Sharpening Handbook

Because *sharp enough* ... usually is not

Chapter 16

Wood Carving Tools

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SharpeningHandbook.info

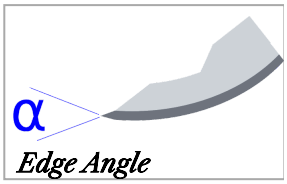
The full handbook, and the latest version of this chapter, are on the web at **SharpeningHandbook.info**. This chapter: November 2026.

Adze

The **Adze** is a tool which is swung about a pivot point when used, and has two key angles, α and β.

α

The effective angle at the cutting edge. The inside and outside edges will probably be cleaned up and polished; however this is the effective angle between those edges.



When resharpening, try to to not change the β angle:

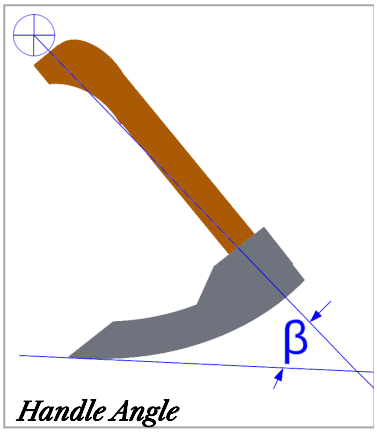
- Only resharpen the tool on the inside edge (the upper part in the picture to the left), and
- Hone/strop both the inside and outside edges.

β

The angle between the handle and the cutting edge. As the adze is a tool which is swung about some pivot point, this angle has a great impact on the usability of the tool.

- If β is too large, the area behind the cutting edge will impact the wood before the cutting edge.
- If β is too small, then the cutting edge will dig into the wood.

The angle needed for β is out of scope of the Sharpening Handbook, however, there are articles below which address how this can be determined, and how to set it.



It requires a genuine fight to produce one well-designed object of relatively permanent value.
George Nakashima

General Guidelines			
	α		
Tool Usage	Range	Recom.	Sharpness
Softer woods or **Finishing cuts**	25° - 35°	25°	7
Hard woods or **Roughing out cuts**	25° - 35°	30°	6

Notes & Comments

Softer woods & Finishing cuts

I've seen recommendations for α as low as 20° however this could be too shallow unless the user is working on very soft woods.

Hard woods & Roughing out cuts

Use a higher α when working on dry hard woods.

Resharpen the Inside Edge

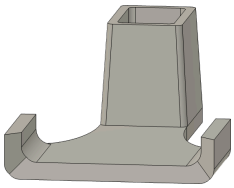
When resharpening, it is best to only work on the inside part of the bevel. Modifications to the outside part of the bevel (the back bevel) could adjust the β angle, also known as the "hang" of the adze.

Having a bevel on the outside of the tool allows it to be better used for shallow scalloping work. The article by Dave Fisher in “Fine Woodworking” magazine shows this well.

- This back bevel should be around 2°, and certainly not exceed 5°.
- It is usually a convex edge (vs. flat or concave). Once this is set, it is best to not modify the outside edge.

Sharpen a Lipped Adz

To sharpen a lipped adze (also known as a shipwright's adze, and used for cutting across the grain), see the instructions in The Complete Guide to Sharpening by Leonard Lee. The recommended α angles follow those noted above; however the directions are a bit difficult to describe.



Lipped Adze

More Information

Books & Papers

- “The Complete Guide to Sharpening” by Leonard Lee

Published Articles

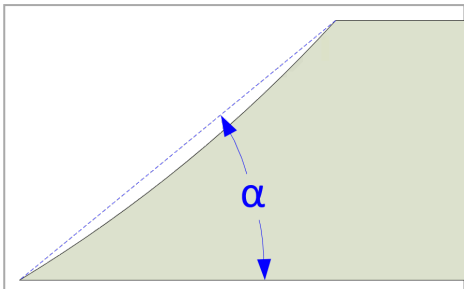
- Nic Westerman of Hewn & Hone (hewnandhone.co.uk) wrote a great series about the adze which was published in “Wood Carving” magazine. It was published in 3 parts.
  - Part 1 - Issue 190, page 60. This addresses the β angle and why it matters.
  - Part 2 - Issue 191, page 70. This also addresses the β angle, and how to adjust it.
  - Part 3 - Issue 192, page 60. This addresses the α angle and a few other points.
- Dave Fisher (davidffisher.com) wrote an article for Fine Woodworking (finewoodworking.com) where he overviews how to tune-up an adze. The web link excerpted here was part of the article where he discussed what to look for when purchasing an Adze. “Fine Woodworking” magazine, issue 285, Nov/Dec 2020, pg. 24

  Note: Dave was not merely resharpening the tool; rather he had to do some fairly significant reshaping to the tool's cutting edge. If you do such do such modifications to a tool, be sure to manage the heat so that you don't lose the temper in the metal.

> **Sharpness Scale** - see Chapter 1.
> **Ongoing maintenance** - see Chapter 4, *Woodworking Tools*.

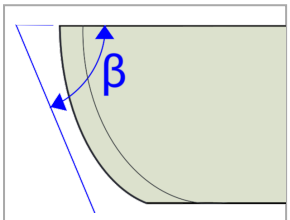
Wood Carving Chisel

Guidelines shown below are for the cutting edge angle. Since this the entirety of the blade's cutting edge is honed, no secondary / micro bevel is given (as with Bench Chisels (see Chapter 18)).



Single bevel edge angle

The angle (α) is the effective grind angle at the chisel point. The angle measured with the Tormek WM-200 AngleMaster will be greater than α, but only by a very small amount.



Skewed end of the chisel with a convex edge

Skewed End

If this chisel is to have a skewed end (as shown to the left), it is recommended that β not be greater than 20° unless you area aiming for a more Scandinavian style grind which can be up to 35°. A greater skew angle may tend to cause the chisel to drift to the side when using it.

Edge Shape

Lara Reisigl Domeneghetti wrote a great article (see also, below) regarding the Scandinavian grind. In it, she recommended a convex curved edge as shown in the image to the left.

> *The Christian shoemaker does his duty not by putting little crosses on the shoes, but by making good shoes, because God is interested in good craftsmanship.*
> Martin Luther

General Guidelines

Material	Bevels	α Hand Work	α Mallet Work	β	Sharpness
Softer Woods	Single	15°	18° - 20°	0° - 20°	8
Medium Woods	Single	17½°	20° - 22½°	0° - 20°	
	Double	30°		0° - 35°	
Harder Woods	Single	20°	23° - 25°	0° - 20°	

Notes & Comments

Re-grinding Carving Edges

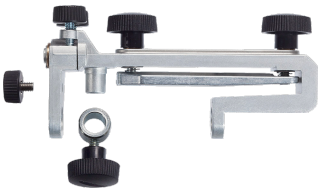
Carving edges are typically not reground; only to reshape them, or repair a problem with the edge. More commonly, the edge is simply honed on the leather wheel.

Hollow Grinding the Back

Hollow grinding on the back of the bench chisels (traditional, not Japanese chisels) is recommended by some, including by Garret Hack. Two videos below show that process.

Jigs for Sharpening Chisels on the Tormek

SE-77 Square Edge Jig



SE-77 square edge jig

Some have mentioned that it is a bit tricky to get the alignment correct for chisels using this jig. That said, this jig is very useful for cambering plane blades, so it is useful to have if you sharpen those also.

Shorter chisels won't always work in this jig. The MB-102 Multi Base can alleviate this issue.

If you have some of your grandfather's old chisels around which you want to use (other to open paint cans), consider using

- SVS-38,
- SVH-60, or
- SE-77 with the MB-100

SE-76 Square Edge Jig



SE-76 square edge jig

This is a great jig to use for sharpening chisels, including skewed edges. However shorter chisels won't always work in this jig. If you have some of your grandfather's old chisels around which you want to use (other to open paint cans), consider using the SVH-60.

As with the SE-76, shorter chisels won't always work in this jig (unless using the MB-102 Multi Base). Consider using

- SVS-38,
- SVH-60, or
- SE-77 with the MB-100

The SE-77 has replaced this jig and the SE-76 is hard to find.

SVS-38 Short Tool Jig



SVS-38 short tool jig

This jig is also useful for sharpening chisels where there is not enough length to use either of the two jigs listed above.

SVH-60 Straight Edge Jig



SVH-60 straight edge jig

This is the original jig for sharpening chisels and plane blades. It is no longer being made which is unfortunate as it is really great for holding shorter chisels. If you have shorter chisels, consider getting one from the used tools market.

The SE-77 has replaced this jig and the SVH-60 is hard to find.

SVD-110 Platform Jig

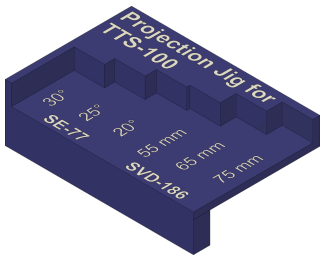


SVD-110 platform jig

The platform jig will probably be more useful for sharpening blades with curved cutting edges.

If sharpening this tool often, consider dedicating a USB and platform jig (SVD-110) to this. This approach is shown in this web page, and enables the carver to resharpen the tool quickly and get back to carving.

Projection Jig for the SE-76 or SE-77



3D-printed projection jig for the SE-76 or SE-77

The Projection Jig for the SE-76 or SE-77 (see Chapter 3) is used with the TTS-100 for quickly setting both the USB height and the projection of the tool from the SE-76 or SE-77 jig.

Replacing Wooden Handles

A good source for the shape of a handle is The Wood Turner's Handy Book (1887), by Paul N Hasluck (see pg. 67, fig. 39).

Other good sources are:

1. Making a New Chisel Handle for Tired Hands: Part 1 (finewoodworking.com), by Aaron Keim and published on the Fine Woodworking (finewoodworking.com) website. (Part 2 is also on the web site now.)
2. Socket Chisel Handle (woodturner.org), by Tom Caspar and published on the AAW (woodturner.org) website on the "Woodturning Fundamentals" eMagazine.

More Information

Books & Papers

- "The Handyman's Book", a book by Paul N. Hasluck. My copy is the 1903 edition and is quite useful.
- "Woodcarving: Tools, Materials, & Equipment", a book by Chris Pye.
- Some information presented is from the Tormek (tormek.com) handbook, "Water Cooled Sharpening of Edge Tools", © Tormek AB.

Videos & Presentations

- **Hewn and Hone (hewnandhone.co.uk)**
  - Edge Geometry (YouTube video).
- **Paul Sellers**
  - How to Make a Strop (YouTube video)
- **Herman Trivilino**
  - Herman Trivilino showing the use of a platform jig (YouTube video)
- **Tormek's Videos**
  - Tormek AngleMaster WM-200 (YouTube video)
  - Tormek's Centering Knife Jigs KJ-45 & KJ-140 (YouTube video)
  - Tormek Live Sharpening Class - Part 1. Knife sharpening (YouTube video).
  - Tormek Live Sharpening Class - Part 3 - Chisels, plane irons & Tormek grinding wheels (YouTube video).
    - At 00:46, there is a great explanation of sharpening a tool with a radiused end using the SE-77 Square Edge Jig.
    - At 00:52, there is a great explanation of how to use the MB-100 Multi Base.
  - Tormek Live Sharpening Class - Part 4 - Carving Knife & Carving Tools (YouTube video).
    - The commentary that starts at 10:40 about setup of the Tormek (tormek.com) SVM-00 Small Knife Holder Jig (tormek.-com) is excellent.
    - Around 24:00, there is a discussion on sharpening hook knives (with the grind on the outside edge). Sharpening the inside edge must be done by hand, or using the method advocated in The Complete Guide to Sharpening (1996) by Leonard Lee (en.wikipedia.org).
  - Tormek Live Sharpening Class - Part 9 - Sharpen a flat bevel with Tormek MB-100 on a diamond wheel (YouTube video).
  - Tormek Live Sharpening Class - Part 10. Advanced knife sharpening (YouTube video).
  - Tormek Live Sharpening Class - Part 15. Repair a damaged knife (YouTube video).
  - Tormek Live Sharpening Class - Part 20 - MB-102 Multi Base -

Enhanced Knife Sharpening & Flat Bevels (YouTube video).
    - For sharpening on the side of the grinding wheel (particularly the diamond grindstones). The value for this approach is:
        - It allows for a flat grind (see Chapter 1) on the cutting edge.
        - It allows for sharpening short tools. This video demonstrates this well.
        - For sharpening vertically from the horizontal position. This is a replacement for the front vertical base (indexjigs.html). Sharpening knife edges using a edge trailing approach may be preferable if you sharpen on a softer Japanese water stone (so you don't accidentally dig into the grindstone). It is also quite useful for sharpening spoon knives.
    - Tormek Live Sharpening Class - Part 24. KS-123 Knife Angle Setter (YouTube video)
    - Tormek Knife Jig SVM-45 (YouTube video)
    - Tormek Long Knife Jig SVM-140 (YouTube video)
    - Tormek Small Knife Holder SVM-00 (YouTube video)

Published Articles

- "Carving Tool Tune-up", by Ian Agrell and published in *Fine Woodworking* (finewoodworking.com) magazine #133, November/December 1998. Ian recommends that the cutting edges be ground to 10° on both sides of the cutting edge, resulting in an α of 20°. The resulting edge looks rather like a knife. Pictures in the article explain this better. This approach is quite different from others I've read, especially for gouges and V-tools.
- "How to Make Replacement Gouge Handles", by Bill Howes and published in *Fine Woodworking* (finewoodworking.com) magazine #323, May/June 2026. Bill explains how to replace worn or poorly designed gouge handles to improve comfort, balance, and tool identification.
- "Making a New Chisel Handle for Tired Hands: Part 1", by Aaron Keim and published on the Fine Woodworking (finewoodworking.com) website. (Part 2 is also on the web site now.) Aaron noted,

    > *Some of the most important tools in my shop are my chisels. Whether I am chopping, carving, or paring, they are in my hands all day. As I have gotten older and my arthritis/tendonitis has gotten worse, my needs have changed. In this blog, I will talk about my preferred chisel handle and show how I make a replacement handle to suit my needs.*

- "Scandinavian Grind Skew Chisel", by Lara Reisigl Domeneghetti and published in "Popular Woodworking", #287, February 2026.
- "Socket Chisel Handle", by Tom Caspar and published on the AAW (woodturner.org) website on the "Woodturning Fundamentals" eMagazine.

Web Sites

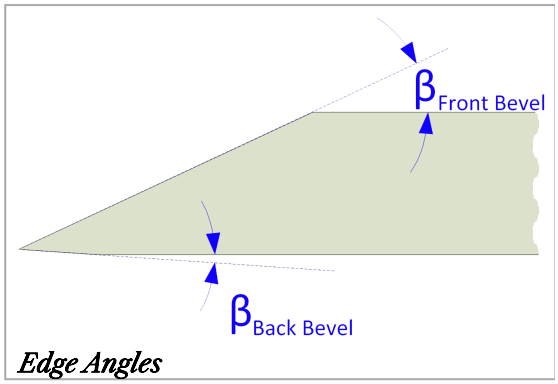
- R.M. Mottola has published a good set of instructions on Sharpening, Honing and Polishing Gouges and Other Carving Tools (liutaiomottola.com).

Sharpness Scale - see Chapter 1.
Ongoing maintenance - see Chapter 4, *Woodworking Tools*.
Grindstones and Other Sharpening Media - see Chapter 2.

Draw Knife

The Tormek KJ-140 or SVM-140 knife jigs work well to hold this.

CB's USB Projection Calculator is recommended for calculating setup for Tormek knife jigs. *(The simpler Projection Calculator (on the web site) is also still available. This one is web-based and does not require Excel.)*



Edge Angles

> *The feel and beauty of finely crafted wood ...*
> *the refreshing smell of your workshop ...*
> *the absorbing joy of cutting and joining that makes the hours race by ...*
> *These are the reasons you love woodworking.*
> Jack Neff

If you want to grind a flat bevel on the edge and you are using a Tormek, watch the video below on using the Tormek MB-102 Muti Base.

General Guidelines

Tool Usage	$\beta_{\text{Front Bevel}}$ Range	$\beta_{\text{Front Bevel}}$ Recommend	$\beta_{\text{Back Bevel}}$ Range	$\beta_{\text{Back Bevel}}$ Recommend	Sharpness
Bevel Down	25° - 30°	28°	*n/a*	*n/a*	8
Bevel Down	20° - 25°	23°	2° - 5°	5°	8

Notes & Comments

Bevel Down

I've seen recommendations for $\beta_{\text{Front Bevel}}$ which range between 15° and 30°.

The very accomplished chairmaker, Curtis Buchanan, recommends an angle of 28°; I won't try to second-guess him. (His sharpening approach is shown in the video below.)

Grind Shape & Experience

The shape of the grind used is a call best made by the tool's use, based on their own experience. Additional notes are available on separate web pages for Grind Profiles (see Chapter 1), and Micro / Secondary Bevels (see Chapter 1).

Sharpening Calculators

Online Calculators (on the web site) that can be used for sharpening knives.

More Information

Books & Papers

- “The Handyman's Book”, a book by Paul N. Hasluck. My copy is the 1903 edition and is quite useful.
- Fine Woodworking (finewoodworking.com) posted a great article by chair maker Russ Filbeck (russfilbeck.com) on Sharpening gouges and drawknives with a lapidary wheel (finewoodworking.-com).
- U.S. War Department's TM 9-867 Maintenance and Care of Hand Tools (on the web site).

Videos & Presentations

- Tormek Live Sharpening Class - Part 4 - Carving Knife & Carving Tools (YouTube video).
- Sharpening a Drawknife with Curtis Buchanan - Part 1 (YouTube video). (There is a 2d part which should also be watched.)
- Tormek Live Sharpening Class - Part 9 - Sharpen a flat bevel with Tormek MB-100 on a diamond wheel (YouTube video).
- Jeff Farris - Knife Sharpening with Tormek (YouTube video)
- Tormek Knife Jig SVM-45 (YouTube video)
- Demonstrating Tormek's Centering Knife Jigs KJ-45 & KJ-140 (YouTube video)
- Tormek Long Knife Jig SVM-140 (YouTube video)
- Tormek Small Knife Holder SVM-00 (YouTube video)
- Tormek Tool Rest SVD-110 (YouTube video)
- Tormek AngleMaster WM-200 (YouTube video)

Web Sites

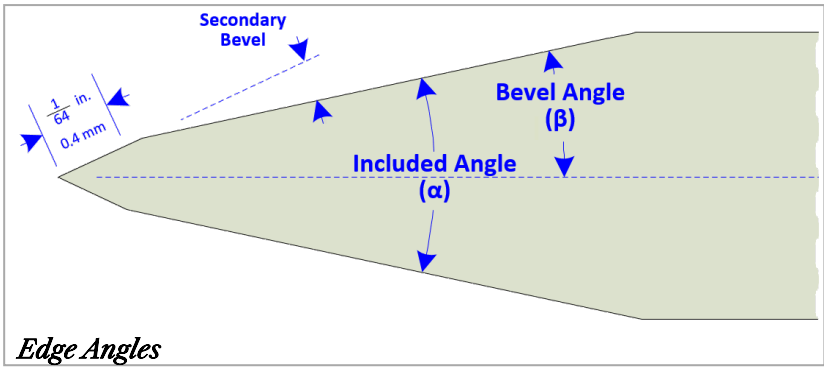
- Jan Švancara posted a design for using a **knife sharpening platform** in 2015 on the Tormek Forum. This is certainly worth reading, and there are also pictures of this in the jigs (see Chapter 3) section.

> **Sharpness Scale** - see Chapter 1.
> **Ongoing maintenance** - see Chapter 4, *Woodworking Tools*.
> **Grindstones and Other Sharpening Media** - see Chapter 2.

Froes

Guidelines shown below are for **Included Angles (α)**.

Notes are also available on a different web page for Micro / Secondary Bevels (see Chapter 1).



Edge Angles

> *People love chopping wood. In this activity one immediately sees results.*
> Albert Einstein

General Guidelines		
α	Secondary Bevel	Sharpness
30°	+5°	4

Notes & Comments

30° Grind

Froes do not need to be razor sharp, but they should not be terribly dull either. In particular, the edge should be consistent with no damage.

Shaping the edge

New froes are probably sharp, but the woodworker may want the angle on the edge(s) adjusted to match those in the table above. Thusly, initial shaping of the edge is to be quite probable.

Option A: Use a Tormek

Shape the froe blade edge(s) on the Tormek using the SVD-110 platform jig and the SG-250 grindstone graded coarse, or the DC-250 grinding wheel.

Rotation of the Grindstone: When sharpening froes, use the vertical position with the grindstone rotating towards the blade. This keeps the froe jig properly aligned to the grindstone. (If you use the horizontal position, the grindstone will tend to pull the froe away from the jig.) Also, the vertical position sharpens faster.

Option B: Use a Machinist's Hand File

The sharpener can use machinist's 12-14" bastard file.

Option C: Use an Angle Grinder

Alternatively, an angle grinder can be used with a 120 grit flap disc. If this method is used, the sharpener must be sure to not overheat the edge, removing the temper from the steel and weakening the edge.



High speed bench grinders are NOT recommended. It is too easy to take the temper out of the blade, and if the temper is lost, the user will get very poor service from the froe.

If the sharpener does not have access to a wet grinding system, then a file or stone approach should be used (as outlined in the manual noted below). Angle grinders with flap discs don't cause such a build-up of heat if used in a limited fashion (e.g., for sharpening and not shaping the angle).

Sharpening the edge

Option A: Use a Tormek

Shape the froe blade edge(s) on the Tormek using the SVD-110 platform jig and the SG-250 grindstone grade finely, or the DF-250 or DE-250 grinding wheels.

Option B: Use Machinist's Hand Files

The sharpener can use machinist's hand files. Consider starting with a 8-10" medium (or second) cut file. Finish with a 6" smooth cut file, then use this file to remove the burr.

Option C: Use a Whetstone

Whetstones are available in many options for sharpening froes.

Convex Grind

There are some who recommend that the overall grind be convex. I have found that using a secondary bevel removes that need, but that can be achieved using the SVD-110 platform jig.

Other Maintenance

If the froe's back edge has gotten mushroomed out or otherwise damaged, it needs to be cleaned up. Leaving the mushroomed surface will make for danger when using the froe, just as with cold chisels.

More Information

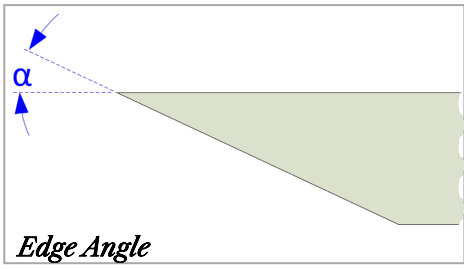
Books & Papers

- "The Complete Guide to Sharpening", by Leonard Lee.

> **Sharpness Scale** - see Chapter 1.
> **Ongoing maintenance** - see Chapter 4, *Woodworking Tools*.
> **Grindstones and Other Sharpening Media** - see Chapter 2.

Wood Carving Gouge

Use the Projection Calculator (on the web site) to set the projection and USB distance from the grindstone. This calculator is web-based and does not require Excel.



A tree is our most intimate contact with nature.
George Nakashima

Remember to hone / strop the edge -- this is very important for carving tools!

General Guidelines			
Material	α		Sharpness
	Hand work	Mallet work	
Softer woods	15°	18° - 20°	8
Medium woods	17 ½°	20° - 22 ½°	8
Harder woods	20°	23° - 25°	8

Notes & Comments

Softer woods
For softer woods like bass or tupelo, this works well.

Medium woods
For woods like maple

Harder woods
For harder woods like ash or oak, this works well.

Jigs to Use

Larger Tools

The Tormek SVD-186 Gouge Jig (or SVD-185) is recommended.

Smaller Tools

The Tormek SVS-38 Short Tool Jig or SVS-32 may be appropriate. It is used in a similar manner to the SVD-186 and the SVD-185.

Shorter Tools

You may need to use a standard, off-the-shelf collar to guide the sharpening process. Most hardware stores carry these, or you can order one such as part number 9414T9 ($^{7}/_{16}$") or 57485K68 (10 mm) from McMaster-Carr. *Note: You will probably need to replace the set screw with a longer one.*

The Tormek MB-100 or MB-102 may be used with the SVD-186 (or SVD-185) or SVS-38 (or SVS-32) to provide adequate adjustment of the jig angle setting and not have the jig interfere with the grindstone. The side of the grindstone can assist with this. Using the SVD-186 (or SVD-185) is useful if the edge needs softened corners.

Carving Edge Shape

When sharpening, be very careful about the edge's shape. Also, be cautious about taking a decision to round the corners off too fast. It is easy to do, but often requires quite a bit of grinding and metal removal to re-establish a flat edge profile.

The diagrams below show the edge when viewed from above.



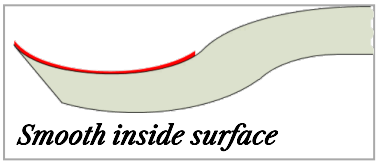
A flat edge with crisp corners (i.e., a straight line when viewed from above) - Useful for operations like lettering.



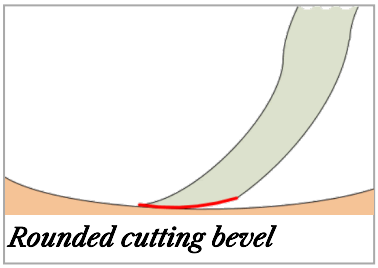
A slightly rounded edge - Useful for work such as sideways slicing.



Softened corners - Useful for Hollowing and leaving no tool marks are best achieved using a tool which has its corners a bit "softened".



Smooth inside surface



Rounded cutting bevel

Inside Surfaces

The inside surfaces of bent and spoon gouges (shown in red to the upper picture to the left) need particular care. The surface should have a smooth, flowing shape to allow the removed wood a smooth transition away from the surface. If not, it can cause tears in the surface.

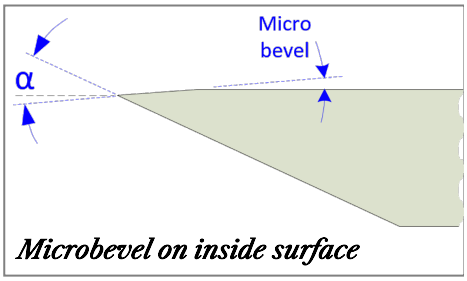
The bevel on the gouge needs to be convex when cutting into curved wood surfaces, and this bevel's radius needs to be smaller than the hole. Doing so reduces the bruising to the wood as the carver rotates the tool through the cut.

This is shown in the area marked red in the lower picture to the left.

One school of thought is to put a secondary / micro-bevel on the inside of the gouge's curve. The thinking is that this allows the shape to be longer, more tapered, but not have too acute an edge angle as to be less usable on harder woods.

This approach also allows the tool to be held at a shallower angle (to the wood) which makes carving easier.

As shown to the right, this can increase the effective cutting angle by 2° - 5° quite easily, without having to regrind the larger surface.



Microbevel on inside surface

Additional notes are also available on a different web page for Micro / Secondary Bevels (see Chapter 1).

Re-grinding Carving Edges

Carving edges are typically not reground; only to reshape them, or repair a problem with the edge. More commonly, the edge is simply honed on the leather wheel.

Replacing Wooden Handles

A good source for the shape of a handle is The Wood Turner's Handy Book (1887), by Paul N Hasluck (see pg. 67, fig. 39).

Another source is the series of articles written by Aaron Keim, “Making a New Chisel Handle for Tired Hands”, (see details below).

More Information

Books & Papers

- Fine Woodworking (finewoodworking.com) posted a great article by chair maker Russ Filbeck (russfilbeck.com) on Sharpening gouges and drawknives with a lapidary wheel (finewoodworking.-com).
- Some information presented is from the Tormek (tormek.com) handbook, “Water Cooled Sharpening of Edge Tools”, © Tormek AB.

Videos & Presentations

- **Tom Bartlett (Sharpening Supplies)**
  - How To Sharpen A Scandi Grind (YouTube video) - This video Tom discusses less about how to sharpen a scandi grind than a lot of tips on sharping this grind profile.
- **Steve Bottorff**
  - Using Tormek Knife Jigs (YouTube video)
- **Jeff Farris**
  - Knife Sharpening with Tormek (YouTube video)
- **Hewn and Hone (hewnandhone.co.uk)**
  - Edge Geometry (YouTube video).
- **Alan Holtham**
  - Tormek SVD-186 Gouge Jig (YouTube video)
- **Mary May**
  - Sharpening a Curved Gouge - Beginner Lesson #2 (YouTube video)
  - Sharpening a Spoon-bent Gouge - Beginner Lesson #4 (YouTube video)
  - Sharpening a Back-bent Gouge - Beginner Lesson #6 (YouTube video)
- **Paul Sellers**
  - How to Make a Strop (YouTube video)
- **Herman Trivilino**
  - Herman Trivilino showing the use of a platform jig (YouTube video)
- **Tormek's Videos**
  - Tormek AngleMaster WM-200 (YouTube video)
  - Tormek's Centering Knife Jigs KJ-45 & KJ-140 (YouTube video)
  - Tormek Live Sharpening Class - Part 1. Knife sharpening (YouTube video).
  - Tormek Live Sharpening Class - Part 4 - Carving Knife & Carving Tools (YouTube video).
    - The commentary that starts at 10:40 about setup of the Tormek (tormek.com) SVM-00 Small Knife Holder Jig (tormek.-com) is excellent.
    - Around 24:00, there is a discussion on sharpening hook knives (with the grind on the outside edge). Sharpening the inside edge must be done by hand, or using the method advocated in The Complete Guide to Sharpening (1996) by Leonard Lee (en.wikipedia.org).
  - Tormek Live Sharpening Class - Part 9 - Sharpen a flat bevel with Tormek MB-100 on a diamond wheel (YouTube video).

- Tormek Live Sharpening Class - Part 10. Advanced knife sharpening (YouTube video).
- Tormek Live Sharpening Class - Part 15. Repair a damaged knife (YouTube video).
- Tormek Live Sharpening Class - Part 24. KS-123 Knife Angle Setter (YouTube video)
- Tormek Knife Jig SVM-45 (YouTube video)
- Tormek Long Knife Jig SVM-140 (YouTube video)
- Tormek Small Knife Holder SVM-00 (YouTube video)

Published Articles

- "Carving Tool Tune-up", by Ian Agrell and published in *Fine Woodworking* (finewoodworking.com) magazine #133, November/December 1998. Ian recommends that the cutting edges be ground to 10° on both sides of the cutting edge, resulting in an α of 20°. The resulting edge looks rather like a knife. Pictures in the article explain this better. This approach is quite different from others I've read, especially for gouges and V-tools.
- "How to Make Replacement Gouge Handles", by Bill Howes and published in *Fine Woodworking* (finewoodworking.com) magazine #323, May/June 2026. Bill explains how to replace worn or poorly designed gouge handles to improve comfort, balance, and tool identification.
- "Making a New Chisel Handle for Tired Hands: Part 1", by Aaron Keim and published on the Fine Woodworking (finewoodworking.com) website. (Part 2 is also on the web site now.) Aaron noted,

  > *Some of the most important tools in my shop are my chisels. Whether I am chopping, carving, or paring, they are in my hands all day. As I have gotten older and my arthritis/tendonitis has gotten worse, my needs have changed. In this blog, I will talk about my preferred chisel handle and show how I make a replacement handle to suit my needs.*

- "Scandinavian Grind Skew Chisel", by Lara Reisigl Domeneghetti and published in "Popular Woodworking", #287, February 2026.

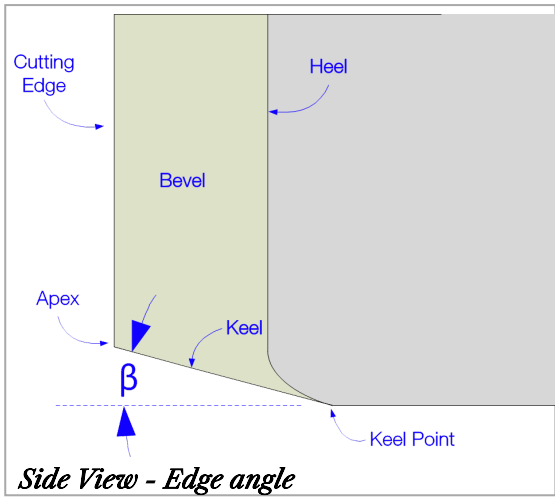
Web Sites

- R.M. Mottola has published a good set of instructions on Sharpening, Honing and Polishing Gouges and Other Carving Tools (liutaiomottola.com).

Sharpness Scale - see Chapter 1.
Ongoing maintenance - see Chapter 4, *Woodworking Tools*.
Grindstones and Other Sharpening Media - see Chapter 2.

Wood Carving V-Tool Chisel

The **V Tool**'s cutting edge is best sharpened in the horizontal position (with the wheel rotating away from the user). This reduces the steel removal rate, and allows for easier sharpening of the edge to the right profile, as it is not too fast.



Side View - Edge angle

Guidelines shown below are for the cutting edge angles. Since the entirity of this blade's cutting surface is honed, no secondary / micro bevel is given (as with Bench Chisels (see Chapter 18)).

The angle (β) is the grind angle for both cutting edges (ground first), and the keel (ground last).

How can a person take pride in his work when skill and care are considered luxuries! We're not machines! We have a human need for craftsmanship!
Unknown

General Guidelines

Material	β		Sharpness
	Hand Work	Mallet Work	
Softer woods	15°	18°	8
Harder woods	20°	25°	8

Notes & Comments

Softer woods
For softer woods like bass or tupelo, this works well.

Harder woods
For harder woods like oak, this works well.

Tormek Jigs
The Tormek SVD-186 or SVD-186 R is the recommended jig. However, for smaller or shorter tools, other jigs may be more useful.

Smaller tools
The Tormek SVS-38 or SVS-32 Short Tool Jig may be appropriate. It is used in a similar manner to the SVD-186.

Shorter tools
You may need to use a standard, off-the-shelf collar to guide the sharpening process. Most hardware stores carry these, or you can order one such as part number 9414T9 ($^{7}/_{16}$ inch) or 57485K68 (10 mm) from McMaster-Carr. *Note: You will probably need to replace the set screw with a longer one.*

Grind Shape & Experience

The shape of the grind used is a call best made by the tool's use, based on their own experience. Additional notes are available on separate web pages for Grind Profiles (see Chapter 1), and Micro / Secondary Bevels (see Chapter 1).

Flat Bevel

If you want to grind a flat bevel on the edge and you are using a Tormek, watch the video below on using the Tormek MB-100 Muti Base and the one on using the Tormek MB-102 Multi Base. The SVD-186R Gouge Jig works well with the MB-100 and the MB-102.

I'm not a fan of this approach as it seems quite complicated; however it is an option.

Re-Grinding the Bevel

Carving edges are typically not reground. It is usually done only when needed to reshape them, or repair a problem with the edge. More commonly, the edge is simply honed on the leather wheel.

Calculators

Use the Projection Calculator (on the web site) to set the projection and USB distance from the grindstone. This calculator is web-based and does not require Excel.

Replacing Wooden Handles

A good source for the shape of a handle is The Wood Turner's Handy Book (1887), by Paul N Hasluck (see pg. 67, fig. 39).

Other good sources are:

1. Making a New Chisel Handle for Tired Hands: Part 1 (finewoodworking.com), by Aaron Keim and published on the Fine Woodworking (finewoodworking.com) website. (Part 2 is also on the web site now.)
2. Socket Chisel Handle (woodturner.org), by Tom Caspar and published on the AAW (woodturner.org) website on the “Woodturning Fundamentals” eMagazine.

More Information

Books & Papers

- Some information presented is from the Tormek (tormek.com) handbook, “Water Cooled Sharpening of Edge Tools”, © Tormek AB.

Videos & Presentations

- **Alan Holtham**
  - Tormek SVD-186 Gouge Jig (YouTube video)
- **Mary May**
  - Sharpening a V-Chisel - Beginner Lesson #3 (YouTube video)
- **David Peters**
  - Tormek SVD-186 Gouge Jig Review and Comparison to the 185 (YouTube video)
- **Tormek**
  - Sharpen gouges with the Tormek Gouge Jig SVD-185 (YouTube video)
  - Jeff Farris - Sharpening with the Tormek SVD-185 Gouge Jig (YouTube video)
  - Sharpen short edge tools with the Tormek Short Tool Jig SVS-32 (YouTube video)

- Tormek Turning Tool Setter TTS-100 (YouTube video)
- Tormek AngleMaster WM-200 (YouTube video)
- Tormek Live Sharpening Class - Part 4 - Carving Knife & Carving Tools (YouTube video).
  - ☆ The commentary that starts at 00:10:40 about setup of the Tormek (tormek.com) SVM-00 Small Knife Holder Jig (tormek.com) is excellent.
  - ☆ Around 00:24, there is a discussion on sharpening hook knives (with the grind on the outside edge). Sharpening the inside edge must be done by hand, or using the method advocated in The Complete Guide to Sharpening (1996) by Leonard Lee (en.wikipedia.org).
- Tormek Sharpening Classes: Part 5 - Woodturning Tools (YouTube video).

- **Tormek** , continued
  - Tormek Live Sharpening Class - Part 9 - Sharpen a flat bevel with Tormek MB-100 on a diamond wheel (YouTube video).
  - Tormek Live Sharpening Class - Part 20 - MB-102 Multi Base - Enhanced Knife Sharpening & Flat Bevels (YouTube video).
    - For sharpening on the side of the grinding wheel (particularly the diamond grindstones). The value for this approach is:
      - It allows for a flat grind on the cutting edge.
      - It allows for sharpening short tools. This video demonstrates this well.
    - For sharpening vertically from the horizontal position. This is a replacement for the front vertical base (indexjigs.html). Sharpening knife edges using a edge trailing approach may be preferable if you sharpen on a softer Japanese water stone (so you don't accidentally dig into the grindstone). It is also quite useful for sharpening spoon knives.
    - ☆ At about 00:32, there is a great explanation of sharpening the V-Tool using the SVD-186-R Gouge Jig & the MB-102 Multi Base..

Published Articles

- "Carving Tool Tune-up", by Ian Agrell and published in *Fine Woodworking* (finewoodworking.com) magazine #133, November/December 1998. Ian recommends that the cutting edges be ground to 10° on both sides of the cutting edge, resulting in an α of 20°. The resulting edge looks rather like a knife. Pictures in the article explain this better. This approach is quite different from others I've read, especially for gouges and V-tools.
- "How to Make Replacement Gouge Handles", by Bill Howes and published in *Fine Woodworking* (finewoodworking.com) magazine #323, May/June 2026. Bill explains how to replace worn or poorly designed gouge handles to improve comfort, balance, and tool identification.
- "Making a New Chisel Handle for Tired Hands: Part 1", by Aaron Keim and published on the Fine Woodworking (finewoodworking.com) website. (Part 2 is also on the web site now.) Aaron noted,

  > *Some of the most important tools in my shop are my chisels. Whether I am chopping, carving, or paring, they are in my hands all day. As I have gotten older and my arthritis/tendonitis has gotten worse, my needs have changed. In this blog, I will talk about my preferred chisel handle and show how I make a replacement handle to suit my needs.*

- “Scandinavian Grind Skew Chisel”, by Lara Reisigl Domeneghetti and published in “Popular Woodworking”, #287, February 2026.

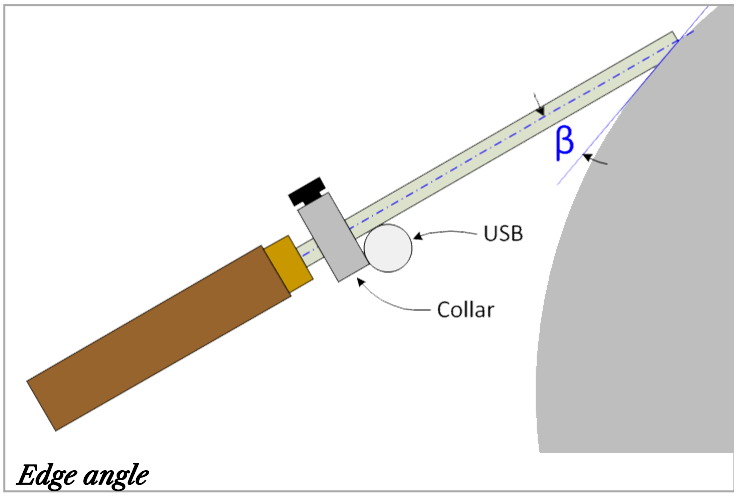
Web Sites

- R.M. Mottola has published a good set of instructions on Sharpening, Honing and Polishing Gouges and Other Carving Tools (liutaiomottola.com).

Sharpness Scale - see Chapter 1.
Ongoing maintenance - see Chapter 4, *Woodworking Tools*.
Grindstones and Other Sharpening Media - see Chapter 2.

Wood Carving Veining Tool

The **Veining Tool**'s cutting edge is best sharpened in the horizontal position (with the wheel rotating away from the user). This reduces the steel removal rate, and allows for easier sharpening of the edge to the right profile, as it is not too fast.



Edge angle

Guidelines shown below are for the cutting edge angles. Since the entirity of this blade's cutting surface is honed, no secondary / micro bevel is given (as with Bench Chisels (see Chapter 18)).

I carve things of wood because things made by effort are more real than things made by wishing.
Katherine Arden

General Guidelines				
Use	β	SVS-38 P	SVS-38 Hole	Sharpness
Softer Woods	20°	65 mm	B	8
Harder Woods	25°	55 mm	B	8

Notes & Comments

Softer Woods
For softer woods like bass or tupelo, this works well.

Harder Woods
For harder woods like oak, this works well.

Carving edges are typically not reground; only to reshape them, or repair a problem with the edge. More commonly, the edge is simply honed on the leather wheel.

Tormek Jigs
The Tormek SVD-186 or SVD-186 R is the recommended jig. However, for smaller or shorter tools, other jigs may be more useful.

Smaller tools
The Tormek SVS-38 or SVS-32 Short Tool Jig may be appropriate. It is used in a similar manner to the SVD-186.

Shorter tools

You may need to use a standard, off-the-shelf collar to guide the sharpening process. Most hardware stores carry these, or you can order one such as part number 9414T9 ($^{7}/_{16}$ inch) or 57485K68 (10 mm) from McMaster-Carr. *Note: You will probably need to replace the set screw with a longer one.*

Calculators

Use the Projection Calculator (on the web site) to set the projection and USB distance from the grindstone. This calculator is web-based and does not require Excel.

Replacing Wooden Handles

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2. Socket Chisel Handle (woodturner.org), by Tom Caspar and published on the AAW (woodturner.org) website on the "Woodturning Fundamentals" eMagazine.

More Information

Books & Papers

- Some information presented is from the Tormek handbook, "Water Cooled Sharpening of Edge Tools".

Videos & Presentations

- **Alex Carmona**
  - How to sharpen a tiny c-gouge for woodcuts/lino-cuts using the Tormek sharpening system (YouTube video).
- **Jeff Farris**
  - Jeff Farris - Sharpening with the Tormek SVS-50 Multi-Jig (YouTube video).
- **Mary May**
  - Sharpening a Veiner Gouge - Beginner Lesson #5
- **Tormek**
  - Tormek Multi jig SVS-50 (YouTube video)
  - Tormek Turning Tool Setter TTS-100 (YouTube video)
  - Tormek AngleMaster WM-200 (YouTube video)

Published Articles

- "Carving Tool Tune-up", by Ian Agrell and published in *Fine Woodworking* (finewoodworking.com) magazine #133, November/December 1998. Ian recommends that the cutting edges be ground to 10° on both sides of the cutting edge, resulting in an α of 20°. The resulting edge looks rather like a knife. Pictures in the article explain this better. This approach is quite different from others I've read, especially for gouges and V-tools.

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Sharpness Scale - see Chapter 1.
Ongoing maintenance - see Chapter 4, *Woodworking Tools*.
Grindstones and Other Sharpening Media - see Chapter 2.