GENERAL CNC MACHINE SAFETY GUIDELINES

CNC machines start, stop, and move automatically. It is important that you do not put any part of your body near or over moving parts.

1). Study your operator and maintenance manuals and read all warnings on the machine before turning on the machine. Neglecting these instructions and warnings may cause serious injury or damage.

2). Let the machine and spindle come to a complete stop before touching parts, tools, or spindle.

3). Be certain that workpiece and tools are secured.

4). Do not operate machine before making sure that all machine guards, interlocks, and other safety devices are installed and under operation.

5). Never run machine with electrical cabinets or safety enclosure doors open. Use additional shields where required.

6). Check all motion control switches daily.

7). Always keep safety in mind.

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

9). Do not wear neckties, wristwatches, rings, jewelry, etc., when operating the machine. Long sleeve shirts will be rolled above the elbows.

10). 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.

11). Do not use compressed air to blow chips from the spindle/table machine surfaces, cabinets, controls, or the floor around the machine.

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

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

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

15). Wrenches, tools, and other miscellaneous equipment should be kept off the machine spindle/table as well as off all moving units of the machine.

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

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

18). Only qualified personnel should perform maintenance repair work.

19). Report any unsafe conditions to your supervisor.

20). Keep machinery well lubricated and clean.

21). Clean machine and area after each use.

22). As with any piece of precision equipment, the operator and programmer should be thoroughly familiar with the machines error codes and cautions.

23). Since the auto lube system only runs with the spindle on, do not run the axis for a long period of time with the spindle off.

24). The lube failure light indicates that the system has failed. The fault must be removed before operating the machine.

25). The air pressure light indicates that air pressure is to low. Correct pressure must be restored before continuing to work with the machine.

26). When using vises or fixtures that extend beyond the rear of the table, caution must be exercised so that the vise, fixture or part does not strike the column.

27). When machining a part, always engage the knee lock (where applicable).

28). Only change gears with the spindle off (where applicable).

29). Use appropriate lifting devices for heavy workpieces or fixtures.

30). **When proving or dry running a program be sure to single step with rapid override at its lowest range.**

31). Before using a tool, make sure all nuts and bolts on tool holders are securely fastened.

32). **Avoid unnecessary touching of the operator controls while the machine is running.**

33). Know the function of each control switch before operating.

34). Remove the chuck handle or wrench after mounting or dismounting workpiece.

35). Observe a warming-up period before starting operation.

36). Do not handle chips and sharp cutters with bare hands.

37). **Do not remove chips while the machine is running.**

38). Clean machine and control only after locking out main electrical panel.

39). Do not attempt to measure workpiece while the machine is running.

40). **Always be cautious when working on or near auto tool changer.**

41). **Never try to replace, add or change tools in auto-changer while machine is running.**

42). Always keep area clear for computer cooling fans, intake and exhaust.

43). Make sure tool changer door is closed while machine is running.

44). Make sure workpiece or fixture can not strike enclosure when axis are moved to limits.

45). Do not step on covers of machine.

46). Do not approach movable parts of machine during operation.

47). Do not let chips accumulate inside enclosure, clear as often as necessary.

48). **Make sure cutter will clear vise, fixture or clamps.**

49). If workpiece or fixture extends beyond machine envelope, setup necessary safety cones, signs and/or rope off area.

50). Keep access doors clear, do not lean or stack materials and workpieces against machine.

51). When machining, if heavy mist or smoke generation is unavoidable, make use of smoke eater and/or exhaust fan.

52). When loading or unloading large workpieces or fixtures with the crane observe caution so as not to impact machine or control.

53). Never overload machine table, follow manufactures recommendations as to load limit.

54). If any machine attachments are used, make sure they are mounted properly and you understand how to operate them safely.

55). Keep records of all machine parameters in the logbook and if changed for any reason, record it with a full explanation and date it.

56). Before operating the machine, make sure the area around the machine is clear of all obstacles that will interfere with all moving axis.

57). In case of a crash report it immediately to your supervisor, **do not** operate the machine until the damage has been evaluated and corrected.

Do's and Don'ts

DO get thoroughly familiar with the STOP 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, workpieces, etc.)

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

DO keep the shirt sleeves rolled up above the elbows and wear close fitting shop aprons or coats.

DO keep the tools well balanced and arranged in the tool magazine.

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

DON'T push any button unless you know exactly what its function is.

DON'T attempt to remove chips from the machine with your bare hands or fingers. Use a brush or other suitable implement.

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.

DON'T use tools to large or beyond the weight capacity specified by the manufacturers.