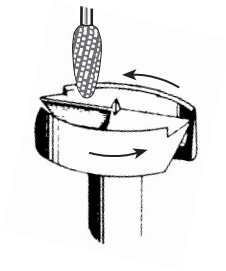
Sharpening Forstner Bits

Conventional Design of Forstner Bits

Conventional Forstner Bit anatomy works like this: the center brad is the first part of the bit to touch your work. Next, the curved rim of the bit must contact the work before the straight flutes begin paring out the waste. If you lay a straightedge across the rims, it should clear the straight flutes by at least 1/64" or so. It's important to maintain this relationship, lest you end up with a bit that requires too much feed pressure because the rims are too high or which won't cut cleanly because they're too low.

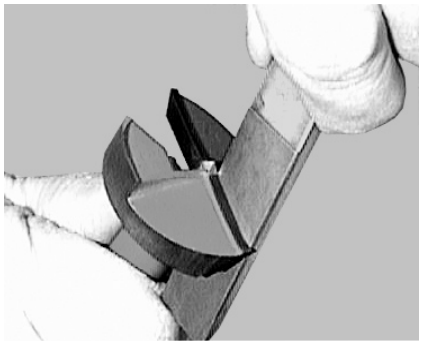


Conical grinding points such as those used in Dremel or Foredom tools are the best tools we've found for the job. Chucked in one of those tools at medium RPM, or in a drill or drill press at its highest rpm, an aluminum oxide grinding point sharpens quickly and effectively. The tool should be stationary; it's a lot easier to rotate the bit smoothly than to move even a small handpiece around the bit's curved edges.

Start sharpening on the bevels on the inside of the bit's rims. Bring the bit to your spinning stone and rotate it through a light, smooth stroke along the entire length of one bevel, maintaining the angle ground at the factory. Count strokes; give one half-rim several strokes then give the other half-rim the same number. Once both sides of the rim are sharp, the outside surfaces may be touched up very lightly with a fine sharpening stone held flat on the rim's surface.

Next, sharpen the straight flutes. Bring the center brad into light contact with the grinding point, then stroke outward smoothly all the way to the edge. As with the rims, count strokes to assure even stock removal. Check with a straightedge to make sure the flutes are slightly below the rims. Finally, give the two exposed faces of the center brad a light lick to sharpen its edges, and the bit will be ready to go back to work.

Carbide Tipped Forstner Bits



Carbide tipped Forstner bits actually may be easier to sharpen than conventional steel Forstner bits. In this design, the bits' carbide flutes do all the cutting and the rim serves only to guide the bit; it has been relieved of cutting duty. All you have to work on, just as with a router bit, is the flat face of the carbide flute.

Diamond paddles are ideal tools for this job. Coarse abrasive can chip carbide edges; it's safest and most effective to sharpen with fine (600 grit) and super fine (1200 grit) paddles only. These will work best if you sharpen regularly. If a bit becomes very dull, resharpening with fine grit will take a while, so try to make a habit of regular maintenance. Wet the diamond abrasive with water to keep it from clogging. Lay the paddle against the flat face of one flute and give it five or ten strokes, then move to the other flute and do the same. Do not work on the narrow edge of the flute, whose relief angle is critical to good bit performance. Inspect the flutes often as you work to be sure you're wearing them flat and even. When they feel sharp, you're done. Wipe the bit clean and it's ready to go back to work.