

Woodline Pin Router Instructions

Woodline pin routers can be used to duplicate almost any part from an original part or template.

A great accessory for any pin router is a foot switch to control router on/off. A footswitch makes the operation easier and safer.

Setup on a router table

UNPLUG THE ROUTER (NEVER turn on the router during this setup)

Install the pin router attachment by securely mounting it to the table top. For most applications drilling the top to receive the mounting holes is best but it can also be clamped with sturdy clamps. Be careful to align the guide pin to the center of the collet. Pin router arm must be attached securely so no movement occurs when tracing the pattern and pressing against the pin with mild pressure in any direction.

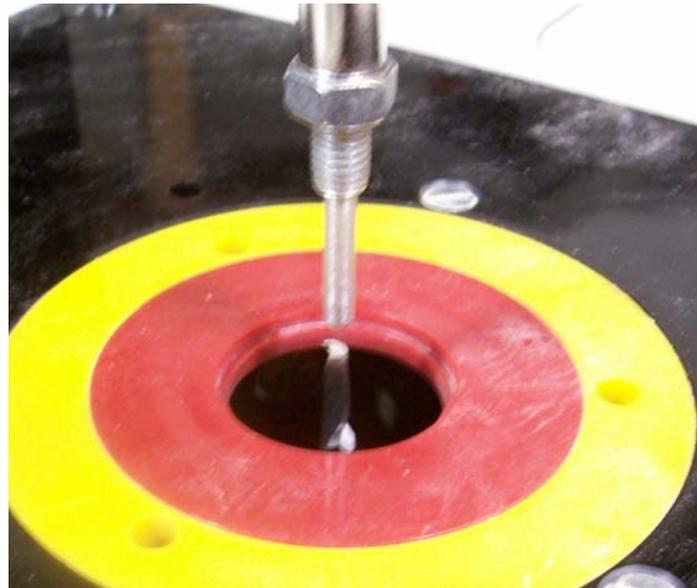


Figure 1 Guide pin aligned with bit

The goal of this alignment process is to assure the router guide pin is aligned over the center of the router collet. Tighten all screws in arm mount and pin holding clamp securely before use.

IMPORTANT: There may be some movement in the pin positioning assembly when the lock knob is loose. The clamp normally returns to the same place each time the clamp knob is tightened. NEVER MAKE A CUT WITHOUT THE LOCK KNOB TIGHTENED, THE PART MAY BE DAMAGED.

Alignment method for Pin Routers

Drill a hole the same diameter as the bit and guide pin in a block of wood. Raise the bit above the table top to the desired cutting height. Place the



Figure 2 Pin router can be bolted or clamped to any table

block of wood over the bit and lower the pin into the hole from above and lock the clamp know. Tighten the arm mount anchor screws or clamp depending on the mounting method selected. Confirm the alignment once all screws are secured by placing a piece of wood against the side of the pin and bit at different positions to assure they are aligned. Shift pin router arm as required. During use check alignment each time pin or bit is changed.

Guide pin selection

Select a guide pin that is equal to or smaller than the smallest inside radius you desire to cut. A larger guide pin and bit will produce some portions of the template correctly and others distorted if the guide pin is unable to get into a tight corner of the pattern.

Bits for pin router cutting

Bit selection is important for quality part production. Spiral bits are best for most types of pin routing applications. Only up spirals should be used. An up spiral bit will pull the chips out of the cut and make cutting easier with less tear-out or loading. Spirals produce the smoothest possible cut but due to small size can wear more quickly. If you experience burn marks or excessive pressure is required the bit may be dull. Bit life will depend on the type of wood and how aggressively you cut it. Solid carbide bits

are fragile especially in smaller sizes and are not guaranteed against breakage. Work carefully and do not try to rush the process. Let the bit do the cutting without excessive force. Make multiple passes raising the bit each time until the desired depth of cut is attained. Be conservative especially in hardwoods. In hardwoods with small radius parts or a great deal of detail cut lightly in multiple passes



Figure 3 Microwave to remove from backer board

Template Use

Templates can be special made templates or an original part that you wish to duplicate. The templates shown here are patterns for making wooden gears for a clock.

With most templates you will use a sacrificial board between the template and the final part being cut. Templates can be affixed to the sacrificial board and blank in multiple ways. The tape and screws works well if the part has some areas that are not cut and the

template is made to accept screws. Plan your routing carefully. . I recently discovered a great shortcut in delicate part making that makes the process much easier. I use the microwave!

Use industrial strength double sided carpet tape available at Lowe's or Home Depot, the kind with threads in it, and fasten the wood to be cut to a scrap of plywood that will act as a backer or "sacrificial" board. Cover the board completely with tape and press the blank in place. Hammer with a rubber mallet to assure the bond is as strong as possible. Delicate parts can be removed easily after routing by heating the wood in the microwave to soften the bond of the double stick tape.

For some of the small parts the best method is to attach a solid wood block to the template that is thicker than the final part, rout and then resaw



Figure 4 Use heavy duty double stick tape

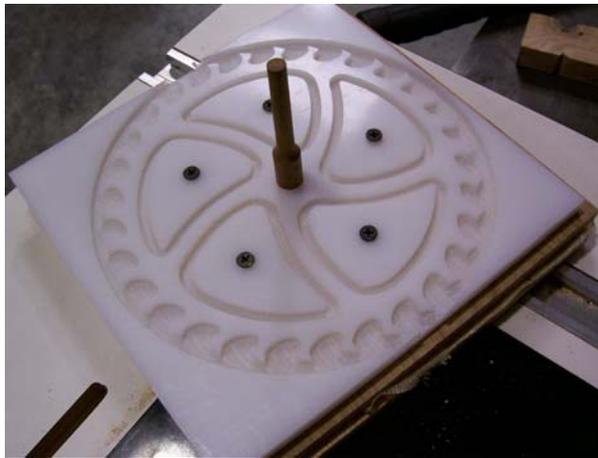


Figure 5 Gear blank and sacrificial board ready for cutting.

with a band saw to free the parts from the block. The parts can then be sanded to final thickness.

Cutting an inside hole or part

Assure the guide pin is properly aligned and then raise the guide pin to the maximum height above the table surface level. Place the template with the blank installed in a position where the pin engages the template in the area to be cut. Start the router (maximum speed) and hold the template securely while lowering the pin router guide pin until the router bit and material are fully

engaged. Lock the pin in place with the lock knob and then move the template around until all the material is removed. Stop and check your progress occasionally. Do not rush the process. Let the bit do the cutting with only mild pressure on the template. Hold the template firmly. Never release the template with the router still running. Failure to hold the template steady can result in damage to the part and possible bit breakage. **STOP THE ROUTER AND WAIT FOR IT TO COME TO A COMPLETE STOP BEFORE ATTEMPTING TO REMOVE THE PIN AND TEMPLATE FROM THE ROUTER TABLE SURFACE.** Damage to the template and part will result if you cut through the sacrificial board. You should cut through the blank but only 1/32 to 1/16" into the sacrificial board. **A footswitch allows you to stop the router without having to release the template.**