Raptor Setup Tools *Patented*

Raptor Setup Tools simplify the sharpening process so you can spend more time turning and less time sharpening. They make set up and sharpening a breeze while delivering consistent, repeatable results every time.

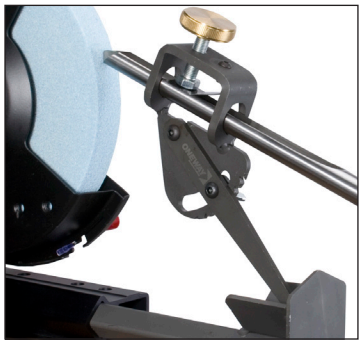
How does it work?

Because the Raptor Setup tool establishes the exact same distance from the wheel face and tool support each time you sharpen, you achieve an identical bevel angle every time. This reduces time spent sharpening and increases the life of your tools. Raptor Setup tools makes sharpening easy and repeatable…. the way it should be! Made in the USA.

Before getting started

Note: Grinder cover removed for illustrative purposes only. Do not operate grinder with cover removed.

1. Make sure that your sharpening system is properly installed with a distance of 6-1/2" between the center of the grinder arbor and the bottom of the clamping base. If this distance is not exact, the actual bevel angle on the tool will not be the same as that indicated on the Raptor Set Up Tool.

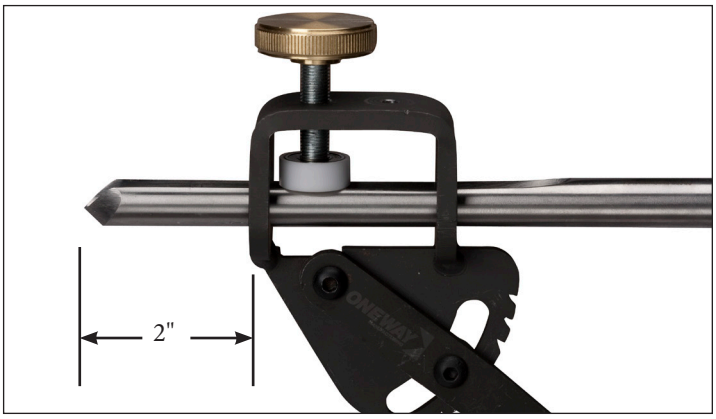


2. Set the leg angle on the tool holder to 23 degrees and lock in place. This can be done by using a protractor or by using the diagram on page 3. With a tool mounted in the Vari-Grind Jig, align the tool with the top line then adjust the leg so that the center of the leg lines up with the 23 degree line. Tighten securely.

Note: The adjustable leg on the Vari-Grind tool holder should remain in the 23 degree position at all times when using Raptor set up tools.

Using the Raptor Setup Tool

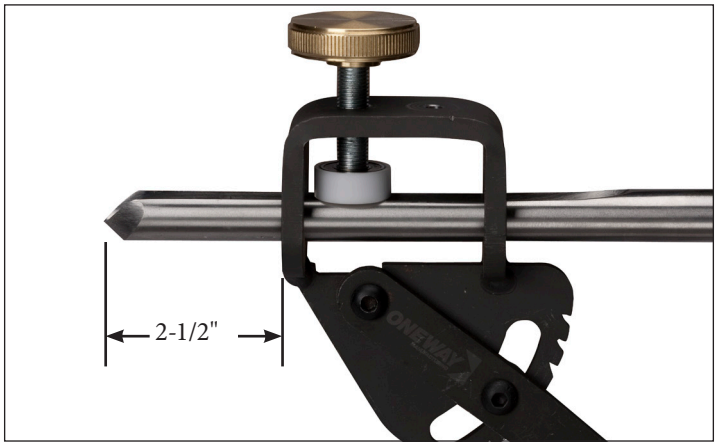
1. With the grinder completely stopped, place the end of the Raptor tool in the tool support arm as shown. Adjust the support arm as needed so that the two contact points on the Raptor tool contact the wheel face. Lock the support arm securely in place. Remove the Raptor tool.



2. Using the 2" Raptor Depth Gauge secure the tool to be sharpened in the tool holder with the tool protruding 2" beyond the tool holder. (1 3/4" if using a 6" grinder). Although the actual bevel angle achieved will vary slightly over time due to wheel wear, it is negligible and will not affect the function or performance of the tool being sharpened.

Grinding a secondary (clearance) bevel on a gouge

A secondary bevel makes it easier to keep the bevel rubbing against the work while cutting. It also prevents scoring marks that occur due to the heel of the bevel rubbing on the work.

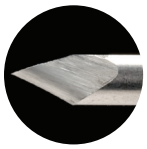


1. Using the 2-1/2" Raptor Jig Guide, secure the tool to be sharpened in the tool holder with the tool protruding 2-1/2" beyond the tool holder. Grind the clearance bevel in a smooth side-to-side motion. Next set the protrusion of your gouge using the 2" Raptor Jig Guide. Sharpen the cutting edge while moving the jig in a smooth side-to-side motion.

Recommended Bevel Angles

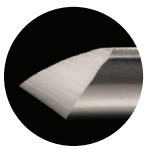
20-25

20-25 degrees: Skews and Beading and parting tools.



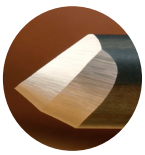
35

35 degrees: Ideal for Detail and Spindle Gouges. When a fine point & extra long bevel is desired. Great for narrow coves and areas of detail. Also great for Negative Rake scrapers, just grind 35 degree top and bottom bevel.



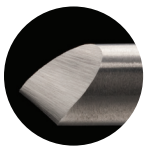
40

40 degrees: General purpose angle for Spindle Gouges and Spindle Roughing Gouge.



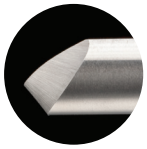
40/40

40/40 Grind: Designed by Stuart Batty, this grind excels at rough shaping bowls and leaving a flawless surface. ***Note:** **Requires 3" Protrusion Gauge and Leg angle adjustment.** **(See Page 4.)**



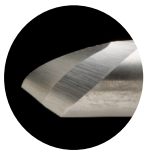
45

45 degrees: Bowl Gouge and general purpose gouges. Great for a standard fingernail grind on bowl gouges.



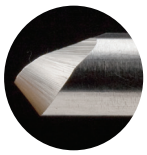
50

50 degrees: Ideal angle for a modified fingernail grind on bowl gouges.



55

55 Degrees: Bowl and general purpose gouges. Used for Irish Style grinds and for "Bottoming Gouges".



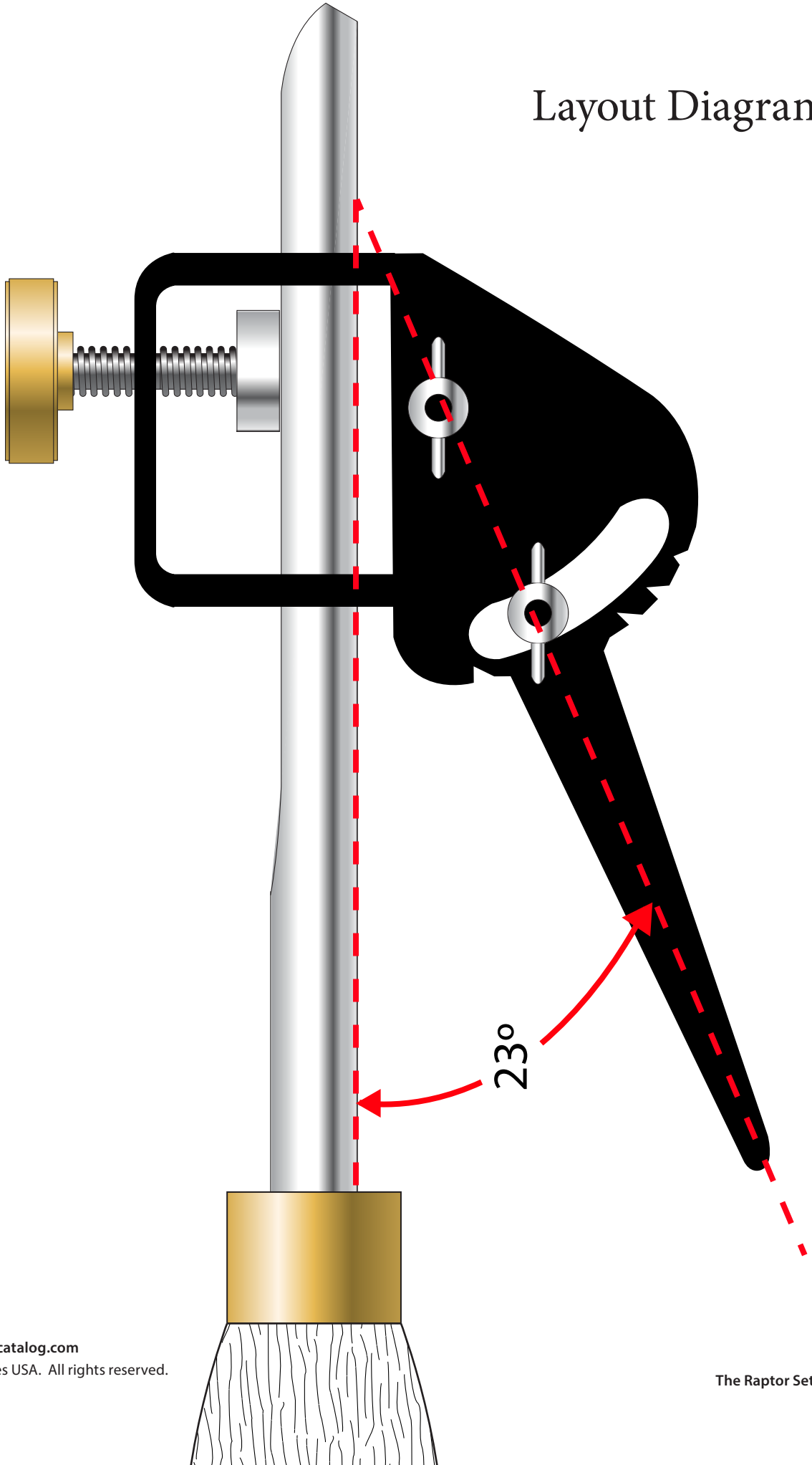
60

60 degrees: For use with Bottom Bowl Gouges used for interior cutting. Blunt bevel angle allows the gouge to maintain continuous contact throughout the cut.

70-80

70-80 degrees: General purpose Scraper. Adjust your bevel angle depending on how aggressive you want your scraper.

Layout Diagram



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Raptor Setup Tool 40/40 *Patented*

The 40/40 grind was developed by Professional turner Stuart Batty. They make set up and sharpening a breeze while delivering consistent, repeatable results every time.

***Note: The 40/40 grind only works on Bowl Gouges with parabolic flute profiles. V-fluted and U-Flute gouges will not work.**

Before getting started

1. Make sure that your sharpening system is properly installed with a distance of 6-1/2" between the center of the grinder arbor and the bottom of the clamping base. If this distance is not exact, the actual bevel angle on the tool will not be the same as that indicated on the Raptor Set Up Tool.
2. Depending on the tool being ground you may need more clearance between the tool handle and the V-arm. You may need to grind the "ears" off of your V-arm.
3. Set your leg angle on your Vari-grind jig to the highest notch, approximately 17 degree leg angle. See page 5 for layout diagram.

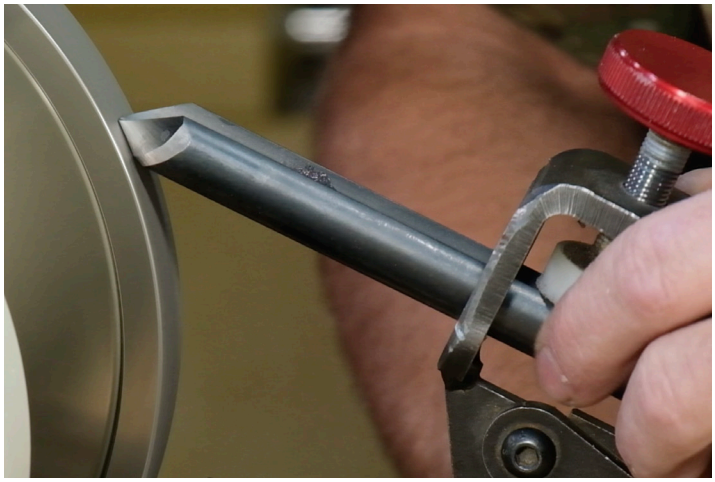
Using the Raptor Setup Tool

1. With the grinder completely stopped, place the end of the Raptor tool in the v-arm as shown. Adjust the support arm as needed so that the two contact points on the Raptor tool contact the wheel face. Lock the support arm securely in place. Remove the Raptor tool.
2. Now set your platform to for grinding the wing angle by resting the face of the raptor on the platform and adjust until the two contact points touch the wheel face.

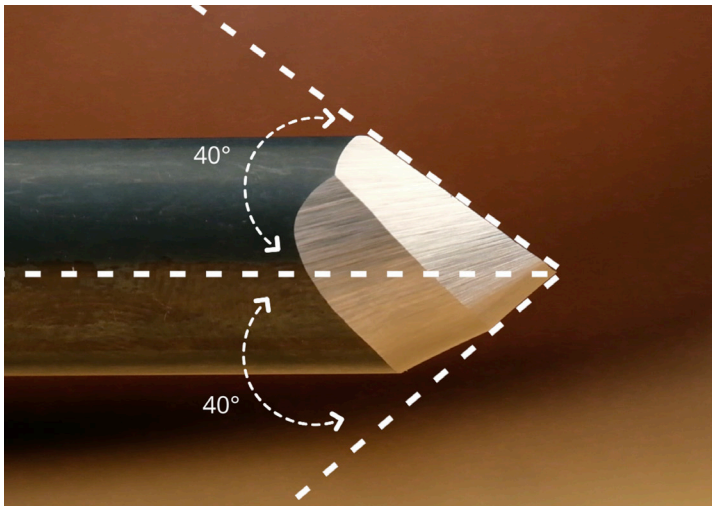
Sharpening

1. Now that our Platform and V-arm are set for the 40/40, the first thing we need to do is to establish the 40 degree wing angle. It can be accomplished by placing the gouge flute down on the platform, and grinding the entire cutting edge until you have a straight wing. Slightly rock the gouge up/down to maintain a straight wing, as the wheel will leave a concave wing if held flat on the platform.

2. Once the the wings are ground straight and at 40 degrees it is time to grind the bevel.
3. Using the 3" Raptor Depth Gauge secure the tool to be sharpened in the tool holder with the tool protruding 3" beyond the tool holder. Although the actual bevel angle achieved will vary slightly over time due to wheel wear, it is negligible and will not affect the function or performance of the tool being sharpened.
4. Now it's time to sharpen the gouge. While sharpening be careful not to over grind the tool or over-rotate the tool causing a concave wing or drawing the wing back. Take your time and cool the tool in water frequently. It's best to reference photos of a properly ground 40/40 so you know what the tool should look like.



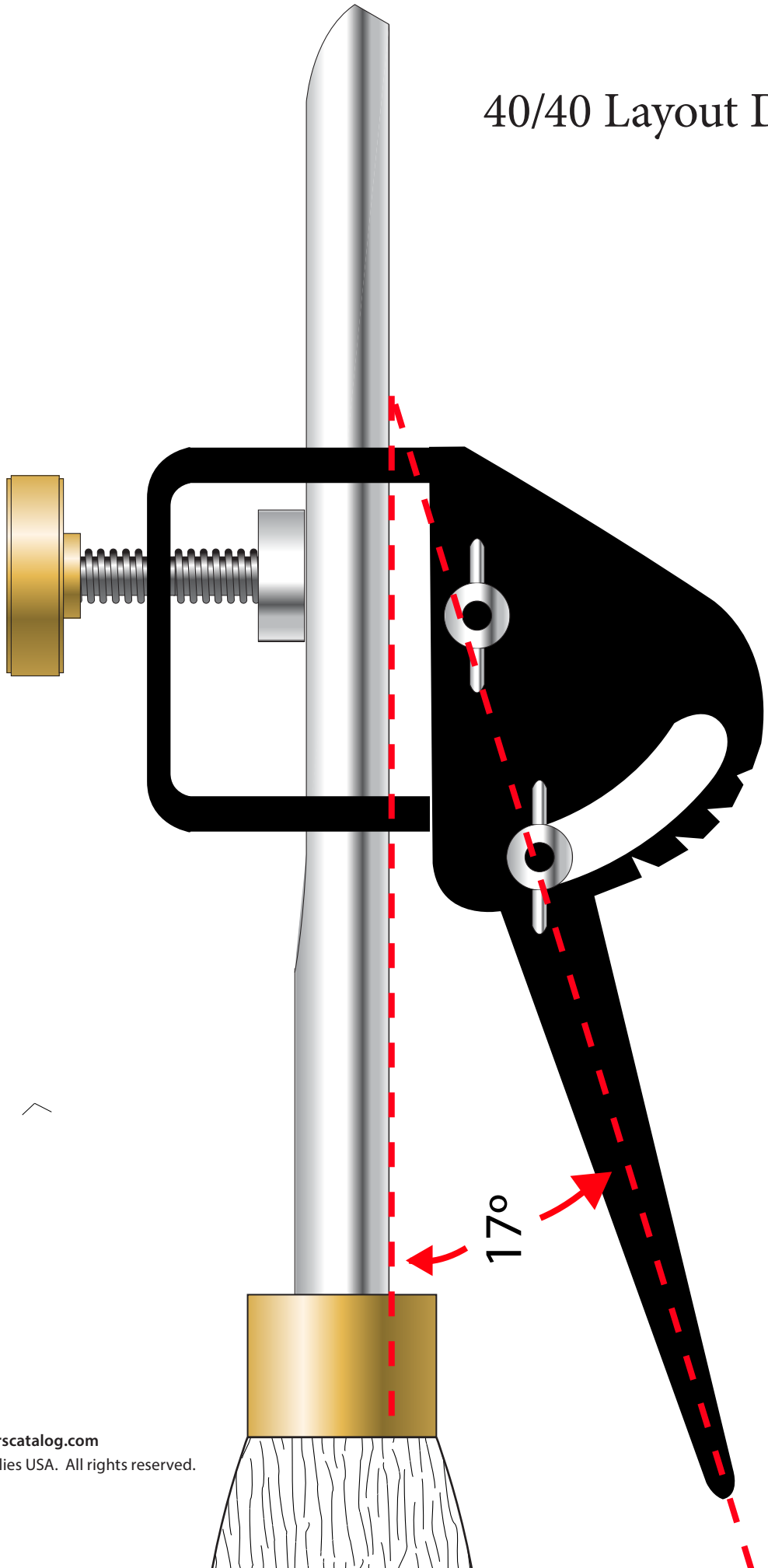
5. If you are unsure of exactly how to sharpen the 40/40 please see our full length video on our Youtube Channel.



Removing the Heel

A secondary bevel helps minimize scoring marks that occur due to the heel of the bevel rubbing on the work. Adjust your V-arm in towards the base unit roughly 1" and remove the heel of the bevel. Maintain at least an 1/8" long primary bevel.

40/40 Layout Diagram



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