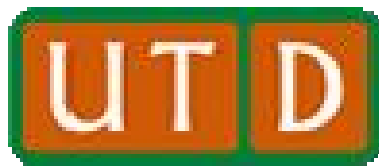


The University of Texas at Dallas Machine Guarding Safety Manual



MACHINE GUARDING

I. PURPOSE

The purpose of this section is to provide guidelines for the use of heavy machinery. Machinery can be a significant source of injuries. Therefore, machine guards will be provided to protect the operator and other persons.

II. HAZARDS

- A. Included in this category are fan blades, mechanical power transmission devices, pulleys, belts, and flywheels.
- B. The obvious hazards with cutting and shearing lie at the point where rotary cutting action is applied or where a reciprocating mechanism crosses a fixed object, examples of which are grinding machines, drilling and boring machines, circular saws, and band-saws.
- C. Nip points exist wherever a part rotates in, over, under, or near a stationary object or another rotating object. Once an object (or part of body) contacts a nip point, it is drawn into the nip point and it is difficult or impossible to withdraw it. Examples of nip points may be chain and sprockets, belt and pulley, rotating drums, and rolls for bending and forming.
- D. Meat grinders, food mixers, and screw conveyors are screw worms. The shearing action between the moving screw and the fixed part is a hazard.
- E. The main hazard of bending and framing lies at the point of operation where the punch or upper die approaches, crosses, or comes in contact with the lower die, as in the case of power presses, press brakes, and metal strapping.

III. PROCEDURES

A. General Requirements

- 1. Fixed machinery must be securely anchored to prevent walking or moving.
- 2. Machine guards must protect the operator of the machine and other persons in the vicinity.
- 3. Machine guards must be secured to the machine.
- 4. Machine guards should be well constructed and practical.
- 5. The machine guard itself must not create a hazard.
- 6. The metallic frames and all exposed conductive parts of either portable or stationary machines operated above 50 volts shall

be grounded.

B. Machine Operations Safety Checklist

1. Never attempt to operate a machine with which you are unfamiliar. Request instructions from your supervisor.
2. See that everything is in order before starting a machine. All guards should be in place, the tools properly stored in tool racks or stands, and the floor area around the machine clear and free from grease and oil.
3. Machine guards should never be removed during operation.
4. The user should test the emergency shut off prior to each use to be certain that the machine can be stopped quickly.
5. When setting up or removing work from the machine, make sure there is sufficient space so your hand will not strike against the cutting tool or other machine parts.
6. Properly secure the work so it will not be thrown from the machine.
7. Use the correct tool for the job being done.
8. See that cutting tools are properly secured in place and set so that they will not dig into the work if they should move.
9. Never clean or oil a machine while it is in motion.
10. Do not attempt to brake a machine by placing hands on the belt or on other moving parts. Wait for the machine to stop.
11. Report any unusual condition of a machine to your supervisor. Excessive vibration, noise, or stalling may signify that the machine is in need of repair.

The operator should contain all loose clothing, long hair, and jewelry prior to operation.