

# Safeguarding Table and Panel Saws

## Crew talk for employers and supervisors

### Woodworking is a risky business

Woodworking is inherently dangerous. Table saws are by far the most common piece of equipment involved when serious accidents occur. Most of these saws are hand fed and used to cut materials of varying dimensions. This means the operator's hands are frequently close to the blade during the cutting process. An unguarded 10" circular saw blade turning at approximately 225 km/h leaves a lot of potential for serious injury.

On average, there are more than 40 amputations in the woodworking industry each year. Most involve table saws and some involve panel saws. In most of these incidents, the saws are not equipped with point-of-operation safeguarding (blade guards and other devices).

This crew talk provides employers and supervisors with information that will help protect workers from injuries while using table and panel saws.

### Safety is a shared responsibility

Everyone in the shop has a role to play to keep the workplace safe:

- Employers are responsible for equipping saws with effective point-of-operation safeguarding, as required by the Occupational Health and Safety Regulation (see page 3 of this crew talk).
- Supervisors must ensure that safeguards are used as required and that workers follow their training.
- Workers must work in accordance with safety regulations, follow their training, and report any safety concerns to their supervisors.

### Safeguarding the point of operation

The WorkSafeBC publication *Safeguarding Machinery and Equipment: General Requirements* defines a safeguard as “a solution or a combination of solutions that eliminate or reduce the risk of exposure to hazardous moving parts or other harmful conditions.”

Guards protect against unforeseen and unpredictable circumstances such as kickbacks or jammed materials, and are designed to prevent accidental contact with the blade.

The point of operation is where the stock is cut, shaped, bored, or formed by the tool (for example, the saw blade or knife head). In practice, safeguarding the point of operation often requires a combination of solutions. For table and panel saws, this means the use of blade guards and safety devices such as push sticks and jigs, plus possibly warning signs.

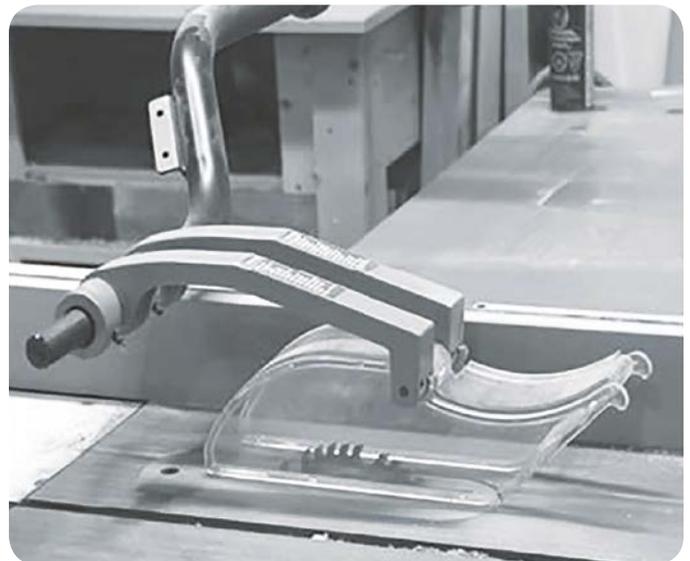


Table saw with self-adjusting guard

## Types of guards

Most guards for table and panel saws fall into two basic categories:

- 1 The widely used traditional style guards that mount on the saw's trunnion assembly
- 2 The over-arm style guards that mount on the extension table

## Guard characteristics

Both types of guards are effective, but each design has different characteristics that may be of differing importance to you, depending on how you use your saws. For example, one very common style of guard mounts on the saw's trunnion assembly and moves with the blade as it is tilted, so the side-shield assemblies tend to be narrower than those on over-arm style guards, which must be wide enough to provide adequate blade clearance when the blade is tilted. In general, the narrower the guard the better, as there is less access to the point of operation.

Another characteristic to consider is whether the guard self-adjusts for different material thicknesses. Guards that do not have this feature must be adjusted manually by the operator. This is important, because the guard is not effective if it is positioned 2" above the top of the work piece, which allows ample room for the operator's hands to contact the blade.

The most common style of guard incorporates an integral splitter and anti-kickback fingers, which are required when using saw blades with rip-type teeth, such as a 10" x 24" tooth blade used to rip solid wood.

Because these saw blades are more likely to grab the work piece and propel it back toward the operator, these added safety devices are required.

Over-arm style guards do not incorporate these features; they must be added to the saw separately.

Although it is not a safeguarding feature, some over-arm guard designs provide the added benefit of an integral dust-collection pickup. When removal of the guard is required, overarm guards are usually easier to remove and replace.

A well-designed point of operation guard system should:

- Reduce the risk of injury from contact with the saw's point of operation
- Accommodate a wide range of cutting operations
- Be minimally intrusive to the cutting process

## Removing the guard

Blade guards on table saws, and to a much lesser degree panel saws, cannot be used in every circumstance. The OHS Regulation allows for the temporary removal of the guard, where its use is impracticable or where the guard itself creates a hazard. The term impracticable means "that which is not reasonably capable of being done." Impracticable does not mean inconvenient; there should be few situations where it is impracticable to use the guard.

In some cases, however, the guard may physically obstruct the cutting process (for example, when cutting dados or narrow pieces of material). In these cases, the guard may be temporarily removed, but another safety device (or devices) must be used, such as a push stick, push block, feather board, or similar device. Note that the operator's hands are not an acceptable alternative to a push stick, push block, or similar device. Replace the guard once that cutting operation is completed.

## Panel saws

Although panel and table saws both have the same safeguarding requirements, they are intended for different applications. Panel saws are most often used for cutting large composite panels using the

sliding table, while table saws are used for a wide range of general cutting applications. The difference is significant, largely because the design and use of a panel saw means that the operator's hands

are usually well away from the blade, reducing the risk of injury. This is one of the main reasons why there are far fewer injuries involving panel saws than table saws.

## OHS Regulation | Six key requirements

This section reprints the six key requirements in the Occupational Health and Safety Regulation that apply to point-of-operation safeguarding and the associated safety devices required for use with this type of equipment.

### 12.2 Safeguarding requirement

Unless elsewhere provided for in this Occupational Health and Safety Regulation, the employer must ensure that machinery and equipment is fitted with adequate safeguards which

- (a) protect a worker from contact with hazardous power transmission parts,
- (b) ensure that a worker cannot access a hazardous point of operation, and
- (c) safely contain any material ejected by the work process which could be hazardous to a worker.

### 12.3 Standards

The application, design, construction and use of safeguards, including an opening in a guard and the reach distance to a hazardous part, must meet the requirements of *CSA Standard Z432-94, Safeguarding of Machinery*.

### 12.4 Effectiveness of safeguards

A safeguard must be capable of effectively performing its intended function.

### 12.58 Hand feeding

A template, jig, or pushstick must be used if there is a risk of injury to a worker's hands when feeding woodworking machinery.

### 12.59 Removing guards

- (1) If the use of a guard on woodworking machinery is clearly impracticable for a specific operation, the guard may be removed, but an appropriate pushstick, jig, feather board or similar device must be used to prevent the operator encroaching into the cutting area, and upon completion of the operation the guard must be replaced.
- (2) A guard may otherwise only be removed if the guard itself creates a hazard, or if its removal is necessary for maintenance.

### 12.60 Kickback fingers, splitters and spreaders

- (1) Except as provided in subsection (2), a hand-fed circular saw with rip-type teeth must have kickback fingers and a splitter or spreader designed to prevent kickback.
- (2) Kickback fingers, splitters or spreaders are not required when grooving, dadoing or rabbeting.

## Safe work practices

A guard alone is not a guarantee against injury. Operators must also use safe work practices. The following are examples of what to consider when developing safe work practices for table and panel saws.

### Guard height

For guards that do not self-adjust to the material height, make sure there is minimal clearance between the guard and the top of the material. This helps to maintain the effectiveness of the guard.

### Blade height

It is not uncommon for the operator to set the saw blade far higher than it needs to be. The gullet on the blade is designed to clear waste material, and the blade will function effectively with the blade height set so the bottom of the gullet clears the top of the material by no more than 1/4". Setting the blade higher than that only increases the risk of injury to the operator.

### Hand position

Even with the guard in place, it is possible for the operator to be seriously injured. There is always some risk of injury to a worker's hands when hand feeding the saw, so determine safe hand positions for different applications, and make the use of push sticks or other safety devices mandatory.

### Removing the guard

The guard belongs on the saw and in use, except infrequent circumstances where its removal is necessary for a specific cutting operation. Determine when and under what conditions the guard may be removed, and specify the safety devices that must be used during that cutting operation. The vast majority of amputation injuries involving table saws occur on saws that are not equipped with point-of-operation safeguarding.

## How to deliver a crew talk

Prior to giving this crew talk, ensure that all machinery is safeguarded as required.

- **Read** about safeguarding before you talk to your crew about the safe use of saws. Read the WorkSafeBC manual *Safeguarding Machinery and Equipment: General Requirements*, pages 68–78.
- **Read** the OHS Regulation excerpts on page 3.
- **Gather** your crew together to watch the slide show *Guarding for Woodworking*.
- **Distribute** the *Safeguarding Table and Panel Saws* crew handout after watching the slide show.
- **Emphasize** that blade guards are not a guarantee against injury. Saw operators must pay attention, use all safeguarding devices as required, and follow safe work practices at all times.

## Discussion topics

- 1 **Emphasize** WorkSafeBC statistics. In the five years from 2001 to 2005 there were 208 amputations and 1048 serious cuts and lacerations in the woodworking industry in B.C.
- 2 **Use** the *Crew Handout for Workers* as your discussion guide.
- 3 **Discuss** how injuries can occur on table and panel saws.
- 4 **Explain** which saws have been safeguarded to meet the requirements of the OHS Regulation.
- 5 **Explain** the safe work procedures to be followed when using table and panel saws.
- 6 **Emphasize** that safeguarding is mandatory. Make sure all workers are trained in safe work procedures.

- 7 **Dispel** the attitude that “it won’t happen to me.” Don’t encourage or allow shortcuts or carelessness.
- 8 **Cite** at least two true stories of injuries from your experience or that of the crew (or use the Hazard Alert examples from the crew handout).
- 9 **Instruct** the crew to identify and report any safety concerns on machinery they operate.
- 10 **Answer** any questions or concerns they might have.
- 11 **Set a good example** by working safely at all times.

### Keep the ball rolling: Follow-up

Employers are required by law to ensure that machinery is equipped and operated in accordance with the OHS Regulation. You must effectively train your crew in the proper use of safeguards and be vigilant in your supervision to ensure that they follow safe work practices.

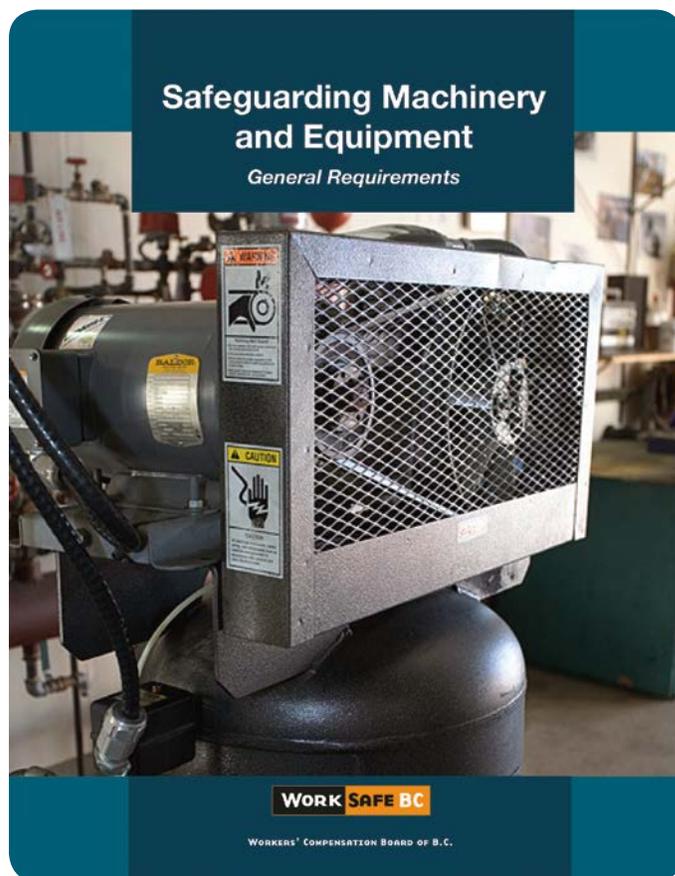
After this crew talk, inform your workers that you will:

- **Observe** work activity to ensure that safeguards are being used consistently and correctly.
- **Support** positive behaviours when safeguarding devices have been used correctly.
- **Correct** unsafe work practices when they are observed.

- **Reinforce** safe work practices for table and panel saws by presenting this crew talk periodically.

### WorkSafeBC resources

For more information on safeguarding woodworking machinery, see *Safeguarding Machinery and Equipment: General Requirements*. Ensure that your managers cover the relevant sections of the booklet in more detail with their crews.



These and many other health and safety publications are available at [worksafebc.com](https://www.worksafebc.com) (click Publications).

# Record of crew talk

Date: \_\_\_\_\_

Department: \_\_\_\_\_

Supervisor: \_\_\_\_\_

Crew members present (print names clearly and keep on file):

---

---

---

---

---

---

---

---

---

---

Crew member comments and suggestions:

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---

---