



# Powermatic Hollow Chisel Mortiser Safety Rules

The hollow chisel mortiser is used to cut rectangular holes that can be used for a mortise and tenon joint. The machine has a square hollow chisel that is attached to the motor housing. The chisel does not rotate. The motor drives a drill bit that fits through the hollow chisel. When the combination of the bit and chisel are forced into the workpiece, a square hole is cut. By moving the workpiece laterally, additional square holes can be cut to form a rectangular hole that can accept the tenon. To avoid accidents, the following operational safety rules must be observed by everyone using the Club Mortiser. Failure to follow the safety rules will result in a loss of shop privileges.

## **Mortiser Safety Rules:**

1. Follow the 3” rule; always keep fingers at least 3” from the drill bit and chisel.
2. **WARNING! Keep your hands and fingers away from the rotating bit. It can easily cut you and cause severe injury.**
3. Keep a balanced stance at the mortiser.
4. Never clear chips from the table with your hand while the drill bit is moving.
5. Unplug the mortiser when installing or removing drill bits or chisels

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

1. A three foot perimeter around the mortiser 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 in combination with safety glasses 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 mortiser with a safe attitude!
2. Make all drill bit and chisel adjustments or replacements with the mortiser locked out (e.g. installing the drill bit and chisel, squaring the chisel to the fence, setting the distance of the chisel to the fence, setting the depth stop).
3. To install at bit and chisel:
  - a. LOTO the mortiser.
  - b. Make sure the size of the bit matches the size and manufacturer of the chisel
  - c. Insert the drill bit into the chisel.
  - d. Insert a credit card between the chisel adapter and the chisel holder,
  - e. Using your gloved hand, push the drill bit and chisel up as far as possible and tighten the drill bit in the chuck.
  - f. Remove the credit card and push the chisel up as far as it will go. While holding the chisel in this position, square the chisel to the fence and tighten the chisel holding screw.
    - i. Use a small square, or the head of a combination square to square the chisel to the fence.
    - ii. Position the slot in the chisel to the left to facilitate using a shop vacuum to collect the chips generated.
4. Keep all guards and covers on the machine when it is on and running.
5. Ensure that the drill bit is tightly secured in the chuck.
6. Ensure that the gap between the drill bit and the chisel is 1/32" (one credit card thickness).
7. Don't try to mortise stock that is not machined flat on all sides. If a turned or curved workpiece needs a mortise, cut the mortise in rectangular stock and then cut the workpiece to the desired shape.
8. Ensure that the workpiece is securely clamped in place by the table vise.
9. Ensure that the depth of cut is limited by using the depth stop. Ensure that the lock-nuts on the depth stop rod are tight. Check this periodically to ensure that the mortise does not go deeper than desired, or into the mortiser cast iron table.
10. Never start the machine without the table clear of everything except the stock you are mortising.
11. Place the workpiece to be mortised on the table and clamp it securely in-place.
12. Adjust the front-to-back position of the fence using the Yellow handwheel to position the chisel at the desired location for the mortise.

- a. Tighten the front-to-back lock.
13. Set the right and left lateral stops to limit the lateral travel of the table to the desired dimensions of the mortise.
14. Set a stop-rod against the end of the workpiece so that the mortise can be repeated on other boards.
15. Cut the ends of the mortise first and then remove the stock between the ends. When removing the central stock, leave about 1/2 to 3/4 of a chisel width between the mortises and then remove the remainder of the stock.
16. Use a shop vacuum to capture the shavings as they are generated.
17. Turn the mortiser off before looking up or walking away from the machine.
18. Never stop the rotation of the drill chuck with your hands or fingers.
19. Don't touch the chisel, drill bit or shavings since they are hot immediately after mortising.
20. Always clean the mortiser table and work area upon completion of the work. Do not use your hands or blow the drill shavings, use a bench brush or vacuum.