

## OVERVIEW

In a metal workshop, a grinder refers to a power tool used for various tasks such as grinding, cutting, polishing, and shaping metal or other materials. It is an essential tool that helps in removing excess material, smoothing rough edges, sharpening tools, and achieving desired shapes and finishes on metal workpieces.

In this module, you can expect to gain a comprehensive understanding of grinders and their usage in metal workshops. You will learn about the different types of grinders, including angle grinders, bench grinders, and pedestal grinders, and their respective applications. We will explore the various parts of a grinder, their functions, and safety considerations.

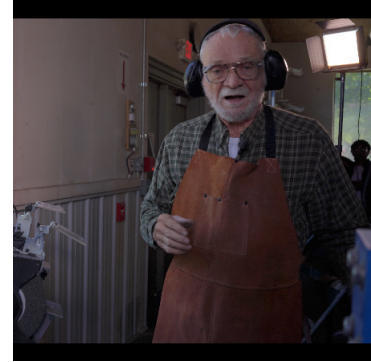
Additionally, you will be provided with detailed procedures on how to safely and effectively use a grinder, from inspecting the equipment and selecting the appropriate wheel or disc to securing the workpiece and executing the grinding process. By the end of this module, you will have the knowledge and skills necessary to operate a grinder proficiently, ensuring safety, precision, and optimal results in your metalworking endeavors.



## PROCEDURES

### 1. Wear Personal Protective Equipment (PPE):

Put on the necessary personal protective equipment to ensure your safety. This typically includes safety glasses or a face shield, protective gloves, and hearing protection. Additionally, wear appropriate clothing that covers your body and avoid loose-fitting garments that could get caught in the grinder.



### 2. Inspect the Grinder:

Before starting, inspect the grinder for any signs of damage or wear. Check that the grinding wheel or disc is securely mounted, the guard is in place and functioning correctly, and all handles and switches are in good working condition. Ensure that the grinder is clean and free of debris.



### 3. Choose the Correct Wheel or Disc:

Select the appropriate grinding wheel or disc for your task. Consider factors such as material type, grinding/cutting requirements, and RPM rating compatibility with the grinder. Make sure the wheel or disc is compatible with the grinder's spindle size.

**4. Begin Grinding:** Gently lower the workpiece, making initial contact with light pressure. Maintain a controlled and steady motion, applying even pressure as you move the workpiece across the grinder. Avoid excessive force or aggressive grinding, which can lead to overheating, wheel breakage, or loss of control.



**5. Check Progress and Adjust:** Periodically pause and inspect the workpiece to assess the progress and adjust the grinder settings if necessary. Ensure the wheel or disc is not clogged with debris, and if needed, clean or replace it accordingly.



**6. Complete the Grinding Process:** Continue grinding until the desired result is achieved. Maintain focus, concentrate on the task, and remain aware of your surroundings throughout the operation.

**7. Turn Off the Grinder:** Once you have completed the grinding process, switch off the grinder and wait until the wheel or disc comes to a complete stop.

**8. Inspect the Finished Workpiece:** After grinding, carefully inspect the finished workpiece for the desired outcome. Check for any burrs, sharp edges, or imperfections that may require further attention or deburring.

**9. Clean Up:** Clean the grinder and the work area, removing any debris, swarf, or dust generated during the grinding process.