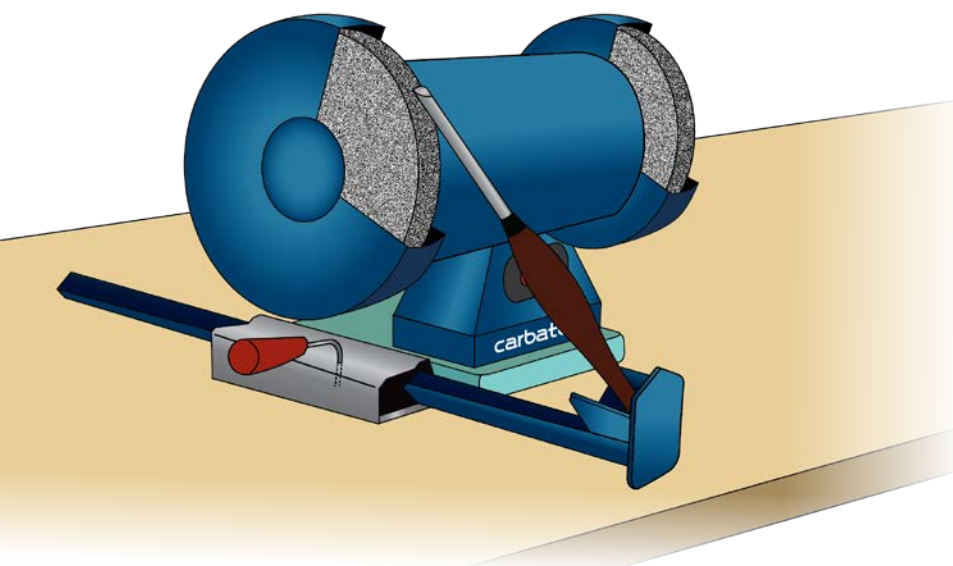


CT-SGSS-01 CARBATEC SPINDLE AND GOUGE SHARPENING SYSTEM

INSTRUCTIONS



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For your new Carbatec CT-SGSS-01 Grinding Jig to work best, your grinder and your grinding jig should both be mounted to the same board or a bench so that they only move in relation to each other. This is important to ensure centered locations and distance to wheel never change. The supplied bases must be mounted directly to the bench under your grinding wheels on both sides of your grinder. The flat base of the grinding jig must be mounted between 160 and 165 mm, below the centreline of your grinding wheel. (Fig. 01)

1. Slide the Long Support Arm (Fig. 06) into the base to make sure that the centre of the pocket lines up with the centre of your wheel. The front of the base should be aligned with the front of the grinding wheel.
2. The base must be about 12 mm (or less) from the front of the mounting board.
3. Once you have the base positioned use four screws to hold and secure it in place.

Fig. 01

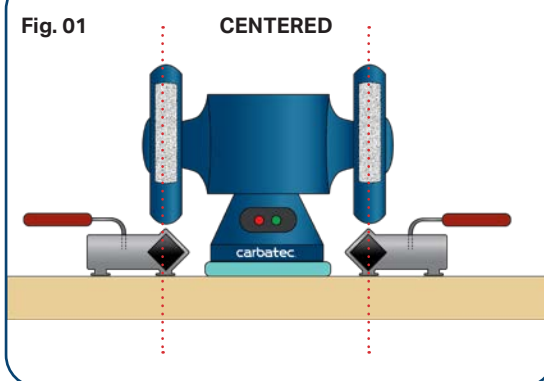
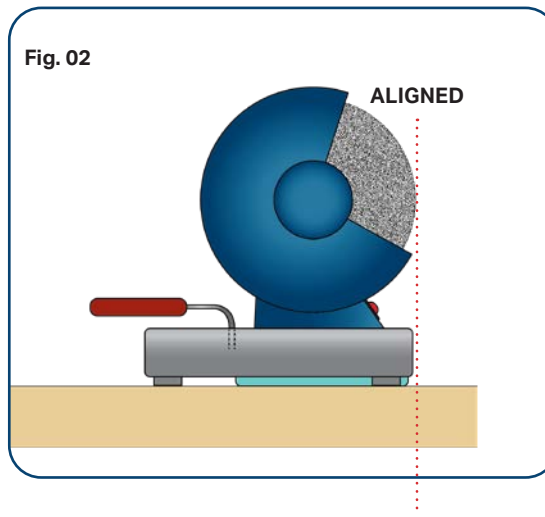


Fig. 02



INSTALLING YOUR JIG

Two bases are supplied to allow easy change in grinding between left and right (which may have two different grit wheels)

Notes:

- If your grinder is fitted with rubber feet, these should be removed to ensure correct ongoing alignment, as rubber can compress over time, and they may be reinstalled underneath the mounting board if required.
- With some grinders it may be necessary to mount your grinder on a spacer to allow correct height setting as shown in diagram. This may be necessary if any part of the jig base interferes with the wheel guards.

INSTRUCTIONS FOR GRINDING

There are several ways to support your tools for grinding:

- Flat Platform (Fig. 03)
- Long Support Arm (Fig. 04)
- Fingernail Jig Attachment – used in conjunction with the Long Support Arm
- Skew Plate Jig – also used with the Long Support Arm

USING THE LONG SUPPORT ARM

The Long Support Arm can be used to grind standard (flat grind) bowl-gouges and roughing gouges. Gouges are ground with basically the same technique.

1. Slide the Long Support Arm into the base. (Fig. 05)
2. With the grinder turned off, rest the handle of your tool in the V Pocket of the Long Support Arm. (Fig. 06)
3. Slide the Long Support Arm in or out of the base until the bevel of your gouge lays flat on your wheel surface when viewed from the side.
4. Clamp the Long Support Arm in place with the cam locking lever.
5. Lift the edge of the chisel off the wheel and turn the grinder on.
6. Gently lower the gouge to the spinning wheel and allow the grinder to make a small mark on your chisel edge.

Fig. 03

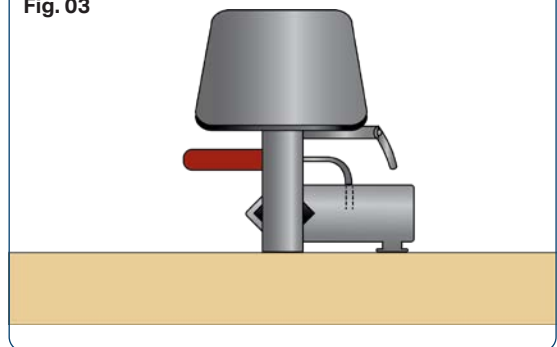


Fig. 04

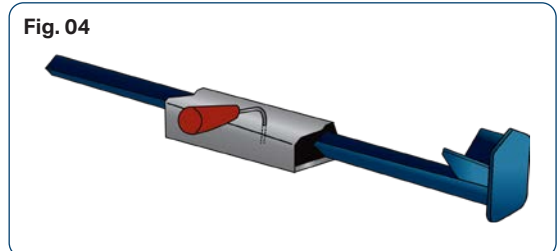
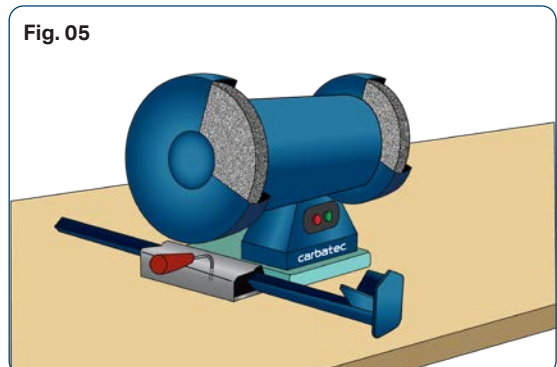
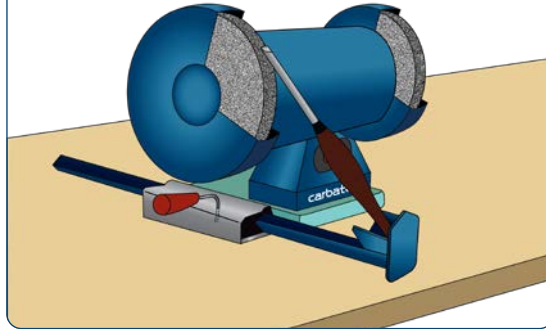


Fig. 05



7. Lift chisel back off wheel and check for correct positioning of the Long Support Arm by lifting the tool completely off the wheel and Long Support Arm and inspect the grind marks on the bevel.
 - If the grind marks are even on the whole bevel, then the arm is adjusted properly.
 - If the grind marks are only on the front cutting edge you will have to adjust the Long Support Arm in very slightly.
 - If the grind marks are on the heel of the tool or rear edge, away from the cutting edge, move the Long Support Arm slightly out before rechecking the grind.

Fig. 06

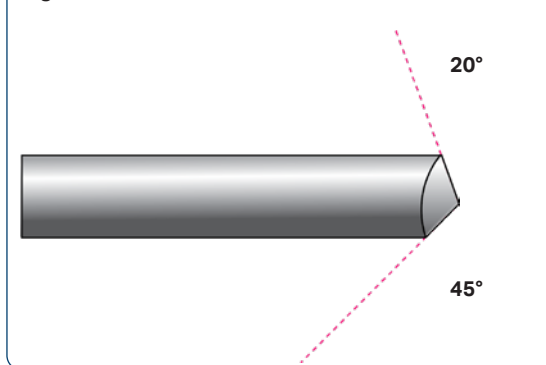


Once the position is set correctly, sharpen the gouge by touch the tool on the wheel and roll the gouge slowly back and forth, keeping the tool moving to prevent excessive heat build-up. If you are re-grinding an old tool with a very damaged cutting edge, the general-purpose bevel angle for gouges would be approx. 45°.

ROUGHING GOUGE

The roughing gouge is ground with a very simple geometry. Due to their design and uniform thickness of the material through the tool profile, the grind angle remains consistent from edge to edge. The outer edges remain fairly square to the tool. Keeping the grind consistent across the entire edge is important. Make sure you don't grind too much away in one area, by constantly stopping and checking. The basic angles can be adjusted to suit your turning technique.

Fig. 07



BOWL GOUGE

Bowl Gouges have a material profile that is thinner on the outer edges (ears), and although sharpened the same way as a Roughing Gouge, the more grinding undertaken on these outer edges, will see a secondary angle introduced (in relation to the edges of the tool). It is a matter of personal preference how far back you prefer the ears to be, but most turners will grind them to approximately 10 to 20°.

USING THE FLAT PLATFORM

The Flat Platform can be used to sharpen scrapers, parting tools, flat or straight edge skews as well as standard wood chisels.

1. With the grinder turned off, slide the assembled platform into the base on either the left or right side of the grinder.
2. Clamp the platform arm in place with the locking lever so that the platform is held securely.
3. Adjust the platform so that the tool meets the wheel at the required angle, adjusting the support arm to ensure the gap between rest and wheel is at its minimum.

With standard wood chisels, utilising this attachment to re-grind or set initial angles works best, in conjunction with final sharpening and honing tools. Cool the edge often as many chisels are carbon steel which softens when turned blue with heat. Final sharpening can be undertaken on sandpaper, diamond plate etc, with various honing guides.

THE FINGERNAIL JIG ATTACHMENT

The Fingernail Jig Attachment will consistently produce sharp, repeatable geometries on turning tools such as Continental Spindle and regular Spindle Gouges & Irish Grind. With regular grinding jigs, these profiles can be difficult to replicate and maintain. The Fingernail Jig Attachment when used in conjunction with the Long Support Arm, will easily and consistently replicate these grinds.

1. Insert the tool into the Jig with a fixed 50 mm protrusion.
2. Set the centre bevel angle by moving the Long Support Arm as required.

The multi position swiveling arm on the Fingernail Jig Attachment, affects both the primary angle, but also the length on the wings. The further the leg is away from the chisel, the shorter the wings will be. Closer leg positions will produce longer edge wings. Some guesswork will be required with so many varying grinds, but documenting settings or building simple setup stops and jigs will make the repeat setup much easier. Grinding is done in the same way as regular gouges, but by rotating the entire Fingernail Jig Attachment.

SKEW OFFSET PLATE

The Skew Plate Jig (designed to work in conjunction with the Long Support Arm) will perform the skew angle grinding on flat and curved skews and scrapers. The Skew Offset Plate is clamped over the standard Long Support Arm pocket and held in place with the thumbscrew. This allows the same setup as a standard gouge, with the ability to flip the tool over to repeat the grind on the opposite side. Distance from wheel is set manually and by eye. Minimal movement will result in a flat grind, and a slight sweeping motion can produce a more curved grind. These type tools may require a light stropping on a leather strop, to remove the burr that is developed.