power tool institute, inc.

Teaching Saws II

The table saw and miter saw are two of the most widely used power tools in any woodworking shop and two of the most demanding. Operators must have a thorough understanding of these tools and all their procedures in addition to knowing how to set up for safety.

The area around the blades of the table and radial arm saws can generally be considered a "danger zone." Any time any part of the operator's body is in direct line with the blade, or is less than three inches to either side of the blade, that operator is in imminent danger. Remember that no power tool knows the difference between a workpiece and flesh and bone.

Show your students how to avoid awkward operations and hand positions that might allow the operator's hands to move into the cutting tool. Help them develop the habit of always avoiding the area in front of the blade and three inches to either side. Tell them to never reach behind or over the blade area for any reason. Teach them that when the operator's hands need to pass beyond the front edge of the saw table or past the leading edge of the blade, he or she must use work helpers to keep the workpiece flat on the table and against the fence. Show your students how work helpers will stabilize, control, and guide the workpiece while allowing the operator better cutting precision without placing hands and arms in harm's way. Make sure your students understand that time invested in careful and proper setup using work helpers is all important to safety - and actually saves time too.

Refer To...

- **Safety is Specific,** Section on Miter Saws.
- **Safety is Specific**, Section on Table Saws.

Lesson Suggestion . . . Set Up for Safety

Objective: To teach students to prepare for and execute a variety of table saw and miter saw jobs.

Materials/Requirements: PTI's Miter Saw Safety video and the **Table Saw Safety video and lesson plans.** A table saw, a miter saw, workpieces in a variety of shapes and dimensions appropriate to the miter saw or table saw, featherboards, pushsticks and pushblocks.

What To Do: Have your students read the sections in **Safety Is Specific** that deal with the use of table saws and miter saws. (Copy these pages for your students if they do not have their own booklet.) Give them a first demonstration on using each of these tools. Identify all the parts of each tool and explain their function. Also view the Safety videos on table saws and miter saws.

Carefully demonstrate proper saw alignment procedures and how to adjust fences according to the tool's operator's manual. Stress the importance of keeping saws aligned at all times and how to use the saws' operator's manual to do so.

Next, offer the students workpieces that present some problems —short pieces, narrow pieces, twisted pieces, pieces without straight edges, and pieces of unusual thickness. Have the students demonstrate how they would set up the job to accommodate these pieces. Offer the featherboards, pushblocks, and pushsticks. Are the students able to use these appropriately to make the job safe?

Offer the students some workpieces that are not safe — a workpiece that is shorter than the diameter of the saw blade, for example. Do they recognize these pieces as unsafe? Explain that stock of certain dimensions should not be attempted with these saws. Offer them alternative tools or procedures. Finish by demonstrating exactly how to set up and cut unusually sized workpieces.