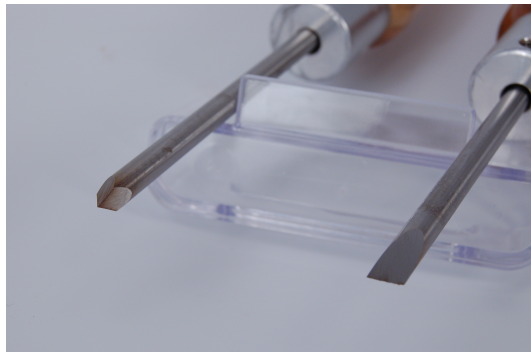
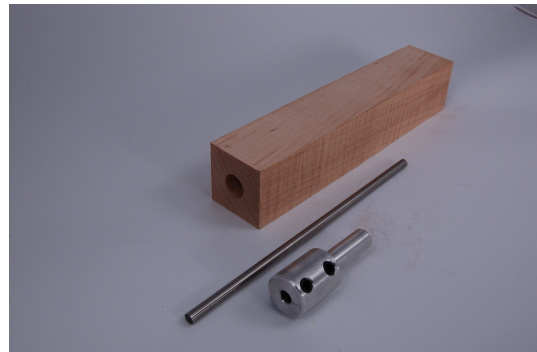


Make a Point Tool, Skew Chisel or Skewgigouge with Handle



Skew & Point Tool



Parts; Predrilled Handle, 1/4 HSS
1/4" Collet

Introduction & Thoughts on Design:

Learn how to turn a 6" to 8" tool handle suitable for a collet and ferrule. Then using a 1/4" x 8" piece of HSS steel rod, make your own point tool on one end and a 1/4" Skew or Skewchigouge on the other end. Proper use of the grinder and techniques for centering holes in the turned handles will be covered in this session. The use of a collet in the handle to hold your tool makes it very easy to switch the 1/4" HSS bar end for end so that you can have a Point Tool on one end and a Skew or Skewchigouge on the other end. I now skip the ferrel when using a collet and leave a bit more wood around the collet.

Materials:

Face Shield

1 1/2" x 1 1/2" x 7" or 9" long Hardwood

Blank for Handle

1/4" HSS Round Bar

1/4" Collet Optional

1/4" Drill bit if not using a collet

1/2" drill Bit or Bit sized to Drill Mortise
for 1/4" Collet

5/16" Drill bit for hole in handle to
receive 1/4" HSS round bar

CA Glue

Slow Speed Grinder

Protractor to Measure 70 degree Skew Angle



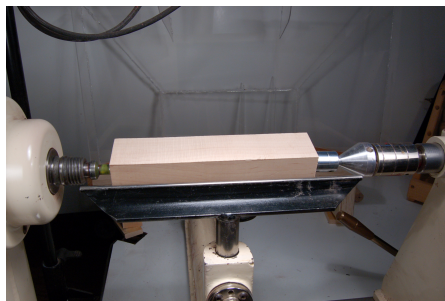
Handles with Collets



Procedures:

Turning the Handle:

1. Choose a blank for the handle that is at least 1 1/2" x 1 1/2" x 7" or longer.
2. Use a center finding jig or other method to mark the centers on both ends.
3. Take a scratch awl or other sharp object to make a locating hole in the center of both ends.
4. Use a Drill Press to drill the hole for the collet and the tool bit. Or turn a foot on the blank then mount it in a four jaw chuck and use a Jacobs chuck equipped with the drill bit sized to match the outside diameter of the tenon of the collet. Drill the hole a little deeper than the length of the shaft on the collet. Always drill the largest size hole first with the larger diameter drill bit.
5. Next use a 5/16" drill bit and drill a hole as deep as the bit will allow so that the 1/4" HSS rod can be inserted as deep as possible into the handle. This enables the tool's working length to be adjusted to better match the work being turned.



6. Mount the blank between centers using a cone type bearing center in the tail stock. Then turn the blank into a cylinder using a Spindle Roughing Gouge.

7. If using a ferrule, use a parting tool to cut the tenon for the ferrule that will surround the collet. Back off the tail stock frequently to test fit the ferrule. Once the proper fit is achieved, insert the ferrule. If the ferrule is a little loose apply a dash of CA Glue.

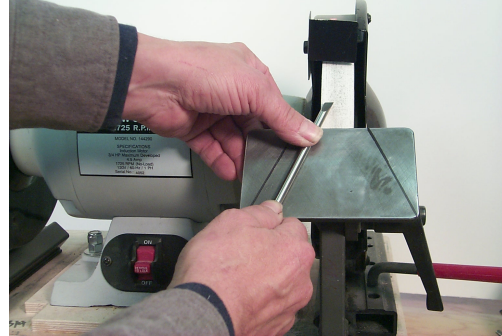
8. Now shape the handle so that it fits your hand comfortably.
9. Sand and apply finish to the handle.
10. The last step in turning the handle is to test fit the collet before gluing it into the handle. I sometimes use the drill press as a press to press the collet into the handle.

Note: If using the drill press to press fit the collet be sure to back off or completely open the Jacobs chuck so as not to harm the wings that hold the drill bits in place and use the outside edge of the Jacobs chuck to press in the collet.



Grinding the Point Tool & Skew: Making the Point Tool:

1. Take the 1/4" HSS rod over to the 49 or 80 grit grinding wheel. Insert the sliding bucket of the Wolverine System so that you have a place to rest the tool handle with the 1/4" HSS bar in the handle.
2. Grind down one side of the bar to almost the center of the end, creating a tear drop slightly less than 3/8" long
3. Now rotate the rod so that the flat on top of the edge you just ground is perpendicular to the grinding wheel. Now grind a second tear drop the same length as the first tear drop.
4. Now turn the bar so that the edge between the two facets that you just ground is dead center above the grinding wheel. Turn the third facet so that the resulting tear drop is the same length as the two just ground.
5. The last step is to go around and regrind each facet if necessary to get all sides as close to equal as possible.



Making the Skew:

1. Turn the rod over and decide whether you want to grind a skew or a skewie on it.
2. To turn a skew, place the rod on the grinder's table parallel to the floor and at a 70 degree angle to the grinding wheel. Grind a 70 degree angle across the top end of the rod.
3. Adjust the angle of the table and grind the front and back sides of the rod, at a 20 to 25 degree angle or with the length of the bevel about twice the diameter of the bar or slightly less. So for a $\frac{1}{4}$ " round bar the bevel length should be slightly less than $\frac{1}{2}$ ".
4. After grinding one side, flip the tool over 180 degrees and grind the other side the same way.
5. Be certain to keep both bevels/facets parallel to each other.

Note: One of my past students pointed out an easy way to see if the facets/bevels are parallel when grinding the sides of the skew, is to watch the top edge and as the tip is being ground you can see a parallelogram forming on the flat top edge. By keeping the sides parallel the facets/bevels should be parallel. It is hard to understand what I have written so put the tool to the grinder and keep an eye out for what I have just described.

6. Check the grind and regrind the bevels on both sides equal to each other, if necessary. Now all that is left is to hone the edge of the skew to make it nice and sharp



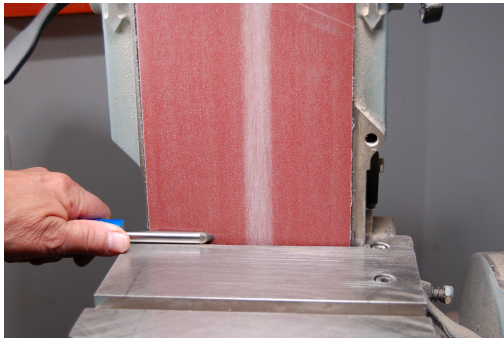
Top and Side View of Skewgigouge

Skewgigouge:

Top view of Skewgigouges

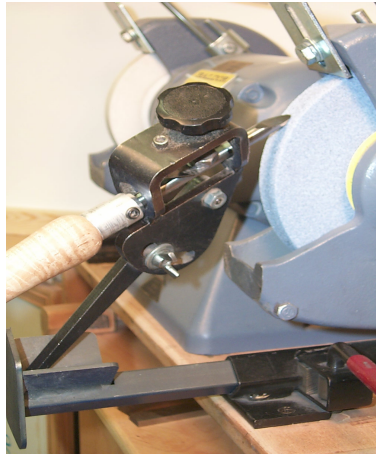
One on left is ground flat the right one matches
the curve of the grinding wheel

1. To make a skewgiigouge, lay one side of the rod on the grinding wheel and grind a hollow to the center/ halfway point looking at the bar from the side of the HSS bar. Or I sometimes use my sanding station to sand the top flat to the halfway point.



Two methods for shaping the top of the Skewgigouge, above using a belt sander to grind a flat to the halfway point/center of the bar stock, at right grinding the top on a grinder

2. The last step is to grind the end of the rod the same way you would a spindle gouge. The Wolverine Vari-grind jig makes this process very easy.



*Using the Oneway Wolverine system
with the Vari-Grind jig to grind the end of the Skewgiigouge to the
same shape that I grind my Spindle Gouges*

3. Insert the newly made tool into the collet, lock the set screw and test out your new tool.



*Various other tools that can be made from 1/4" HSS bar stock: Skewgiigouge,
Point Tool & a Coving Tool all with another tool shape ground on the other end.*