

## Safety + Uptime = Money

**Lockout/tagout-related standards can help increase productivity and profitability while supporting safety initiatives.**

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***Using Single-Point Lockout helps reduce the number of lockout locations.***



Many people view conforming to safety standards as a cost without benefit. However, lockout/tagout-related safety standards are available to help increase productivity while promoting safety. Safety plus production uptime equals money.

Single-Point Lockout (SPLO) is a way to reduce the number of lockout locations. When standards are observed and SPLO is incorporated, real savings and benefits are created. Examples of these standards are the

American National Standards Institute/American Society of Safety Engineers (ANSI/ASSE) Z2244.1-2003 (R2008) and ANSI/Packaging Machinery Institute (PMMI) B155.1-20062 SPLO reduces the chance that an operator might miss or skip locking out an energy source when rushing to lock out a machine. Providing better assurance that lockouts will be properly used increases operator and equipment protection. Additionally, SPLO reduces the time required to put the machine into a safe mode and reduces the time required to bring the machine back into service once the problem is resolved.

Throughout this article, we'll examine how a consumer products company put lockout/tagout standards to work with a double valve from Ross Controls to reduce lockout time and save money. The consumer products company reduced lockout time by more than four minutes on a machine that averaged eight jams per shift.

The result was 32 minutes more of uptime per shift, or one hour and 36 minutes per day. That adds up to a full eight hour shift of additional production time over five days.

### Standard Practices

The aim of the ANSI/ASSE Z2244.1-2003 (R2008) "Control of Hazardous Energy Lockout/Tagout Alternative Methods" standard is to reduce the time it takes for safety procedures while increasing the degree of safety.

ANSI/PMMI B155.1-2006 "Safety Requirements for Packaging Machinery and Packaging-Related Converting Machinery" covers standards for safety shut-off and exhaust valves. It requires safety and shut-off valves to be:

- Lockable only in the off position
- Easy to operate
- Equipped with an exhaust port with capacity equal to or greater than the capacity of the supply port
- Equipped with a visible pressure indicator

***Using a single lockout point that is required to gain machine access helps ensure that all energy sources are accounted for and the machine is in a safety state.***



## Getting Out of A Jam

When workers must clear a jam to gain access to a machine's hazardous area, any energy sources must be locked out. This requires time to stop the machine and apply lockout to a number of devices that might not be located together. It also requires verification that the energy has been removed and the jam is clear. Clearing the jam requires verifying that all sources of energy have been turned off or removed through lockouts, clearing the jam, removing the lockouts and restarting the machine.

This is a time-consuming and labor-intensive process, and it also can create opportunities for employees to miss an energy-source lockout. Workers also could bypass the energy-source lockout if they think the lockout takes too long, or if they erroneously believe that simply removing electrical power is enough to put the machine into a safe state.

"The use of the Ross DM<sup>2</sup>® Series valves in both remote lockout systems as well as alternate means of hazardous energy control circuits have proven to be very reliable solutions for our operations in many of our commercial applications," says the senior safety engineer at the consumer products company. "The Ross safety valves we use provide a complete pneumatic safety solution in its product design."

The safety valves used by the consumer products company provides it with a self-contained monitoring system with flexibility for applications in which only pneumatic hazards exist. The company also has the ability to integrate easily the same pneumatic safety hardware in more complicated safety applications.

Manufacturers often use electrical safety systems to stop equipment by opening doors with interlocks or simply hitting the e-stop button. Using a single lockout point that is required to gain machine access helps ensure that all energy sources are accounted for and the machine is in a safety state.

Placing these lockouts at a convenient and typical entry point on a large piece of machinery allows for safe operator access. This eliminates travel time and the need for multiple lockouts. SPLO offers safety and productivity in a single package, and manufacturers can calculate a return on investment (ROI) based on the lockout time savings.

In some situations, a false perception can exist that the air has been quickly and completely dissipated. This can occur when a shut-off and exhaust valve is shut off; however, the operator may be unaware that the valve has a small bleed vent for an exhaust port. This is the case for most ball valves used in common packaging applications.

Requiring a full exhaust port helps avoid the situation. For example, when exhausting one cubic foot of 100-psig compressed air, a fully ported 1" valve will dump the air in 1.2 seconds. In contrast, a 1" ball valve with a vented exhaust takes four minutes to complete the task.

An operator might not realize it could take so long to exhaust the system and could unknowingly begin his/her task before the air is fully exhausted. Using a valve with a full-size exhaust port reduces the risk that the operator will begin servicing the machine before the air pressure has fully dissipated.

***When considering safety standards and productivity, the equation of adding safety to uptime will always equal money.***

*Article originally published in The Journal,  
Rockwell Automation.com, April 2010*

### Additional resources

For extended information related to safety products,  
please contact your local ROSS distributor.  
Also, please visit the safety page at [www.rosscontrols.com](http://www.rosscontrols.com).

