

# Power Press Brake Safety

## Safety Meeting Packet

### Protect Your Workforce



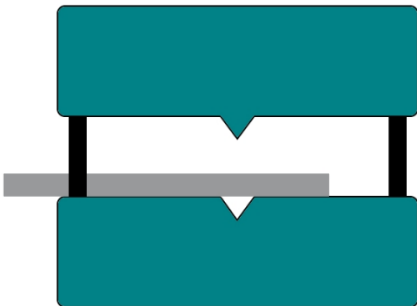
Several different industries utilize machines, called press brakes, to punch, shear, and form materials. Without proper maintenance, operator caution, safeguarding and personal protective gear, press brakes can cause severe injuries. The most prevalent injury types associated with a power press brake are crush injuries and amputations due to contact at the point of operation.

Injuries commonly occur during the following worker operations:

- Machine set-up and adjustments
- Machine operation
- Clearing blockages and jams
- Machine lubrication, maintenance, and cleaning

### Common Hazards

- Activation of foot controls while in the point of operation.
- Body parts caught in pinch points between the stock and the machine frame.
- Coworker activation of controls.
- Failure to properly lockout/tagout presses.



### Safeguarding Methods

By law, employers are required to implement one or more safeguarding methods for employee protection. Depending on how the press brake is used, there are a variety of safeguarding methods for these machines.

The selection of machine safeguards will be influenced by the machine operator, type of operation, size and shape of stock, the stock feeding method, the physical layout of the work area, and production requirements. The Occupational Safety and Health Administration (OSHA) prescribes the following criteria for machine safeguarding:

- **Prevent Contact:** The safeguard must prevent worker contact with the hazard area during the operating cycle.
- **Avoid New Hazards:** A safeguard must not create new hazards.
- **Secure:** An effective safeguard must be firmly secured, tamper-resistant, and durable for normal use.
- **Avoid Interference:** Safeguards must not interfere with the normal operation of the machine.
- **Allow Safe Lubrication:** Operators or maintenance workers should be able to lubricate and perform maintenance without removing the safeguards.

### Guards and Devices

#### Presence Sensing Devices

These devices (i.e. light curtain) may be effective protection methods for press brakes. If the sensing field is interrupted, the device automatically stops the machine.

The light curtain zone activates to protect the operator from the opening hazard at the point of operation. A “muted” light curtain allows bending of the material in the light curtain zone without interruption. Muting is permitted for parts ejection, circuit checking, and feeding during the upstroke of the press slide.

#### Pullbacks and Restraints

Another method of keeping hands from entering the point of operation is the use of pullbacks and restraints.

- A pullback system uses wrist bands secured to the operator’s wrists that pull the operator’s hands away from the point of operation when the machine is on.



- When using pullback devices, a visual inspection and adjustment check must be made each time operators change, after a new die setup, and at the beginning of each shift.
- It is important to make sure that die protrusions do not interfere with the pullback device.
- Restraints are often called holdouts. The anchored device and corded wrist bands keep the operator's hands from reaching the point of operation.

## Barrier Guarding

Barrier guards are designed to prevent the operator's hands from entering the machine's point of operation. Examples of barrier guards include:

- die enclosure guard
- fixed barrier guard
- interlocked press barrier guard
- adjustable barrier guard

## Two Hand Controls

These often require constant concurrent pressure from both hands of the operator during the down-stroke of the press. They are designed to keep operators' hands away from the point of operation during the machine stroke. If the operator removes a hand from one of the controls, the machine stops. They are particularly effective when dealing with small parts, when a holder for parts is used, or when the operator does not need to hold parts during the bending process.

## Additional Safety Measures

### Use of Hand Tools

Machine operators may also use hand tools to feed materials into machines to keep their hands away from the point of operation. This practice requires close supervision to ensure that operators do not abandon the tools to increase production. Tools must be kept close to the work area to encourage use. Hand tools must be used in conjunction with other safeguards and devices.

### Safe Distance

Safeguarding by distance requires the operator to keep a safe distance from the point of operation. This method is only used when physical barriers and devices are not feasible for the operation.

### Power Transmission Components

All components of the power transmission apparatus should be completely enclosed.

## Housekeeping

Good housekeeping practices must be implemented to promote safe working conditions.

## Foot Pedals Procedures

- Foot pedals should only be used with other guards or devices and keep a safe distance between the operator's hand and the point of operation when the use of such safeguards is not feasible.
- Be certain that the stock size is large enough to ensure that the operator is unable to reach into the point of operation when a foot control is used.
- Don't ride the foot pedal.
- Protect foot pedals from accidental activation and continuous cycling.
- Use hand-feeding tools for operations when the operator's hands come closer to the point of operation as the size of stock decreases.

## Worker Training

Employers must provide adequate training on the safe use of the machinery and careful supervision. It is recommended that employers conduct machine-specific and task-specific training for their operation. All machine operators must be trained in recognizing and controlling the hazards associated with the machine's operation. Workers should be able to recognize those hazards that pose a risk to themselves or others. Training should address the following:

- Guidelines for operating machines and performing tasks
- Identification of all hazards in the work area, especially machine-specific hazards
- Address safe work practices and operating procedures
- Review the purpose and proper use of machine safeguards
- How to handle safeguarding issues and reporting procedures for unsafe conditions
- Know the press brake machine
  - machine capacity and controls
  - operating modes
  - safeguards
- Know and understand the job tasks
  - material and stock placement and handling
- Key safety concerns:
  - NEVER operate the machine unless properly trained.
  - Read the machine instruction manual.
  - NEVER tamper with, rewire, or bypass any control or component of the machine.
  - NEVER put fingers and hands in the die area. Stay clear of the workpiece.



- Do not operate the machine unless all others are clear of the machine and material.
- Check to ensure that tooling, press brake, and gaging are properly set for the job.
  - When point of operation safe distance is used, the material-position gages must be at a sufficient height and size to prevent material slipping past the gages.
- Make sure to test cycle the press brake twice, without a part in the die, before each shift and job.
- Die area should not contain any unnecessary materials or tools. Tools should never be left on the ram or press bed.
- Confirm that hand tools and safeguards are being properly used.
- The work area must stay clean and orderly. Remove any accumulation of oil, grease, and material scrap.
- Stay alert and focused on the job and task at hand. Report unsafe working conditions to the supervisor.
- Shut off the main power panel prior to changing dies.
- Shut off the machine and immediately notify a supervisor when there is a jam during the operating cycle.

### DO's

- Get familiar with the STOP button
- Secure stock before engaging the ram
- Ensure that all parts & tools are clear of the ram
- Keep hands & fingers away from moving parts
- Keep shirt sleeves rolled up and wear tight-fitting aprons or coats

### DON'Ts

- Wear neckties, watches, jewelry, or loose clothing
- Operate machine unless properly trained
- Touch buttons or levers without knowing what they do
- Leave the machine running unattended
- Lose focus on the task at hand
- Lubricate the machine while in use

---

For additional information regarding press brake safety, please consult the following:

- OSHA Standard: 29 CFR 1910, Subpart O - Machinery and Machine Guarding
  - OSHA Directive No. CPL 02-01-025 - Guidelines for Point of Operation of Power Press Brakes (February 14, 1997)
  - OSHA Publication No. 3170 - Safeguarding Equipment and Protecting Workers from Amputations (2001)
  - OSHA Publication 3067 - Concepts and Techniques of Machine Safeguarding (1992)
  - National Safety Council Publication No. 15250-000 - Machine Guarding (1993)
-



# Power Press Brake Safety Safety Meeting Attendance Acknowledgement

Company Name \_\_\_\_\_  
 Department / Division \_\_\_\_\_  
 Meeting Date & Time \_\_\_\_\_  Am  Pm  
 Meeting Location \_\_\_\_\_  
 Name & Title of Individual Conducting Meeting \_\_\_\_\_

### Key Meeting Discussion Points / Important Reminders:

- 
- 
- 
- 
- 

### Internal Procedures Reviewed:

- 
- 
- 
- 
- 

By signing this document, you confirm your attendance at the meeting and acknowledge the issues addressed above!

#### Employees in Attendance

(Print):	(Print):	(Print):
(Sign):	(Sign):	(Sign):
(Print):	(Print):	(Print):
(Sign):	(Sign):	(Sign):
(Print):	(Print):	(Print):
(Sign):	(Sign):	(Sign):
(Print):	(Print):	(Print):
(Sign):	(Sign):	(Sign):
(Print):	(Print):	(Print):
(Sign):	(Sign):	(Sign):
(Print):	(Print):	(Print):
(Sign):	(Sign):	(Sign):
(Print):	(Print):	(Print):
(Sign):	(Sign):	(Sign):

Employees Not Present: \_\_\_\_\_

Suggestions/Recommendations to Improve Workplace Safety and Health: \_\_\_\_\_

Actions Taken: \_\_\_\_\_

Manager/Supervisor: \_\_\_\_\_ Date: \_\_\_\_\_

---

**Disclaimer:**

The information provided above was assembled using multiple resources. However, these materials do not contain ALL the information available regarding the required safety standards under local, provincial, state, or federal law for your industry.

---