

Short Tool Jig SVS-32



CARVING TOOLS WITH A STRAIGHT SHANK

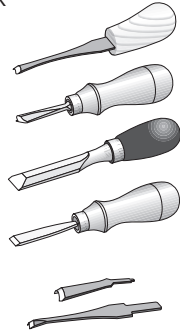
Straight gouges

Straight V-tools

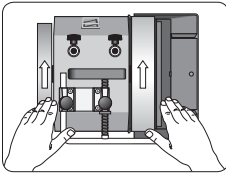
Short wood chisels

Square carving chisels

Gouges and V-tools for reciprocating power carvers

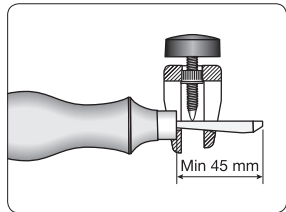
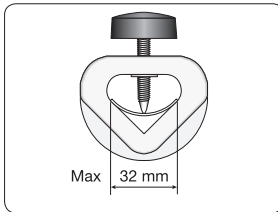
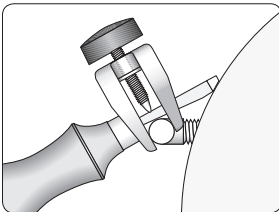


Positioning of Machine



*Grinding direction:
Away from the edge.*

*Max tool width 32 mm (1¼").
Min length of tool 45 mm (1¾")
at 20° edge angle.*



Design

This patented jig was developed for short woodcarving tools, butt chisels and tools for power carvers. The jig has two parallel flanges running on both sides of the Universal Support.

The technique achieved with this design ensures that at all times the jig – even when rotated – holds the tool square to the grindstone. This is a great advantage, as you can continuously concentrate on how the edge touches the grindstone or the honing wheel without having to worry whether the jig is square to the stone.

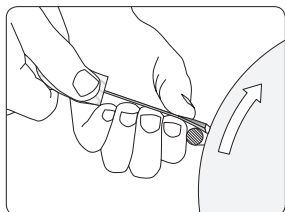
Carving Gouges

Grinding/Sharpening/Honing or Just Honing?

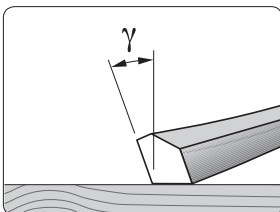
As mentioned in the chapter *Sharpening Techniques for Carving Gouges and V-tools* on page 20, you should question whether you should grind the tool or you should go directly to the honing wheel. This question is especially valid when coping with small and delicate tools, for which this jig is designed. The small size of the tool, which can be as small as 3 mm ($\frac{1}{8}$ "), also enables the honing wheel to remove small amounts of steel and thus substitute the grinding.

The following instruction describes the whole process for achieving a sharp edge on a tool, which has become so blunt that it needs re-grinding. The instruction is also valid for tools, upon which you want to put a new shape and for tools upon which you want to change the edge angle. A tool which is only slightly dull and which has the right shape and edge angle, you should not grind, but go directly to the honing process (page 71).

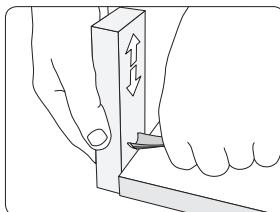
Shaping the edge



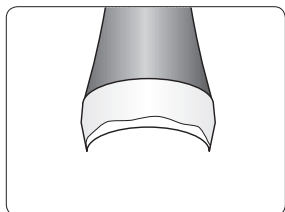
Shape the edge by resting the tool on the Universal Support placed horizontally and close to the stone.



The edge plane angle (γ) should be approx. 20°. (Page 21).



Flatten and smooth the blunt edge with the fine side of the Tormek Stone Grader, SP-650.

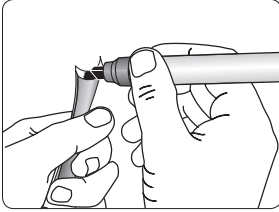


Now you have a line of light, which is your guide as to where to grind.

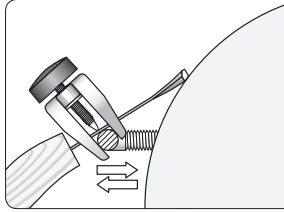
Edge Angle

As described in the chapter *Sharpening Techniques for Carving Gouges and V-tools* on page 24, the choice of edge angle is very important for a carving tool. The way of setting the edge angle depends on if you want to replicate an existing edge angle or if you want to put a new edge angle on your tool.

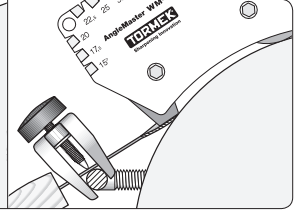
When replicating an existing edge angle, you should use the *Marker Method* (page 41). If you want to put a new edge angle to your tool, you can either set the angle by eye or you can use the *AngleMaster* (page 142).



When replicating the existing edge angle you should use the *Marker Method*.

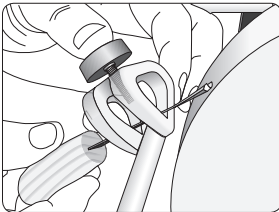


Setting a new edge angle can be done by eye or you can set to a pre-determined edge angle using the *AngleMaster* (page 142).

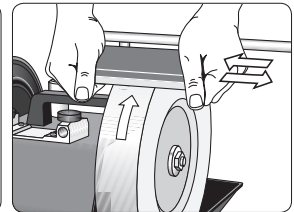
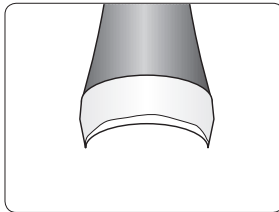


Grinding

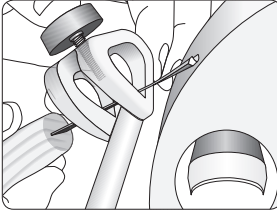
When you have put the right shape on the tool and set the edge angle, it is time for grinding. Use the *line of light method* described on page 20.



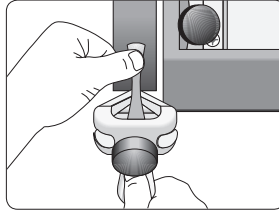
Always grind where the line of light is the thickest, while rolling the tool on the *Universal Support*. Check frequently where the grinding takes place. Grind until you get an even and thin line of light.



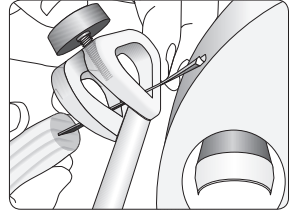
Grade the grindstone for fine grinding with the fine side of the *Stone Grader SP-650*.



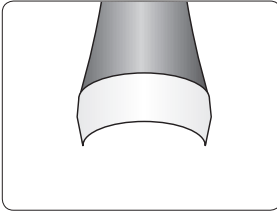
Continue grinding. Check the result frequently so you do not over grind on a spot.



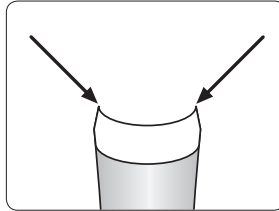
Remove the burr free-hand on the leather honing wheel to observe the line of light more clearly. The tool is left mounted in the jig.



Grind again. Now with a very light pressure. Check frequently so that you do not over grind on one spot.



Stop grinding immediately when the line of light disappears! This is the sign that the edge is sharp.

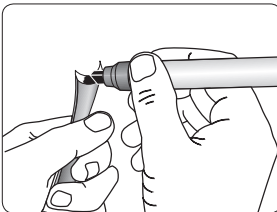


Be careful when you grind at the sides of the gouge, so you do not round off the corners.

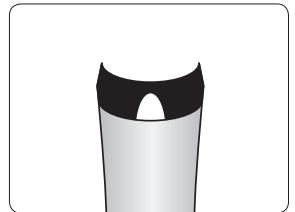
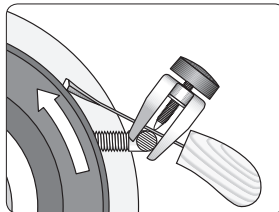
Important It is very easy to be misled by the burr and mistake the burr for the line of light! Therefore you must remove the burr frequently during the finishing of the grinding operation, so you clearly can watch the progress of gradually thinning the line of light.

Honing

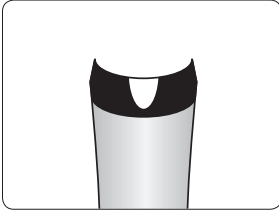
It is important that you hone with the same edge angle as used during the grinding. This is done by setting the universal support carefully using the Marker Method.



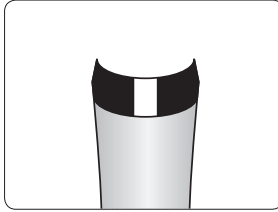
Colour the bevel with a marker and mount the tool in the jig. Set the Universal Support so that the honing wheel touches the entire length of the bevel. Check with the honing wheel running.



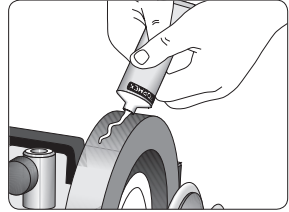
Wrong setting. The wheel is hitting the heel. Adjust the Universal Support away from the wheel.



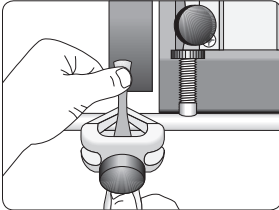
Wrong setting. The wheel is hitting the tip. Adjust the Universal Support towards the wheel.



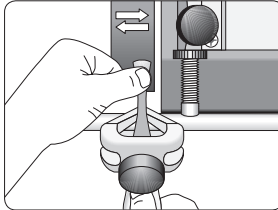
Correct setting. The honing wheel hits the full length of the bevel.



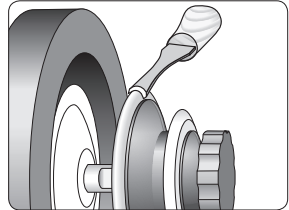
Prepare both the honing wheels with honing compound (p 44).



Sharpen/hone the edge. Roll the tool on the Universal Support and apply pressure on the tool near the edge.

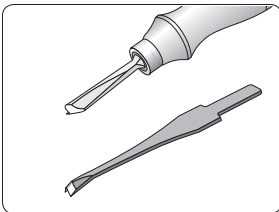


Move the jig sideways so you work on the whole width and avoid uneven wear on the leather.



Remove the tool from the jig and hone the inside free hand on the leather honing wheel.

V-tools



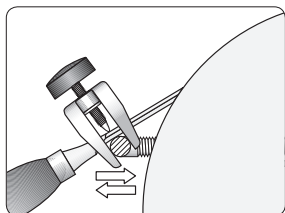
In the chapter of SVD-185 on page 90 it is described how to grind and hone V-tools. This principle is the same when using the SVS-32 jig.

Short Wood Chisels and Carving Chisels

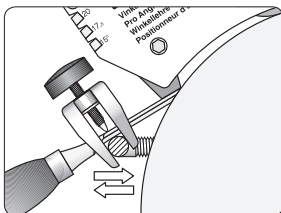
Grinding a wood chisel is much easier than grinding a gouge or V-tool, since a wood chisel has a single and straight edge. Before grinding, check that the edge is square across the edge. If not, make the edge square on the grindstone resting the tool on the Universal Support positioned close to the grindstone.

When grinding a new wood chisel for the first time, check that the back is flat and is free from manufacturing grooves. If necessary, flatten and smoothen it on the outside of the grindstone (page 122) and then hone it on the leather honing wheel.

Setting the edge angle



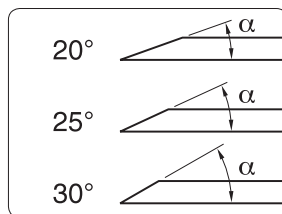
Setting the existing edge angle. Adjust the Universal Support so the entire bevel touches the grindstone. Use the Marker Method.



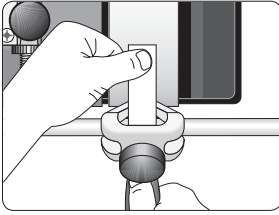
Setting a new edge angle. This can be done by eye or you can, as shown here, set the jig to a pre-determined edge angle using the AngleMaster WM-200.

Edge Angle

Wood chisels are usually ground with a 25° edge angle (α). If you work delicate details with a wood chisel in soft wood, you can decrease the edge angle down to 20°. If you work in hard wood and when using a mallet, you must increase the edge angle to 30° or even larger.

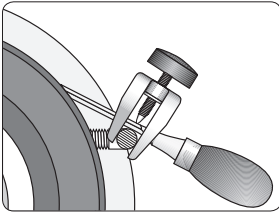


Grinding

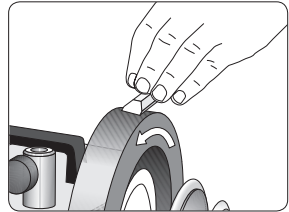
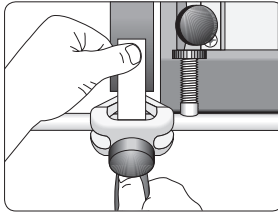


Press with your thumb close to the edge for best control. You also control with your hand on the handle that the edge is presented correctly to the grindstone and not turned. Check frequently so that you achieve a symmetric edge. Do not slide the jig sideways, but instead lift it when you move it to another spot on the grindstone.

Honing



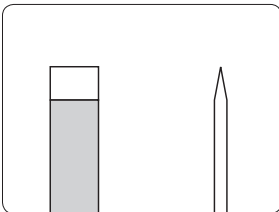
Keep the tool in the jig and move to the leather honing wheel. Set the Universal Support so that the honing angle is the same as the grinding angle. Use the Marker Method.hone away the burr and polish the bevels to a mirror finish.



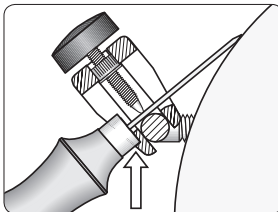
Hone the back free hand. Watch that you do not round the tip. Hold the tool so it is a tangent to the wheel.

Square Carving Chisels

These have symmetrical bevels on both sides. This jig copes with tools down to a blade length of approx 60 mm (2 $\frac{3}{8}$ "") at 25° edge angle. As the jig cannot be turned upside down (as the SVS-50 jig), you need to de-mount the tool, turn it 180° and re-mount it in the jig. Let the tool handle touch the jig during each mounting and you will get the same setting and symmetrical bevels.



A square carving chisel.



Let the tool handle touch the jig at both the mountings.