Starting turning – part 13

In the final part of this series, **Mark Baker** deals with the fundamentals of using a bowl gouge and scrapers

Bowl gouges are the turner's primary shaping tool for faceplate work – but it is worthwhile knowing that they can also be used on spindle work for some operations. They are used initially to remove excess wood quickly, but can also be employed with great finesse to refine the work after initial shaping.

Scrapers are typically refining tools, used after the main shaping has been done. They are primarily used for faceplate/bowl work, but can also be useful for some spindle work – typically internal work, such as goblets, boxes and hollow forms. Scrapers are best used on close-grained hardwoods.

Many eschew their use claiming they damage the surface of work, but in truth they can be used to great effect to refine the shape and the surface. Much depends on the timber used and how they are used. With a little care and know-how, they can serve you well.

One swept-back and standard-grind bowl gouge

Three scrapers with different cutting-edge profiless

PHOTOGRAPHS: BY GMC/ANTHONY BAILEY & MARK BAKER

USING BOWL GOUGES

As with all turning, before starting a cut, make sure your work is securely held and remember to use the tailstock for extra support where you can. Make sure the toolrest is in the right position, rotate the work so you know that the rest is clear of the wood before you switch on the lathe. The rest needs to be set so the gouge cuts on or just above centre.

Like the other bevel-rubbing tools, the bowl gouge enters the wood in line with the bevel. The rest is below centre and you can manoeuvre the tool across the work to shape it as required.

As with a spindle gouge, point the flute in the direction of the cut at approximately the 10 o'clock position, so the cut is made on the lower wing of the cutting edge. For the smoothest results, cut with the grain from the smallest to the largest section, which is downhill. Keep the handle low and inclined at an angle of about 45°.

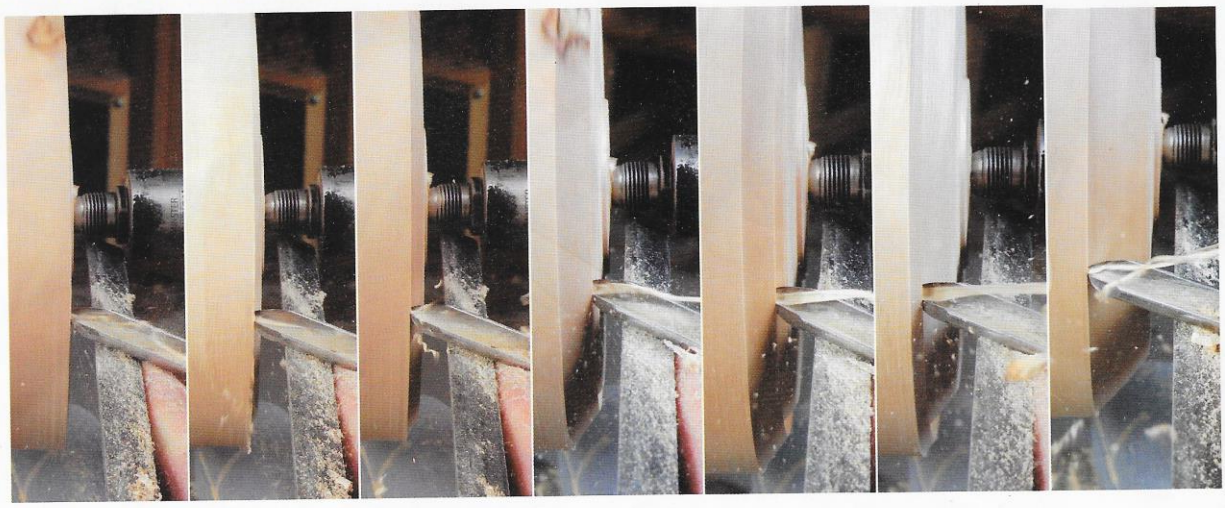
Start by nibbling off the corners with what are effectively chamfer cuts. Make straight cuts across the wood, removing waste material quickly as you make multiple passes. Altering the flute to nearer the 11 o'clock position will give you a more aggressive cut, but you run the risk of making the cut on the uppermost wing of the cutting edge; this will alter the cutting forces and may twist the blade into the cut, which will result in a catch. Pointing the flute closer towards the horizontal 9 o'clock position will give you more of a scraping cut.

When you're ready to make a curved cut, enter the wood as before, but instead of pushing the blade in a straight line, swing the handle towards your body to create the curve radius you require. This may take a little practice, but just make sure you maintain the bevel rub; this enables you to control the tool by rotating the blade, raising or lowering the handle and pushing the blade in the correct direction, depending on the shape being cut.

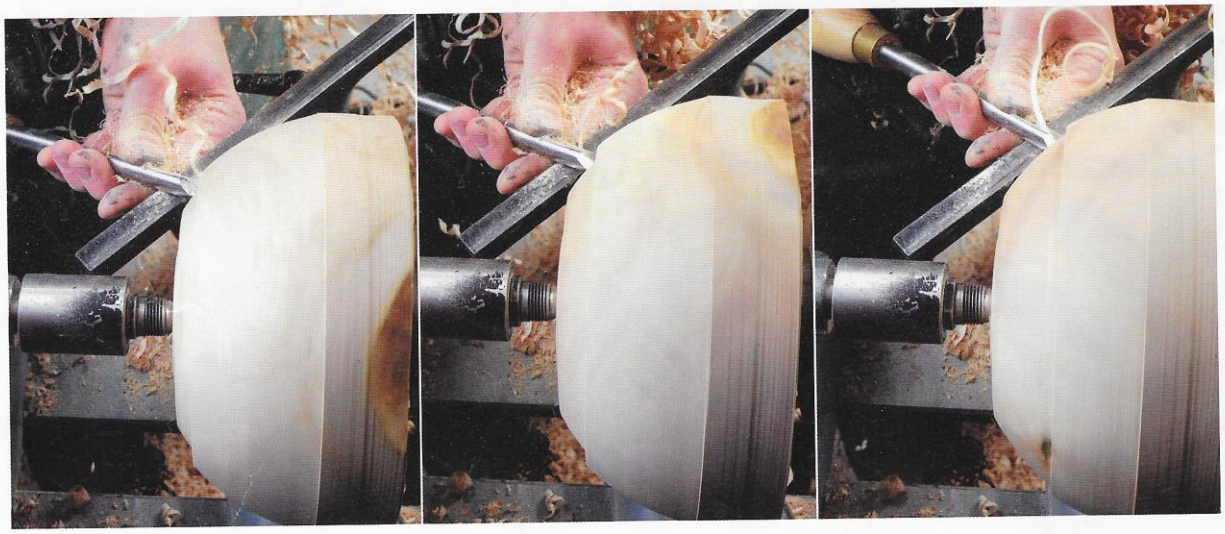
You can create deeper, quicker shaping cuts by going further into the wood with the cutting edge. This is great for shaping, but for a more refined result, cuts of about 3mm deep will clean up the surface more effectively.

External shaping using a push cut

PUSH CUT SEEN FROM THE TURNER'S SIDE OF THE LATHE

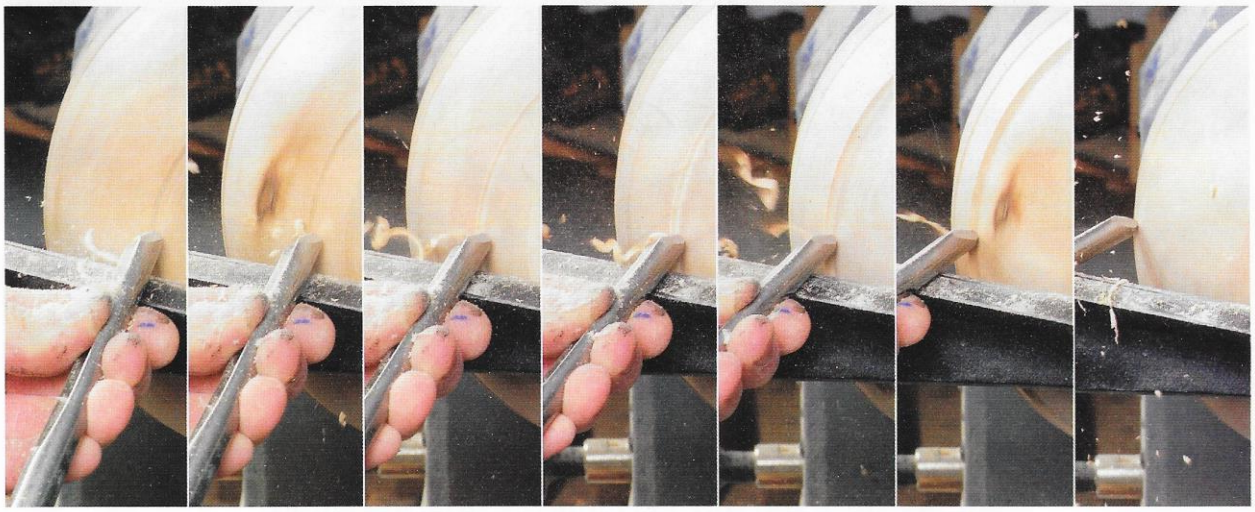


SHAPING THE OUTSIDE WITH A PUSH CUT – AS SEEN FROM ABOVE



SHAPING THE OUTSIDE WITH A PUSH CUT – SEEN FROM THE TAILSTOCK END

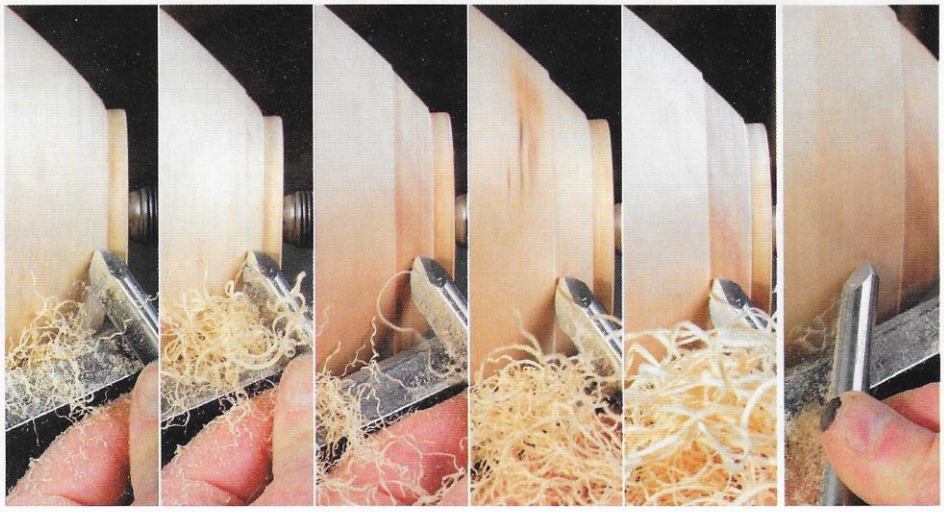
SHAPING THE OUTSIDE WITH A PUSH CUT AS SEEN FROM THE TAILSTOCK END – CLOSE UP



Refining the surface with a shearing cut

There is a cut which can be used to create a a very fine surface. It is one that is handy to know when you have tricky interlocking grain found on highly figured wood and burrs, but it is also useful to know about when using softer timbers too.

Quite simply, it is a bevel rubbing push cut, but it is one where the handle is dropped quite low so as to present the cutting edge of the work at a steep skewed angle – yes, like the presentation angle of a skew chisel – to the work so you can peel off the wood more easily. By altering this angle, you can create a very refined cut or more aggressive ones.

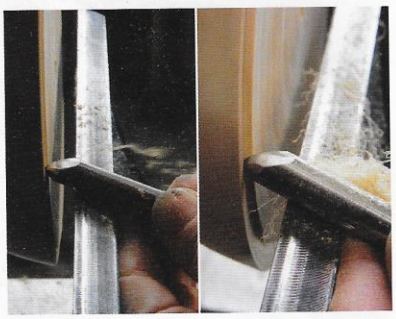


Internal shaping using a push cut

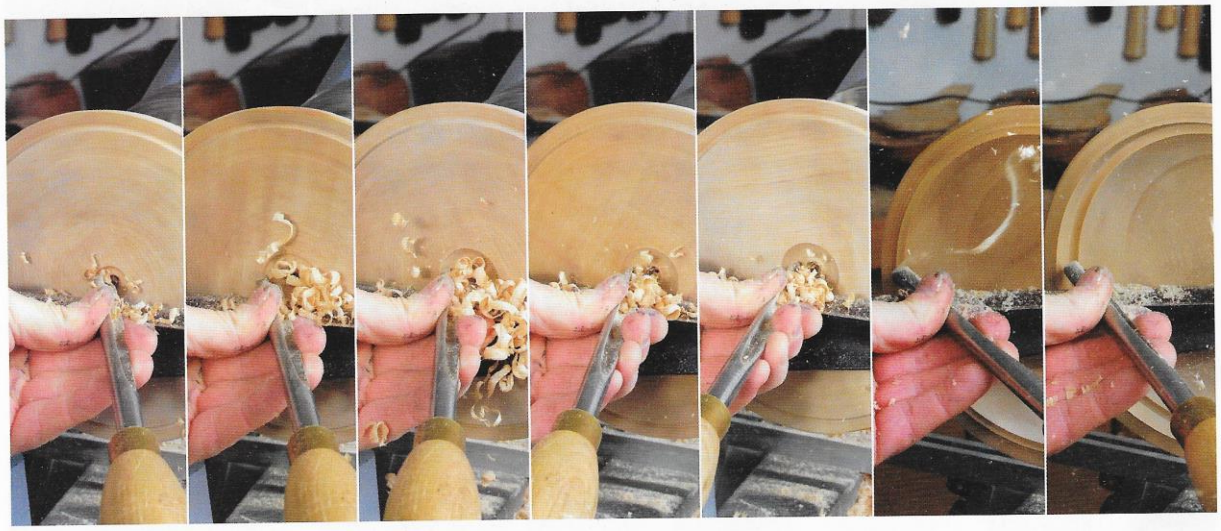
For internal bowl work, set the rest just below centre. It is worth making a clean up cut along the face of the bowl blank before starting to refine the internal shape. Once clean, you can now make the cut used to refine the internal shape of the work – effectively you will be cutting from the surface down into the centre section of the work.

Keep the gouge stable on the rest. Point the flute in the direction of the cut, somewhere near the 2 o'clock position and enter in line with the bevel. When the cut has started, the bevel rub will allow you to pull the handle towards you as you cut to create the required curve. Work on the centre area first and when this cut is complete, make successive cuts back towards the outer rim. Always work from the top face down towards the centre section. You can alter the flute position to create a heavier or lighter cut, but always have the flute pointing in the direction of the cut and make the cut on the lower wing of the cutting edge. These rules should be followed whether you're cutting across the work in a flat plane, creating curved cuts or cutting S-shaped curves.

USING A PUSH CUT TO CLEAN UP THE FACE OF A BOWL



USING A PUSH CUT TO TURN THE INSIDE OF A BOWL



"It is worth making a clean up cut along the face of the bowl blank before starting to refine the internal shape"

The pull cut

A pull cut can be used to quickly shape or subtly refine the work. It can be made with or without the bevel rubbing, although it is more often used without the bevel rubbing. This cut is useful to know when the tailstock is in position to provide support, or when cutting up against a spigot, when it is difficult to get the handle position in the correct place for a bevel-rubbing cut. It can also be used without the tailstock in place, but if the cut is used without the bevel rubbing, the resulting surface will not be as clean as with a bevel-rubbing cut. The pull cut is a cut that can be used to rapidly remove timber – usually without the bevel rubbing so the surface of the work may not be good – prior to refining the surface with a drop shear pull or push cut or a standard push cut.

To make a pull cut, hold the tool handle close to the hip and position it at approximately 45° so the tool is somewhere close to this angle to the work. Present the gouge to the work so that the flute is pointing at approximately the 10.30-11 o'clock position. Gently present the blade to the work and touch the heel of the bevel to the work rolling the blade until it begins to cut along the part of the bevel you need to cut with, then pull it along the work.

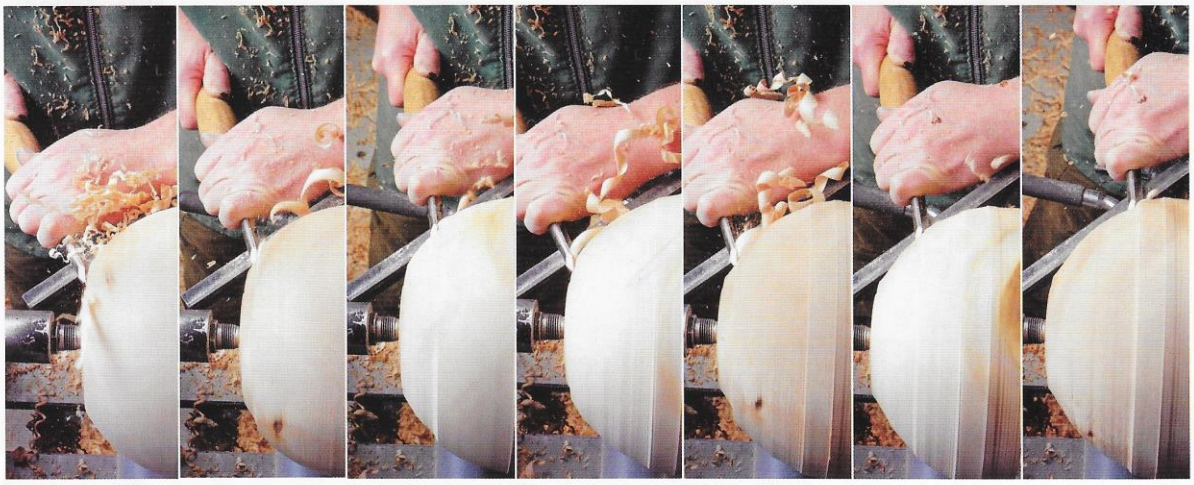
Due to the angle of approach, the flute is still pointing in the direction of the cut and the cut occurs on the lower wing of the blade. The near 45° approach angle creates a nice shearing cut.

The nearer the vertical position for the cutting edge in relation to the surface, the finer the cut. Conversely, you can create a more aggressive cut by raising the handle so the cutting edge is nearer towards the horizontal, but take care, as this is an aggressive cut that can be tricky to control.

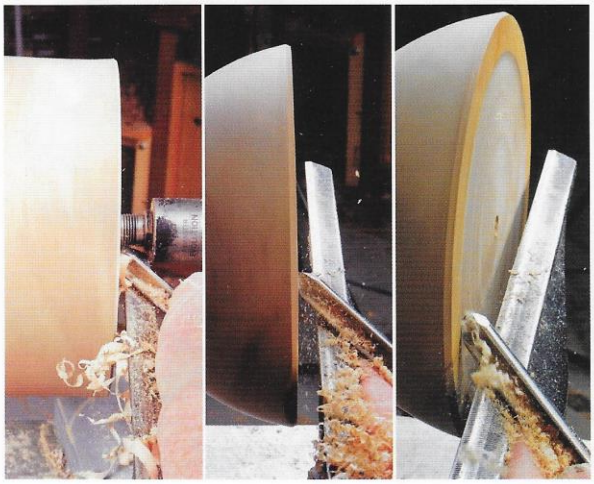
Making this cut without the bevel rubbing gives it a scraping-cut effect. With the blade presented horizontal, rotate the blade so the flute points closer towards the workpiece. Pointing the flute towards the 10 o'clock position will mean that the bevel will be almost rubbing, but not quite, so is a hybrid scrape/cut.

If you want a finer cut, present the cutting edge at an approximately 45° or steeper angle to the work with the flute pointing almost into the work but not quite. When the tool is drawn across the face of the work, working with the grain, it will create a delicate shear scraping action. As you can no doubt see, a combination of raising or lowering the handle and adjusting the flute position will create a finer or coarser cut as required.

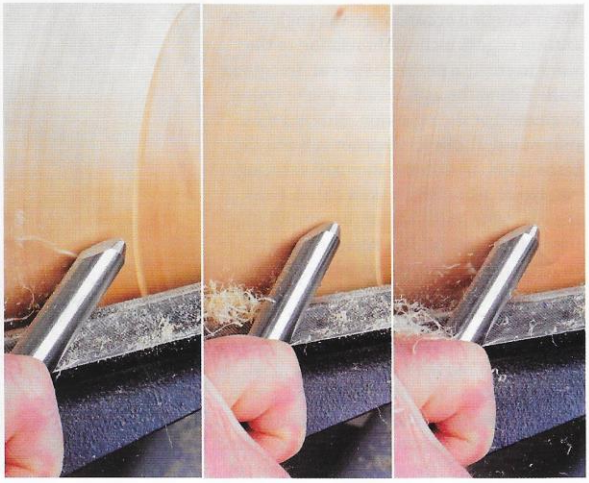
SEEN FROM ABOVE USING A PULL CUT TO SHAPE THE BOWL



USING A PULL CUT TO CLEAN UP THE FACE OF A BOWL



PULL SHEAR SCRAPING WITH A GOUGE – NO BEVEL RUBBING



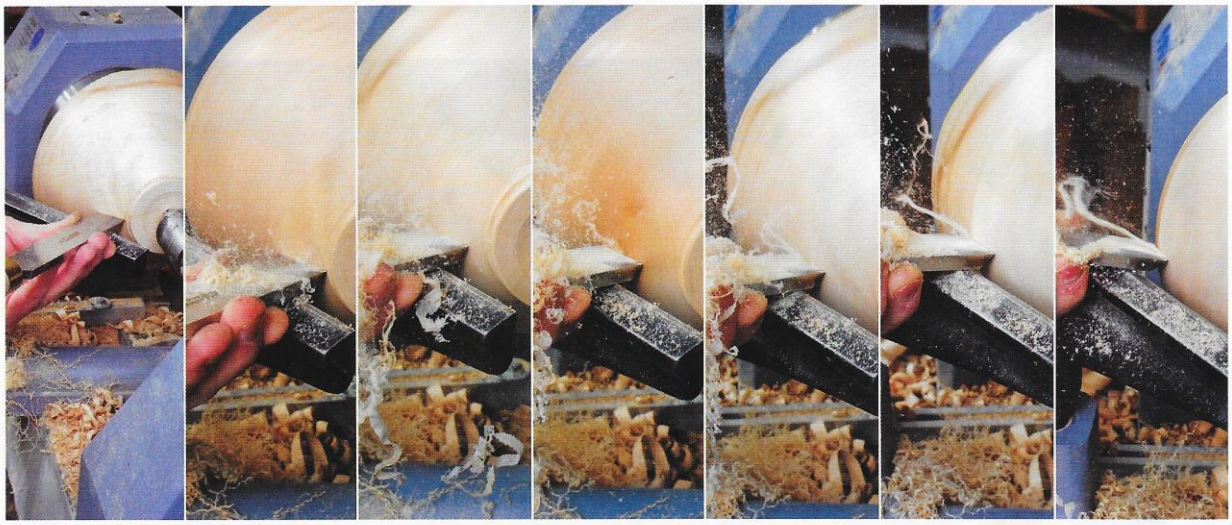
USING SCRAPERS

Scrapers are not used with the bevel rubbing. For maximum control, they are typically placed flat on the rest and used with a trailing blade angle where the handle is higher than the cutting edge. If the tool is held horizontally the cut is more aggressive but just about controllable, but you will find the wood tries to force down the cutting edge, and if you have the cutting edge in contact with the wood higher than the handle you are almost certainly likely to lose control which may result in a catch. A catch is where the edge digs in and is pulled down into the wood at speed, thus raising the handle in a very quick movement that is hard to control. The scraper edge profile used should match the profile of the work being refined. It is also advisable to use the widest possible blade with as close to matching as possible profile on the cutting edge to ensure the smoothness of the shape being refined. Using too small a blade or one with a cutting edge profile that does not match is likely to create ridges; if you don't remove them, you cannot refine the shape.

USING A SCRAPER ON THE OUTSIDE OF FACEPLATE WORK

An angled or square-profile scraper is used for external work, such as a gently curved bowl. However, if you have two opposite curves running together – an ogee, for example – you will need to use a curved scraper too. Set the rest on or just below centre. Place the blade flat on the rest. Raise the handle so the blade tilts downward a little, so that the cut will occur on or just below the centreline of the work.

Push the blade gently into the wood until the tool starts to cut and move the tool into or across the work as necessary to refine the shape. Only the gentlest of touches is required. The cutting action of a scraper is not as refined as that of a gouge and a scraper is best used on close-grained dense timbers. To minimise tear-out, always cut in such a way that there is a longer fibre behind the one being cut. In the case of external bowl work, cut from the smallest to the largest section – downhill – so the blade is traversed around the piece to refine the external curve.



SHEAR SCRAPING THE OUTSIDE OF A BOWL USING A SCRAPER

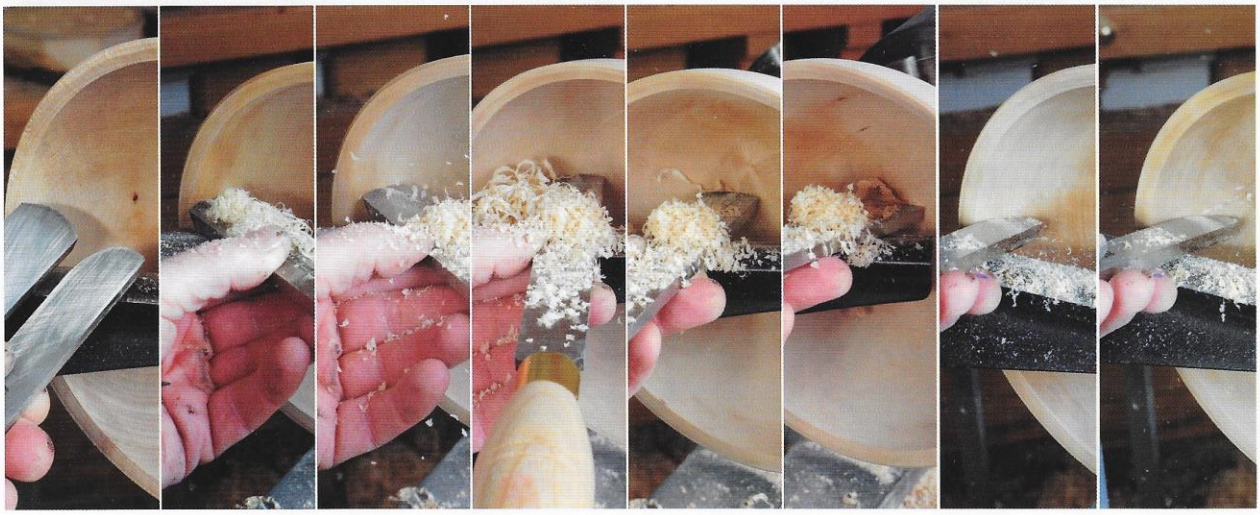
Shear scraping occurs when the angle of the cutting edge is inclined in relation to the work to create a peeling-type cut. Imagine a knife slicing through bread – you're trying to create that slicing action. This is a more refined cut; the bevel does not rub and the blade trails, as with the standard scraping cut. However, as with a skew chisel, keep the cut in the lower half of the cutting edge for optimal control. The scraper blade is tilted so the flat face points in the direction of the cut and is presented at approximately a 45° angle.

The blade trails backwards slightly and is pulled around the work. A finer cut is achieved when the cutting edge is closer to a vertical position. The closer the cutting edge gets to the horizontal, the coarser the cut will be – just like a normal scraping cut.

CLEANING UP THE INSIDE OF A BOWL USING A SCRAPER

For internal bowl work, you need to set the toolrest on or just above the centreline. In this case, the cut is made on or just above the centre mark. You need to remember that the blade must trail down in order to give you the maximum control required. To ensure you achieve a well-supported cut, move the scraper from the largest outer section near the rim down towards the inner, lower section. This too can be viewed as a downhill movement.

The shape of the cutting edge will help or hinder you, in as much as we need to have as much cutting edge contact with the surface as possible, but also, the shape of the bowl will affect the profile used. See the pictures below. The first one shows a round-nosed and a French curve profiled scraper. The next five pictures show a round-nosed scraper used to refine the inside curve. The handle starts off being off to the right and depending on how deep the bowl is, you may find the handle hits the opposite side wall. So, that profile will not allow you to reach correctly where you need to go inside the work. The last two pictures show a scraper with a French curve profile. Note the profile allows you to cut more on the side of the profile so the handle is more square to the work, thus avoiding the possibility of hitting the opposite side wall.



USING A SCRAPER TO CLEAN UP AN END GRAIN PROJECT LIKE A BOX OR EGGCUP

For end grain spindle work, such as goblets and boxes, the scraper is usually only used to refine the hollow internal shapes – although on smaller work it is often used as the primary tool to create the small internal hollow sections. Present the blade in the same way as you would for bowl work – remembering to match the cutting edge profile as best you can to the final internal profile required. Then, make the cut from the lower inner section of the work out towards the upper rim section. Remember the principle of always having a longer fibre behind the one being cut to provide support? Well, this cutting from the lowest inside section of spindle grain up towards the top of such open forms means we are doing this. If in this case you have a small recurve, work from centre up and out towards the widest part then down from the rim to the widest section. Light cuts are all that is ever required. You are refining the shape not hogging timber out. Kiss the surface with the cutting edge and keep the edge sharp. ●