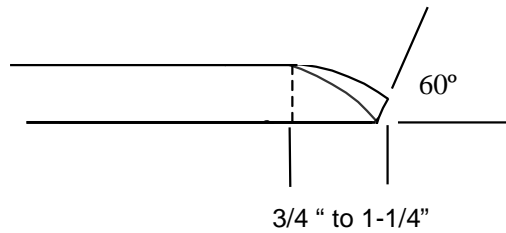
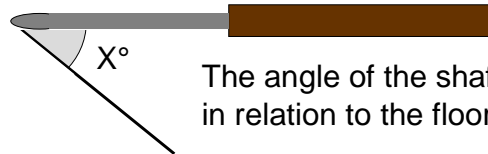


## Five Cuts with a Side-Ground Bowl Gouge By: Don Geiger

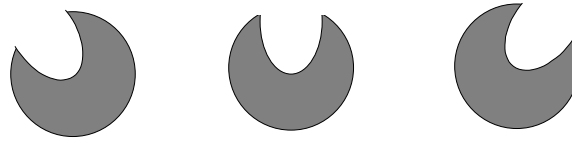


These instructions are relative to using a deep-fluted bowl gouge having a 60° bevel on the tip and a side grind as shown above. This is often referred to as an Ellsworth or an Irish grind. The fifth cut includes instructions on using a micro-bevel gouge with a 70° bevel on the tip and one or more relief grinds. For information on accurately producing these grinds, visit: [www.geigersolutions.com](http://www.geigersolutions.com)

Throughout this document you will see references to gouge positions. The drawings, to the right, are provided to clarify the descriptions.



The angle of the shaft/handle-  
in relation to the floor.



And the angle of the flute- in relation to the floor.

### Cut # 1- The Outside Roughing Cut

**Fulcrum point:** Should be close to the wood. NOTE: Make sure the blank clears the tool rest and banjo before starting the lathe.

**Tool handle and shaft:** Level with the floor with the cutting edge at center height.

**Flute position:** 45° facing the direction of the cut. Note: This cut can be pushed away from you or pulled toward you.

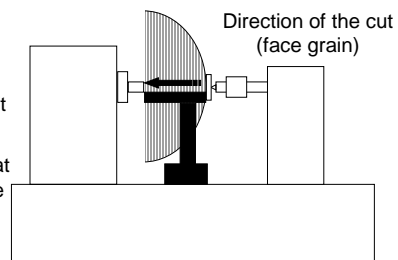
**Contact point:** The tool should be perpendicular to the surface of the wood and use the edge at the tip of the tool, not the side.

**Forward hand:** Use an overhand grip on the tool shaft just behind the tool rest. The meat of your hand should be on the safe side (the side facing you) of the tool rest so you can control the depth of cut.

#### Outside Roughing

Gouge Position:

- Shaft- Level
- Handle against your trunk
- Flute- 45° Left
- Position the *cutting edge* at the center line



TIP: Make very controlled traverses with the gouge. Maintain a consistent cutting depth. Let the wood come to the gouge.

**Rear hand:** Should be near the end of the handle for leverage and push the handle against the trunk of your body for support and control. Move your body with the cut.

**Traverse:** Enter the cut through the irregular surface of the wood to establish a smooth section of wood and traverse SLOWLY from the starting point toward where you want to go. Think of swimming under waves instead of on top of them. This cut can be pushed or pulled, always starting at the foot and traversing slowly to the rim.

**Pressure:** Using your forward hand- push downward into the tool rest. If you push the tool into the wood, especially on an irregular surface the tool will vibrate violently.

## **Cut # 2- The Outside Shaping (or Slicing) Cut**

**Fulcrum point:** Should be close to the wood. NOTE: Make sure the wood clears the tool rest and banjo before starting the lathe.

**Tool handle and shaft:** Handle needs to be way down and rest the handle on your left thigh.

**Flute position:** 45° facing the direction of the cut. Note: This cut can be pushed away from you or pulled toward you.

**Contact point:** The tool should be perpendicular to the surface of the wood and use the side of the grind of the tool, not the tip. Use the middle 80% of the cutting edge.

**Top hand:** Use an over-hand grip on the tool shaft just behind the tool rest. The meat of your hand should be on the safe side (the side facing you) of the tool rest so you can control the depth of cut.

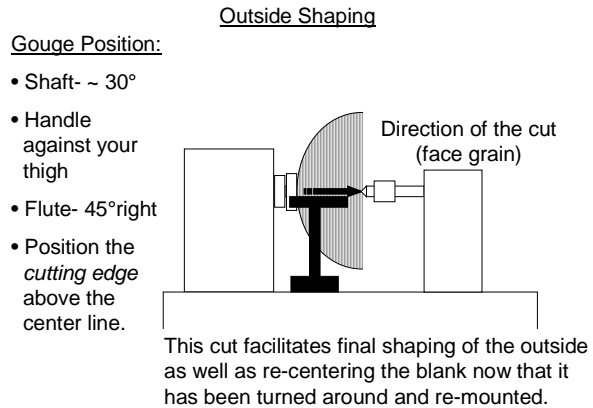
**Bottom hand:** Should be near the end of the handle for leverage and push the handle against your thigh for support and control. Move your body with the cut.

**Traverse:** Enter the cut through the irregular surface of the wood to establish a smooth section of wood and traverse SLOWLY from the starting point toward where you want to go.

**Pressure:** Using your forward hand- push into the tool rest. If you push the tool into the wood, especially on an irregular surface the tool will vibrate violently.

**NOTE 1: This IS NOT a bevel riding cut!**

**NOTE 2: This cut can also be used to re-center the outside of a piece that has been turned around and mounted to a faceplate or a chuck. In this situation, I pull the cut, with the flute facing me from the foot of the piece toward the edge. When doing this cut, my right hand is on the shaft of the tool at the tool rest and I use me left hand to press the handle against the outside of my left thigh.**



### Cut # 3- The Outside Finishing Cut

**NOTE:** A fresh burr is required to make this cut. The burr only lasts about 1" to 2" of linear surface. It is best if you have three or four gouges with fresh burrs handy so you can go from one to the next without having to stop to re-establish the burrs so frequently.

**Fulcrum Point:** The fulcrum point should be close to the wood. **NOTE:** Make sure the wood clears the tool rest and banjo before starting the lathe.

**Tool handle and shaft:** The tool handle and shaft should be positioned at a 45° angle to the floor with the tip of the tool to the left and the handle to the right.

**Flute position:** The flute should be facing the wood. The lower cutting edge should be in contact with the wood and the upper cutting edge should NOT. The upper cutting edge should be within 1/8" from the wood, but not touching.

**Contact point:** Use the middle 80% of the lower cutting edge.

**Left hand:** Point your index finger downward along the left side of the shaft of the tool. The index finger should be parallel to the shaft. Place your thumb against the front of the shaft and push into the tool rest- NOT INTO THE WOOD!

**Right Hand:** Should be as close as possible to the left hand on the ferrule or on the handle very near the ferrule.

**Forearms and elbows:** Your forearms and elbows should be resting on your rib cage for support. Form a triangle with your body as one side and your forearms as the other two.

**Traverse:** Start the cut from beyond the end of the blank (in the air to the right beyond the rim) and move slowly to the left. Feel for the wood. Don't reach forward with the tool. When you find the wood, move slowly to the left. Apply little to no pressure- let the wood come to the tool. Move the tool and your body in unison. Concentrate on moving the tool smoothly and evenly across the surface.

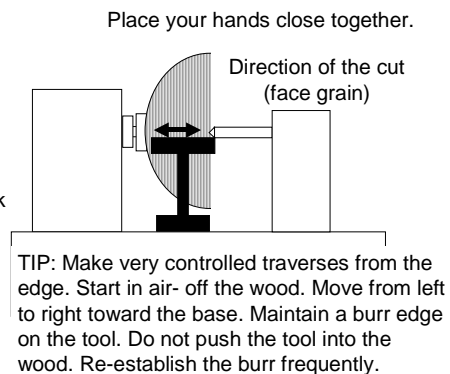
**Pressure:** Control the tool with your body and the tool rest. Don't push into the wood. Let the wood come to the tool.

**NOTE:** Make overlapping cuts, each traversing about 1-1/2 to 2" of liner surface. Either refresh the burr or change to a freshly sharpened gouge every 1-1/2" to 2" of linear surface for HSS tools and maybe up to 3" when using PM tools.

#### Outside Finishing

##### Gouge Position:

- Shaft- ~ 45°
- Handle against the right side of your waist
- Flute- facing the bowl blank with top edge 1/8" from the surface.
- Position the *cutting edge* above the center line.



## Cut # 4- The Inside Roughing Cut

**Fulcrum point:** Should be as close to the wood as possible. NOTE: Make sure the wood clears the tool rest and banjo before starting the lathe.

**Tool handle and shaft:** Level with the floor

**Tool rest height:** Adjust the tool rest so the cutting edge of the tool is at dead center of the wood when the tool handle and shaft are level with the floor.

**Flute position:** 45° facing away from you in the direction of the cut.

**Contact point:** The tip of the tool should be used in this cut.

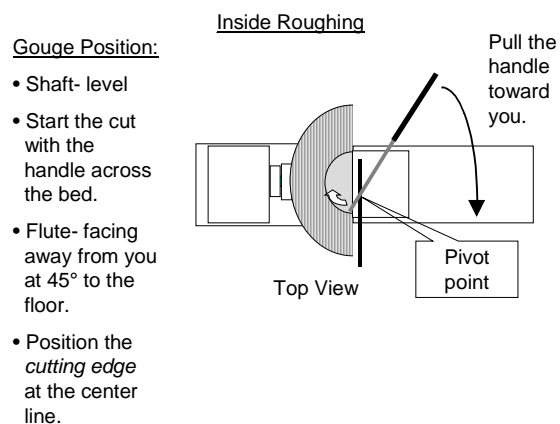
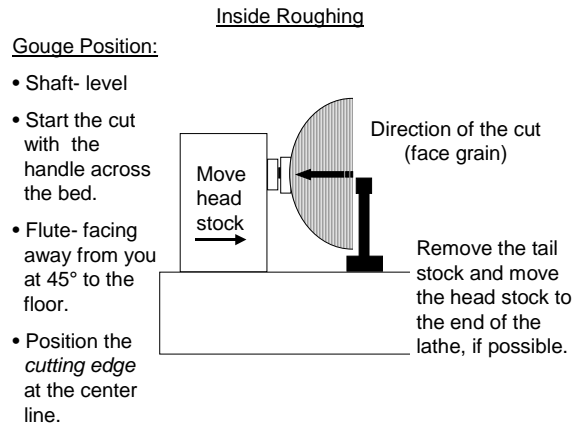
**Left hand:** Use an over hand grip on the tool shaft just behind the tool rest. The meat of your hand should be on the safe side (the side facing you) of the tool rest so you can control the depth of cut. You will be creating a pivot point with your left hand while applying downward pressure.

**Right hand:** Should be near the end of the handle for leverage. If you have a short bed lathe, rest the handle of the tool on the right hand side of the truck of your body at every opportunity for control and leverage. In this case, move your body with the cut.

**Entering the cut:** To enter the cut, move the tool handle way away from you over the bed of the lathe. Otherwise the tool may blow right through the edge of your bowl. This is especially important for cut rim bowls that have a continuous uninterrupted rim. Start very near the center of the bowl and cut an indentation all the way to the center. Then gradually widen the interior of the bowl. Each cut will make the opening a little wider and deeper.

**Traverse:** Slow down the traverse as the tip of the tool moves closer to the center. End the cut by going through the nib in the middle of the bowl and stay in control so you don't go past center. Remember: a slow and controlled traverse will result in a smoother finish and will enable you to take out more material faster. A slow traverse is also safer especially as your tool approaches the center of the bowl.

**Pressure:** Use your left hand to push downward into the tool rest.



## Cut # 5- The Inside Finishing Cut

**Fulcrum point:** Should be close to the wood. NOTE: Make sure the wood clears the tool rest and banjo before starting the lathe.

**Tool handle and shaft:** Level with the floor.

**Flute position:** The flute should be pointing straight up. If you were to place a bubble level across the flute the bubble would be dead center.

**Contact point:** This is a bevel riding cut. The location of the cut is very near the tip of the tool on the left hand side. **NOTE:**

**DO NOT ROLL THE TOOL TO THE LEFT TO TRY TO MAKE THE CUT!!! DOING SO WILL RESULT IN THE BIGGEST CATCH OF YOUR LIFE AND WILL RUIN THE BOWL!!**

**Left hand:** Place your hand over the ferrule of the tool. The meat of your hand should be on the safe side (the side facing you) of the tool rest at all times.

\*Instead of gripping the tool with your left hand, place the palm of your hand and thumb on the ferrule of the tool. Dangle your fingers and your thumb. Do not grasp the tool with your left hand. Doing so will put tension in your forearm and will inhibit you from making a smooth cut. Unlike any of the previous cuts, no part of your body should come into contact with the tool rest. You want to be able to move freely.

**Right hand:** Should be near the end of the handle for leverage. Your right hand and the handle of the tool will be extended over the bed of the lathe, but should move in unison with your body.

**Entering the edge of the bowl:** The inside finishing cut should not be used to enter the edge of a cut rim bowl or it will blast right through the edge and will ruin it. Instead, start by using cut # 4 "the inside roughing cut". Using cut # 4, cut about  $\frac{3}{4}$ " to 1" down from the edge of the lip. Remember to move the handle way over the bed and support the tool to prevent it from blasting through the lip. Stop the lathe and inspect the quality of the surface and make sure you have the desired thickness.

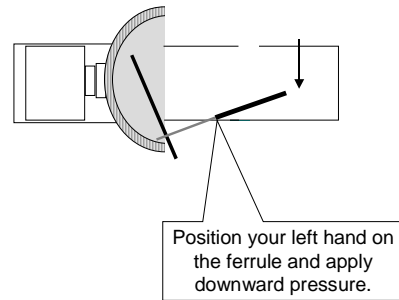
**Traverse:** Turn the lathe on and with the flute facing straight up position the shaft and handle of the tool so it is nearly parallel with the interior wall of the bowl. Move the shaft of the tool so the bevel rides against the cut made previously about  $\frac{3}{4}$ " from the rim. Slowly move the handle away from you until the cutting edge just barely comes into contact with the wood. Then slowly advance the tool down the interior wall and toward the center. Be sure to keep the same portion of the cutting edge into contact with the wood from the beginning of the cut all the way to the end. This can only be accomplished if you continuously pull the handle of the tool toward you as you advance down into the bowl.

As you are progressing downward into the bowl with the inside finishing cut, you will probably encounter areas that need to be thinned. In this case, revert back to the inside roughing cut- thin the area down then go back to the inside finishing cut to refine

Inside Finishing

ONCE INSIDE  
JUST PAST  
THE EDGE:

- Rotate the gouge until the flute is straight up.
- Shaft- level with the floor.
- The cutting edge should be on the center line.

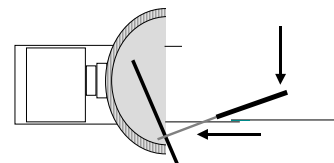


Inside Finishing

Bevel contact must be maintained.

If, towards the bottom of the bowl, the cuts seems to get out of control bevel contact may have been lost.

Establish bevel contact by rotating the flute away from you to the 45° position used with the roughing cut. Move the handle of the gouge away from you as well.

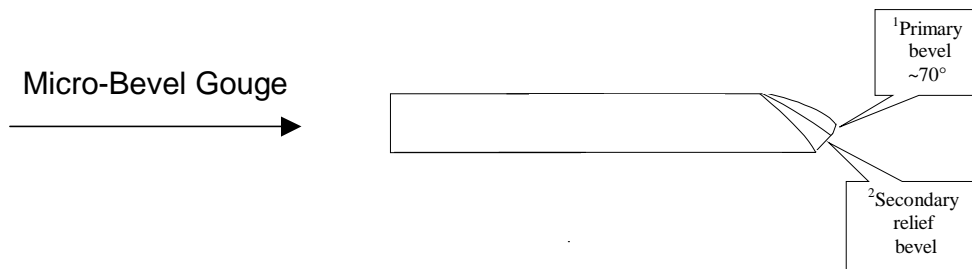


Pull the tool handle toward you while moving the tip of the tool from the just inside the rim toward the center. Maintain bevel contact at all times. If you lose bevel contact with a 60° gouge switch to a steeper gouge. A micro-bevel gouge is a good choice for this cut.

the surface. Progress with slow traverses from the rim to the center (on side grain or face grain pieces).

NOTE: It is important that the bevel stays in contact with the wood throughout the inside finishing cut. Sometimes the shape of the bowl causes the rim to interfere with pulling the handle back toward you far enough to stay on the bevel. You can tell when the bevel is not in contact with the wood because the tip of the gouge wants to dip downward and you get an uneven surface. Using a gouge with a steeper grind can rectify this. I routinely use a gouge with a 70° micro-bevel in these situations. The advantages are:

- the steeper bevel enables me to keep the bevel in contact with the wood
- the handle of the tool is positioned further away from the rim
- the tool is more perpendicular to the wood, shortening the fulcrum- reducing vibration



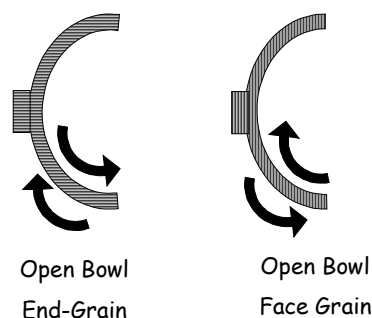
I use a Robust 12" inside curved tool rest with a 2" Dogleg offset when hollowing bowls. The hardened edge of the curved tool rest can be placed very close to the inside surface of the bowl which minimizes vibration and the Dogleg offset positions the tool rest 2" away from the banjo. I shorten the length of the 1" post of the inside curved tool rest so it doesn't interfere with the rim of the bowl.

**Pressure:** Using your forward hand- push downward into the tool rest. Let the tool glide on the surface under your control. If you push the tool into the wood, the tool will vibrate and the results will not be as good.

#### Note to the Reader:

The instructions and graphics herein assume the grain is positioned perpendicularly to the axis of the lathe as shown in the drawing far right: "Open "Face Grain". If your grain is positioned parallel to the axis of the lathe, near right drawing: "End Grain", notice the direction of cuts is opposite that of "Face Grain".

Direction of cuts in relation to the grain



#### **Questions or comments?**

#### **Contact:**

Don Geiger 352-472-5035

email: [dongeiger@cox.net](mailto:dongeiger@cox.net) Web: [www.geigersolutions.com](http://www.geigersolutions.com)