





Contents

SB Tools Manufacturing Facility	4
SB Tools Manufacturing FacilityIntroduction to our CEO & Founder	5
	6
Universal Grinding SystemAngle Gauges	8
Taper-Lock Handle System	10
Overhang Ratios	16
	17
Negative Rake Scrapers	18
Vortex Tool	34
Elliptical Fluted Bowl Gouges	40
Spindle Gouge	42
	44
	47
	49
Parting Tools	50
	51
Bedans	52
Roughing Gouges	55
Our Promise	57

Front Cover Image

Red and Brown Mallee from Western Australia, turned by Stuart Batty using an Elliptical Fluted Bowl Gouge with 40/40 grinder, U Fluted Bowl Gouge with 60/85 grind, a Vortex Tool and Negative Rake Scrapers for final finish.



SB Tools is located in a 32,000 sf manufacturing facilility just east of the beautiful Rocky Mountains in Boulder County, Colorado.

Turning Technique Into Art

Unmatched Performance

Innovation, smart design and intimate knowledge of the woodturning trade work in combination to bring an entirely new level of tool performance to the market. All levels of woodturner—novice to professional—will enjoy SB Tools for decades to come.

Exceptional Value

Through modern manufacturing techniques, design, and material selection SB Tools offers superior tools at affordable prices. Our products are designed to outperform and outlast all others.

Turning Technique in to Art

SB Tools exists to enhance the woodturning industry for every level. Our methods are time-tested and student-approved. The style of woodturning we teach has been developed from an old, traditional European style; it is exact and simple to learn. We explain how and why each individual cut works, what and when to practice and most importantly, how to fix things when things goes wrong.

Made in the USA

Every single product, from conception to completion, is designed and manufactured in our facility in Louisville, Colorado.



Stuart Batty, SB Tools Founder & CEO

Stuart Batty is a third generation apprenticed woodturner with over 30 years of experience. Stuart learned woodturning from his father while working in the trade in England. Even as a teenager, he gained wide notoriety for his technical proficiency and teaching abilities. Stuart has been teaching and demonstrating woodturning more than any other turner in history and, today, is well regarded as one of the most accomplished woodturners in the world.

The varied self-taught styles of woodturning which have flooded the trade over the past three decades have created a staggering amount of conflicting information. Stuart's style of woodturning is the first and only method based solely on basic technique—not product. He has derived a teaching method which helps every level of woodturner—from novice to professional. Stuart is one of very few teachers who offers a universal, widely adaptable skillset which can be used to make any work piece on a lathe. His demonstrations are always accessible and relevant.

Modernizing the tools of the woodturning trade is Stuart's newest contribution to the woodturning industry. His company, SB Tools, exists to bring higher quality, longer lasting and more modern, intelligently designed tools to the market.

Advancing The Art Of Woodturning

SB Tools was created to benefit the woodturner. We continue designing and developing fully integrated, fully modular systems which make turning easier and more precise with no compromise. Using optimum materials and modern manufacturing methods, we are able to bring turners a line of tools whose performance and value is unparalleled.

Our Universal Grinding System (UGS) is the most rigid platform on the market today. It's easy to set up and use, and promises accurate blade sharpening time after time. It also maintains the same safe distance and height from the wheel at all angles. Used in conjunction with the SB Angle Gauges turners can set accurate repeatable angles on both curved and flat surfaces in seconds.

Our unique Taper-Lock Handle System allows any of our blades to be used in any of our handles. Turners have ten different lengths to choose from—more lengths than any other handle available. You can even fit your own blades into our handles by using one of our adaptor sleeves. The Taper-Lock Handle System has the greatest vibration dampening and the fastest blade-to-blade change of any handle system available today.

Our catalog showcases these and more products, explaining in detail how they work and the thought behind their design. Every product is supported with additional information on exactly how to use, set up and how best to maintain it correctly.

UNIVERSAL GRINDING PLATFORM

Patent Pending #61478342

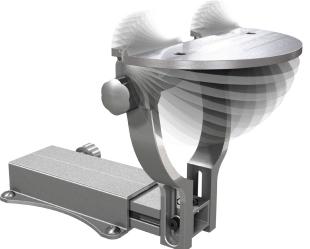
The SB Tools Universal Grinding System pivots at the face of the wheel, making tool sharpening easier and safer. Its rigid design provides improved accuracy in sharpening and shaping tools and can be used with any wheel grinder. It can also be used with belt grinders.

Features & Benefits

- The only system that pivots at the face of the grinding surface
- Safely change platform angle even while the grinder is running
- Rigid, two post design that does not interfere with the casing of the wheel
- Works with all bench grinders with 5" – 10" diameter wheels and many belt grinders
- Option of four different platform shapes
- Option for 1" or 2" wheel or belt
- · Adjustable height
- Create angles from 10° 95°
- Unique pressure plate systems only require finger tightening for securing
- Option of the more rigid and secure SB Mounting Base or adapter for the Oneway base







Pivots at the face of the wheel for safe quick angle changes.





Platforms for 1" Wide Wheels





Small Round Platform 2.7" radius 5.4 " wide \$115 SKU 003100



Large Round Platform 3.5"radius 7" wide \$120 SKU 003140



Small Square Platform 5.5" wide 2.7" tall \$115 SKU 003200



Large Square Platform 7" wide 5.2" tall \$120 SKU 003240

Platforms for Up to 2" Wide Wheels - Ideal for CBN Wheels



Small Round Platform 2.75" radius 5.4 " wide \$115 SKU 003102



Large Round Platform 3.5"radius 7" wide \$120 SKU 003142



Small Square Platform 5.5" wide 2.7" tall \$115 SKU 003202



Large Square Platform 7" wide 5.2" tall \$120 SKU 003242

Mounting Base and OneWay Adapter



SB Tools Mounting Base Ships with mounting hardware \$40 SKU 003001



OneWay Adapter
Fits Wolverine base
\$30
SKU 003299



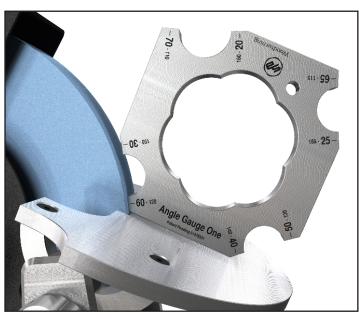
Chisel Jig
For Skews & Planer Blades
\$45
SKU 003400

ANGLE GAUGES



Patent Pending #61728762

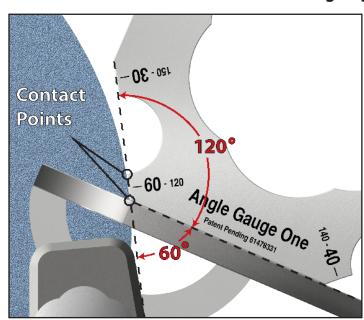
The only angle setter that works on both flat and curved surface

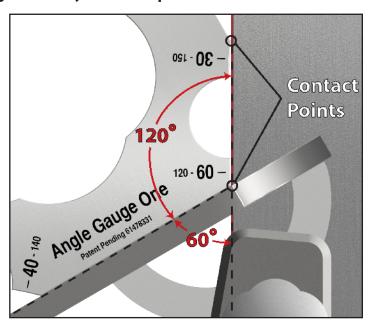




FIRST

Ideal for setting angles in any workshop



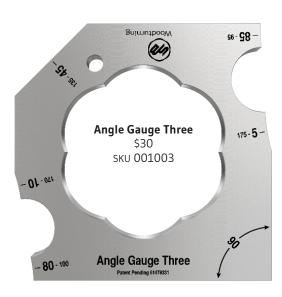


Sets the grinding angle from the tangent point of the wheel (shown above, left) for a 100% accurate angle on 8" arnothing wheels 100% accurate on all flat surfaces (shown above, right) Within 1° of accuracy on 6" or 10" \varnothing wheels Ø - Diameter









The SB Tools Angle Gauges are the only angle setting tool that compensates for curvature to give the most accurate angle possible on a grinding wheel, while setting precise angles on any flat surface.



Features & Benefits

- The only angle setting gauge that compensates for the curvature of a wheel to set accurate edge angles
- 100% accurate on all flat surfaces
- 100% accurate on 8" Ø wheels
- Know the angle you are setting
- Sets an angle in seconds
- Within 1° of accuracy on wheels with a diameter 6" or 10"
- Precision machined aluminum and clear anodized for durability
- Three gauges to choose with 40 different angles from 5°-175°
- Supplied with instruction manual & 3D high definition video
- Works on a variety of machines, including:

Miter gauges Table saw Band saw
Miter saw Crosscut saw Bench grinder
Belt grinder (both flat and wheel) Any angle fence

• Benefits a range of industries and crafts:

Woodworkers Woodturners
Metal workers Knife makers
Machine shops Wood carvers

• Angle Gauge One

Sets Angles: 20°, 25°, 30°, 40°, 50°, 60°, 65°, 70°, 90°

Complimentary Angles: 160°, 155°, 150°, 140°, 130°, 120°, 115°, 110°

• Angle Gauge Two

Sets Angles: 15°, 22.5°, 35°, 45°, 55°, 67.5°, 75°, 90°

Complimentary Angles: 165°, 157.5°, 145°, 135°, 125°, 112.5°, 105°

• Angle Gauge Three

Sets Angles: 5°, 10°, 45°, 80°, 85°, 90°

Complimentary Angles: 175°, 170°, 135°, 100°, 95°

TAPER-LOCK HANDLE SYSTEM

Patent Pending #61728762



The SB Tools Taper-Lock Handle System offers the versatility of a modular handle system without compromising strength, ease of use, or comfort. Blade changes are fast, easy, and do not require an allen key or wrench. A simple twist is all it takes to lock or unlock your blade.

We offer the widest range of handle lengths (from 6" to 48") and, because every SB blade comes with the SB Bolster already fitted, your tool is ready for use in seconds.

Vibration is eliminated with the use of an innovative, multi-layer carbon fiber and composite handle material in conjunction with our signature grey iron bolsters. SB Taper-Lock handles are the first and only carbon composite handles in the industry.

As part of this handle system, SB Tools sells a variety of adapter sleeves which enable you to use other round blades with our handles. It's never been easier to experience for yourself these revolutionary handles.

Features & Benefits

- First ever carbon fiber composite handle
- First ever use of grey iron for bolster
- Exceptional vibration dampening qualities
- Ergonomically designed six-lobed shape that does not roll
- No allen keys required
- Less than ten seconds blade to blade change
- Stronger & lighter than steel and aluminum handles
- Choice of 4 weights with internal chambers
- Choice of 10 different handle lengths from 6" to 48"
- All SB Tool blades come with fitted bolster for immediate use with every handle length
- Unprecedented choice of blade and handle length combinations



Inside the SB Tools Carbon Fiber Composite Handle



Fit Your Own Blade to Our Handle

All bolsters are sold with sufficient 2-part epoxy for semi-permanent blade fixturing. Once your blade is glued into the bolster it will be secure and ready to use. There is no need for an allen key to lock or unlock it from your handle, and your blade will fit into any one of our SB handles in seconds.



How it Works

First, choose the adapter sleeve that corresponds to the diameter of your tool. The bolster comes with a two-part epoxy that has a twenty-minute work time and two hour cure time. Next glue the tool into the sleeve and glue the sleeve into the bolster. Choose the handle length that best suits your tool and your project. Last, twist the bolster into the top of the handle and you're ready to turn. The threads are inside the product to protect against damage.

Note: The bolster and sleeve remain attached to the tool. The bolster can be removed with heat once your blade is worn out and reused.

Adaptor Sleeves – \$3.50 (individual SKUs below)

Adaptor Sleeves

SB Adaptor Sleeves are sized to fit almost any round woodturning tool. The size of the adaptor sleeve corresponds to the outer diameter of the tool. (Please note: European bowl gouge manufacturers may measure their gouges differently, so be sure to measure the outer diameter of the tool.) Sizes are as follows:













1/4" SKU 002302

3/8" 002306

7/16" 002308

1/2" 002310

5/8" 002314

Bench Wrench - \$9.00 SKU 002130

Bench Wrench

- Achieve an even tighter hold for aggressive cuts or a semi-permanent lock
- Can be bench mounted or used loose
- Precision machined aluminum



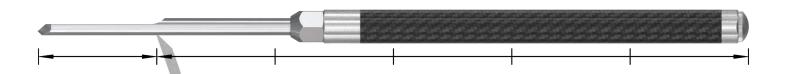
Taper-Lock System: How it Works

Taper-lock is one of the most secure fastening methods, offering considerably more surface-to-surface contact than almost any other. Taking just one and a half turns to lock or unlock, a blade can be changed in less than ten seconds with a secure grip. We offer a bench wrench for semi-permanent locking but it is not required for general use. Unlike collets, every blade fits every handle without changing collets or sleeves. Handles that use allen keys to locate blades only have a fraction of an inch surface contact. Our bolster to handle contact is over six square inches. Cut Away View This cut away view shows how the grey iron bolster is drawn back onto the taper by the stainless steel internal threads, giving unmatched ease of use, strength and security. Why Carbon Fiber and Composite Carbon fiber is an advanced material. It offers more rigidity and dampening qualities than any aluminum or steel handle. The outer layers of our handle are carbon fiber and the inner layers are a shatter proof composite. Combining these two different materials make our handles almost indestructible. Composite is easy to grip and never hot or cold to touch, nor does it require a rubber or foam outer layer to mask vibration.



Perfectly Balanced Handles and Blades

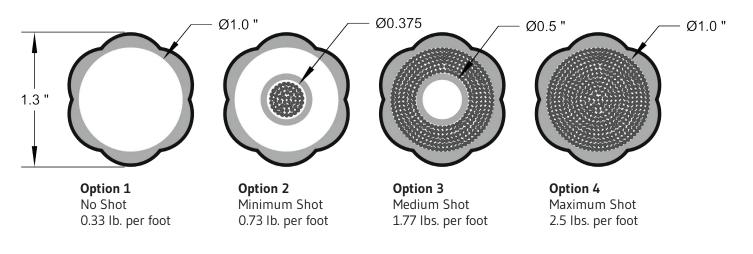
Our handles are designed without compromise to enhance a woodturner's experience. The six-lobed handle shape was developed to ensure comfort in handling and rotation. Users will not fatigue as easily because the materials we've selected to build our handles from virtually eliminate vibration. Handles are light in all the right places; they place the weight of the blade and bolster onto the tool rest where it is needed most. Professional road cyclists prefer carbon fiber bike frames over aluminum because of anti-fatigue properties of the carbon fiber.



Handle Weight Option

There are four main weight options to choose from. The following weights are for lead shot. Steel shot is approximately 30% lighter.

Ø - Diameter R - Radius



----- With optional shot tube -----

SB handles don't need shot to eliminate vibration. The option to add weight is suggested purely for personal preference. The following guidelines will help you decide when additional weight would be to your advantage.

- **Option 1**: At this option our handles are the lightest in the industry and offer the best vibration dampening through material selection and design. All blades can be used with this option, especially spindle tools.
- **Option 2**: Conventional Scrapers because they are held with the handle above the blade can benefit from additional weight; this option is good with scrapers up to 1" wide. Roughing gouges and Negative Rake Scrapers work well with this level of weight.
- **Option 3**: This level of weight can be beneficial when turning larger bowls, especially bottom bowl cuts with excessive overhang. Conventional Scraper and larger roughing gouges often work well with this level of extra weight.
- **Option 4**: At this option our handle becomes the heaviest in the industry. This is only recommended for Conventional Scrapers. This level of weight can also help when roughing down larger diameter bowls but is not generally suitable for any gouge finish cuts. It is simply too heavy for any spindle turning cuts.

Vibration Killing Features

You are probably not aware that all steel and aluminum handles vibrate when the blade is cutting. The only way to reduce the vibration in metal handles is to add shot, but doing so also unfortunately adds weight in the handle and therefore directly into the turner's hand.

Our use of composite reduces the weight in the turner's hand and eliminates vibration from the blade back to the turner's hand without the need to fill the handle with shot.

This, combined with our grey iron taper-lock bolster, makes for a truly unique balance of anti-vibration qualites, an ergonomically balanced handle/blade combination, and overall reduced fatique for the turner.

All SB Tool blades are precision machine fitted to our grey iron taper-lock bolster for the most rigid blade to handle connection in our industry.



Grey iron has been used for centuries for its exceptional dampening qualities.

Our bolsters add significant rigidity to every blade where it counts, strengthening the contact between blade and handle. Unlike other manufacturers' blades, ours do not have weak tangs where they fit the handle; ours get stronger, creating unprecedented rigidity and helping to eliminate still further any vibration when cutting.

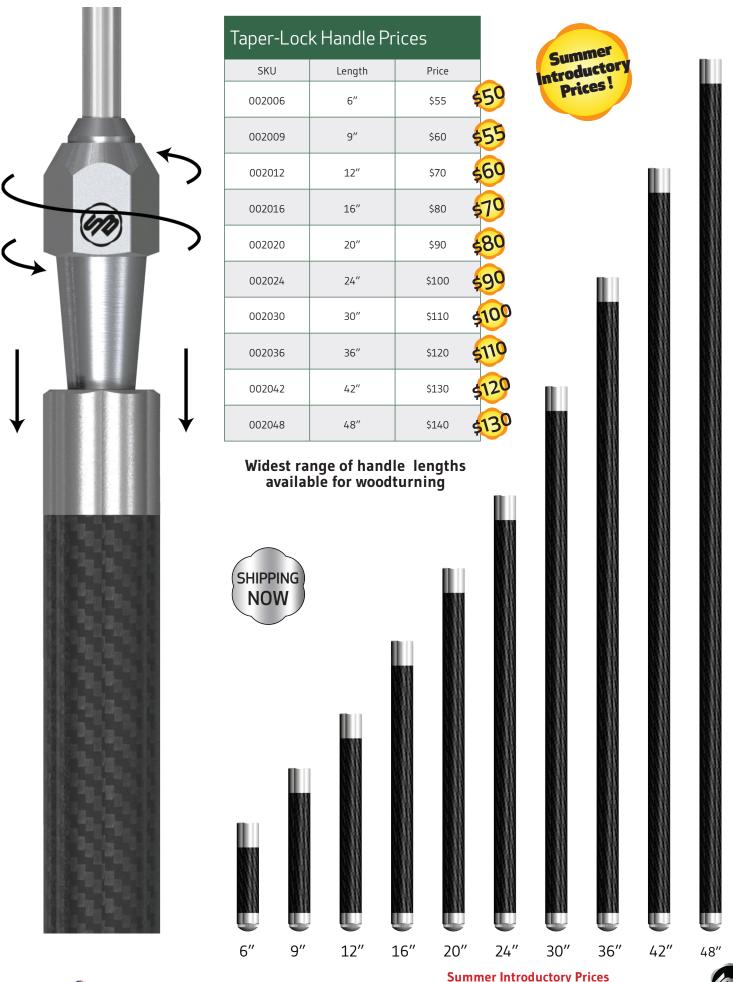
Our bolsters also add additional weight to the front of the tool and onto the tool rest, where it is needed. Combined with our lightweight anti-vibration carbon fiber handles, they offer the most ergonomic handle/blade combination with exceptional balance and reduced fatigue in the industry.

Taper-lock technology gives exceptional mating between the bolster and handle, with an unmatched six square inches of surface contact. Blade to blade changes are fast–less than 10 seconds–and do not require an allen key. Use our Bench Wrench for the option for semi-permanent locking.

Overview of Materials & Design

- Carbon Composite reduces weight and fatigue for the turner
- Iron bolster places weight at the front of the tool, where it is needed to improve blade control
- Bolster fits all 10 lengths of our handle system (6" to 48")
- Grey iron exceptional vibration dampening
- SB Tool blades are all precision machined fit to bolster for added rigidity
- No allen key required
- Bolster to handle contact with an unprecedented six square inches of surface contact
- Fast blade changes: less than 10 seconds blade to blade change





VERHANG RATIOS

To ensure safe, comfortable control of a tool while cutting or scraping we recommended using the following ratios:

Tool	Ratio
CONVENTIONAL SCRAPERS	7:1
GOUGES and SKEW CHISELS	5:1
PARTING TOOLS and BEDANS	5:1
NEGATIVE RAKE SCRAPERS	3:1

For every inch of blade overhanging the tool rest there should be at least the above ratio used when cutting or scraping on a lathe. This will ensure you have the correct leverage and help you stay in control. The ratio can be acheived using a combination of handle and any remaining blade still on the handle side of the tool rest. However, if you hold the handle towards the front you will affect the ratio and leverage.

SB Tools offers the widest range of handle lengths in the industry. Choose from ten of the most popular and useful lengths ranging from 6" to 48". All SB blades fit all SB handles. The turner has ultimate flexibility in choosing the handle and blade combination to suit the required cut.

Ø - Diameter R - Radius Conventional Scrapers Minimum Ratio: 7:1 Gouges and Skew Chisels Minimum Ratio: 5:1 Negative Rake Scrapers Minimum Ratio: 3:1 Parting Tools

NOTE: the images above of tool positions are for reference only. A gouge should always point uphill and a conventional scraper should always point downhill. Only a Negative Rake Scraper and Parting Tools should be used as positioned above.



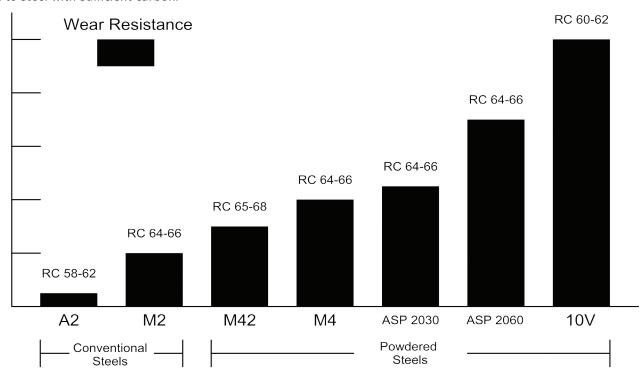
Minimum Ratio: 5:1

WHY CPM 10 $V^{\mathbb{R}}$ (A11)

SB Tools uses CPM 10V® for our edge steel in every blade type. 10V is currently the longest edge holding steel available in all the useable sizes for woodturning tools.

Wear resistance equates to longer edge life

Though hardness contributes to wear resistance it is not as critical as the actual chemistry of the steel. There are three main alloys used in steel to increase wear resistance: tungsten, molybdenum and vanadium. These alloys create carbides when added to steel with sufficient carbon.



Hardness of Carbides

Molybdenum Carbides
 Tungsten Carbides
 Vanadium Carbides
 72/77 HRC
 82/84 HRC

Vanadium carbides, because of their hardness and chemistry, are the most effective at enhancing wear resistance properties. Vanadium carbide almost directly equates wear resistance to content volume; an example of this is CPM 10V® has 5 times the vanadium content of M2 and close to fives times the wear resistance.

Our CPM 10V® is 9.75 Vanadium tool steel with a final hardness of 60-62 HRC. Our steel is cryogenic treated after first temper and before the second and third temper. This ensures any retained austenite is transformed to martensite, ensuring the steel is correctly hardened while still remaining wear resistant and tough for a high content vanadium tool steel.

Powder Metals

Steels with high vanadium carbide content can become brittle when made using conventional methods. This is due to the carbides grouping together while the steel cools from molten to solid in ingots. The powder metallurgy process atomizes molten tool steel into fine droplets that solidify from liquid so rapidly that the carbides are prevented from grouping together. These droplets form powder, which is then loaded into steel containers and sealed under vacuum. These cans are then put under extreme pressures (15,000 psi) and high heat (2,300F) to form solid steel again. This steel now has micro carbides evenly distributed through the steel matrix, giving excellent wear resistance and toughness for high carbide alloy steel.

NEGATIVE RAKE SCRAPERS

WITH REPLACEABLE BLADES

Patent Pending #61728762





- First ever production Negative Rake Scraper
- Never aggressive, easy to use and resharpen
- Capable of an exceptional finish, start sanding at higher grades
- Every Negative Rake Scraper is supplied with one CPM 10V® double-ended replaceable blade
- CPM 10V® (A11) has exceptional burr life unlike carbide that cannot create a burr
- Triple tempered and cryogenically treated CPM 10V® yields 5 times the life of M2
- Negative Rake Scraping is a technique used by all levels including professionals
- · Supplied with grey iron bolster for exceptional vibration dampening
- Hundreds of resharpens per blade
- 1/2" thick hardened stainless steel substrate, 5/8" thick for deep bowl version
- Widest range of widths from 1/2" to 3" wide blades
- Widest range of blade shapes that work on either side
- Fits any of our ten handle lengths (6" to 48" long) for optimum control
- Ready to use out of the box with 40-degree included angle for maximum burr size
- Free Stuart Batty instructional information on how to use and sharpen with each purchase





What is Negative Rake Scraping?

This technique has been used since the 1500s for turning ivory and dense exotics. Stuart Batty defined the rules on how, when and where to use this technique, naming it as Negative Rake Scraping to distinguish it from Conventional Scraping over a decade ago.

It is essential that the blade have a secondary ground angle on the top of the blade to be negative rake. Lifting or tilting a scraper does not make it negative rake, only the secondary top angle does. The included angle of the ground bevels must be 70° or less to produce a satisfactory burr that Negative Rake Scrapers require. If there is no burr this technique becomes ineffective. It is the negative bevel combined with a burr that makes this technique so effective; hence, carbide cannot be used because it cannot create a burr.

Simply grinding the lower bevel pushes some of the metal up on to the top bevel creating a burr. It should be produced with a coarse wheel or belt, not with a burnisher. A sturdy grinding platform is strongly recommended so that you can create a burr at the same angle each time to get the longest life from your blade. Our Universal Grinding System combined with our angle gauges ensures accurate repeatable burrs, making this one of the most effective techniques a woodturner can use.

You should always be able to feel the burr on the top surface with your finger. If you can't feel the burr it needs grinding again. The burr has a short life and will last approximately 90 seconds for each

"...Simply Superior in Every Way"

— **Mike Mahoney**, Woodturning Artist and Teacher

Our new family of Negative Rake and Conventional Scrapers are sold with SB Tool's signature grey iron bolster, making them perfectly compatible with our Taper-Lock Handle System. Enjoy unmatched control and vibration dampening.

1/2" width of blade in contact when using CPM 10V®, M2 only lasts about 20 seconds. Though the burr life is short, it can be resharpened in less than 10 seconds and will dramatically improve surface shape and finish, allowing the turner to start with much finer grades of sand paper.

When to use Negative Rake Scraping

Negative Rake Scraping is a neutral technique. It neither draws the wood in like Conventional Scraping does, nor pushes it away as would a gouge. This makes it an exceptional technique for working very thin walled pieces or broken surfaces, like square bowls or natural edge.

Negative Rake Scraping works best on medium density temperate woods and the densest exotic woods. It is also the very best tool on acrylics, plastics and acrylic impregnated woods because it will not grab at them. It can produce an unmatched finish on end grain or around the mixed grain surface of a side grain bowl.

A Negative Rake Scraper can be used on either side; therefore when cutting at the very center of a box or bowl use caution not to cut past center.

Negative Rake Scraping is never aggressive. It is slower at shaping than conventional scrapers, but it's a far more effective finishing technique because it removes the risk of grabbing at the wood. Negative Rake Scraping can easily smooth out long cuts by removing unwanted tool marks from gouges or torn grain from carbide scrapers.

Negative Rake Scraping, when done correctly, will improve your shapes and dramatically reduce your sanding time. Don't forget: the edge of the blade must have a burr present to be effective.

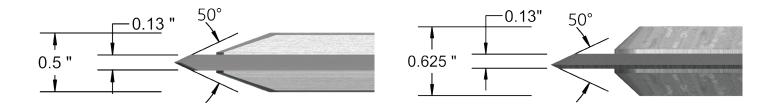


Cocobolo Bowl: 11" tall x 5" diameter and 1/10" wall thickness - Ash Stand: 100% turned and not steam bent

Turned by Stuart Batty using an Elliptical Fluted Bowl Gouge with 40/40 grind, U Fluted Bowl Gouge with 70/85 grind, Deep Bowl Conventional Scraper for very bottom inside only and Deep Bowl Negative Rake Scraper for final sidewall thickness and finish.

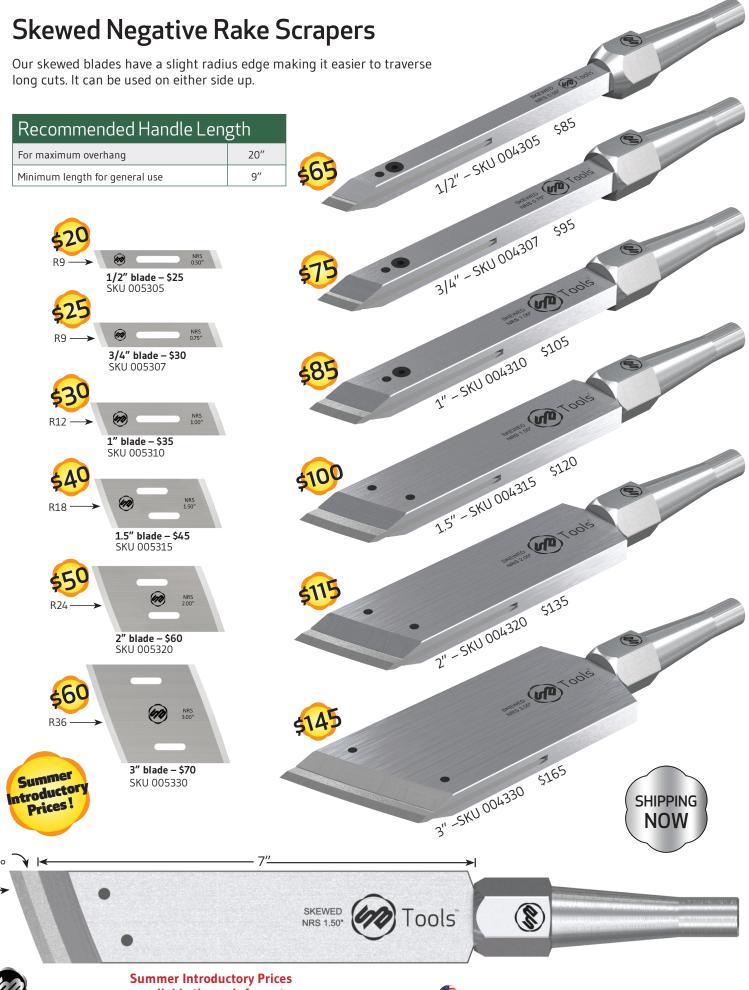
Hardened Stainless Steel Substrates

Our scrapers have a 1/2'' thick substrate, 5/8'' for the deep bowl version which fully supports the replaceable blades along their entire length. Only the very front of the replaceable blade is exposed and can be easily resharpened in seconds.













Our Negative Rake Scrapers work exceptionally well down the sidewall. The Negative Rake Scraper can work the whole inside surface down to a very thin wall. However, because these scrapers can cut past center, we recommend using our deep bowl conventional scraper for the bottom 1/3 of the bowl.



CONVENTIONAL SCRAPERS

WITH REPLACEABLE BLADES



- CPM 10V® (A-11) replaceable double-ended blades with an overall longer life than carbide
- Option to sharpen with or without a burr to suit wood and grain type
- Every Conventional Scraper is supplied with one CPM 10V® double-ended replaceable blade
- Hundreds of resharpens per blade
- Triple tempered and cryogenically treated CPM 10V® yields 5 times the life of M2
- Easier to sharpen than other steel blade scrapers
- 1/2" thick hardened stainless steel substrate, 5/8" for deep bowl version
- Unique substrate shape for greater clearance
- Supplied with grey iron bolster for exceptional vibration dampening
- Fits any of our ten handle lengths (6" to 48" long) for optimum control
- Ready to use out of the box with 70-degree included angle with burr
- · Free Stuart Batty instructional information on how to use and sharpen with each purchase

General Rules for Scraping

Scraping should be used to complement gouges and not as a solitary technique. Gouges with a 40° bevel can cut all densities of wood efficiently; scrapers work very differently. Scrapers need to be sharpened to suit a wood's density and grain type.

Scrapers are notorious for creating torn grain. Following the simple rules shown below will eliminate torn grain and make using scrapers efficient, controllable and safe.

It is worth noting that sheer scraping is not included. Negative Rake Scraping supercedes sheer scraping techniques, especially because sheer scraping cannot be used for certain shapes or into a corner.

There are three main ways to sharpen scrapers:

- Conventional Scraper with a burr
- Conventional Scraper with the burr honed off
- Negative Rake with a burr

I recommend creating a burr on a bench grinder. A coarse wheel creates a bigger burr than a fine wheel and, in most cases, this is an advantage. A bigger burr will last longer. I don't recommend creating a burr with a burnisher. Burnishers don't actually create a burr in the same way as a grinding wheel does; they tend to curl the edge over. This can make the scraper too aggressive.

Wood types:

- Softwoods pine, cedar, spruce, alder or any wood with a Specific Gravity below 0.6
- Medium density or temperate hardwoods ash, oak, walnut, hard maple or woods with an SG of 0.6-0.8
- Dense and/or exotic woods ebony, boxwood, rosewood or any wood with a Specific Gravity above 0.8

Main grain types:

- Side grain
- End grain
- Mixed grain side grain bowls

There are many other grain types like burls, crotch figure, guilted and fibbleback; these should be treated as end grain.

Leverage:

It is critical when using Conventional Scrapers to ensure you have a long enough handle to cope with the amount of blade overhang from the tool rest.

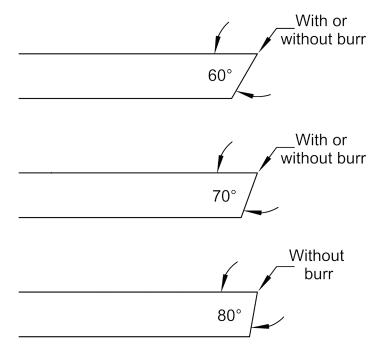
Conventional Scrapers require a minimum ratio of 7:1.

Negative Rake Scrapers only require a ratio of 3:1 because they do not self-feed.



Conventional Scraper Angles

When using Conventional Scrapers it is critical to set the angle to suit the wood density and grain type. You also have the option to use these scrapers with or without a burr.



60° included angle is suited only to softwoods; this angle, especially with a burr, is too aggressive for temperate or dense hardwoods.

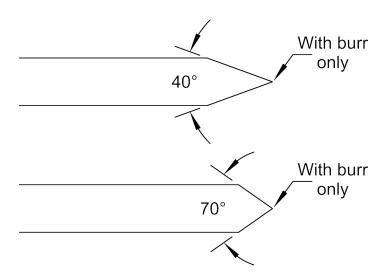
70° is the optimum included angle for medium density woods. Use with a burr for side grain but hone the burr off for end or mixed grain.

80° included angle allows conventional scrapers to work on dense and exotic hardwoods; the burr will need to be honed off for these types of woods.

Negative Rake Scraping Angles

This technique requires a double bevel without - the second bevel it is a Conventional Scraper. Negative rake also requires a burr to be effective; once it has worn off the tool must be reground to create the burr again.

A 40° included angle will create a bigger burr and last longer than a 70° included angle. A 90° or greater included angle cannot create a burr and is therefore not a Negative Rake Scraper.



The Advantages of Steel over Carbide for Scrapers

Carbide has 20 times the life of CPM 10V® and 100 times the life of M2. At first glance using a carbide scraper seems like the better choice. Although carbide works very well in certain circumstances, steel does have several advantages over carbide, which is why we have elected to make all of our scrapers out of CPM 10V® steel.

Here are a few key points to consider when choosing a scraper:

- Carbide cannot produce a burr
- Carbide is not suitable for negative rake scraping because it cannot produce a burr
- Carbide cannot be ground at varying angles to suit various woods or grain types
- Carbide cannot be resharpened back to factory set edge for optimum performance

To scrape softwoods a scraper needs a burr; without one it will tear the softwood fibers. Remember that there are three main densities of wood (softwoods, temperate hardwoods and dense exotics) and three main grain types (side grain, end grain and mixed grain/bowl blank). It's important when working with a scraper to be able to change the way it functions in order that it best suits the wood and grain types you're working with.

Steel blades can work easily with each of the three wood densities and the three grain types. Carbide is not capable of producing a burr and, therefore, isn't an acceptible choice for use on softwoods or dense woods in combination with negative rake. Carbide also can be somewhat aggressive in medium density woods when presented to end grain.

Medium dense woods, like oak or ash can, be scraped with a burr on side grain. The burr will require honing off when working on end and mixed grain or it will be too aggressive.

Medium and dense hardwoods work exceptionally well with Negative Rake Scrapers. The negative rake technique has been used by ivory and blackwood turners since the 1500's. A Conventional Scraper—even with the burr honed off— will always be aggressive on dense woods. Scraping into end grain will more often than not cause the scraper to grab at the wood. Carbide will always be aggressive, as it cannot be used as a Negative Rake Scraper.

Carbide is excellent for scraping inside hollow forms where the surface finish is not visible. However, it has limitations on creating torn-free surfaces and will require more sanding than scraping with sharp steel scrapers or cutting with a sharp gouge.

Carbide cutters have a longer life than steel cutters and are ideally suited to cutting metals, which are homogeneous (uniform in composition.) Wood is *never* homogeneous. It requires very sharp cutting tools when being formed on a lathe. The moment the cutting tool dulls even slightly it will begin to tear the grain.

Carbide will cut longer before it reaches the point where it starts to tear the grain. However carbide will also remain in this less-than-optimum edge quality for up to 100 times longer than the industry standard M2. This means that although it is not a completely spent tool, per se, neither is it capable of removing wood without tearing the grain.

Our 10V will require resharpening, but it can be sharpened hundreds of times, bringing the cutting edge back to optimum performance in seconds.

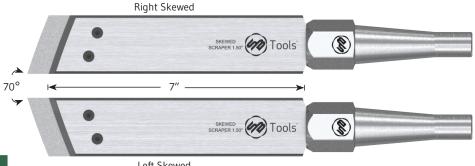
Resharpening a CPM 10V® blade is far more effective at reducing sanding than to work with carbide.





Left and Right Skewed **Conventional Scrapers**

Unlike Negative Rake Scrapers, Conventional Scrapers cannot be flipped and used upside-down. For Skewed Scrapers there must be a left and right-skewed version.



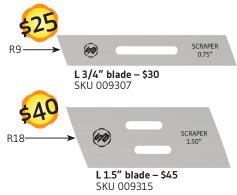
Recommended Handle Length	
For maximum overhang	42"
Minimum length for general use	16"





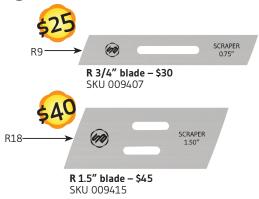
Left Skewed Conventional Scrapers

The skewed blades have a slight radius edge making it easier to traverse long cuts.





Right Skewed Conventional Scrapers



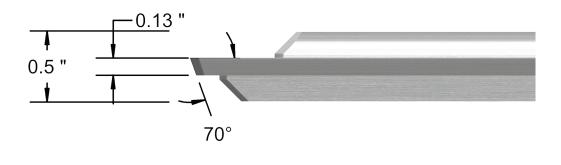


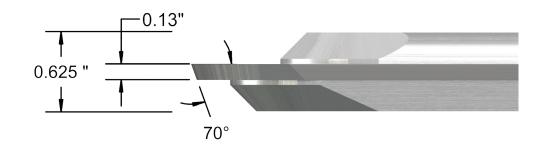




Hardened Stainless Steel Substrates

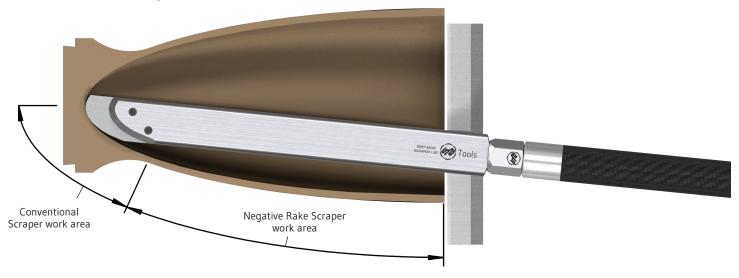
Our scrapers have a 1/2" thick substrate. The deep bowl version is 5/8" thick. Substrates fully support the replaceable blades along its length; only the very front of of the blade is exposed making it easy to resharpen.







A Conventional Scraper is best used at the very base of a side grain bowl. You wouldn't use a Conventional Scraper at the bottom of an end grain bowl. Conventional Scrapers do not cut past center, making it easier to smooth through the very center of the bowl. Negative Rake Scrapers cut both ways up and past center and therefore shouldn't be used in the very center of a bowl if visibility is limited.

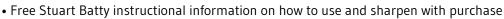


VORTEXTOOL

The Vortex Tool is a very unique and easy to use tool capable of exceptionally fine detail work, as well as forming "V" cuts and beadings in any wood or grain type. It is used by many world-renowned turners, such as Cindy Drozda, Ashley Harwood and Keith Gotshcall. Stuart Batty designed this tool in the late '90s. Before its creation, detail work of this caliber was not possible.

Features & Benefits

- The finest detail forming tool possible
- Capable of cuts not possible with any other blade
- Can cut Vs with angles as low as 20° on side grain; 40° on end & mixed grain
- Can form Vs and beads in end grain as well as around the outside of a bowl
- Never aggressive, easy to use and resharpen
- CMP 10V® Blade, precision fitted to our grey iron taper-lock bolster
- Blade comes sharpened and ready for immediate use





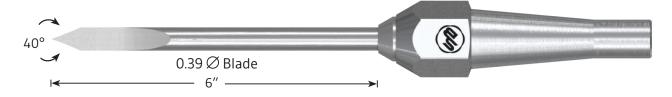






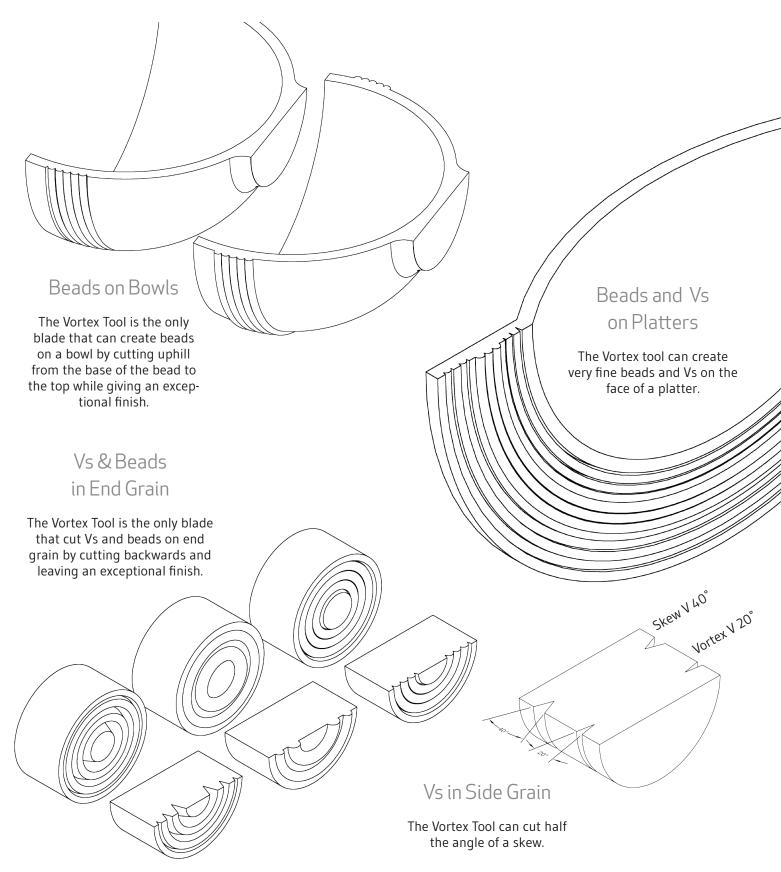






Vortex Tool Cuts

The Vortex Tool can cut both forward by slicing with the point or backwards with the side edges, making this a very unique tool that can cut all grain and wood types with ease.



BOWL & SPINDLE GOUGES

BEAM SHAPE SERIES

Patent Pending #61333688





Features & Benefits

- First ever beam shape gouges
- Strongest substrates in the industry
- Triple tempered and cryogenically treated CPM 10V® yields 5 times the life of M2
- Greatest overhang of any gouges with the least flex
- Precision machine fitted to taper-lock grey iron bolster
- 12 RMS flute finish 4 x better than any other gouges
- Supplied with grey iron bolster for exceptional vibration dampening
- CPM 10V® laminated into hardened stainless steel for a stronger blade
- All blades fit any of our ten handle lengths (6" to 48") for optimum control
- Ready to use out of the box with optimum grind on each gouge



The Most Advanced Gouges Ever Made

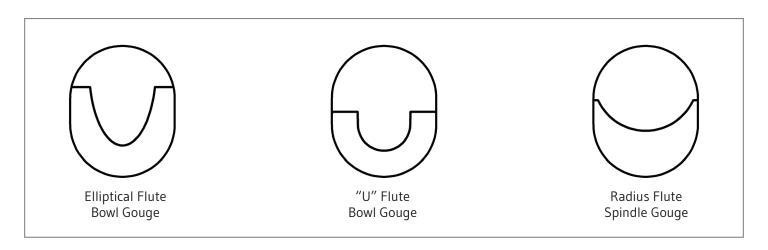
Designed to Outperform All Other Gouges & Eliminate Vibration

Vibration is a technique killer in woodturning. Our products set a new industry standard for vibration elimination. We have done this through design, innovation, and material selection.

- Gouges with beam shaped substrates to reduce flex and vibration
- Precision machine fit of all blades to our taper-lock iron bolster
- Use of vibration dampening grey iron for the bolster
- Six square inches of surface contact bolster to handle no set screws
- Lamination technology making our blades the strongest in the industry
- Multi-composite handles with exceptional vibration dampening qualities
- The use of CPM 10V®, the best edge holding steel available for all the sizes used in our blades
- The best ground flute finish in our industry (12 RMS) x 4 times better than the industry standard

Flute Shapes

Our flute shapes were developed to create the optimum cut for the style of gouge. With the industries best surface finish (12 RMS), optimum flute length and beam shape, our gouges out perform all others without exception.



Superior Gouge Flute Finish

The finer the flute finish a gouge has the better the edge that can be obtained and the longer it can last.

Our gouges have the very best flute finish in our industry at 12 RMS (4 RMS is mirror finish) - 4 times better than our industry standard of 48 RMS.

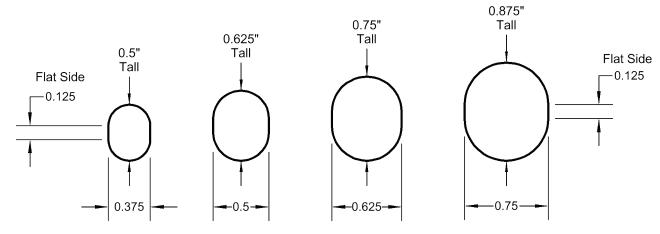
To obtain this finish we invested in creep-feed grinding technology and are the only woodturning manufacturer to do so. Our 100HP creep-feed grinder uses diamond coated form rollers that continuously dress and shape the 24" diameter SG forming wheel that creates the flutes in all our gouges to ultra fine finish.

Why Beam Shape Gouges?

Both spindle and bowl gouges have a limited amount of tool rest overhang before they start to flex and vibrate. Diameter is the main determining factor. Therefore the larger the diameter of the gouge the greater distance it can work over the tool rest before it starts to flex.

SB Beam Shape Gouges

Our gouges are the only beam shaped gouges in the world, enabling greater tool rest overhang, with reduced flex and vibration. Each blade is 0.125'' (1/8'') taller than it is wide. The flat side also aids with entry cuts giving an exact repeatable position every time.



SB Blade Sizes				
Width Height				
3/8"	1/2"			
1/2"	5/8"			
5/8" 3/4"				
3/4"	7/8"			

Round Bar	Regular gouges overhang before flex	SB gouges overhang before flex
3/8"	1.5″	2.5"
1/2"	2.5"	4"
5/8"	4"	6"
3/4"	6"	8"

Do Angles Count?

Yes. Angles are critical in woodturning as both bevel and wing angles determine how the gouge performs. The bevel angle directly contributes to how much pressure it takes to perform a cut. The wing shape affects entry cuts and how the gouge removes the wood. 40° is a magic number for the bevel on a woodturning gouge or chisel.

When Stuart started turning his father and other professionals used 35° for spindle gouge and 45° for bowl and roughing gouges. This is a very old tradition that needed to be updated because it was based on the grade of steel available at the time. The only steel available when he started turning in the early '70s was high carbon tool steel that only held an edge for a fraction of the time modern vanadium alloy tool steel can.

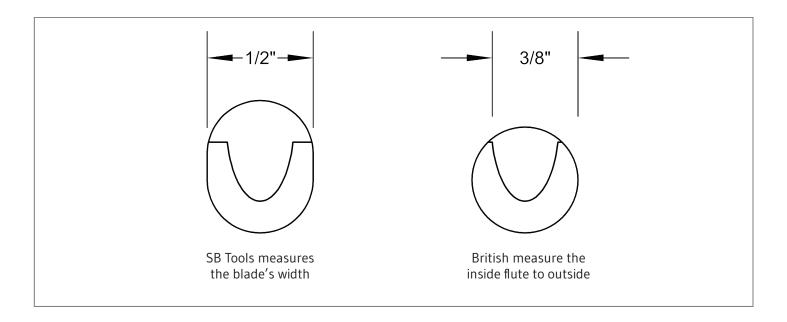
Setting the bevel angle at 45° was a compromise between tool cutting and edge life. At 45° an edge will last longer than 40° but require twice as much pressure to cut. It also gives an inferior finish on soft or temperate hardwoods. A 45° bevel is also more difficult to use on thin work pieces or the outside of a bowl with a much greater tendency to create bounce.

40° is a neutral cutting angle; it is neither aggressive nor self-feeding. 35° or lower bevel angles make the blade more aggressive and start to self-feed in certain cuts. At 45° and above the blade will start creating resistance to cutting. The highest usable angle in woodturning for a gouge is 70°. This angle is only suitable at the very bottom of narrow tall bowls. If you need a higher angle to allow the gouge to cut very deep in a bowl then it time to use a scraper.



How We Measure Our Gouges

We measure all of our gouges and blades by their actual width. We do not use the old British measure, which creates confusion by measuring spindle gouges by their actual width and bowl gouges from the flute to outside edge.



Optimum Blade and Flute Lengths

Our three different beam shape gouges have the optimum blade length for their purpose. Our unique beam shape makes them considerably more rigid than round bar, reducing flex and vibration and enabling our blades to overhang the tool rest further than any other blades. Add to this our carbon composite handles of lengths from 6" to 48" and you can match the overhang with the optimum length handle.

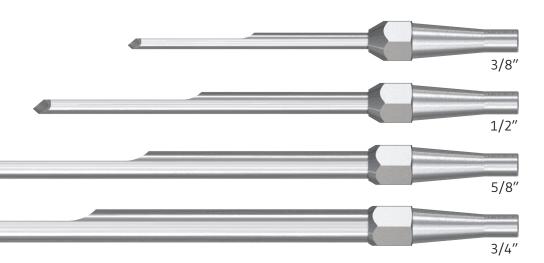
Our flute lengths are not excessive, ensuring reduced flex even when new. Having a long flute might seem to give the gouge a longer overall life but it weakens the blade, creating premature flexing and vibration. Our gouges get their long life from superior steel CPM 10V® and the industries best ground flute finish 12 RMS, giving our gouges unparalleled sharpness and edge life.

Our 1/2" bowl gouge has a 9.5" blade with a 4.75" flute - any longer and the blade would flex prematurely when cutting. Our beam shape makes our gouges considerably more rigid than any other, which allows for greater tool rest overhang and reduces vibration.



Ellipitical Fluted Bowl Gouges

Blade Size	Blade Length	Flute Length
3/8"	8.5"	3.75"
1/2"	9.5"	4.75"
5/8"	11.5"	5.25"
3/4"	13.5"	6"



Sharpened Ready Out-of-the-Box with 40/40 Grind

Our Elliptical Flute Bowl Gouges are supplied with a 40° bevel and a 40° wing angle. The wing is ground straight giving a true included angle of 80°.

The bevels are ground by hand on our universal grinding system platform. The angle was set by our angle gauges to ensure it is a true 40° from wing to wing including the tip. A jig ground gouge will be 15-20° sharper at the wing than the tip, making the tool more difficult to use.

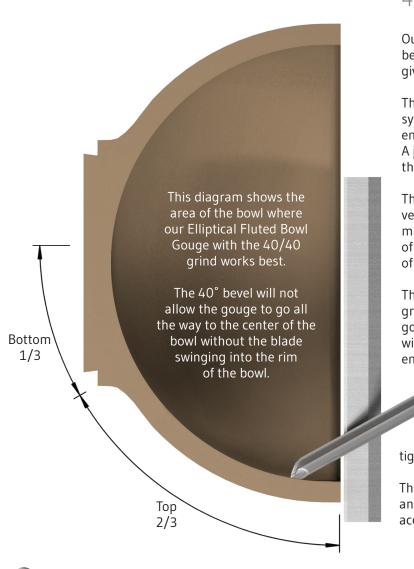
The 40/40 Elliptical Fluted Bowl Gouge is the most versatile blade any woodturner could own; the master of many cuts especially the outside of bowls and the first 2/3 of the inside of bowls.

This is the optimum grind for this bowl gouge, helping with sharp entry

cuts and making it proficient at both fine cuts and bulk volume cuts.

When used with a shorter handle, this gouge can also be used for a number of spindle cuts. The 80° included angle makes it excellent for cutting in to tight corners or tenons.

The bevel is ground on an 8" diameter CBN wheel and the angle was set with our Angle Gauge to ensure a 100% accurate edge angle.





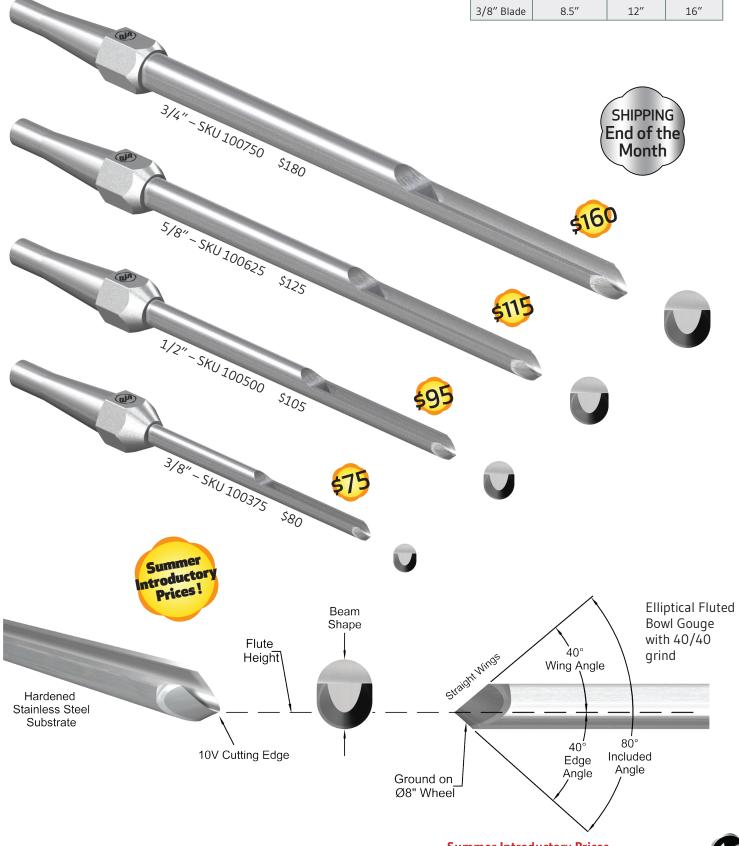
Summer Introductory Prices available through August



Elliptical Fluted Bowl Gouges

The Most Advanced Gouges Ever Made

Recommended Handle Lengths				
	Blade Length	Minimum	Maximum	
3/4" Blade	13.5"	20"	36"	
5/8" Blade	11.5"	16"	30"	
1/2" Blade	9.5"	12"	20"	
3/8" Blade	8.5"	12"	16"	



Spindle Gouges

Blade Size	Blade Length	Flute Length
3/8"	6.5"	3.25"
1/2"	7.5"	3.75"
5/8"	8.5"	4.25"
3/4"	9.5"	5"

Sharpened Ready Out-of-the-Box with 40/30 Grind

Our Spindle Gouges are supplied with a 40° bevel and a 30° wing angle. The wing is ground straight giving a true included angle of 70°.

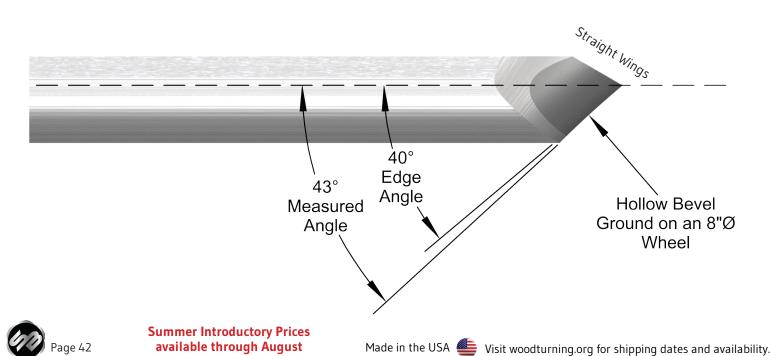
This is the optimum grind for a spindle gouge, helping with sharp entry cuts and making it proficient at coves and beads.

The bevel is ground on an 8" diameter CBN wheel and the angle was set with our Angle Gauge to ensure a 100% accurate edge angle.

Measuring a hollow bevel with a protractor does not give the true edge angle, which is clearly shown in the diagram below. In this instance, the measured angle would be three degrees off.

Straight Wings

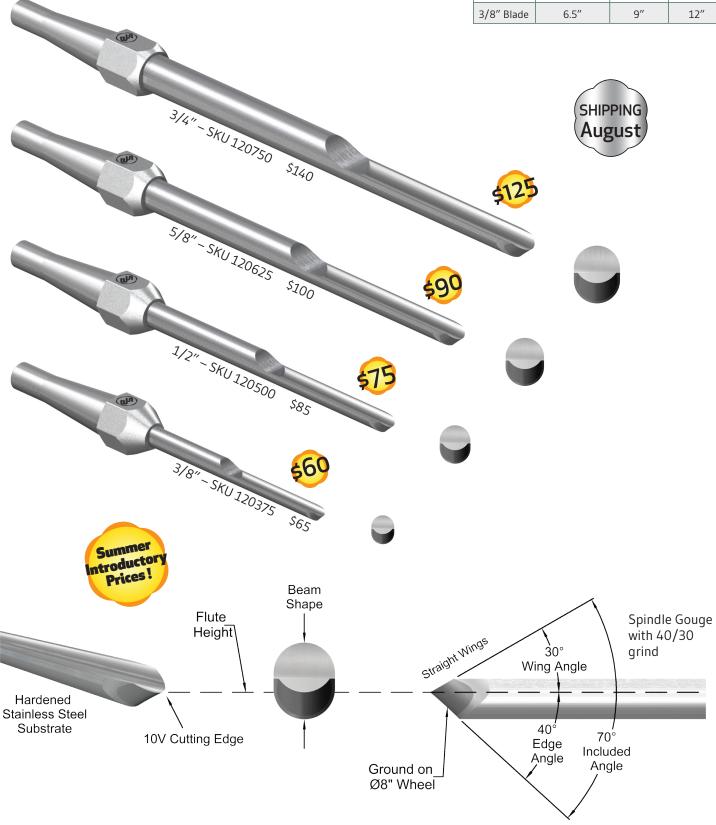
All our gouges are supplied with straight wings, not convex or concave. This makes the gouge more proficient at entry cuts and able to produce better detail, as well as cut tenons and into corners without the wing damaging the surface ahead.



Spindle Gouges

The Most Advanced Gouges Ever Made

Recommended Handle Lengths					
	Blade Length Minimum				
3/4" Blade	9.5"	12"	20"		
5/8" Blade	8.5"	12"	16"		
1/2" Blade	7.5"	9"	16"		
3/8" Blade	6.5"	9"	12"		



"U" Fluted Bowl Gouges

Blade Size	Blade	Flute
3/8"	Length 8.5"	Length 3.75"
1/2"	9.5"	4.75"
5/8"	11.5"	5.25"
3/4"	13.5"	6"

Sharpened Ready Out-of-the-Box with 60/85 Grind

Stuart Batty developed the "U" Fluted Bowl Gouge in conjunction with Jerry Glaser back in the '90s naming it the "Bottom Bowl Gouge" to distinguish it from elliptical or V-Fluted gouges.

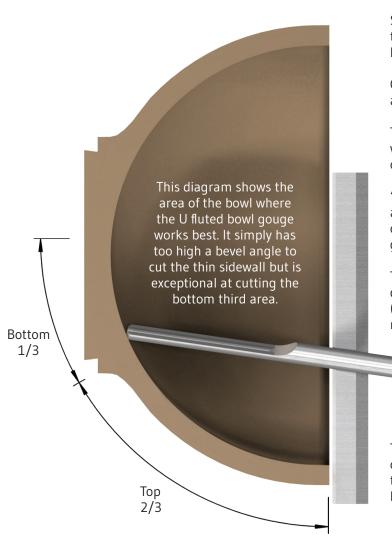
Our "U" Flute Bowl Gouges are supplied with a 60° bevel and an 85° wing.

These gouges are designed for shallow curves and straight cuts, which makes them perfect for cutting the last third of the inside of a side grain bowl.

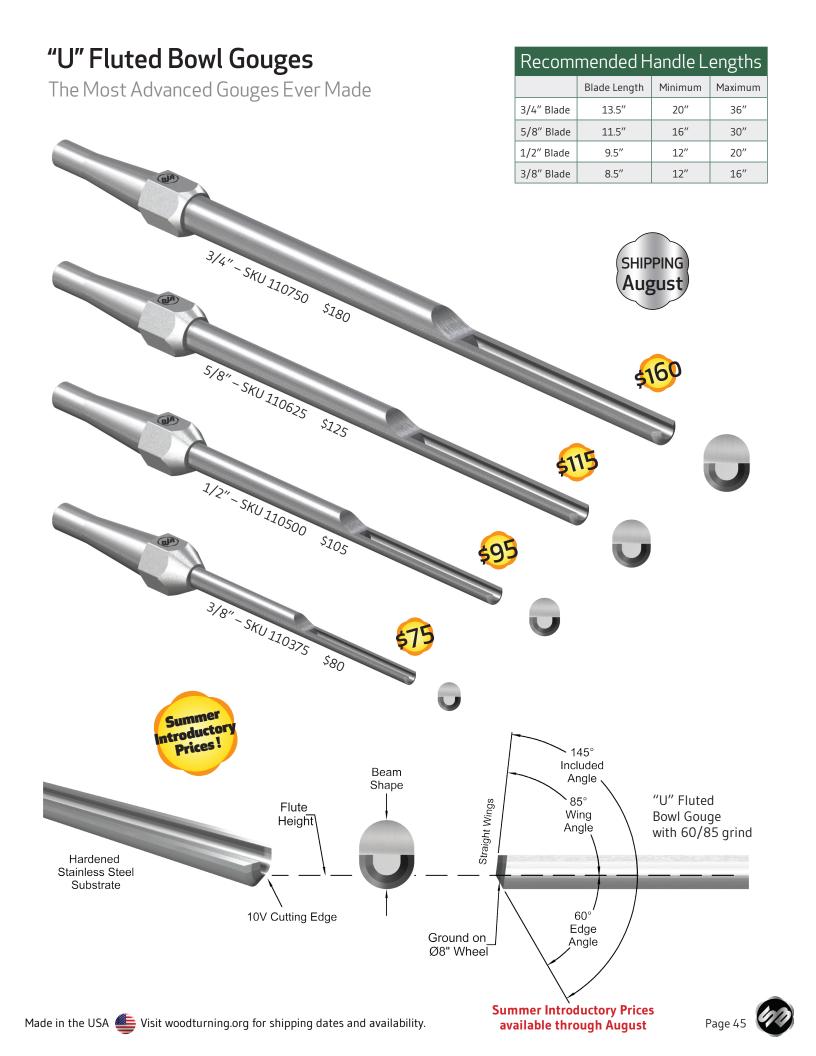
"U" Fluted Bowl Gouges are also excellent at cutting the face and shallow curves on platters. Its higher cutting edge angle of 60° helps when cutting platters made from highly figured grains, such as fiddleback and quilted maple.

The bevel angle on these gouges can be changed to suit the diameter and depth of your bowl. It can be as low as a 50° bevel (for very open shallow bowls) and up to 70° (for very deep narrow bowls.) The wing angle should remain a consistent 85° no matter which bevel angle is being used.

This gouge is not suited to cutting the outsides of bowls or cutting from the rim down to the first twothirds of the inside of a bowl. It is primarily a bottom cutting bowl gouge.



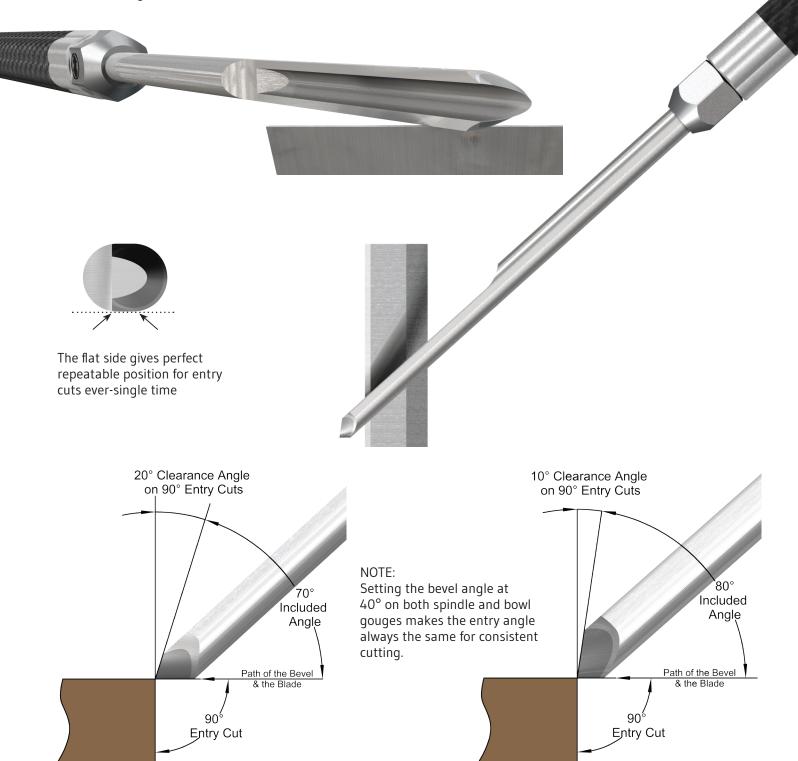




Entry Cuts Made Simple

Our gouges have several features that make entry cuts easier, helping to prevent the blade from skidding on initial entry with an exceptional finish.

There are four contributing factors which make entry cuts easier with our spindle and elliptical fluted gouges: flat sides for exact rotation position; an optimum cutting bevel angle of 40°; a less than 90° bevel plus wing included angle for clearance; and straight ground wing for additional clearance. All of these allow the tip of the gouge to penetrate the wood surface without skidding.

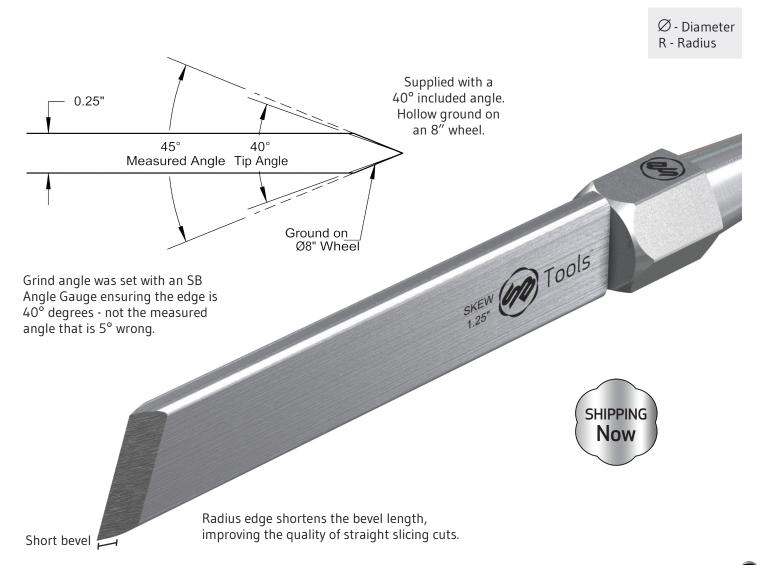




SKEWCHISELS

Tools (skew 1.00" Features & Benefits • Triple tempered and cryogenically treated CPM 10V® blades yields 5 times the life of M2

- Precision machine fitted to taper-lock grey iron bolster and no weak tang
- Radius profile for smooth tool rest traversing and a shorter bevel for improve straight slicing cuts
- Widest range of handle lengths
- Ready to use out of the box with hollow ground 40° bevel



Skew Chisels





PARTING TOOL

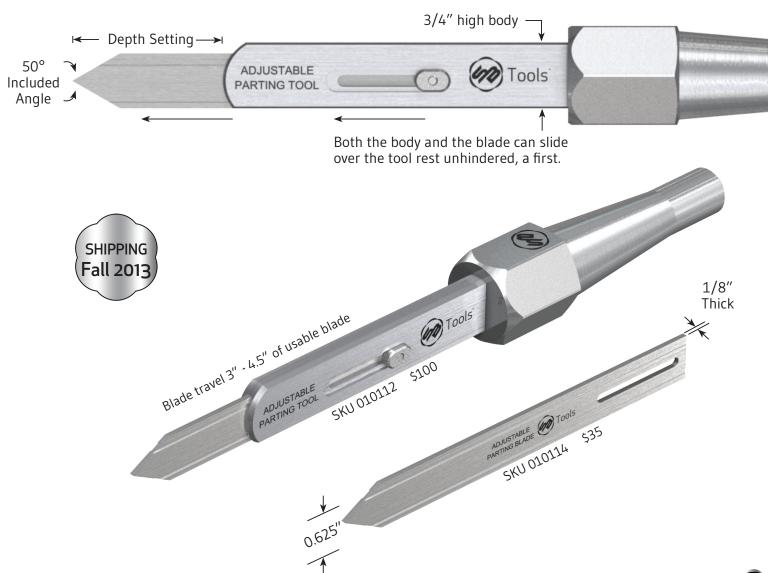
WITH ADJUSTABLE BLADE

(Patent Pending #6147839)





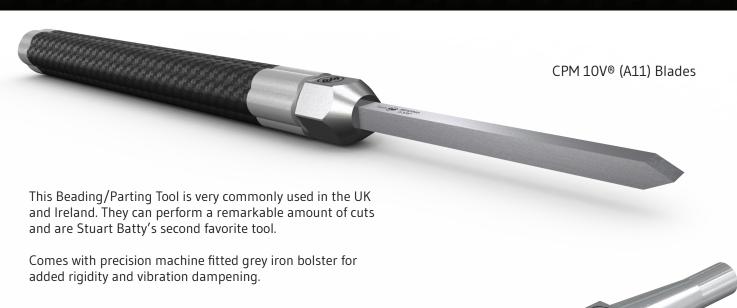
The body can be used as an accurate and repeatable depth stop.



PARTING TOOLS



BEADING/PARTING TOOLS



Recommended Handle Lengths Blade Length Maximum Minimum 1/4" Blade 9" 20"









114" - SKU 013250 \$65



1/2" - SKU 013500 \$95



40° Included Angle 🥒



TRUE FRENCH STYLE

CPM 10V® (A11) Blades

The French use the Bedan in place of the two-blade combination of the Skew and Beading and Parting Tool the British use. The Bedan is an exceptional spindle turning tool; however, it is less forgiving than a Beading/Parting Tool and requires practice. Bedans can perform many cuts and are actually faster at the equivalent cuts performed by the Skew and Beading/ Parting Tool combination.

Comes with precision machine fitted grey iron bolster for added rigidity and vibration dampening.

Recommended Handle Lengths

	Blade Length	Minimum	Maximum
3/8" Blade	6"	12"	16"
1/2" Blade	7"	12"	16"





318" - SKU 012375



112" - SKU 012500



Our Bedans are a square blade and not tapered along their length. The French only use square blades and not trapezoids. Square blades are more effective for use as a Bedan.



Trapezoid

40° Included Angle





Beading/Parting Tools, Bedans and Parting Tools

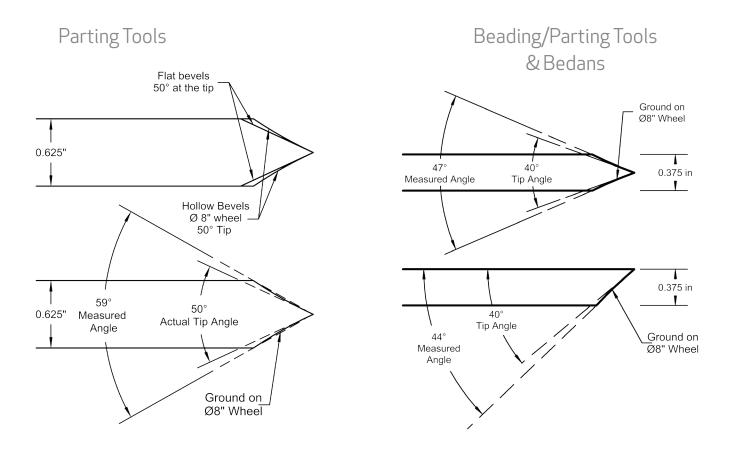
The SB Tools Parting Tool series use CPM 10V® for the blades and hardened stainless steel for the substrates.

Every blade comes with our taper-lock grey iron bolster ensuring maximum rigidity and giving the turner the choice to select the appropriate handle length to match the required overhang. Parting Tools should have a minimum 4:1 overhang ratio.

Blades are supplied sharpened ready to use out of the box. All blades are sharpened on an 8" CBN wheel with hollow bevels. To resharpen these blades we recommend using our Angle Gauges to set and repeat the same angle; the angle gauges compensate for the curvature in the wheel.

Parting Tools are supplied with a 50° degree hollow ground included angle. When parting in the blade should be presented parallel to the floor so as not to lift the wood fibers. This is technically scraping, and therefore the 50° included angle edge will last longer than 40°. Once the blade has parted through the first fibers the handle can then be lowered to peel through the wood fibers rather than scrape when used on side grain. Never point a parting tool uphill on end grain or mixed grain.

Beading/Parting Tools and Bedan Series are supplied with the typical 40° cutting angle. Although any of these tools can be used as a parting tool they are best used to cut beads and V cuts.

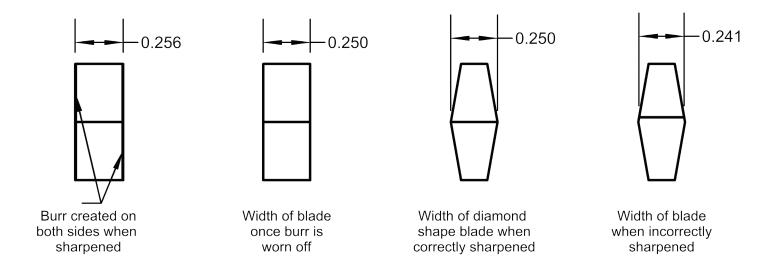


The actual cutting edge angle if ground on a wheel cannot be accurately measured with a protractor. The above diagrams show that the measured angle is not the actual tip cutting angle and can be out by as much as 10 degrees.

Using our SB Angle Gauges you can set and repeat the exact same angles the blades are supplied at when ground on a wheel. The angle gauges can also set accurate, repeatable angles on flat surfaces like belt grinders.

Parallel Sided Versus Diamond Shaped Parting Tools

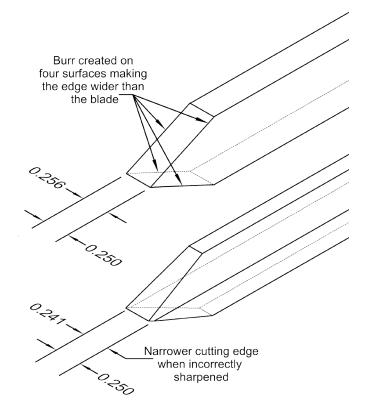
At SB Tools we only make products we believe in and that we would use ourselves. The following will explain why we don't make diamond-parting tools.



Parallel-sided parting tools are more effective at parting in than diamond shaped blades.

Correctly grinding a diamond shaped parting tool is a challenge because it must be ground so that the edge is exactly on center. If the edge is either above or below center it will make it narrower than the body of the blade. This means the blade cannot even cut its own width; the turner is therefore required to take a double cut or it will bind.

Parallel side parting tools are much more effective, easier to sharpen and give a superior finish. They can always cut at least their own width and when newly sharpened they part in without binding in one pass, generating very little heat and do not requiring a double cut to avoid binding.



ROUGHING GOUGES

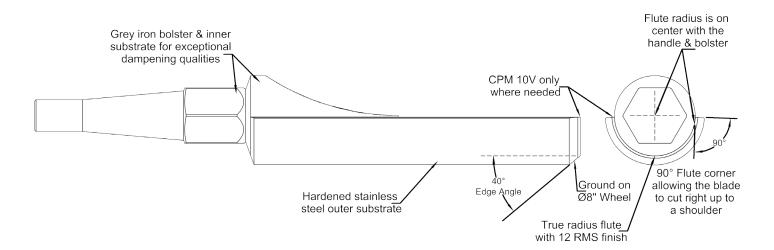


Our blades are precision ground to final finish and shape, ensuring an exact thickness around the true radius shape flute. This makes for the easiest resharpen of any roughing gouge.

Features & Benefits

- First ever laminated roughing gouges
- CPM 10V® laminated into hardened stainless steel for a stronger blade
- Triple tempered and cryogenically treated CPM 10V® yields 5 times the life of M2
- 12 RMS flute finish 4x better than any other gouges
- Grey iron bolster and inner substrate for exceptional vibration dampening
- Easier to resharpen with true radius flute
- Precision machine fitted to grey iron bolster
- All blades fit any of our ten handle lengths (6" to 48") for optimum control
- · Ready to use out of the box with optimum grind

Ø - Diameter R - Radius

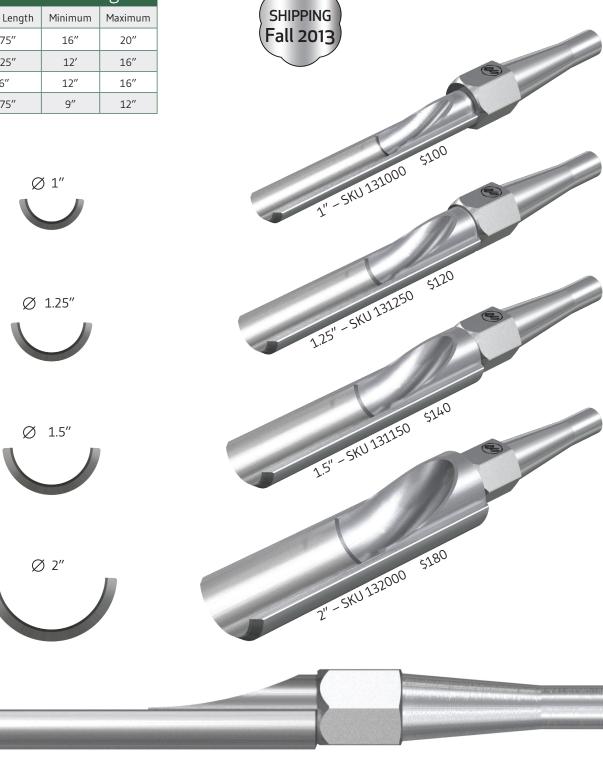




WARNING Never use roughing gouges on bowls. Doing so breaks the number one rule in woodturning, which is to never cut directly into the end grain.

Roughing Gouges

Blade Length	Minimum	Maximum
6.75"	16"	20"
6.25"	12′	16"
6"	12"	16"
5.75"	9″	12"
	6.75" 6.25" 6"	6.75" 16" 6.25" 12' 6" 12"



OUR PROMISE



We stand by our products.

Each product from SB Tools comes with our 100% satisfaction guarantee. If you are not 100% satisfied with a product, simply return it to where it was purchased within 90 days of receipt for a merchandise exchange or full refund (excludes shipping costs).

If any of our tools has a workmanship or material defect within one year of the original purchase date, we will replace it with an equivalent product.

All SB Tool blades come ready sharpened with the optimum grind and instruction on how to resharpen back to original factory set edge. If you are having problems resharpening back to the factory equivalent edge, you can return it to our factory for it to be ground back to optimum edge for \$7.50 per blade, plus shipping.

Please note that blades which do not have workmanship or materials defects, but are worn down from use and resharpening, cannot be replaced under our satisfaction guarantee policy. Note that most of our blades, once worn out, can have the bolster removed using heat and be reused. For information on how to safely remove the bolster, please visit our website: woodturning.org

We periodically review our designs and may change specifications or materials to continuously ensure our products set the highest standard in our industry.

Prices are subject to change without notice.

Our manufacturing facility does not have a retail store. Please visit our website for locations around the world where you can see and purchase our tools.

SB Tools

1797 Boxelder Street Louisville, Colorado CO 80027 Office: 720 596 4143 Fax: 720 974 0237 www.woodturning.org

Mike Foster

Sales Representative 818 699 3026 michael@woodturning.org

Back Cover Image

Turnings by Stuart Batty using an Elliptical Fluted Bowl Gouge with 40/40 grind, U Fluted Bowl Gouge with 60/85 grind, a Vortex Tool and Negative Rake Scrapers for final finish. Woods include: Zebrawood, Kingwood, Tulipwood, SheOak, Brown Mallee, Prickly Pear and Boxwood







