



# power tool institute, inc.

## Angle Grinder Video Safety Lesson Plan

1. Introduce the video by instructing the class that it covers a variety of safety rules regarding angle grinder and accessory use. Remind the participants they must also read the tool instruction manual.

Subjects addressed in the video are:

- Safety standards
  - Product warnings
  - Best Methods of operation
  - Angle grinder types defined
    - Sizes
    - Speed ratings
    - Accessory capacities
    - Body styles
  - Accessories
    - Proper mounting procedures
    - Wheel types and proper application
    - Matching the proper accessory to the grinder
    - safety checks before beginning work
  - Tool Maintenance
  - Specific hazard prevention
    - Electrical safety
    - Kickback prevention
2. Encourage the students to note the main points in each section.
  3. Show the video.
  4. Have the class recount as many of the safety rules as they can.
  5. Use the outline provided here to fill in any of the points they missed.
  6. Show the video a second time. There is a lot of material to absorb.

**You cannot react fast enough if something goes wrong! It takes just a split second for a mistake to result in an accident and possible serious injury.**

### Proper Preparation

Completely read and understand the instruction manual and safety warning labels on the products.

### Properly set up workspace

- Well lit
- Free of bystanders and pets
- Clean and dry – free of clutter
- Floors that are not slippery
- UL listed extension cord of the proper gauge and in good condition
- Extension cord away from water and sharp edges and not creating a tripping hazard

### Operator

- Must be properly trained
- No loose fitting clothing
- No loose jewelry or bandannas
- Long hair must be tied back or tucked into a hat or helmet
- Proper PPE must be worn: safety glasses, face shield and respiratory protection as necessary, hearing protection, flame resistant gloves, jacket or leathers, safety shoes
- No drugs, alcohol, or prescription drugs

## **Specific Hazard Prevention**

- Electrical Safety
  - Check the cord for cuts or breaks and replace if necessary
  - Follow OSHA recommendations for use of a GFCI
- Kickback prevention
  - Support materials using clamps, supports, or a vise
  - Do not force the tool into the work
  - Pay particular attention when using cutting wheels
  - Pay particular attention when working edges or into corners
  - If binding happens, turn off the tool and remove it from the material
  - Never restart the tool with the wheel bound

## **Simple Rules for Avoiding Injury**

- Don't force the tool
- When cutting always stand to one side and never directly in line with the wheel
- Never position your hands, fingers or body in the path of the accessory
- Always use the wheel guard and adjust the position to be between you and the wheel
- Always use the side handle for proper control
- Never grind or cut freehand.
- Always secure the work piece in a vise or use clamps
- Always allow the accessory to come to a complete stop before putting the tool down
- Never grind with a wheel designated as a cutting wheel
- Always inspect the accessory and run no load for one minute before commencing work
- Always read and follow the manufacturer's maintenance recommendations

## **Abrasive Wheel Safety**

### **Always**

- Handle and store wheels carefully
- Visually inspect wheels for damage before mounting
- Check mounting flanges for wear
- Use a safety guard that covers at least 180° of the wheel diameter
- Run a newly mounted wheel for one minute before commencing work
- Wear proper safety equipment
- Use the grinders side handle
- Obey ANSI B7.1 and OSHA requirements

### **Never**

- Use a wheel that is damaged or has been dropped
- Force a wheel onto the flanges or alter the mounting hole
- Mount a wheel on a grinder that has a rated speed higher than the maximum speed marked on the wheel
- Tighten the mounting nut excessively
- Grind with a wheel designated as a cutting wheel
- Jam the wheel into the work
- Stand directly in the path of the sparks

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