



Cabinet Press Pinch Point Hazard

Safety and Health Information Bulletin

SHIB 03-07-16

Purpose

The purpose of this Safety and Health Information Bulletin is:

1. To inform users of a pinch point hazard associated with certain semiautomatic shirt pressing “cabinet presses”;
2. To recommend that all laundry employers who own shirt pressing “cabinet presses” check to determine whether such a pinch point hazard exists in the operation of any one of their cabinet presses; and
3. To provide information that employers can use to address this hazard.

Background

OSHA’s Springfield, Massachusetts Area Office brought to the attention of the Directorate of Science, Technology and Medicine an accident involving the operation of a semiautomatic shirt pressing cabinet press (photo #1). The machine, a shirt press that presses the body of a dress shirt, consists of a mannequin or “buck,” which the operator dresses with a shirt at a loading table, and a cabinet, which contains the press heads. The buck is transferred into the cabinet of the machine by simultaneously depressing and holding the machine’s two transfer buttons and a foot pedal until the buck enters the press. When the buck is inside the cabinet, the two halves of the press automatically close for a 26-second-

This Safety and Health Information Bulletin is **not** a standard or regulation, and it creates no new legal obligations. The Bulletin is advisory in nature, informational in content, and is intended to assist employers in providing a safe and healthful workplace. The Occupational Safety and Health Act requires employers to comply with hazard-specific safety and health standards. In addition, pursuant to Section 5(a)(1), the General Duty Clause of the Act, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. Employers can be cited for violating the General Duty Clause if there is a recognized hazard and they do not take reasonable steps to prevent or abate the hazard. However, failure to implement these recommendations is not, in itself, a violation of the General Duty Clause. Citations can only be based on standards, regulations, and the General Duty Clause.

timed cycle. At the end of the timed cycle, the press automatically opens, and the buck is transferred out of the cabinet and returned to the dressing table.

This cabinet press is also equipped with a cancel button, which when depressed, halts the press cycle and returns the buck to the dressing position. In addition, the machine is equipped with safety bars on both sides of the entrance to the cabinet that function as cancel buttons which stop the operation of the press. They protect the

operator from getting caught by the buck as it enters the cabinet. However, the machine's controls do not have a means to arrest the automatic transfer of the buck out of the press during or after a press cycle. This creates a pinch point hazard between the buck and the end of the 10-inch by 48-inch opening (photo #2) at the dressing position.

Accident Investigation

The accident investigation revealed that, after the buck is transferred into the cabinet press, it leaves an opening (roughly 10-inches wide by 48-inches long) in the loading table (dressing table) or starting position. Upon activation of the press' transfer controls, an automatic cycle is initiated. At the conclusion of the cycle, the buck returns to the initial position on the loading table. There is no cancel, or emergency stop button on this press to halt the motion of the buck as it returns to the initial position on the loading table.

The accident occurred when the operator dressed the buck and initiated the press cycle. For unknown reasons, the operator placed her head, upper body, and right arm into the 10-inch by 48-inch opening in the dressing table and was fatally crushed between the buck and the frame of the machine when the buck automatically returned to the starting position at the dressing table at the end of the pressing cycle.

Other Information

The American National Standards Institute has a standard for commercial laundry and dry-cleaning operations, ANSI Z 8.1-1996. Paragraph 4.4.2.2 of Z 8.1 requires that:

A manually or automatically timed cabinet press shall require the operator to press with both hands simultaneously two buttons to initiate the transfer of the buck into the cabinet. Upon releasing one or both buttons before the transfer

cycle is complete, the transfer of the buck shall immediately cease and the press shall not close.

If the cabinet press is equipped with an interlocking barrier guard, a peripheral safety bar, or a device which prevents the operator placing his/her hand inadvertently inside the cabinet during the transfer of the buck into the cabinet, then upon releasing one or both buttons immediately after initiating the transfer of the buck with both hands on two buttons simultaneously, the pressing cycle shall continue; such safety device shall trip by a force of 15 pounds or less and shall without delay cancel the timed cycle, stop the transfer of the buck, prevent the closing of the heated chests, or open the press if closed, and render the press inoperative. The press shall not resume operation upon the release of the safety device unless the two operating buttons are simultaneously pressed with both hands.

On any cabinet press, a STOP, CANCEL, OR RELEASE button shall also be provided within the reach of the operator to override instantly the timed cycle, stop the transfer of the buck into the press, and open the press.

The ANSI standard indicates that, if the cabinet press is not equipped with an interlocking barrier guard, a peripheral safety bar, or a device which prevents the operator placing his/her hand inadvertently inside the cabinet, once the operator releases one or both initiation buttons, the transfer of the buck shall cease and the press shall not close. However, if the cabinet press is equipped with an interlocking barrier and other safety devices, the pressing cycle shall continue unless one of the safety devices is tripped.

The ANSI Z 8.1 standard, however, does not contain requirements to protect the 10-inch by 48-inch opening at the starting position. The cabinet press involved in the accident is equipped with various safeguards to protect employees from the hazard created when the buck moves into the cabinet, and the cabinets close, but it does not have safety devices to protect the 10-inch by 48-inch opening at the starting position. Thus, once the timed cycle is initiated, the press will complete the cycle unless one of the various safety devices is tripped. This action should stop the transfer of the buck. However, for the press involved in the accident, activation of any of the machine's safety devices or depressing the cancel button during an initiated cycle results in the cancellation of the timed cycle causing the buck to automatically return to the starting position.

OSHA's machine guarding standard, 29 *CFR* 1910.212 (a)(1), requires employers to provide a method of machine guarding to protect employees from hazards created by point of operation, ingoing nip points, rotating parts, etc. On this cabinet press, the press is not equipped with machine guarding or other safety devices to prevent employees from having any part of their bodies in the 10-inch by 48-inch table opening during the press cycle or a stopping device to halt motion of the buck back to the loading table. Thus, workers were exposed to a hazard created by the returning buck and the frame of the machine.

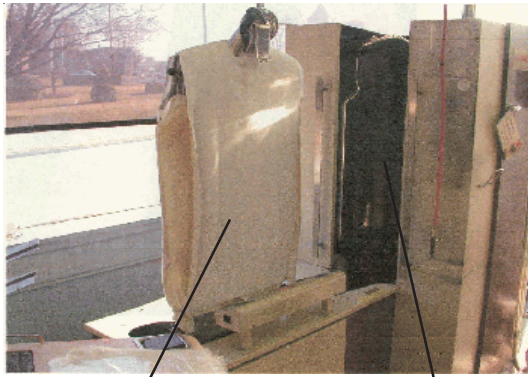
Conclusions

All employers who own cabinet presses with a pinch point hazard at the loading table must protect employees from pinch point hazards. Barrier guards or other safety devices that once initiated will render the press inoperative, stop the buck on its track, and require a deliberate action to return the buck to the starting position, can protect workers from the pinch point hazards created between the buck and the opening at the starting position.

Employers are encouraged to determine if the buck stops on its track once any of the safety devices is tripped or continues its return to the starting position. If the buck does not stop immediately on its track after one of the safety devices is tripped, the employer can either install a barrier guard on the opening to prevent employees from reaching into the opening or retrofit the press so that, if the cancel button is pressed or any of the safety devices are tripped, the press shall immediately be rendered inoperative and the press shall not resume operation unless the two operating buttons are simultaneously pressed with both hands.

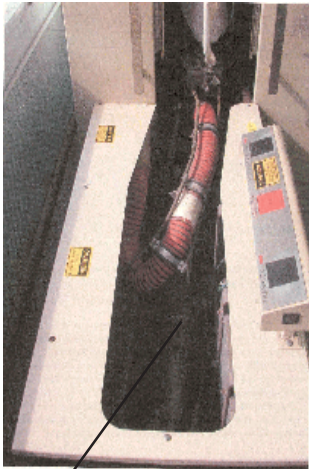
The employer who owned the cabinet press involved in the accident replaced the press with a newer model. On the newer model, at the end of the press cycle, the cabinet press simply opens, and the machine stops until the operator initiates buck return by depressing and maintaining pressure on both of the hand control buttons. If one or both of the hand control buttons is released at any time during the buck return, the buck will stop until both buttons are again depressed and held down until the buck returns to its initial starting position. In addition, a new emergency stop (E-STOP) and reset buttons have been added to the machine. The E-STOP ceases all machine functions and halts buck transfers at anytime. The new model also has a buzzer that sounds and a red transfer light that illuminates during buck return to warn the operator that the buck is returning from the cabinet.

Photo #1



Buck at starting position Cabinet

Photo #2



Opening at starting position with the
buck inside the cabinet