Working with spokeshaves

Every toolkit needs at least one spokeshave but they need to be mastered, as Michael T Collins explains

What is a spokeshave?

The *Collins Dictionary* defines a spokeshave as: 'Noun: "a cutting or planing tool consisting of a blade with a curved handle at either end; orig. used to shape spokes, but now used for trimming and smoothing rounded surfaces".'

But they are so much more than this simple sentence. In this article I will look at both wooden and metal spokeshaves, the history, where to buy them, what to look for, how to hone them and, lastly, how to use and get the most out of these indispensable tools.

History

Some of the earliest wooden spokeshaves date from the 15th century but probably existed well before this time. While they do not look like planes, they function in much the same way and, just like the plane, over the years they have evolved from having wooden bodies, made from beech or boxwood, to iron bodies.

As the name implies, they were originally designed and became an indispensable tool to the wheelwright in shaping the wheel spokes from hub to wheel tenon. But chairmakers also used them in the production of spindles and rails and even bookbinders made use of spokeshaves for feathering the leather on spines.

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1 The traditional wooden-bodied spokeshave has a blade that lays flat to the work surface and sole. It cuts in fine, smooth strokes. Often, the wear plate on wooden spokeshaves needed to be repaired with iron, brass or boxwood (a hard-wearing wood commonly found in moulding planes), thus extending the life of the tool.

2 The profile of the wooden spokeshave's blade is much like a straight razor. It was held in place with tangs that were a friction fit through tapered holes (usually square). These, more often than not, became loose with constant use and by the mid-19th century the tangs' friction fit became threaded with round knobs, making them easier to adjust and longer lasting.

The blade was set at a very low angle, maybe 2° or 3° with the bevel facing up, much like low-angled bench planes. This low angle made it very good at working end grain.

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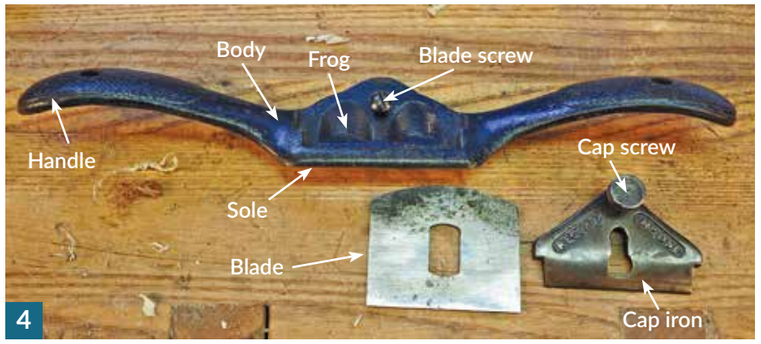
3 Shavings from a wooden spokeshave emerge behind the tool.

Metal spokeshaves

4 As the Industrial Revolution moved on, so did the design of the spokeshave. Wooden bodies gave way to metal bodies, with the blade's bevel facing down and set at an angle closer to 45°, much like a smoothing plane.



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5 In operation the shavings from a metal spokeshave emerge from the front of the tool.

Where to find a spokeshave

6 Spokeshaves are one of the most commonly available secondhand tools and can be found in antique shops, car boot sales and online auctions. A quick eBay search finds hundreds of them, in all shapes, ages, sizes and prices.

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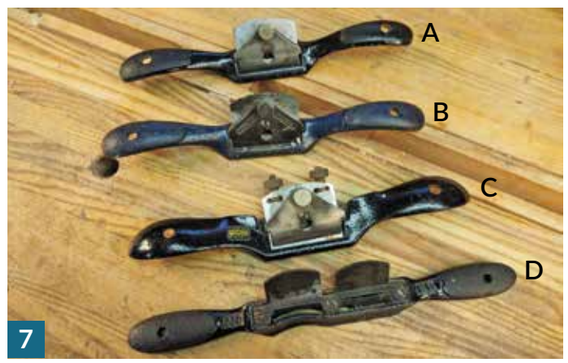
7 All of my spokeshaves are pre-WWI, the most common being the Stanley 51 and 151 (a & c in image 7) and all acquired on the secondhand market, my most recent find...

8 ...a very nice Record No.051 with a round sole (left) ➤



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WHAT TO LOOK FOR

Wooden spokeshaves need to have sound wood – worm holes and cracks put me off straight away. They need a well-fitting iron – no slop in the tangs' friction fit – because of the way the tool is adjusted (by tapping the tangs), this is generally one of the first things to go.

The bottom of the iron should be parallel to the wear plate of the tool – if the spokeshave has a curved bottom, then the blade should still follow the curve of the ware plate.

The blade is the next area to closely examine. All too often, due to the age of the tool, there might be excessive corrosion and pitting, or the blade has been honed to the point where the cutting edge is concave and no longer parallel to the wood mouth – this happens as the majority of the work is done in the middle of the blade. If the tool does not have a wear plate the wood may also show a considerable amount of wear. Both these issues widen the gap between the blade and the wood, making it hard to restore.

You should be able to seat the cutting edge close enough to the body to get a fine shaving but still be able to set it coarse if needed, just by tapping the tangs on the bench.

The fit of the square tapered tangs in the square tapered holes should be tight. If the tangs have rusted badly and then been cleaned up, they may be too small to fit tightly. To solve this I have seen several methods – screws driven in from the side and wood shavings glued into the holes.

There are no good solutions to repairing a badly worn wooden spokeshave. Adding a new wear plate is relatively easy and sharpening the iron is fairly straightforward as we'll see later, but if the wood is too far gone, it's probably beyond economical repair. If the iron is good and the wood bad, consider making a new handle. I'll leave that for a future article.

Metal spokeshaves, such as the Stanley No.151, are very common on the secondhand market and generally in much better condition than wooden tools. Just watch for excessive rust and pitting on the iron and sole, and make sure there is plenty of iron left to hone. Otherwise, it is easier to bring a metal spokeshave back into good working condition.

Honing metal spokeshaves

10 The sole must be flat – here I am using a 1000 diamond stone to flatten the sole. There is no need to be too aggressive. Remove just enough so that the majority of the sole is flat and can rest evenly on a flat surface. Check for any nicks in the sole's edge and file them off.

The frog (the part of the body the blade rests on) must also be flat and occasionally I have seen bad castings and bumps on this surface. Simply take a file and flatten the bumps out.

11 The cap iron needs to be a perfect fit with the blade – a quick honing will flatten this. If you cannot flatten the whole of the back of the cap iron, at least flatten the leading edge. This will greatly reduce any chatter.

I sharpen all my metal spokeshave blades with a single 30° bevel. This gives an edge with strength and sharpness. I have experimented with adding a micro-bevel, as I do with my bench planes, but have found that there is very little difference in the cutting ability.

12 The blades are a little too small to sharpen safely so I use a simple honing guide. This can then be mounted in my Eclipse honing tool, or freehand, and proceed as if it was a regular plane iron.


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13 To hone the curved spokeshave, I use successively finer grit paper glued to a large diameter dowel.

Honing wooden spokeshaves

If the iron is dull or nicked it may need to be reground just like a plane iron – for this I would recommend a file as the blade is very thin and using a grinding wheel tends to overheat the iron, rendering it weaker.

To remove the blade gently tap the tangs alternately – hitting one too much will cant the iron in the slot, damage the fit and even break the tang. Finesse is the key to working with spokeshaves.

14 I have a simple, shopmade T-shaped jig that I use to hold the iron flat and secure while flattening the sole.


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15 To hone the bevel edge I run the blade along the whetstone.


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16 When I first started sharpening wooden plane irons, I needed a way to keep the blade at the correct angle. I developed a simple technique. First, position the blade at the correct angle and then raise the stone so that the tangs rest on a flat surface. Then, with forward motion only, keep the tangs in contact with the base as you sharpen. Do not pull the iron backwards – it is all too easy to catch a tang, flip the iron, and cut yourself.


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Using a spokeshave

17 One of the biggest issues I had when I first started using a spokeshave, especially the metal type, was how to hold it, mainly because of the location of the handles, which are positioned high in relation to the blade. When the tool is pushed across the wood, there is a tendency for the tool to roll forward when the blade catches, and so at times it requires a firmer grip and is thus more tiring on the wrists and fingers. Retracting the blade and taking finer shavings will lessen this tendency. This is no different to a smoothing plane catching the wood, except there is a much longer sole that prevents the plane pitching forward. Wooden spokeshaves, with their low angle, are not as prone to this.

The two handles, either side of the blade, can be used in a push or pull motion (whichever suits the grain and your position best). You can adjust the blade depth to take off as much or as little material as you need. It can be used to remove surfaces or areas that other tools cannot reach. I would say that 80% of the time I am pushing the tool.


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18 In both the wooden and metal spokeshaves, most of the action takes place close to the blade, with the index and thumb keeping a firm grip on the tool. The other fingers are 'feeling' the angle and getting feedback from the wood.

Some woodworkers abandon their use because they complain that they slip, tear and chatter.

A well-tuned tool and a firm grip usually resolves these issues and your technique will develop.


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Tweaking the tool

19 The ways to advance the blade are the same on both wooden and metal spokeshaves – from lightly tapping the tangs/blade end to rotating thumb screws clockwise to advance the blade and anticlockwise to retract the blade. The tang-held blades, once advanced, are harder to adjust and generally it is easier to fully retract and start again. The friction-held metal blades can be tapped on the side to retract.

20 The Stanley No.151, with its double thumbscrews.

21 This allows the blade to be canted, thus enabling it to remove more or less stock depending on where on the wood the blade is placed. Obviously, the wood being cut needs to be narrower than the width of the blade, or you will leave gouge marks.

If your spokeshave is chattering and making a series of parallel cuts, it is generally a combination of things: the iron is grabbing too much wood and juddering across the surface and/or ➤

your grip on the tool is too loose.

A light touch and wrist action are essential to good working skills. All these techniques will come with practice.

22 With the flat-soled metal spokeshave try to maintain three points of contact – if you are shaping a convex profile (22a) then the blade will need to be retracted, and if you are shaping a concave profile (22b) advance the blade. Sometimes you may need to rock the spokeshave to get the desired cut. Alternatively use a round-bottomed spokeshave.

Positioning the blade

23 Some woodworkers will hold the sole of a tool up to the light and look for the iron protruding. While this is a tried and tested method, I use the same technique I do on my planes, using my index and middle finger and passing them backwards over the mouth and blade. This method is quicker at gauging the depth of cut. **Safety note:** Do this very carefully. Start with the blade fully retracted and advance it a little at a time until you can just feel the blade.

Alternatively, and this is less risky, lay the spokeshave on the wood with the blade retracted. Adjust the blade so that it just touches the surface. Push or pull the spokeshave across the wood. If no shavings are made, advance the blade a little and repeat until it is just taking shavings.

I typically secure the workpiece in the vice at a comfortable angle. This allows me to bend at the elbows while keeping my forearms and spokeshave as a single item, in much the same way as using a saw where the hand, wrist and forearm are fixed.

24 Whenever I need to clean up an edge, particularly a curve, or refine the profile of a router template, the spokeshave is one of the first tools I reach for.

The spokeshave is not designed to remove large amounts of wood – that's the job of the saw, chisel and drawknife – so fine setting is required.

A tip: As with a plane, the adjustment screw should be turned so that it is positioned ready to advance. This way the action of using the tool does not cause the iron to slip back.

25 Figure 25 shows the correct direction to work the grain.


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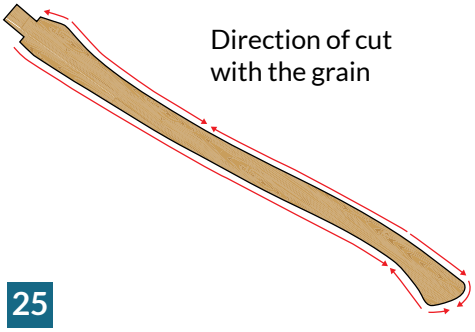

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26 Use the spokeshave as you would a plane, going with the grain as much as possible.

27 Skewing the tool gives a slicing action, producing those familiar curls. You can even slide the spokeshave left and right as you advance it forward. This doubles the slicing action.

28 The combination spokeshave (d in image 7), with its double blade, can be used on a variety of surfaces and removes the constant changing of tools as you move from one surface to another. This is where this tool excelled for the wheelwright and the chairmaker with its ability to round or flatten surfaces with little effort.

So, buy yourself a nice secondhand spokeshave, tune it up and start to discover the joy of using one of the most versatile tools ever made.

There's an old proverb: 'Tell me and I'll forget. Show me and I may remember. Let me do it and I will learn.' To really learn woodworking


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you have to learn experientially. If you have never used a spokeshave you are going to need to learn some fundamental skills. Realise there's a learning curve – results will not be perfect, and you will make mistakes, but you will learn from them. Working wood is a progression and it takes time and patience for these skills to be developed. But, over time, these skills will become second nature and develop into good habits.

The spokeshave is one of those tools that, once you have mastered, you might consider to be one of the finest tools, able to work wood in many ways that other tools cannot. ■