

Abrasive Grit Size Chart

FEPA "P"	Japanese JIS	Micron (μ)
P80		195
P100		156
	150	141
P120		127
P150		97
P180	180	78
P220	220	65
P240	240	58
P280		52.5
	280	50
P320	320	46
P360	360	40.5
P400		35
	400	32
P500		30
P600	500	
		30
P800		
P1000	600	183
	800	16
P1200		15.3
	1000	14
	1200	11
P2000		10.3
	1500	92
P2500		8.4
	2000	7.5
	2500	5
	3000	4
	4000	3
	6000	2
	8000	1.2
		1.0
	30000	0.49

A New Sharpening Method

Now you can easily achieve incredibly sharp and flat tool edges with a near mirror-smooth finish, in minutes. The Lap-Sharp™ LS-200 and LS-600VS systems uses easily interchangeable discs, on which PSA (Pressure Sensitive Adhesive) replaceable abrasive discs of a wide range of grit sizes and abrasive types are mounted.

The sharpening process is accomplished by lap-ing or honing with progressively finer grits until the finished edge is achieved. This process can be performed either wet or dry. Low operating speed, reversible rotation, and footswitch control of starting and stopping the motor enable the user to have excellent tool control. What previously took hours to do with water stones or oil-stones can now be achieved in minutes, with significantly less effort and with greater precision.



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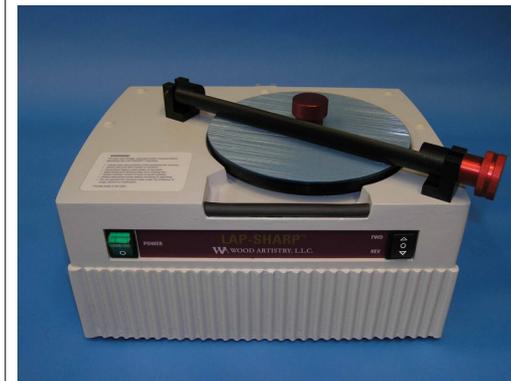
7724 Bell Road
Windsor, CA 95492
Phone: (707) 838-1976
Fax: (707) 837-8075
Email: sales@woodartistry.com

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Lap-Sharp™ Product information



Model LS-200 shown with tool bar.



Turning & Carving tool jig

The Lap-Sharp™ is available at:
The Japan Woodworker
Highland Hardware
Hartville Tool
Woodworker's Supply
Luthiers Mercantile International, Inc.
Select Woodcraft Stores

Chisel & Plane Iron Sharpening Process

1. **Flatten the back.** This procedure is usually needed once in the life of the tool. Flatten it with progressively finer grits to a near mirror finish.
2. **Shape the bevel edge.** Shaping is done to the desired profile and angle and may include a micro bevel if desired. Many plane irons are designed for a 25° angle. Adding a 5° micro bevel makes the bevel angle 30°. One could sharpen to 30° and avoid the micro bevel. Micro bevels are used to reduce sharpening time when using a manual process, as there is less surface area to abrade.
3. **Other Bevel Angles.** Mortise chisels may have steeper angles for added strength. Paring chisels are usually sharpened to 20°. Cabinet scrapers blades and scraper plane irons use a 45° angle.
4. **Hollow grind or Flat grind the bevels?** Use a flat grind for any laminated steel chisels or plane irons and mortising chisels. A hollow grind weakens the support of the edge of the tool. The hard steel in laminated tools, Japanese planes and chisels and most cast steel plane irons, will more easily chip if a hollow grind is used. Mortise chisels need the added strength of a flat grind.
5. **Using a grinder or belt sander.** Extreme care must be used or the heat generated may re-temper the tip edge of the tool where there is little metal to dissipate the heat. Tempering of steel is frequently done at low temperatures of 350°F. If quenching during grinding is used, re-hardening of the tip may occur, making it brittle and more prone to chipping.
6. **Using a Wet Wheel Grinder.** This process is limited to the grit size of the wheel. A wheel is not capable of flattening the tool and will not provide a finished edge on the tool. A wheel stop will cause rounding of the tool edge. Figure 1 shows the bevel edge of a plane iron after grinding on a wet wheel grinder. The wheel is 220 grit which is equal to 65µ. This coarse an edge will not allow the tool to work at its potential.

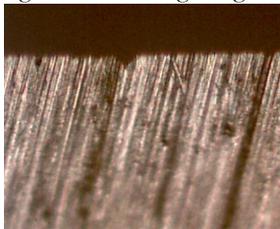


Fig.1

7. Properly Sharpened

Figure 2 shows a plane iron sharpened to a 2µ finish. The surface is smooth and flat to the edge of the tool. When the bevel and back of the tool are honed to this fine an edge, the tool will be capable of making very fine shavings.



Fig. 2

Figure 3 shows a cast steel chisel sharpened to a 1µ finish. The back shows the reflection of the camera and a Lap-Sharp™ label. This flat finish will provide a fine surface to meet the bevel edge.

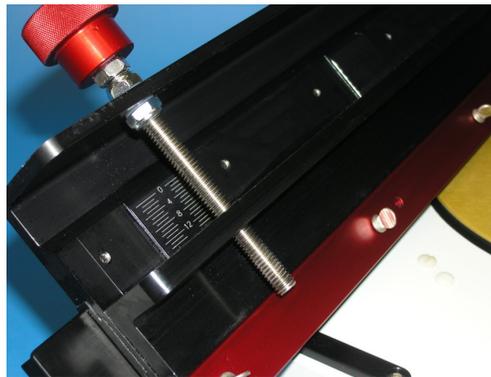


Fig. 3

Note: Figures 1+2 are at 200x magnification. Figure 3 is at normal magnification.

Optional Lap-Sharp™ Accessories:

Tool Guide Bar Assembly
Polish Pack Abrasives & Discs
Turning & Carving Gouge Jig
Splash Guard
Planer / Jointer Knife Jig



Planer/Jointer Knife Jig on Lap-Sharp™

Lap-Sharp™ Price List—July 2006 (Prices subject without notice)

Lap-Sharp™ LS-200 Fixed speed 170 rpm @ 60Hz.	\$595.00
Lap-Sharp™ LS-600VS (special order) Soft start & variable speed 100-600 rpm.	\$1295.00
Tool Guide Bar Assy. Includes brackets, clamp, & angle guide	\$79.95
Turning & Carving Tool Jig: Includes mounting block, 2 support bars, support block, pivot jig, & wrenches	\$119.95
Planer & Jointer Blade Jig Assy. For knives to 25" in length	\$249.95
Splash Guard For wet operation	\$25.95
Polish Pack Abrasives and Discs Includes (1pc each A5, 3µ, & 1µ abrasives plus 1 pc each Orange, Pink, Gold disc)	\$67.95
4 aluminum disc pack TC (one each – Brown, Blue, Red, Lt. Blue)	\$54.95
Microfinishing Abrasive Multi-pack (1pc each 80µ, 40µ, 20µ, 9µ)	\$9.95
4 aluminum disc pack PJ (one each - Black, Brown, Green, Blue)	\$54.95
4 sheet Abrasive Multi-pack 3 (1pc each 36, 50, 80, 120 Mesh) Regalite	\$27.50
Starter Abrasives Refill (2pcs 120µ & 80µ + 1pc A35 & A10)	\$37.95
Polish Pack Abrasives without Discs (1pc each A5, 3µ, 1µ)	\$14.95
Additional Aluminum Discs	\$17.95