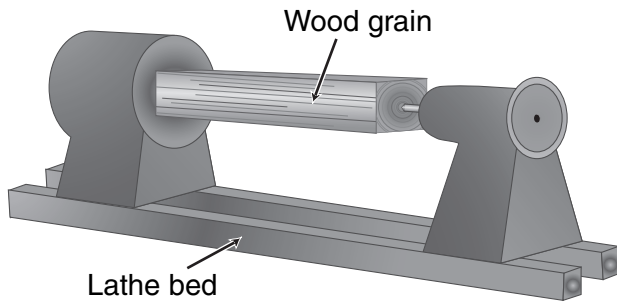


Spindle Turning With A Skew Chisel

INTRODUCTION

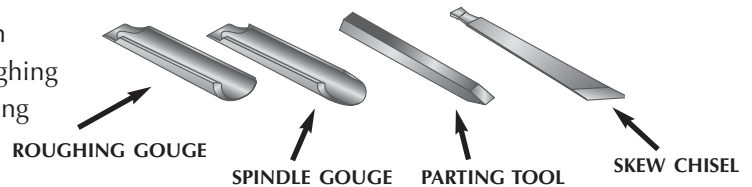


Grain runs parallel to lathe bed

Spindle turning, also called centerwork, involves turning between centers where the wood grain runs parallel with the bed of the lathe. Spindle turning has been done for centuries. Spindle turning is historically associated with turning newel posts, chair legs, bedposts and a variety of architectural turnings. However, today spindle turning is much more. With the use of a chuck, we can turn a wider variety of items including multi-axis turnings using spindle turning techniques and tools.

TOOLS

The four basic tools used in spindle turning are the roughing gouge, spindle gouge, parting tool and skew chisel.



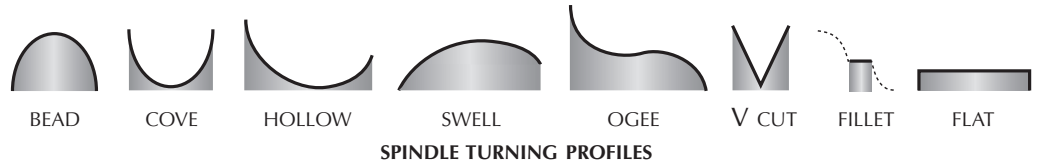
Roughing Gouge

The roughing gouge is the tool of choice for quickly preparing a blank for turning. It is also used to make gentle hollows and roundovers. With a sharp edge it can be used to make finishing cuts almost as smooth as a skew chisel.

Depending on the size of the piece to be roughed out, I use either the 3/4" or the 1 1/2" roughing gouge.

Spindle Gouge

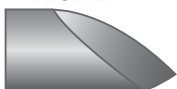
The spindle gouge can be used to shape just about any profile. It can form beads, coves, hollows, swells and ogees. It can also be used to make V cuts, fillets, and flats.



FINGERNAIL TOP VIEW



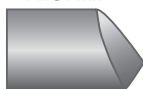
FINGERNAIL PROFILE



TRADITIONAL TOP VIEW



TRADITIONAL PROFILE

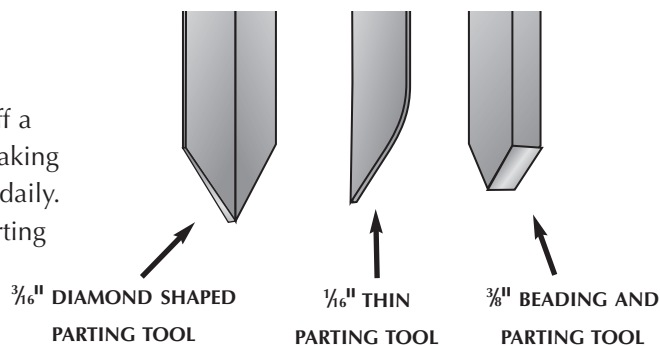


The spindle gouge can be used in either the bevel riding mode, pushing forward, or the scraping or slicing mode, pulling it towards you. My favorite spindle gouge is the 3/8" gouge and I use it on most of my turnings. I grind a fingernail profile on my gouges because it makes the gouges more versatile than if they are ground square or with only a slight nose. A catch is less likely with the high points on the cutting edge reduced.

TOOLS, Continued

Parting Tool

The parting tool can be used for much more than merely parting off a turning. It is really quite versatile and can be used for sizing in, making beads, and feathering cuts. There are three parting tools that I use daily. The parallel grind $\frac{3}{16}$ " diamond shaped parting tool, the $\frac{1}{16}$ " thin parting tool and the $\frac{3}{8}$ " beading and parting tool.



Skew Chisel

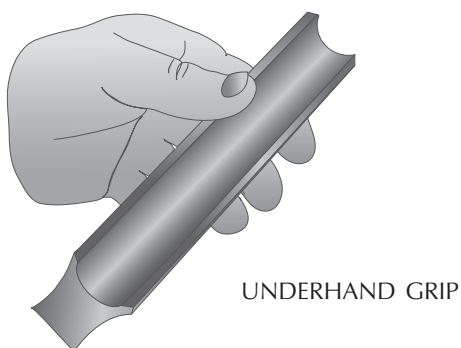
The skew chisel is by far the most versatile tool in the spindle turner's arsenal. It can be used for just about any profile and in addition makes the smoothest cuts of any tool. However, it is the most unforgiving of tools. I think it is for this reason that the skew chisel generally sits on the shelf more than it rests in the hands of the turner. Hopefully my demonstration will encourage you to reexamine your relationship with your skew chisel.

GRIPS

There are two basic types of grips used in spindle turning. The overhanded and the underhanded grips. The underhanded grip is usually used for finer control of the tool.



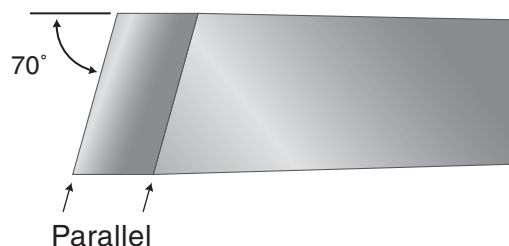
OVERHAND GRIP



UNDERHAND GRIP

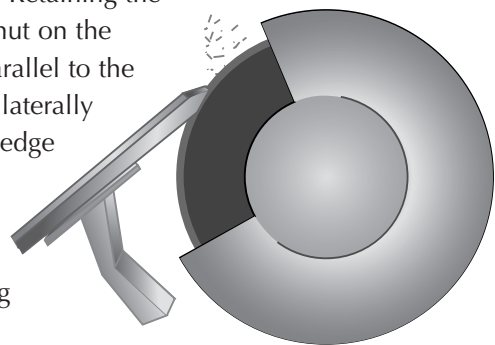
SHARPENING

The important thing to remember when sharpening a skew chisel is that the edge of the skew while at an angle to the handle must remain parallel to the edge of the bevel.



A skew chisel is fairly easy to sharpen. Holding the chisel flat on the loosened platform, place the cutting surface flat on the grinding wheel. Retaining the angle of the skew, tighten the locknut on the platform. With the cutting edge parallel to the face of the wheel, move the chisel laterally to ensure that the full width of the edge is being sharpened.

Now there are also jigs available commercially that make sharpening a skew chisel foolproof.



REFERENCES

Keith Rowley, *Woodturning A Foundation Course*, pp.55-85.

Time Life Books, *The Art of Woodworking: Woodturning*, pp. 47-81.

Mike Darlow, *The Fundamentals of Woodturning*, pp. 31-41, pp. 74-128.

Spindle Turning, *The Best From Woodturning Magazine*.

Richard Raffan, *Turning Wood*, pp.99-137.

SPEED

The faster the piece is spinning the smoother the finish. However, to run the lathe at a safe speed you must consider the size of the blank, its length and its trueness. Most importantly, only turn at a speed that is comfortable for you.

NOTE: A good way to practice spindle turning techniques is to use inexpensive wood such as scrap 2"x 4" pieces of pine cut into blanks 1½" x 1½" x 8" long.

COMMENT

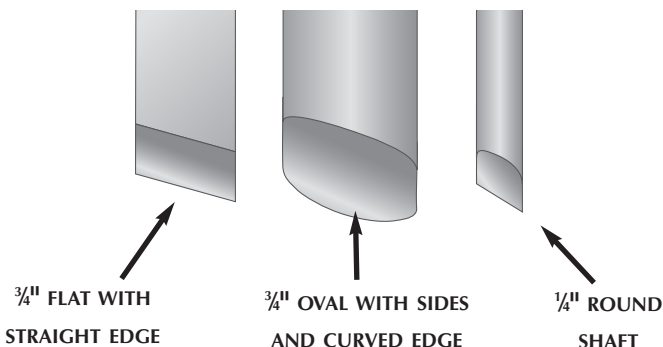
It is essential in spindle turning that you know your tools and the correct technique for their use. Mastering spindle turning, and in particular the skew chisel, will help you develop a tool handling sensitivity that will prove invaluable regardless of the type of turning you engage in.

THE SKEW CHISEL

Types

There are a variety of types and sizes of skew chisels. The flat sided and oval skew chisels are made in three sizes, $\frac{1}{2}$ " , $\frac{3}{4}$ " , and 1". The round skew chisel is usually used for smaller turnings and is available in sizes $\frac{1}{2}$ " , $\frac{3}{8}$ " , and $\frac{1}{4}$ " .

The oval skew is designed to make it easier to roll beads and slide over the tool rest. This is probably true. However, I have never used an oval skew, therefore have no experience with its performance. I use $\frac{3}{4}$ " and $\frac{1}{2}$ " flat sided skews and a $\frac{1}{4}$ " round skew. The $\frac{1}{4}$ " round skew is the tool I use the most, since I do a lot of small turnings. The cutting edge of my skews are ground with a straight edge, however, some turners prefer to curve the edge of their skews.



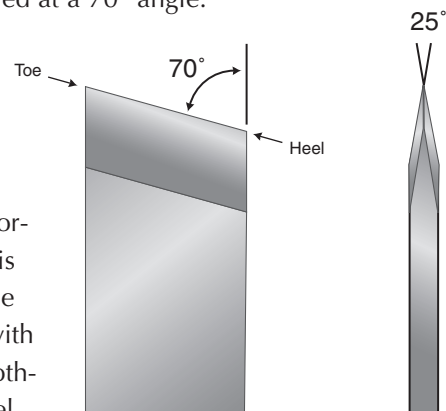
Remember—The tool rest must be smooth and without any pits when using a skew chisel.

Grinds

The parting tool and the beading and parting tool are also chisels and can be used like the skew. Their most significant difference is how they are sharp-

ened. The parting tool and the beading and parting tool are sharpened with an edge parallel to the tool handle and with a 25° bevel on each side. Skew chisels are also sharpened with a 25° bevel on each side, however, the edge is not sharpened parallel to the tool handle, but is skewed at a 70° angle.

The long pointed edge of the skew is called the toe and the short point, the heel. It is important to know this because in some cuts you lead with the toe and in others with the heel.



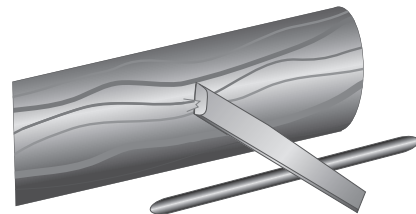
Popular Grinding Angles:

- **Roughing gouge** — 45°
- **Spindle gouge** — 35°
- **Parting tool** — 25°
- **Skew chisel** — 25°

TYPES OF CUTS

Planing Cut

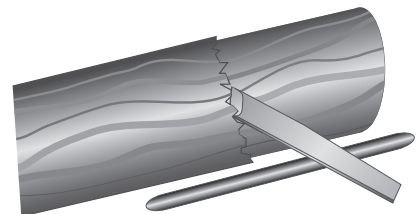
The planing cut is most commonly used to provide a smooth finish on a cylinder and when turning shallow hollows. The skew chisel should be presented to the blank at a 45°–65° degree rake angle on slightly above the centerline of the blank. Both the toe and heel should be clear of the wood. The cut needs to be taken slightly below the center point of the chisel whether you are leading with the toe or heel.



When planing a cylinder you should begin slightly in from the edge and move the tool along the cylinder keeping the cut parallel to the axis of the bed. I prefer to lead with the heel when I perform a planing cut. The important point to remember is to keep the top edge of the skew clear of the wood or else a severe catch will occur. An underhand grip should make it easier for you to accomplish this.

Peeling Cut

There are two types of peeling cuts. The first type is used to smooth a blank while removing considerably more wood than when using a planing cut. With the first type of peeling cut you slip the bottom tip of the skew into the wood and lift shavings while planing the cylinder. Be careful not to go very deep.



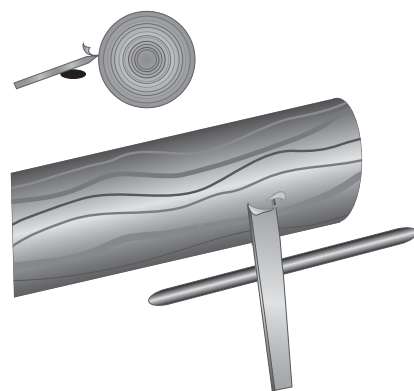
THE SKEW CHISEL, TYPES OF CUTS

Peeling Cut, Continued

The peeling cut is a more difficult cut than a planing cut due to the amount of wood removed. I usually use an overhand grip when peeling.

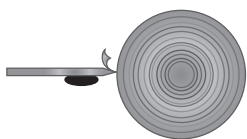
The second kind of peeling cut is used most commonly with the parting tool, where the tool is placed edge up to the blank and pushed forward into the wood lifting the shavings.

It is important that you ride the bevel and push forward with steady pressure.



Scraping Cut

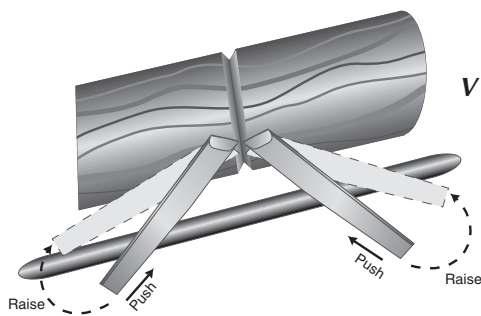
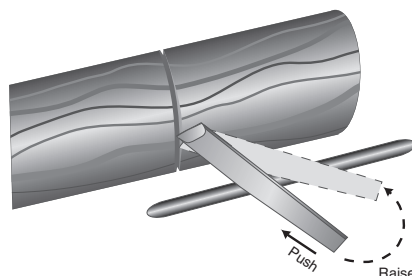
A scraping cut involves presenting the skew perpendicular to the wood with the tool handle parallel to the floor. The edge of a skew chisel is quite thin and, therefore, should only be used for light scraping. It should also be noted that the fastest way to dull a chisel is to use it as a scraper. However, there are times when scraping is necessary, but should be done with a great deal of caution and a light touch.



Slicing Cut

The slicing cut is used when making beads, V cuts and cleaning the end of a cylinder. I generally lead with the toe while raising the handle and pushing forward.

The slicing cut leaves a very smooth surface when using it to face off the end of a cylinder. There is very little space between the tool's cutting edge and the surface of the cylinder. Great care must be taken to prevent a catch.

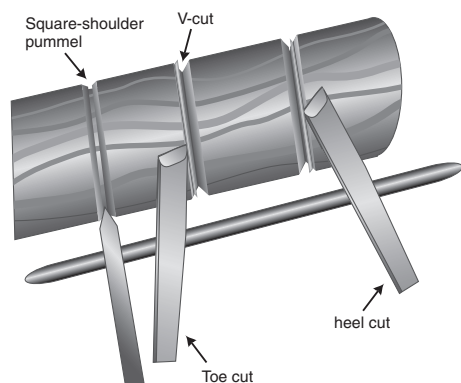


V Cut

You use a slicing cut to make a V cut by placing the skew on its edge on one side of the center of the cut. Then, while ever so slightly angling the handle toward the side you are cutting, raise the handle and push gently forward. Repeat this sequence on the other side of the center of the cut. Be careful not to push the tool too deep into the cut, otherwise the rubbing bevel will scorch the wood. The cut can be made wider and deeper by alternately repeating the steps above.

Rolling Beads

You can lead with either the toe or the heel when using a skew chisel to roll a bead. After outlining the bead with a pencil and marking the centerline, make a V cut at the lines on either side of the bead.



The bead is formed by initiating a slicing cut on the face of the bead, while slightly rolling the skew chisel into the cut. Thus, you are lifting the handle, pushing forward and rolling the tool all at the same time.

The tip of the chisel is the only part of the tool cutting.

