certificate.
8. If the procedure is found lacking or deficient, it must be revised and all employees who would use that procedure must be retrained to the new procedure before servicing or maintaining that equipment.
9. Each procedure that is used for "normal" or "routine" lock-outs must be reviewed at least once per year. "Non-routine" lock-outs must have a procedure reviewed before the procedure is used, if it hasn't been used in the last calendar year.
10. Annual employee LOTO assessments shall be documented in their PLEX file.

### **Safety Information**

#### **Specific Requirements for Electrical LOTO with Greater than 50 volts to Ground:**

1. Only an "Electrical Qualified Person" (Electricians or persons specifically trained by an electrician) can operate the equipment or otherwise verify that the equipment cannot be restarted
2. Only an "Electrical Qualified Person" can use test equipment to test the circuit elements and electrical parts of the equipment, including exposure to back-feed or inadvertently induced voltage.
3. Only an "Electrical Qualified Person" can conduct tests and inspections to verify that the equipment can be safely re-energized
4. Locks must be accompanied by tags
5. Safe de-energizing and re-energizing procedures must be determined before service or maintenance is performed and approved in writing by an "Electrical Qualified Person" before the actual LOTO is performed

## Records

Training records will be maintained in the HR department. Training records must document:

- the name of the employee train
- the date of the training
- as needed, information on the specific procedure to which the employee is trained (i.e. a non-routine task)
- training materials used (i.e. the specific written procedure and signed inspection certificate) for non-routine tasks
- LOTO Procedural Records must be archived by Maintenance personnel, in an organized manner.

## Training and Information

Training will be provided to Authorized, Affected and Other employees, based on their exposure to LOTO and Hazardous Energy Control procedures. All levels of training must include information on who serves as the Responsible Person designated for the Lock Removal for Absent Employee process.

Training is required upon initial assignment, and when:

1. upon initial assignment
2. changes in job responsibilities occur
3. new equipment is brought into an area
4. new processes that present new hazards are introduced
5. changes in the hazardous energy control procedures
6. deficiencies or deviations from established procedures are noted
7. an inspection or review reveals deficiencies

### **Three specific levels of training**

1. **Authorized employees** – perform LOTO procedures and apply locks/tags or other devices. They must have formal LOTO training, which includes:

- recognition of types and sources of hazardous energy
- magnitudes of energy available in the workplace
- methods and means necessary for the isolation and control of hazardous energy
- their training should be supplemented by localized application, procedure or equipment-specific instruction
- must include training on written procedures



- identification of locks and tags used in Jay Industries, Inc.
- hands-on instruction in LOTO application.

2. **Affected employees** – normally work on (or near) a machine or piece of equipment that would be locked or tagged out during service, maintenance or repair. They must have mid-range level of training to inform them of:

- the purpose of the LOTO program
- their limitations and responsibilities in LOTO situations
- the recognition of applicable hazardous energy sources
- the type and magnitude of the energy available in the workplace
- the methods and means necessary for energy isolation and control
- identification of locks and tags used in Jay Industries, Inc.

3. **Other employees** – Other Employees may be in an area where LOTO is used. They must know what devices are and what they are used for. They require introductory training that informs them of:

- the LOTO procedure and program
- the prohibition of attempts to start machines or equipment that are locked out or tagged out
- recognizing LOTO devices and their purpose.

**Tag-Out Only Situations** - When tag-out only systems are used, all employees will be trained on the limitations of tags, including:

1. Tags are warning devices only and do not provide physical restraint
2. Tags may not be removed, except by the person who applied it
3. Tags must be legible and understandable by all employees
4. Tags must stand up to the conditions where they are applied (wet, cold, heat, etc.)
5. Tags must be secure so they do not inadvertently fall off or get removed
6. Tags may evoke a “false sense of security” and must not be used as a sole-system when locks or other devices can be applied

**Re-training** - is required for both Authorized and Affected Employees when:

1. Employee lock-outs are performed incorrectly, annual assessment reviews reveal deficiencies, or when there is reason to believe there are inadequacies in the employee’s knowledge of the energy control procedures
2. A change in job assignment requires re-training

3/ Modifications to equipment occur which affects the LO/TO procedure or present a new hazard

4. A procedure has been changed since the last time the employee performed LO/TO on that equipment or machinery.

### Basic Responsibilities Chart

	<i>Management &amp; Supervisors</i>	<i>Maintenance Department</i>	<i>Contractors</i>	<i>Safety Officer</i>
Approve devices (locks, tags, blocks, wedges)	X	X		X
Insure equipment is designed to meet LOTO	X	X		
Procedures written for each	X	X		X
Audits/assessments of energy control	X	X		X
Develop and implement employee training	X	X	X	X
Contractor programs meet requirements		X	X	X
Update written policy and handbook				X
Update training materials	X	X		X
Keep training records	X (HR)			
Keep Machine Specific LOTO procedure records		X		

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