

| | |
|-------------------------|---------------------------|
| Title: | Lockout Tagout |
| Document Number: | UD-FREAS-MO-ADMIN-003 |
| Author(s): | Mike Guns, Brian Schuster |
| Effective Date: | 5/03/2018 |
| Revision: | 2.0 |
| Owner: | Paul Dickinson |

Policy

It is the policy of University of Delaware that any individual engaging in the maintenance, repairing, cleaning, servicing, or adjusting of power-driven machinery or pressurized equipment on University of Delaware property will abide by the procedures outlined in this document. These procedures are designed to meet or exceed applicable OSHA standards for safe work practices.

Purpose

To ensure that all individuals on the University of Delaware campus are protected from accidental or unexpected contact with energy sources, that might be injurious to the body. These energy sources include electrical, mechanical, hydraulic, pneumatic, chemical, thermal, and gravity. Individuals may come in contact with these forces during the course of their daily work activities such as repairing, cleaning, servicing, or adjusting energy containing equipment. Lockout is a first means of protection, warning tags only supplement the use of locks. Tags alone may be used only when the application of a lock is not practically feasible and with approval of the appropriate supervisor.

Scope

It is the policy of University of Delaware that any individual engaging in the maintenance, repairing, cleaning, servicing, or adjusting of power-driven machinery or equipment on University of Delaware property will abide by the procedures outlined in this document. These procedures are designed to meet or exceed applicable OSHA standards for safe work practices. Lockout is a first means of protection, warning tags only supplement the use of locks. Tags alone may be used only when the application of a lock is not practically feasible and with approval of the appropriate supervisor.

Function Responsibility

| Position | Name or Group Name Responsible |
|-----------------------|---|
| Requestor | Paul Dickinson |
| Author | Mike Guns, Brian Schuster (future safety coordinator) |
| Technical Writer | John Schwander, Amneris Garcia |
| Subject Matter Expert | Brian Schuster |
| Owner | M&O Director |
| Reviewer | M&O managers, PPD Director, EHS Director |
| Employees | All FREAS employees and their contractors |
| Documentation Control | Information Services manager |
| Trainer | FREAS department managers |

General Requirements

...

Definitions

Affected employee: An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized employee: A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this section.

Boundaries: areas within the LOTO work being perform that determine the definition of who are **affected** and who is **authorized**.

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 or onto it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

Contractors: Any individual or company brought onto campus under the direct or indirect management of the Facilities organization or their agent for the purposes of performing work which could result in contact with, or have reason to manipulate, any energy source on campus.

Energized: Connected to an energy source or containing residual or stored energy.

Energy isolating device: A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently; a line valve; a block; and any similar device

used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

Energy source: Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, gravity or other energy.

Hot tap: A procedure used in the repair, maintenance and services activities which involves welding on a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, and steam distribution systems.

Group lockout: Where the service or repair of equipment requires multiple energy isolation points, the use of multiple keyed-alike locks (Group Locks) may be used to facilitate the process

Lockbox: A container which is used in group lockout systems to secure the single key to a series of keyed-alike locks that are being used to secure multiple energy isolation points. The lockbox design facilitates the ability of multiple individuals or crews to work under the protection of a group lockout by affixing their personal lock to the group lockbox.

Lockout: The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout device: A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

Lockout/Tagout: the practice and procedures to disable and control hazardous energy for the purposes of maintenance, repair, cleaning or adjusting equipment.

Multiple lock hasps: A lockout device that enables multiple people to affix their personal safety locks to a single energy isolation point.

Normal production operations: Utilization of a machine or equipment to perform its intended production function.

Personal safety lock: Every employee assigned to work on a piece of equipment requiring lockout will be issued one or more uniquely-keyed personal safety locks. These locks are registered to an individual and are to be used only for safety lockout applications. The concept of 1-key/1-lock for employee personal safety locks is the foundation of the security for a successful lockout procedure. These locks are marked with the employee's name for easy field identification.

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 unjamming 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 release of hazardous energy.

Setting up: Any work performed to prepare a machine or equipment to perform its normal production operation.

Shop safety lock: Shop safety locks are registered to the shop and are individually-keyed. “It will be used in a group lock situation or transmittal of locks”.

Tagout: The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout device: A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Responsibilities

1. Facilities Department

- 1.1. Ensure that the lockout/tagout procedures are in compliance with OSHA requirements.
- 1.2. Provide annual training of the lockout/tagout procedure and an annual review for affected and authorized employees.
- 1.3. Inspect energy control procedures and practices at least annually to ensure that general and specific Lockout/Tagout procedures are being followed.
 - 1.3.1. Supervisors of authorized employees are responsible for completing periodic inspections on at least an annual basis in order to ensure adherence to the LOTO procedures described in this document.
 - 1.3.2. LOTO inspections will be completed using a checklist developed by EHS.
 - 1.3.3. LOTO inspections will be conducted using the checklist found in Appendix C.
 - 1.3.4. Inspections will focus on correcting any deviations from UD LOTO procedures.
 - 1.3.5. Inspections records are to be maintained by the work unit and must be available for review by EHS.
 - 1.3.6. Inspections must be carried out by persons other than those employees directly utilizing energy control procedures.
 - 1.3.7. Inspections will include a review between the inspector and each authorized employee, of that employee’s responsibilities under the energy control procedure being inspected.
 - 1.3.8. Certify that periodic inspections have been performed (see RECORDKEEPING and attachment C LOCKOUT/TAGOUT INSPECTION FORM).

2. Directors and Assistant Directors

- 2.1. Ensure that each supervisor and manager adheres to procedures.

3. Safety Coordinator

- 3.1. Identify each UD crew member that engages in work requiring locking/tagging out of energy sources to ensure understanding and adherence to adopted procedures.
- 3.2. Ensure that each UD employee receives training in energy control procedures prior to servicing the machinery or equipment.
- 3.3. Provide and maintain necessary equipment and resources, annual physical inspection, including safety locks, tags, lockout devices and/or other similarly effective means to isolate and lockout energy sources.
- 3.4. Where possible, perform a pre-use examination of new or revised equipment, machinery, or operations that require the use of lockout/tagout devices during servicing, maintenance, or repair. Ensure that lockout

isolation points of this new or modified equipment are identified and that employees are instructed on the proper lockout process regarding this equipment.

- 3.5. Whenever outside servicing personnel are to be engaged in activities covered by the scope and application of this standard, managers, supervisors, or project managers and the outside employer shall inform each other of their respective lockout or tagout procedures. Additionally, the managers and supervisors shall ensure that his/her employees understand and comply with the restrictions and prohibitions of the outside employer's energy control program if they impose requirements above this program.
4. **Employees**
 - 4.1. Adhere to UD specific safety Lockout/Tagout procedures as outlined in this document for all tasks that require the use of lockout/tagout procedures as defined.
 - 4.2. Ensure that they have sufficient safety lockout equipment (safety locks, tags, personal protective equipment, and specialized lockout devices) with them on the job to safely de-energize and secure equipment per procedures before it is worked on.
5. **Contractors**
 - 5.1. Adhere to UD specific safety Lockout/Tagout procedures as outlined in this document for all tasks that require the use of lockout/tagout procedures as defined.
 - 5.2. Ensure that they have sufficient safety lockout equipment (safety locks, tags, personal protective equipment, specialized lockout devices) with them on the job to safely de-energize and secure equipment per procedures before it is worked on.
 - 5.3. Submit a LO/TO via UD's electronic form. Fill in all fields completely. Revise or update the electronic form each time a revision, addition, or removal of any points is necessary.

Procedure

6. Basic Safety Lockout/Tagout Procedures

6.1. Preparation for Lockout/Tagout

- 6.1.1. Make a survey to locate and identify all isolating devices to be certain which switch (es), valve(s), or other energy isolating devices apply to the equipment to be locked and tagged out. More than one energy source (electrical, mechanical, stored energy, or others) may be involved.
- 6.1.2. Determine if a Group Lockout scenario would be best. If chosen, proceed to section 7.
- 6.1.3. Review if Equipment Specific LO/TO Instructions have been created for the asset/equipment that you will be servicing.
- 6.1.4. If Equipment Specific LO/TO Instructions have not been issued, create new instructions using Attachment D, (or) record lockout points in a Log Entry on the associated work order.
- 6.1.5. Complete UD online Lockout/Tagout form with all appropriate information.
- 6.1.6. **Contractors** shall submit a list of all lock out points to the project manager prior to the start of work on any UD equipment or system.
 - 6.1.6.1. This list will be maintained by the contractor and available for audit by UD personnel.
- 6.1.7. Issue Utility Outage Request Form for maintenance activities where lockout will impact utility services.

6.2. Installation sequence for Lockout/Tagout

- 6.2.1. Notify affected employees that a lockout/tagout process is going to be utilized and the reason for the lockout.
 - 6.2.1.1. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilizes and the hazards related to the lockout. Any employee who does not know this information or is uncertain must contact their supervisor.
- 6.2.2. Shut down equipment by the normal stopping procedure (depress stop button, open toggle switch, etc.).

- 6.2.3. Don appropriate PPE and operate the energy isolating device(s).
- 6.2.4. Dissipate or restrain stored energy sources (such as that in springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) by methods such as repositioning, blocking, bleeding down, etc.
- 6.2.5. Lockout/Tagout the energy isolation devices with assigned individual lock(s) and tag(s), designated in Attachment A.
 - 6.2.5.1. **Contractors** must use Tag-3 As designated in Attachment A, in combinations with tags from their Safety Programs.
 - 6.2.5.2. Tag-3 **must** be prominently displayed at all times.
- 6.2.6. With no personnel exposed, verify that it is de-energized by normal operating procedures.
CAUTION: Return operating control(s) to neutral or off position after the test.
- 6.2.7. Use voltage meter to ensure the absence of current before performing maintenance routines. Be aware that some control current may remain energized within electrical disconnect boxes.
- 6.2.8. Mark online Lockout/Tagout form as APPLIED.
- 6.2.9. For multi-shift lockout/tagout, input a Log Note in Maximo for the LOTO being applied.
 - 6.2.9.1. The Log Note should read: "LOTO APPLIED"
- 6.2.10. Wear appropriate level of PPE to conduct repair work.

6.3. Restoring Machines or Equipment to Normal Operations.

- 6.3.1. After the servicing and/or maintenance is complete check the area around the machines or equipment to ensure that no one is exposed.
- 6.3.2. Remove non-essential items from the machine or equipment, return protection guards and notify affected employees that lockout devices will be removed.
- 6.3.3. Remove the lockout/tagout devices by those individuals whom applied them.
- 6.3.4. Don appropriate PPE to re-energize equipment.
- 6.3.5. Operate the energy isolating devices to restore energy to the equipment.
- 6.3.6. Verify the equipment is operating according to equipment parameters.
- 6.3.7. Turn equipment over to users.
- 6.3.8. Mark online Lockout/Tagout form as REMOVED.

7. Group Lockout/Tagout

- 7.1. When more than one authorized employee is servicing equipment, a Group Lock system can be used to eliminate the need for multiple separately keyed locks when servicing equipment.
 - 7.1.1. Group Locks shall be keyed-alike whereas there is one key for a particular set of group locks.
 - 7.1.2. A Lock Box will be used to execute the Group Lock scenario.
- 7.2. During Group Lockouts, one group member shall be ASSIGNED responsibility for ensuring that all steps of Section 6.2 are followed.
- 7.3. Following Section 6.2 and apply Group Locks during Section 6.2.5.
- 7.4. The ASSIGNED person shall attach a hasp to the Lock Box for personal locks to be attached to via hasp or holes within the box (see Appendix A: Lock Box).
- 7.5. Following Section 6.3 and remove Group Locks during 6.3.3
 - 7.5.1. ASSIGNED person to remove their locks and tags last.
 - 7.5.2. ASSIGNED person will ensure energizing equipment in accordance to 6.3.

8. Emergency Removal of LOCKOUT/TAGOUT

- 8.1. Each lockout or tagout device shall be removed from each energy isolating device by the employee who applied the device and recorded in the LOTO book or UD Electronic Form.
- 8.2. When the authorized employee who applied the lockout or tagout device is not available to remove it, that device may be removed under the direction of the employer.

- 8.2.1. The employer shall demonstrate that the specific procedure provides equivalent safety to the removal of the device by the authorized employee who applied it.
- 8.3. The **EMPLOYER SAFETY LOCK REMOVAL** procedure steps shall be as follows:
- 8.3.1. Verification by the employer that the authorized employee who applied the device is not at the facility and/or cannot arrive to the facility to remove their devices.
- 8.3.2. Making all reasonable efforts to contact the authorized employee to inform him/her that his/her lockout or tagout device has to be removed:
- 8.3.2.1. Phone call to authorized employee
- 8.3.2.2. Text authorized employee
- 8.3.2.3. Email authorized employee, supervisor, safety coordinator, assistant director and director.
- 8.3.2.3.1. A follow-up email will be sent containing the date and time of the removal and all appropriate actions that took place to warrant removal of the locking mechanisms.
- 8.3.3. Authorization for EMERGENCY removal will be provided by the Safety Coordinator or Supervisor or the respective trade.
- 8.3.3.1. If either is not available, the Director/Associate/Assistant Director of Maintenance and Operations or Vice President of FREAS can authorize the removal.
- 8.3.4. Submit a completed Emergency Removal Form to the Safety Coordinator and direct Supervisor for archive purposes.
- 8.3.5. Follow Section 6.3 for restoral of equipment to normal operations.
- 8.4. Ensure that the authorized employee has the knowledge that their lock has been removed in their absence before he/she resumes work at that facility.
9. **Online Lockout/Tagout Request Form**
- 9.1. Each Lockout/Tagout that is not considered a routine maintenance LOTO and requires multiple personnel or multiple days to be completed will be required to be captured in the Online LOTO Form.
- 9.2. Each Online LOTO Form will require a unique work order number from the CMMS system to be completed.
- 9.2.1. **Contractors** will need to be supplied with a work order number by their UD Project Management representative.
- 9.2.2. UD Personnel will create a work order, Parent or Child, for completion of the LOTO.
- 9.3. **Online LOTO Form completion:**
- 9.3.1. Information within the online form needs to be filled in completely for proper notification and documentation. The work order number given for the LOTO to be completed is required and, when used, will auto-fill some of the required fields.
- 9.3.2. For **Contractors**, company name in the COMPANY/UD SHOP should be filled in. Be specific to the name of the company.
- 9.3.3. Check all appropriate boxes for Energy Source Affected and Shop Support Needed.
- 9.3.3.1. Shop Support needed should include all shops necessary to complete the LOTO properly.
- 9.3.4. A description of the LOTO being performed to give a synopsis of the procedures being completed. This will include items such as boundaries, circuit number, valve number or any other information necessary to identify sources or hazards.
- 9.3.5. Input the dates for the LOTO to be performed.
- 9.3.5.1. If a LOTO is to span multiple days, the form will include lock transfer procedures between shifts or between the **contractor** and UD personnel. Notation of this will be made in the procedure box to explain how this process will be performed.
- 9.3.5.2. All personnel needed for this process will be notated in this box and in the Qualified Personnel section at the end of the form.
- 9.3.6. Input PPE required to complete the work.

9.3.7. Input personnel needed for the completion of the LOTO.

9.3.7.1. Contact Person: typically the UD mechanic, manager/supervisor, Contractor Superintendent, Forman, or Mechanic.

9.3.7.2. Qualified Person: those who would be working on the system.

9.3.7.3. UD Contact: Project Manager, Shop Manager/Supervisor, UD Contact Personnel.

9.3.8. When starting the work, the form will need to be put in the APPLIED status under the APPLY/REMOVE button.

9.3.9. After completing the work, the form will need to be put in the REMOVED status under the APPLY/REMOVE button.

9.4. Review LOTOs via the file structure within the form to review all LOTOs. Coordinate if there are multiple LOTOs needed for particular projects for separate Child Work Orders to be used for tracking purposes.

10. Maintenance Requiring Undisrupted Energy Supply

10.1. Where maintenance, repairing, cleaning, servicing, adjusting, or setting up operations cannot be accomplished with the prime mover or energy source disconnected, such operations may only be performed under the following conditions:

10.1.1. The operating station (e.g. external control panel) where the machine may be activated must at all times be under the control of a qualified operator.

10.1.2. All participants must be in clear view of the operator or in positive communication with each other.

10.1.3. All participants must be beyond the reach of machine elements which may move rapidly and present a hazard.

10.1.4. Where machine configuration or size requires that the operator leave the control station to install tools, and where there are machine elements which may move rapidly, if activated, such elements must be separately locked out.

10.1.5. During repair procedures where mechanical components are being adjusted or replaced, the machine shall be de-energized or disconnected from its power source.

11. Energy Isolation Device Hardware

11.1. Safety lock types Subsections

11.1.1. Personal Safety Lock: (1-key/1-lock) every employee assigned to work on a piece of equipment requiring lockout will be issued one or more uniquely-keyed personal safety locks. These locks are registered to an individual and are to be used only for safety lockout applications. The concept of 1-key/1-lock for employee personal safety locks is the foundation of the security a successful lockout procedure. See Appendix A.

11.1.2. Shop Safety Lock: (1-key/1-lock) When an employee determines that the repairs are going to be delayed (e.g., waiting parts) or job is planned for an extended period of time such as multiple shifts) or they are leaving the end of their assigned shift and the work is incomplete, then they should remove their personal safety lock and replace it with a shop safety lock. Shop safety locks are registered to the shop and are individually-keyed. When a shop safety lock is placed on an energy isolation point for a piece of equipment, the reason for its use needs to be logged in the shop lockout book. This book serves as a reference for other employees who may be assigned to finish the job at a future date (e.g., when parts are available).

11.1.3. Group Safety Lock: (1-key/multiple locks) Where the service or repair of equipment requires multiple energy isolation points, the use of multiple keyed-alike locks (Group Locks) may be used to facilitate the process. Every lock in a set of group locks is keyed-alike and there is only one key for a particular set of group locks. When this group lock key for the series of keyed-alike locks is placed in a group lockout box and secured by an employee's personal safety lock, they are in effect affixing their personal lock to all of the multiple energy isolation points because their personal lock controls the only key to the particular series of group locks. Shops which experience the need to lockout

multiple energy isolation points as part of locking out a system(s) or for shutdown work, may wish to have multiple sets of group locks, e.g., for steam, water, air, electrical, etc.

11.1.4. Miscellaneous Hardware

11.1.4.1. Safety lock hasps: hardware used which allows multiple employees to affix their personal safety locks to a single isolation lockout point. Specific make and model of personal lock is attached.

11.1.4.2. Group lockout boxes: A box which is used to secure the group lock key to a series of group safety locks that are being used in the field to lockout multiple isolation points. The specific make and model of the Group Lockout Box used by Facilities is attached.

11.1.4.3. Do Not Operate Tags: A tag used to indicate an energy isolation point for lockout applications. The specific make and model of authorized Facilities tags is attached.

12. Employee Training

12.1. UD Employees will receive lockout/tagout training from qualified training personnel. Note: training requirements outlined in 29CFR [Specifically 1910.147 10.3.1, 10.3.2, 10.3.3.

12.2. Supervisors or managers are responsible for providing lockout/tagout training before employees are allowed to be involved in the servicing and maintenance of machines or equipment. All authorized employees must be trained to recognize applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means (procedures) necessary to isolate and control hazardous energy. All affected employees must be trained to understand the purpose and function of lockout/tagout procedures and the prohibition of trying to restart machines or equipment that are locked or tagged out.

13. Recordkeeping

13.1. Inspection Records

13.1.1. Facilities will maintain inspection records in accordance with 1.3.1 of this document.

13.1.2. Facilities will complete and maintain all Lockout/Tagout Inspection Forms.

13.2. Training Records

13.2.1. Training records will be maintained by the Facilities Department. Training records will include an outline of topics covered and a sign in sheet of those employees attending.

Reference

13.3. Code of Federal Regulations (CFR), Title 29, Part 1910, Section 147, CFR Title 29, Part 1910.147

13.4. UD Safety and Security Policy 7-12.

Appendix A: Examples of Hardware for Safety Lockout

Padlock, Xeno, Red, Length 1 3/4 In

Safety > Lockout Devices > Lockout Padlocks

Lockout Padlock, Safety, Key Type Different, Body Material Steel, 6 Pin Locking Mechanism, Xeno Finish, Color Red, Body Length 1 3/4 In, Body Size Width 1 1/2 In, Body Size Thickness 3/4 In, Shackle Material Steel, Shackle Height 1 1/2 In, Shackle Width 3/4 In, Shackle Dia 1/4 In, Meets OSHA 1910 147 Standards, Includes One Key

| | |
|---------------------------|-------------|
| Granger Item # | 4F062 |
| Price (ea.) | \$15.20 |
| Brand | MASTER LOCK |
| Mfr. Model # | 410RED |
| Ship Qty. (U) | 1 |
| Sell Qty. (Will-Call) (U) | 1 |
| Ship Weight (lbs.) | 0.24 |
| Usually Ships™ (U) | Today |
| Catalog Page No. | 2285 |

[Enlarge Image](#)

Lockout Hasp

Safety > Lockout Devices > Lockout Devices

Lockout Hasp, Inside Jaw Diameter 1 Inch, Height 4 1/2 Inches, Width 1 1/2 Inches, Safety Lockout Lip to 6 Padlocks with 3/8 Inch Diameter Shackle

| | |
|---------------------------|-------------|
| Granger Item # | 1U177 |
| Price (ea.) | \$6.55 |
| Brand | MASTER LOCK |
| Mfr. Model # | 420 |
| Ship Qty. (U) | 1 |
| Sell Qty. (Will-Call) (U) | 1 |
| Ship Weight (lbs.) | 0.2 |
| Usually Ships™ (U) | Today |
| Catalog Page No. | 2285 |

Padlock, Key Type Different, Red, 2 Keys

Safety > Lockout Devices > Lockout Padlocks

Lockout Padlock, High Visibility, Key Type Different, Body Material Aluminum, Pin Series Pick Resistant 6 Pin Locking Mechanism, Fluoride Coated Finish, Color Red, Body Length 2 In, Body Size Width 1 5/16 In, Body Size Thickness 3/4 In, Shackle Material Steel, Shackle Height 1 1/8 In, Shackle Width 25/32 In, Shackle Dia 1/4 In, Meets OSHA 1910 147 Standards, Includes Two Keys

| | |
|---------------------------|-------------|
| Granger Item # | 4R027 |
| Price (ea.) | \$14.95 |
| Brand | MASTER LOCK |
| Mfr. Model # | 6839RED |
| Ship Qty. (U) | 1 |
| Sell Qty. (Will-Call) (U) | 1 |
| Ship Weight (lbs.) | 0.3 |
| Usually Ships™ (U) | Today |
| Catalog Page No. | 2285 |

Lock Box

Safety > Lockout Devices > Lockout Centers and Stations

Lock Box, 13 Lock, Heavy Steel Construction, Length 9 Inches, Depth 3 1/2 Inches, Height 6 Inches, Color Red

| | |
|---------------------------|---------|
| Granger Item # | 1D677 |
| Price (ea.) | \$66.55 |
| Brand | BRADY |
| Mfr. Model # | 65699 |
| Ship Qty. (U) | 1 |
| Sell Qty. (Will-Call) (U) | 1 |
| Ship Weight (lbs.) | 3.8 |
| Usually Ships™ (U) | Today |
| Catalog Page No. | 2283 |

Appendix B: Approved Lockout/Tagout Tags Tag 1, Tag 2, & Tag 3

Lockout is a first means of protection, warning tags only supplement the use of locks. Tags alone may be used only when the application of a lock is not practically feasible and with approval of the appropriate supervisor.



Tag-1 (reusable) shall be used for daily lockouts required for routine maintenance activities. Tag-1 can be used in combination with Tag-2 if the mechanic is concerned that Tag-2 might become damaged by the environment or otherwise compromised. If the two tags are used together, the tag number from Tag-2 must be hand written onto Tag-1, and this tag must then be discarded after the LO/TO is removed.



Tag-2 (two-part) shall be used for multi-shift, multi-day lockouts when a Shop LO/TO Book entry is required, or as designated by the Shop Manager. The mechanic should record the tag number in a work order log entry and place the tear-away portion of the tag in his personnel log book, or if it is a Group LO/TO, with the Shop LO/TO Book.



Tag-3 **must** be prominently displayed at all times.

Appendix C: UD Lockout/Tagout Inspection Form

Title: UD Lockout/Tagout Inspection Form

Revised: 4/17/2018

Source: Amneris Garcia

UD LOCKOUT/TAGOUT INSPECTION FORM

1. Inspection Date: _____ Maximo WO# _____

2. Inspector (Printed Name/Signature): _____ / _____

3. Employee(s) Inspected (Printed/Signature): _____ / _____

_____ / _____

_____ / _____

_____ / _____

4. Machine/equipment on which the energy control procedure was being utilized:

YES / NO Has employee tested the effectiveness of his/her lockout /tagout devices?

YES / NO Have all procedures been followed?

YES / NO Were tagout legible and clearly displayed?

5. Comments/Observations: _____

Appendix D: Equipment Specific Lockout/Tagout Instruction Form

Title: Equipment Specific Lockout/Tagout Instructions Form

Revised: 4/18/2018

Source: Amneris Garcia

EQUIPMENT SPECIFIC LOCKOUT/TAGOUT INSTRUCTION FORM

University of Delaware "Equipment Specific" Lockout/Tagout Instructions



| | | | |
|---|----------------------------|---|---------------------------|
| Equipment/Asset Name: | | | |
| Date LO/TO: | | Supervisor Name: | Building or Area: |
| Shop: | | Supervisor Phone: | WO#: |
| LO/TO By? Mechanics Name & Unit # | | Number of Energy Sources: (List Below) | Instructions Issued Date: |
| General Instructions: <ol style="list-style-type: none"> 1. Provide verbal notification of LOTO to affected employees. 2. Shut down Equipment using standard stopping instructions. 3. Isolate all energy sources and apply devices for each energy sources. 4. Release all residual and stored Energy. Follow any special instructions below. 5. Attach working tags with names of employee and WO# at each lock point. 6. Verify all sources have been de-energized. | | | |
| Specific Instructions: (page _ of) | | | |
| Energy Source | Location (on or near unit) | LOTO Method | LOTO Device |
| | | | |
| | | | |
| | | | |
| LOTO Removal Instructions: <ol style="list-style-type: none"> 1. 2. 3. | | Sign/Approval: _____ Date: _____ | |



Appendix E: Shop Lockout/Tagout Book Index Form

Title: Shop Lockout/Tagout Book Index Form

Revised: 4/17/2018

Source: Amneris Garcia

| LOCKOUT/TAGOUT INDEX | | | | SHOP | | | | |
|----------------------|-------------------------|----------------------|------------------------------|---------------|----------------|-------------------|-----------------|----------------|
| BUILDING | WORK ORDER NUMBER | ASSET DESCRIPTION | PURPOSE OF LOCKOUT/TAGOUT | TAG NUMBER | TECH'S NAME | TECH'S LOCK ID | DATE APPLIED | DATE REMOVE |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Appendix F: Removal of Lockout/Tagout

Title: Shop Lockout/Tagout Book Index Form

Revised: 4/13/2018

Source: Mike Guns

**APPENDIX F
UNIVERSITY OF DELAWARE LOCK REMOVAL FORM**

| General Information: | |
|---|----------------------------------|
| Date & time of initial request to remove lock: | Work Unit of lock owner: |
| Name of lock owner whose lock/tag is to be removed: | Name of lock owner's supervisor: |
| Equipment & location: | |
| Is it absolutely necessary for the equipment to be reenergized before the lock owner can return to personally remove the lock? Yes No | |
| If "Yes", explain why: | |

| Document Reason for Removing Lock: (Lock owner called in sick, lock owner forgot to remove lock before leaving site, etc) |
|---|
| |

| Document attempts to contact lock owner prior to removal: | | |
|--|-----------------------------|--------|
| Date & Time | Method of Attempted Contact | Result |
| @ | | |
| @ | | |
| @ | | |

| Lock Removal: |
|---|
| <input type="checkbox"/> Verify that the lock will be removed by the supervisor of the lock owner or the supervisor's direct designee. |
| <input type="checkbox"/> Verify that the supervisor of the lock owner or the supervisor's direct designee has reviewed the equipment to ensure that it can be safely reenergized. |
| Lock removed by: _____ Date & time of removal: _____ |

| Notifications: |
|--|
| <input type="checkbox"/> Verify that EHS has been informed (i.e. via e-mail or phone call/message) of lock removal within 24 hours of removal. |
| <input type="checkbox"/> Verify that lock owner has been informed of lock removal prior to beginning their next shift. |

Signature of Lock Owner's Supervisor: _____

Revisions

| Document Number: | | Name of Procedure | | |
|-----------------------|------------------|-------------------|------------------------------|-------------|
| UD-FREAS-MO-ADMIN-003 | | Lockout/Tagout | | |
| Issue | Revision History | Effective Date | Author | Next Review |
| 1.0 | Old version | 1/1/2013 | | |
| 2.0A | New revision | 4/5/2018 | Mike Guns, Brian Schuster | |
| 2.0B | New revision | 4/12/2018 | Mike Guns, Brian Schuster | |
| 2.0 | Approval | 5/3/2018 | Mike Guns, Brian Schuster | |
| | | | | |