BULLARD VERTICAL BORING MILL
SAFETY GUIDELINES

The Vertical Boring Mill is used for boring, facing and turning certain classes or work that are held in a vertical position and rotated on a gear-driven horizontal work table. The tool-holding heads are carried on slides and can be fed both vertically and horizontally.

Various hazards that may be encountered in the use of vertical boring mills include:

1). Tools or material dropped on the foot or toes.

2). Flying chips from boring and facing operation, flying fragments of broken tools and piece parts being thrown out of the machine.

3). Contact with unguarded moving parts or with pinch points between the tool and the work.

The operator shall insure that:

1). The motor is turned off when loading or unloading machine.

2). When clamping work piece to the table, clamps will be placed to put equal pressure on the work piece.

3). When using "U" clamps the fork end is placed on the work piece.

4). When chuck jaws are used make sure that all jaws exert equal pressure on work piece.

5). Tools are securely clamped in tool holder.

6). Determine high spot on work piece before starting cut.

7). Avoid attempts to tighten hold downs or measure work piece when chuck or cutter is turning.

8). Always keep safety in mind, do not wear neckties, wristwatches, rings, gloves, jewelry, etc. when operating the machine. Long sleeve shirts will be rolled above the elbows.

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

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

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

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

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

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

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

16). Use the proper hand tools for each job, do not use partially stripped bolts or nuts.

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

18). Keep machinery clean.

19). Shut off machine prior to setups and tool changes.

20). Keep clear from vertical turret slide exposed lead screw and drive shaft, also inspect for obstructions (chips, rags, tools) before operating.

21). Check setup for clearance between workpiece, fixturing, and the machine parts.

22). Make sure vertical and horizontal tool turrets are locked into position before operating.

23). Make sure personnel or equipment are clear of horizontal tool slide before operating.

24). Avoid standing on or leaning against machine table.

25). Make sure front table steel shield is raised into position before starting machine.

26). Use the mounted plastic shields when machining

27). Make sure hands are free from hand wheels before engaging rapid levers.

28). Stop table rotation when removing chips, changing or measuring workpiece and/or adjusting setups.

29). Clean machine and area after each use.

Do's and Don'ts

DO get thoroughly familiar with the STOP lever.

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 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.