

Geiger's Evolution Gouge Sharpening System- Quick Start Installation Guide

An installation video can be viewed at: www.geigersolutions.com

NOTE: Installation requires a basic Wolverine system and either a Vari-Grind (1) or an Ellsworth jig.

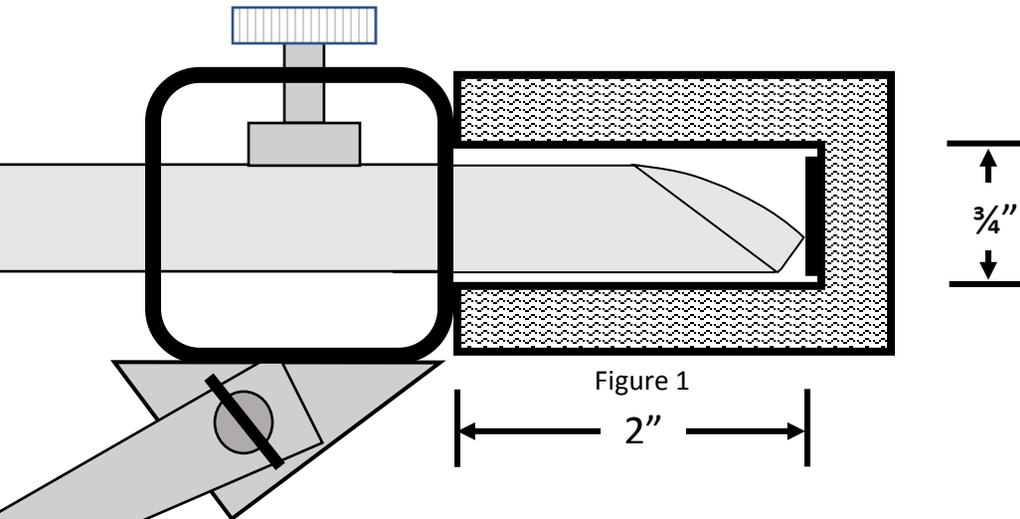


Figure 1

Make yourself a 2" Extension Gauge

- Drill a $\frac{3}{4}$ " diameter hole 2" deep + the thickness of a dime into a piece of wood.
- To prevent wear, epoxy a dime at the end of the hole.
- Mount the extension gauge securely to a work bench next to your grinder.
- Use this gauge to set the amount your tool extends from the front of your jig prior to sharpening.

If you plan to use a Wolverine Vari-Grind jig, pre-set the position of the variable support arm as follows:

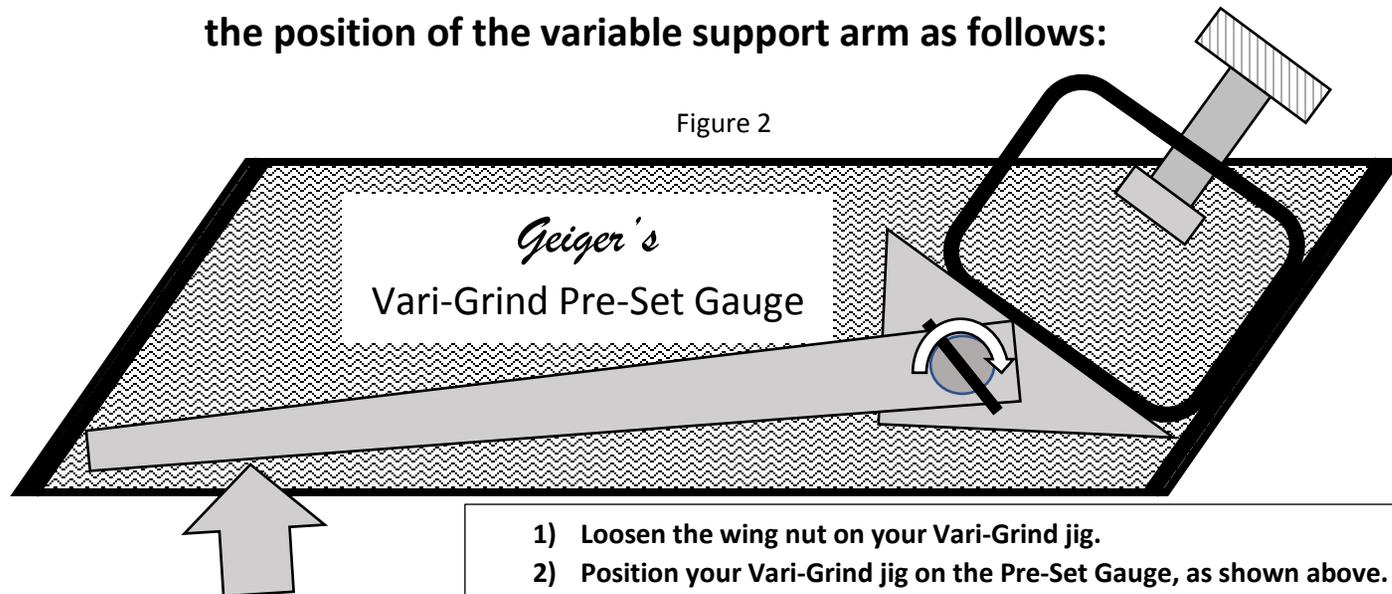
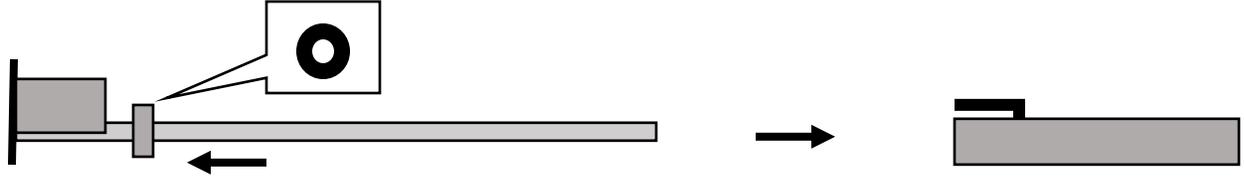


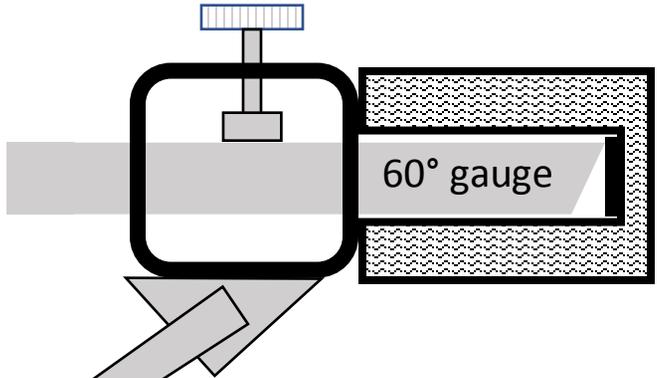
Figure 2

- 1) Loosen the wing nut on your Vari-Grind jig.
- 2) Position your Vari-Grind jig on the Pre-Set Gauge, as shown above.
- 3) Push the tip of the variable arm against the left wall.
- 4) Tighten the wing nut securely.

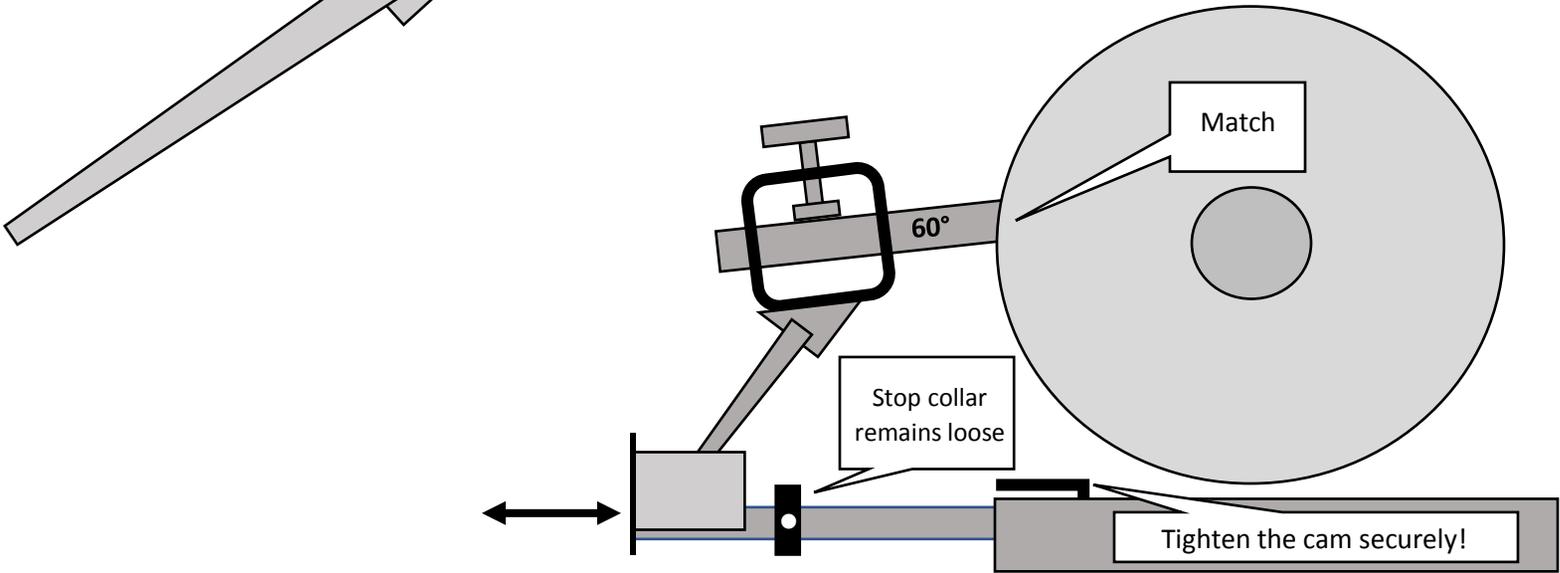


1) Slide the stop ring onto the Wolverine V-notch arm.
Do not tighten the stop ring into position yet.

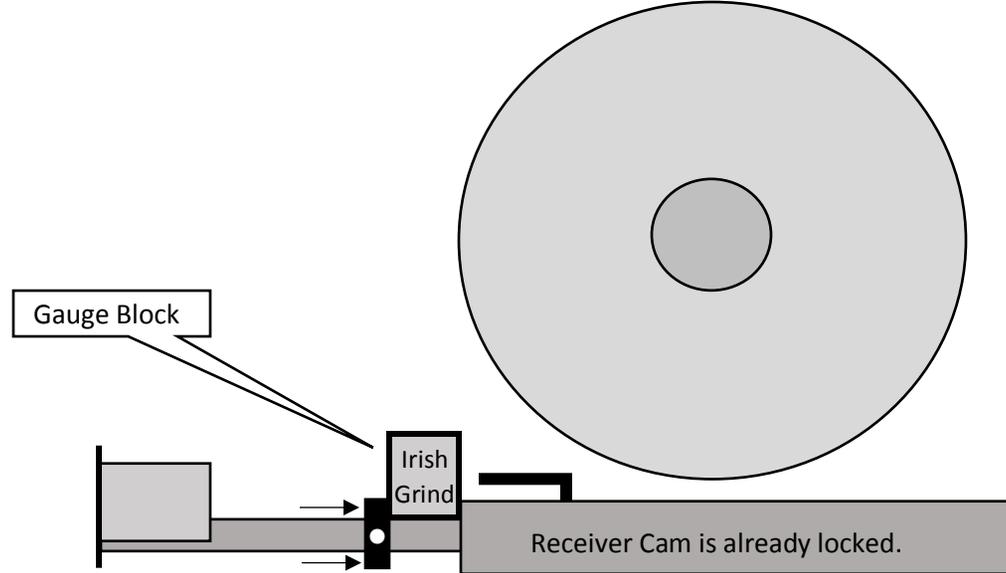
2) Slide the V-notch arm into the Wolverine receiver.
Do not tighten the cam yet.



3) Insert the 60° gauge into your jig and use your 2" extension gauge to set the amount the gauge protrudes from the face of your jig.
4) Using the knob on your jig, tighten the 60° gauge into position.



5) Adjust the position of the V-notch forward or back until the tip of the 60° gauge matches the surface of your wheel.
6) Using the cam handle on your Wolverine receiver, lock the position of the V-notch arm securely.



- 7) Position the Aluminum gauge block in the “Irish Grind” position (as shown above) against the Wolverine receiver and slide the stop ring against the other side.
- 8) With the gauge block pinched between the receiver and the stop ring, tighten the setscrew against one of the flat surfaces of the $\frac{3}{4}$ ” square tube. Tighten the setscrew securely as this position will remain the same indefinitely.

The Evolution system is now calibrated to your grinder. Installation is complete!

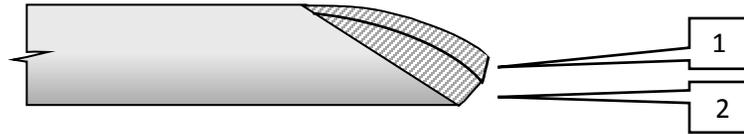
Sharpening an Irish/Ellsworth style grind:



- 1) Install your gouge into the same jig that was used for the initial set-up.
- 2) Use the same 2” extension gauge to set the amount the gouge extends from the jig.
- 3) Loosen the cam on the receiver.
- 4) Place the gauge block in the “Irish Grind” position.
- 5) Slide the stop collar against the gauge block and tighten the cam on the receiver securely.

You are now ready to grind a 60° bevel on your gouge. Refer to the laminated diagram supplied with the Evolution as a guide for the shape of the grind. We recommend taping the laminated diagram to your grinder for convenient reference.

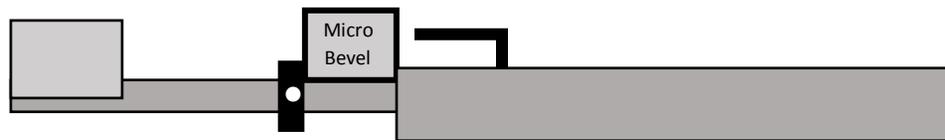
Benefits of a “Micro-Bevel” gouge



A Micro-Bevel grind (shown above) on a deep-fluted bowl gouge has a primary bevel (1) ground to approximately 70° and a secondary “Relief” bevel (2) ground to approximately 50°. Dedicate a gouge to this grind and use it for the final finishing cuts on the inside surface of open bowls. The advantages are numerous: The steeper primary bevel enables one’s ability to maintain bevel contact inside a bowl and positions the gouge more perpendicularly to the surface of the wood. This prevents the handle of the gouge from hitting the rim of the bowl and shortens the fulcrum from the tool rest to the tip of the gouge, thus reducing vibration. The angle created, where the two bevels meet, is very obtuse, which minimizes damage to the wood fibers resulting in a smoother finish.

To create and maintain a Micro-Bevel gouge with the Evolution Sharpening system:

Step 1:



- 1) Re-position the gauge block to the “Micro-Bevel” dimension between the stop ring and Wolverine receiver as shown above.
- 2) Tighten the cam on the receiver securely.
- 3) Insert your gouge into your Vari-Grind and set the 2” extension.
- 4) Grind the Primary bevel (1) as shown in the drawing at the top of this page.

Step 2:



- 1) Re-position the gauge block to the “Relief” dimension between the stop ring and the receiver.
- 2) Tighten the cam on the receiver securely.
- 3) Grind the secondary “Relief” (2) bevel as shown in the drawing at the top of this page and on the laminated reference drawing.

Spindle Gouges



- 1) To obtain approximately a 40° bevel, slide the V-notch arm all the way forward, with the gauge block removed, until the stop ring is against the receiver.
- 2) Tighten the cam to secure the position of the V-notch.

Tips for using the Evolution system for optimal performance:

If you are using aggregate (stone) wheels:

As the wheel is reduced in diameter, the bevel angles will change slightly. Once the wheel diameter is reduced $\frac{1}{2}$ " you can recalibrate the system as described in steps 3 through 8, on pages 2 and 3. This will only take a few minutes. Once your wheel(s) are reduced by 1", we recommend replacement. Marking the side of a new wheel at $\frac{1}{4}$ " and $\frac{1}{2}$ " from the edge will help you keep track of the wearing of the wheel.

Wheels: We recommend Norton 3X (blue) wheels with a "K" hardness. Note: The hardness is very important! We recommend using an 80 grit on one side and a 46 grit on the other. Norton wheels are provided with plastic bushings, which can be replaced with a precision machined steel bushing which center the wheel more accurately on the axle. The wheels should be properly trued (concentrically) and dressed. Visit our website to learn about our Tru N Dress wheel dresser (two models to choose from) and we offer precision steel bushings in three sizes.

Since the diameter of **CBN wheels** remains the same throughout their expected life, initial calibration is all that is required.

Questions we have received from customers:

Q: "Can I use an extension length of 1-3/4" instead of the prescribed 2"?"

A: The Evolution is designed to provide predictable and satisfactory results, but only if you follow the instructions. So, the answer is "No."

Q: Can I use the Evolution to produce a 40/40 grind on a bowl gouge?

A: We recommend hand-sharpening the 40/40 grind.

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