Machine Shop Safety Meeting Kit

What's At Stake

To the uninitiated, a machine shop can look a lot like a torture chamber, and with good reason. Almost any piece of equipment in the shop has the potential to injure you. Walk into a machine shop without training or protective gear, and you have the potential to be pinched, punched, cut, blinded, crushed, impaled, or electrocuted.

What's the Danger

POTENTIAL HAZARD/ INJURY IN MACHINE SHOPS

1. **Material handling and repetitive strain injuries** – Injuries of this of type fall into several classifications, including repetitive strain injuries (RSI), occupational overuse syndrome (OOS), cumulative trauma disorder (CTD), and repetitive motion disorder or repetitive motion injuries (RMD).
2. **Hand tool-related injuries** – Many hand tools are involved in the metal and parts fabrication process, which can be a direct source of injury. Improper tool selection can increase the strain on a worker, further boosting the potential of an injury. Other reasons include excessive tool use or repetition, poor equipment maintenance, improper safety policies or failure to comply with them, and ineffective workstation design.
3. **Chemical hazards and poor ventilation** – While specific tasks require protective gear – such as welding with its many types of face masks and helmets – this may not prevent toxic substances from causing a problem. Poor ventilation is a concern with welding, as well as for grinding, finishing, and other machining tasks.
4. **Failure to act** – Injuries are common, and while unfortunate, they can happen when workers least expect them, even when

following all safety guidelines and wearing the proper protective equipment. That includes taking the adequate time to rest and heal.

5. **Poor guarding techniques –** When it comes to heavy machines, a correctly placed guard or barrier can be the difference between safe operation and serious injury, like loss of a limb. Sometimes the right system exists but malfunctions or does not correctly identify hazard situations.

HOW TO PROTECT YOURSELF

TIPS FOR PREVENTING COMMON INJURIES

1. **Well-maintained PPE.** Choosing the right safety gear is essential to healthy working conditions, but perhaps more important is the condition of that equipment. Helmets that are old, worn, and dirty are going to be more likely to break down in an emergency. The same holds true for gloves, footwear, clothing, and any other item of PPE. All safety equipment should be properly maintained.
2. **Clean work areas and stations.** The entire machine shop must remain clean, which means all workers are responsible for keeping their areas or workstations tidy. Most important, maintaining clean work areas promotes accountability and encourages everyone to play a role in keeping the entire plant safe and secure.
3. **Proper safety guards and sensors.** Heavy machinery should always have accurate and reliable safety guards, and that includes all the related devices and systems, like sensors, jams, control networks, and more.
4. **Comprehensive safety training.** No one should be allowed to handle equipment, tools, or machines without first completing the necessary education tracks. The entire education lineup should be updated regularly.
5. **Documented safety ops.** Documentation plays a significant role in the safety and security of a machine shop. Efforts should include logs for safety events, ranging from machines that have been serviced to detailed rundowns of accidents and potential failures.

BEST GENERAL SAFETY PRACTICES IN MACHINE SHOPS

1. If guards or safety mechanisms are present, do not remove or disable them.
2. Do not attempt to oil, clean, adjust, or repair any machine while it is running. Stop the machine and lock the power switch in the “OFF” position.
3. Do not operate any machine unless authorized to do so by the policy and procedures currently in place.
4. Do not set up or operate machinery if you are not trained and familiar with that setup.
5. Even after the power is off, do not leave the machine until it has stopped running. Someone else may not notice that it is still in motion and be injured. Do not leave a machine until it has come to a complete stop.
6. Do not try to stop the machine with your hands or body.
7. Check tools and machines before use to assure they are safe to use.
8. Always see that work and cutting tools on any machine are clamped securely before starting to work.
9. All setscrews should be of the flush or recessed type. If they are not, move with caution when near them. Projecting setscrews are very dangerous because they may catch on sleeves or clothing. The same goes for chuck jaws on a lathe, they are very dangerous especially when extended near the outer limits.
10. Only one person should operate a given machine and its switches.
11. Do not lean against a machine.
12. Concentrate on the work and do not talk unnecessarily while operating the machine.
13. Do not talk to others when they are operating a machine. A distraction may lead to an injury.
14. Do not walk behind people operating a machine; you may bump them by accident or startle them and cause an accident.
15. Always remove gloves before turning on or operating any machine. If material is rough or sharp and gloves must be worn, place or handle material with the machine turned off.
16. Do not leave tools or work on the table of a machine even if

the machine is not running. Tools or work may fall off and cause toe or foot injury.

17. Use a brush to remove short, discontinuous types of chips—not hands, fingers, or rags.
18. Use a pair of pliers to remove chips, especially the long, stringy type.
19. Never handle chips with your bare hands or fingers. Chips are extremely sharp and can easily cause cuts.
20. Never use compressed air to clean any machine.
21. Never use compressed air to clean your clothes or yourself. Never wear gloves or use rags to clean the work piece or any part of a machine that is running. Rotating tools or parts can grab gloves and rags and pull you into the machine.
22. Stop the machine tool to make speed and feed changes that require the shifting of a gear lever.
23. Always use correct speeds and feeds. A broken tool becomes a hazard and can cause great personal injury.

FINAL WORD

Always use the correct machine for the job that it was designed for. Don’t try to make something do it wasn’t intended to do. Always think about the workshop safety tips.