



# Naval Support Activity Monterey / Naval Postgraduate School



## SAFETY GRAM

### **Band Saws**

July 8, 2009

**Background:** Vertical band saws are specially designed to effectively cut a variety of materials including wood, plastic, composites, ferrous and non-ferrous metals. Many band saws have a variable speed drive system that allows the operator to fine-tune the blade speed to the material being cut to maximize the life of today's bi-metal blades. These versatile & dependable saws are capable of contour cutting, straight cutting as well as cutting delicate curves in thick or thin stock.



In a study of 1000 accidents at woodworking machines, 4% occurred on narrow band sawing machines. Most resulted from contact with the moving blade while presenting material to the blade or removing it from the table. Accidents also occurred while setting, cleaning, adjusting and maintaining the machine while the blade was still in motion.

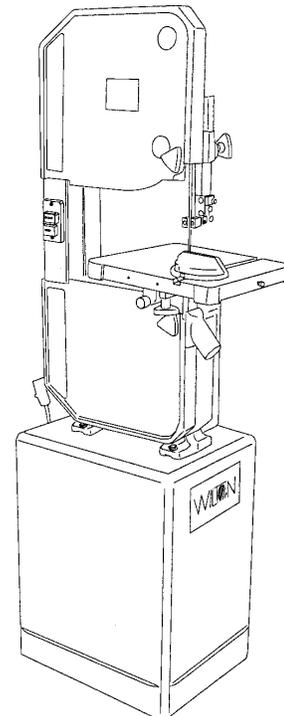
In machine operations, hazardous situations frequently result from improper or inadequate guarding at the point of operation. It is impossible to design totally safe machinery and its unreasonable to expect

operators to be alert every moment of the working day. Operators rarely seek dangerous situations or try to commit dangerous acts. Mishaps occur however because of lack of judgment, inattention or recklessness.

The bottom line is that accidents result from a combination of a hazardous machine condition and a careless human action.

**Purpose:** The purpose of the SafetyGram is to promote band saw mishap prevention efforts through identification of key regulatory compliance points and established Standard Operating Procedures. This document serves as an SOP for band saw safety, however it is not all inclusive and additional OJT should be provided by your supervisor / lab manager prior to use.

**Scope & Applicability:** Band saw requirements and SOP's are applicable to all faculty, staff, and students, temporary/term, contract, and permanent employees as well as visitors who may be engaged in operating band saws located within NSAM / NPS labs, machine shops and other facilities.





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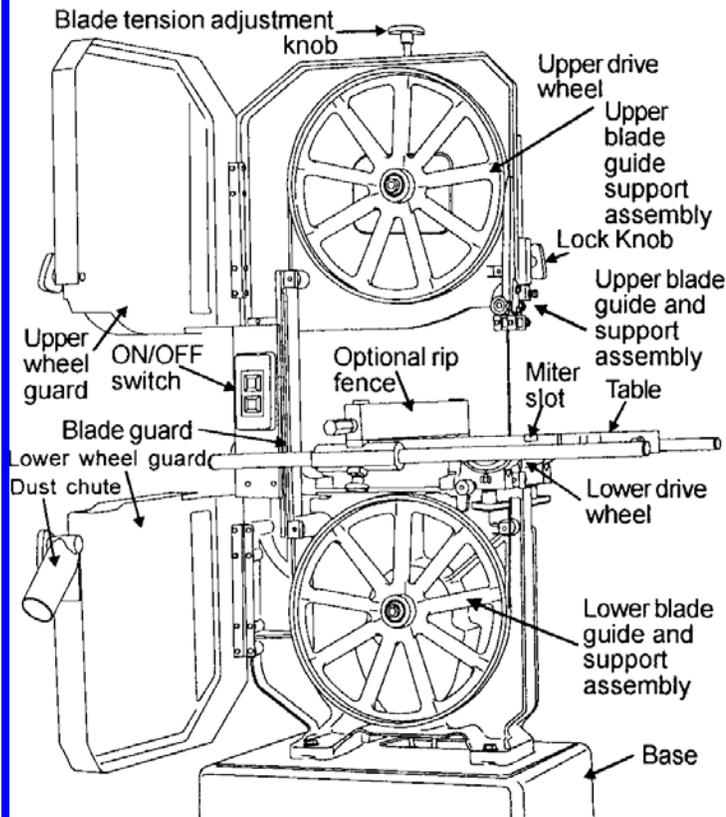
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#### Woodworking Machinery requirements 29 CFR 1910.213 (i) Bandsaws & Band Resaws:

[http://www.osha.gov/pls/oshaweb/owalink.query\\_links?src\\_doc\\_type=STANDARDS&src\\_unique\\_file=1910\\_0151&src\\_anchor\\_name=1910.151\(c\)](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_0151&src_anchor_name=1910.151(c))



- (1) All portions of the saw blade shall be enclosed or guarded, except for the working portion of the blade between the bottom of the guide rolls and the table. Bandsaw wheels shall be fully encased. The outside periphery of the enclosure shall be solid. The front and back of the band wheels shall be either enclosed by solid material or by wire mesh or perforated metal. Such mesh or perforated metal shall be not less than 0.037 inch (U.S. Gage No. 20), and the openings shall be not greater than three-eighths inch. Solid material used for this purpose shall be of an equivalent strength and firmness. The guard for the portion of the blade between the sliding guide and the upper-saw-wheel guard shall protect the saw blade at the front and outer side. This portion of the guard shall be self-adjusting to raise and lower with the guide. The upper-wheel guard shall

- be made to conform to the travel of the saw on the wheel.
- (2) Each bandsaw machine shall be provided with a tension control device to indicate proper tension for the standard saws used on the machine, in order to assist in the elimination of saw breakage due to improper tension.
- (3) Machines designed for a fixed location shall be securely anchored to prevent walking or moving.
- (4) 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.
- (5) For a narrow band saw to cut accurately and efficiently the blade type and width shall be suitable for the material being cut; the blade teeth shall be sharp and properly set; the blade shall be correctly tensioned and tracked; and the maximum thickness of the blade shall be suitable for the pulley wheel diameter.



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**Band Saw Standard Operating Procedure:**

Personal Protective Equipment Required.

- a. Safety Goggles or Face Shield (impact resistant)
- b. Hearing Protection
- c. Wear Proper apparel. No loose clothing or jewelry which can get caught in moving parts.
- d. Rubber soled footwear is recommended for best footing.
- e. Wear leather gloves while handling new / used blades.

Operation.

- f. Only authorized and trained personnel shall operate this equipment.
- g. Follow shop general safety rules.
- h. Avoid dangerous working environments. Do not use the equipment in wet or damp locations. Keep the work area well lit, free of obstructions / trip hazards and in a non-slippery condition. Do not place loose tools or parts on top of the equipment.
- i. Adjust the saw guide height according to the thickness of the material to be cut.
- j. Keep guards in place and in proper working order. Do not operate the machine with guards removed.
- k. Avoid accidental starts by being sure the start switch is off before plugging in machine. Never leave the machine running while unattended. The machine shall be shut off whenever it is not in operation.
- l. Disconnect electrical power before servicing or performing maintenance. In some cases, hard-wired machinery will require Lock Out / Tag Out procedures to perform maintenance.
- m. Do not overreach. Failure to maintain proper working position can cause you to fall into the machine or cause your clothing to get caught pulling you into the machine.
- n. Make certain that the blade is tracking properly and the guide and rollers are adjusted correctly.
- o. Do not stand to the right of the cutting blade.
- p. Check the throat(?) plate for wear, replace if needed.
- q. Keep hands and fingers clear of the cutting blade. Guide blocks should be used when hand feeding against a fence and push sticks used for feeding timber close to the blade and removing cut pieces from between the saw and fence.
- r. Ensure material is level and flat on the work rest to avoid binding when cutting long and heavy stock on the band saw; request assistance if needed.
- s. Do not cut cylindrical material without firmly fixing the stock in the "V" block or against the gauge.
- t. Do not adjust equipment or remove material with the power switch ON.
- u. Avoid backing the saw out of a long curved cut, if it is necessary to back out the saw, first stop the machine.



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- v. If a blade develops a click as it passes through the work, it maybe ready to break. If the saw blade should break while the machine is in operation, turn off the power immediately; let the machine come to a complete stop before removing the broken blade.
- w. Never brush chips while the machine is in operation.
- x. Work area and machine will be cleaned after each use.

#### EXAMPLES:

