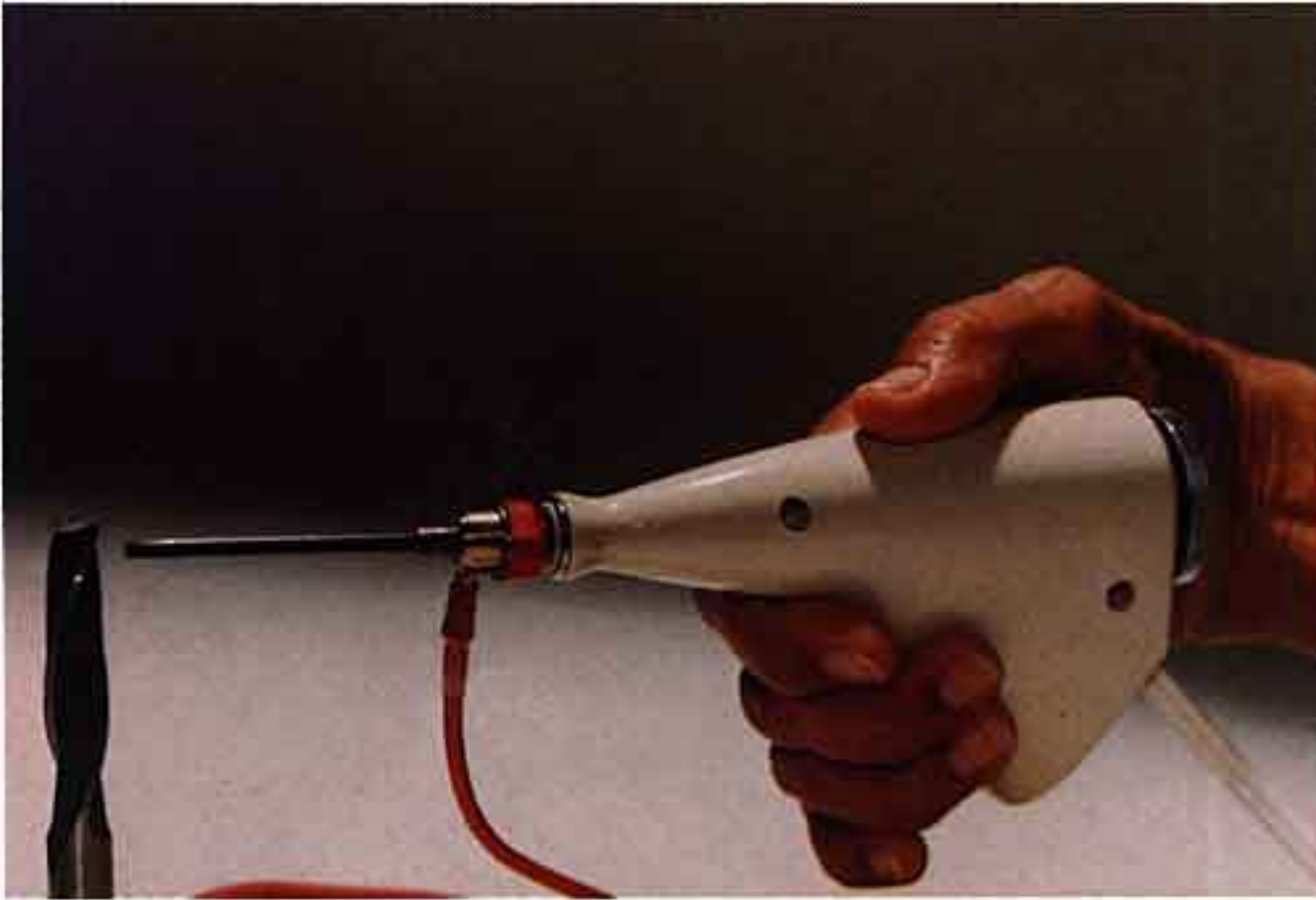


Carbitron Model 300

The Low-Cost Tungsten-Carbide Applicator with the Heavy-Duty Features



Typical Applications

- Extend tool life
- Resize and salvage worn tools
- Obtain self-sharpening cutting edges
- Protect wear surfaces
- Repair worn parts
- Create non-brittle Tungsten-Carbide surfaces
- Increase friction and wear-life of grippers
- Improve thermal-shock and impact resistance of surfaces
- Improve surface textures

Extend the Life of Tools and Wear Parts up to 1000%

This simple, easy-to-use process applies Tungsten-Carbide to tools and wear parts with resultant greatly improved cutting characteristics and wear life. The Carbitron 300 System, consisting of an adjustable power supply and a vibrating hand-tool, is a heavy-duty unit incorporating the features of units selling for 5X - 10X it's low price.

With savings in down-time, tool changing, tool-sharpening and tool purchases, the Carbitron 300 will pay for itself in an amazingly short period.

• "DIAMOND DUSTING"

Renew and improve micro-laboratory and micro-surgical tools with ultra-hard surface coatings. Enhances gripping characteristics for tweezers, forceps, needle-holders, etc.

• STAMPING

Apply to high-wear areas of punches and dies. Typical increase in operational life of 6X-10X.

• CUTTING TOOLS

Can be applied to lathe bits, milling cutters, taps, saws, drills, hobs, reamers, knives, scissors etc.

• FORMING TOOLS

Apply to contact surfaces of continuous or intermittent type forming tools. Will greatly increase operational life and minimize galling.

• COLLETS AND CHUCKS

Apply to gripping surfaces. Will greatly increase gripping action and reduce wear.

• FORGING DIES

Apply to high-wear surfaces. Life extended 5X-10X.

• MACHINE PARTS

Create unique new properties by applying to surface of high-wear parts. Greatly improve machine reliability.

The Carbitron 300 Tungsten-Carbide Deposition System is a process whereby minute particles of Tungsten-Carbide are diffused into and deposited onto metallic surfaces for the purpose of improving wear characteristics and also for the correction of defects or mistakes.

The process employs a Tungsten-Carbide electrode mounted in a small hand-gun vibrator coupled to a specially designed power supply. As the Tungsten-Carbide electrode repeatedly contacts and withdraws from the work surface, small disruptive arcs are created which dislodge Tungsten-Carbide ions from the electrode and deposits them into and onto the work surface. The Tungsten-Carbide deposition layer forms a true metallic bond with the work surface with a hardness of 78-80 Rockwell C.

The thickness of the deposition layer is controlled by the discharge intensity selector on the power supply and may be varied from 0.0002" to 0.001" in increments of 0.0002".

The Tungsten-Carbide electrodes supplied provide excellent yield. Typically, a 1/8" x 2 1/2" electrode will coat approximately 50 sq. in. of surface with an average deposit thickness of 0.0005".

Carbitron 300 specifications - Catalog # TS3037

- Dimensions:** 11"L x 6"W x 5"H
- Weight:** 15 lb.
- *Voltage:** 110V, 60HZ, 4 amp
- Nominal Power:** 0.4 KW
- Duty Cycle:** 50% (Max. Cont. On Time-10 Min.)
- *NOTE:** Also available 230V, 50HZ

Standard Equipment

- 1, Discharge Power Supply
- 1, Vibrator Hand Tool
- 1, Power Cable
- 1, Ground Cable
- 1, 1/8" x 2 1/2" Tungsten-Carbide Electrode
- 1, 1/16" x 2 1/2" Tungsten-Carbide Electrode
- 1, Instruction Manual

Electrodes:

- Catalog # TS3038 - Tungsten-Carbide 1/8" x 2 1/2"
- Catalog # TS3039 - Tungsten-Carbide 1/16" x 2 1/2"
- Catalog # TS3040 - Tungsten-Carbide 1/32" x 2 1/2"
- Catalog # TS3041 - Titanium-Carbide 1/8" x 2 1/8"

ACCESSORY

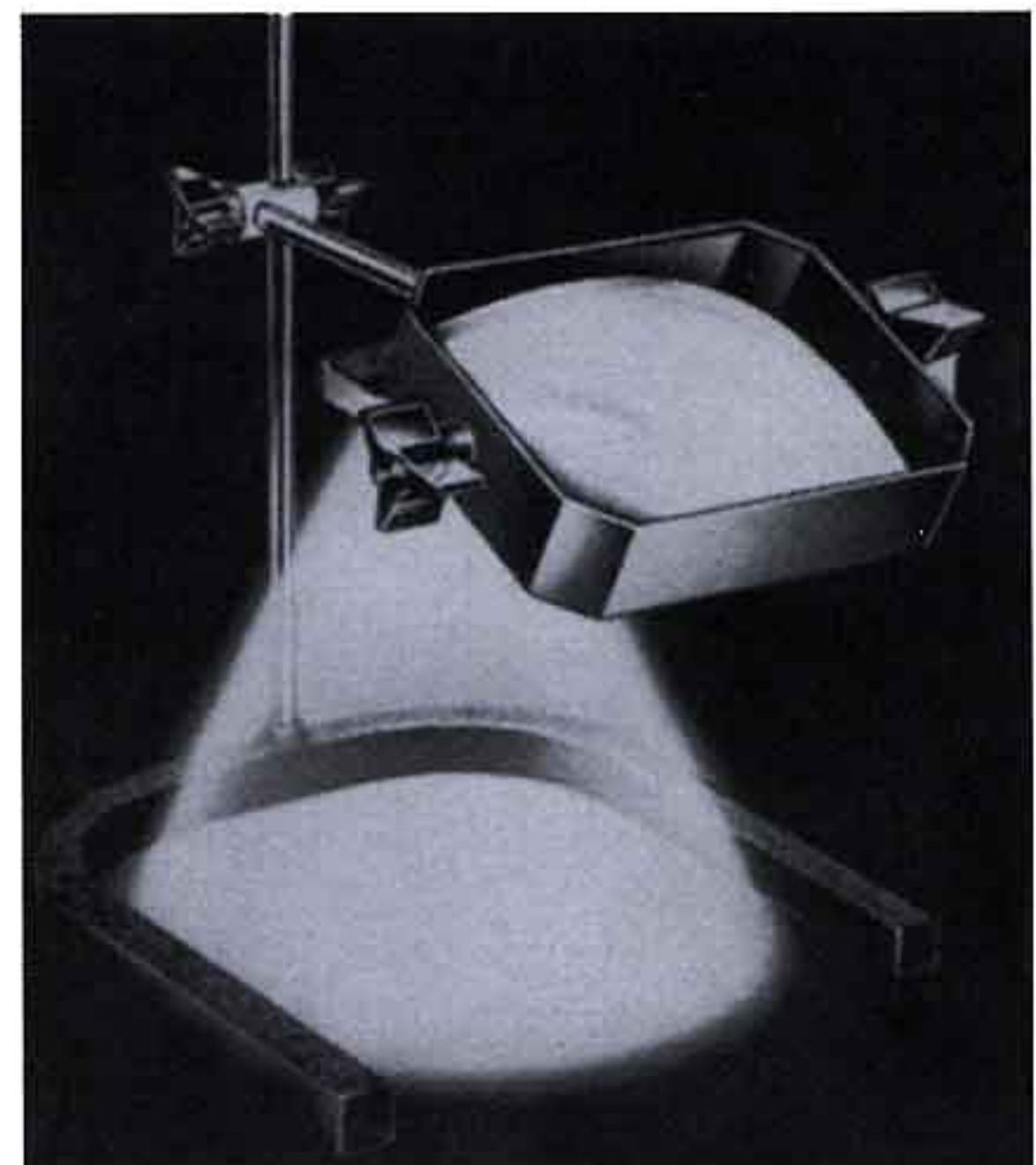
STEREOPTIC MAGNIFIER

Up to 48 Sq. Inch Work-Viewing Area

Assures continuous, fatigue-free production, eliminating eye-strain. Special precision engraved lens needs no focusing; maintains complete depth of field through all local point depths and distances. Heavy-duty metal base, polished steel horizontal and vertical bars. Optional halogen light available.

	Model	Power	Lens Size
Catalog # TS3047	U-66	3 Diopter	6" x 6"
Catalog # TS3048	U-68	2.5 Diopter	6" x 8"

Optional Gooseneck Halogen Lamp Available
Invaluable when applying Tungsten-Carbide to fine cutting tools



Some Typical Applications

Top Deposit



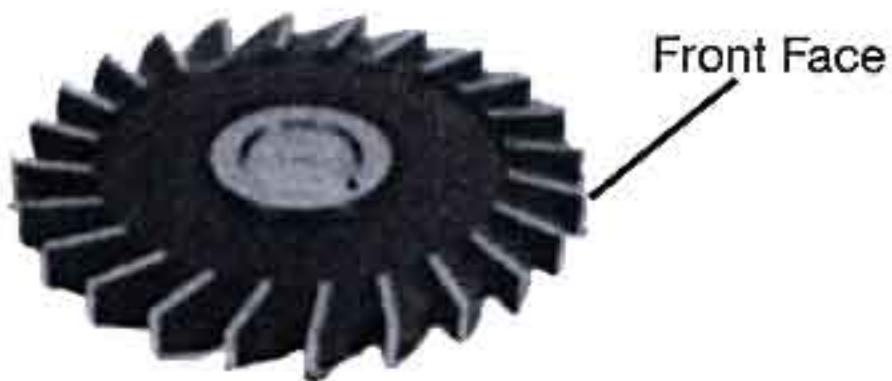
Lathe Bits and Single Point Tools In General

Deposit .0004" - .004" along top side of cutting edge. Then re-sharpen by grinding front.



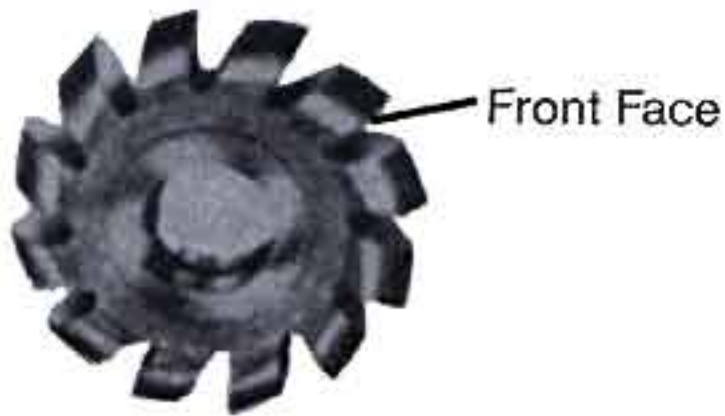
Ends Mills

Deposit .0002" - .0006" along cutting edges inside flute, at bottom and sides. Deposit along entire length of tool and then re-sharpen.



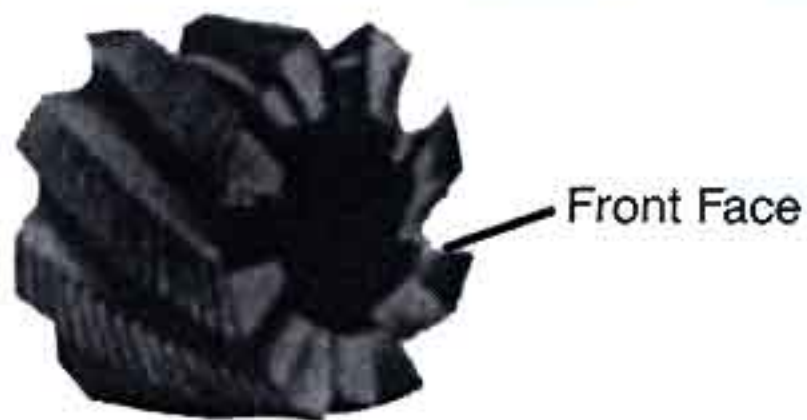
Horizontal Milling Cutters

Deposit .0002" - .004" on front face of each tooth along cutting edge. Then re-sharpen by grinding land.



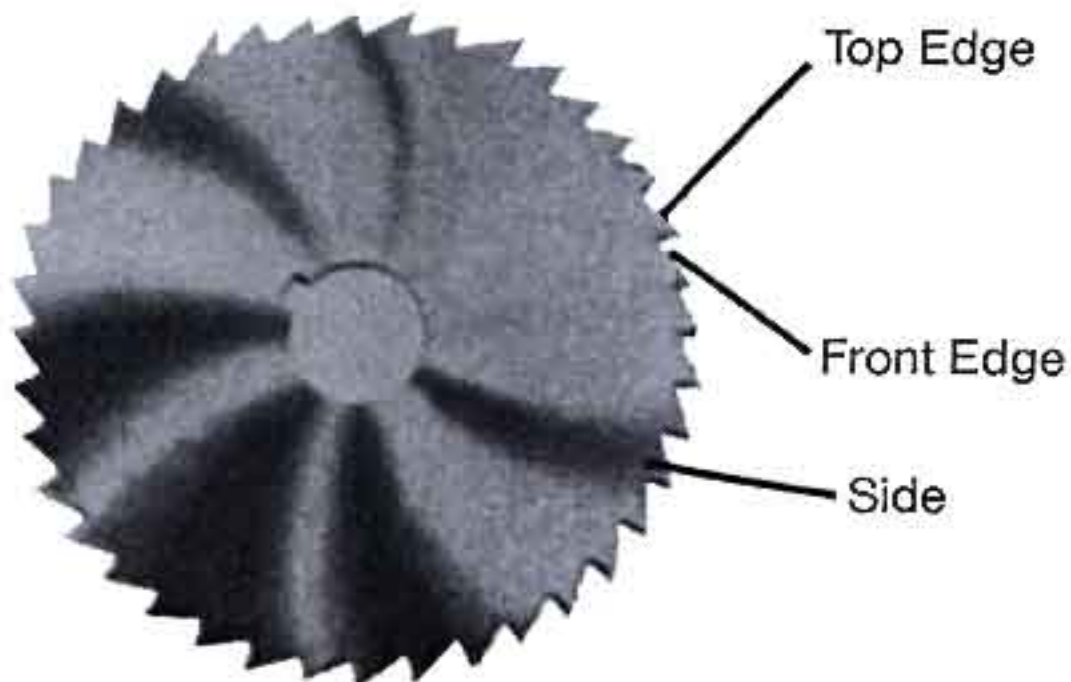
Hobs

Deposit .0002" - .004" on front face of each tooth along cutting edge and then re-sharpen.



Shell Mills

Deposit .0002" - .0006" on front face of cutting surface along cutting edge and then re-sharpen.



Saws

Deposit .0002" - .001" on front edges of each tooth and then re-sharpen. On fine saws with extremely small teeth this method is impractical. Instead, deposit on sides of teeth and then re-sharpen.



Drills

Deposit .0002" - .0006" inside flute for 1/4" - 1/2" of length along cutting edge and then re-sharpen.



Reamers

Deposit .0002" - .0008" inside flute along cutting edge and then re-sharpen.



Counter-Sinks

Deposit .0002" - .0006" along cutting edge inside flute. Deposit along entire length of cutting edge and then re-sharpen.



Counter-Bores

Follow same basic procedure as for end mills with deposit of .0002" - .0006". Re-sharpen after deposit.



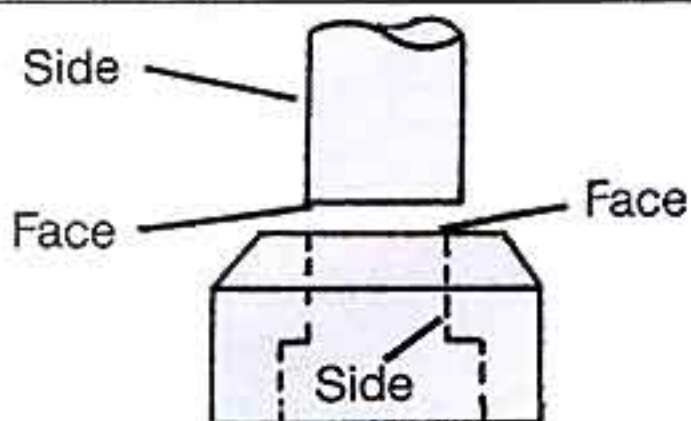
Taps

For sharp tools apply .0002" - .001" inside flute along cutting edge for 2-3 full threads. Take care not to nick cutting edge. Dull tools should be re-sharpened first and then same procedure followed as for sharp tools.



Thread Chasers

Apply .0002" - .001" along top cutting edge. If tool is dull re-sharpen first and then follow same procedure.



Punches and Dies

Apply to sides, face or both depending on area that is wearing. Most commonly the deposit is applied to the sides and the face is then ground. Deposit .0002" - .001" depending on thickness of build-up that can be tolerated.

Miscellaneous Applications - Non-Cutting

For such applications as various types of casting molds and dies, chucks, gripper, collets and general machine parts apply deposit over entire wear or gripping surface with a deposition thickness of .0002" - .004" depending on thickness that can be tolerated. For maximum smoothness of deposit move electrode briskly from side-to-side and apply a light finish coat of .0002" after a heavier coat is deposited.

Note:

In all applications, whether cutting or non-cutting, a light stoning of the deposited surface with a cubic boron nitride or diamond stone is generally beneficial for removal of burrs and optimum sharpness of cutting edge and for smoothness surface.

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