

The Brompton has been the benchmark folding bike for two decades – and it's still made in London, with full order books. **Rob Ainsley** visited the factory to find out the secret

Making the folding stuff



The Brompton factory is nicely located for anyone with a folder: two minutes' scoot from Kew Bridge station in west London, on a small industrial estate walled in by the M4. Here they hand-make 22,000 collapsible bikes a year.

Outside the entrance, by the 'Visitors Welcome' sign, you notice something curious among the ornamental saplings. Perched atop each of half-a-dozen slender metal rods, perhaps eight feet high, is a Brompton part: crankset, handlebars, frame tube with that distinctive curve, and so on, like a robot's sunflowers.

You smile, but it tells you two important things. First, they make their own parts here (over three-quarters of the components on a Brompton are unique). And second, they put technique on a pedestal. Because they're engineers: what they love is making bits. Clever bits, that do useful stuff.



How success unfolded

It's the Brompton's flippy-under back wheel that makes it unique, snuggling beneath the body of the bike like the paws of a fireside cat. But it's one thing to have a back-of-an-envelope idea (as the bike's creator, Cambridge engineering graduate Andrew Ritchie, did in 1975). Making it work is another. Making it pay is another still. Ritchie approached bike manufacturers with prototypes but they weren't interested. Eventually, after raising money from friends and making a few himself, production started in 1987.

Steadily the business grew. Two short-distance moves later, Brompton – which somehow acquired its name from Brompton Oratory, opposite Ritchie's home – is here in Chiswick Park. There are 95 staff, 70 of them on the football-pitch-sized shop floor. Much of it looks like any other factory: islands of men engrossed in welding, or working jigs and lathes; pallets, oily rags, metal shavings, radio pop. At one end, bikes are hand-assembled to the buyer's particular specification – S2, M3, P6, whatever – and tested on stands, gears clicking and wheels hissing energetically.

(Above) A Brompton S2L-X folded

(Below left) Brompton inventor Andrew Ritchie at the drawing board

“Brompton export 70 per cent of their bikes, notably to Holland, Japan, Spain and Germany”



Most British bike manufacturer have moved partly or wholly abroad. Might Brompton? 'We've thought about it,' Ritchie says. A lean and fit 61, casually dressed as if just in from the garden, he talks with the cordial articulation of a banking CEO. 'But it's a huge investment of white-collar time, of which we don't have enough, to stand over people and make sure the quality's right.'

Labour costs in Poland, South Africa or wherever, could well be less; but there's an awful lot of hard-won detail in making a Brompton that has taken years to perfect in London. In fact, they had Bromptons made in Taiwan in the 1990s, but it didn't work out. 'They were not prepared to give same diligence as I was,' says Ritchie. 'They took lots of small shortcuts on critical details; they didn't have a clue about the constant folding and unfolding and so on of real-life use.'

Building in Britain

Ritchie knows about real-life use. He still cycles in every day, on his Brompton, six miles or so from his house. (Over half the staff have Bromptons too, encouraged by free loans and discount purchases.) But earlier this year Ritchie decided it was time for a younger face with more marketing energy to take the helm. The new managing director is Will Butler-Adams, a young-looking 36. Like Ritchie he's an engineer by background. 'Andrew and I have very similar passion for the business, but approach it in different way,' says Butler-Adams. 'He has tremendous skill and determination to get detail right. My strength is delivering results, working with teams, making things happen.'

He amplifies the problems of moving abroad. Bromptons are complex, with many intricate, non-standard parts, made in unusual ways. Compound tolerances are therefore a big problem. 'You'd normally make a double-A frame to an alignment of ± 1 mm, which produces a pretty good bike. We've got five frame parts, so a tolerance of ± 1 mm compounds to ± 5 mm, which would be dire! So we try to make the frame alignment ± 0.1 mm. To achieve that requires a lot of jiggery, knowledge, skill, that's been developed and refined from Andrew into our staff over the last 20 years. Our knowledge is not the bike, it's the way we make it, the tolerances, the jigs, the fixtures, the techniques... So there's no simple march off to Poland.'

Brompton have never been able to make enough bikes. Demand has always outstripped supply. It's a premium product, unsuited to quick-and-dirty high

(Clockwise from left) Bromptons are handbuilt in the London factory; Managing Director Will Butler-Adams; Frames to match your outfit!

volume. But Butler-Adams reckons they can increase output by 25 per cent a year without losing quality.

Their annual turnover is a healthy £8m. Profits are ploughed back into development. The factory floor looks a traditional metal-bashing shop, but there are cutting-edge techniques

here. 'We use 3D CAD modelling, finite element analysis for stress analysis, and we have two five-axis CNC machines,' enthuses Butler-Adams. 'Next door we have a 30-year-old Brompton. It's obviously a Brompton, but nothing on it is the same as what you'd buy now. It's a live design that's always being refined.'

With the economy folding faster than a commuter's S2, the company's reluctance to over-expand in the past now looks wise. Brompton export 70 per cent of their bikes (notably to Holland, Japan, Spain and Germany) so are not too dependent on one market.

And Butler-Adams is cautiously optimistic about the future. He sees the Brompton as not so much a bike as a transport solution, bought not by 'bike fans' but by people who simply need to get around efficiently and conveniently. That encourages him. Tougher times may see people forgoing the treat of a new mountain or road bike, but more people will need to get around cities. He thinks bikes will be a big part of that (as we're already seeing in London, where bike use has visibly doubled since the millennium); folding bikes, especially so – the Brompton-toting city suit is one of the cycle archetypes packing London's advanced stop lines.

For more information about Brompton, visit www.brompton.co.uk or call 020 8232 8484.