



# Industrial Technology Virtual Learning

## **Advance Metals/Safety**

**April 9<sup>th</sup>, 2020**



# Advance Metals

## Shop Safety April 9<sup>th</sup>, 2020

### Objectives

- Explain why it is important to develop safe work habits
- Dress in the proper safety equipment and clothing for a machine shop
  - Recognize and correct unsafe work practices
  - Apply safe work practices when employed in a machine shop
- Select the appropriate fire extinguisher for a particular type of fire

# Getting Started

- Do you Practice the following safety?

# Safety in the Shop

- Keep shop clean
- Exercise care when machining unfamiliar materials
- Wear respirator and special protective clothing, when necessary
- Remember shop is a place to work, not play

<https://nasdonline.org/7080/d002333/tips-on-shop-safety.html>

# Safety in the Shop (Cont.)

- If ill or using medication, make sure it is safe to operate machinery
- Correctly dispose of rags daily
  - Minimizes the possibility of spontaneous combustion
- Keep hand tools in good condition and stored properly

# Safety in the Shop (Cont.)

- Use care when handling long sections of metal stock
- Ask for help when moving heavy items
- Dress properly at all times
- Ensure adequate ventilation
- Know your job

# Practice

- List situations or conditions that you feel are unsafe or not suitably protected to prevent possible injury in your school shop.

# Cleaning Extensive Spills



*(3M Company)*



# Appropriate Safety Equipment



# Appropriate Safety Equipment (Cont.)

- Earplugs
- Plastic gloves
- Dust masks
- Approved respirator
- PPE
- Safety glasses, goggles, and face shields
  - Should all be Occupational Safety and Health Administration (OSHA) approved

<https://www.osha.gov/SLTC/personalprotectiveequipment/>

# General Machine Safety

- Never operate machine until all guards are in place
- Keep floor around machine clean and clear
- Do not talk while operating a machine
- Never remove chips or cuttings with hands while machine is operating
- Secure prompt medical attention for any injury

<https://www.osha.gov/SLTC/machineguarding/>

# General Tool Safety

- Never carry sharp-pointed tools in pockets
- Make sure all tools are properly sharpened, in good condition, and fitted with suitable handles

<https://ohsonline.com/articles/2010/03/19/power-tool-safety-tips-from-osa.aspx>

Which of the following is defined as an unplanned event that results in damage to property?

-Hazard

-Injury

-Accident

-Violation

**Answer: Accident**

Which of the following  
can often result in  
carelessness when  
operating a tool?

- Using a tool repeatedly
- Wearing gloves
- Using the wrong tool
- Awareness of your surroundings

Answer: using a  
tool repeatedly



# Which of the following is a form of PPE?

- Flammable substance
- Abrasion
- Good communication
- Safety glasses

Answer: Safety  
glasses

Which of the following is  
an example of a safety  
device on a tool?

- Gloves
- Hazard
- PPE
- Guards

Answer: Guards

Keeping your work area clean is known as which of the following?

- Personal protective equipment
- Good housekeeping
- Ergonomics
- Good communication

Answer: Good  
housekeeping

\_\_\_\_\_ is an important two word phrase that means safe work practices must always be your main priority

- Good housekeeping
- Safety first
- Always first
- Heads up

**Answer: Safety first**



Anything that can cause  
harm to you or others is  
known as \_\_\_\_\_

- Accident
- Poisonous
- Hazard
- Scary

**Answer: Hazard**

Lack of \_\_\_\_\_ with tools is one of the most common causes of work related injuries.

- Practice
- Training
- Awareness
- Knowledge

**Answer: Training**

You should know the location of the \_\_\_\_\_ in your work area in case you need emergency safety supplies.

- Fire extinguisher
- Eye wash station
- First aid station
- Safety glass cabinet

Answer: first aid  
station

A \_\_\_\_\_ is any sort of damage done to the body.

-Injury

-Accident

-Crime

-Stoppage

Answer: injury



Safety is a less important concern with the hand tools than it is with power tools.

-True

-False

Answer: False

Storing tools properly is a way of practicing safe work habits.

-True

-False

Answer: True

Loose clothing is  
considered a safety  
hazard.

-True

-False

Answer: True

Lack of familiarity with tools is among the most common causes of work related injuries

-True

-False

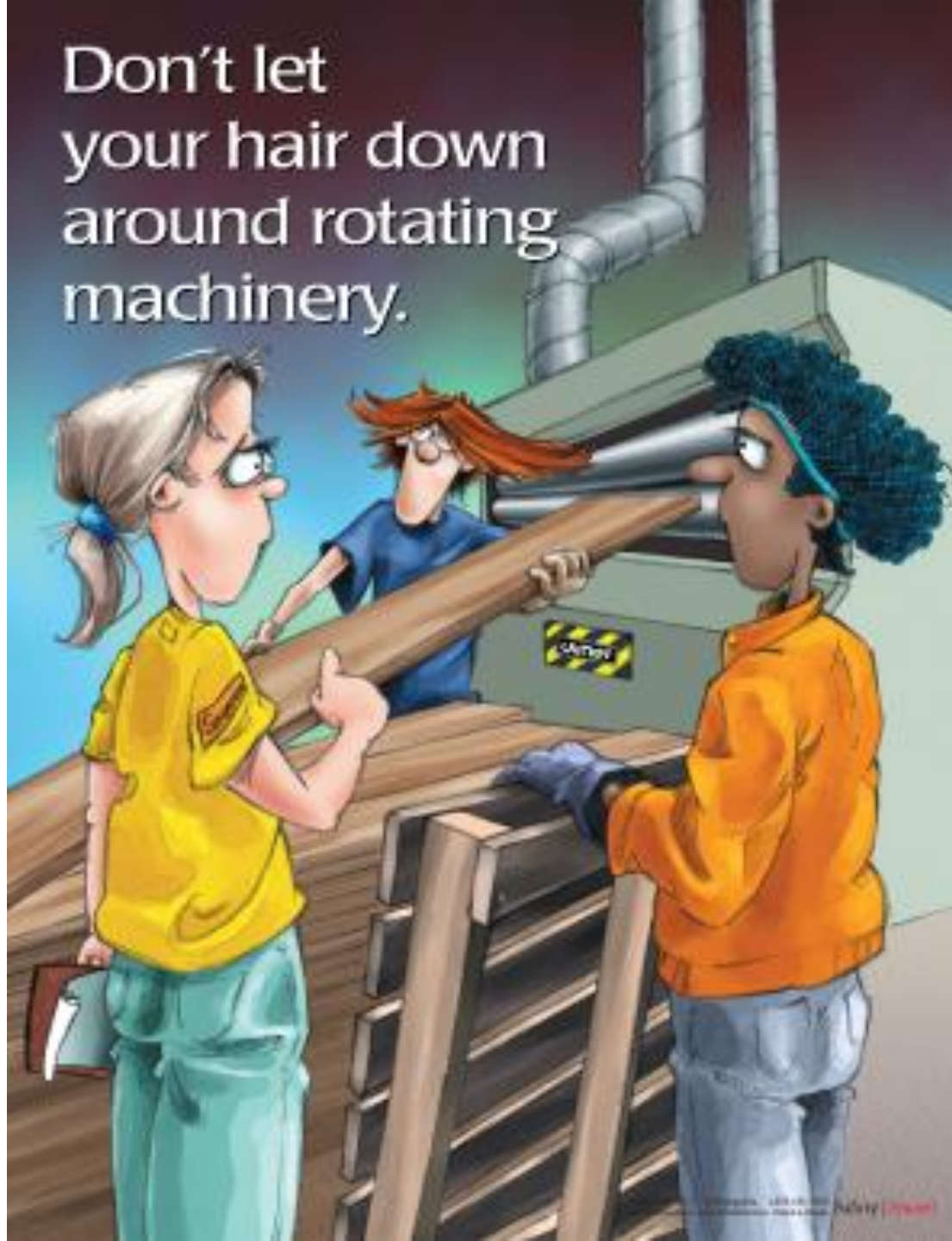
Answer: True



# Safety Posters

- Make a safety poster on one of the machines in your school shop.
- Be creative with your poster.
- The following are examples of posters

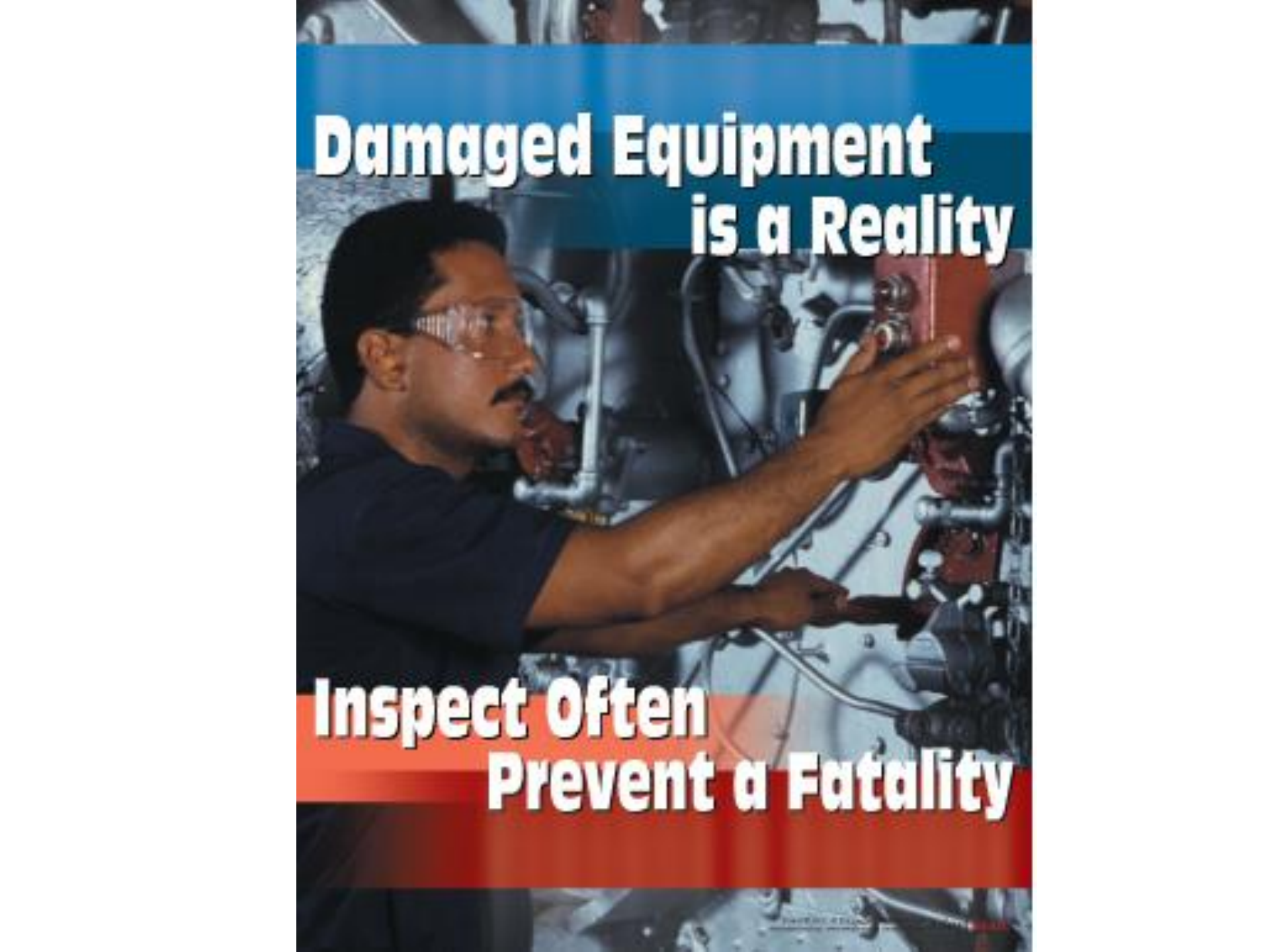
Don't let  
your hair down  
around rotating  
machinery.



# Caught Between Steel And A Hard Place

INATTENTION  
CAN BE...  
DISARMING

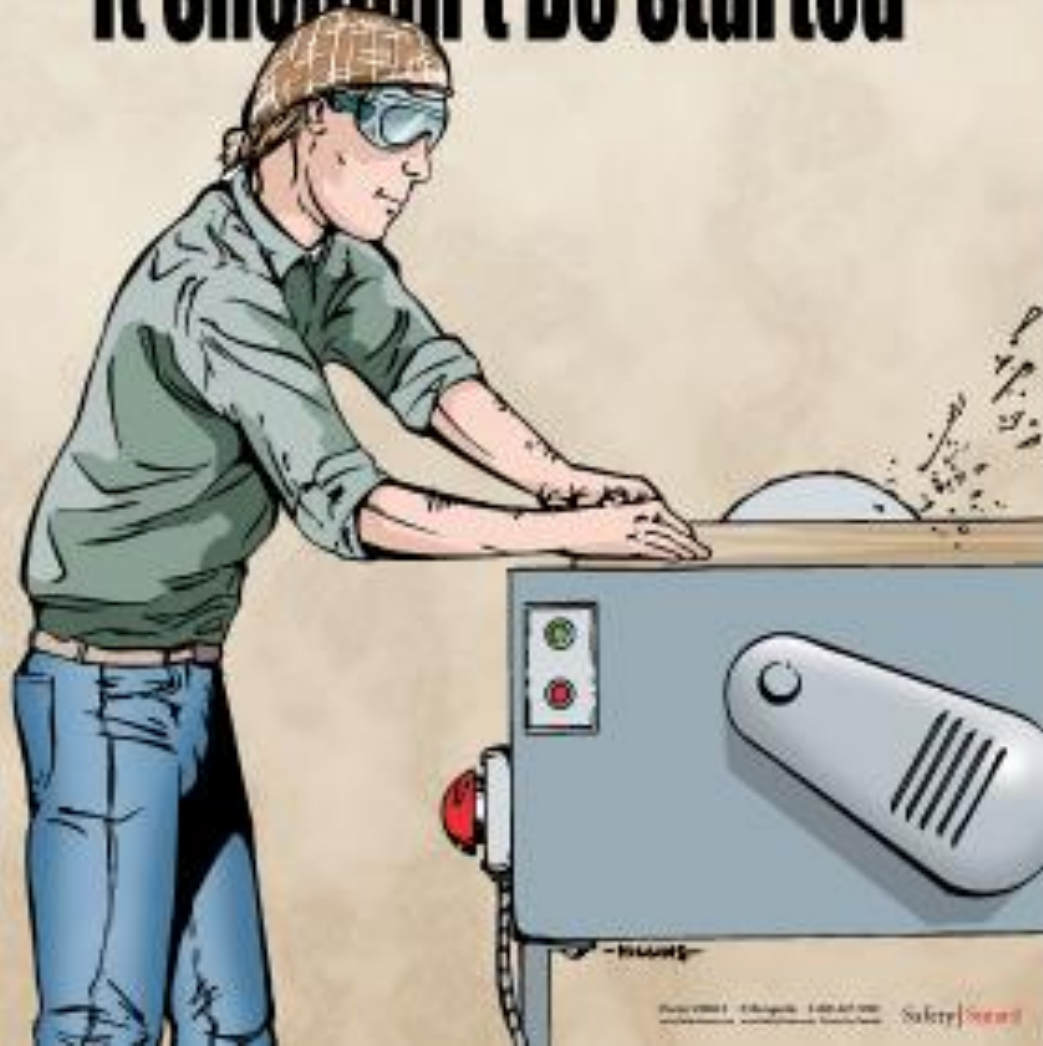


A man with a mustache, wearing safety glasses and a dark blue short-sleeved shirt, is working on a large, complex piece of machinery, likely an engine. He is using a tool, possibly a wrench, on a red component of the engine. The background shows various pipes, hoses, and mechanical parts of the engine.

**Damaged Equipment  
is a Reality**

**Inspect Often  
Prevent a Fatality**

# If Machinery Isn't Guarded It Shouldn't Be Started



**Jewelry entanglement in machinery can  
remove a ring faster than any divorce**



**AND YOU COULD LOSE MUCH MORE  
THAN THE RING**

**RESPECT MACHINE GUARDS.**

***They are there to protect you.***



# Machines are safe



—when safety rules  
are followed





**NEVER SHORT CUT  
THE GUARDS THAT ARE  
THERE TO PROTECT YOU**