

CAED Support Shops
Angle Grinders

•**Review dress code**

-Remind students that long hair must be tied back, loose clothing and/or jewelry must be removed

-**Welding Gloves must be worn**, this is the only power tool we allow gloves with

•**Intro**

-The angle grinder is a versatile tool for grinding, cutting, sanding, and wire wheeling ferrous metals

-With the appropriate wheels they can also be used to cut or grind concrete, stone, or non-ferrous metals

-We have standard size 4-1/2" grinders with 5/8 arbors that accept most common wheels

-Discuss the different types of wheels and their applications:

-**Grinding Wheel**: Used to remove material or burrs, will leave behind scratches that can be seen through paint so generally not used for the final finish

-**Sanding Disc w/ Backing Pad**: Used to remove minimal material or burs as well as ease edges, the scratches they leave are shallower and can typically be covered by paint

-**Cutoff Wheel**: Used to cut through material. Do not use for grinding. It is thinner than a grinding wheel and can shatter if bent or twisted

-**Wire Wheel**: Used for removing surface rust or finishes. Be extremely careful with these wheels they can grab the material and kickback. They also lose their wires so make sure to be wearing a welding jacket, gloves, and a face shield

-Visually inspect the wheel before use. If it has a crack or a chip throw it out. When in doubt throw it out. Any defect can cause the wheel to shatter during use or startup.

•**Tool Anatomy**

-Show the guard and explain it must be in place AT ALL TIMES, demonstrate how it can be rotated to different positions, NEVER take the guard off.

- Show and explain the on off switch, ensure it is in the off position before plugging in the tool, explain how it latches in the on position and will remain in the on position even if unplugged
- With the tool unplugged have each student try the on off switch with a pair of gloves on
- Show how to properly wrap up the cord
- Wheel Changes – For Redshirts Only, do not need to demo, wheel changes should be done by redshirts**
- Always unplug the grinder before changing wheels
- Show how to lock the arbor using the button on top of the grinder
- Explain wrenches should not be needed to install or remove wheels, but spanner wrenches are available from the tool room
- Show the flats on the backing washer and explain that they must line up with the flats on the arbor
- Show the shoulder on the arbor nut, explain for grinding wheels the shoulder must face down and for cutting wheels it should face up. If the shoulder is installed down on a cutoff wheel it will spin because there is no clamping pressure against the wheel
- Show the sanding disc, backing pad, and nut. Explain the backing washer on the grinder should be removed before the installation of the backing pad. Never use the standard arbor nut with the backing pad, always use the nut that came with the backing pad (typically a tall silver nut that looks like a top hat)
- Show how to install a wire wheel, remove the backing washer before installing, when removing the wheel use gloves or a wrench, the wires are sharp and can dig into skin
- Demonstrate**
- Demonstrate the use of a grinding and sanding wheel
- Show the students the difference in finishes left between the two, emphasize how the grinding wheel is used to remove the bulk of the material and the sanding wheel is used to finish grinding to the surface
- Remind students just like any other tool it is important to let the tool do the work, never apply excessive pressure as this may cause it to grab or shatter the wheel
- Have the students use both the grinding and sanding wheel

•**Remind students to clean-up after themselves immediately after using a tool or area.**

REMEMBER- We are here to help. If you have any questions, ask!