



things you didn't know you didn't know about your tools

C-clamp

While they may look like medieval torture devices, C-clamps or G-clamps are invaluable for holding materials steady against a worktop if you haven't got a vice, or for holding two surfaces together when gluing. They're typically made from steel or cast iron, although smaller clamps may be made from pot metal.

Drill

Your drill – hand-operated or electric – consists of the drill body and the drill bit, held in place by a chuck. There are three main points to consider when drilling:

- > Is the drill bit the right size for the screw or bolt that you'll be fastening into the hole? Check the diameters – if the bit is too big, your screw or bolt will have no purchase; if it's too small, you risk damaging the head

or thread as you force it to turn, and also risk splitting or damaging the substrate.

- > Using a sharp bit and the appropriate drilling speed will mitigate the risk of burning if you're drilling into wood.
- > Minimise chipping on exit by placing a piece of wood behind the substrate you're drilling into.

Pressing the tip of the bit into wood before starting will stop the drill from wandering. In metal, mark an accurate position with a punch for the same reason.

Saw

According to Greek mythology, Perdix, nephew of the great inventor Daedalus, was the bright spark who came up with the saw.

Did you know? Japanese planes are pulled towards you, rather than being pushed away as ours are.

Did you know? Screwdrivers are relatively new kids on the block, originating in the late Middle Ages. A European concept, they are said to be the only major mechanical device until then not to be invented by the Chinese.

Did you know your saw has a:

- > Heel – the end closest to the handle.
- > Toe – the end farthest from the handle.
- > Front – the bit with the teeth.
- > Back – the edge with no teeth.
- > Teeth – the pointy bits.
- > Gullet – the valleys between the teeth.
- > Fleam – the angle of the faces of the teeth relative to a line perpendicular to the face of the saw.
- > Rake – the angle of the front face of the tooth relative to a line perpendicular to the length of the saw.

Make sure you're using the right saw for the job. A rip saw, designed to cut with the wood grain, will have steeper teeth than a cross-cut saw, made to cut across the grain.

Hammer

If you're into 'percussive maintenance', you may like to know that the hammer is probably the oldest tool used by humans, even outdating the Homo species. Hammers are generally designed for specific purposes, hence their different designs, but the most common in the home toolbox is the everyday workhorse, the claw hammer.

The friction generated as you hammer in a nail causes it to heat up. As nails bend more readily when they're warm, the faster you can drive them in, the better.

Try-square or right angle

The traditional try-square has a broad blade made of steel or brass, riveted to a wooden handle. Inside the wooden handle, there's generally a steel or brass strip set at precisely 90 degrees to the blade. These are highly useful in any application, such as carpentry, that requires angle accuracy.

Plane

The hand plane is another tool that's been around for thousands of years – and hasn't changed a lot over the millennia. In its most basic form, it's a block of wood, with a slot cut across the body that holds the cutting blade. It's important to keep your plane blade sharp, so it doesn't dig out lumps of the timber you're planing. The body of the plane should provide a relatively constant angle to the cutting edge – so make sure the blade is in straight – and the shavings should be relatively uniform, resulting in a smooth surface.

Screwdriver

Once upon a time, a simple bladed screwdriver, and perhaps a set of Allen keys, were all you needed in your

tool kit. Today, you're likely to require screwdrivers for a range of screws, including slotted, Phillips, PoziDriv, Robertson, SupaDriv (crosspoint), TORX, and Allen or hex configurations. Whatever screws you're using, make sure your screwdriver is the right size and type for the job, or you run the risk of damaging the screw as you apply weight and torque to tighten it.

Stanley knife

The Stanley knife is also known as a box cutter or razor blade knife. Stanley was one of the first manufacturers to create this kind of tool, which originally featured a cast-metal body, and came in both retractable and fixed-blade versions.

Chisel

Using a chisel, do you have the beveled side or the flat side against the wood? This tool is one of the most often incorrectly used in the workshop.

A sharp chisel should slide smoothly across the timber, driven by gentle taps and removing very thin curls of wood. And it is used beveled side down and going with the grain! And don't hit the chisel too hard – less is more with a chisel – this is a gradual process.

Never sharpen the flat side of a chisel blade – you will destroy your chisel. Sharpen the beveled side, which should be perfectly straight along its leading edge.

Spanner

We call it spanner, the Americans call it a wrench – whatever you name it, it offers the most efficient way to turn bolts, nuts and other hard-to-turn fasteners.

Pliers

Pliers were first invented around 2000 BC to grip iron as it was being forged on an anvil. They are designed to provide the user with increased leverage, and feature different jaw configurations, allowing them to grip, turn, pull, or crimp a variety of items. The basic design of pliers has hardly changed over the years, with the pair of handles, the pivot (often formed by a rivet), and the head section with the gripping jaws or cutting edges forming the three parts of the tool.

Wire cutters

Sometimes called side-cutting pliers or side cutters, these diagonal pliers are wire-cutting pliers. Instead of using a shearing action, like scissors do, they cut by indenting and wedging the wire apart. **H**

Did you know? In Israel, Stanley knives are known as Japanese knives.

Did you know? A Crescent wrench is named for its manufacturer, the Crescent Tool and Horseshoe Company.

Tips for buying tools:

- > Ask the storeperson in your hardware shop what they consider to be quality brands.
- > If you're buying power tools, look into the terms and conditions of the warranty. Also check how long are the batteries likely to last under normal use, and how available new batteries are.
- > If you know someone in the trade, have a talk to them and see what they use.
- > Go by hand-feel – does the tool seem constructed from strong materials? A screwdriver with a blade that will bend on first use won't be much use to you.
- > Take a look at joints, rivets and other fastenings, especially if it's a tool you'll be using to apply torque.
- > Don't overlook second-hand tools – well-made tools will well outlast their original task.
- > Buy the best tool you can afford.