

# Handtool Joinery Tool List

Quantity	Size/Grade	Tool or Item	Comments
1	10 to 18 point	<b>Backsaw:</b> One for cutting dovetails is usually 6 to 10" long with 12 to 22 teeth per inch filed rip. For HTJ a Carcase Saw can be very handy. A small backsaw with a straight handle is often called a Gent's Saw and is fine for this course, and a nice one is offered by Crown Tools. *See chart at bottom for a complete list of backsaws and their purpose.	Point refers to the number of teeth within one inch not the spaces between. (Zero is the first tooth and 1" is the last.) Rip filing is best for cutting dovetails but a crosscut will work. Avoid very thin backsaws, especially Japanese for they do not work well for half-blind dovetails. Veritas from Lee Valley are the best bargain but Lie-Nielsen makes beautiful backsaws at reasonable prices as well. There are also a number of US "boutique" makers that make works of art but at steep prices.
1	# 4 and/or #5	<b>Bench Plane:</b> Either of these sizes will do for the class. The flatness of any of the planes from the manufacturers listed to the right are so good that one can "almost" do without a #5 these days. You can also buy either of these planes in half numbers ( 4 1/2 and 5 1/2). Half numbers are wider and a bit longer than whole number planes, but require more effort to push. If you are new to planes a whole number may be better?	In the past Ernie felt that classic planes were better value than new planes, but this is no longer so. The used planes offered these days (often from miscellaneous parts) are dismal. Ernie feels that Veritas (From Lee Valley Tools) are the best both in cost and performance. Their Custom Planes are without peer. Their bevel up planes are superb. Their Mark II Deluxe Honing Guide is the best way to sharpen plane blades and chisels. Other excellent choices are Woodcraft's Wood River Brand and Lie-Nielsen.
1		Sliding bevel or a dovetail layout template	Used for laying out dovetails, however; there are a number of dedicated dovetail layout templates that are quicker and easier to use. Lee Valley offer some made from aluminum that are inexpensive and work well. Ernie's current favorite is the Crucible Tools Square Dovetail template. This is saddle layout guide in both 1 to 6 and one 1 to 8. The Union Manufacturing Dovetail Marker/Saddle Square is also good. <i>You only need a 1 o 6 template for this class but 1 to 8 is nice to have.</i>
1		Metal Putty Knife	Used for half-blind dovetails
1		Carvers Mallet	Round wooden type is best; the rubber headed types are too "bouncy. Japanese metal hammers for this purpose are great. Ernie uses a 570 gram barrel hammer.
1	12"	Combination Square	The Starrett Combination square is a good investment. Nearly as good, but considerably cheaper are ones made by Products Engineering Corporation in California.
1	4" to 6"	Dividers 4" to 6" or 8"	Size refers to length of legs and 6" should be your first pair.
1	12, 14 or 16 oz	Hammer	Standard claw or Japanese is fine.
1		Marking/Mortising Gauge	Traditionally marking and mortising gauges were separate tools but now days they are combined into one tool for economy. If you have a separate marking gauge besides a mortising/markig gauge, life is easier.
1		Notebook	
1	chunk	Paraffin Wax	Canning wax is perfect and can be found at most grocery stores. Old candle will do fine.
1		Pencil	A Blackwing 602 is Ernie's favorite. Dark lines and hard to break the lead.
1		Pliers (Vice grip or tongue and groove)	Good for pulling nails loosening stubborn screws and lids, etc.
1	Tape or Folding	<b>Ruler:</b> Tapes are not accurate enough for cabinetmaking. Folding rule at right is a must with a 4R 12" or 18" steel rule being handy. Very handy is a 4R 18" Hook Ruler from Precision Engineering Corp.	6" or 12" steel rule is also nice to have and a folding rule is more accurate than a tape. Ernie always has a 1 meter Long Life Folding Ruler in his shirt pocket. Offered by Lee Valley, it is made of fiberglass reinforced resin and marked metric on one side and imperial on the other and is very easy to read. Another good option is Lee Valley's Wood Folding Ruler. 2 Meters long it is marked imperial above and metric below.
1		Safety Glasses	You must wear safety glasses that meet ANSI Z87.1 standards in the shop at all times. For non-prescription glasses, the meeting of this standard will be indicated on the packaging. If you wear prescription glasses, your optometrist can fit you with a pair of Z87.1 rated glasses along with the wise to wear side shields (which are generally removable). Z87.1 safety glasses have deeper channels in the frame that retain the lens during an accident combined with polycarbonate lenses that will not shatter. As an alternative to obtaining prescription safety glasses, a good set of goggles that fits over most standard prescription glasses and meets the Z87.1 standards. Such goggles can be found at Airware America for less than \$10.
2	120 grit	Sandpaper	Ernie favors Norton 3x in a which is a stearated, open coat, aluminum oxide paper available at Woodcraft and some box stores.
2	180 grit	Sandpaper	Ernie favors Norton 3x in a which is a stearated, open coat, aluminum oxide paper available at Woodcraft and some box stores.
2	220 grit	Sandpaper	Ernie favors Norton 3x in a which is a stearated, open coat, aluminum oxide paper available at Woodcraft and some box stores.
2	8" to 10"	Screw Clamps	Size refers to length of jaw
1	Straight	Screw driver	
1	Phillips	Screw driver	
1	1/4" to 3/4"	Set of Bevel Edge Chisels (Also known as bench chisels)	Buy an 8 (or even 10) piece set, rather than a 5, if you can afford it. It is most useful to have a 1/8" chisel for dovetails. Be sure to buy "bench" chisels and not the shorter "butt" chisel which is commonly all that is available at hardware stores. Japanese chisels (Oire-Nomi) are excellent but expensive. The Japanese drive their chisels with a Japanese hammer and this is Ernie's practice.
1		Shoulder Plane	Veritas or Lie-Nielsen 3/4" is fine
1		Straight Edge	12" Steel Rule is fine which is the blade to your combination square
1	Stick	White Chalk	For layout.
Nice to Have but Not Necessary			
2 to 4	That will span 32"	Bar clamps	We have lots, but if you are driving and feel like throwing a couple in they will come in handy.
1		Ear Protection	Ear muffs are easiest to use but plugs are fine. Loud ponding when everyone is dovetailing is detrimental and cumulative.
1	1/4"	London Pattern Mortise Chisel	We have two loaners at the workshop but if you want one the best is a
1	5/8"	Bachi Nomi	This is a great chisel for half-blind dovetails (in place of an 1/8") even if the rest of your chisels are English.
1		Your own sharpening system	We have a Tormek system as well as plenty of whetstones but you may want help learning to use your own.
* Backsaw Size, Filing and Purpose			
Gents	Straight	18-22 Rip	8" to 10" , small precise dovetails and tenons
Dovetail	Open or Closed Grip	12-22 Rip or CC	9"-14" Dovetails or tenons
Carcase	Open or Closed Grip	10-14 Rip or CC	11-16" Shoulders of large tenons, general carcase work, dados, etc.
Tenon	Closed Grip	9-14 Rip or CC	14"-20" Large Tenons
Sources of Supply			
Blackwing 602	<a href="https://blackwing602.com/products/blackwing-602-set-of-12">https://blackwing602.com/products/blackwing-602-set-of-12</a>		
Hida Tool	<a href="https://hidatool.com/">https://hidatool.com/</a>		
Japan Woodworker	<a href="https://www.woodcraft.com/pages/Japan-woodworker">https://www.woodcraft.com/pages/Japan-woodworker</a>		
Lee Valley	<a href="https://www.leevalley.com/en-us">https://www.leevalley.com/en-us</a>		
Lie-Nielsen	<a href="https://www.lie-nielsen.com/">https://www.lie-nielsen.com/</a>		
Products Engineering Corp	<a href="https://pec.tools/">https://pec.tools/</a>		
Woodcraft Supply Corp	<a href="https://www.woodcraft.com/">https://www.woodcraft.com/</a>		
Bachi Nomi	Kiogen Wood Works		

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