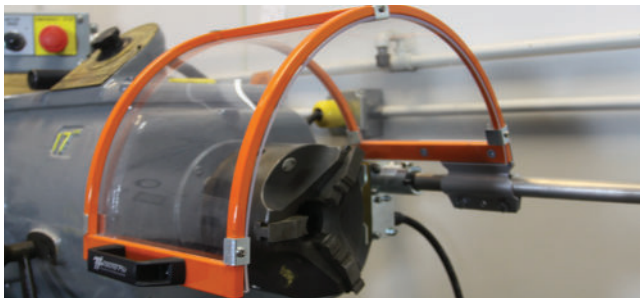
ROCKFORD SYSTEMS, LLC

GOT LATHES? GET SAFEGUARDING!

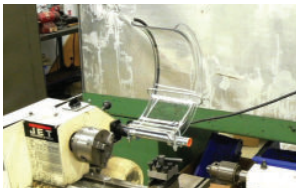
SAFEGUARDING LATHES



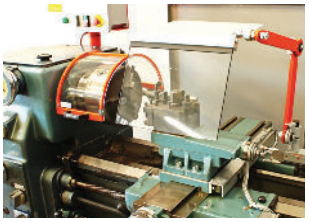
Lathes are often overlooked when Risk Assessments are conducted to determine appropriate "Machine Safeguarding." OSHA regulations consider lathes to be a 1910.212 machine, saying to the employer, "One or more methods of machine guarding shall be provided to protect the operator and other employees in the machine area from hazards such as those created by point of operation, ingoing nip points, rotating parts, flying chips, and sparks" … but 1910.212 requirements are vague because they cover such a wide variety of machinery. Therefore, a reference to something more detailed, like ANSI B11.6 on metalworking lathes, is required for specific safeguarding alternatives.

From a practical standpoint, the rotating chuck (work-holder) cannot be fully enclosed, unlike gears, sprockets, or chains which can and usually are completely covered, often by the machine's manufacturer. However, that same lathe manufacturer may provide no safeguarding at or near the point of operation.

Chuck-Shields



Hinged chuck-shields are one of the most common methods to protect lathe operators from the rotating work-holder. Their purpose is to prevent an operator from inadvertently coming in contact with the chuck, which often results in entanglement with it, resulting in serious injury or even death. Chuck shields are commercially available from numerous providers. They may be constructed of metal, polycarbonate, or some combination of materials. When not in use, they need to be swung up out of the way, so most are hinged. Although U.S. Safety Standards and Regulations do not require chuck-shields to be electrically interlocked, some European manufacturers offer that feature. With electrically interlocked shields, when the lathe chuck shield is lifted up, the positive contacts on the microswitch open, sending a stop signal to the machine control. The machine will not start up again until the emergency stop button has been reset.



Chip/Coolant Shield

Another type of protection commonly used on lathes is a chip/coolant shield. These are often useful when the operator's personal protective equipment (PPE) does not adequately control the waste product coming off of the cutting tool. If chips strike the operator in the upper body or accumulate on the floor creating a slip-trip hazard, a chip/coolant shield is often suggested to supplement the operator's PPE. OSHA's 1910.219 addresses the need to cover rotating components to prevent the operator's hair and clothing from getting entangled, dragging them into the machine. These rotating components include the lead screw, feed rod, traverse rod, and camshaft, in the lower front portion of the lathe.

In April 2011, a lathe's horizontal rotating components took the life of a 22-year old female student at Yale University's Sterling Chemistry Laboratory. While working very late at night by herself, her hair became entangled in that part of the machine, resulting in asphyxiation. (Google; Yale Lathe Fatality)

Telescopic metal sleeves are available to cover a lathe's horizontal rotating components, although many manufacturing companies elect not to use them. According to feedback from OSHA Compliance Officers and Insurance Loss Control Inspectors, one of the most common lathe accidents results from the misuse of the standard chuck wrench furnished by the lathe manufacturer.

Self-Ejecting Chuck Wrench

When the lathe is not being used, a typical (unsafe) storage place for the chuck-wrench is in the chuck. At some point in time, the operator turns the lathe on without checking to see where the chuck wrench is located, which sends it flying. This has caused serious accidents, including the loss of eyes. Spring-loaded, self-ejecting chuck wrenches are a solution to this problem because they won't stay in the chuck by themselves. They are available in a number of sizes.

Many older lathes also need updates to bring them up to code with electrical standards like NFPA 79. The two most common updates are for: 1) magnetic motor-starters to provide dropout protection, (a.k.a. anti-restart), and 2) main power disconnects that lock only in the OFF position. As with any machine, provision for Lockout/Tagout is always important.

Danger and Warning signs, depicting specific hazards on lathes are also available.

To see these and other lathe safeguarding products, please call 1-800-922-7533 or visit our website.