

# Turning Sphere Using a Jam Chuck

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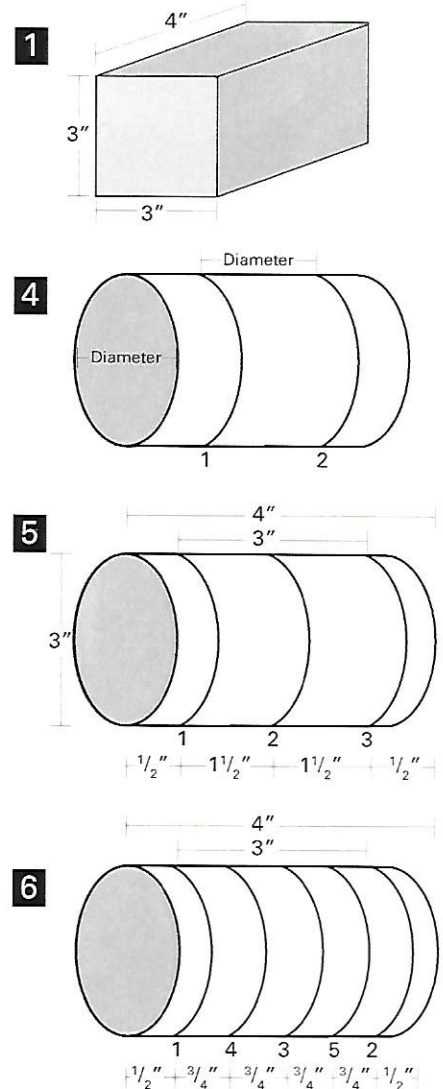
## Introduction

Turning a sphere using the jam chuck method can be a fun and simple method for making a basic sphere. The jam chuck method opens up many possibilities for sizes, carvings and other decorative elements. Spheres can be made as a solid; they can be hollowed, or made into boxes. Spheres can be made from wood or alternative materials. The possibilities are limitless using your imagination starting with these recommended steps.



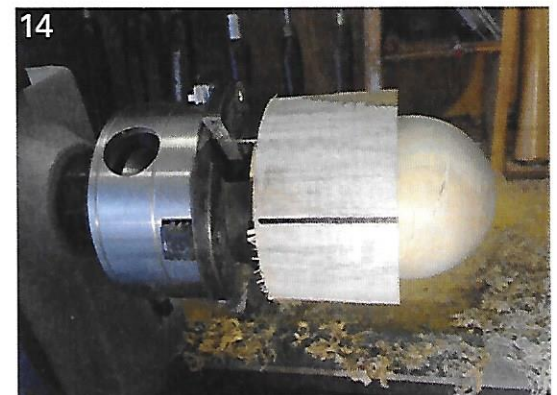
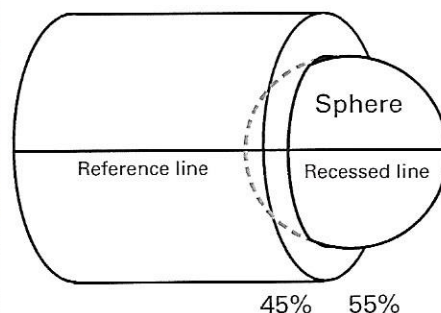
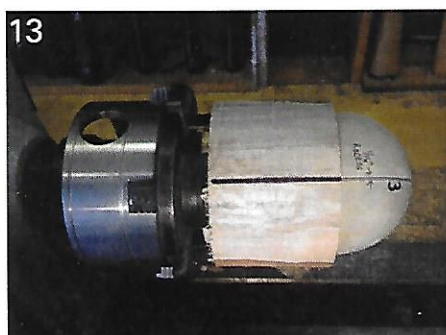
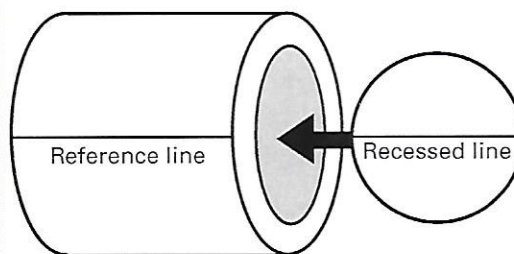
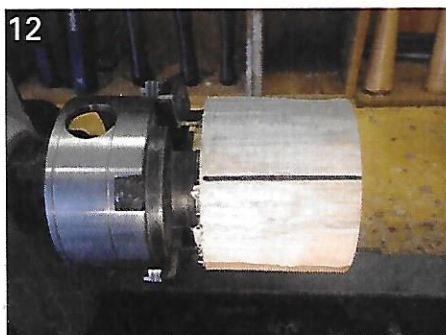
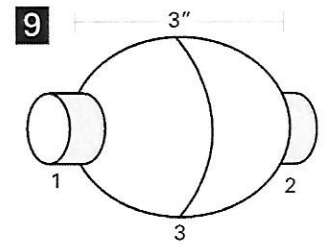
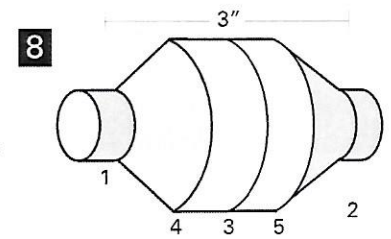
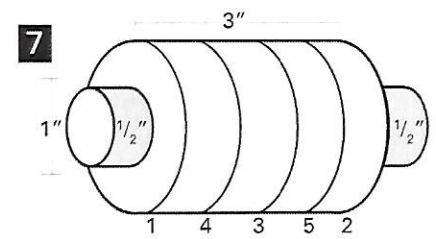
## Turning a Sphere

1. Begin by choosing a blank that is 1" longer than the sphere you want to turn. For example: to turn a 5" sphere use a blank that is 6"x5"x5".
2. Place the blank between centers, turn to a cylinder and square up the ends.
3. Use calipers to determine the exact diameter of the cylinder and transfer that measurement horizontally to the blank marking the ends of the sphere.
4. Draw a line around the blank at each mark and number them 1 and 2.
5. Mark the center between lines 1 and 2 and label it number 3. This will be the center of the sphere.
6. Find and mark center lines between 1 and 3; 2 and 3 in order to divide the cylinder into 6 sections. Label these two new center lines 4 and 5.



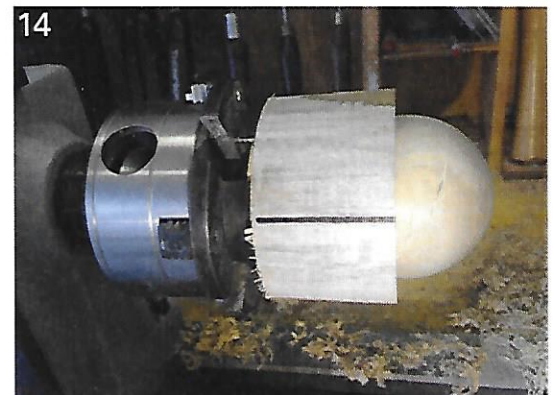
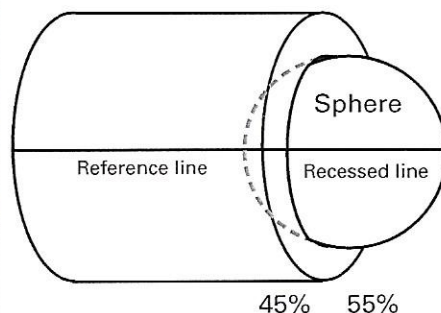
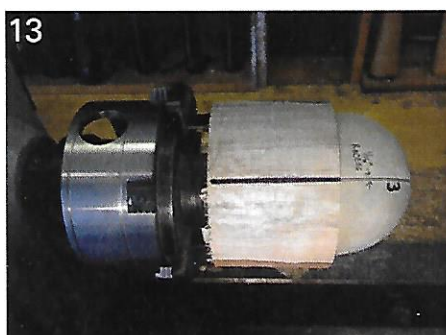
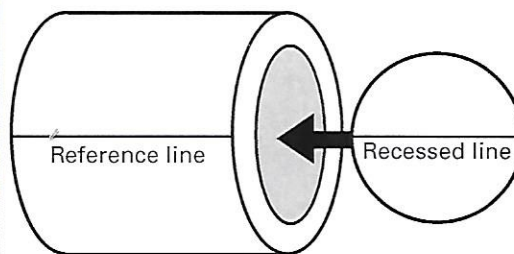
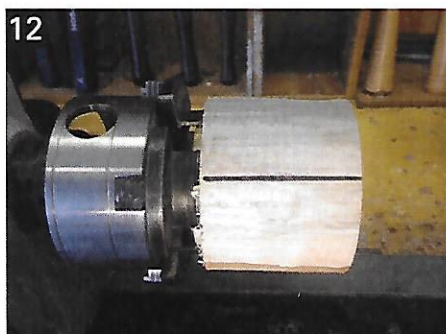
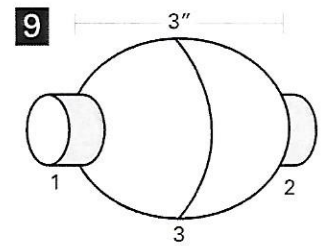
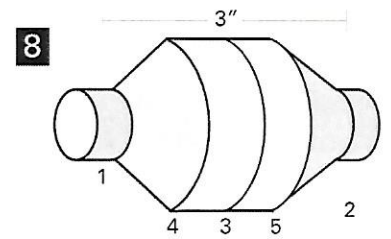
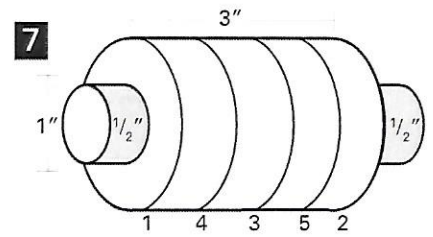
## Turning a Sphere - continued

7. Turn down the areas outside of the lines 1 and 2 to create 1" diameter tenons.
8. Using lines 4 and 5 as starting points turn away material at 45 degrees to create an "angular egg".
9. Starting at line 3 (this line should always be left on the cylinder for reference) round wood over from line 3 to lines 1 and 2 creating a rough sphere.
10. Before turning off the tenons on both ends of the sphere, use a thin parting tool to make a 1/16" deep recess on line 3. This recessed center line will be used as an aid in turning the final diameter for the sphere and making sure that the sphere is round.
11. Using a thin parting tool to partially turn off the sphere at both ends. I do not complete turning off the blank on the lathe for safety reasons. Remove the rough sphere, and using a saw, cut the partially removed tenons from the sphere.
12. Now that the jam chuck has been turned and fitted for your sphere, place the rough sphere into the jam chuck with the recessed center line on the sphere parallel with the lathe bed and aligned with the reference line on jam chuck.
13. Approximately, 45% of the sphere should be in the jam chuck, while 55% of the sphere should be accessible for you to turn.
14. Using the 1/16" inch recessed center line as your final dimension, turn the sphere down until the line is barely visible or just barely removed.



## Turning a Sphere - continued

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15. When the first half of sphere is done, remove it from the jam chuck, and re-turn the inside of the jam chuck to fit the newly turned side of the sphere. To turn the second half of the sphere repeat steps 12-14.

16. When the sphere is completely turned, begin sanding with desired grit, rotating sphere to ensure even sanding. You should rotate the sphere at least 3 times to cover the entire surface.

17. Apply the finish of your choice.

