handling of heavy stock or heavy machine parts, such as face plates, chucks, etc , every operator should wear safety shoes

Splash guards, shields, and other means may be practical to minimize exposure of workers to cutting oils which may cause skin irritations, especially if contaminated

Turning Machines

Turning—shaping a rotating piece with a cutting tool, usually to give a circular cross section—is done on machines such as engine lathes, turret lathes, chuckers, semiautomatic lathes, and automatic screw machines

Engine lathes

An engine lathe must be operated intelligently, if accidents are to be prevented Injuries are likely to result from

1 Contact with projections on work or stock, face plates, chucks, or lathe dogs, especially those with projecting set-screws
2 Flying metal chips
3 Hand braking of the machine
4 Filing right-handed, using file with unprotected tang, or using the hand instead of a stick to hold emery cloth against the work
5 Calipering or gauging the job while the machine is in operation
6 Attempting to remove chips when machine is in operation
7 Contact with rotating stock projecting from turret lathes or screw machines
8 Leaving chuck wrench in chuck Using a spring-loaded wrench can eliminate this hazard
9 Catching loose clothing or wiping rags on revolving parts

Injuries may also occur on lathes because operators fail to keep center holes of taper work clean and true and lathe centers true and sharp Furthermore, it is hazardous for operators to leave the machines running unattended, or to handle chips by hand instead of using a hooked rod

Face plates and chucks without projections should be used whenever possible Otherwise, a simple shield formed to the contour of the chuck or plate and hinged at the back should be installed to prevent contact with the revolving plate or chuck

Safety-type lathe dogs are relatively inexpensive to install and should be substituted for those with projecting setscrews Chip guards, particularly on high-speed operations, will control flying chips Plastic or small-mesh screen chip guards have been successfully used because they allow visibility and confine the flying chips (Fig 26-1) Use of these guards, however, does not eliminate the need for protective eye equipment

Mechanical means (Fig 26-2) should be provided to lift heavy face plates, chucks, and stock on both lathes and screw machines and eliminate operator strain

Turret lathes and screw machines

Injuries from turret lathes and screw machines result from the same causes as those listed for other lathes In addition, injuries frequently occur when the operator fails to move the turret back as far as possible when changing or gauging work or uses the power of the machine to start the face plate or chuck onto the spindle

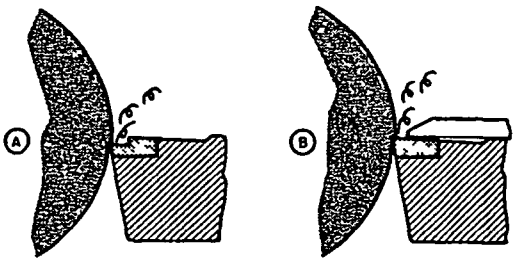


FIG 26-3 —Chip breakers may be ground into the tip of the tool (A) or a breaker in the form of a piece of metal may be clamped or brazed onto the tool itself (B)

Other injuries result when the operator fails to keep his hand clear of the turret slide or permits his hand, arm, or elbow to strike the cutter while adjusting or setting up

Splash guards, especially on automatic machines, should be installed and kept in