



# MACHINE HAZARDS - MOTION

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## According to Newton's first law...

An object at rest will remain at rest unless acted on by an unbalanced force. An object in motion continues in motion with the same speed and in the same direction unless acted upon by an unbalanced force. This law is often called "the law of inertia".

## What does this mean?

This means that there is a natural tendency of objects to keep on doing what they're doing. All objects resist changes in their state of motion. In the absence of an unbalanced force, an object in motion will maintain this state of motion. In physics, **motion** is a change in position of an object over time. **Motion** is described in terms of displacement, distance, velocity, acceleration, time and speed.

## What's the danger?

It's a simple fact that machines need to move to perform their tasks. Whether it be a conveyor belt moving raw material, a feeder chain moving pallets, or rotating shafts, they all operate by movements that cause a serious risk to workers. The risks occur because workers sometimes put their hands or other body parts in the point of operation, get caught between two moving parts or fail to use proper safety procedures to clear a jammed machine. Daily people are killed or seriously injured because they get too close or didn't follow basic safety procedures. I have mentioned to operators that machinery has no feelings, keep your hands and body away from any moving parts and out of the line of fire.

## How do we protect ourselves?

Even properly guarded machines are dangerous to operate, so it's important to recognize and avoid hazardous machine actions and follow the written safe work practices provided for your machinery.

Here are twelve basic machinery safety tips:

1. Only operate machinery that you are trained on and are authorized to use.
2. Know how and where to stop the machinery prior to starting it.
3. Check to see if the area around the machine is tidy and free of obstructions.
4. Always wear the prescribed PPE required for any machine you are operating.
5. Do not wear loose items including gloves, dangling chains, rings or unrestrained long hair, these could get caught in moving parts and pull you in.
6. Make sure all guards are in place, fitted correctly and securely, and are maintained in good condition.
7. Do not remove or disable machine guards, unless the machine requires repair or maintenance, you are trained and authorized to conduct those repairs or maintenance **AND** you ensure the proper lockout – tag out procedures are followed.
8. Never attempt to start a machine with a lockout tag on it. (Only exception to this would be if you're the one that locked it out and are confirming it is de-energized)
9. Before using the machine ensure that it's working properly. Inform your supervisor if you discover any problems.
10. If the machine malfunctions while you are operating it, report the problem to your supervisor immediately, do not continue to use the machine until it has been inspected and determined safe to operate.
11. Never place your hands or any other body part in the point of operation or any other moving part of a machine in order to clear a jam.
12. If you are not operating machinery, stay clear of the area where machines are operating. Never enter an area where machines are operating unless you establish eye or verbal contact with operators.

## Conclusion:

Workplace machinery is often fast and powerful. It's strong enough to bend, cut crush and otherwise manipulate wood, metal, glass, plastic and other materials. The human body is no match. Learn any associated hazards and follow every safety procedure for the safe operation of equipment.