OVERVIEW

In Module 7, we will explore the functionality and operation of the table saw, a crucial tool in woodworking. The module aims to provide a comprehensive understanding of the table saw, covering its core principles, components, and safety precautions.

Throughout the module, you will learn about adjusting blade height, setting up the fence for accurate cuts, and employing additional tools and guides to enhance cutting precision. Practical techniques for straight cuts, miter cuts, and ripping cuts will be covered, along with emphasizing safety measures and proper material positioning.

By the end of the module, you will have a solid foundation in table saw operation, enabling you to confidently handle this tool in woodworking projects. The acquired knowledge and skills will empower you to prepare files, select cutting methods, and utilize the table saw effectively, enhancing your woodworking abilities.

SAFTY PRECAUTION

MAKE SURE THAT:

- The table saw being used is in good condition and has been properly maintained.

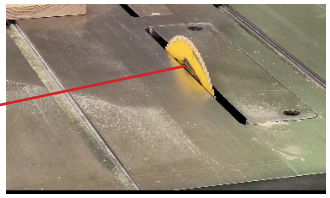
- The participant is aware of the suitable attire for operating the table saw, such as avoiding loose clothing, hanging jewelry, and open-toe shoes.

- The participant is wearing appropriate eye and ear protection.

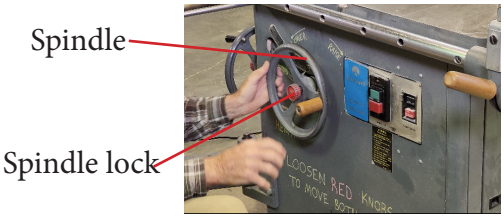
- The participant understands the importance of not standing directly behind the blade while making a cut. It is recommended to stand to the side when working with a moving blade.

TERMINOLOGIES

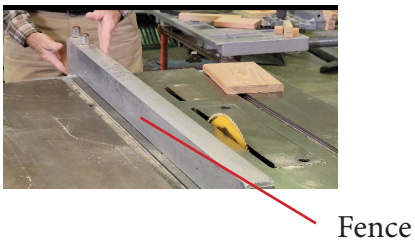
1. Blade: The circular cutting tool mounted on the arbor that spins to make the cuts.



2. Arbor: The shaft or spindle that holds the blade in place and allows it to rotate at pre determined heights.

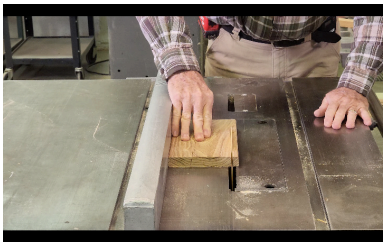


3. Fence: A guide parallel to the blade that helps to ensure straight and accurate cuts by keeping the workpiece aligned during cutting.



4. Miter Gauge: A device with a guide and angle adjustment mechanism used to make angled cuts or crosscuts at specific angles.

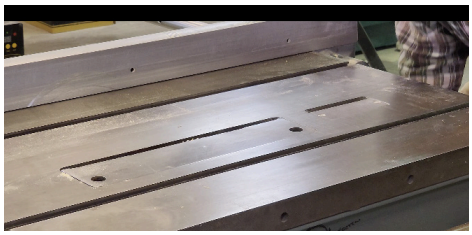
5. Rip Cut: A cut made parallel to the length of the workpiece, always using the fence as a guide.



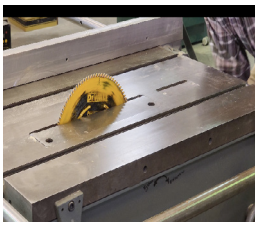
6. Crosscut A cut made parallel to the length of the workpiece, should never use the fence as a guide.

PROCEDURES

1. Before starting, ensure that the initial position of the blade is low, so it doesn't extend above the table level.



2. Locate the hand crank for adjusting the blade height approximately 1/4" above material for through cuts. Loosen the spindle lock, turn it clockwise to raise the blade, and then tighten the spindle lock.



3. Use an angle tool to confirm that the saw blade is perpendicular to the cutting surface.

4. Place the material to be cut (stock material) on the cutting plane, ensuring it is properly prepared, and flat.

5. Adjust the saw blade to the appropriate cutting height using the spindle lock. The height depends on the thickness of the stock material. The top of the blade should be approximately 1/4" above the stock material. Lock the blade in place once the height is set.

6. Determine the type of cut you want to make, whether it is a miter cut or a ripping cut. Regardless of the cut type, use an angle tool again to ensure correct blade angle.

A. Miter cut

- For a miter cut, use a miter gauge. With the miter gauge, push the stock material forward.
- After making the cut, refrain from reaching towards the blade until it has completely stopped.

B. Ripping Cut

- For a ripping cut, ensure that the fence is parallel to the blade.
-Adjust the fence to the appropriate dimensions and lock it in place using the lever.
- Use the fence as a guide and move the stock material forward until it is fully past the blade.

NOTE

When there is not enough space between the blade and the fence for your fingers, use a stock block. Place the stock block against the fence to prevent the wood from being ejected by the moving blade.

OVERVIEW

The module provides information about the different types of miter saws available and explains the various parts and functions of a 10-inch compound miter saw. Additionally, it outlines important safety rules and guidelines for using the miter saw effectively and safely. The response also includes tips for specific cuts, such as a 90-degree miter cut, a 45-degree miter cut, and a 45-degree bevel cut. Finally, it emphasizes the importance of cleaning up the workspace and securing the miter saw after use.

MITER SAW

- The miter saw is a power tool used to make quick, accurate crosscuts by pulling a spinning circular saw blade down onto a workpiece at a selected angle. We have two slightly different miter saws available for use in the woodshop:

a. 12-inch double bevel sliding compound miter saw.
b. 10-inch compound miter saw.

Different parts of the miter saw using the 10-inch compound miter saw:

a. The miter saw

- The miter saw is currently in the down position. To release it, use your left hand to push down on the operating handle, then use your right hand to pull out the lockdown pin. The miter saw should raise to expose the cutting surface. On the operating handle, you have the trigger switch.

Left hand

Right hand

b. The trigger switch

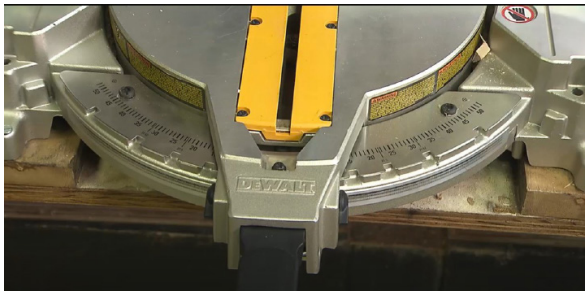
- The trigger switch turns the blade on and off.
- Pull the trigger towards the handle to start the blade spinning and release the trigger when you want the blade to stop.

c. The table and Fence

- The table is the horizontal surface for your workpiece while you are cutting, and the fence is the vertical supporting surface for your workpiece that assists in positioning for accurate cuts.

d. The miter scale

- This is a measuring device built into the table of the miter saw that allows you to set the blade at specific angles. Making adjustments to the miter scale will require the use of the miter lock lever and the miter detent.



e. The miter lock lever

- The miter lock lever works with the miter detent to lock the blade into a specific degree.

- It will already be engaged, so to make adjustments, disengage the miter lock lever by pushing down on the black handle. Pull up on the miter detent and adjust the blade to the angle you like, then re-engage the miter lock lever by pulling up on the black handle.

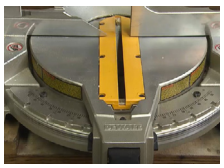
To make bevel cuts, loosen the bevel clamp knob and pull the blade to the left to the desired degree, then tighten the bevel clamp knob firmly. Proper positioning of your body and hands is important when using the miter saw.

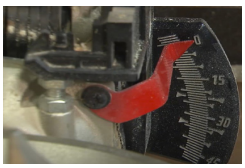
RULES YOU SHOULD FOLLOW:

a. Your left hand will be used to secure your workpiece in place; make sure this hand is never closer than six inches away from the blade.
b. Your right hand will be used to activate the trigger switch. Leave both hands in position until the trigger switch is released and the blade comes to a complete stop. It is a good idea to do dry runs to check the path of the blade. Never cross your hands and never put your hands too close to the cutting area.

c. To begin working with the miter saw, mark and study the cut you would like to make.

d. For demonstration purposes, we are going to do three different cuts.
e. The first is a 90-degree miter cut. To do this, make sure the miter scale is set to the center at 90 degrees, and make sure the bevel angle of the saw is vertical at 0 degrees.





i. Put on your safety jacket and ear protection. Also, turn on the dust collector and make sure there are no scraps or chips lodged anywhere in the miter saw.
ii. Make a dry run of your cut to check the path of the blade.
iii. Never engage the trigger switch when the blade is up against your workpiece.
iv. Engage the saw and begin your cut. Do not force the cutting action. Stalling or partial stalling of the motor can cause damage to the machine or the blades or cause personal injury.

v. After the saw has cut all the way through the material, continue to hold down on the saw and release the trigger switch. The blade should come to a complete stop before returning to its starting position.
vi. Cut only one piece at a time

f. The second is a 45-degree miter cut.

g. The third is the 45-degree bevel cut.
h. When you are done, clean up the workspace and do not forget to lock the saw back down.

Note:
If you are making multiple cuts of the same dimension when working on the miter saw, clamp a stop onto the fence to ensure accuracy and reduce the time needed to make those cuts.

If your material is bowed or warped, securely clamp your stock to the saw table to prevent binding or saw kickback. Kickback occurs when you feel a sudden jerking backward of the motor, and the blade grabs or binds the material. It can pull your fingers into the blade and propel your material across the room. If kickback occurs, continue to hold firmly in the down position and release the trigger switch. Wait for the saw to come to a complete stop.