

Pan brake

Pan brakes are manually operated machines used for bending thin sheet metal. They consist of a clamping bar to hold material firmly during the bending process. This clamping bar has removable fingers/blocks to enable bending of box shapes or partially formed pieces. The bending is performed by a bending beam which is hinged at the front of the equipment. Some pan brakes utilise a counterweight to assist with the bending action.

The incident

A student undertaking a practical task using a pan brake, sustained an injury to their finger. The finger became jammed under the clamping bar causing the student to pull away quickly resulting in the loss of a fingernail and tissue damage to the finger. At the time of the incident another student was assisting in the process by operating the clamping bar handle.

The hazards

Operating pan brake equipment has several hazards that operators should be aware of. These include:

- squash/crush and pinch points associated with the action of the clamping bar and bending beam
- sharp edges and burrs associated with sheet metal material
- impact/contact with counterweight.

Recommended controls

Schools should undertake the following:

- Inspect all pan brake equipment for loose handles and damaged edges, and ensure it is located in a suitable position and securely fixed to the bench/floor.
- Provide a lock-out process that can lock the clamping bar and bending beam when not in use.
- Review current safe operating procedures (SOPs) to ensure that staff and students operate the pan brake safely. The procedure should include:
 - only one operator using the pan brake – school staff member to assist if required
 - lower clamping bar steadily, never drop
 - lock-out the action of the clamping bar and bending beam when not in use
 - a SOP is available [here](#).
- Ensure that the school equipment maintenance and inspection program includes all pan brake machines. Maintenance checklists should include issues identified in the manufacturer's owner's manual and operating procedures.
- An equipment maintenance checklist is available [here](#).

Staff and students should be instructed on the safe use and operation of pan brake equipment prior to using this equipment. Students are to be deemed competent before they are permitted to use the equipment unsupervised.