

H/I-76 Microtome Knife Sharpener



A product you can rely on...

H/I-76 employs the sharpening principle pioneered and established by Hacker Instruments throughout the Western Hemisphere. Briefly, microtome knives are reconditioned between contra-rotating fine honing wheels, then sharpened by special stropping wheels at high and low speeds consecutively. Honing is omitted if a knife is only blunt and free from damage. Stropping wheels, which have slightly smaller diameter, are lightly charged with special ultra-fine abrasive.

Operation, by a rhythmic push-pull action, causes the knife to slide horizontally -- with orthogonal motion -- across each wheel in turn. Adjustable stops prevent excess pressure of knife on wheel by operator.

H/I-76 includes a knife gauge graduated to read the "included angle" generated by honing. Conversely, if the gauge is preset and the knife jugged to it, the desired angle will be honed.

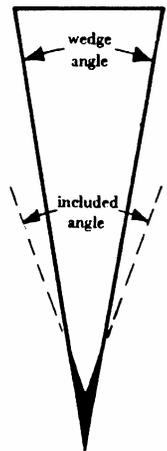
This is what H/I-76 will do for you...

- Provide independence from outside knife sharpening service.
- Set up and operate simply with minimal demand on manipulative skill.
- Sharpen fast -- in about one minute. Recondition rapidly -- according to knife condition -- even very hard knives.

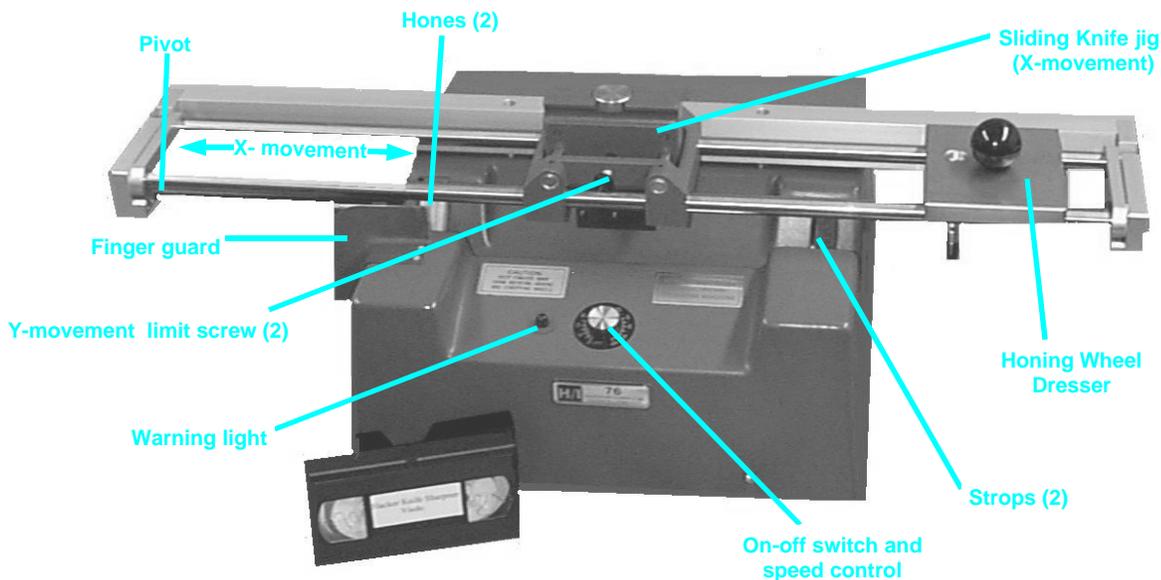
Microtome knives are manufactured with a certain wedge angle. For example, the common profile C knife is either 15 or 21° approximately. Honing enlarges this angle -- designated for our purpose as "included angle"; see diagram.

Stropping increases the included angle but this miniscule increase is a significant factor in final formation of a keen cutting edge. The actual angle is not critical but relief between honing and stropping, which results from strops being of smaller diameter than hones, ensures that stropping occurs at the knife tip. Obviously the gauge angle must exceed the knife wedge angle -- usually by 10 to 15°. H/I-76 allows a wide choice of "included angles". Operator instructions provide data for the experimentally minded but perfect sharpening is easy to carry out without knowledge of the "geometry" of the system.

"C" profile knife



- Produce knife edges equal or superior to finest hand stropping.
- Consistently reproduce a standard facet angle, or special angle, as desired, by simple gauging.
- Sharpen all steel microtome knives, profiles A, B, C and D, up to 25 cm length.



Safety

It is axiomatic -- microtome knives are hazardous. Ultimately, safety depends on the operator but H/I-76 minimizes risk while sharpening without reducing efficiency or knife edge quality. Written instructions, which emphasize safe operation, are provided. Note these safety points in design of H/I-76.

- Virtually indestructible knife holder clamps knife securely with minimum operator effort.
- Knife loading/unloading position is inherently stable.
- A red warning light shows when main switch is on and speed control energized.
- The electric motor and drive system has adequate torque for sharpening and stropping. Excessive power is deliberately avoided. The mains voltage circuit is fused. All metal parts are grounded.
- Honing wheels are rated for more than double the maximum revolutions attainable by the motor and drive. Wheel openings are minimal and exceed OSHA requirements. In normal use, the substantial knife jig assembly is between the operator's hand and the wheels.

Specifications

- Single DC drive, totally enclosed, continuous duty 1/8 h.p. motor; unitized rotary on/off switch and solid state, "full wave" speed control with MOV transient protection, minimum speed trim, RFI filtering and red neon warning light; belt drive to two contra-rotating nickel plated steel shafts with twin honing and stropping wheels; bearings permanently lubricated, sealed ball; electrics are grounded and a fuse provided.
- Universal knife holder of nickel plated tool steel mounted in jig with 3 co-ordinate (X, Y and Z) movements -- two (X and Y) horizontal each sliding on twin hardened steel bars -- one (Z) vertical by screw-thread operating through knife holder handle; the twin lateral horizontal (X) bar assembly pivots forward for loading/unloading. The (Y) horizontal motion has two adjustable screws which, when set, limit engagement of knife with honing and stropping wheels.
- One piece molded enclosure of ABS, a non-conducting, self extinguishing, high impact resistance material. Color -- medium blue, lightly textured -- easily

cleaned with damp cloth or household furniture polish/cleaner. Wheel openings are minimal.

- Rigid chassis of iridite finished aluminum which, with the enclosure, forms 3 sealed compartments. The center compartment houses motor, electrics and drive. Honing and stropping residues are confined to the outer compartments; honing compartment has a tray to facilitate regular cleaning.
- Bright metal parts are clear anodized or medium blue baked enamel finish.
- Diamond honing wheel dresser, knife angle gauge, stropping compound, key for knife holder, spacer bar (for deep knives, especially D profile), operating instructions and soft plastic dust cover -- all included.

H/I-76 Microtome Knife Sharpener, complete

- for 110 - 125 V, 60H Cat. No. 12 00 01
- for 220 - 240 V, 50/60H Cat. No. 12 00 02

Accessories and Consumable Spares

Diamond honing wheel dresser (supplied with each H/I-76)	Cat. No. 12 70 02
Replacement diamond tip for dresser	Cat. No. 12 70 03
Honing wheel	Cat. No. 12 70 04
Stropping wheel	Cat. No. 12 70 06
Stropping compound, box of 5 sticks	Cat. No. 12 70 08
Soft plastic dust cover	Cat. No. 12 70 10
Drive belt	Cat. No. 12 70 12
Adaptor for Bright and Cambridge knives	Cat. No. 12 70 18
Interchangeable jaws for "D" profile knives	Cat. No. 12 70 20
Service Manual	Cat. No. 12 71 10
Operating Instructions	Cat. No. 12 71 12

Connection

In North America sharpeners ordered for 110 - 125 V are supplied with a Hubbell hospital grade 3-pin plug.

Bench Space

H/I-76 can be operated efficiently in 40" length and 20" depth. This ensures that the knife jig assembly is always over the bench top -- not the floor.

U.S.A. Patent No. 4,052,174

U.K. Patent No. 152894

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