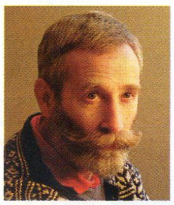
Chinese tools

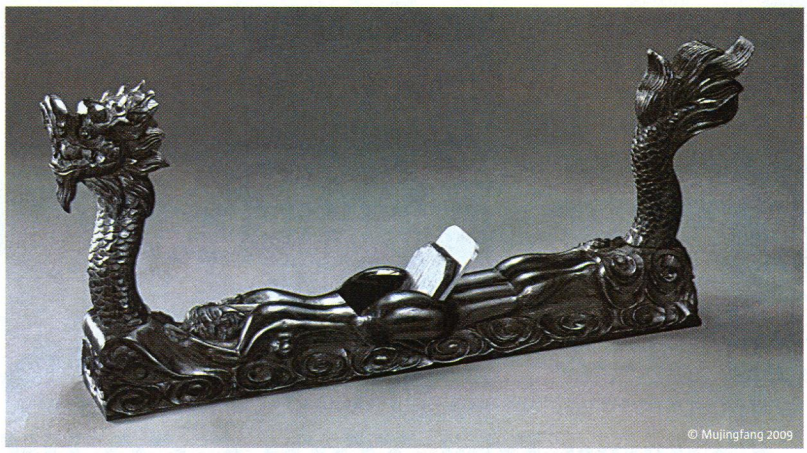


Laminated steel, where a thin layer of hard steel is forge-welded to the back of a 'normal' steel blade, combines the benefits of edge retention of hard steel with the flexibility of soft steel. The process has been used for weapons and tools in many cultures over the ages, with possibly its best know advance being as 'Damascus Steel' where the steel is not only laminated, but also twisted and layered, possibly giving the best of all worlds.

While in Europe, the last bastions of laminated steel are in the Scandinavian knife manufacturers, such as Helle and Brusletto in Norway together with Mora and Frost in Sweden, most of the laminated steel woodworking tools in general production are now from the Far East. For example, the laminated steel chisels produced in Japan, using old-fashioned handwork and traditional techniques, are well-known as excellent tools. They have demonstrated that the premium charged for a sharp and long-lasting blade is accepted by many professional woodworkers, and some amateurs, as a price worth paying for excellence.

The Japanese 'pull' planes are less well-accepted by European and North American woodworkers, but then there are premium Western planes from the like of Clifton, Veritas and Lie-Nielsen that fill this market. But what of the amateur woodworker or woodcarver on a budget?

Hand tools from China provide an affordable alternative to Japanese equivalents, reckons **Iain Whittington**



▲ Pic.1 **The Dragon Plane (Mujingfang) is a good example of the zenith of the old toolmakers trade, where a functional item can be transformed into a work of art**

▲ This Damascus steel blade from Galoot-Tools has a characteristic wavy pattern on its face...

▲ ...and laminations visible on its cutting edge

Perhaps another ancient woodworking culture can offer a solution – China's.

Like the Japanese, the old traditional blacksmiths in China can still turn their hand to laminated steel, but the Chinese have also been thinking latterly and have found another more modern steel to adapt to traditional toolmaking – High Speed Steel (HSS or T1). No self-respecting turner these days buys turning tools made from the 'normal' tool steel (HRC56 or O1), still found in the 'standard' European chisels and plane blade. HSS (T1) has long since taken over the turning tool market; it's harder, generally above HRC60, but still takes a good edge and, critically for the amateur, does not lose its temper when one 'blues' the edge on a grinder. The downside is that it is more expensive, more brittle and it lacks the flexibility to withstand the frequent blow of a mallet or the abuse of being used as a lever to get the last bit out of a mortise.

Lateral thinking in the Chinese traditional toolmaking industry has literally blended the two, with a HSS cutting edge simply brazed to a mild steel shank to produce a 'combo blade'. This does not look pretty, but it certainly works and has been adapted for use in a number of their traditional tools, from chisels to planes, and still costs less than the expensive A2 Tool Steel (HRC62) used in 'premium' tools from Japan, Europe or North America.

What is each type of tool like, then, and how well do they perform?

▲ Chisels, left to right: laminated steel with socket, HSS Cabinet Maker's chisel with tang, and Combo Socket Blade heavy-duty chisel

▲ The laminated socket chisel is ideal for detail work on hard timbers such as oak

▲ The HSS blade of the Cabinet Maker's chisels will take the abuse of restoring old oak beams

CHISELS

First let's take a look at chisels, where the Chinese standard is for a fishtail shape. The smaller sizes are fitted to the handle with a conventional tang, but the larger sizes are fitted with a socket (which gives greater strength to the larger sizes for heavy blows needed in working hardwoods). A set of five HSS fishtail Chinese cabinetmaker's chisels will set you back a similar price to a comparable set of budget chisels made from 'normal' tool steel, while a similar set of large HSS-tipped, wide, socket-style chisels will add 10 percent to the price, with little other competition in the budget market.

On the downside, the HSS combo blades do not look pretty and neither type of chisel will fit in the Eclipse honing guide (though most of the tool catalogues offer alternatives that have been extensively reviewed). On the upside, once sharpened these hold their edge well and last much longer between honing than their European style brethren and, from personal experience (largely with restoration of old oak), the socket chisels will happily take considerable abuse.

▲ Large socket chisels are just the job for rough work on well-seasoned oak

▲ An alternative to the Eclipse honing guide, to take HSS fishtail chisels

▲ Carving tools, left to right: UK standard tool, laminated steel/socket sculpting tool and two standard steel/tang detail tools

▲ Here too is a laminated/socket sculpting set from Mujingfang

▲ The No.5 carving gouge is ideal for intricate work

▲ The same No.5 detail carving gouge can be worked hard too

▲ For coarse stock removal, use the laminated socket sculpting set

▲ The laminated tools keep a keen edge with a tough job in oak

CARVING GOUGES

Allied to chisels are carving gouges, again only in fishtail-style and usually in some sort of set. These are offered as either detail carving tools (again with tangs) or as larger laminated sculpting tools, with socket handles. In addition, there is a unique range of long-handled (laminated) socket gouges for timber framers and architectural (and ice) carvers.

Either way, the individual tool price represents a 25 to 30 percent saving on similar European style sets, while a complete set without handles is a fraction of the price. On the downside, the range is limited and the finish can be a bit rough, but this is again offset by superior edge holding and the ability of the larger socket-style tools to take the abuse of architectural carving and wood sculpting.

WOODEN PLANES

The traditional Chinese craftsman starts to shape his timber with a side axe – a shape that is well-suited to a laminated steel tool, as the main cutting edge can be made of hard steel, supported by the soft steel head. He then moves onto using a series of jack planes, in different lengths, before finishing with a high angle smoothing plane. As a result, there is a myriad of planes, all of which are wooden-bodied and adjusted with a small hammer.

After initial stock preparation with the side axe, the traditional Chinese carpenter would pick up the long Hong Kong-pattern jack plane, with a blade set at 45° and with a conventional chip-breaker attached via a screw to the blade – much in line with the setup of the metal Bailey planes. These jack planes are traditionally used for preparation of hardwoods but can easily be transferred to use on European and North American softwoods. They can come in two widths, several lengths and with many different woods used for the body.

To add to the variations, the Hong Kong planes can come with a variety of different blades, from normal steel through to a HSS

▲ A top-of-the-range rosewood/combo blade long jack plane from Mujingfang...

▲ ...and here's a polishing plane. Note the thick HSS blade, copper mouth insert and all resting on the through handle

▲ The rosewood polishing plane and small ebony polishing plane (an outstanding tool for trimming plugs flush) compare well against the likes of the Western Bailey plane you see in the background

▲ Plane adjustment– you tap the blade to advance and tap the back of the plane to retract

▲ Tap the back of the plane hard to remove the blade

Combo blade and all the way up to the top-end planes that have a laminated steel blade and are usually offered in the traditional Chinese rosewood.

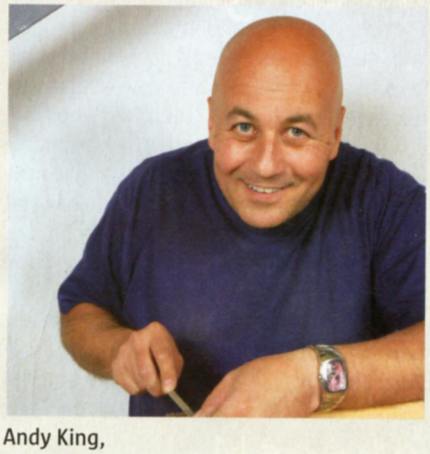
When the work has progressed through different lengths of jack plane, the Chinese woodworker will move onto the high-angle polishing plane, which is the pattern for the well-known Australian HNT Gordon planes. These feature a solid HSS blade set at 60° for planing, or if the blade is reversed can be used at 90° like a scraper plane. Polishing planes come in several lengths, from 120 to 230mm (4¾ to 9in) and are exceptionally adept on hardwoods, such as European and North American oak. Both the jack and polishing planes feature a removable cross-handle, as they are normally pushed in the Western style, rather than pulled in the Japanese style – although they are amenable to either.

Then finally there are the Taiwanese planes. If you consider the Hong Kong jack plane to be something of a hybrid Western plane, then the Taiwanese plane could be considered as a hybrid Japanese plane, with a short HSS blade set at 45°, which is well-suited to hardwoods, but still used either on the push or pull stroke.

There is also a wide range of all the specialist planes you would expect, from rebate planes, to 'hollows and rounds', to chamfer planes and spokeshaves – all usually only available with a normal steel blade.

With the wide range of planes available and the multiple variations on sale, you need to be careful that you know what you are looking at. A top quality traditional Chinese rosewood plane can cost twice the price of similar planes in other woods, including some of the lesser ebonies. The better planes will have a brass or copper mouth insert; never mind the variations in blade widths and steels, which vary from conventional 2 to 3mm tool steels, through 2.5mm HSS combo blades up to high quality 3mm fully laminated blades (which may be too thick for transplant into the conventional Bailey planes, that traditionally have a blade thickness of 2 to 2.5mm depending on age and manufacturer – although the new 'quality' planes usually have 3mm A2 Steel).

The possible downside of these Chinese planes is the need to learn how to adjust a wooden plane, while the upside is the possibility of a quality product that will take a fine shaving straight out of the box. These traditional planes are in a different league from the mass-produced iron planes that Chinese factories turn out for the DIY sheds.



Andy King,
Technical Editor

WHAT ANDY SAID:

Back in *GW*212:52 we looked at Japanese tools where Andy King noted the connections between tools from different Far Eastern countries: "It's worth bearing in mind that the Chinese and Taiwanese follow similar styles with their tools [to Japanese styles], opting for pulling of planes and saws," he said. "Apparently saw making in Japan actually originated from China, via Korea..."

Andy also had this to say on a Taiwanese plane sample from Rutlands: "The body...is certainly much better than the basic white oak of Japanese versions. This is made from rosewood, complete with a small insert in the mouth to prevent wear, and is sculpted to feel more comfortable in the hand. The iron, while not laminated, is [HSS] steel, hardened to Rockwell C 62-63, and it takes a razor sharp edge.

"Japanese planes are hard to come by in the UK (I had an old one here for this feature), but if you fancy a dabble, you won't go far wrong here – this plane costs only £24.95 and cuts like a dream." Visit www.rutlands.co.uk for more information.

EXPORT AND IMPORT

Chinese tools are quite widely available from catalogues and websites, but you do need to be careful about the fine details as to what is being offered, as quality can vary more widely than the prices would indicate. While there are a few specialist companies in North America that have individually sourced Chinese laminated steel carving tools (www.woodcarverssupply.com) and plane blades for Bailey transplants (www.galoot-tools.com), possibly the most reliable and long running source of standardised traditional Chinese tools is the Mujingfang or Woodwell Woodworking Tools (www.mujingfang.com). A company registered in Hong Kong in 1982, it supplies a full range of traditional woodworking tools including carving tools, chisels, axes, saws, measuring instruments and planes. If you use the web-based catalogue to establish what you are actually looking for, you can frequently find that its stock codes are used by importers and retailers, so you can guess what is actually on offer – to the extent that if there is no correlation, it is probably wise to get the supplier to either confirm that they are offering a Mujingfang product or get them to provide a full specification of the item on sale.

For example, if you look at the Mujingfang website the most complicated specification is for possibly the most popular item – the Hong Kong-style jack plane – with different parts of the stock code telling you what variety of wood is used, the blade type and width, and even if it has a brass or copper insert in the base, all variations that can greatly change the value and quality of the item offered.

The table below gives a quick guide to some of the sources of traditional Chinese tools, but is offered with apologies to any other supplier where its website does not show up by typing variations of 'Chinese woodworking tools' or other keywords like 'Mujingfang' into a search engine. The companies listed vary a fair bit. There are a couple of high-end specialists, staking their own reputations on the sourcing of top quality laminated steel products from China; there are household names in the UK, Europe and North America; and then there's eBay, where you can find Chinese-based personal shoppers who will source individual items from the Mujingfang catalogue to order.

I have quite a wide range of tools, including pre-war standards, inherited from my father, a collection of the declining quality products of the post-war English toolmakers, and some high quality modern tools, including a small selection of Japanese chisels. Most of my tools work well enough with 'shed' softwood for routine carpentry and joinery; however, I find that the Chinese chisels, gouges and planes I use excel on hardwoods such as old oak and that the planes have the added benefit of not leaving iron trails on the slightly green oak that I source from local saw mills for restoration projects. In comparison, while I have no doubt of the high quality of the few Japanese tools I use, I do feel that their price is just not justified for the work that I (and many amateurs) undertake.

If you have the time or inclination to look into what you are buying, I can recommend a carefully chosen Chinese tool as the poor man's choice from the Orient.

Suppliers	Spoke Shave	Planes				Chisels		Website
		Smoothing	HK Jack	Taiwanese	Blades	Carpentry	Carving	
Dick Fine Tools	✓	✓	✓	✓	✓	✓	✓	www.dick.biz
eBay	✓	✓	✓		✓			www.ebay.com
Galoot-Tools Inc					✓			www.galoot-tools.com
George Higgins	✓	✓	✓	✓				www.george-higgins.co.uk
Guy Mallinson	✓							www.mallinson.co.uk
HNT Gordon		✓			✓			www.hntgordon.com.au
Japan Woodworker	✓	✓	✓	✓				www. japanwoodworker.com
Lee Valley Tools	✓	✓		✓	✓			www.leevalley.com
Rutlands Tools Ltd	✓	✓	✓	✓		✓		www.rutlands.com
Woodcarvers Supply Inc							✓	www.woodcarversupply.com
Workshop Heaven Ltd		✓				✓		www.workshopheaven.com

Next time

Look out for Andy King testing tool sets from China in an up-and-coming issue.

▲ Pic.1 The traditional Chinese craftsman starts to shape his timber with a side axe

▲ Pic.2 The side axe, still used by some Chinese carpenters for rough dimensioning...

▲ Pic.3 ...lends itself to being made with laminated steel, the hard steel on the straight face

▲ Pic.4 This puts the hard cutting edge in the right place for an excellent side axe

▲ Pic.5 After rough dimensioning, the carpenter moves on to the jack plane for final dimensioning

▲ Pic.6 The carpenter then finishes the wood with a polishing plane – using the cross-handle to give more control and power to the stroke