

Point of Operation Guards

The following are typical methods of guarding hazardous points of operation. The principles involved can be adapted to various operations on many types of machines.

Guarding Method	Guard Action	Advantages	Disadvantages
Enclosure or barrier	Admits stock but will not admit hands into danger zone because of feed opening size, remote location, or unusual shape.	A. Provides complete enclosure if kept in place. B. Frees both hands. C. Permits increased production. D. Easy to install.	A. Limited to specific operations. B. May require special tools to remove jammed stock. C. May interfere with visibility.
Gate guard	Shuts off or disengages power and prevents starting of machine when guard is open. Prevents opening of guard while machine is under power or coasting.	A. Does not interfere with production. B. Frees hands; operation of machine is automatic. C. Provides complete enclosure.	A. Requires careful adjustment and maintenance. B. Operator can make guard inoperative. C. No protection in case of mechanical repeat.
Two hand trips (mechanical or electrical)	Simultaneous pressure of two hands or switch buttons, air control valves, mechanical levers, controls inter-locked with foot control or removal of solid blocks or stops permits normal operation of machine.	A. Operator's hands away from danger zone. B. No obstruction to hand feeding. C. No adjustment required. D. Can be equipped with continuous pressure remote controls to permit "inching". E. Easy to install. F. Adaptable to multiple operation.	A. Operator may reach into danger zone after activating machine. B. No protection against mechanical repeat unless blocks or stops used. C. Not suitable for some blanking operations. D. Must be designed to prevent tying down of one button or control which would permit one hand operation.
Automatic or semiautomatic feed (with enclosure of danger points)	Stock fed by chutes, hoppers, conveyors, movable dies, dial feed rolls, etc. Enclosure will not admit any part of body.	A. Generally increases production. B. Operator cannot place hands in danger zone.	A. Excessive installation cost for short run. B. Requires skilled maintenance. C. Not adaptable to variations in stock.

Hand removal	Cable-operator attachment on slide connected to operator's hands to pull hands back only if they remain in the danger zone.	<ul style="list-style-type: none"> A. Operator cannot place hands in danger zone. B. Acts in event of repeat. C. Permits maximum hand feeding; can be used on higher-speed machines. D. No obstructions to feeding a variety of stock. E. Easy to install. 	<ul style="list-style-type: none"> A. Requires frequent inspection, maintenance, and adjustment to each operator. B. Limits movement of operator. C. May obstruct space around operator. D. Does not permit blanking from hand-fed strip.
Electronic beam	Beam activates brake to quickly stop machine or prevent its starting if hands are in the danger zone.	<ul style="list-style-type: none"> A. No interference with normal feeding or production. B. No obstruction on machine or around operator. 	<ul style="list-style-type: none"> A. Expensive installation cost. B. No protection against mechanical repeat. C. Use limited to machines with means to stop quickly during operating cycle.
Limited opening	Slide travel limited to 1/4 inch or less; fingers cannot enter between two pressure points.	<ul style="list-style-type: none"> A. Provides positive protection. B. No maintenance or adjustment required. 	<ul style="list-style-type: none"> A. Small opening limits size of stock.
Special tools	Long handled tongs, vacuum lifters, or hand die holders eliminate need for operator's placing his hand in the danger zone.	<ul style="list-style-type: none"> A. Inexpensive and adaptable to different types of stock. B. May increase protection of other guards. 	<ul style="list-style-type: none"> A. Operator must keep hands out of danger zone. B. Good employee training and supervision required.

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