

Lesson #1: Miter Saw I.D. and Safety Packet

Objectives

Students will be able to...

- Identify each of the major components of the Miter saw, and their purpose.
- Describe the uses of the Miter saw.
- Demonstrate the safe operation of the Miter Saws.

Common Core Standards

RSIT 11-12.2
RLST 11-12.3
Demonstration and Application 11.1 & 11.2
Health and Safety 6.2 & 6.10
Responsibility and Flexibility 7.4
Cabinetmaking and Wood Products A 4.1, A4.3, A4.4, & A 6.1
Residential and Commercial Pathway D2.1, D2.3, D3.1, & D 5.2

Materials

Miter Saw PowerPoint
<https://documentcloud.adobe.com/link/track?uri=urn%3Aaaid%3Aascds%3AUS%3A13499066-8bdd-4c9e-ab8c-0d168761f94a>
Miter Saw I.D. and Safety Packet
Miter Saw

Lesson Sequence

- Introduce a Miter Saw using the *Miter Saw Power Point*.
- Review the I.D. portion of the *Miter Saw I.D and Safety* packet using a Miter Saw.
- Review the safety portion of the packet as a class.

Assessment

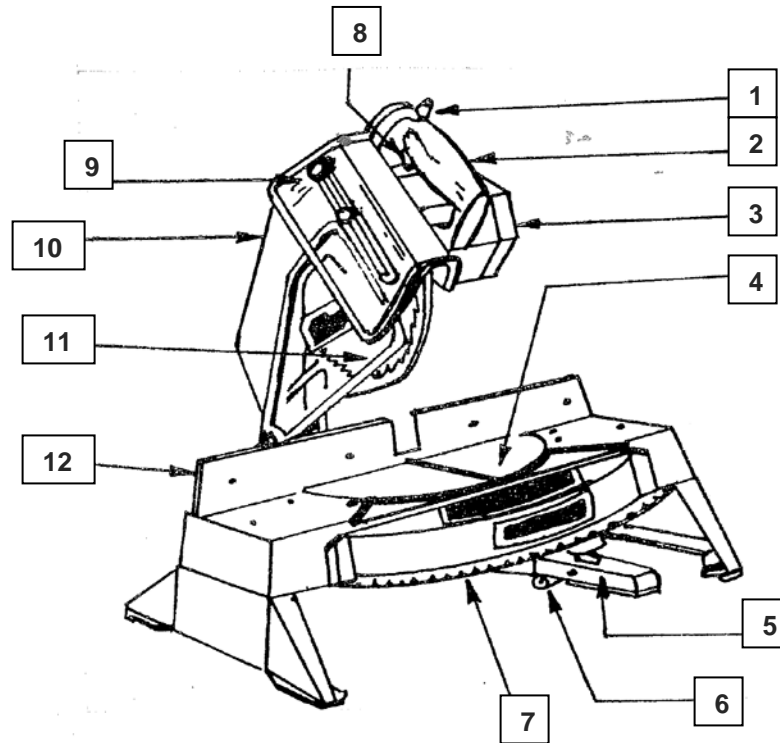
Check for understanding using questioning. Be sure to call on random students.

Accommodations/Modifications

Check for Understanding
Visuals
Partner Students Up as Needed
One on One Support

Power Miter Saw Identification and Safety

Part 1: Identify the numbered parts on the saw illustrated below.



1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

Part 2: Safe Operational Procedures

1. **Study** the operation, maintenance, and safety manual for the specific saw to be operated.

2. **Changing the saw blade:**
 - a. Disconnect saw from the power source
 - b. Select a crosscut or combination blade.
 - c. Remove the saw guard, the arbor nut, and arbor collar. Remember the arbor has left-hand threads. Remove the blade.
 - d. Place the blade on the arbor so the teeth toward the operator point downward.
 - e. Place the outside collar on the arbor. Be sure the recessed face of both collars is against the saw blade.
 - f. Tighten the arbor nut using the wrench furnished with the saw.
 - g. Replace the guard. If it is the retractable type guard, make sure it moves freely before reconnecting the power source.

3. **Miter cuts:**
 - a. Select a sharp crosscut or combination blade.
 - b. The saw should be in the raised position and resting on the spring.
 - c. Select the proper angle of cut by moving the spring-loaded miter arm. Most saws have a stop at 90° and 45° left and right. Lock the miter arm in position for the desired cut with the lock nut.
 - d. Place the stock in the saw with the flat or square edges against the table and the fence.
 - e. Hold the material against the fence with one hand with the mark under the saw blade. Fingers or hands should never be within 3 inches of the path of the blade. Use a C-clamp to hold small pieces. Sandpaper glued to the fence will prevent the stock from shifting.
 - f. Start the motor before making contact with the material. Slowly lower the saw into the stock with hand positioned on the saw handle.
 - g. After completing the cut, return the saw to the raised position. Allow the motor to stop before removing stock from the table.

4. **Compound angle cuts:**
 - a. To cut a compound angle, first prepare a filler block to attach to the fence with screws.
 - b. The angle at the front of the filler block will determine the bevel angle and the tool control setting will determine the miter angle.

Part 3: General Safety Practices

1. Wear industrial quality eye protection and proper clothing when operating this saw.
2. Obtain permission from the instructor before operating the power miter saw.
3. Be sure the blade guard is in place and working properly.
4. Operate the miter saw only where adequate light is available.
5. Be sure the stock is firmly supported. Do not attempt to hold the stock away from the fence.
6. Always keep fingers more than 3 inches from the path of the blade.
7. The stock must be in contact with the fence near the blade to prevent pinching the blade.
8. Clean all scrap material and sawdust away from the work area before starting the saw.
9. Do not leave the work area until the saw blade has stopped.
10. When the job is completed, clean the saw and work area.

Part 4: Completion questions

1. The _____ must be removed to change the blade.
2. The arbor nut has _____ hand threads.
3. The teeth of the blade near the operator are pointed in a _____ position.
4. After use, the spring returns the saw to the _____ position.
5. When making a cut, the saw should be lowered _____ into the workpiece.
6. The motor should _____ before removing stock from the table or leaving the work area.
7. To cut a compound angle, a _____ block must be used.
8. Fingers should never be closer than _____ inches to the path of the blade.
9. A _____ or _____ blade should be used for straight and miter cuts.
10. The _____ is adjusted across the index or degree scale for making angle cuts.

Power Miter Saw Identification and Safety – *Answer Key*

Part 1:

1. Brake button
2. Handle
3. Motor
4. Table
5. Miter arm
6. Lock lever
7. Degree scale
8. Trigger switch
9. Blade guard
10. Saw arm
11. Blade
12. Fence

Part 4:

1. Saw guard, the arbor nut, and arbor collar
2. Left
3. Downward
4. Upward
5. Slowly
6. Stop
7. Filler
8. 3
9. Crosscut or combination
10. Miter gauge