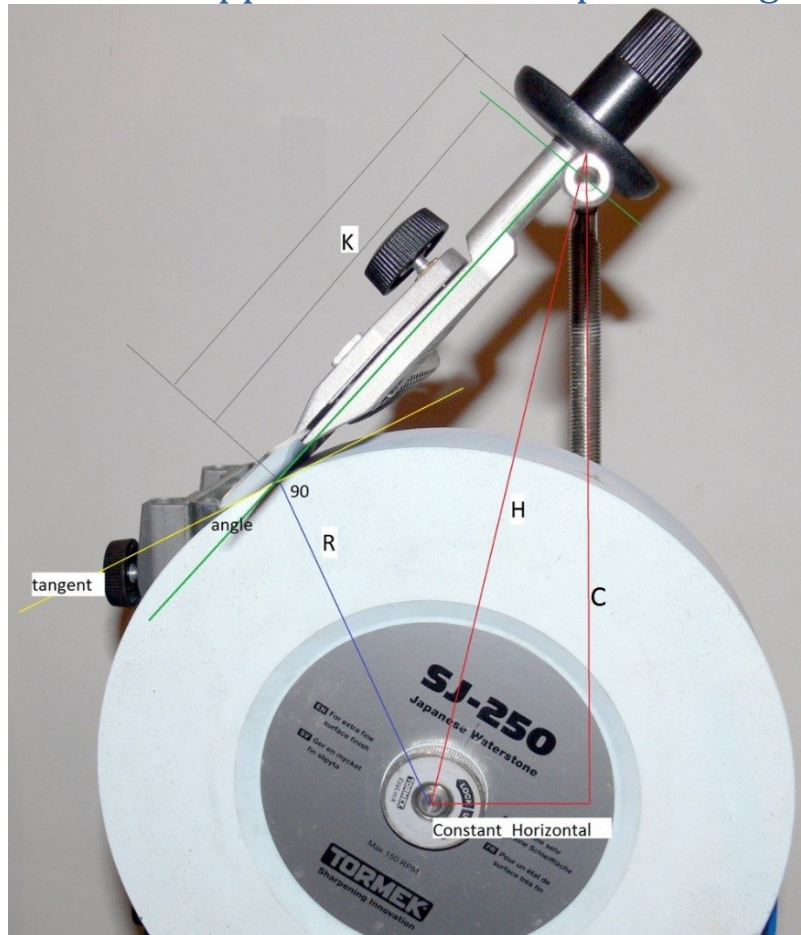## Computer Software
Scientific approach for an exceptional edge

We use computer software to set a desired grinding angle with great accuracy.
This software comes especially handy when you use several progressively finer grinding wheels of different diameter, and as you change to the next wheel you have to adjust height of the Support to maintain the same grinding angle.
Time-wise it is quicker than any other method.

Jig-Support-Wheel relations are shown on the sketch.
The Support height for a given grinding angle can be calculated by Pithagorean theorem; the right-angled triangle used in the calculations is shown in red on the sketch.
Hypotenuse is calculated by the formula:
$$H^2 = K^2 + R^2 - (2 \times K \times R \times Cos(90 + Grinding\_Angle))$$
and the other triangle side (Constant_Horizontal) is a distance from the Support centerline to the shaft centerline.

Support height from its base (i.e. the housing top) to the top of the support bar, for a given grinding angle = calculated value for the vertical cathetus **C minus** distance from the shaft centerline to the Support base (Constant_Vertical).

You can obtain Windows applet in the Sharpening Shop on our website.
iPhone and iPad applets, as well as the MacBook applet can be bought directly from the App Store.
Android phone & tablet applets can be bought directly from the Google Play.
Search for **Angle Setter for WEN BG4270**

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This software sets angle grinding into the wheel, against wheel rotation, as shown on the following picture

Applet Installation - Windows

Extract (unzip) the download.

WINDOWS 7-10+
This applet runs on Windows 7, Windows 8, Windows 10 and future Windows OS.
Run by clicking the **WEN_Angle_Setter** and click Install when prompted.
This installs and runs the applet, and the application can be uninstalled via Add/Remove Programs in the Control Panel.

How to use the applet

You have to take three measurements in mm – you will need them for the applet input:

1. Grinding Wheel diameter. The new WEN grinding wheel is 249-250mm – measure the actual diameter of your wheel.

2. Honing Wheel diameter. The new WEN honing wheel is 200-203mm – measure the actual diameter of your wheel.

3. Having mounted the knife in the knife jig, measure distance between the knife jig adjustable stop (the black plastic part) and the knife edge in mm, shown on the photo.
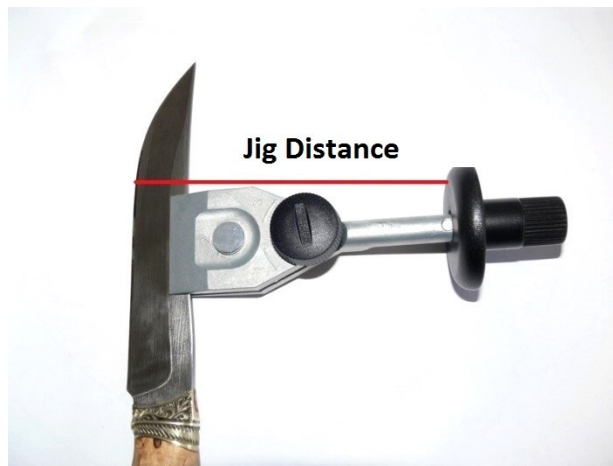
Run the application, and select the **Operation**: Grinding or Honing.

GRINDING
Enter the grinding wheel diameter, jig distance and the target grinding angle in degrees per side, and press the Calculate button.
For your target grinding angle, the applet will give you the Support bar height as a vertical distance from the top of the bar to the housing.

The Support bar height is set with the help of a caliper depth probe as a vertical from the top of the Support bar to the housing as shown below.
Grinding is typically done against the wheel rotation.

HONING
Enter the honing wheel diameter, jig distance and the target angle, and press the Calculate button.
For your target honing angle, the applet will give you the Support bar height as a vertical distance from the top of the bar to the housing.
Set the support bar height as described above. Reverse rotation to hone edge-trailing, with the wheel rotation.