

# Drill Press Safety



**Powermatic**



**Nova**

Our drill presses are a floor mounted model. They have a motor driven spindle that has a chuck that accepts bits that are used to drill holes. They also have an adjustable table on which the work is mounted. They are operated by pulling a rotary lever which lowers the drill bit into the workpiece. To avoid accidents, the following operational safety rules must be observed by everyone using the Club Drill Presses. Failure to follow the safety rules will result in a loss of shop privileges.

## **Drill Press Safety Rules:**

1. Follow the 3” rule; always keep fingers at least 3” from the drill bit or cutter.
2. Don’t drill stock that is not flat on the bottom without a jig that will hold the work in a stable position.
3. Keep a balanced stance at the drill press.
4. Never clear chips from the table with your hand while the drill bit or cutter is moving.
5. It is not necessary to lockout or unplug the drill press when installing or removing bits.
6. Do not wear gloves. They can get tangled up in the rotating bit and cause serious injury.

## **Start with a Risk Assessment to ensure a safe work area:**

1. A three foot perimeter around the drill press should be kept clear of people, debris and sawdust that might impair traction or footing to avoid slips and falls.
2. Safety glasses with side shields or a face shield and hearing protection must be worn.
3. Remove loose fitting clothing, jewelry, and tie back long hair.
4. Give the work your undivided attention.

5. Do not wear loose fitting gloves or anything that would allow a hand, fingers or clothing to be wrapped around the revolving bit.

### **Operational Safety Rules:**

1. Approach your work in the Club Shop and on the drill press with a safe attitude!
2. Keep all guards and covers on the machine when it is on and running.
3. Make sure the size of the bit is equal to or less than the capacity of the drill press.
4. Do not exceed the recommended speeds for the type and size of drill bit being used or composition of the stock being drilled. Set the bit speed based on the Recommended Drill Speed Chart.
5. Speed changes:
  - a. Powermatic - Change speeds by positioning the speed control lever forward or back only while the drill press is running.
  - b. Nova – Change speed by rotating the knob at any time.
6. Do not use brad point or Forstner bits to drill metal.
7. Center punch the drill-hole location into the stock if drilling metal. In some cases, a center punch or awl can be helpful in locating the position of holes in wood.
8. Insert bit into drill chuck and tighten securely using the chuck key. Ensure that the chuck key is fully inserted.
9. Position the drill press table so that the drill bit is aligned with the hole in the drill press table.
10. Use a clamp, vise, fence or combination of these to securely fasten the stock to the drill press table when using bits larger than 1". Never attempt to handhold stock while drilling with bits larger than 1".
11. Drill into cylindrical stock using a "V" block and or held with a hand screw.
12. Long stock should be drilled with the excess to the right of the operator. If the stock rotates it will hit the fence or post, not the operator. If the drill bit or cutter grabs the stock, maintain downward pressure and push the stop button.
13. Prevent blow-out on the back side of the workpiece. Support the underside of the stock to be drilled with a table insert in the drill press table. The insert should be flush with or slightly above the table.
14. If drilling a through hole, set the depth stop so that the spurs of the bit just touch the table insert. Drilling any deeper will damage the insert lead to an early replacement.
15. If a table insert is damaged, try rotating the drill press table to a clear area, turn the insert over, or replace the insert.
16. Never start the machine without the table clear of everything except the stock you are drilling.
17. Clamp the workpiece to the drill press table if the hole is to be drilled at an angle. Use only Forstner bits when drilling angled holes, unless the Shop Leader approves of the method used to ensure that the bit enters perpendicular to the stock.
18. When drilling deep holes, frequently raise the drill bit from the hole to remove cuttings and cool the bit.
19. When you begin to break through the underneath side of the stock, ease up on the feed pressure.
20. If a drill bit binds, turn off the drill press and carefully turn the drill chuck backwards by hand to free the drill bit.

21. Never reach around or under a rotating drill bit or grab the chuck to stop a drill press. This can result in hand puncture or other serious injury.
22. Turn the drill press off before looking up or walking away from the machine.
23. Never stop the rotation of the drill chuck, spindle, or stock rotating on a bit with your hands or fingers.
24. Don't touch the drill bit and shavings since they are hot immediately after drilling.
25. Always clean the drill press table and work area upon completion of the drilling task. Do not use your hands or blow the drill shavings, use a bench brush or vacuum.