

Helicarb® Grinding Instructions

Note: Instructions are for a typical cutter. The cutter shown may not look identical to your cutter.

1. Great Lakes Custom Tool recommends the use of **safety glasses at all times.**
2. When the cutter is mounted on the machine, be sure to follow **LockOut/TagOut** procedures and use all appropriate personal protection equipment.

The Helicarb blades are to be ground in the cutter head using a Weinig Rondamat Grinder. Other makes and models of grinders may also be used.

Setting up the Grinder

Change the insert on the Rondamat Grinder knife rest. Remove the 2 screws holding the straight insert. Remove the straight insert and replace it with the angled insert. Reinstall the mounting screws. The **angled knife rest insert** can be purchased as follows:

GLCT Part Number----- 810-23426-0000

Weinig Part Number-----930-013024HEL

Use a **diamond wheel** to grind the Helicarb twisted carbide blade. The recommended Weinig diamond grinding wheel to use is 3mm thick with 1.5mm radius.

Weinig Part Number---930-062016

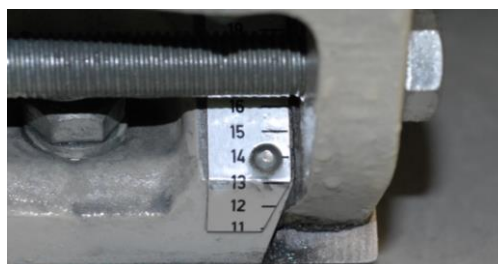
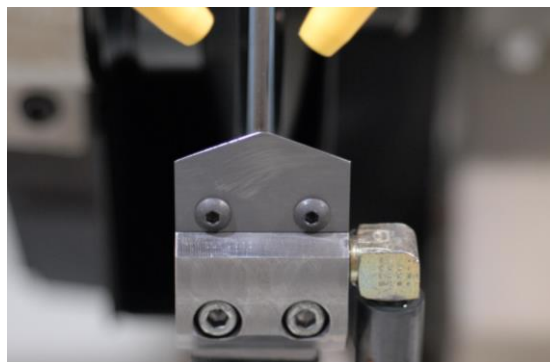
Other thickness of diamond wheels may be used, but they must have a radius for grinding the helical blade.

The angled insert knife rest and the diamond wheel must be centered with each other. Centering of the knife rest and the wheel will allow for grinding of either right hand or left-hand helix tools. Center the grinding wheel and knife rest by either moving the knife rest insert or shimming the grinding wheel.

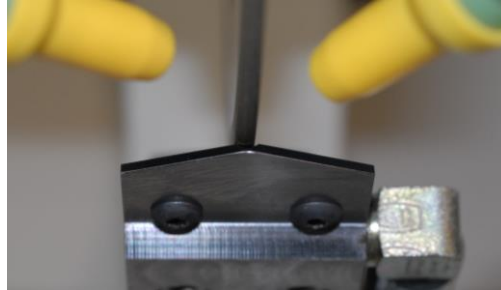
Set the back clearance angle on the grinder to 11°.



Helicarb Powerlock Cutter



Turn on the grinding wheel and move the wheel up until you hear it just touch the knife rest. Continue to move the grinding wheel into the knife rest to grind a slight groove. Continue to grind until the wheel is .040" to .050" from the front face of the knife rest. Move the wheel back slightly, (.005" to .010") until the wheel is no longer grinding.



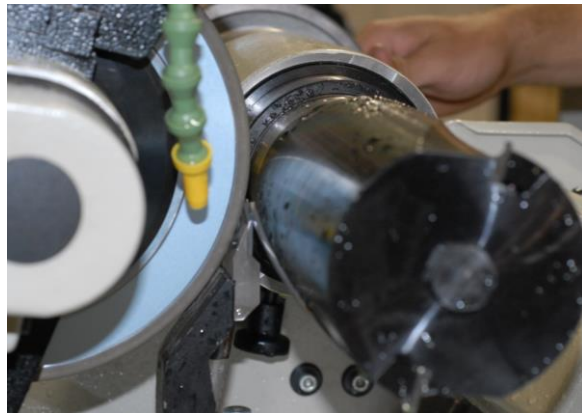
Grinding the Blade

Mount the Helicarb Powerlock tool in the grinder. Use **gloves or a shop towel to protect your hands**. Other Helicarb tools with straight bores, or hydro sleeves are mounted differently, but are all ground in the same manner.



Move the cutter to place the end of the blade on the grinder knife rest. Secure the compound slide with the radial clamp. Turn on the grinding wheel. Set the diamond **grinding wheel speed to 3000 rpm**. Recheck that the back clearance angle is set at 11° and that the wheel is turning down into the knife rest.

Bring the cutter in towards the grinding wheel until you hear it touch. Start the coolant flow and make a light pass.

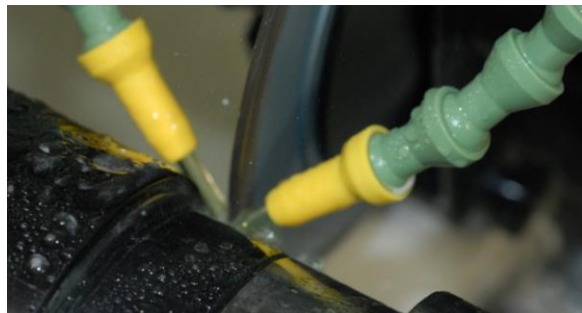


Always grind the Helicarb cutter with the helix sliding up onto the knife rest to help keep the blade down on the knife rest while grinding. A right-hand helix powerlock cutter will be mounted with the HSK end on the right as you are facing the grinder. The blade should be ground from the right end to the left end.

A left-hand helix powerlock cutter will be mounted with the HSK end on the left as you are facing the grinder. The blade should be ground from the left end to the right end.

Remove .004" to .008" stock in each grinding pass. Grind each wing once and then inspect and determine if additional passes are required.

The grinding wheel must not contact the cutter body. When the grinding wheel is close to touching the cutter body, it is time to change the Helicarb blades.



After the blades are all sharpened, remove the cutter from the grinder.