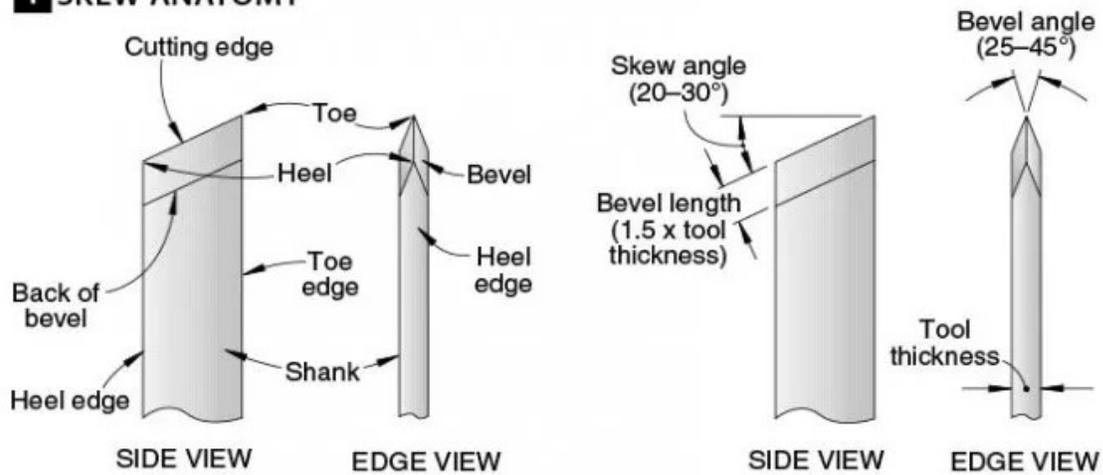
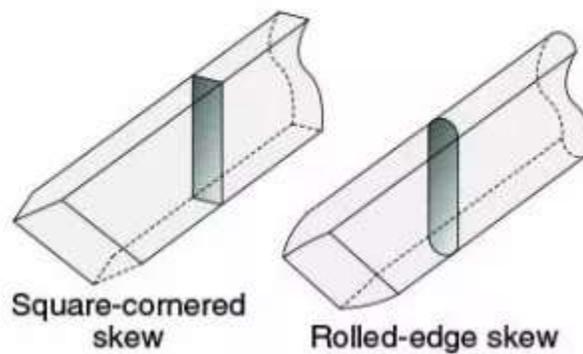


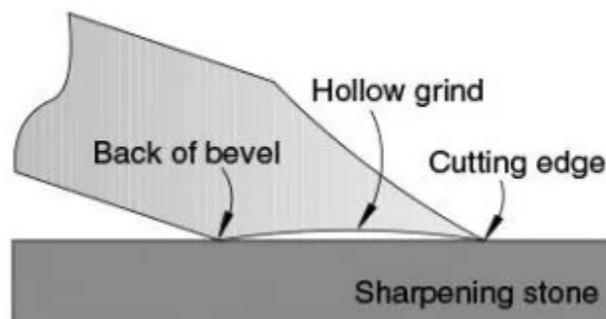
1 SKEW ANATOMY



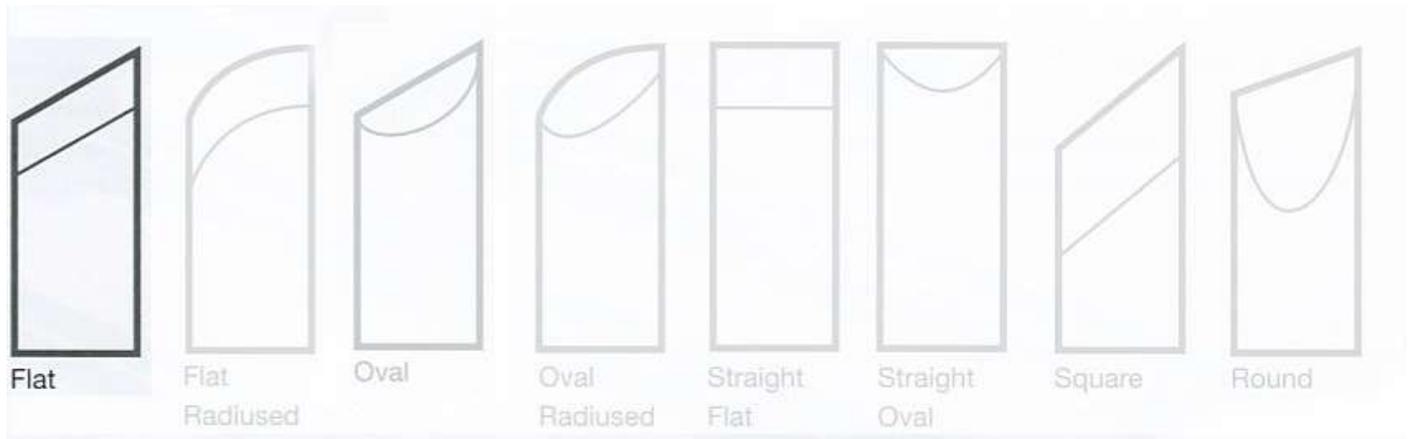
2 SKEW CROSS SECTIONS



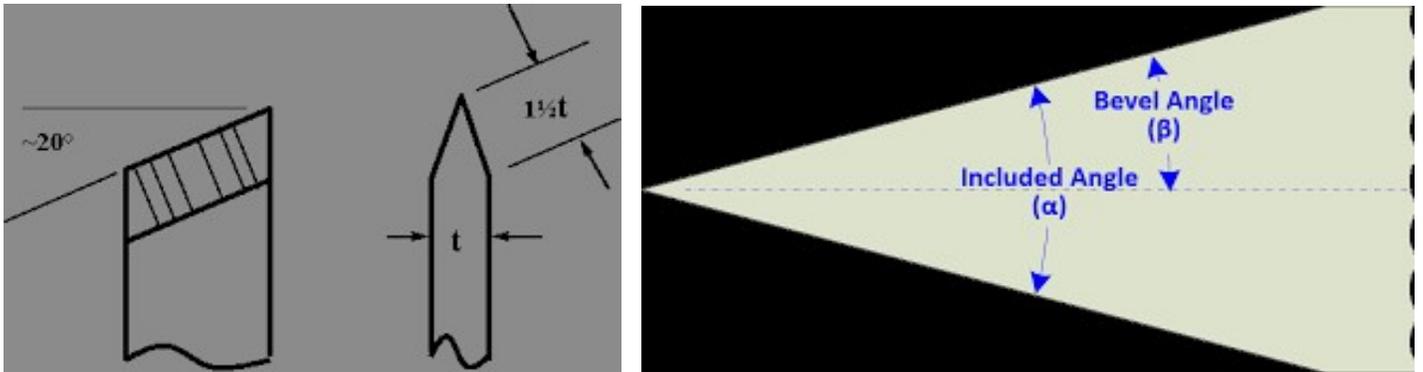
3 HONING



Skew Types and Cross sections



Another description of skew angles, bevel lengths, bevel angles and included angles.



Jim Echter's large skew Prop.



<https://www.youtube.com/watch?v=tggQQ1Fe6sU>

Jim Echter Live Remote Demo 8:37

<https://www.youtube.com/watch?v=PuVOhdEJB2Q>

The Skew Chisel - Ernie Conover 24:24

The Skew Chisel:

In wood turning, the **skew chisel** is a versatile tool, and the skew angle refers to the angle at which the cutting edge is ground relative to a perpendicular to the tool's centerline. The common skew angles for wood turning depend on the intended use, wood type, and turner's preference, but standard angles typically fall within the following ranges:

- **30° to 40° (included angle, or 15° to 20° per side):** This is the most common range for general-purpose skew chisels. A 30° included angle (15° per side) is often recommended for beginners because it provides a good balance of sharpness for clean cuts and durability for stability. It works well for cutting softwoods and hardwoods, planing cuts, and shaping.
- **40° to 50° (included angle, or 20° to 25° per side):** A slightly steeper angle is used for harder woods or when more durability is needed, such as for roughing cuts or working with dense materials. This angle sacrifices some sharpness for added strength.
- **25° to 30° (included angle, or 12.5° to 15° per side):** A more acute angle is sometimes used by experienced turners for fine, delicate cuts or when working with softer woods. It produces a sharper edge but is more fragile and requires precise control.

Key Points:

- **Grind Shape:** The skew chisel can have a **straight skew** (cutting edge perpendicular to the tool's axis) or a **radiused skew** (slightly curved cutting edge). The radiused skew, (Alan Lacer's preference) is more forgiving and versatile, often preferred for rolling beads and smoother cuts.
- **Skew Angle vs. Bevel Angle:** The skew angle refers to the angle of the cutting edge relative to the tool's body(perpendicular to axis), while the bevel angle (typically 25° to 30° per side) refers to the grinding angle of the bevel supporting the cutting edge. These are distinct but both affect performance.
- **Personal Preference:** Experienced turners may adjust the skew angle based on their technique. For example, Alan Lacer, a well-known turner, advocates for a 40° included angle with a radiused edge for versatility. Richard Finley likes a 3/8" square shafted skew with 22° bevel (44° included angle) which isn't really a skew at all but is used like one. It's a beading and parting tool.
- **Tool Geometry:** The skew angle interacts with the tool's presentation angle (how the tool is held against the wood). A common presentation angle is 45° to the workpiece for optimal cutting. Too flat and it is aggressive, more like peeling. Too angled, and it is slower and can leave a more ridged surface.

Practical Tips:

- **Softwoods:** Use a sharper angle (25°–30°) for cleaner cuts.
- **Hardwoods:** Opt for a stronger angle (35°–40°) to avoid chipping.
- **Experimentation:** Test different angles on scrap wood to find what suits your style and the specific project.
- **Sharpening:** Maintain a consistent angle when sharpening to ensure predictable performance. A honing guide or jig can help.

In the context of wood turning and the skew chisel, the **tool axis** refers to the **longitudinal centerline** of the skew chisel's blade or shank, running along the length of the tool from the handle to the tip. It's essentially the imaginary line that defines the tool's orientation and alignment, serving as a reference for describing angles like the **skew angle**.

Clarification of Tool Axis in the Description:

- The **skew angle** is the angle at which the cutting edge is ground **relative to this tool axis**. For example:
 - A **straight skew** has a cutting edge that's ground at an angle (e.g., 30° to 40° included angle) relative to the tool axis, often perpendicular or slightly diagonal to it.
 - A **radiused skew** has a curved cutting edge, but the skew angle is still measured relative to the tool axis, typically at the midpoint or tangent of the curve.
- The tool axis is distinct from the **bevel angle** (the angle of the ground bevel supporting the cutting edge) and the **presentation angle** (how the tool is held against the wood during turning).

Visualizing the Tool Axis:

Imagine holding a skew chisel flat on a table, with the handle pointing directly away from you and the blade extending forward. The tool axis is the straight line running through the center of the handle and blade, parallel to the tool's length. When the cutting edge is ground, the skew angle is measured as the deviation of the cutting edge from a line perpendicular to this axis.

What are the common skew bevel angles for wood turning?

Skew chisels are essential tools in wood turning, and their angles can significantly impact performance. Here are the common skew angles used:

- **30° to 40° included angle (15° to 20° per side)**: This is the most common range for general-purpose skew chisels. A 30° included angle is often recommended for beginners because it balances sharpness and durability. It works well for cutting softwoods and hardwoods, planing cuts, and shaping.
- **40° to 50° included angle (20° to 25° per side)**: A steeper angle is used for harder woods or when more durability is needed, such as for roughing cuts or working with dense materials. This angle sacrifices some sharpness for added strength.
- **25° to 30° included angle (12.5° to 15° per side)**: A more acute angle is sometimes used by experienced turners for fine, delicate cuts or when working with softer woods. It produces a sharper edge but is more fragile and requires precise control.

Additional Considerations:

- **Sharpening**: Maintaining a consistent angle when sharpening ensures predictable performance. A honing guide or jig can help.
- **Sharpen or hone often**. Sharp Tools have fewer catches, or slips out of the bevel cut
- **Be intentional in your cut** – Anchor, Bevel, Cut, Direction.
- **Can be sharpened on a belt sander with fine grit**. Then there is hollow grind on the bevel, but honing must be done differently.