

## **SAFETY**

The Drawer Lock Joint Bit is designed for use with a table-mounted router only, at a maximum of 18,000 rpm.

Always unplug the router before changing or working around the router bit. Always use push sticks, feather boards and other appropriate safety devices to keep your hands a safe distance from the bit.

## **MATERIAL PREPARATION**

Minimum material thickness for the Drawer Lock Joint Bit are  $\frac{3}{4}$ " for the drawer front and from  $\frac{1}{2}$ " to  $\frac{3}{4}$ "-thick for the sides. When making a box-type drawer use the same thickness material for the rear face as used for the front.

The material must be flat and square with accurate 90-degree end cuts for the joints to be straight and the drawer flat.

## **BIT SETUP**

Use test pieces of the same thickness as the material to be joined. When the setup is perfected, save the last test piece to be used as a setup gauge when joining the same thickness wood in the future.

Install the bit and set it to a height of  $\frac{5}{16}$ " above the table surface. Once the bit height is confirmed by test cuts, it remains constant when cutting the fronts and sides.

## **FENCE SETTINGS**

**Drawer Front** – For flush joints, the bit exposure outside of the fence is equal to the thickness of the side stock. An easy way to set this is to place a piece of drawer side material flat against the fence and then hold a longer straight piece of wood against that, extending across the cutter. Adjust the fence so that the tip of the cutter can rotate and just clear the long piece of wood.

With  $\frac{1}{2}$ "-thick side stock, setting bit exposure to  $\frac{3}{4}$ " will leave a  $\frac{1}{4}$ " overlap at each end of the drawer front.

**Drawer Sides** - For the sides, bit exposure is set so that the vertical straight portion of the cutter is flush with the fence.

## **CUTTING ORIENTATION**

The drawer front is machined outside face up, flat on the table. Because the bit is usually cutting directly across the grain, a backer board is necessary to prevent grain blow out as the bit exits the wood.

The side pieces are machined vertically, their inside faces against the fence and cutter.

Remember that bit height remains the same when cutting the fronts and sides, only the fence position changes. When the drawer sides are being made from sheet material it is easier and safer to machine the groove in the sheet and then cut the side pieces from it.

### **ADJUSTING JOINT FIT**

Make a test joint and hold the pieces together. If the joint is loose, raise the bit slightly. If the joint is tight, lower the bit slightly. To correct a loose joint use the gap between the inner edge of the side where it meets the drawer front as a gauge. Because the correction is applied to both the drawer front and sides, adjust bit height by  $\frac{1}{2}$  of that gap width. Cut a new test joint (drawer front and side) and check the fit to confirm the fit is correct.

### **ASSEMBLING THE JOINT**

Dry fit the pieces to be sure the joints fit properly and close snugly. Apply glue to the contact surfaces and assemble the drawer, inserting the bottom panel in the process. Place in clamps and apply just enough pressure to draw the joints closed. Because of the large amount of glue surface, mechanical fasteners are not required though can be added if you wish.

Measure the diagonals across the drawer to be sure it is square before setting aside to dry.

Sand the joints smooth before applying finish or sealer.

### **CLEANING AND MAINTENANCE**

For the best performance, keep your Drawer Lock Joint Bit clean. Built up pitch and sap can insulate the bit, causing it to run hot. The excessive heat can damage the cutting edge.

DO NOT use caustic materials like oven cleaners as they can damage the bond between the carbide cutters and the bit body. Most woodworking supply outlets have commercially prepared solutions that safely remove the pitch and gum associated with machining wood. There are also several household cleaners that are effective in the cleaning of router bits.