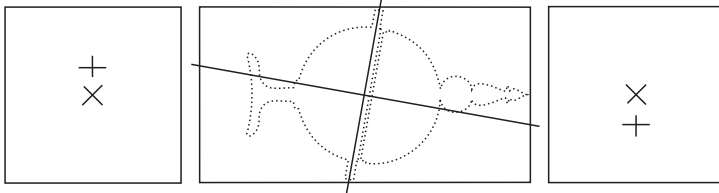


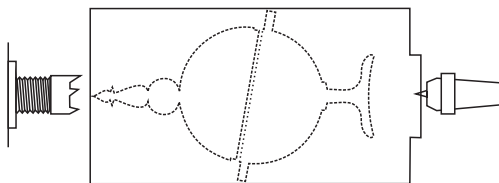
## SATURN BOX

*Note: The drawings shown here are not to scale. Your chucks, your faceplates, and your wood, may all be slightly, or considerably, different in size.*

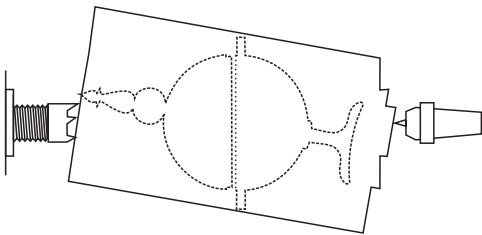
All dimensions of this box are your choice. To replicate the drawings shown here use a block 100mm (4") square and 190mm (7½") long. For this size use a 17mm (⅙") offset. To keep the body of the box this size and make a larger ring on saturn start with wood 120mm (4¾") square. This design has the finial created as part of the box. If you want to add a finial of different wood later then you can start with a shorter piece of wood. Surface decoration of the box and ring is also an option.



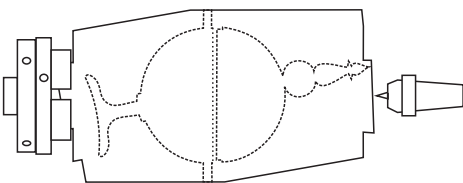
Mark up the block. The pivot point for the diagonal must be the centre point of the planned parting cut and the centre of the length of the wood. Or you need to have differing offsets on each end to allow for the differing distances to the centre of the sphere.



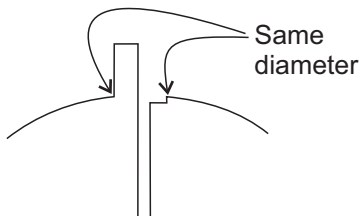
Mount the block between centres. Cut a chuck bite on the foot end of the block. Do not make the block round at this stage.



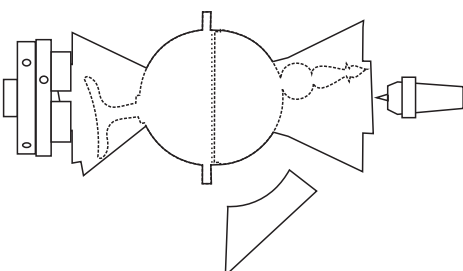
Remount the block between centres with the wood on the diagonal set. Cut a second chuck bite on the bottom. Keep the first chuck bite in good order. To get two chuck bites on the foot end both need to be short. Ensure they are both exactly the correct diameter for the chuck you plan to use. Keep the tailstock up as much as possible throughout this project.



Mount the wood in a chuck using the offset foot centre and bring up the tailstock. Round the wood just enough so it is perfectly round where the Saturn Ring will be. Mark the position of the planned parting cut at exactly mid-way between the points where the chucks will press onto the ends of the wood. Cut a chuck bite on the top end of the box.

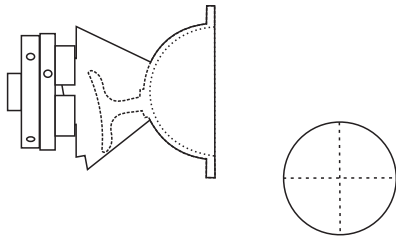


Note, for a spherical finished box, the diameter of each hemisphere where it meets the Saturn Ring must be the same. You need to allow for the thickness of the wood taken out to cut the box to two halves, and the wood needed to fit the lid into the bottom, before the curve of the top part can begin.

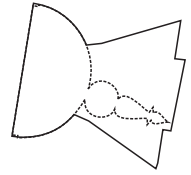


Cut the Saturn ring. Start the parting cut. Cut a lip in the top part where it will fit inside the bottom part later. Now that you know the exact outside diameter of the box you can make a circle template. Cut the outside of the two half spheres. Use a portion of the Circle Template to get the correct curves on each section. Leave enough wood for the finial and foot to be cut later. Part the top off and set it aside.

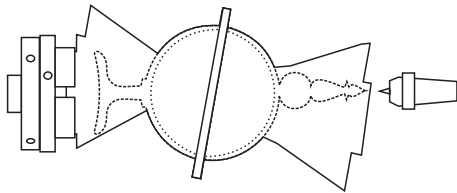
**SATURN BOX** page 2



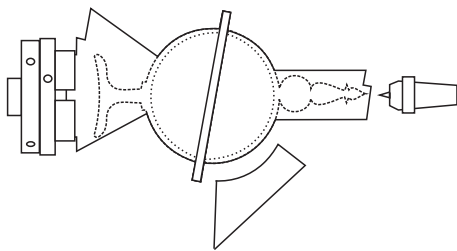
Hollow the bottom half. Use the Circle Template to get the correct curve and depth. Cut the lip to fit the upper part of the box. Sand and finish all completed surfaces.



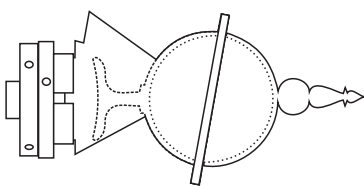
Mount the top part in a chuck. Hollow it. Use the Circle Template to get the correct curve and depth. Sand and finish all completed surfaces. You may install a key for repeated correct placing of the lid. Embed a little wooden pin in the lip of the lower part of the box and drill a little hole at the corresponding place in the top half.



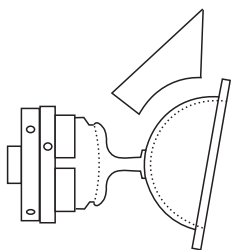
Remount the bottom half using the first chuck bite. Jam, hot melt glue, or tape the top half onto the bottom part. Ensure that the grain in the top part is exactly in line with the grain in the bottom part. Bring up the tailstock for security.



Turn the finial area down to round. Continue to use the section of Circle Template to ensure the curve of the box is correct.



Remove the tailstock. Cut the finial. Work from the tip downwards using a small spindle gouge and skew. Finish each part of the finial as you progress. Finish all the upper surfaces of the box. Set the top part aside.



Finish the underside of the sphere, stem, and foot. Continue to use the section of Circle Template to ensure the curve of the box is correct. Part off, then hand finish the underside of the foot.

