

# CARBUR 2

It is a brand new versatile burnishing tool with solid carbide inserts, useful to turn super-quick but refined edges on scraper blades of all shapes and thickness, as well as on HSS and other scraper-type turning tools.

A quick description of some of its more important technical strong points:

- Two solid specially designed carbide diamond-ground inserts in the head of the tool, ensure long lasting scraper-forming.
- Forged aluminium handle with anodized finish for resistance to humidity and hard use.
- Tapered head for 'lifting' the hilt above the blade or tool being burnished.
- Incorporated guard for hand protection. This is especially useful when burnishing 'dangerous' edges, like sharp cornered turning tools.
- Thumb rest indent for right or left handers in hilt of each tool.
- Tool fits easily in pocket or belt pouch
- Each tool has a hanger hole at the end of the handle (or alternatively the user can put a cord or thong through the hole to easily hang or attach the tool to a thread or nail).
- Burnishes smoothly and quickly, using no oil or water.

## A QUICK DICTIONARY OF SCRAPER MAINTENANCE and USE PERTAINING TO THE CARBUR 2

The tapered head of the CARBUR 2 carries two solid carbide inserts: one with cylindrical, polished smooth face; the other of triangular cross-section, with the apex of the triangle minutely rounded, rather than sharp. This tool is of special interest to woodworkers, for its use in setting up and maintaining the scraper.

The scraper can be used to strip hardened glue-lines from wood surfaces. Also, after wood has been planed - to flatten and smooth the wood surface and remove saw and millwork marks, the scraper can follow to further refine the surface and, in many cases, to eliminate the need for sanding. The scraper can also serve to cut off imperfections in the successive layers of varnish or other coatings used in the finishing process.

In woodworking, the most common form of this tool is the card scraper, a rectangular piece of metal; roughly 2.5 x 6 inches (or smaller for close-quarter work) 0.4mm to 1mm thick, and of hardness about Rockwell 50 or higher. The scraper is held between the hands, flexed by thumb-pressure, and the long edge pushed along the surface of the wood in a planing motion. The effect of the tool depends on its preparation.

**Step 1:** The scraper is gripped in the jaws of the bench vice, and a single-cut file is pushed lengthwise along the edge of the scraper, the fingers of both hands sliding against both faces of the scraper in order to ensure a square cut.

Hint: Make sure that you make a smooth file stroke, as you want to avoid chattering and chatter marks on the scraper edge.

**Step 2:** The scraper is smoothed on a fine-grit waterstone or oil stone. First, the flat of the metal adjacent to each long edge on both sides of the scraper (thus 4 areas in all) is polished on the flat face of the stone. Then each long edge is smoothed on the edge of the waterstone (to avoid marring the stone's face), taking care to keep the scraper's edge square to the stone's face. This should leave you with edges that are not only smooth – but that make a clearly defined, continuous intersection with the flat of the tool.

**Step 3:** The scraper is laid flat on the bench top, just short of the top's edge. Stroke the round-faced insert of the CARBUR 2 on a cake of paraffin to lubricate it. This is not absolutely necessary but helps in getting a more refined edge. Then, holding the scraper in place with one hand, hold the carbide flat against the face of the scraper and run it along the full length of the scraper and onto the bench at either end; back and forth, with increasing pressure, to consolidate the metal. The sound that it makes – a sort of "tick..tick..tick..." is the reason behind the often given nickname behind this operation – ticketing. Do this to the face areas along each long edge on both sides of the scraper.

Step 4: Move the scraper so that its edge overhangs the edge of the bench-top. Lubricate the burnisher on the paraffin. Then, holding the scraper in place with one hand, hold the burnisher end up, at a 5 degree angle to the upper face of the scraper, and draw the carbide slowly, firmly and consistently along the full length of the edge. Repeat twice, holding the burnisher at a 10 degree, then a 15 degree angle. Do this to all four long edges of the scraper. The resulting burr along each edge constitutes a very fine plane blade.

Please note that this step can be carried out with either the round carbide insert (for a finer more refined edge or for use on curved-scraper profiles) or with the triangular profiled insert (which is the perfect choice when you want to 'turn' aggressively and quickly a long scraper edge or need to 'turn' a burr over a small dimension (for example: the end of a HSS hook scraper). CAUTION: When using the triangular profile for this operation; make sure that you do not press too hard as the carbide is so hard, that it can cut instead of 'turn' the burr.

Now you can put the scraper to work. Hold the tool between both hands, tilt it just enough so the burr can cut into the surface, and flex the metal enough to keep the corners of the tool from scratching the surface during the stroke. Choose the direction of the stroke, skewing the tool as needed, to best suit the characteristics of the wood, the direction of the grain, and so on...

When the burr wears, it can be renewed with the burnisher. Again, paraffin the burnisher, hold the scraper flat to the bench-top and run the burnisher with gradually increasing pressure, consolidating the metal at the same time, persuading the burr to stand flat out from the surface of the metal. Do this to all four edges of the scraper. And once more with the scraper overhanging the bench edge, use the tilted burnisher to draw the burr back to the required cutting angle. (You may decide that 15 degrees is far too much, use your judgement).

When the burr has been thus refreshed a number of times, it will be necessary to go back to the filing and stoning steps and the burnish a fresh burr onto the metal. Throughout, you'll find the carbide is so hard that the short length of the insert is enough to do the work at hand, without marring the carbide, no matter how hard the metal in question! As for the triangular insert of the CARBUR 2, that shape makes it possible to apply a concentrated pressure strong enough to turn the edge of the hardest metal you are likely to encounter. So strong, in fact, that the rounded apex of the carbide is designed to keep the tool from cutting off the burr entirely rather than leaving it attached to the parent metal.

#### MAINTAINING YOUR TOOL

Always keep your tool in its split-leather pouch when not in use as the carbide inserts should be protected from undue shocks with other tools or surfaces. Please remember not to 'slap' the carbide against the blade you wish to burnish, as this could chip the carbide insert. Instead a smooth stroking action is called for and will give you a longer tool life and better quality scraper edges. If microchips do occur on your inserts in most cases the tool will still work, however, a quick touch up with a diamond file or very fine diamond stone can re-smooth the insert again.

Scrapers come in many shapes and sizes: large, small and not only with straight but with curved edges in a variety of sweeps. The two profiles, the trim-nose and the short carbide inserts of the CARBUR 2 let the craftsmen deal with even the smallest of these outlines. Machinists, model-makers, instrument makers, woodworkers.. A wide variety of tradesmen and home-workers will welcome the efficiency and convenience of this new tool.

We are sure you will find many new uses for this wonderful tool!