DREAM MACHINES DRE

About the only good reason we can think of for *not* spending two grand on a beautifully designed, hand crafted, topline mountain bike is that we can't afford it. If you've got the money a super-bike is every bit as prestigious as a gold Rolex or an Yves St. Laurent suit, a lot more useful and it keeps you fit. TOM BOGDANOWICZ drools over four of the best

Let's plunge straight in and assume you've got the money. Which top of the line mountain bike would you choose if price was no object? On behalf of **MBUK** I procured four of the most expensive MTBs in Britain to discover what they had to offer, apart from a tense meeting with your bank manager and his apoplectic famous last words: "You want £2,500 for a PUSH BIKE?!"

This wasn't a proper 'thrash it till something breaks test' because none of the builders/importers were prepared to allow that sort of thing to happen to £1200 plus of their money. But I did have the opportunity to measure, weigh, poke and ride – on *clean* grass, of course!

Kestrel frame.

Pictures: CHRIS TURNER

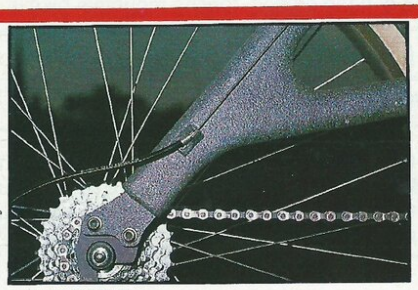
Kestrel MXZ

Carbon-fibre and Kevlar are the hi-tech materials of the eighties. Squash rackets, tennis rackets, bullet-proof vests, ski-poles all make use of these materials. The original road-racing **Kestrel** wasn't the first carbon-fibre bike to hit the market, but is was a substantial advance on all the others because of its monocoque (one piece) design.

The problem with carbon-fibre tubes is not the durability of the tubes themselves but the stresses at the joints (bonded lugs, bolts, superglue systems). Aware of these points of weakness American inventor, Brent Trimble, threw away the books and approached frame design from a new perspective: he built the whole frame as one unit, in a mould, instead of gluing or brazing several tubes together. The result was the first carbon-fibre racing frame without any lugs or bolts which could come apart.

Trimble's mountain bike frame, the *MXZ*, goes a step beyond his racing design: instead of the usual chainstays from bottom bracket to rear end Trimble has created an elevated chainstay design. The immediate benefits of such a design are: much better mud clearance; and no 'chain suck' (chain caught between chainwheel and stays). Also, because a mould can be of any shape, Trimble was able to put more material at the points where its strength is most needed: at the head tube and in the bottom bracket and seat cluster areas.

EAM MACHINES DREAM



Rear stays on Kestrel.

THE RIDE

Riding the **Kestrel** is uncannily like riding a regular top-notch mountain bike, except that everyone turns to stare at the bicycle! I stopped on the street to talk to a friend and within minutes we were surrounded by curious despatch riders.

The **Kestrel's** performance is exactly what one would expect of a bike: firm and responsive. The configuration of the frame made it stiff where needed but retained a little vertical flex for comfort. For an inexplicable reason I found that the **Kestrel** felt safe and sturdy. I can only think that it was the psychological effect of the chunky frame, the adsence of cold metal and, possibly, the shock-absorbing ability of the carbon-fibre; because the frame's dimensions were not markedly different from the other bikes in the test.

At 28½lbs, the **Kestrel** probably has more than enough carbon-fibre to withstand rough treatment but should it break you must return it to the manufacturer rather than attack it with a brazing torch. Apart from the extra plate for the front changer all the components on the **Kestrel** are standard so no problems there.

SET UP

Madison, the UK's major Shimano supplier, fitted the *Kestrel* with the **Shimano** *Deore XT II* group. Since this group has been tested on dozens of bikes this year I feel there is little more to say about it. *Hyperglide,* **Shimano's** simple but clever and effective sculpted gear sprocket system, is the major difference between *Deore I*and *Deore II.* There is no question that *Hyperglide* improves upward gear changes and it's all done by simply adding tiny ramps to the sides of the sprockets and using assymetric sprocket teeth. My experience of *Hyperglide,* both in dirt and out of it, is that it works with almost dreary reliability – oh, for the days when gear changing was a gamble! (I don't really mean that, at least I hope I don't!)

Next year **Madison** will be supplying the **Kestrel** *MXZ* as a frameset only and customers will choose their own selection of components. They expect most customers to fit *Deore XT STI* components.

"What about carrier eyes and mudguards?" would you expect a tow bar and roofrack on a Ferrari?

Price complete: £1750. *Frame only:* £1250. *Weight:* 28½lbs.

Concealed cables on Klein Pinnacle.

Square stays on the Klein.

MACHINES DREAM MA

Klein Pinnacle

Gary Klein invented the fat tubed bike. (I know that Maurice Selbach, in Britain, experimented with fat tubes in the 50's – but they weren't as fat as Gary's).

The original aluminium bikes, like the **Alan,** had regular sized tubes and were notorious for their flexibility. Although aluminium is a lighter metal than steel it is not as stiff; to achieve the stiffness of a steel frame builders in aluminium have the choice of either using very thick tubes (which results in a bike that feels 'dead') or using fat tubes. Gary Klein was the first to recognise the advantages of fat tubes and his very expensive aluminium racing bikes have achieved a high reputation in the United States. **Cannondale** produced a very similar design to Klein's (**Klein** and **Cannondale** recently resolved the question of copyright in the courts) and popularised aluminium bikes throughout the world. Gary's originals, however, still rank as the pinnacle of aluminium tubed bike design.

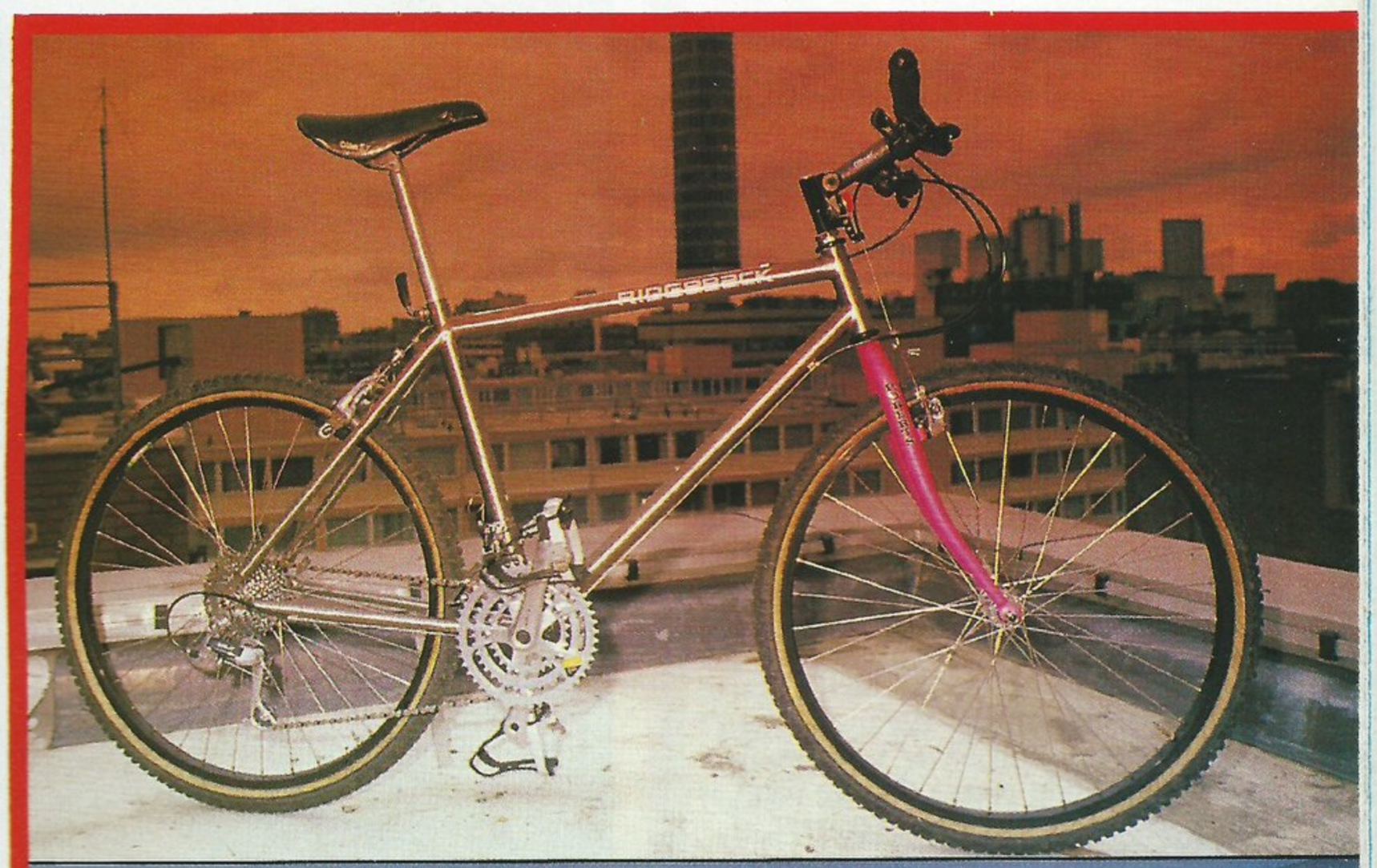
The *Pinnacle Elite* colour scheme outshines all other aluminium bikes. But there are also many differences in detail: the cables are internally routed, out of the way of branches; the chainstays are made of an extra beefy square sectioned tubing; the bottom bracket is a sealed, roller bearing design (**Covent Garden Bikes** say that the special extraction tools are even now *en route* from the USA), and the paint is a durable *Durethane* enamel (I can testify that chain slap did not scratch the stays).

Importantly **Klein** frames are lighter than steel frames (which is not true of many aluminium bikes). At 26½lbs the **Klein** has an edge of at least a pound on any steel framed bike. As with titanium and carbon-fibre frame repairs have to be done at the factory and not at your local bike shop.

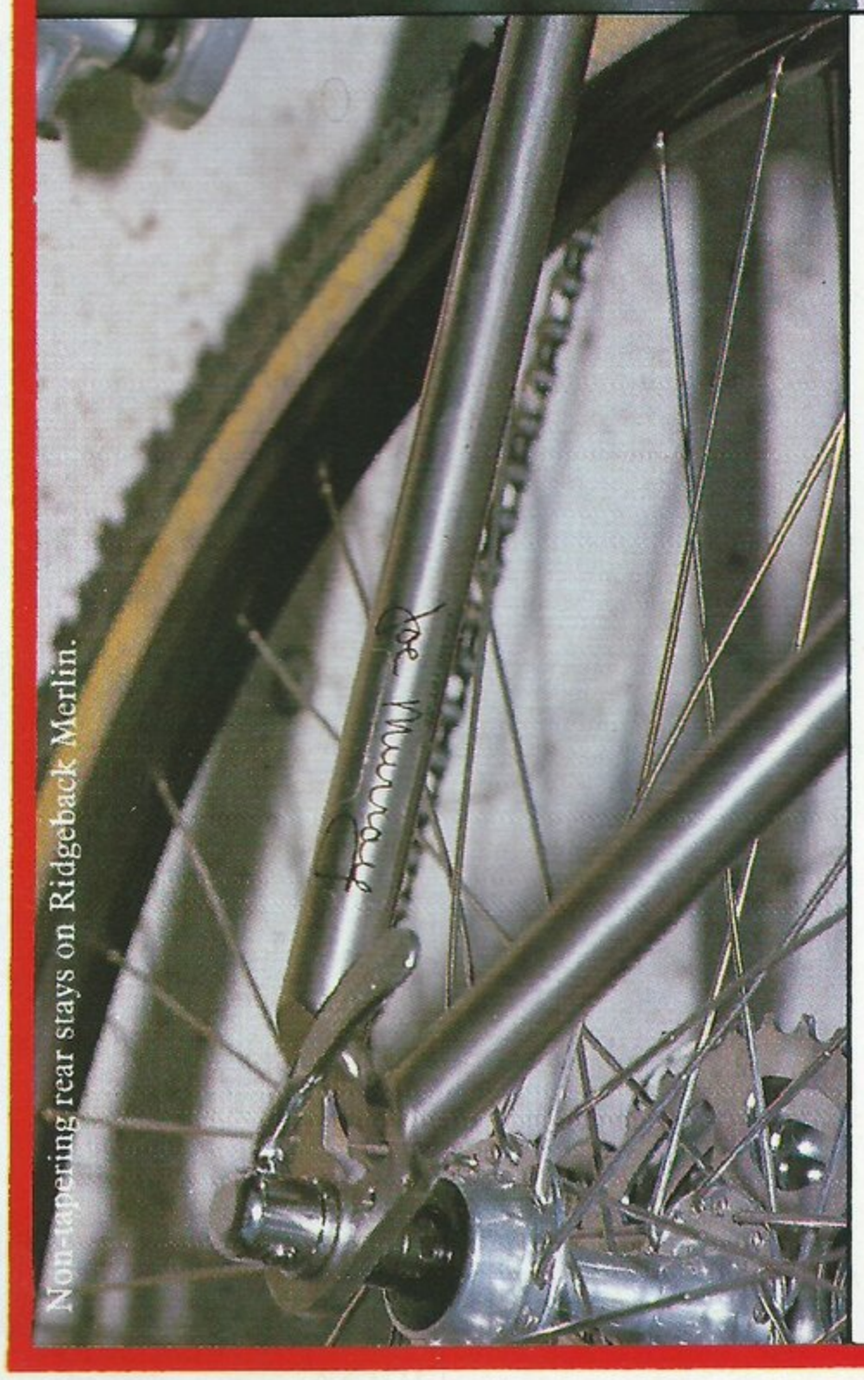
SET UP

The UK version of the **Klein** *Pinnacle Elite* is based on Klein's basic MTB frame fitted with *Deore XT II* components plus the odd unusual bit like **SunTour** self-energising rear brake and a **SunTour** *XC*seat pin. The bike I tested had a small 18in frame, as ridden by US women's champion Cindy Whitehead, which I found very manoeuvrable. The rigidity of the rear end was noticeable as I stamped on the pedals, aside from that, the bike disappeared beneath me – a good sign.

Price: At £1,200 the **Klein** represents value for money in the Super-bike bracket.
Weight: 26½lbs.



Shimano STI levers and Flexstem on Ridgeback Merlin.



Non-tapering rear stays on Ridgeback Merlin.

Ridgeback Merlin

Madison's Nick Duncan pulled out all the stops to bring **MBUK** readers a first glimpse of Britain's most expensive production mountain bike and of the new **Shimano** *Deore XT STI* components. Because of pressing deadlines we received a prototype frame and a mixed box of components straight off the aeroplane. The bicycle, which I assembled as best I could, is not the product which you will see in the *Freewheel Catalogue* next year. Nick informs me that the real thing will have a full *XT STI* group, cantilevers front and rear plus numerous carbon-fibre bits and **Switchblade** forks. In the meantime several manufacturers helped me out by supplying missing items for the bike.

THE FRAME

When I pulled the titanium frame out of its box my mouth fell open: it weighed little more than my camera. I put it on the letter scales – 1.813Kgs including the bottom bracket. Deduct 310gms for the average bottom bracket and you are down to 1.5kgs. (3.3lbs), that's 700gms (1.5lbs) less than the lightest (**Tange** *Prestige*) steel mountain bike frame.

MACHINES DREAM MAC

I was somewhat puzzled by the choice of the heavy (1kg) **Switchblade** forks that **Madison** intend to fit to the frame, – they say they're a good match – but, because the forks sent were the wrong size, I fitted a set of **Roberts** *Prestige*

Titanium is not an easy material to work with. Not only is it diabolically expensive to buy (that's why this frame costs £2000) but it also has to be welded using special equipment. Before embarking on a production mountain bike Merlin took the advice of Joe Murray on geometry (see below) and sorted out the fine details of the design like the drop outs, braze-ons and brake bosses all of which are made of titanium. The TIG welds on the frame are so perfect that the joins look almost lugless.

Although extreme lightness is the principle advantage of the *Merlin* frame there are other pluses: titanium doesn't corrode so rust will never be a problem and no corrosion means that no paint is necessary so you can forget resprays.

THE RIDE

The *Merlin* brochure promises a ride that absorbs the bumps yet transmits all the power. And, as much as that sort of thing can be judged, the brochure is right: the *Merlin* was comfortable but fast to respond. I thought the frame flexed, both laterally and vertically, marginally more than the others in the test but not more so than a typical **Tange** *Prestige* frame. Considering the weight such performance is exceptional.

SET UP

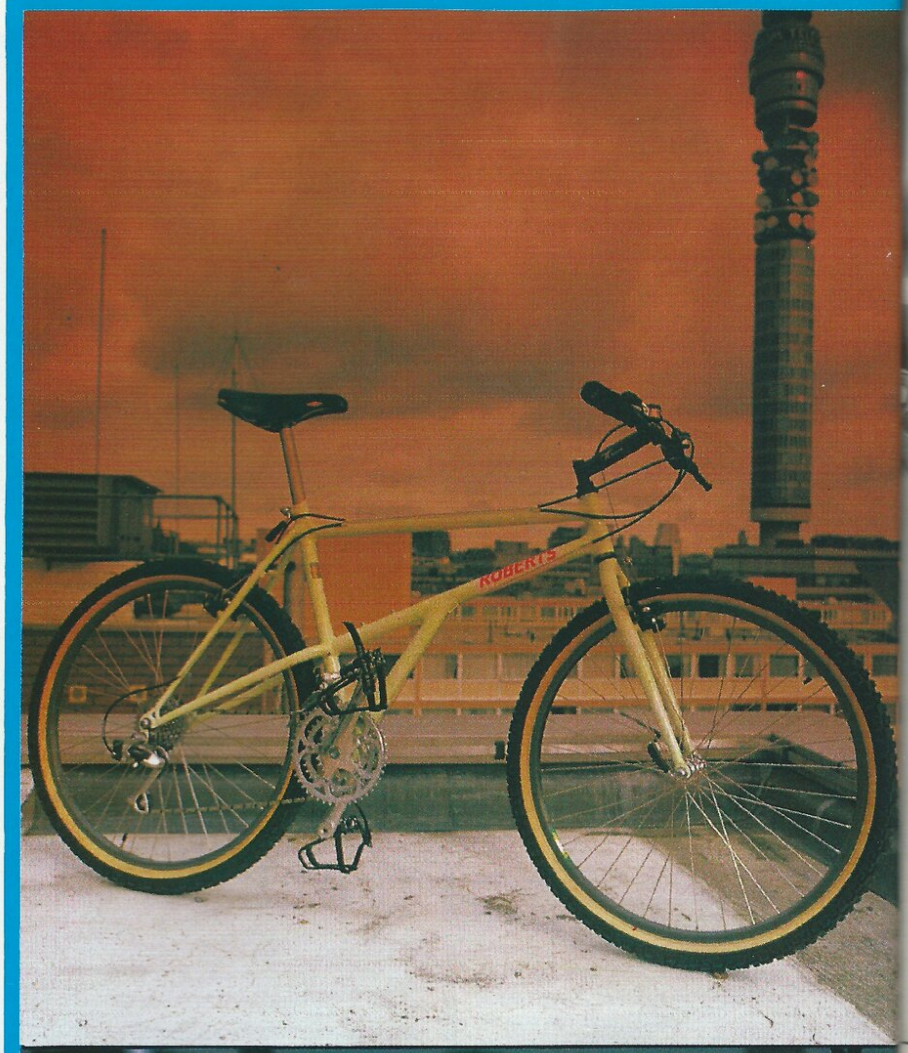
The state-of-the-art mixture of components on the *Merlin* was an interesting change after so much *Deore XT II*. (The new *Deore XT STI* components are tested elsewhere in this issue). In brief: the twin levers work a treat – changing gears has now become a pleasure, rather than the crunching nightmare of old).

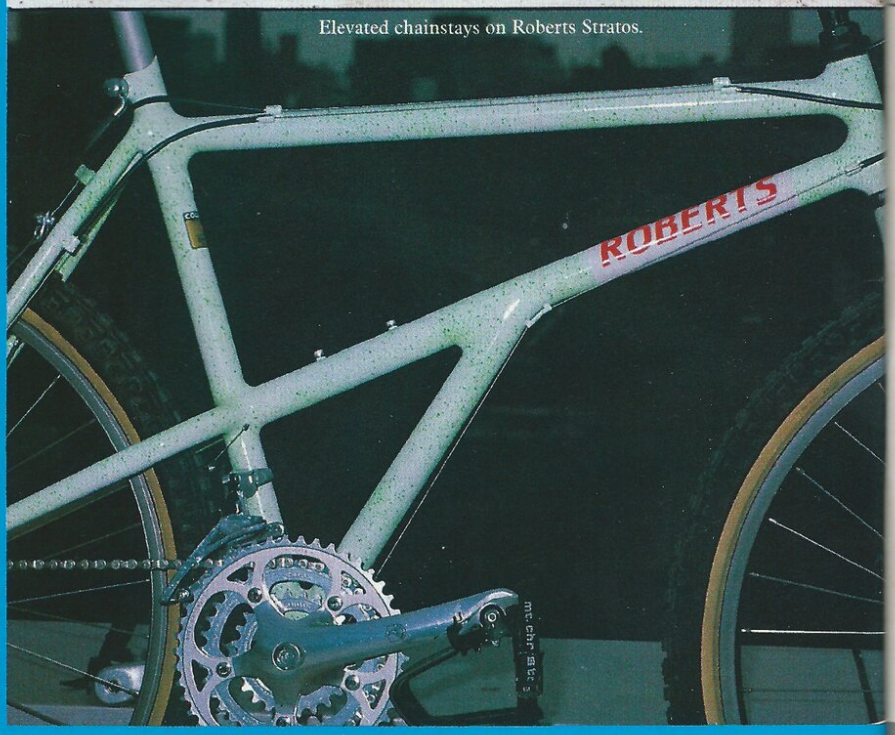
The stem I used was an **Offroad** *Flexstem* which, I found, took a while to get used to but which then provided almost immoral comfort on downhills. Shame that the thing is so heavy (650gms) but, wait for it, **Offroad** have a titanium one ready for next year.

Bars fitted were the 171gm (beat that) **ITM** heat-treated *Ergal* design. What I like most about these bars, apart from the low weight, is the detailed list of the contents (Vanadium 0.002 per cent, Triludium 0.009 per cent and so on) etched on them, presumably for those of us who might feel peckish.

The seat pin was **Swallow's** extra, extra long variety – if you want to impress your friends by displaying lots of seat pin this is the one. At 440mm the **Swallow** pin is, quite seriously, the only choice for riders with long legs.

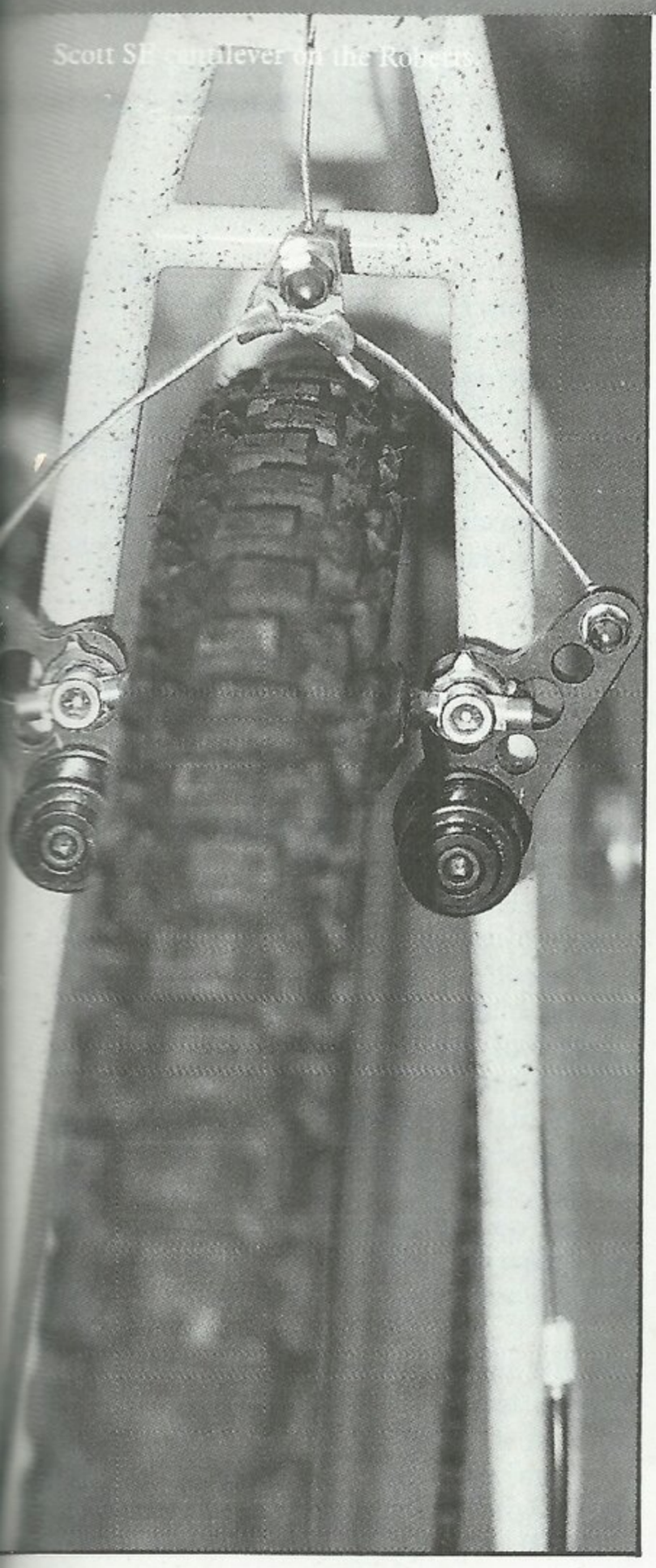
Price: Approx. £2495.00. *Frame only:* £2000.00. *Weight:* 25½lbs.





Elevated chainstays on Roberts Stratos.

HINES DREAM MACHINE



Roberts Stratos

Of Britain's original mountain bike builders Chas Roberts is the only one still building frames and he seems to be going from strength to strength. It is well known that he builds the **Peugeot** Team bikes for Tim Gould and Dave Baker. Unlike the other bikes in this test the **Roberts** *Stratos* is made out of good old-fashioned steel. It isn't, however, just any steel, it is in fact **Columbus** *Nivacrom OR:* a tube set that has the tensile strength of **Reynolds** *753* but which is not heat treated and which is therefore easier to work with. The one great advantage of steel is that it can be repaired by any reasonable builder: in Italy, in Spain, in Mexico or anywhere else. For off-road trekkers this must be an important consideration.

FRAME

What the *Stratos* lacks in terms of exotic material it makes up for in bizarre frame design. Elevated chainstay (EC) models are not new in the US but the *Stratos* is the first British EC design. Having used both the *Stratos* and the **Kestrel** I can see numerous advantages of EC frames – better clearances, no jammed chains, easier wheel removal, simpler bike cleaning. There are two minor inconveniences with EC frames: slightly increased weight (about 1lb more) and little space for over-the-shoulder carrying.

The *Stratos* is built for racing, racing or racing. No compromises, not even little ones like the soft saddle on the **Kestrel** or the mudguard eyes on the **Klein.** The top tube is long (23in), the stem is long (6in) and the rear end is mega-short (15½in). Stretched low over the front wheel I felt obliged to race with any bike I saw – on or off-road.

Future models of the *Stratos* will be somewhat different to the prototype that I was testing: Chas will use the latest fat, *Magnum,* tubes from **Reynolds** and the rear end will be a little longer (16in) for better comfort and balance. Bottleneck of the month for UK builders is the shortage of 'fat' components and tools: seat posts, headsets and cutters.

THE RIDE

Because of the short rear end, the extra frame tube and high-tensile-strength tubing I expected the *Stratos* to be an uncomfortable bike: it wasn't, I didn't loose any filings and my glasses stayed on. The answer presumably lies in the lightweight tubing and *Ground Control S* tyres which act to absorb shocks. The straight steel forks (all the bikes tested had steel forks) made little difference to the ride.

SET UP

As a small custom builder Chas Roberts owes no allegiances to component manufacturers and supplies whatever the customer wants (you can choose any geometry, colour scheme or component). In this case he fitted a selection of the best which, apart from the inevitable *Deore XT* drivetrain, included the new **Scott** self-energising OR rear brake, **SunTour** pedals and seat pin and the mouthwateringly beautiful **Campagnolo** *Centaur* chainset.

I'm a fan of self-energising brakes and the latest **Scotts** not only provide controlled powerful braking but also allow quick wheel removal. Unlike **SunTour** who don't supply self-energising front brakes, **Scott** make matching front and rear SE brakes.

Adjustment on the **SunTour** seat pin is more accurate than the rocker/notch type designs. The latest **SunTour** pedals, based on their racing pedal rather than the old BMX design, look superb but fall down on one detail: the rear of the pedal has a raised central section which makes shoes slip off rather than stay on. The *Centaur* chainset is a masterpiece of industrial design, it is also totally rigid as it should be.

CONCLUSIONS

The bikes in this test show how off-road design is outpacing road racing design. Mountain bike frame and component makers are constantly coming up with new ideas for improvements with the result that the top MTBs of today are vastly superior to the bikes of the early eighties.

All four of the test machines are up in the Ferrari and Lamborghini category. Riding my brother's first generation *Courier* after riding these bikes was a bit like cycling on a bedstead.

Choosing between the **Kestrel, Klein, Ridgeback** and **Roberts** is not easy, each bike has different advantages: the *Merlin* is the lightest, the **Roberts** has elevated chainstays and can be custom made, the **Kestrel** has the most efficient shape and the **Klein** looks superb and undercuts the others on price. But if money were no object I guess I would go for the most expensive, the *Merlin,* although I would insist on a lightweight fork.

Blowing £1,000 plus on a bike may shock your bank manager but it still represents much better value, in practical terms, than a gold Rolex watch or an Yves St Laurent suit. All the bikes mentioned have taken hours to design, to build, to assemble. They are all superb pieces of industrial design. None of the companies involved spends all your money on advertising – most of it goes on materials and labour – and the end product gets you fit and generates no pollutants.

Comparative Geometry

	Kestrel	Pinnacle	Merlin	Stratos
Frame size	21in	18in	20in	20in
Seat angle	72.5°*	72°	73°	73°
Head angle	71°*	70°	71°	71°
Chain stay	17in	16.9in	16.75in	15.5in
BB height	11.5in	11.5in	11.8in	12in
Top tube	23in	21.5in	22.5in (23 for 1990)	23in

* *Estimated*

SUPPLIERS

Kestrel and **Ridgeback** *Merlin* from: *Freewheel,* 275 West End Lane, London NW6 1QS.
Klein from *Covent Garden Cycles,* London.
Roberts, Bike and ITN Bars from: *Roberts Cycles,* 89 Gloucester Road., Croydon, Surrey CR0 2DN.
Offroad *Stem* from: *Ultra Sport,* Acton Grove, Acton Road Industrial Estate, Long Eaton, Nottingham NG10 1FY.
Swallow *Seat Pin* from: *Swallow,* 2 St. Annets, Laindon Trading Estate, Laindon, Essex SS15 6DJ.

• My thanks to Roberts and Cycleogical for help with bike assembly.