



MIOSHA Fact Sheet

General Industry Safety & Health Division

Machine Specific Lockout

What is machine specific lockout?

Machine specific lockout is a component of the employer's total energy control program. General Industry Safety Standard Part 85 requires that the employer is responsible to provide employee training, appropriate equipment, periodic inspection and machine specific (lockout) energy control procedures as part of the energy control program. A machine specific procedure is a documented step-by-step instruction used to provide energy control information to employees. The information, when used by trained (authorized) employees, protects the authorized employee and other employees in the area from injury by a machine, equipment, or process during repair, maintenance, and associated activities. The purpose of the machine specific lockout procedure is to provide employee protection by isolating equipment from all the energy sources and render it inoperative.

Machine specific lockout does not include cord and plug machines or equipment when the source of energy is controlled by simply unplugging the equipment. In addition, the "plug" must be under the exclusive control of the employee performing the work.

I have one written procedure that applies to all the machines and equipment in the facility, is that good enough?

It might be, if all the machines and equipment in your facility have:

- The same magnitude and sources of energy,
- Identical locations to apply lockout devices, and
- Identical steps needed to verify energy isolation.

Then one written procedure may be adequate. If the machines and equipment in your facility are not all the same, the procedure will need to address each machine or piece of equipment in the facility, the procedure must be specific.

What kind of written procedure?

A machine specific procedure is an easy to follow document that illustrates accurate step-by-step instructions for controlling energy on a specific machine or piece of equipment. The procedure may have photos or graphics as well as text. The procedure will provide information for control of all the various energy sources for that machine or equipment: electrical, mechanical, hydraulic, pneumatic, chemical, thermal, and others, including gravity. The detail of the procedure must be sufficient to prevent employee injury from any movement or the unexpected release of stored energy.

How specific does the procedure have to be?

The machine specific procedure must outline the scope, purpose, authorization, rules and techniques utilized for lockout. As well as be specific enough so that the instructions used to control energy sources and verification of energy isolation is clearly understood by the authorized employee performing the work. It is critical to begin with an assessment of the potential hazardous energy sources in the equipment or machine:

- What are the types of energy present?
- Where does the energy enter the machine or equipment?

- What is the magnitude of the energy?
- How can the energy be blocked or isolated?
- Can the machine or equipment store energy?
- In what sequence does the energy need to be isolated?
- Which device is needed to lockout the energy?
- Where is the lockout device applied?
- How is energy isolation verified?
- When do I notify affected employees of the lockout?

A **clearly stated machine** specific lockout procedure is essential. There are a variety of ways to document machine specific procedures. Some firms utilize:

- Color-coding in identifying the various energy sources and lock location.
- A photograph with text box and arrows identifying the lockout points.
- A combination of color coding and graphics to identify the energy sources.

There are firm's that create machine specific lockout procedures for other companies.

How do I know if the machine specific lockout procedure is good enough?

The proof is in the performance of the procedure by the authorized employee. The periodic inspection performed, at least annually, by the employer is an opportunity to evaluate the energy control program on several levels:

- Ensure accountability in the procedure.
- Assess the procedure for accuracy on a yearly basis.
- Evaluate the employee's training by observing their ability to achieve a zero energy state in the machines and equipment.
- Re-train employees who deviate from the procedure or show inadequacies in the performance of the procedures.

What MIOSHA Standards require Lockout?

Many General Industry standards require Lockout such as:

- Part 14. Conveyors
- Part 17. Refuse Packer Units
- Part 18. Overhead and Gantry Cranes
- Part 26. Metalworking Machinery
- Part 40. Electrical Safety Related Work Practices
- Part 42. Forging
- Part 45. Die Casting
- Part 52. Sawmills
- Part 57. Oil and Gas Wells
- Part 62. Plastic Molding
- Part 63. Pulp, Paper and Paperboard Mills
- Part 65. Mills and Calendars for Rubber and Plastic
- Part 72. Automotive Service Operations
- Part 85. The Control of Hazardous Energy Sources

General Industry Standards Part 40 and Part 85 are called horizontal standards and apply to most general industry workplaces. General Industry Standard Part 40 applies to employees working on the electrical components of machines and equipment and contains requirements in addition to part 85. The other standards listed here are called vertical standards and are specific to the industry referenced in the title.

Additional Information

Please visit the MIOSHA website at www.michigan.gov/mioshapublications where additional information may be available; or contact the Consultation, Education & Training Division at (517) 322-1809.