

# Machine Guarding Stats and Facts



## FACTS

The three basic types of hazardous mechanical motions and actions are:

1. Hazardous Motions – including rotating machine parts, reciprocating motions (sliding parts or up/down motions), and transverse motions (materials moving in a continuous line);
2. Points of Operation – the areas where the machine cuts, shapes, bores, or bends the stock being fed through it;
3. Pinch Points and Shear Points – the area where a part of the body or clothing could be caught between a moving part and a stationary object. This would include power transmission apparatuses such as flywheels, pulleys, belts, chains, couplings, spindles, cams, gears, connecting rods and other machine components that transmit energy.
4. Four safety tips surrounding machinery are: never operate machinery before checking that guards are in place and functioning correctly; encourage workers to report defective or missing guards to a supervisor or manager immediately; never adjust machinery unless you are qualified to do so; and have an authorized person shut down/release all forms of hazardous energy and lock out machinery before performing repairs or maintenance.

## STATS

- Nearly 50 % of work-related amputations occur in manufacturing plants. (Occupational Safety and Health Administration)
- About 20 % of worker fatalities in the United States are caused by contact with equipment or entanglement in running machinery. (Bureau of Labor Statistics)
- Employee exposure to unguarded or inadequately guarded machines is prevalent in many workplaces. Consequently, workers who operate and maintain machinery suffer approximately 18,000 amputations, lacerations, crushing injuries, abrasions, and over 800 deaths per year.
- Occupational Safety & Health Administration (OSHA) nominated OSHA's top ten cited violations in 2017. Machine guarding was NO.8 on this not so famous list with 1,933 violations. In 2018, machine guarding was NO.9.
- A lack of machine safeguarding also held the dubious distinction of making the list of OSHA's ten largest monetary penalties for the year – not once but four times.
- According to the most recent Bureau of Labor Statistics data, manufacturing plants reported approximately 2,000 accidents that led to workers suffering crushed fingers or hands, or had a limb amputated in machine-related accidents. The rate of amputations in manufacturing was more than twice as much (1.7 per 10,000 full-time employees) as that of all private industry (0.7).