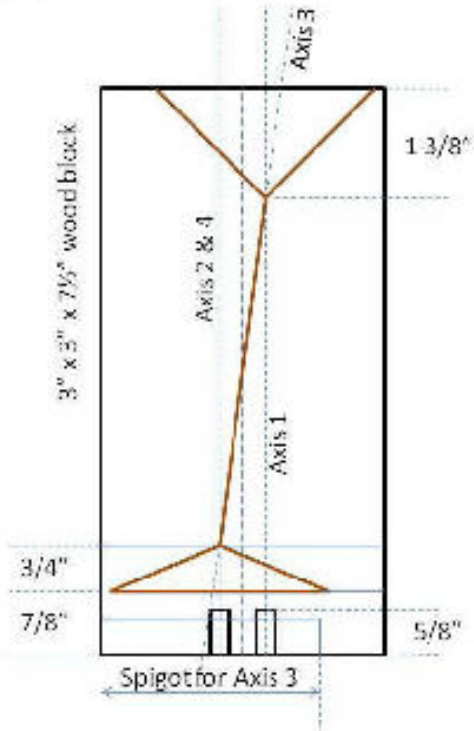
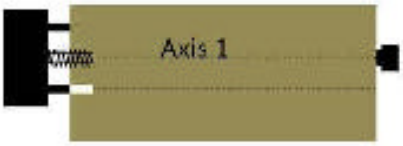
Making a Multi-Axis Leaning Goblet

by Jim Burrowes



The distance between Axis 1 and 2&4 can vary. Measure the radius of your chuck jaws with the screw in. Measure in from the edge of the block the distance of the jaws radius on both sides to locate axis 1 and 2&4. This ensures that all jaws will seat against the wood when using the screw.



1. Mount to screw hole for Axis #1.

2. Shape Goblet cup. Hollow. Use steady rest if necessary. Cut transition to stem. Sand.

3. Mount screw chuck on Axis #2. Rough out goblet base. Cut 7/16" x 2.5" spigot on base.

4. Fit soft wood cover on top of goblet. Reinforce with masking tape. Remove from screw chuck. Mount in scroll chuck using the spigot you just cut. Center Axis #3 at base of goblet. Use a pencil to test the cut line at the base of the goblet. Adjust as necessary. Use tail stock to support goblet. Use a face shield. Off center pieces are more likely to fly from the chuck!

Base Option 1:
- Turn goblet stem, shape base. Sand.

- Adjust spigot in chuck to Axis #4. Cut transition to base. Shape base and sand.

Base Option 2:
- Turn goblet stem. Flare base. Sand.

- Adjust spigot in chuck to Axis #4. Cut transition to base, undercutting flare and making widest cut line up with goblet stem. Shape base and sand.

I suggest making the base just slightly larger than diameter of goblet. Part most of the way and cut off with a saw. Sand bottom.