Japanese Woodworking

For main types of Japanese Woodworking

- Miya-daiku
- Sukiya-daiku
- Sashimono-shio
- Tategu-shi

Miya-daiku, are the builders of Japanese shrines and temples and are responsible for the elaborate joinery Japan is famous for.

Sukiya-daiku – Are teahouse and residential carpenters

Traditional Japanese houses

Modern Japanese Houses

Sashimono-shi ~ Cabinet and Furniture Makers

Tategu-shi ~ Interior finish carpenters who are know for making Shoji


Feinmann

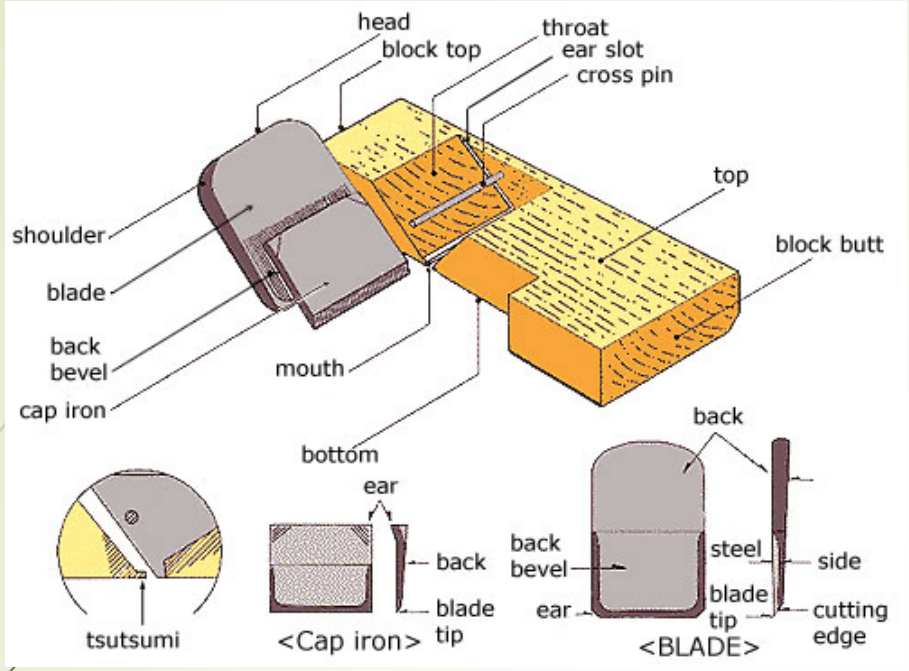
All the main branches of Japanese woodworking use basically the same core set of hand tools.

- Kanna - Hand planes
- Nomi – Chisels
- Nokogiri - Saws
- Shirabiki – Marking Knifes
- Sashigane – Carpenter's squares
- Sumitsubo & Sumisashi – Ink Line and bamboo pen
- Genno – Hammers
- Daiku dogubako – Carpenter's tool box
- Planing Bench

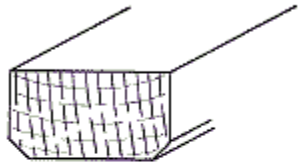
Kanna

The most common of the Japanese hand planes is the Hira-kanna which is smoothing style plane. It comes in a large variety of sizes and can be set up for roughing or finishing work. Much like western planes though you should have multiple planes, each setup for different tasks.

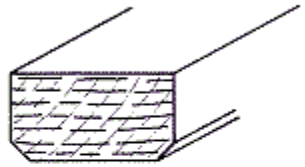
Kanna



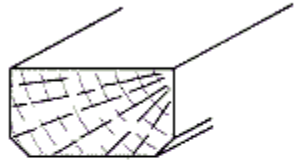
*View from the butt-end



<Straight grain>
Will not wear down easily but, may crack.

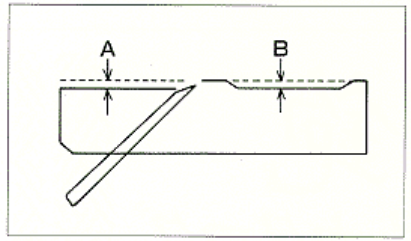


<Flat grain>
Will wear down easily but, will not crack easily.



<Quarter-sawn grain>
Takes on both straight & flat grain characteristics.

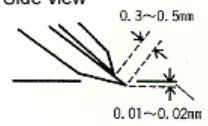
*Preferences differ according to region, climate and the builders personal choice.

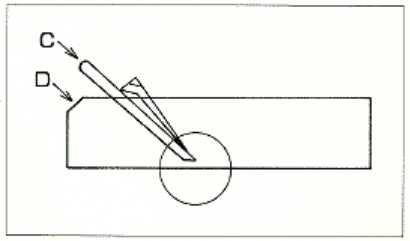


Dainarashi

The gap for A & B should be less than 0.1mm.

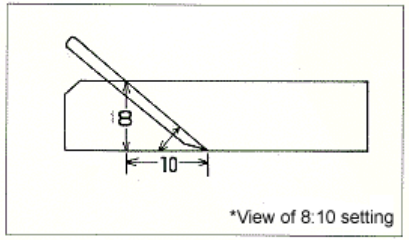
• Side view





Ha-awase (edge setting)

If you want the more of the blade edge to stick out hit "C" with a gennoh or hammer. To remove the blade, hit "D". Same for the cap iron.



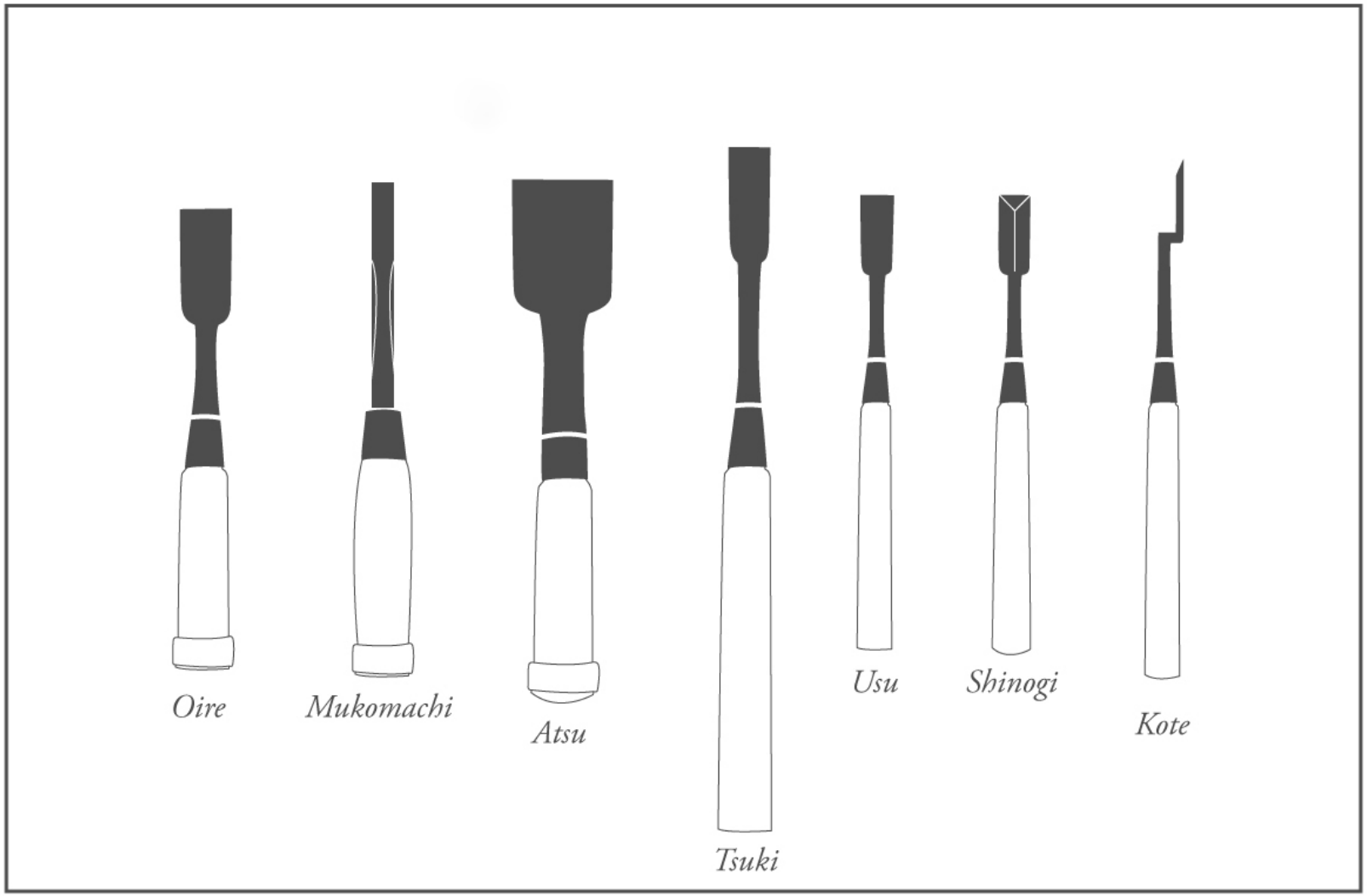
*View of 8:10 setting

Shikomi

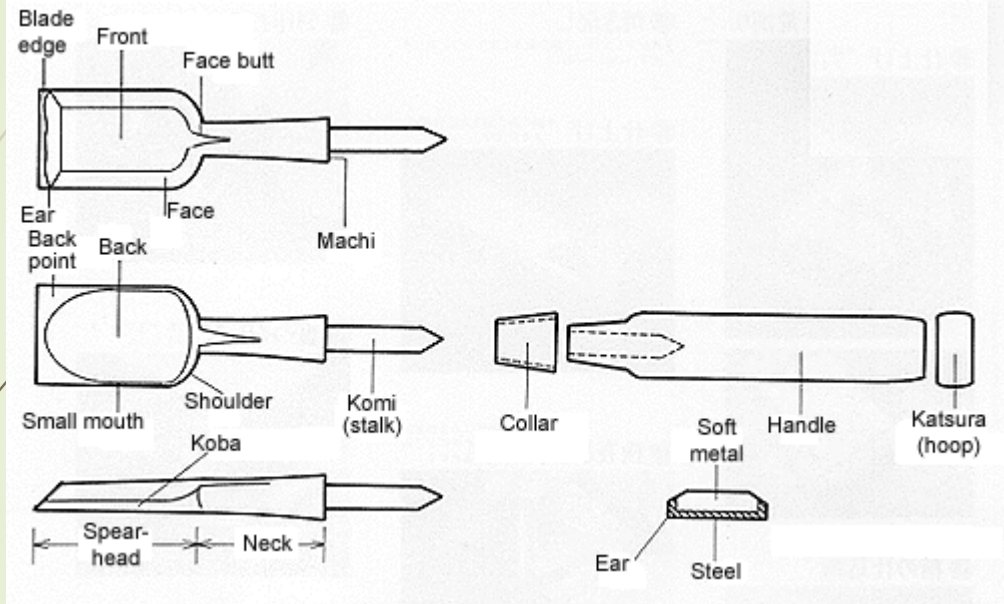
Generally the blade is set at an angle ratio of 8:10. For soft wood, about 31° ~ 36°. For hardwood the angle is about 45° ~ 90 °. There are some kannas, where the blade is set at an angle over 90° .

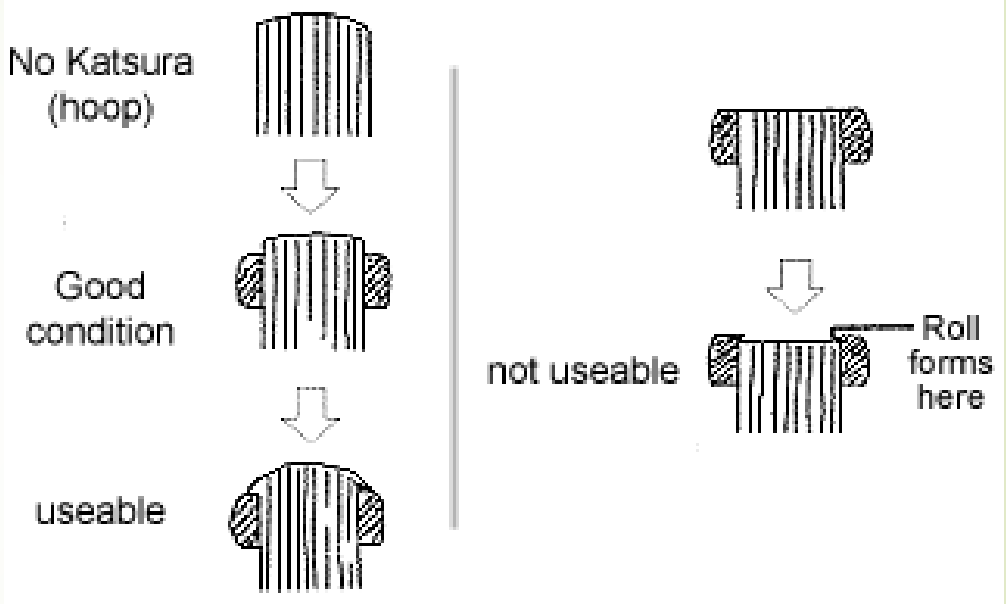
Nomi

As with Japanese hand planes there are a large number of Japanese Nomi (chisels). The most common is the Oire or bench chisel



Nomi


Blade edge
Front
Face butt
Ear
Face
Machi
Back point
Back
Shoulder
Small mouth
Komi (stalk)
Koba
Spear-head
Neck
Collar
Soft metal
Handle
Katsura (hoop)
Ear
Steel


No Katsura (hoop)
Good condition
useable
not useable
Roll forms here

Genno

There are many different types of hammers. The Japanese carpenters hammer however is very much a do-it-all tool, from driving nails to striking chisels. One face is flat, this is for driving nails and striking chisels, the other face is slightly crowned, used mainly for the final blow to the nail head thus driving it flush without damaging the surrounding surface. Genno come in 5 different sizes based on weigh. And are called :

Tokudai-genno (extra large) - 32 to 39oz.

O-genno (large) - 23 to 26oz.

Chu-genno (medium) - 14 to 17oz.

Sho-genno (small) - 8 to 10oz.

Mame-genno (extra small) - 3 to 5oz.

Nokogiri

Japanese saws, called nokogiri, have teeth filed to cut on the 'pull' stroke versus the 'push' stroke. Today, the reasoning for pull stroke saws has been lost, and there is much speculation as to why Japanese woodworkers originally filed the saw teeth to cut on the pull stroke. A widely accepted theory holds that Japanese woodworkers, squatting near the floor, found a pull stroke less cumbersome and easier to execute. Advantages for today's woodworker: a blade made from thinner material and the pull stroke keeps the blade under "tension," resulting in a thinner, straighter kerf. Types of common nokogiri are:

Ryoba

Dozuki

Kataba

Nokogiri

Ryoba, meaning double-edged, is a saw with cutting teeth on each side of the blade. Typically, the teeth on one side of the blade are filed for crosscutting, while the teeth on the other side are for rip cutting. In some cases the Ryoba saws have teeth on one side for cutting softwoods and teeth for cutting hardwoods on the other side. To keep a Ryoba saw from binding, the blade is ground thinner toward the middle than at the edges, but careful examination of the teeth will reveal similar size and set of teeth on each edge. The actual size and number of teeth will vary, depending upon the length of the blade.

Nokogiri

Dozuki, meaning tenon, is a Kataba-style saw with a stiff back spine. The spine, while ensuring a straight blade for fine, precision joinery cuts, does limit the depth of cut. The Dozuki is the most widely recognized and most used Japanese saw on both hardwood and softwood. The blade of the Dozuki is the same thickness over its entire width and, similar to a crosscut saw, the teeth will have the size and minimal set across the length of the blade.

Nokogiri

Kataba has no back and is single-edged with teeth on one edge only. A great general-purpose saw, this saw has a thicker blade, which reduces the need for a back, and teeth that are filed for ripping and crosscutting. The ripping Kataba may have smaller teeth to the rear of the blade (for starting the cut)and larger teeth near the front (for faster cutting).

Shirabiki

Shirabiki, This tool is similar to the regular Japanese knife except that the angle of the cutting edge is much greater in order to mark instead of cut.

Spear Point

Single Bevel,

Sashigane

Sashigane are used similarly to Western carpenter's squares. However, they are very flexible and much more convenient for marking out complex joinery. The blades are beveled and hollowed on both sides so that an ink line can be laid down without smearing. Ink allows for very precise layout lines.

Sumistubo

Sumistubo and Sumisashi are ink marking tools used for laying out joinery. The Sumistubo is an ink line that can be used on larger lumber. The Sumisashi is used with the Sashigane to mark shorter lines and angles. Ink is preferred when marking out joinery as it leaves a finer line than chalk. Unlike western chalk lines, ink lines are also semi permanent cannot be easily erased by accident.

Sumistubo

Sumisashi

Daiku Dogubako

The Daiku Dogubako, or carpenter's tool box is where travelling or on site carpenters would store their tools. These boxes are often plain in design and made with left over materials from a job.
A carpenter who worked permanently in a shop may still have a tool box but more than likely had a simple wall rack to store his tools at their workstation.

Planning Bench

Carpenter's who are fortunate enough to work in a permanent shop also use traditional planning benches. These are usually simple in design and can be used on the floor or atop low tables.

Planning Bench