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Lynton McKenzie
June 9, 1989

Ceramic Stone Lubricant

The ceramic stones recommended for my graver and chisel sharpening method are made by Spyderco, Inc. P.O. box 800 Golden, Colorado 80402.

I suggest you purchase the large size/medium finish 2" X 8" X 1/2" stone.

A similar size 2" X 8" X 1/2" fine ceramic stone and several square 6" X 1/4" fine ceramic gunmakers file.

The manufacturer suggest that you use their stones dry (without lubricant). They can be cleaned occasionally with dishwashing liquid and water.

I strongly suggest that you use a lubricant you can readily make yourself. Do not use straight oil on these stones.

Recommended lubricant:

Water 1 pint

Solvable oil - 1 tablespoon (from machine shop supplier)

Dishwashing lubricant - 1 teaspoon

Use plastic squeeze bottle - shower soap dispenser, etc.

Work Method (45° face)

Hold some paper towel in your left hand. Squirt lubricant onto both stones. For face sharpening, hold graver or chisel upside down as you would a pencil. Block should be placed with the narrow supporting edge level with the outer edge of the bench top. This will give clearance for the lower part of the hand.

Start with the dark ceramic on the left. Hold tool firmly with the thumb and first two fingers. Move tool rapidly across almost full length of stone with strong vigorous side strokes. Use firm downward pressure. Be sure to keep tool at right angles to stone.

Wipe with the paper towel but don't change your hand position or angle. Lightly repeat on the fine stone for a few strokes. Wipe and check your progress.

You want this face to be square across and not slanted off to one side or the other. If it is incorrect alter the angle of your wrist and go through the motions again with both stones.


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When the front facet goes all the way out to the point and is square across it is done. Don't worry if it is not perfect but try to get it roughly good enough. Practice will improve your skill.

Work Method - Heel

A hand graver has a low heel angle (16°). A chisel has a much higher heel angle (21° - 22°). The heel is the small skid plate on the bottom edge of the tool which permits it to be driven along to make a cut. Without it the tool would dig straight in.

I prefer a heel angle which transfers the right angle shape of the bottom of the tool to make it parallel with the surface to be cut.

If you use a square graver  the bottom two flats act as sharpening guides in conjunction with two sets of rolls.

Use 2 hardened steel drill rod blanks 4" X $1/2$ " round and 4" X $1/4$ " round.

The $1/4$ " rod is placed against the wood surround adjacent to the front of the bench. Roll the $1/2$ " rod to the far side. Place the hand graver blade so one of the lower flats lays on the $1/4$ " rod tool so the tip comes out to mid way between both rolls. Move the tool sideways with firm downwards pressure. Move side to side for several inches. With the tool still on the roller flip it over to engage the other plate and repeat. Keep flipping back and forward to stone both sides evenly every few side strokes.

Clean and check with paper towel. The heel should extend back for at least $1/32$ ". For very deep cuts make it longer. For shorter tighter curves make it less. To put a slight curve on the bottom of the tool move it in and out about $1/16$ " as you go from side to side. This rounded heel can help it to run better with less chatter. (Like a wood carving chisel)

The chisel needs a much higher angle (21° - 22°). To do this roll the larger rod over to lay against the $1/4$ " rod. Hold the chisel so that the tip comes to within $1/4$ " to $5/16$ " of the far side. Sharpen as before.

Remove burr off front face by rubbing on back side of a 4" sq. piece of masonite. Then rub all three facets on hard stiff leather charged with Semichrome. (fine abrasive) Wipe clean and check by very lightly applying to thumb nail. If it sticks it is sharp enough.

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You cannot make a cut deeper than the heel. If you do so, the tool will be pushed down and will be out of control.

The skip plate on the bottom will be inadequate to keep the graver running parallel to the surface.

For straight lines you can use a very long heel. It will help keep the cut straight.

Short heels are necessary if you are to go around curves without dragging the back of the tool.

Have a variety of tools with short, medium, and long heels for different purposes.

Don't round the heel with excessive rubbing on the Semichrome charged leather. You can also charge wood surfaces to reduce rounding.

These methods are the ones I have found convenient over the years. There are many other ways used successfully by other engravers.

Keep an open mind. Try all methods then select the best for the purpose in hand.

Persevere - I hope engraving gives you as much satisfaction as it has given me.

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SPYDERCO CERAMIC ENGRAVING SHARPENING SET LYNTON MCKENZIE

MEDIUM CERAMIC

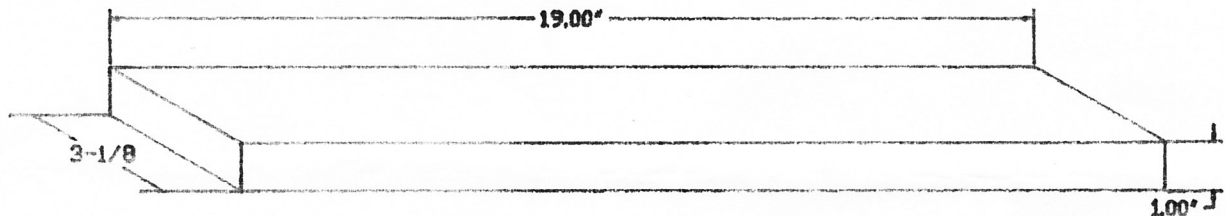


2" X 8" X 1/2"

FINE CERAMIC

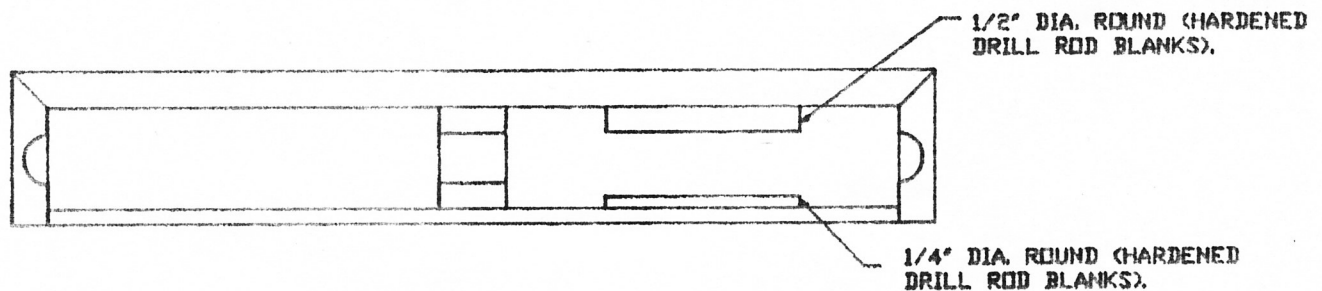
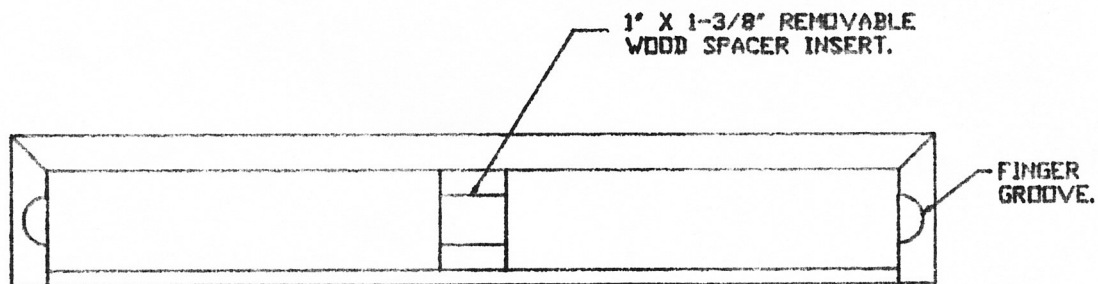


2" X 8" X 1/2"



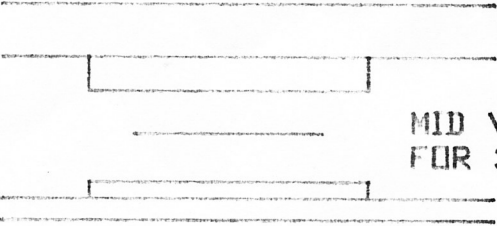
WOOD MOUNTING BLOCK

(ADD 3/4" QUARTER ROUND BORDER WITH
REDUCED FRONT EDGE FOR HAND CLEARANCE)





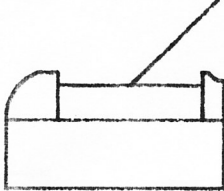
WORK BENCH



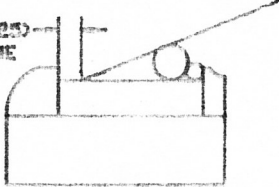
MID VISUAL CENTER BETWEEN ROLLERS
FOR SQUARE HAND GRAVER HEEL.



$1/4'' - 5/16''$ FROM FAR EDGE
FOR SQUARE CHISEL HEEL.

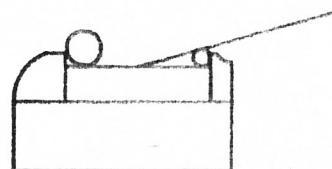


FACE $40^\circ - 45^\circ$ CHISEL
 45° HAND GRAVER



$1/4'' - 0.2500$ TO $3/16'' - 0.3125''$
FROM FAR EDGE OF STONE

CHISEL $21^\circ / 22^\circ$



GRAVER 16°