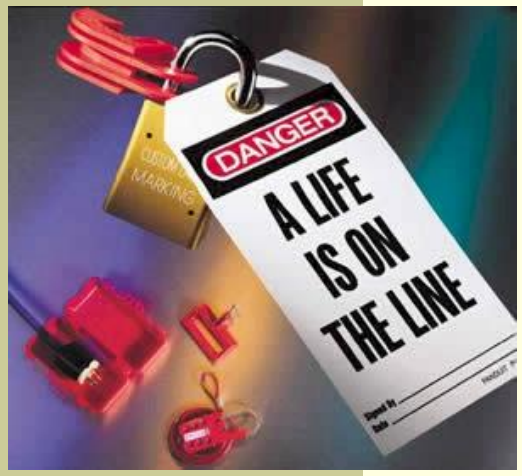


Lockout/Tagout

29 CFR 1910.147

Subpart J

Control of Hazardous Energy

Joe Bateman, ISRI Safety

A sad shredder story . . .

Most Frequently Cited OSHA Standards
NAICS Code: 423930 *Recyclable Material Merchant Wholesalers*

Listed below are the standards which were cited by Federal OSHA for the specified NAICS Code during the period October 2013 through September 2014. Penalties shown reflect current rather than initial amounts.

Standard	Citations	Inspections	Penalty	Description
Total	**629**	**148**	**$723,542**	***All Standards cited for Recyclable Material Merchant Wholesalers***
19100178	75	52	$91,591	#2($). Powered industrial trucks.
19101200	75	36	$33,206	#8($). Hazard Communication.
19100305	58	32	$47,574	#5($). Wiring methods, components, and equipment for general use.
19100147	39	21	$62,401	#3($). The control of hazardous energy (lockout/tagout).
19100212	37	31	$94,024	#1($). Machine guarding.
19100303	35	26	$48,740	#4($). General electrical requirements.
19100023	26	19	$42,780	#7($). Guarding floor and wall openings and holes.
5A0001	21	17	$45,443	#6($). OSHA Act General Duty Paragraph
19101025	18	11	$28,975	#9($). Lead.
19100095	16	8	$20,273	#10($).Occupational noise exposure.
19100022	15	13	$16,110	Walking/working surfaces/Housekeeping.
19100146	11	8	$13,171	Permit-required confined spaces
19100219	10	8	$14,040	Mechanical power-transmission apparatus.
19100132	8	8	$10,310	Personal protective equipment.
19100176	6	5	$19,620	Handling materials - general.

When is LOTO Required?

- Servicing, maintaining, or un-jamming equipment where:
  - Hazardous energy exists
  - Unexpected start-up could occur
  - Either of these could injure a worker

LOTO **Shall Be Used** When:

- Employees are required to remove or bypass a safety device.
- **Employees are required to place any part of their body in harm's way.**
- Employees are exposed to hazardous energy.

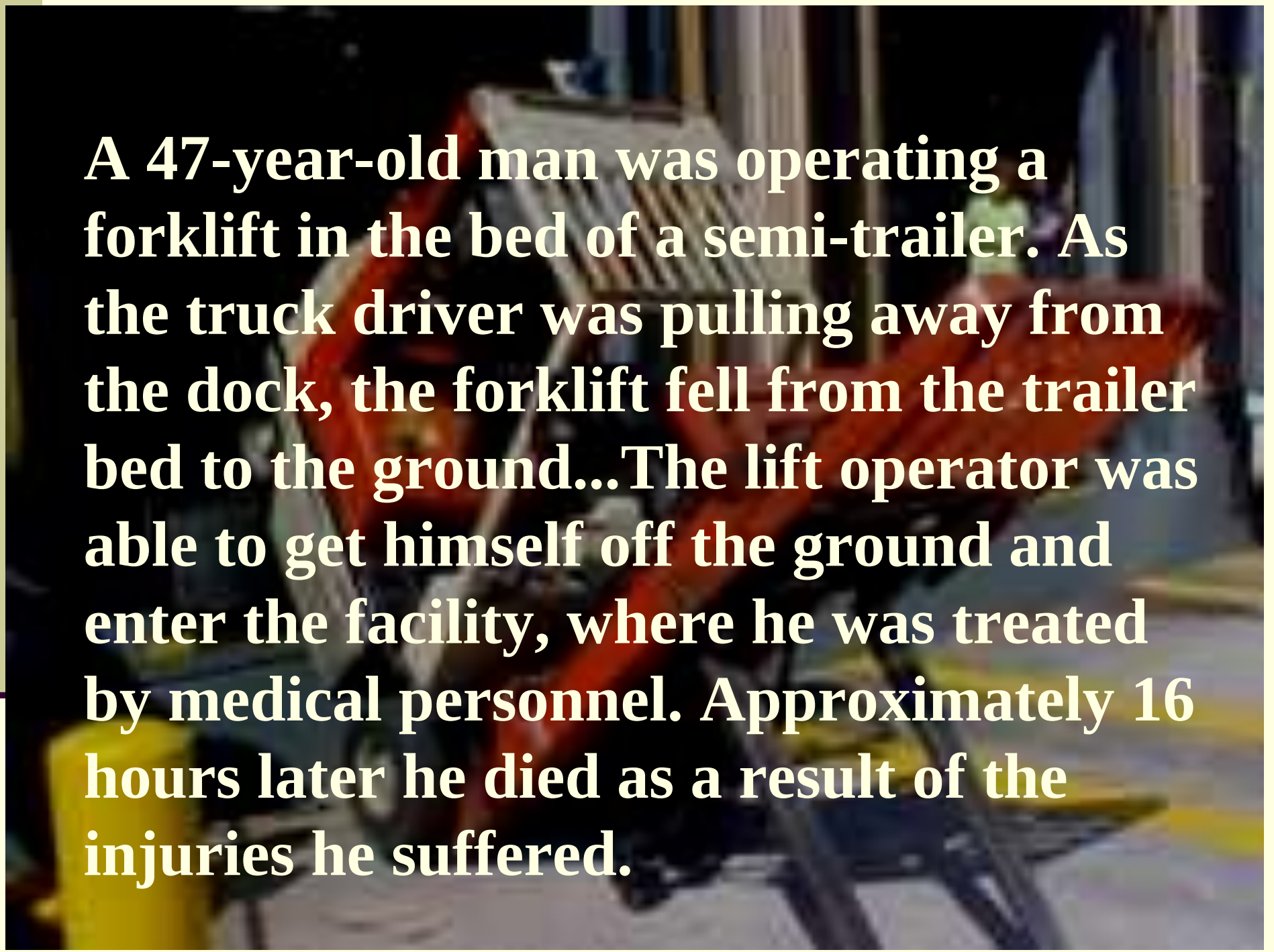
Remember:

- Lockout is not *just* for when things go wrong.
- Lockout is not *just* for maintenance workers.
- Make sure people understand **AND** use it.
- (Example of incomplete understanding from a recent visit.)

What do we Lockout?

Multiple Points on Same Machine

What about this?


A 47-year-old man was operating a forklift in the bed of a semi-trailer. As the truck driver was pulling away from the dock, the forklift fell from the trailer bed to the ground...The lift operator was able to get himself off the ground and enter the facility, where he was treated by medical personnel. Approximately 16 hours later he died as a result of the injuries he suffered.

Always Chock Your Wheels

And use GLADHAND LOCKS:

Make it Foolproof—

Energy Sources

- Mechanical
- Thermal
- Hydraulic
- Pneumatic
- Magnetic
- Gravity

- Electrical
- Gas
- Water
- Other stored energy
  (i.e. springs, capacitors)

Authorized Employee

- Maintains equipment
- Services equipment
- Is **properly** and **thoroughly** trained to use lockout/tagout procedures
- Operates equipment (sometimes)

Affected Employees

Employees who:

- Operate (sometimes)
- Work around
- Occasionally adjust equipment that is subject to lockout tagout

Where to Begin

- First, conduct a **HAZARD ASSESSMENT** by identifying each piece of equipment that is used, serviced, or maintained
  - Include broken or stored equipment
- Then, determine the requirements for lockout
  - If there is more than one primary energy source to the equipment, document each source

Where to Begin

- Document all energy sources
  - Hidden
  - Direct
- The hazard posed
- The magnitude or measurable degree of danger
- Special or unusual conditions
- Proper isolations and devices

Types of Lockout Devices

- Locks
- Blocks
- Chains
- Multilock hasps
- Wheel valve covers
- Ball valve covers
- Gladhand locks

Overhead Crane Controls/Plugs

Breakers

Wall Switches

Air Lines

Gas Cylinders

Here's an option for locking out mobile equipment:

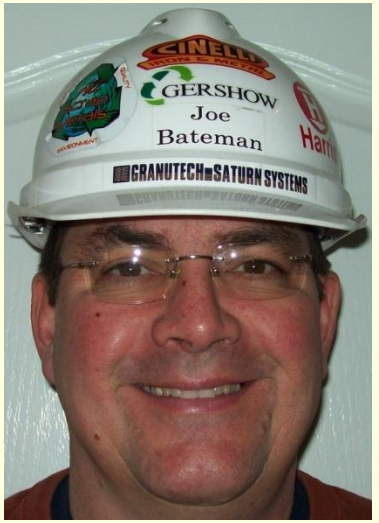
Here's another option for locking out mobile equipment:

Requirements For Lockout/Tagout Devices

- Durable
- Standardized
- Substantial
- Identifiable

Remember:

- One Man.



- One Lock.

- One Key.

Use a Tag—

Name & Cell Phone Number

Make It Clear

Label your Lockout points:

Training Requirements

- Authorized employees
  - initially and at least annually
- Affected employees
  - at least initially
- Authorized and affected
  - whenever changes are made to jobs or procedures
  - when program deficiencies are noted
  - when new equipment is installed
  - when equipment is modified
- Documentation

Authorized Employee Training

- Purpose of the procedure
- Recognition of applicable hazardous energy sources
- Type and magnitude of the energy available in the workplace
- Means and methods necessary for energy isolation and control
- Ways to verify that energy isolation is effective

Affected Employee Training

- Instruction on the purpose and use of the energy control system
- Awareness

BACK OFF!!!

Other Employee Training

- All other employees (including new hires) whose work operations are or may be in an area where lockout/tagout may be utilized
- Instruction must include:
  - Purpose of the procedure
  - Prohibition of starting or reenergizing any locked-out or tagged-out equipment they encounter

Retraining

- Authorized and affected employees
  - Change in job assignment
  - Change in equipment, machinery, or processes that presents a new hazard
  - Change in the lockout/tagout procedure

Retraining

Shall be conducted whenever a periodic inspection reveals, or the employer has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the lockout-tagout procedures

Group Lockout/Tagout

Procedure must afford the employees a level of protection equivalent to that provided by the implementation of a personal lockout-tagout device

Group Lockout/Tagout

- Primary responsibility is vested in an authorized employee who must:
  - ascertain the exposure status of individual group members
  - coordinate affected work forces (i.e. crews, departments, crafts)
  - A “Lead Lockout Man”

Group Lockout/Tagout

- Each authorized employee must:
  - Affix a personal lockout-tagout device to the group lockout device or box when he/she begins work
  - Remove those devices when he/she stops working on the equipment being serviced or maintained

Shift or Personnel Changes

- Procedures must ensure:
  - Continuity of lockout/tagout protection
  - Orderly hand-off of lockout of lockout/tagout devices

Testing or Positioning of Machines

OSHA allows the temporary removal of locks or tags and the re-energization of the equipment only when necessary under special conditions –

- for example, when power is needed for the testing or positioning of equipment

Testing or Positioning of Machines

- Must be conducted in following sequence:
  - Clear the equipment of tools and material
  - Vacate employees from the equipment area
  - Remove the lockout-tagout device as specified in the standard (the authorized employee who applied it must remove it)
  - Energize the equipment and proceed with testing or positioning
  - De-energize all systems, isolate the equipment from the energy source, and reapply the lockout-tagout devices

Contractors

- Must inform each other of all applicable lockout/tagout procedures
- Both employer and contractor must ensure that their employees understand and comply with the other's Energy Control Program

Typical Lockout Procedure

1. Notify affected employees
2. Use the specific steps as written in your own procedure manual
3. Shut off energy source(s) to affected equipment
   --Use normal stopping or running procedures for the machine
4. Isolate the equipment from the energy source

Typical Lockout Procedure

5. Affix locks and tags to each energy source controlling device
6. Relieve all stored energy from capacitor banks, springs, compressed air, hydraulics, etc.
7. **Verify isolation of energy has occurred by trying to start equipment**

Removal of Lockout/Tagout and Start-Up Procedures

1. Ensure that nonessential items are removed from equipment
2. Ensure that equipment components are intact
3. Check area to ensure that all affected employees are safely positioned or removed from the area

Removal of Lockout/Tagout and Start-Up Procedures

4. Notify all affected employees and site supervisor before reenergizing the equipment
5. Remove lockout/tagout devices
6. Reenergize equipment to ensure safe operation

Periodic Inspections

- At least annually
- Ensure procedures are implemented properly
- Ensure employees are familiar with their responsibilities
- Correct any deviations or inadequacies identified
- Document (form, photo)

Give it some Teeth

- Cardinal Safety Rules
- Lockout/Clockout
- Safety Absolutes
- Would anything get me fired?

Questions?

- Thank you!

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