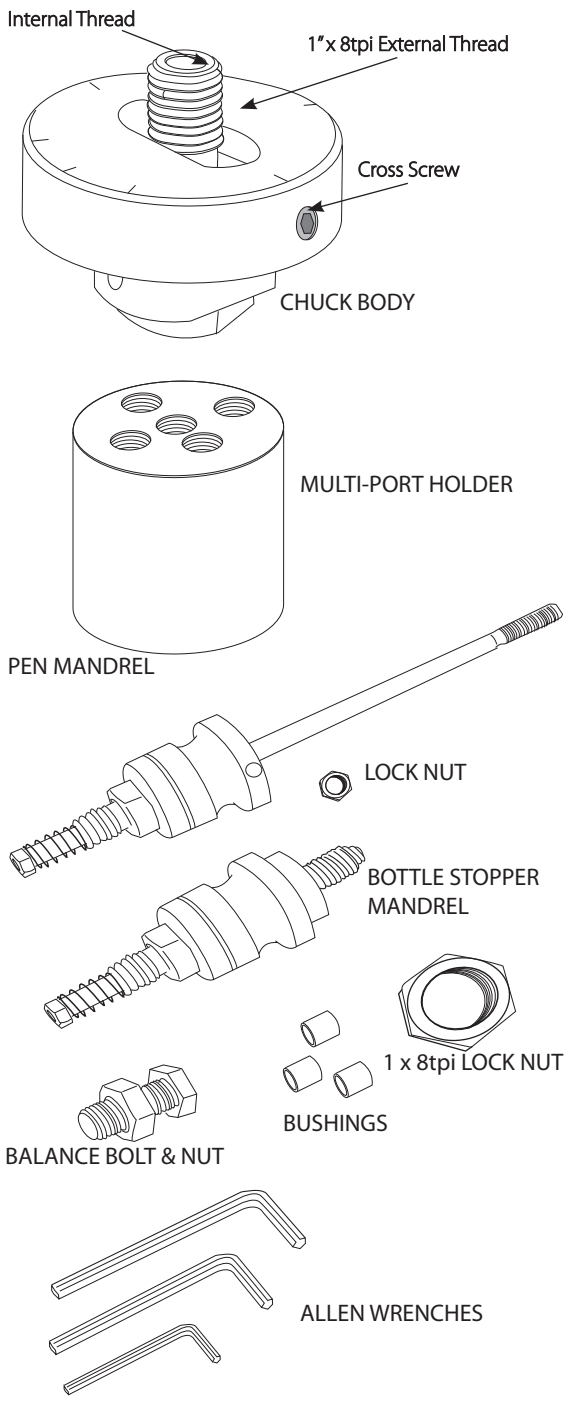
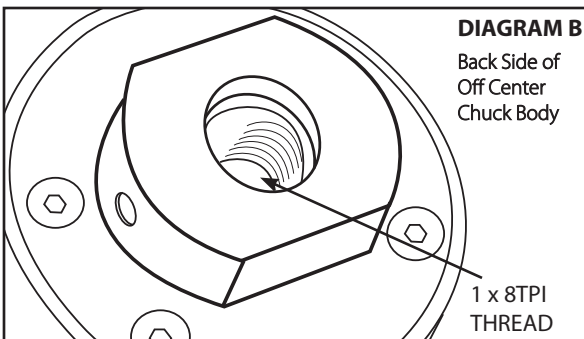


DIAGRAM A - PARTS LIST**DIAGRAM B**

Back Side of
Off Center
Chuck Body



The CSC600 Off Center Chuck is like no other tool you currently own. Check the Parts List (Diagram A). For working on pieces that are not pens or bottle stoppers, the CSC600 chuck body is screwed onto the lathe headstock's 1x8tpi spindle and then a scroll chuck is threaded to it (face). The material you are turning is mounted onto the scroll chuck. The amount of degrees off center you cut is determined by the number of turns applied to the cross screw.

To use the CSC600 Off Center Chuck your lathe's headstock threads needs to be 1" x 8tpi (see Diagram B). If not this thread size you will need to install an appropriate spindle adapter to your lathe's headstock. Once the adapter is place, screw on the CSC600 Off Center Chuck, then screw the chuck onto your headstock. You may also need to install an adapter to go from the back of your scroll chuck to the 1' x 8tpi on the face (front) of the CSC600 Off Center Chuck.

TURNING A THREE-SIDED WORKPIECE (not a pen or stopper)

Start by turning a three sided object. Using a tenon, mount a 6" long piece of wood to your scroll chuck. Make sure the scroll chuck is loose on the threads. Using a quarter inch allen wrench, turn the cross screw, which is located on the outside of the tool at the 180° mark. Turn the chuck by hand to check if the wood is on center. Once you have done this, it may be necessary to turn the cross screw counter clockwise or clockwise to bring the wood back to center. Turn the cross screw 8 turns counter clockwise. Count your turns carefully so that you can bring it back to center later. Now tighten the scroll chuck to the face of the chuck body. Before you start the lathe, turn the wood and the chuck by hand to check the distance from tool rest. Adjust the toolrest accordingly. Set the lathe on the lowest speed and start your lathe. Engage the tool carefully to the wood to make the first side of your object. Move your gouge along your toolrest to create a flat side on your wood. Turn the lathe off and using a marker, put a mark on your wood lined up with the zero on the face of the chuck. Loosen the wood in the scroll chuck and rotate the wood until the mark on the wood is lined up with the 120° mark on the face of the chuck. Retighten the scroll chuck and restart your lathe. Turn another flat on the wood like you did before. Stop the lathe and loosen the wood and turn the wood to line up your mark with the 240° mark on the tool. Retighten the scroll chuck and restart your lathe and turn the final side.

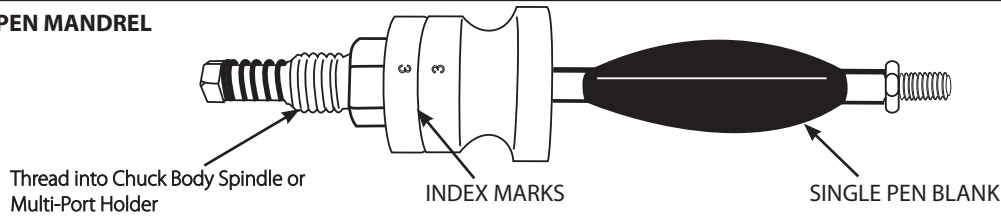
- HINTS:**
1. Adjust your lathe's speed for the best balance. Start at the slowest speed and adjust accordingly.
 2. When first starting to learn how to use the Off Center Chuck; it is easier to use a large roughing gouge.
 3. Watch your shadows by using a bright light. This will enable you to see all of the sides of your workpiece.
 4. To achieve straight lines where your lines meet, remove the same amount of material from all sides.
 5. Sanding is done best on the lathe using a slow speed and a power sander.
 6. Place a piece of masking tape around the circumference of the jaws on your scroll chuck. Mark the tape at 0 and measure the circumference and divide by the number of sides you are creating. (example: 30mm divided by 3 = 10mm and 20mm) 3 sides would equal 120°.

TURNING A PEN BLANK (USING THE PEN MANDREL)

To turn a pen on the mandrel, it is easier to turn it round on a mandrel and shape the ends to size before off center turning the sides.

1. Start by removing the scroll chuck if attached.

DIAGRAM C - PEN MANDREL



2. Screw on the 1" x 8tpi nut onto the chuck body spindle. Keep it loose until later.
 3. Screw the Pen Mandrel into the internal thread of the spindle and tighten securely.
 4. Place a single pen blank onto the mandrel with appropriate bushings. Lock in place.
- NOTE:** The bushings that were included are 7mm bushings.
5. Adjust the cross screw to the off center offset. Tighten the 1" x 8tpi nut.
 6. Set the Pen Mandrel alignment marks with each being on 3 (see Diagram C).
 7. Start the lathe on the slowest speed and increase to a safe speed.
 8. Remove wood slowly until comfortable with the operation.
 9. You are not removing very much material. In most cases you are removing between $\frac{1}{32}$ - $\frac{1}{16}$ inch of wood. Tight grained wood generally work best.
 10. Use a large gouge or a power sander to remove the wood.
 11. Once you have achieved the desired shape, grasp the outside of the Pen Mandrel and pull outward and rotate to the next indexing location.
 12. #1, 120° = three sided
 13. #2, 90° = four sided
 14. To turn 6 sides, use 60°, 120°, 180°, 240°, and then 300°.

NOTE: The 60° and 300° marks are not present. Counting the number of turns on the cross screw will bring you back to the center going the other way.

TURNING A STOPPER (USING THE STOPPER MANDREL)

1. Drill the appropriate hole for a $\frac{3}{8}$ inch thread for mounting your blank. Screw and tighten on Stopper Mandrel.
2. Use the same instructions as the Pen Mandrel for doing 3, 4, or 6 sided bottle stoppers. (See Diagram D)

Hint: Turn your blank to round then and finish the 3, 4, or 6 sides on the Pen Mandrel.

USING THE MULTI-PORT HOLDER

Using the Multi-Port Holder can be used with the either Pen Mandrel or the Stopper Mandrel (see Diagram E):

1. Screw the Multi-Port Holder to the headstock on your lathe (this is also a 1" x 8tpi thread size).
2. Screw the mandrel of your choice (Pen or Stopper) into one of the four holes. Screw the balance bolt with nut (acts as a counter-weight) into the opposite hole.
4. Use the center hole to go back on center **without** using the Balance Bolt and Nut.

NOTE: For more information about using the CSC600 Off Center Chuck System refer to the included instructional DVD.

DIAGRAM D - BOTTLE STOPPER MANDREL

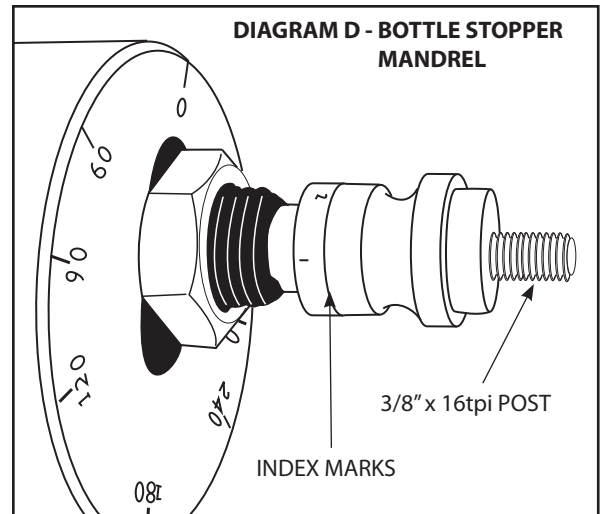


DIAGRAM E - USING THE MULTI-PORT HOLDER (shown with Pen Mandrel)

