

USING CAD TO DESIGN YOUR BOWL

Based on the e-mail I've been receiving, there seems to be a growing network of readers interested in applying the power of Computer Assisted Design/Drafting to their woodworking projects. Their questions usually are related to how I did a particular drawing rather than why. The Fruit Bowl was a particularly interesting CAD exercise – it was made up entirely of basic shapes with complex geometry to describe a series of arcs. Instead of fretting over a formula, I let my software do the math.

Here's the CAD recipe I came up with for the bowl patterns:

1. Draw a $3\frac{7}{8}$ " x $11\frac{7}{8}$ " rectangle.
2. Extrude the rectangle into a $\frac{1}{4}$ "-thick rectangular solid (slat).
3. Array a series of 17 slats with $\frac{1}{2}$ " of space between each one.
4. Create a 12"-diameter sphere.
5. Place the sphere into the center of the array with the bottom of the sphere $\frac{1}{2}$ " above the bottom of the slats.
6. Subtract the sphere from the slats.
7. Draw a $2\frac{1}{2}$ " x $13\frac{1}{4}$ " rectangle.
8. Extrude the rectangle into a $\frac{1}{2}$ "-thick rectangular solid (rail).
9. Copy a second rail.
10. Place the rails in their correct relationship to the slats.
11. Subtract slats from rails and rails from slats.
12. Bake in a warm computer for several milliseconds.
13. Print on $8\frac{1}{2}$ " x 14" paper.

— John Hutchinson

