

Bit is really only appropriate for use in MDF board. If your drill press throat depth is not capable of drilling into the center (if that's where you intend the waveguide to be) of the baffle don't despair. You can make the woofer/mid cutout first, separate the drill press head from the column, put the column through that cutout, and replace the head.

The template to the right fits a 165mm (6.5 inch) section of 1.5 X 1.5 X 1/8 inch angle iron. Cut template and then cut out blue sections saving the section corresponding to edge A as a gauge for later. Fold lengthwise along the center line and temporarily cement to the metal with contact cement. Or use peel and stick label paper in your printer if you have it.

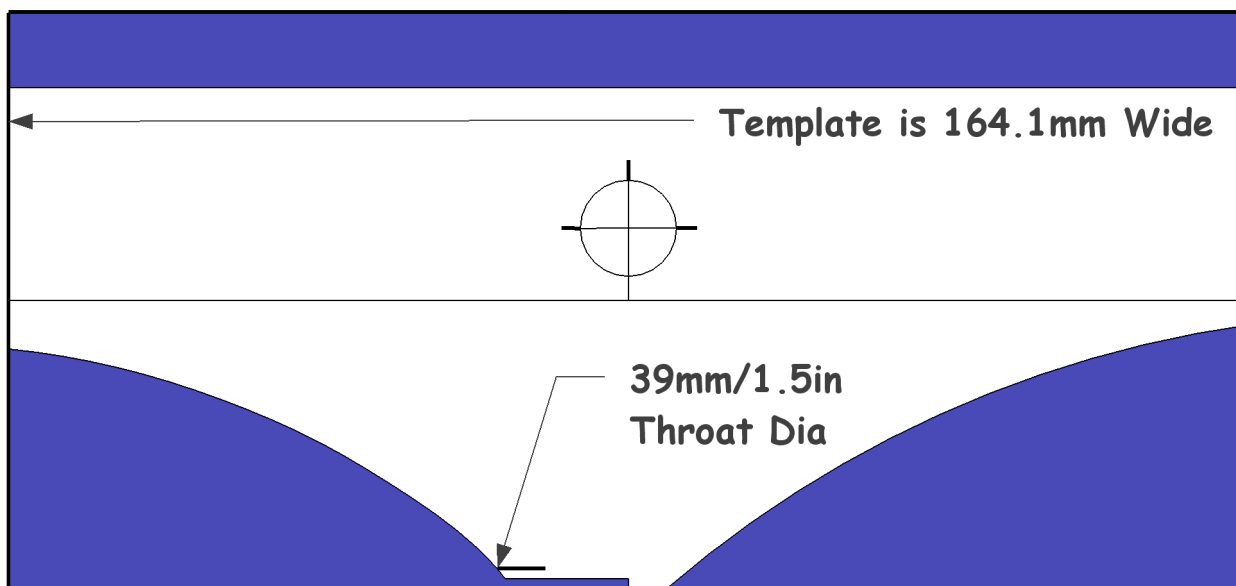
Center punch the 1/2 inch hole and drill 1/8 inch pilot hole to better center subsequent drilling with a 1/2 inch bit. Spray a light coat of white paint on the former blue sections, remove paper template, and let paint dry. Sabre Saw the the cuts to within a couple of millimeters of the guidelines. The top blue area is removed as well to better balance the bit.

Use a half round bastard file to get the cutting edges true to the paint line. This the only really critical part of the job. Check edge A with the blue section you saved from the template. Next bevel edges B and C no more than a couple of degrees. They'll wear better and be easier to hone. Note edge C angle is beveled opposite of A and B. Bevel edge A to approx 35 to 40 degrees nearest the shaft and progressively less to a couple of degrees at the outer edge. After the bevels are shaped, 'paint' the edge faces with a black magic marker and then hone away only the marker. Hone with the small sanding drum of a Dremel or the sharp straight edge of an old carbide router bit.

Guide is a 115mm/4.5in length of 1/2 inch steel rod. 50mm is utilized for the drive portion (inserted in the chuck). Rod is welded at a couple of points where it enters the bit and at at least one point near edge C to make the whole more rigid.

**\*\*Level table. Use a square measure against a rod in the chuck\*\***

Drill a 1/2 inch pilot hole in the project. Chuck the bit and raise the press table to the bit so that it is guided part way into the pilot hole. Secure the table and C-clamp the work to the table. Speed should be 750 RPM +/- 100. This bit is less rigid than is ideal so there's a technique in using it to prevent chattering on the wood (essentially like driving on a washboarded dirt road). Apply pressure in pulses of no more than a few seconds and steadily maintain this action until the recess is finished. This produces a very accurate cut. Think of it more like shaving away the wood than cutting. Continue until you **just** begin to see a sharp line created at the circumference of your work created by the outer edge of the bit. About five minutes of patient cutting. That score line will sand right out. Lightly rehone the cutting edges following each completed WG recess by again 'painting' the edge face with a black magic marker then just honing away the black.



The template above measures 164.1mm across. Measure printout. Adjust printer settings if necessary. questions? [hawks@netdove.net](mailto:hawks@netdove.net) I can also mail the Google Sketchup 3D file for this if you'd like.

