

Detail Sheets

Vertical Bandsaw

A bandsaw uses a band saw blade traveling over the rims of two or more band wheels, one or more of which is power driven, to produce a cutting action on a workpiece. The vertical bandsaw uses as its primary cutting tool, a continuous thin band of steel with cutting teeth on at least one edge and two or more band supporting wheels, one of which drives the band. The machine has guides to control the location of the band and a work support means, fixed or capable of being tilted. It is used primarily for cutting curves in stock. The blade runs on two pulleys, driven and idler, and through a work table where stock is manually fed into it. The pulleys operate at 700 to 900 rpm. Automatic feeds can be used for production cutting, however, this machine is usually considered a manual feed tool.

Operator Involvement: The operator is required to hand-feed and manipulate the stock against the blade to saw along a predetermined line. The operator must also keep the stock flat on the work table and exert the proper cutting pressure.

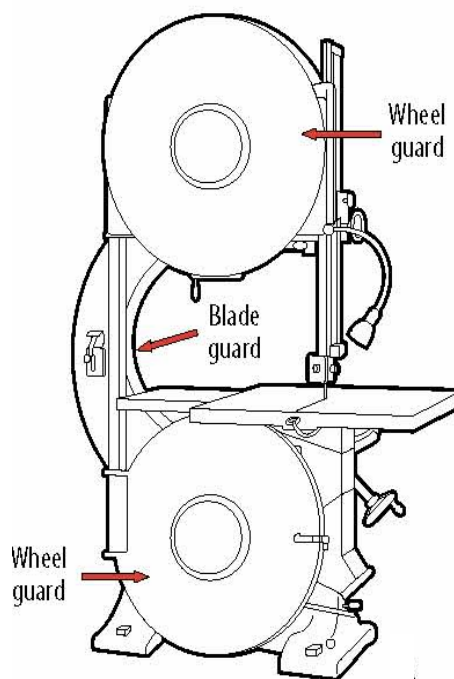
Hazards: Amputation or severe laceration from contact or entanglement with the blade. Getting struck by a breaking saw blade.

Machines: On applications where injury to the operator might result if motors were to restart after power failures, provision shall be made to prevent machines from automatically restarting upon restoration of power. 1910.213(b)(3).

Efficient means of starting and stopping the machine should be readily accessible to the operator. 1910.213(b)(1).

Guarding: All portions of the saw blade must be enclosed or guarded, except for the working portion of the blade between the bottom of the guide rolls and the table. 1910.213(i)(1) and 1910.212

- ❖ Fully encase bandsaw wheels; the outside periphery of the enclosure must be solid; the front and back of the band wheels enclosed by solid material or by wire mesh or perforated metal.

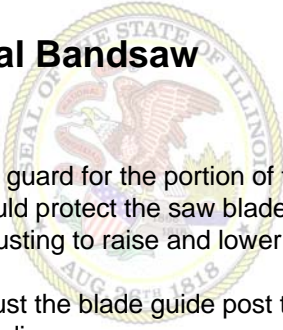


Case Study

An operator amputated the tip of his right ring finger while using a band saw to cut 1/4inch slabs of meat from a 4inch thick piece of beef. As the piece of meat got smaller, his hands moved too close to the saw blade. The employee was not using the pusher guard provided for the saw.

References: OSHA 1910.213 (if used to cut wood); 1910.212 (if used to cut metal or other materials); ANSI B11.10 (metalworking); ANSI O1.1 (woodworking)

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- ❖ The guard for the portion of the blade between the sliding guide and the upper-saw-wheel guard would protect the saw blade at the front and outer side. This portion of the guard must be self-adjusting to raise and lower with the guide.
- ❖ Adjust the blade guide post to fit the thickness of stock being cut and to provide additional guarding.
- ❖ Require the use of feather boards or combs to prevent fingers or hands coming into contact with blade.
- ❖ Make sure that all power transmission is completely enclosed to prevent contact. This includes rotating components such as flywheels, gears, sheaves, shafts, belts and pulleys, chain and sprocket, meshing gears. **1910.213(a)(9) and 1910.219**

Inspection: Periodically examine blades; remove cracked or defective blades immediately.

Safer Work Practices:

- ❑ Train operators and instruct them to use only sharp cutting blades and to tighten blades to the appropriate tension.
- ❑ Provide each machine with a tension control device to indicate a proper tension for the standard saws used on the machine, in order to assist in the elimination of saw breakage due to improper tension. **1910.213(i)(2).**
- ❑ Sharpening or tensioning of saw blades or cutters may be done only by persons of demonstrated skill in this kind of work. **1910.213(s)(5).**
- ❑ Prohibit operators from removing the work piece from the band saw while the saw blade is still moving. Make cuts only when the power is on and not while the saw is coasting.
- ❑ Guards should always be in place and suitable eye and face protection should be worn.
- ❑ The floor space around the machine should be kept free of obstructions and slippery substances.
- ❑ The machine should only be used by one person at a time and should not be kept running when not in use.

The number of accidents and the circumstances in which they occur show that most can be avoided by a knowledge of the risks and by adopting safety measures. The simple safety steps given below will help to prevent most accidents at grinding machines. You may find them useful as a safety check list.