## Infinity Tools Bird's Mouth Router Bits

Part \# 57-505, 57-506, 57-507

## Using Bird's Mouth Router Bits

The Infinity Tools Bird's Mouth Router bits come in three shapes and allow you to make projects with $6,8,12$, and 16 sides.

57-505 makes both 6 and 12 -sided projects ( $30^{\circ} / 60^{\circ}$ joints)


57-506 makes 8 -sided projects ( $45^{\circ}$ joints)
$57-507$ makes 16 -sided projects ( $22.5^{\circ}$ joints)
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## Calculating Stave Width

Calculating the width of each stave (workpiece) for you project is easy.

- First, choose the router bit that makes the correct number of sides for your project.
- Second, determine the overall diameter of your project.
- Third, use the formula below for the specific router bit you will be using to calculate the stave width for your project.
$57-505,6$-sided project. Stave Width $=$ Project Diameter $\div 1.7$
$57-505,12$-sided project. Stave Width $=$ Project Diameter $\div 3.7$
$57-506,8$-sided project. Stave Width $=$ Project Diameter $\div 2.4$
$57-507,16$-sided project. Stave Width $=$ Project Diameter $\div 5.0$


## Using Infinity Tools Setup Blocks

We offer a setup block for each Bird's Mouth Router Bit to make setup quick and
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 easy. Each setup block is designed to work with material of a specific thickness. *note* each setup block is designed to leave a small flat on the edge of the material that is easily sanded away after glue up.

57-505, 6-sided Project, use SET-514 and $3 / 4$ " thick material 57-505, 12 -sided project, use SET-514 and $3 / 4$ " thick material 57-506, 8 -sided project, Use SET-515 and $3 / 4$ " thick material 57-507, 16-sided project, use SET-516 and 3/4" thick material

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## Calculating Stave thickness for Turned/Rounded projects.

When creating round projects, the material at the middle of each stave will end up thicker than the material at the joint. To ensure that sufficient material is left at the joints after turning, planning, or sanding your project round you will need to start with the correct thickness material.

- First, choose the router bit that makes the correct number of sides for your project.
- Second, determine the overall diameter of your project.
- Third, use the formula below for the specific router bit you will be using to determine the stave (workpiece) thickness for your project.

57-505, 6-sided project. Stave Thickness $=$ Project Diameter $\div 6.3$
$57-505,12$-sided project. Stave Thickness $=$ Project Diameter $\div 20.9$
$57-506,8$-sided project. Stave Thickness $=$ Project Diameter $\div 10.1$
57-507, 16-sided project. Stave Thickness $=$ Project Diameter $\div 36.0$

