

# PEDESTAL GRINDER MANUAL



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## Specification

<b>Grinding machine pedestal type D.E. 150mm dia</b>	
Wheel with wheel guard and vision	
Hight from base to centre of grinding wheel	935mm
Motor capacity	0.5 single phase
Distance between grinding wheel	445mm.

## Pedestal Grinder

This study guide will cover the major working parts, functions, and machining techniques that can be found/used on most Pedestal Grinders This study guide has been designed to directly represent the questions that will be found on the open book written assessment and as an aid for the hands-on usability assessment. Both assessments will also include questions related to standard machine shop safety and APS internal user safety guidelines. Answering the questions found at the end of the study guide will enable the user to successfully pass the hands-on usability and written assessments. Study guide practice test and answers can be found at the end of the guide.

Grinding is the process of removing material by the cutting action of the countless hard and sharp abrasive particles of a revolving grinding wheel as they come in contact with the surface to be ground. Grinding machines are made in a variety of types and sizes, depending upon the class of work for which they are to be used. Pedestal grinders are used to sharpen high-speed steel cutting tools used on the lathes and milling machines, debur, or used to remove surface imperfections and to work extremely hard materials.

## Procedure for Grinding

Examine the grinder to see that the tool rest is set at the required height, is within 1/8 if an inch to the face of the wheel, and is securely fastened in this position (Figure 2). Tongue guard is to be set at ¼" from the wheel (figure 1).

Adjust safety glass shields on the grinder to permit clear vision of the part to be ground and still protect the operator from flying particles.

Start the grinder.

Hold the work in one hand, and steady it with the other. Place the work on the tool rest; then guide it against the face of the revolving wheel and apply enough pressure to grind, depending upon the hardness of the material and the wheel itself.

Cool work in a water pot as it becomes heated from grinding, especially the small hardened tools that would lose their temper if overheated. Twist drills should not be cooled by dipping in water, as it may cause cracking. Grind the job to the required shape or size by moving the work back and forth across the face of the wheel. This will prevent wearing a groove into the wheel and will result in a flatter surface on the work.

## **Dressing a Grinding Wheel**

Dressing is the process of restoring the sharpness of the grinding wheel by breaking away the dulled abrasive crystals or by removing the glazed or loaded surface of the wheel, thus presenting new sharp cutting edges of the abrasive grains. This breaking away is caused by the pressure of the dresser crushing the bond and releasing the dull abrasive. This process should not be confused with truing, which refers to the shaping of any part of the wheel to run true or to alter it to some desired shape.

The tools used for dressing are made in a variety of types and are called dressers. The more commonly used off-hand dressers are: the star type and the diamond stick.

### **CAUTION**

Always wear safety glasses and/or face shield when using a grinder.

Stand to one side of the wheel when operating the grinder.

Keep fingers away from the revolving wheel, especially when grinding small pieces. Also make sure that the tool rest is close enough to the wheel to prevent the work from slipping into the space between the two.

### **WARNING**

DON'T USE A CRACKED WHEEL OR ONE THAT HAS BEEN DROPPED or has become damaged.

DON'T FORCE A WHEEL ONTO THE MACHINE OR ALTER the size of the mounting hole - if the wheel won't fit the machine, get one that will.

DON'T EVER EXCEED MAXIMUM OPERATING SPEED established for the wheel.

DON'T GRIND ON THE SIDE OF THE WHEEL.

DON'T START THE MACHINE UNTIL THE WHEEL GUARD IS IN PLACE.

DON'T JAM work into the wheel.

DON'T STAND DIRECTLY IN FRONT of a grinding wheel whenever a grinder is started.