

Hollow Chisel Mortiser



The Hollow Chisel Mortiser is a specialized woodworking machine used to cut square or rectangular holes in a piece of wood, such as a mortise in a mortise & tenon joint. Similar to a drill press in many respects, it combines the cutting of a four-sided chisel with the action of a drill bit in the center. The bit clears out most of the material to be removed and the chisel ensure the edges are straight & clean. To avoid accidents, the following operational safety rules must be observed by everyone working on the GWG Hollow Chisel Mortiser. **Failure to be certified or to follow the safety rules will result in loss of shop privileges.**

Hollow Chisel Mortiser Safety Rules:

1. Wear proper apparel. Remove loose fitting clothing, jewelry and tie back long hair. Do not wear gloves.
2. Wear hearing and eye protection.
3. Remove wrenches & screwdrivers used to install the cutter from the machine area before turning on the mortiser.
4. Unplug the mortiser when installing or removing cutters.
5. Make sure the switch is in the "OFF" position before plugging in the mortiser
6. Adjust operating handle to insure firm footing.
7. A two foot perimeter around the mortiser should be kept clear of people and debris that impair traction or footing to avoid slips and falls.
8. Unplug the saw before adjusting or doing maintenance.
9. Securely clamp work piece to the fence using integrated vise.
10. Handle cutters carefully. They are very sharp and will be damaged if dropped.
11. Check for alignment, binding & breakage of moving parts, mounting & any other conditions that may affect its operation. A guard or other part that is damaged should be reported to the supervisor immediately.
12. Give the work your undivided attention.
13. Never leave a running tool unattended.
14. Do not force a tool or attachment to do a job for which it was not designed.
15. Turn the bit around one complete revolution by hand before the power is turned on.
16. Keep your hands at least 3" away from the chisel while operating this machine

Operational Rules:

Install cutter. Use bushing that is appropriate for the selected cutter. Chisel must be square to the fence. The open side of the chisel must be to the right or left – never to the front or back. Clearance between the auger and the chisel must be such that the auger does not make contact with the chisel when the machine is in operation & is a specific measurement, 1/16th to 3/16th inch.

Install the chisel shy of full insertion by the recommended separation & tighten.

Install the bit, pushing it up tight against chisel & tighten it. Loosen the chisel screw & push it up to full insertion & tighten it. The clearance is now established.

Set work piece on table and clamp it to the fence. Set Work Stop and Table Stops as appropriate for the mortise to be cut. Use hand wheels to move the work piece through the range necessary to make the desired mortise. Re-set stops if required.

Set depth stop.

Adjust handle as needed by pulling out on hub & rotating handle to allow for full travel in operation.

Plug in the machine & turn it "On". Make sure the rotating auger does not make contact with the chisel.

Make the first plunge cut at one end of the mortise. Feed the cutter into the wood at a rate that is fast enough to prevent burning at the tip of the bit, but not so fast as to cause the machine to slow or stall. Proper feed rate will depend on the wood being cut and the size of the cutter.

Using the right hand wheel, position the work piece for the next cut. Movement must be such that the wood chips from the cut exit the open side of the chisel into the already cut part of the work piece. When making deep mortises, make the cut in stages of approximately 1 inch or less.

When cutting through mortises, use scrap wood under the work piece to prevent tear-out & damage to the machine table.

AFTER USE, Unplug the mortiser.

Remove the cutter & bushing from the machine. Remove any wood chips retained in the cutter. Return cutter & bushing to the proper storage places.

Raise the Operation Handle so that it does not protrude into the work area in front of the machine.

Brush and/or use compressed air to clean chips & sawdust from the machine. Clean up the work area around the machine.