

## Quick Setup Fixture for Wolverine or Tormek Grinding Systems

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I got tired of setting up the gouge grinding jig on my Wolverine or Tormek every time I change them to sharpen different tools. Also, I never seem to set them exactly the same each time, resulting in a process of marking the tool edge with a Marks-A-Lot marker, touching the tool to the grinding wheel, readjusting and repeating until it is close enough. It is difficult to prevent grinding multiple bevels or simply grinding away a lot of the gouge to get a single bevel. There are other setup fixtures commercially available, however, they are not adjustable to the settings I use to grind my tools. After thinking about options, I came up with the following simple and inexpensive fixture to make the setup for each gouge very quick and repeatable. I made one for each gouge so there is no problem with sharpening each gouge with a different grind or angle setting, since the fixture takes each different setup into account. This will NOT work with the Wolverine Vari-Grind 2.

The Wolverine Vari-Grind gouge jig sits in an adjustable support with a V-groove and the Tormek gouge jig has a hole that slides over a support rod. Both of these jig supports are adjustable in and out to set the distance from the grinding wheel to the point of attachment of the jig, thus setting the nose angle of the gouge. Both of the jigs also have an angle setting that modifies the gouge's wing length or sweep. With this fixture you can continue to use a specific jig angle setting, which may be different for each of your gouges, however, be sure to mark the angle setting on the fixture.

There are three settings that significantly affect your gouge grind – the distance between the support point (Wolverine V-groove or Tormek support rod) and the grinding wheel, the angle of the Vari-Grind or Tormek SVD-186 gouge grinding jig, and the tool exposure (distance from the end of the gouge to the edge of the jig). If you always use the same exposure and jig angle, the only variable is the distance between the support point and the grinding wheel, which the fixture described below sets accurately, giving you a repeatable grind every time.

I have noticed that the jig angle setting is more difficult to repeat as accurately as the wheel-to-support distance using the fixture described below. In order to eliminate as much variability as possible (and save unnecessary grinding of my gouges), I decided to use Doug Thompson's method of setting the angle on my Wolverine and Tormek gouge grinding jigs to one setting and never change it. Download his description on how he grinds his tools here - <http://thompsonlathetools.com/sharpening/> . His jig angle setting is approximately 39°. As the angle between the gouge and the arm gets smaller, the wing or sweep of the gouge gets longer. However, it does not significantly change the nose angle, as that is primarily set by the wheel-to-support distance using this fixture.

To make the fixture, cut several 1.5" X 1.5" X 10" pieces of pine (half of a 2X4), one for each tool. They can be cut to final length after the screws are set. Set up your Wolverine or Tormek for a specific gouge and then sharpen it as you normally would. DO NOT CHANGE ANY OF THE SETTINGS after sharpening until you complete the fixture for that tool.

For a Wolverine,

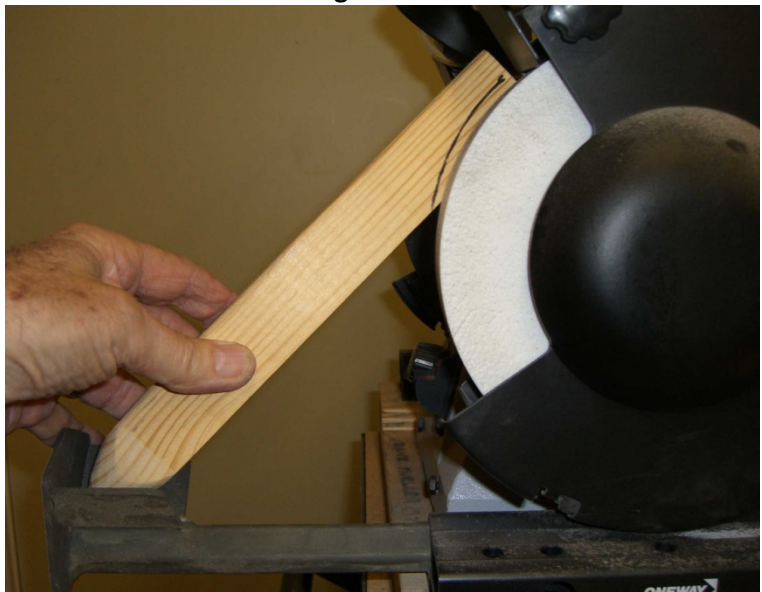
1. Round one end on a sander like a pencil so it does not interfere with the V-groove support, and drive a round headed screw into the end, as shown in Figure 1. The depth is not critical.

**Figure 1.**



2. Place the screw end into the Wolverine support, hold the fixture against the side of the grinding wheel and trace the outline of the wheel approximately in the middle of the fixture (Figure 2).

**Figure 2.**



3. Cut on the curved line. Drive two round head screws into the cut face about two inches apart (Figure 3).

**Figure 3.**



4. Place the round end back in the Wolverine and determine which screws have to be adjusted in or out so that both will touch the grinding wheel (Figure 4). DO NOT ADJUST THE SUPPORT, ONLY THE SCREWS. When both screws touch the grinding wheel, mark the fixture with the name of the tool and the angle setting of the jig if you change it for other tools. You can turn the wheel by hand with the jig touching to grind the screws so they both touch exactly.

**Figure 4.**



5. You can now set up the Wolverine jig for the next tool and make another fixture.



For a Tormek,

1. Drill a  $\frac{31}{64}$ " hole in one end as shown in Figure 5.

**Figure 5.**



2. Slide the fixture over the support rod and rest it on the grinding wheel. Wax the support rod if the fixture does not slide easily. This also helps the Tormek gouge fixture to slide when sharpening.

Because the Tormek wheel has a 10" diameter, it is generally not necessary to cut a curve on the jig as with the Wolverine. Just put a mark on the fixture where it touches the wheel.

**Figure 6.**



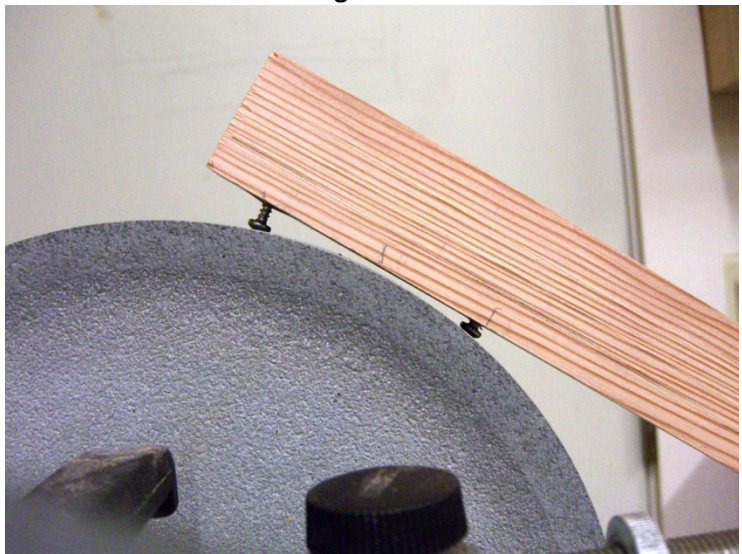
3. From the mark where it touched the wheel, drive screws 1" on either side of the mark as shown in Figure 7.

**Figure 7.**



4. Slide the fixture back on the support rod and adjust the screws until both touch the grinding wheel. DO NOT ADJUST THE SUPPORT, ONLY THE SCREWS. You can turn the wheel by hand with the jig touching to grind the screws so they both touch exactly. Mark the fixture with the name of the tool and the angle setting of the jig if you do not keep it fixed.

**Figure 8.**



5. You can now set up the Tormek jig for the next tool and make another fixture.

To use the jig, mount your gouge in the Tormek or Wolverine gouge jig with the correct exposure and angle (if you do not keep your angle the same for every gouge). Mount your wooden fixture on the Wolverine V-groove or Tormek support rod and adjust the support in/out until both screws touch the grinding wheel and tighten the support. Replace the wood fixture with the gouge/jig assembly and sharpen the gouge.