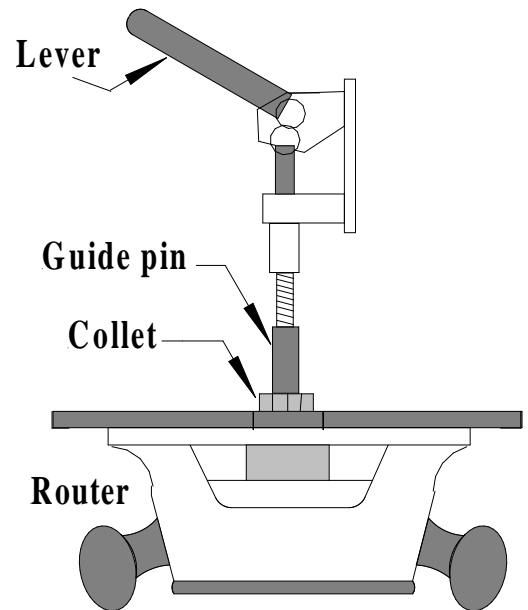


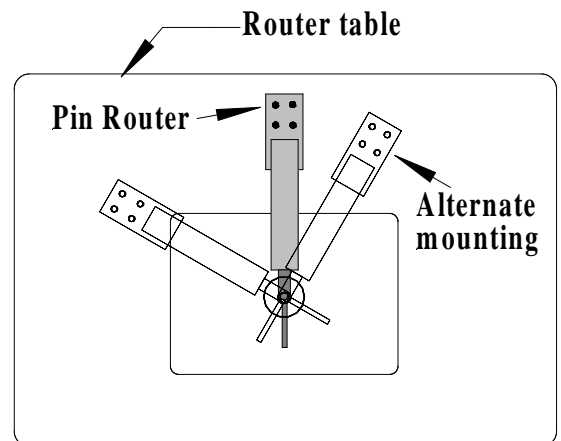
## Pin Router

### INSTALLATION:

The Pin Router installs easily on virtually any router table. Raise your router all the way up in the table, with no bit in the collet. The router itself will help you align the Pin Router Arm. The pin should end up precisely centered above the router collet. Choose the 1/4" or 1/2" guide pin (depending on the collet size) and screw it into the pin router, and tighten the nut to hold it in place. Lower the pin, and place it into the router collet. Hand tighten the router collet. The mounting plate of the pin router should be sitting flat on the router table. If not, adjust the router height or pin. Now decide where on the table you would like the arm mounted. It can be straight back, or off at an angle from center. Note that the mounting holes will go through the table, so be sure that you won't run into any obstructions.



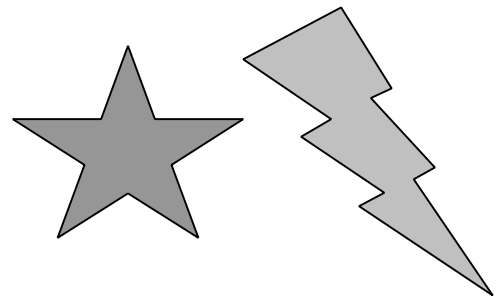
Mark the four mounting holes on your router table. Drill these holes carefully with a 3/8" bit. Install and tighten the four bolts, washers and nuts provided. Loosen the router collet and raise the pin. Your Pin router is now ready for use!



### PATTERNS:

The Pin Router can use either inside, or outside patterns, depending on the finished piece. To cut out shapes, such as hearts, diamonds, or irregularly shaped parts, an outside pattern is used. This is the most common use of the Pin Router. To cut a shaped hole or recess into a workpiece, an inside pattern is needed.

An outside pattern consists of the desired shape cut out of 1/2" or 1/4" plywood or hardboard, mounted to a backer board. The backer board should be big enough to hold and feed through the router bit. Make the pattern shape by cutting it out on with a bandsaw or jig saw, then sanding or filing the edges perfectly smooth. Any bumps or roughness on the pattern will be transferred to the workpiece, so take your time on this step.



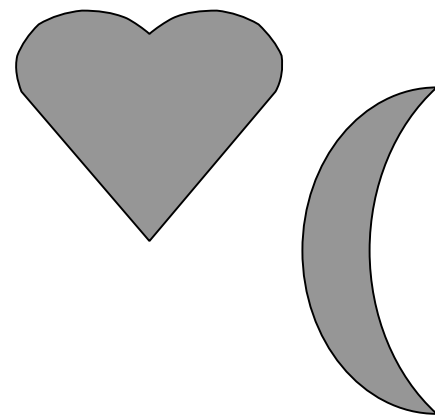
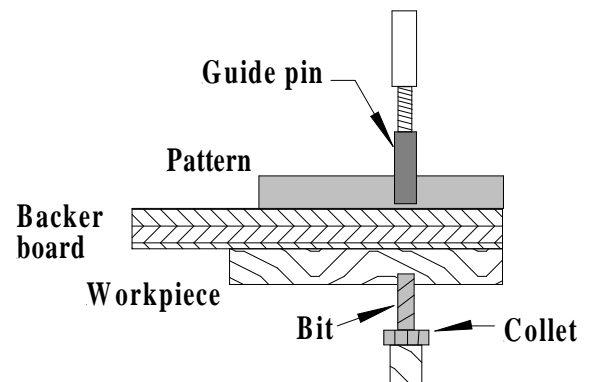
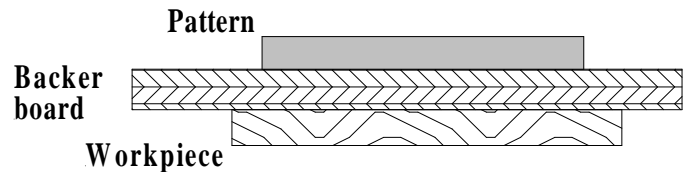
# Pin Router

The backer board can be plywood, at least 1/2" thick, because the router bit will cut into it slightly when cutting out the workpiece.

The pattern shape and the backer board are fastened permanently together. Now take your workpiece, and fasten it to the opposite side of the backer board, using double faced tape or small brads. Keep the brads out of the path of the router bit, and make sure you fasten both the area of the finished shape, and portions of the waste wood to the backer board. You want everything to stay in place when you finish cutting out the part.

Choose a pin size (1/4", 5/16", 3/8", 1/2"), and a matching diameter of straight bit, and install them in the Pin Router and router collet. Usually the smaller sizes are used for outside work, and the larger sizes are used for inside work because they remove more material as they cut. A spiral bit does the best job of clearing out the chips, but a standard straight bit works just fine. To get the feel of the cutting action, set the router bit no more than 1/8" above the table for a first pass. Adjust the Pin height with the lever until it is down next to the pattern shape, but not touching the backer board. Lock it in place with the knob. You are now ready to route!

Start the router, and carefully feed the bit into the workpiece until the pin touches the pattern. Now carefully feed the work against the pin and around the pattern. Don't worry if you run off the pattern, that is the waste. The pattern covers the good part of the work. After going around once, raise the router up a bit and go around the pattern again. You will develop a feel, after a bit of practice, for moving around the pattern. Depending on the wood, and the thickness, two or three passes may be needed to cut all the way through. Remove the finished piece from the backer board. Install a new piece of wood, and make as many more exact copies as you need!



**Router Table**

For an inside pattern, you can use one of the MLCS Inlay Patterns, or make your own. To make an inside pattern use drill bits, scrollsaw, or coping saw to make the shape in the middle of a pattern board. This type of pattern “traps” the Pin Router pin. Attach to a backer board as above, and mount the workpiece same as before. In cutting you will need to plunge the workpiece/pattern assembly onto the router bit, then lower the guide pin into the pattern recess. Take light passes, and proceed as above.

Slight variations in size from any of the patterns can be made by combining different size guide pins and router bits. You can also use groove-forming and point-cutting bits for other effects. Repetitive straight lines as in dados for shelves, can also be done easily on the Pin Router.

