

arbortech Ball Gouge

Kevin Inkster and his team at Arbortech have opened up a whole new field of carving with this clever ball gouge. Every second year Kevin seems to come up with a left-field idea that adds yet more versatility to an angle grinder. This ball

gouge is in a league of its own, there is nothing like it on the market. It is truly original and is bound to become yet another clever Arbortech tool you will need to add to your workshop.

BALL GOUGE

As you can see in the image above the ball gouge makes quick work of carving coves in spoons. A little more patience is required to carve bowls, however before we move on to that challenge we need to look at the ball gouge itself.

What you get in the package is a ball gouge, an Ian key and an adapter nut. The adapter nut allows you to use a wide range of angle grinders as the motive force to run the ball gouge. The Ian key unlocks the ball gouge and allows you to reposition the cutting disc so you can present a fresh face to the work at hand. The ball gouge itself is an assembly of four components: the stem, the cutting disc, the ball cap and the screw. The cutting disc has two cutting edges to it; one on either side of the ring. The disc itself is 30mm in diameter while

the top of the stem and the ball cap are machined to 25mm finished diameters. This reveals 2.5mm of exposed blade to carve with.

TORQUE SETTINGS

The ball gouge spins at 12,000 rpm. At this speed you do not want the screw to come adrift and the cutting disc to fly free. To make sure the correct torque is applied to the locking screw an Ian key is used to lock the screw in position. (Kevin's brother Ian developed this clever idea.)

If you take a close look at the Ian key to the left you will notice a thin piece of clear tubing has been slipped between the vertical and the horizontal arms. To achieve the correct locking torque of 12Nm all you need to do is apply enough pressure to the long arm of the key so the face of the tubing touches the short arm (with the tubing removed the torque will be 18Nm). The ball gouge torque has been set in the factory. You will only need to use the key when repositioning the cutter to expose a fresh edge to the stock.



▲ The clever cutting disc on the ball gouge has many lives. The blade is self-sharpening and can be unlocked and easily rotated, presenting a fresh set of cutting edges to carve with.



▲ The 30mm-diameter blade rotates at 12,000 rpm, gently peeling away the stock to create a cove.



▲ The ball gouge allows you to nibble away at an edge, producing undercut edges with ease.



▲ The self-sharpening disc hones itself after each pass. The active edge is between the "dots".

CARVING COVES A BALL GOUGE

Arbortech sent us a beta version of the ball gouge to trial (the only difference between it and the final version was the addition of some clear tubing on the Ian key to reduce the torque needed to lock the screw down). When I first went to use it on my old Makita grinder I noticed that it danced all over the place and did not bed down and carve. The problem was worn bearings in the grinder telegraphing a wobble all the way to the end of the gouge. A new Bosch grinder soon had that problem solved.

I moved out of the workshop and into the garden so I could walk 360-degrees around the yellow cedar billet I had chosen to carve. As with all tools it takes a while to find the sweet spot and get the thing to do its job. I soon found that gentle sweeping cuts worked best, literally peeling away layers until the appropriate depth and shape was achieved. It took a while to start the cut. (I could have bored a starting hole with a Forstner bit to speed things up.)

The difference between carving and turning is that with carving you can embrace asymmetrical shapes. I wanted to follow the grain in the billet and produce an oblong bowl with an undercut lip. This is where the ball gouge could really do what other tools can't. Undercutting the lip was easily done (again with gentle sweeping cuts).

CARVING EXTERNAL FLUTES

With the inside shape carved it was time to reposition the billet on the bench (you

will notice I inserted an Irwin Quick-Grip clamp into the folding bench for added stability). I needed to reduce the thickness of the billet by 30mm to achieve the shape I was after. This was done with smooth sweeping passes of the ball gouge over the base. I was impressed with how easy it was to sweep away layer upon layer of stock. It was at this time I decided to use a black marker on the cutter so I could see what edges were being used to do the cutting. As you can see in the top right photo it was the blade edges between the two ventilation holes that did the cutting (about a sixth of the cutting edge). When I had the billet shaved to the correct thickness it was time to round the edges and scallop the sides.

SELF-SHARPENING

What is so very interesting about this clever tool is that the cutter is self-sharpening. The motion of the cutter has one edge cutting while the opposite edge is being swept against the stock being honed. That means that on a down stroke an edge will slice away at the stock and create a slight burr. On the up stroke that burr is honed away, leaving the edge as good as new. Eventually the cutter will need to be repositioned using the Ian key and exposing a new edge so you can craft away again.

In the end I liked the scalloped finish left behind by the ball gouge and decided to leave it as is. For more information visit arbortech.com and see Sources page 73. 



▲ A smooth sweeping motion is used to create flat surfaces. A steady hand is the key.



▲ The ball gouge can be used just like a traditional gouge and used to produce spiral scallops.



▲ An undercut asymmetrical bowl. I could have sanded it smooth but preferred the scalloped effect left behind by the ball gouge.