



Pressing the Issue of Mechanical Power Press Safety

Mechanical power presses are used widely in several areas of industry. They can also be extremely dangerous and affect many people in a wide variety of industries.

Most mechanical power press injuries occur when the press operator places his hand into or near the point of operation of the press and while the power press cycle has already been started for work. Some injuries also occur when the press operator inadvertently starts foot-activated controls or reaches into the press to reposition materials before the press moves. Even a loss of operator balance or a break in normal task rhythm can cause an unfortunate incident.

These inadvertent actions and injuries can be reduced by the use of safeguards. Among the most commonly used safeguards are barrier guards or gates, presence-sensing devices, and pullout and restraint devices.

Barrier guards or gates prevent injury by prohibiting hand or body part entry into the working zone of the press during its downstroke. Presence-sensing devices are used on partial-revolution presses and prevent injuries by sending a stop signal if the presence-sensing field at the entrance of the working zone is broken.

One other safety precaution device that may come along with many mechanical power presses is the dual-palm activation system. With this type of activation mechanism, the operator must apply pressure to two activation buttons in different locations to prevent him from activating the press with one hand and placing the other in the working zone. For maximum effectiveness, the activation buttons should be placed far apart and far from the closing action of the dies.

The pullout and restraint devices are wrist attachments that the operator wears on each arm. When the press is initiated, the wrist attachments pull the operator's hands away from the point of operation and hold them from the danger point until the press has completed its cycle. The operator's hands are then allowed to put another piece of material into the machine and the process continues.

Mechanical power press safeguards can add a safety factor into the machinery, but they cannot always prevent every incident. Some conditions allow for the possibility of an injury even when a safeguard is used. It is important that one is aware of the following situations.

Some processes require that different parts be stamped on the same press. In some instances, each stamp may need a different safeguard. In high-production times, operators may be hesitant to take the extra time to change to the correct safeguarding for each stamp.

Operators may try to make the process more convenient or productive by removing or overriding safeguards.

Adjustment of safeguards is critical. All safeguards must be adjusted properly to protect against employee entrance into the work zone. This may involve the location of dual palm buttons, the length of pullout and restraint devices, or even the placement of the presence-sensing devices. This item should be noted particularly when an adjustment in the dies has been made.



By being aware of these situations, one can be prepared for the safe use of power presses equipped with safeguards. Following are a few tips that may help in the process of properly fitting safeguards to the press and its operator.

- Consider interlocking safeguards so the foot control is inoperable when other safeguards are not functioning properly.
- Provide the employee with a footrest to reduce strain to the foot and consider an ergonomically correct seat for those operators who sit. A seated position is recommended for those who use foot-pedal activation.
- Safe operating procedures should be established and presented to all employees.
- Monitor the rate at which presses are being cycled to prevent the occurrence of inadvertent foot-pedal activation.
- Use point-of-operation safeguards, which are not easily misadjusted or bypassed, for foot-controlled presses.
- Use dual-palm activation on presses with short downstrokes and /or fast cycling rates.
- Consider the ergonomically correct location for installation of dual palm buttons.
- Evaluate each press=s safeguards and their fit for each operator of the press on a regular basis.

By considering several of these suggestions along with each power press=s manufacturer safety guidelines, employers and employees can work together to advance the issue of mechanical power press safety in all industries.

*Copyright 2002 * National Safety Council * All Rights Reserved. Reviewed 4/05.*