

GRS Carbide Square Gravers INSTRUCTIONS

GRS Carbide Square Gravers are made from a special grade of carbide for impact usage. This carbide will cut materials of greater hardness and toughness than high speed gravers, and is also suitable for use on softer materials.

Even impact resistant grades of carbide are subject to point failure and must be sharpened in a manner that produces a durable point. Generally, the angles used on the graver must be increased as the hardness of the material being cut increases. A graver lube also helps.

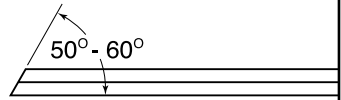


TIP: Try a lubricating penetrating fluid — the kind that is sold to loosen rusted bolts and nuts.

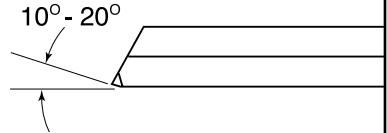
CARBIDE MUST BE SHARPENED WITH A DIAMOND WHEEL.
For best finish, a 1200-grit wheel is desirable.

Sharpen in the following manner:

1. Sharpen face at $50^\circ - 55^\circ$ — even 60° for very hard materials.



2. Sharpen heel surfaces at $10^\circ - 20^\circ$.

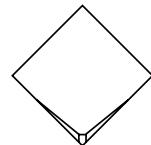


3. Remove the sharp edge from bottom of heel. To accomplish this, clamp the graver in a GRS Dual Angle Sharpening Fixture with the point down (in the V-groove) and at the same angle setting used to produce the heel. With the Power Hone turned OFF, sweep graver lightly across the diamond wheel. **BE CAREFUL . . .** it doesn't take much.

- OR -

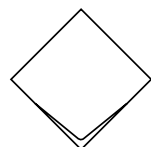
Produce a slight radius on the bottom of heel freehand on the diamond surface. This produces the best point, but is more difficult to achieve because of the freehand operation. Practice will help.

END VIEW



SMALL
FLAT

OR



RADIUS



PRODUCT WARNING

This information must be transmitted to all persons who may come into contact with dust generated from the enclosed product.

CEMENTED CARBIDE PRODUCT WITH COBALT BINDER

All Carbidio carbide grades except:
CD-6N, CD-10N, CD-16N

The above grades contain Tungsten Carbide and Cobalt, with some grades containing Tantalum Carbide.

READ MATERIAL SAFETY DATA SHEET FOR APPLICABLE CARBIDE GRADE BEFORE GRINDING PRODUCT.

WARNING: GRINDING OF THIS PRODUCT WILL PRODUCE DUST OF POTENTIALLY HAZARDOUS INGREDIENTS.

Dust from grinding this product can cause nose, throat, skin and eye irritation and temporary or permanent respiratory disease in a small percentage of exposed individuals. Permanent respiratory disease can lead to disability or death. Coolant mist from wet grinding may contain dust.

- Avoid breathing dust or mist.
- Avoid prolonged skin contact with dust or mist.
- Use adequate ventilation when grinding.
- Maintain dust level below OSHA and ACGIH levels.
- Use protective devices.
- Wash hand thoroughly after handling, before eating or smoking. Dispose of materials according to local, state and/or federal regulations.



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