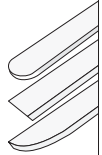


Tool Rest SVD-110

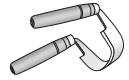


TURNING SCRAPERS

- Round nose*
- Square end*
- Curved*



CARVING SCORPS AND INSHAVES



CABINET SCRAPERS



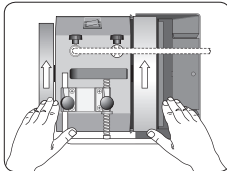
HOLLOWING TOOLS



SCREW DRIVERS



Positioning of Machine



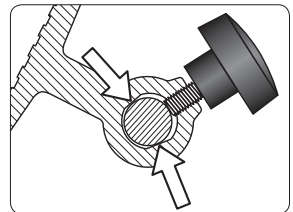
*Grinding direction:
away from or towards
the edge.*

Design

This Tool Rest is ideal for the grinding of turning scrapers and special tools for woodcarving, e.g. large scorps and inshaves. Also for cabinet scrapers and hollowing tools.

It has a generous surface, 90×110 mm (3½"×4¼"), which permits a safe and steady positioning of the tool towards the stone.

The bore is made with a special wedge shape, which increases the locking force by 250%. You can lock the Tool Rest instantly at the chosen angle. This unique design is patented by Tornek.



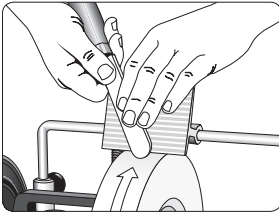
In the patented design, the sides of the tapered bore touch the round bar – not the bottom. This means that the locking action increases by as much as 250%!

Turning Scrapers

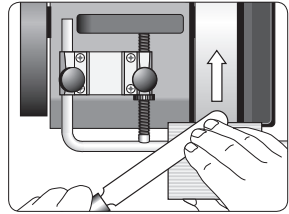
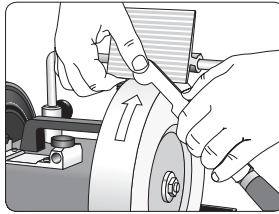
Scrapers normally come from the manufacturers with an edge angle between 70° and 80°. Some turners prefer a much smaller angle and they re-grind their tools to a 60° edge angle or even smaller. Scrapers are best ground *towards* the edge with the Universal Support in the vertical position. The rotation of the grindstone helps to press the tool onto the Tool Rest.

At steeper edge angles there is a risk of vibration when grinding *towards* the edge. If you want to keep the original large edge angle, you should grind *away from* the edge with the Universal Support placed in the Horizontal Base XB-100. Round off the heel of the bevel and you will reduce the risk that the tool will be pulled up by the stone.

Recommended positioning of the Universal Support



Vertically for edge angles up to approx. 60°.



Horizontally for edge angles larger than approx. 60°.

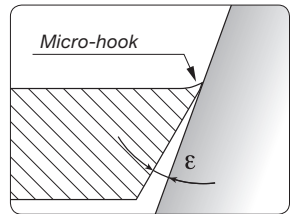
Keep the Burr or Ticket the Edge?

A scraper removes the wood by scraping instead of cutting unlike all other tools. A scraping action is a tough treatment of the wood. The fibres are pulled out of the wood leaving a rough surface, which therefore needs a lot of sanding. Often people do not hone away the burr as it works as a kind of cutting edge on the top of the large edge so causing the tool to “almost cut”.

The burr, which is left from dry grinding at high speed, consists of a sintered (melted) mixture of steel waste and abrasives from the grinding wheel as well as the steel which has been pushed upwards by the grinding wheel. The sintered mixture will soon be worn away when you start turning. What is left is the residual edge and this cuts the wood. You could argue that the burr changes the action of the scraper causing it to work as a cutting tool.

However the burr is very uneven and coarse and it is obvious that it cannot be durable. You therefore need frequent re-grindings to make new burrs. This is a drawback as it takes time from your turning and it shortens the life time of your tool. Another drawback is that the particles removed from the burr, i.e. the mixture of steel and abrasives, can get stuck in the wood and cause further wear of the edge. The burr, which is left after water cooled grinding at low speed does not contain any loose particles. It is just pure steel and is therefore smoother and sharper and also more durable.

There is an even better method to make a scraper work as a cutting tool. If you press with a hard steel rod towards the bevel at an angle (ϵ) of approx. 5° , the tip will be bent upwards creating a micro-hook. The pressure from the rod compresses the steel, smoothens the small scratches from the grindstone and makes the hook shiny.



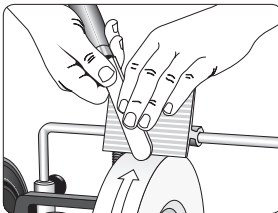
The result is an even, sharp and durable micro-hook or a cutting edge. The method is called ticketing (or burnishing) and gives you a far better and more durable hook than a burr. When using the ticketing method, you should grind the bevel as evenly and finely as possible and also hone the bevel as well as the top face. Then you get a sharper and more durable cutting edge.

Ticketing the edge. The tip of the edge is pressed upwards forming a small edge hook. (Here enlarged.)

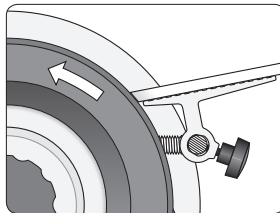
There are special ticketing or burnishing tools available on the market, but you can also do the ticketing by using a 12 mm ($\frac{1}{2}$ ") bowl gouge. Clamp the scraper in your workbench vice so you can hold the bowl gouge steadily with both hands.

You must not ticket too heavily so the hook tends to be bent backwards. The tip of the hook must point upwards to work. You should also adjust the pressure according to the edge angle. A scraper with a large edge angle ($70\text{--}80^\circ$) requires a larger pressure than one with a smaller edge angle.

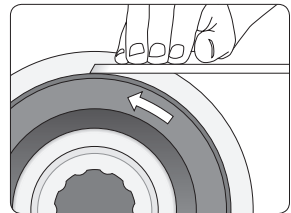
Grinding and honing



Grind towards the edge using the Tool Rest fitted on the Universal Support placed vertically.

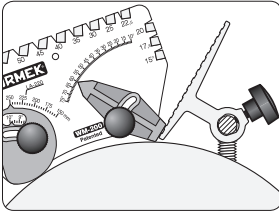


Move the Universal Support and the Tool Rest to the honing wheel. Hone the bevel at the same angle as at the grinding.

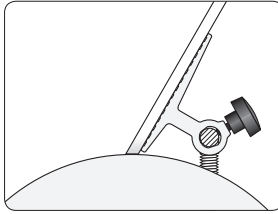


Hone away the burr and polish the top face. Hold the tool as a tangent to the wheel.

Edge angle

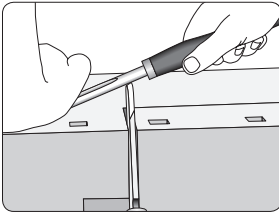


If you grind a new tool you should change the edge angle to 60° or less. The AngleMaster is an aid to set the Tool Rest.

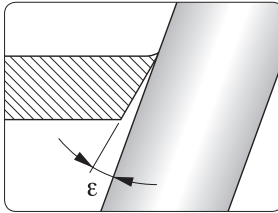


If you are satisfied with the existing edge angle, set to exactly the same angle and the sharpening is completed quickly.

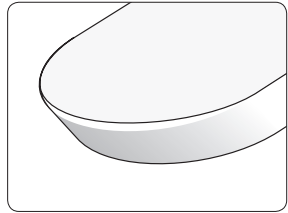
Ticketing



Clamp the scraper in your workbench and press with an HSS bowl gouge. Support your left hand on the bench.

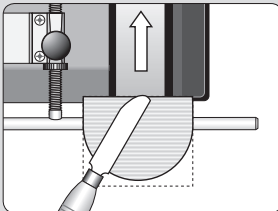


Press the gouge on the bevel at an angle (ϵ) of approx. 5°.



You can clearly see how the ticketing compressed the tip of the edge to a smooth and shiny surface.

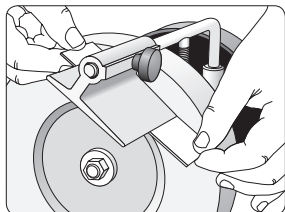
The function of the scraper depends on how large a hook you put on the edge. The size and shape of the hook depends on the edge angle of the scraper, the ticketing angle (ϵ) and how hard you press the ticketing tool. You should not put a too large hook on the scraper, as the tool then is difficult to control and you can get digs. Remember that you now have a cutting tool instead of a scraper!



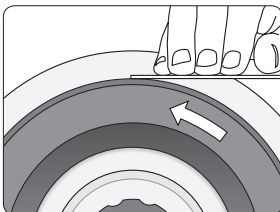
Tip The jig is made with a large supporting surface for good control even when grinding long tools. For short tools, you can trim the jig surface as necessary to clear the handle.

Cabinet Scrapers

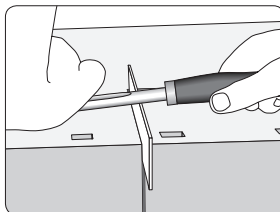
Straight and curved cabinet scrapers are easily squared on the machined outside flat surface of the grindstone. Hone away the burr carefully on the Leather Honing Wheel. Create the micro hook using a burnishing or ticketing tool.



Keep the scraper in close contact with the rest while sliding it back and forth so you use most of the area of the stone.



Hone away the burr on both sides. Hold the scraper as a tangent to the Leather Honing Wheel.

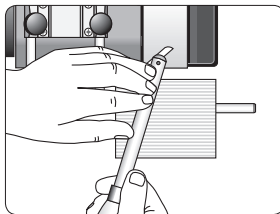


Clamp the scraper in your workbench and press with a hard steel rod or burnishing tool along the edge to create a micro hook.

Note Use a light pressure only at the burnishing and do 5–8 strokes. Apply grease or thick oil so that the rod runs smoothly.

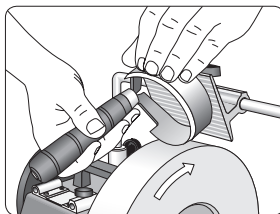
Hollowing Tools

1. Mount the tip on the shank as shown. Position the Tool Rest as closely as possible to the grindstone.
2. Set the edge angle by adjusting the Tool Rest.
3. Hold the fingers closely to the grindstone and press downwards ensuring that the shank stays in contact with the Tool Rest. Follow the shape of the tip.



Scorps and Inshaves

These woodcarving tools are ground with the Universal Support positioned in the vertical sleeves. Position the tool as shown in the pictures. Rest the flat, back surface on the Tool Rest and the rotation of the grindstone will help to press the tool towards the Tool Rest.



Spoke Shave Blades

Place the Tool Rest as shown. The rotation of the grindstone helps to press the tool towards the Tool Rest.

