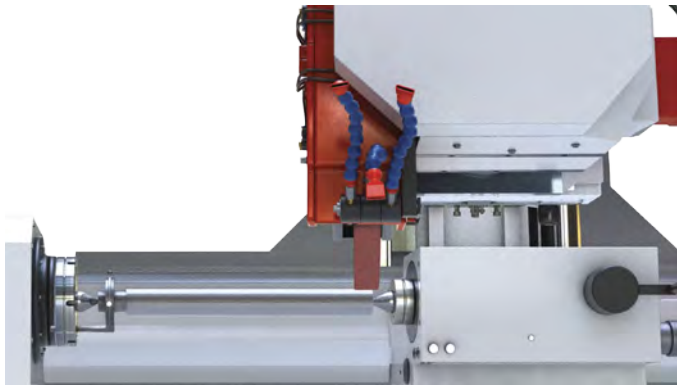


# PRECISION GRINDING: ABRASIVE WHEEL SAFETY

*eLearning courses designed to increase productivity and profits*



## Learning made Simple, Visual, and Interactive

Precision Grinding: Abrasive Wheel Safety introduces the learner to key safety measures in the use of the abrasive grinding wheels and machine tools in precision grinding operations. Safety features and consequences, or failure modes, reviewed in each section will provide a machine operator with an awareness of potential hazards and how to avoid them.

Credit Hours **2**

## Learning Objectives

- Identify hazards which could affect the machine operator when using abrasive grinding wheels for precision grinding processes.
- Recognize safety measures which affect the grinding wheel and setup to avoid potential hazards and wheel bursting.
- Demonstrate an understanding of the purpose of machine safeguards, and their role in operator and wheel safety.
- Determine how various failure modes could be avoided for the safety of the machine operator, grinding wheel, and grinding machine.

## Table of Contents

### I. Machine Operator Safety

- PPE
- Grinding Wheel Operation Hazards
  - o Particle Hazards
  - o Liquid Hazards
  - o Abrasion/Impact Hazards
  - o Noise Hazards
- Failure Modes: Operator Health

### II. Grinding Wheel and Setup Safety

- Grinding Wheel Markings
- Storage, Transport, and Inspection
  - o Storage
  - o Transport
  - o Inspection: Ring Testing
- Wheel Setup
  - o Flange-Grinding Wheel Ratio
  - o Wheel Flange Assembly
  - o Flange-Grinding Wheel Ratio
  - o Tightening Flange Assembly Screws
  - o Wheel Balancing
  - o Wheel Dressing
- Failure Modes: Wheel Bursting

### III. Grinding Machine Safeguards

- Electrical Operation
  - o Electrical Safeguards
  - o Emergency Stop
  - o Lockout-Tagout
- Machine Guards
  - o Fixed Guards
  - o Interlocked Guards
- Safety Shields and Other Guards
- Other Safeguard Devices
- Failure Modes: Machine Safeguards

