



ENERGY FORMS, ENERGY SOURCES AND GENERAL LOCKOUT TAGOUT GUIDELINES

1. ENERGY FORM

- 1.1. Electricity

2. ENERGY SOURCE

- 2.1. Power transmission lines
- 2.2. Machine power cords
- 2.3. Motors
- 2.4. Solenoids
- 2.5. Capacitors (stored electrical energy)
- 2.6. Generators
- 2.7. Batteries
- 2.8. Photovoltaic arrays

3. GENERAL LOCKOUT GUIDELINE

Turn off power at the machine first (point of operation switch), and then at the main disconnect switch for the machine; lock and tag the main disconnect switch (or remove fuses from the box, and then lock and tag the box).

- 3.1. Fully discharge all capacitive systems e.g. cycle machine to drain power from capacitors as per the manufacturer's instructions.
- 3.2. Install grounds where necessary.
- 3.3. Voltage was removed, and the absence of voltage was verified.
- 3.4. Electrical Safety Program for more information.

4. ENERGY FORM

- 4.1. Fluid Pressure

5. ENERGY SOURCE

- 5.1. Hydraulic systems
- 5.2. Hydraulic presses
- 5.3. Rams
- 5.4. Cylinders
- 5.5. Hammers

6. GENERAL LOCKOUT GUIDELINE

- 6.1. Shut off, lock (with chains, built-in lockout devices, or lockout attachments), and tag valves; bleed off and blank lines as necessary.
- 6.2. Block any possible movement of machinery.

7. ENERGY FORM

- 7.1. Air Pressure

8. ENERGY SOURCE



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Pneumatic systems:

- 8.1. Lines
- 8.2. Pressure reservoirs
- 8.3. Accumulators
- 8.4. Air surge tanks
- 8.5. Rams
- 8.6. Cylinders

9. GENERAL LOCKOUT GUIDELINE

- 9.1. Shut off, lock (with chains, built-in lockout devices, or lockout attachments), and tag valves; bleed off excess air.
- 9.2. If pressure cannot be relieved, block any possible movement of machinery.

10. ENERGY FORM

- 10.1. Kinetic Energy (energy of a moving object or materials - the moving object may be powered or coasting)

11. ENERGY SOURCE

- 11.1. Blades
- 11.2. Flywheels
- 11.3. Materials in supply lines of bins or silos

12. GENERAL LOCKOUT GUIDELINE

- 12.1. Stop and block machine parts, and ensure that they are not recycled.
- 12.2. Review the entire cycle of mechanical motion
- 12.3. Ensure that all motions are stopped.
- 12.4. Block material from moving into the area of work and blank as required.

13. ENERGY FORM

- 13.1. Potential Energy (energy stored in an object with the potential for release due to its position)

14. ENERGY SOURCE

- 14.1. Springs
- 14.2. Actuators
- 14.3. Counterweights
- 14.4. Raised loads
- 14.5. Top or movable part of a press or lifting device

15. GENERAL LOCKOUT GUIDELINE

- 15.1. If possible, lower all suspended parts and loads to the lowest (rest) position, block parts that might move due to gravity; release or block stored spring energy.

16. ENERGY FORM



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16.1. Pressurized liquids and gases (including steam, chemicals)

17. ENERGY SOURCE

17.1. Supply lines

17.2. Storage tanks and vessels

18. GENERAL LOCKOUT GUIDELINE

18.1. Shut off, lock (with chains, built-in lockout devices, or lockout attachments), and tag valves; bleed off excess liquids or gases; blank lines as necessary.

