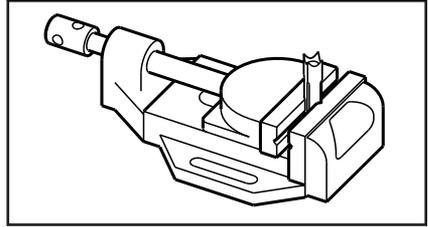


Cone Sharpeners for Square-Hole Punches

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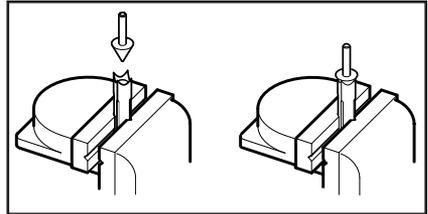
This pair of diamond hones has been designed to sharpen our square-hole punches (50K59.03+). The coarse one (180-grit) is for the basic grind and the fine one (350-grit) is to put a micro-bevel on the corners.

1. Secure the coarse diamond cone in your drill press.
2. Clamp the square-hole punch to be sharpened in a drill-press vise. If you do not have such a vise, you can secure the punch to a shop-made right-angle plate with a vertical fence.



3. Without starting the drill press, carefully lower the diamond cone into the punch. Position the vise so that the cone and punch are in alignment.

4. Retract cone from punch. While holding the vise and with the cone spinning at a low speed (150 to 250 rpm), lower the diamond cone down until it just makes contact with the square-hole punch. Withdraw the cone and inspect the punch's inside bevel to verify that the cone and the punch are in alignment – honing marks should be visible and consistent around the bevel. If not, repeat *steps 3 & 4*, allowing the spinning cone to help urge the vise and punch into alignment.



5. Carefully hone until a clean surface is obtained around the entire bevel and any nicks have been removed.
6. Replace the coarse cone with the fine cone and lightly hone the inside bevel of the four tips.
7. Using a fine stone or micro-abrasive on a flat surface, lap the outside faces of the square-hole punch to remove any burrs.

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