Birdmouth Bit Set
Woodline Part # WL 2045

The Woodline USA Birdmouth router bit set is a quick and easy method for making precision joints in many types of objects. One set will make 6, 12, 8 or 16 sided projects. Typical uses of the joints include:

Coopered barrels
Buckets
Cylinders
Multiple sided tops for boxes and chests
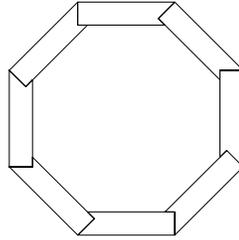Tapered cylinders
Fancy boxes and cases

Figure 1 Typical 8 Sided Joint

The use of the birdmouth joint allows for quick assembly and tight fitting joints without the difficulty of assembly that is typical for these types of objects. Since only one side of the piece requires the birdmouth joint, the pieces are quick to produce and easy to assemble.

Begin by selecting the proper bit for the number of sides desired. Setup is the same for each bit. Then prepare your material. All sections should be identical in size and shape. For a standard cylinder each of the pieces should be as close as possible to the same width. Any error will result in a poor fitting joint or a tapered cylinder.

The joint should be set so the outer edges are flush as shown in figure 1 The 8 sided joint is shown but others are setup the same way. For a 12 sided joint use the 6 sided bit but cut the objects face down. All others are cut face up.

Set the height of the bit so the length of CUT A is equal to the material thickness. Set Fence position where the top of the material meets the bit. For thinner material you may choose to set the length of CUT A to less than the material thickness. If CUT A is less than material thickness, it will result in a larger area for CUT B and a resulting overhang on the outer edge of the joint. Any excess material can be quickly removed with a hand plane or sander.
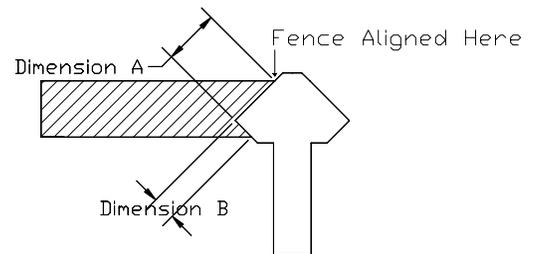
For 12 sided objects dimension B is the important dimension.

Figure 2

Wrapping the cylinder with masking tape may assist in assembly and glue up

To make a column of a given outside use the following constants to cut the pieces

Example to make a 6" column with 8 sides   6" x .414 = 2.484" Each piece is 2.484"

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> 8 sides .414 x Diameter
> 6 sides .57735 x Diameter
> 12 sides =0.268 x Diameter
> 16 sides =0.1989 x Diameter
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