VERTICAL MILLING MACHINE SAFETY GUIDELINES

1). Always keep safety in mind. Accidents on milling machines usually occur when the operator loads/unloads or makes adjustments to the milling operation. The major hazard is injury to hands, arms or fingers by contact with the cutter, other sharp objects, or by pinching. Unsafe contact can be due to:

   a). Lack of essential guarding.
   b). Unsafe work practices.
   c). Failure to withdraw the job to a safe distance from the cutter while loading or unloading the machine, measuring the part or checking the finish.
   d). Attempting to remove chips by hand.
   e). Adjusting coolant while cutters are revolving.
   f). Using wipes or rags near revolving cutters.
   g). Wearing gloves or loose clothing near revolving cutters or machine parts.
   h). Unsafe workplace.
   i). Poor housekeeping around machine (wet or slippery floor).

2). Wear eye protection and safety shoes at all times.

3). Do not wear neckties, gloves, wristwatches, rings, jewelry, loose or torn clothing, etc., when operating the machine. Long sleeve shirts will be rolled above the elbows.

4). The area around the machine should be free of oil or coolant spills (avoid a slippery floor) and as free as possible from obstructions. Keep the area clean at all times.

5). Chips should not be removed from the table by hand, nor should they be blown off with compressed air. A brush or other tool should be used for that purpose. Do not use compressed air to clean floor around machine.

6). For normal lifting, use leg, not back muscles. For heavy lifting, use a hoist.

7). Illuminating lamps should be adjusted so light is not directed into operator's eyes.

8). When work platforms are used around the machine, they should be extremely sturdy, safe, and with anti-slip surfaces.

9). Be mentally alert on the job, always sober, and never dulled by the influence of drugs, prescribed or otherwise.

10). Use the proper hand tools for each job.

11). Report any unsafe conditions to your supervisor. Only qualified personnel should perform maintenance repair work.

12). Clean machine and area after each use.

13). Check and tighten any loose bolts on head.

14). Use safe lifting devices & practices for mounting vises, chucks & rotary tables.

15). Always remember to remove wrench after tightening bolt for collets and arbors.

16). Use soft hammer (plastic or rawhide) to loosen collets, NOT a wrench or steel hammer.

17). Make sure gears are engaged in head before turning power on.

18). Always shut machine off & use brake before reversing spindle.

19). Always pay attention and never walk away when machine is in use.

20). To check workpiece - shut machine off & move cutter away from workpiece, do not check workpiece while spindle is moving.

21). Use appropriate PPE for the job.

22). Never operate while on medication and/or use of drugs or alcohol.

23). When using cutters in a milling machine, care must be taken not to employ too heavy a feed to too heavy a cut. Such a feed or cut is likely to break the cutter, with the possibility of flying particles striking and injuring the operator.

24). Before starting a milling machine, the operator should make sure all guards are in place, that the work is properly secured in place, that any bolts used in holding down the work will clear the tooling, that the tooling and supporting pieces are properly tightened in position, that table stops are secured in proper places, that the handles on the various feed screws are in neutral, and that the

table is free of stock, tools, or other loose material that might fall off and injure the operator.

25). When inserting the arbor or adapters into the spindle, the following procedure should be observed:

a). Be sure both arbor and spindle hole are clean and free from nicks.
b). Insert the arbor or adapter into the spindle, pushing it firmly into place.
c). Screw in draw-in bar until it tightens; be sure the bar is clean, both on the body and threads.

26). An operator should not attempt to take the nut off the machine arbor by applying power to the machine.

27). Stop cutter before using rapid traverse, clearing chips, or checking job.

28). An operator should not, while the machine is running, reach around the cutter to move any control lever, remove chips or measure part.

29). The operator shall not attempt to clean or oil the machine nor make any adjustments to the work while the machine is in motion.

30). Horseplay about a milling machine or distracting the operator's attention while the machine is in motion is unsafe and must not be allowed.

Do's and Don'ts

DO get thoroughly familiar with the STOP lever or button.

DO make sure that the work is held securely before engaging the cutter with it.

DO make sure that all tools and machine parts are clear of the cutter before starting the machine.

DO keep your hands away from the revolving items (cutters, spindles, work pieces, etc.)

DO handle all cutters carefully to guard against injury to yourself and others.

DON'T under any circumstances attempt to operate any machine unless you are thoroughly familiar with it.

DON'T move any lever unless you know exactly what is going to happen when it is moved.

DON'T play around with the lever of any machine.

DON'T go away, even for a moment, and leave the machine running.

DON'T try to operate the machine and engage fellow workers in conversation at the same time. Keep your mind on your work and let the other fellow do the same.

DON'T attempt to oil the machine while it is in operation.