

Careful with that axe, Eugene...

Modern technical ice axe design would appear to owe much to the scriptwriters of *The Matrix* and *X-Men* so we asked our very own blade runner, **Bruce Goodlad**, to test a few for signs of humanity...

The first technical ice tool I can remember swinging was a Camp Hypercolor; I was attracted to the contoured rubber handle and the futuristic looking blade, which, with all its holes and fancy knobs made it by far the sexiest looking axe in the shop. At this stage in my ice climbing career I knew approximately nothing about what equipment worked and what didn't - I bought my Hypercolor purely on cosmetic appearance. Reassuringly this seems to be the way that lots of other people buy equipment; Grivel, for instance, have noted a large increase in volume of sales since they started painting their axes yellow!

As my climbing career progressed and I slowly worked my way through the grades I realised that it wasn't normal for the blade to wobble each time I made contact with the ice and that the sexy looking knobs on the top of the blade took about two routes to wear a hole in my gloves. The end of my Hypercolor stage came when my mate broke the pick on the crux pitch of Gemini. I quickly swapped them for a pair of Simond Piranhas and 10 sets of picks later, they are still going strong.

The beauty of modular design, is that once you have found a model you like, you just have to replace the pick as it wears out

- at a fraction of the cost of a new axe. Most manufacturers also provide a range of different shapes of blade. Ice tools come in a huge variety of shapes and sizes, but all have three main components: pick, shaft and adze/hammer.

The shaft is the part you hold on to and the other bits are bolted to. A longer shaft is (to a point) better for general mountaineering, on intermediate terrain I prefer an axe about 60cm with a gently curving pick. This is great for all round use and can be used on routes up to Grade 3. On routes above this grade, a longer shaft becomes a bit unwieldy and I prefer a 50cm shaft, which is handy as most axes/hammers are sold in this length.

Shafts

Shafts come in an infinite variety of shapes. Straight shafts are easiest to plunge into snow when moving on easier terrain or climbing over cornices. A gently bent shaft won't affect the tool's 'plungeability' to any great extent, but will give your knuckles a degree of protection, a bent shaft will also place the wrist at a more natural angle on steep terrain.

Shafts with a distinct bend at the head are easier to use on complicated ice as they can reach over bulges and feel more

positive when hooking. In general the more radical the bend the more specialised - the prime example being the Grivel Machine that is great on steep pitches but not so good on mountain terrain.

The base of the shaft will generally have a spile to aid penetration in hard snow, most spikes have a hole which is really useful if big enough to take a karabiner. Unfortunately quite a few manufacturers seemed to have missed the point!

At the 'business end' of the shaft, there is a variety of methods available for pick and hammer/adze attachment. The systems I am most enthusiastic about lock together using a series of grooves in the head with bolts just adding a bit of security. This system is used by Grivel and Simond. However, despite what manufacturers or sales people may tell you it is a nightmare changing a blade on the hill.

Most models have some type of rubber grip on the shaft. At the most basic level this comprises a rubber sleeve round the base of the shaft but some models come complete with entire shaft encased in rubber and some have a contoured grip. This coating will affect the thickness of the shaft and depending on the size of your hand a thick shaft will be more strenuous to hold.

Pick

The best pick shape will vary with the style of route you are attempting, steeply inclined picks feel more positive when hooking on mixed terrain while less steeply inclined blades allow deeper penetration in hard ice. The thinner the pick the easier it will slice into hard ice but there is a greater chance of damaging it on mixed ground.

Hammer/Adze

Conventionally people climb with a paired hammer and axe (adze), this makes good sense as you can hammer in pegs, chop stances and dig out belays. The combination also gives a variety of sizes to torque in cracks. However some people like to climb with two axes so they can chop with either hand and carry a light hammer in case they want to place any pegs. A friend of mine always climbs with two hammers after giving himself an adze shaped scar on his face when a tool popped unexpectedly.

Designers seem to be on a never-ending quest for the strangest looking hammers and adzes. Personally I prefer things simple; adzes are used to chop steps, cut stances, provide security in soft snow and wedge into cracks. The larger and steeper angled the adze the more security you will

get in soft snow, but the poorer it will be for chopping in hard snow and torquing in cracks where a smaller straight adze will be more effective. Some manufacturers produce a tapered adze which seems to work well in a variety of situations, but takes a bit of getting used to.

With hammers, the more complicated the design, the harder I find they are to use. I find that a square hammer or one with a slight taper is more than adequate for most situations.

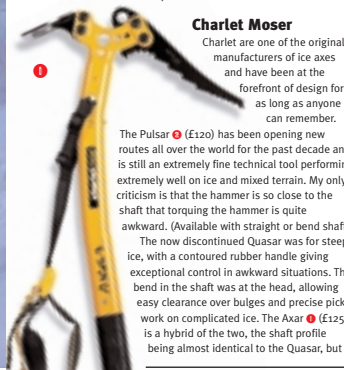
Leashes and Wrist Loops

If you compete in ice climbing competitions, wrist loops wouldn't be an issue as the rules state that the tool must fall from the hand if you let go. However most of us mortals aren't strong enough to hold onto an axe on steep terrain without the aid of a wrist loop.

A wrist loop should be adjusted so that it supports the hand at the base of the shaft to give maximum reach. The loop should be designed so that the hand can be inserted and removed with the minimum of effort when in extremis. A tightening system that holds the hand in the loop makes the whole thing feel more secure.

The Review

As there are so many models in the shops, I will deal with each manufacturer separately and discuss the pros and cons of the designs in their range. Choosing an ice axe and hammer is a bit like trying on rock boots - it's a very individual thing. So just because I don't like a particular model or design doesn't mean it won't suit everyone.



Charlet Moser

Charlet are one of the original manufacturers of ice axes and have been at the forefront of design for as long as anyone can remember.

The Pulsar (€120) has been opening new routes all over the world for the past decade and is still an extremely fine technical tool performing extremely well on ice and mixed terrain. My only criticism is that the hammer is so close to the shaft that torquing the hammer is quite awkward. (Available with straight or bend shaft) The now discontinued Quasar was for steep ice, with a contoured rubber handle giving exceptional control in awkward situations. The bend in the shaft was at the head, allowing easy clearance over bulges and precise pick work on complicated ice. The Axar (€125) is a hybrid of the two, the shaft profile being almost identical to the Quasar, but

The latest 'removable' wrist loop stays attached to the wrist but can be detached from the tool. Attachment is usually via a stud on the shaft or a wire loop. It all sounds a bit ropey but when placing protection on steep ice it really does work, there is no fiddling about trying to get your hand in and out of a frozen wrist loop.

The main disadvantage of such a system is dropping the axe when you let go of it to make a rock move. Most leashes are system specific but with a bit of ingenuity they can be adapted to fit other designs: I use a Grivel Liberty leash for my wrist but have replaced the original wire loop with Spectra cord threaded through the holes in the shaft. This works really well - in fact I prefer it to the original wire system. Black Diamond have developed a removable wrist loop (the Android) that is designed to fit any make but since I saw it at COLA last year I have not been able to lay my hands on one to give it a test drive.

If you are paranoid about dropping your tools, you can attach them to your harness or rucksack with this cord. I've experimented with this system, but I always seemed to end up with a huge knot.

Bruce Goodlad on a roadside icefall near Col du Lautaret near La Grave. Photo: GOODLAD COLL.

with a simple rubber grip like the Pulsar. This allows easy plunging in snow while retaining all the advantages of the Quasar shaft. Complemented by good hammer and adze designs, the Axar would be my choice every time for harder mountain routes.

All Charlets come complete with the Saf'Lock wrist loop which works exceptionally well, and an optional removable wrist loop is available. A range of alternative blades include a thinner racing blade for waterfall ice. Charlet's new Quark axe was unfortunately not available for testing but will be featured in New Gear later in the year.

DMM

The Predator was the first model of a complementary range which has been developed over the past few years. Although it has seen a few modifications since first appearing on the market, I won't beat about the bush - I don't like the Predator. I find it too heavy and unbalanced with loads of unnecessary features in the head design. The Predator remains a popular axe though and while some examples are still in the shops, it has now been dropped from the DMM range. I much prefer DMM's second introduction - the Alien (£127.50 - available in both bent and straight shafted versions). It's a bit less radical in

design, but more refined to climb with both on ice and mixed terrain.

Recent additions to the range are the Raptor (€85 to £90) and Fly (€109.95).

The Raptor isn't aimed at top level climbing, but as an intermediate tool I thought it was brilliant, being both light and well balanced it worked well on most types of ground. It is also

available with a classic pick that is great for general mountaineering.

The Fly is DMM's new ice climbing weapon, it has a shaft shape somewhere between a Predator and an Axar, the shape works well, feeling balanced. Unlike the Predator, the head is simple design that felt comfortable in the hand, my only criticism is that would have liked a bit more weight in the head - maybe DMM can produce a head weight as an optional extra.

DMM have an optional removable wrist loop system that works superbly which is just as well, as the rest of their wrist loops are dreadful.

Black Diamond

BD's long-running X-15 is a bombproof workhorse, but the Black Prophet (€) is still setting the standard for beautifully crafted all round tools. The shaped shaft gives unrivalled control and comfort both on ice and mixed terrain while the rubber coating aids grip even in the trickiest of situations. The wedge shaped adze works well when

torquing and chopping once you have got used to it, but it is hard on gloves. I did find that the metal

in the standard pick is quite soft and wore down quickly on mixed ground, but a harder steel alternative, the Air Mech pick, is available. The Black Prophet is available in bent or straight shafts at £179.

Newer tools from BD include the Shrike (£119) that has the same shape as the Black Prophet but has an alloy shaft, the performance characteristics are very similar but not quite as refined but it sells at a more competitive price. The Cobra (£229) is a specialised

straight shaft, £105 for bent).

The Xtreme 700 has a curved shaft to allow plenty of knuckle clearance and ease of placement over bulges and a new blade which should keep sharper for longer. The Xtreme works well in most situations but is most at home on ice.

The Alpinist is a modified version of the classic

icefall tool; the carbon fibre shaft rotates its maximum cross section through 90 degrees just above the handle to give greater clearance between the shaft and the ice. Well balanced and very positive on ice, the shaft felt really strange when held below the head as I often do on easier snow.

The new Rage (€) will be available soon, but I couldn't get one to test before going to press - keep an eye on our New Gear column for more news on this axe. All BD tools come without a wrist loop.

HB

Two technical designs on offer for this winter: the Tornado (€120) and the Hurricane (€115). The Tornado has a double cranked shaft that has a similar affect to one long curve, it allows plenty of ice-shaft clearance and gives good placements over bulges and feels positive when hooking, but I did find the shaft a bit awkward to use on Scottish mixed terrain. The Hurricane has a single bend at the top of the shaft similar to the Axar, and works well in most situations, feeling positive on ice and mixed ground. A simple rubber sleeve gives excellent grip.

Mountain Technology

Mountain Technology has been producing ice axes and hammers in the UK for longer than anyone else and remains a firm favourite amongst British activists. New for this year are the Vertige Xtreme 700 (€117) and the Vertige Alpinist (€95 for

Vertige, and is available in bent or straight shaft with a choice of classic or reverse curved pick. I used the curved blade all summer in the Alps

and thought it was excellent but I wasn't too keen on the reverse curve as it seemed to shatter the ice rather than give good placements. An adequate wrist loop is supplied with all models.

Grivel

Grivel have a number of tools on the market the models most readily available in the UK are the Gemini (£109.99) and the Machine (£139.99). The Gemini is exclusive to the British market; it is a Geronimo shaft fitted with the mixed blade from a Machine. This gives a straight-shafted tool with an extremely robust blade that works well on intermediate terrain. When it came to more difficult routes I found the blade a bit unrefined and would have preferred one of the other Grivel blades. Fortunately all Grivel blades are interchangeable, the Evolution blade is superb on ice and the Goulotte is a great general purpose option.

The Light Machine is a slightly modified version of the original Machine (no head dampers or silly looking hook thing instead of an adze). It has a radically bent shaft designed to give better grip and easier placements on steep complicated ice. I found that the machine took a bit of getting used to, this may be because it was a totally different shape to my usual tools. On steep ice it worked well, but on mixed terrain I found the radical shape a bit unwieldy, but Steve Haston doesn't seem to have any problems so it must just be me.

I found the wrist loop that comes with the tools awkward to use, but the Liberty leash that is available for most models is excellent. (€)

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