



LOCK OUT/TAG OUT (LOTO)

LOCK/TAG OUT PROCESS

Definition

The process of securing a hazard to eliminate risk and to provide temporary guarding of a machine or process.

LOTO provides for a system of protection against all electrical and mechanical hazards.

Examples

- Power circuits.
- Reciprocating machinery.
- Pressure vessels.
- All other equipment (electrical, mechanical, hydraulic, etc) that could cause a potential hazard.

Electrical Safety

- Every year about 4000 work accidents involving electric shock or electrical burns are reported. About 100 of these are fatal.
- Apart from road accidents electrical safety was the biggest Global cause of fatalities in last decade in the commercial sector.
- Controlled by Regulations.
- Applies to all electrical systems.
- Principal concern is high voltages defined as those above 110 volts.
- LOTO process involves locking out the main power switch.
- LOTO process involves clear marking of the main power switch to ensure that any third party is aware of the hazard.
- LOTO process involves ensuring that all energy is dissipated before contact (e.g. capacitors).

Mechanical Safety

- Controlled by Regulations.
- Requirement for all work equipment to be guarded.
- Requirement for training prior to any work being performed.
- Requirement for maintenance and record keeping.



Mechanical Hazards

- Prime movers.
- In-running nip.
- Reciprocating movement.
- Drive belts.
- Rotating parts.
- Pneumatic and hydraulic operations.

Mechanical Safety

- LOTO process involves locking out the main power or control switch.
- LOTO process involves clear marking of the main power or control switch to ensure that any third party is aware of the hazard.
- LOTO process involves ensuring that no further movement can occur.

Job Safety Analysis

Risk assessment

- Identify hazards.
- Calculate risk rating.
- Document controls.



LOCK OUT PROCEDURES

AUTHORISED EMPLOYEES ONLY

| <i>Insert Equipment Type</i> | |
|---|---|
| Notify Employees | Affected workers will be notified of lockout activities verbally by authorized employee(s) prior to and during implementation of lock / tag out procedures. Authorized workers include: <i>Insert Names</i> |
| Shut Down Equipment | Review the Operator/Service manual(s) for any special shut down or maintenance instructions. Perform normal shut down procedure at control panel and turn power selection to the “off” position. |
| Operate Energy Isolating Device | Operate the main power breaker. Operate any pneumatic valve when servicing these items. |
| Apply LOTO Device | Authorized workers apply LOTO measures to the power isolating devices mentioned above. |
| Dissipate/restrain Stored Energy | Perform energy dissipation procedures for any internal capacitors. Bleed down any remaining pressure at disconnect points for lines. |
| Verify Disconnect | After ensuring that no workers are exposed to potential injury, and having disconnected all energy sources (LOTO), operate the power activation controls to verify that the equipment will not operate. |
| Perform Maintenance | Return the operating control to “neutral” or “off” after the verification test. Perform necessary maintenance tasks on the equipment. |
| Check Area | After the servicing is complete and the equipment or machine is ready for normal operations, check the area around the equipment to ensure that no one is exposed to danger and all tools have been removed prior to re-energizing. |
| Remove LOTO Devices - Start-up | Perform housekeeping check, reinstall guards, and ensure that all personnel are clear of the equipment. Remove LOTO devices. Restore energy to the equipment and verify safe operation. |